ABSTRACTS

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VIRTUAL HEALTH LIBRARY PREVENTION AND CANCER CONTROL: PROVIDING RELIABLE INFORMATION

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Background and Context: The Virtual Health Library (VHL) is a space for integration of information sources collectively produced and organized into geographic, thematic, biographical or institutional instances.

Aim: The creation of the VHL Prevention and Cancer Control aims at developing an open and collaborative space for the management of scientific and technical information regarding this subject. Information sources offer subsidies to managers and health professionals in decision making, training and public policy formulation.

Strategy/Tactics: Aiming at promoting knowledge management in the area of cancer control in Brazil, the Ministry of Health created within its institutional VHL, a thematic area dedicated to it. However, the project met greater proportions and it became essential to develop a thematic VHL instance on prevention and cancer control which could function as a national information reference.

Programme/Policy Process: Once a VHL develops its activities through a cooperative network of institutions which are users and producers of information, it was essential to structure such a network within the field of cancer control and develop a governance model that could allow its sustainable operation. The model is composed of Executive Secretary, Advisory Committee, Executive Committee and Responsibility Matrix. The institutions which are part of this collaborative network have been selected in order to represent the regional diversity present in Brazil and also the diverse profiles of institutions related to cancer control, such as research, academia, government, scientific societies and organizations representing patients.

Outcomes/What was learned: The development of VHL Prevention and Control of Cancer has been a success and the institutions that are part of the collaborative network are enriching the library databases with its scientific production. The experience of VHL Prevention and Cancer Control shows that having governance structures clearly defined from the beginning facilitates the collaborative work.

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PARTNERING WITH SCHOOL-BASED IMMUNISATION PROVIDERS TO IMPROVE HPV IMMUNISATION UPTAKE IN VICTORIA, AUSTRALIA

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Background and Context: Australia was the first country in the world to introduce a fully funded, population based HPV vaccination program. The HPV vaccine has the potential to decrease 70–80% of cervical cancers in Australia, in addition to other HPV-related cancers and diseases. To achieve maximum population health benefit, high vaccine coverage of HPV-naïve teenagers is required.

Aim: Cancer Council Victoria (CCV) has undertaken a Victorian government funded project to address low human papillomavirus (HPV) immunisation coverage rates in the school-based immunisation program. Statewide, uptake of the vaccine has been good with 72% of Victorian schoolgirls aged 12–13 years having the three dose vaccine. However, coverage rates across local government areas (LGA) vary considerably (43–100%).

Strategy/Tactics: Partnering with school-based immunisation providers is essential to addressing low HPV immunisation rates and was a key strategy for this project.

Programme/Policy Process: Over a three-year period (2011–2014), CCV successfully conducted a local government survey to identify the barriers and limitations to HPV immunisation in Victoria, and then worked with a systems and process focus with six pilot LGAs to improve HPV immunisation uptake. Five of the six sites demonstrated an increase in their self-reported 3-dose Council HPV immunisation coverage rates between 2011–2012 (range −1% to 19%).

Outcomes/What was learned: HPV immunisation coverage rates are not likely to come reach desired outcomes without understanding and supporting changes to a wide range of school-based immunisation processes. This project demonstrates that by supporting immunisation providers to strengthen relationships and implement system and process changes, HPV immunisation uptake can be improved. CCV have been funded for a further 3 years to continue this work with an additional focus on increasing HPV vaccine uptake among male teens and Aboriginal teenagers.

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PROJECT-INFECTION CONTROL

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Background and Context: V Care Foundation is an emotional support group for cancer patients and their families. V Care has various outreach programmes to reach out to patients needs. V Care has completed 20 years in February 2014.

Aim: Poor hygienic conditions in developing countries results in infection during treatment and causes more complications, leading to extension of treatment and puts a further severe strain on financial resources of poor patients who in any case find it difficult to meet the expenses for the basic treatment. To combat this V Care has undertaken an innovative "Project – Infection Control" for pediatric patients since last 3 years.

Strategy/Tactics: Infection Control kit comprises of 14 items recommended by the doctors from Tata Memorial Hospital, a leading cancer treating centre in India. Kits are distributed free to all pediatric patients at the hospital so as to initiate them in to more healthier and hygienic practices. This certainly reduces risk of infection and other complications. Once awareness of importance of controlling infection is imbibed by the patients and with continued practice the rate of infection falls down and helps the cancer patients. The family is also motivated to imbibe these practices. Hopefully permanent benefits with multiplier effect!

Programme/Policy Process: Outcomes/What was learned: We are working out a system for validating impacts by proper statistical data and analysis. In the last 3 years we have distributed over 1800 kits to pediatric patients in Tata Memorial Hospital. Plan to extend to other hospitals and cover all pediatric cases.

This project can be replicated by the other developing countries whose challenges are similar to the Indian scenario.

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NIH TOBACCO OR HEALTH RESEARCH AND CAPACITY BUILDING GRANT PROGRAM REVIEW

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Background and Context: Tobacco use represents one of the most significant threats to global health. To meet this challenge, the National Institutes of Health, Fogarty International Center (FIC), and its partnering Institutions at NIH, established the International Tobacco and Heath Research and Capacity Building Program (TOBAC). The program has sought to encourage trans-disciplinary research in tobacco control, increase collaborations between investigators in the U.S. and researchers and institutions in low- and middle-income countries (LMICs), and strengthen research capacity for tobacco control research.

Aim: After 10 years of investing in tobacco control projects, FIC conducted a review of the program, and identified outputs, outcomes and impacts.

Strategy/Tactics: Data for analysis came from NIH databases including: NIH RePORT, eSPA, MEDLINE, SPIRES+, IMPAC II and QVR. Trainee, capacity building, publications, research, collaborations, and policy impact data were extracted from individual annual progress reports and final reports, submitted to NIH between 2002 and 2011.

Programme/Policy Process: TOBAC projects have generated evidence that has informed policy in LMICs, such as smoke-free spaces, taxes on tobacco products, cessation interventions and tobacco industry advertising.

Outcomes/What was learned: The review found that the TOBAC program has produced scientific collaborations in tobacco control research in over 30 countries. The projects have resulted in the publication of more than 400 peer-reviewed articles. More than 3,500 individuals have been trained in tobacco control research through long-term mentorship, workshop support and/or short courses. Of those trained more than 100 were PhD and Masters level. TOBAC projects have successfully provided empirical evidence on almost all articles of the Framework Convention on Tobacco Control, the first public health treaty ever negotiated under the auspices of WHO.

The success of the projects funded demonstrates the ability of a relatively small number of research grants to advance tobacco control efforts on an international scale.

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LESSONS LEARNT FROM AN IMPLEMENTATION RESEARCH STUDY ON HPV DETECTION BASED CERVICAL CANCER SCREENING PROGRAM IN LOW RESOURCE SETTING

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Background and Context: WHO recommended HPV test as test-of-choice for primary screening. In low-resource settings, perceived challenges in implementing HPV-detection based screening besides cost issues, are: community mobilization, technically demanding test; logistics of sample transfer maintaining cold-chain; delivery of test reports and recall of positive women.

Aim: An implementation research was initiated at Chittaranjan National Cancer Institute (CNCI) to address aforementioned challenges and generate local evidence on feasibility and effectiveness of HPV detection in primary screening

Strategy/Tactics: Study was implemented in three rural districts to screen 30–60 year old women. Community mobilization was done by trained multi-purpose workers (MPWs) engaged in other reproductive-health programs. Where MPWs were not available, volunteers from local non-governmental organizations (NGOs) were engaged for community mobilization. Screening clinics were organized in local health-centers. Trained health-workers obtained cervical samples for HPV test. Samples were transferred in vaccine-carriers to CNCI laboratory for HPV detection using Hybrid Capture 2 (HC2) technology. Test results were distributed through MPWs or NGO volunteers who also recalled the positive women for colposcopy and biopsy at rural clinics. Biopsy-proved CIN2/CIN3 were treated either by cryotherapy at rural clinics or by LEEP at CNCI.

Programme/Policy Process: Among 36285 women screened, test-positivity was 4.8% and detection-rate for CIN2+ was 0.7%. Positive predictive value of HC2 was 11.1%. Compliance to immediate recall was higher when done by MPWs compared to NGO volunteers (73.8% vs 68.5%). Overall compliance to treatment was 85.4% (228/267) with no difference in compliance rates between women recalled by MPWs and by NGO volunteers. However, follow-up of treated women after one year was poor (23.7%).

Outcomes/What was learned: HPV detection based screening is feasible in low-resource setup. Samples can be collected from multiple facilities and transported to a central laboratory for analysis. MPWs can be efficiently utilized for community mobilization and recall of positive women.

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KNOWLEDGE, ATTITUDINAL DISPOSITION AND WILLINGNESS OF MEN TO SUPPORT SPOUSES' CERVICAL CANCER SCREENING IN A SUB-URBAN AREA IN NIGERIA

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Background: In Nigeria Cervical Cancer (CC) screening services are poorly utilised. Men as dominant decision makers makes it challenging for women to take decisions independently on reproductive health.

Aim: This study aimed at assessing knowledge, attitudinal disposition and men's willingness to support CC screening in Nigeria.

Methods: As a cross-sectional survey, a four-stage sampling procedure was used to select the study LGA, four wards, communities, and 304 men aged 20–69 years. Four focus Group Discussion (FGD) sessions were conducted. Interviewer-administered questionnaire with, a 20-point knowledge, 16-point attitudinal, 10-point willingness scales, and men's support enhancing factors was used for data collection. Knowledge scores ≥10, attitudinal scores >8, and willingness scores ≥7 points were classified as good, positive, and willing respectively. Data were analysed using descriptive statistics, Chi-square and Logistic regression tests, at 5% level of significance.

Results: Respondents age was 35.9 ± 9.7 years, 16.1% had tertiary education, and (79.6%) were ever married. Awareness of symptoms, and that screening prevents CC were 1.3%, 42.0% respectively, and 35.5% perceived CC as a curse to promiscuous women. Knowledge, attitudinal, and willingness scores were 5.97 ± 5.0, 9.5 ± 4.4, and 7.5 ± 2.3 respectively. Many (78.6%) had poor knowledge, (45.7%) negative attitude, and 69.1% willing to support spouse's CC screening. Suggestions for enhancing support for C.C screening included awareness creation (86.9%). Men with tertiary education were more likely to have good knowledge of CC than those with primary education (OR:3.5, $p \leq 0.05$, C.I. = 1.5–8.1). Men with good knowledge of CC screening were more likely to have positive attitudinal disposition to screening (OR = 20.0, $p \leq 0.05$, C.I.7.0–56.2). Men with positive attitudinal disposition, were more willing to support screening (OR: 2.0, $p \leq 0.05$, C.I. = 1.2–3.3). FGD's reveal willingness to permit spouses based on their knowledge and affordability.

Conclusions: Good knowledge was associated with attitude, and willingness of men to support screening. Hence health education is recommended.

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EFFECTIVENESS OF A TWO-STAGE STRATEGY WITH HPV TESTING FOLLOWED BY VISUAL INSPECTION WITH ACETIC ACID (VIA) FOR CERVICAL CANCER SCREENING IN A LOW INCOME SETTING

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Background: WHO recently advocated a sequential testing with HPV testing followed by VIA as a suitable option for cervical cancer screening. However, its accuracy has not been directly assessed in the context of primary screening

Aim: To evaluate the effectiveness of HPV-testing (self-HPV) followed by VIA for cervical cancer screening in a low-income setting

Methods: We recruited 540 women aged between 30 and 65 years in Cameroon. Eligible women were counseled about HPV infection, cervical cancer and how to perform self-HPV. HPV positive women and a randomly chosen sample of HPV negative women were called back for VIA examination and biopsies. Disease was defined by presence of cervical intraepithelial neoplasia grade 2 or worse (CIN2+). Tests qualities of VIA, HPV testing and sequential testing were determined

Results: HPV prevalence was 27.0% (95% CI: 23.5%–30.9%). VIA was positive in 15.1% (16/106) of HPV positive and 6.8% (7/102) of HPV negative women. CIN 2 or 3 were found in 4.1% (9/217) and carcinoma in 0.9% (2/217) of women. Sensitivity and specificity of VIA for CIN2+ were 36.4% (95% IC: 15.2%–64.6%) and 90.4% (95% CI: 85.4%–93.7%), respectively. Sensitivity of self-HPV (100.0% (95% CI: 79.6%–100.0%) to detect CIN2+ was 66% higher than that of the sequential testing (33.3% (95% CI: 15.2%–58.3%)). Meantime, specificity of HPV testing (74.5% (95% CI: 70.6%–78.1%)) was 22% lower than that of sequential testing (96.7% (95% CI: 94.8%–97.9%)). Positive predictive value (PPV) was two times higher for sequential testing (22.7% (95% CI: 10.1%–43.4%) than for HPV testing only (10.3% (95% CI: 6.3%–16.3%))

Conclusions: HPV testing followed by VIA improves the specificity of cervical cancer screening, but at the cost of an important loss of sensitivity. Ways to ameliorate VIA performance or other triage tools are needed to increase positive predictive value of a HPV-based screening strategy without impairing its sensitivity

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EFFICACY OF HPV DNA DETECTION TEST TO TRIAGE VIA POSITIVE WOMEN FOR CERVICAL CANCER SCREENING IN LOW RESOURCE SETTING

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Background: Visual Inspection with Acetic Acid (VIA) has been inducted in national cervical cancer screening programs of many countries as simple and inexpensive alternative to cytology. However, low specificity of VIA leads to unnecessary colposcopy or treatment that offsets the cost-savings. Detection of oncogenic Human Papillomavirus (HPV) is highly accurate and objective.

Aim: The large-scale community-based study from India aimed to evaluate the efficacy of HPV testing to triage the VIA-positive women so that specificity of VIA could be improved without compromising sensitivity.

Methods: VIA was used to screen 36,285 women between 30–60 years of age. All VIA-positive women had HPV-DNA test using Hybrid Capture 2 (HC-2) technology and colposcopy. Cervical punch biopsies were obtained if colposcopy was abnormal. Histology results or normal colposcopy were used as gold standard to evaluate test performances. Threshold for defining disease was CIN 3.

Results: VIA was positive in 2625 women, of whom only 261 were HC-2 positive. Triaging of VIA-positive women with HC-2 resulted in significant reduction in referral rate from 7.2% to 0.7%. Triaging missed only 9 out of 65 cases of CIN3 and nil out of 41 cases of cancer originally detected by VIA. Positive predictive value (PPV) of sequential testing was 37.2%, against the PPV of only 4.0% for stand alone VIA. The Receiver Operating Characteristic curve showed 91.3% sensitivity and 93.5% specificity of HC-2 at RLU/PC cutoff of 1.0 when used sequentially with VIA. In a parallel study we observed high concordance between HC-2 test results from cervical samples collected before and immediately after VIA from same women. This suggests that samples for HC-2 can be collected immediately after VIA.

Conclusions: Triaging of VIA-positive women with HPV test can significantly reduce referral rate without significantly affecting sensitivity. This will substantially reduce programmatic costs by efficiently excluding the VIA false-positives.

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COMPARATIVE EVALUATION OF COLPOSCOPY VERSES CONVENTIONAL CYTOLOGY AND HPV DNA TESTING AS A DIAGNOSTIC TRIAGE FOR SINGLE VISIT SCREEN AND TREAT STRATEGY IN VIA BASED CERVICAL CANCER SCREENING PROGRAMS IN LOW RESOURCE SETTINGS IN INDIA

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Background: Poor compliance to screening, diagnosis and treatment due to multiple visits involved is perceived as the single most major barrier for their successful implementation of cervical cancer screening programs. In resource constrained settings in the absence of reliable health infrastructure for cytology and HPV testing programs single visit approaches with Colposcopy could be suitable alternative for sustainable cervical cancer screening programs .

Aim: To evaluate the efficacy of diagnostic triage by colposcopy compared to conventional cytology and HPV DNA testing in cervical cancer screening programs.

Methods: Women in the age group of 30–65 years attending the cervical cancer screening clinic in Mumbai between January to December 2013, were administered primary screening by Visual Inspection with 5% Acetic Acid(VIA). 257 VIA positive women were offered diagnostic triage with Colposcopy, Conventional cytology and HPV DNA testing. Test characteristics and their 95% confidence intervals for Colpscopy were compared with that of conventional cytology and HPV DNA test against the reference standard of histopathology.

Results: The sensitivity of diagnostic colposcopy, cytology and HPV DNA by Hybrid Capture II was 0.69(95% CI: 0.41–0.89), 0.44 (95% CI: 0.20–0.70) and 0.69 (95% CI: 0.41–0.89) respectively and that of specificity was 0.76 (95% CI: 0.70–0.81), 0.97 (95% CI: 0.94–0.99) and 0.83 (95% CI: 0.78–0.88) respectively. Cytology had the highest false negative rate (FNR) of 0.56 (95% CI: 0.30–0.80) whereas colposcopy and HPV DNA had similar FNR [0.31 (95% CI: 0.11–0.59)].

Conclusions: Diagnostic triage for VIA positive women by colposcopy was comparable to HPV DNA testing and was more sensitive than conventional cytology. In settings with limitations in establishing diagnostic cytology and molecular testing facilities and also difficulty in accessing health-care facilities triage by colposcopy should be considered as a possible alternative.

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ASPIRIN, IBUPROFEN AND RISK OF COLORECTAL CANCER FOR CARRIERS OF GERMLINE MUTATIONS IN DNA MISMATCH REPAIR GENES

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Background: Lynch syndrome is an inherited susceptibility to colorectal cancer (CRC) and other cancers caused by a germline mutation in one of the DNA mismatch repair (MMR) genes, *MLH1, MSH2, MSH6* and *PMS2*. Personal and lifestyle factors might modify cancer risks for MMR gene mutation carriers.

Aim: In this study, we estimated associations between aspirin and ibuprofen use and risk of CRC for MMR gene mutation carriers.

Methods: We conducted a birth cohort analysis on 1,745 carriers of a pathogenic mutation in one of the MMR genes (633 MLH1, 839 MSH2, 167 MSH6 and 106 PMS2) who were recruited into the Colon Cancer Family Registry (254 from Canada, 957 from Australia and 534 for the United States). During 77,338 person-years of observation, 725 carriers (41%) were diagnosed with CRC. We used weighted Cox proportional hazards regression to estimate hazards ratios (HRs) and 95% confidence intervals (CIs) for associations between use of aspirin and/or ibuprofen and the risk of CRC.

Results: A lower risk of CRC was associated with regular use of: aspirin (HR 0.48, 95% CI 0.26–0.87 for 1–10 years use; and 0.45, 95% CI 0.25–0.80 for >10 years use); ibuprofen (HR 0.46, 95% CI 0.25–0.86 for 1–5 years use; and 0.36, 95% CI 0.12–1.05 for >5 years use); and either aspirin or ibuprofen (HR 0.65, 95% CI 0.40–1.05 for 1–10 years use; and 0.43, 95% CI 0.21–0.90 for >10 years use) compared with never users, after adjusting for potential confounding factors.

Conclusions: There is strong protective association of aspirin and ibuprofen use with a reduction in CRC risk for MMR gene mutations carriers. Our results suggest that regular long-term use of aspirin and ibuprofen might be an effective and acceptable way for mutation carriers to reduce their risk of CRC.

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HARNESSING THE COMMUNITY TO ACCELERATE CANCER RESEARCH OUTCOMES

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Background and Context: Register4 is an online resource for Australian women and men to participate in cancer research – it does this by bringing together researchers with people who have expressed an interest in participating in approved cancer research projects.

An initiative of the National Breast Cancer Foundation, Register4 was launched in 2010 and now has over 40,000 members (predominantly female) with a broad demographic representation. Lifestyle and family health history has been collected for nearly 25% of participants[1]. While originally focused on breast cancer research, the Register was opened up to research projects across all cancers in February, 2014.

Aim: Register4 aims to help accelerate understanding towards the prevention and cure of cancer through reducing the substantial obstacles faced by cancer researchers in recruiting participants for their studies.

Strategy/Tactics: As an entirely online resource, Register4 offers a cost effective and efficient recruitment model that allows access to tens of thousands of potential participants in a matter of minutes.

Programme/Policy Process: To use the resource, researchers submit ethically-approved projects for consideration online. All applications are reviewed by the Register4 Access Committee for relevance/applicability to cancer and appropriateness for using the Register. Approved projects are emailed to Register4 members and they express interest online. If a member meets the project criteria and chooses to participate, they provide their formal consent to the researcher. After the project is implemented, a summary of the results is published on the Register4 website. The scope of projects varies – it may be completing a questionnaire to something more involved like providing a DNA sample.

Outcomes/What was learned: Register4 has successfully recruited for 21 projects, to date. Researchers have advised estimated savings of $5,000 to $100,000 or up to one to two years' recruitment time. For more information, visit www.register4.org.au.

1. Hopper JL, Apicella C, Butt AJ. Register4: an Australian web-enabled resource created by the National Breast Cancer Foundation to facilitate and accelerate cancer research. *Med J Aust.* 2014 May 5;200(8):460

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MAKING RADIOTHERAPY A GLOBAL HEALTH PRIORITY THROUGH SOCIAL MEDIA MOBILIZATION: THE CASE OF GLOBALRT

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Background and Context: Despite unprecedented success in the global cancer equity movement, some aspects of cancer treatment have lagged behind. In particular, the availability of radiotherapy remains stagnant. Often considered technical and costly, radiotherapy, or cancer treatment using radiation, is a critical element of care. Without access to radiotherapy, many patients cannot be cured, while others will have reduced survival.

Aim: GlobalRT seeks to turn radiotherapy into a global health priority. As an initiative of the Young Leaders Program of the Global Taskforce on Radiotherapy for Cancer Control (GTFRCC) under the UICC, it aims to provide a virtual platform for education, exchange, and action around the essential nature of radiotherapy for cancer care.

Strategy/Tactics: GlobalRT website and social media platforms feature the human side of radiation care using stories from patients and health care providers. These make the case for access to radiotherapy as a human right. Additionally, partnerships with organizations working in global radiotherapy, cancer care, and technology innovation were sought to implement specific projects, including a challenge for proposals to reduce the cost of radiotherapy.

Programme/Policy Process: Beta-launch at ESTRO, full launch at ASCO. Presentations scheduled at ASTRO. Movie filmed in Peru with NCD Free. Linkages created with young leaders in over 10 countries. Young leaders ranged from young physicians to undergraduate students to global health practitioners. Education and advocacy programs planned at medical schools across the US, with global expansion to follow.

Outcomes/What was learned: More than 100 individuals signed up since site launch. Peru film screened at WHO meeting. Five institutional partners signed on to specific projects. Preliminary efforts demonstrate effectiveness of a web-based, social network approach to engaging young leaders in the burgeoning movement for global access to radiotherapy. Further assessment is required to optimize the balance between online and offline activities and networks.

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CANCER CONTROL – CURRENT TRENDS IN DATA PROTECTION LEGISLATION MAY IMPEDE DATA DRIVEN PROGRESS IN EUROPE – COUNTER ACTED BY DATA DRIVEN ADVOCACY

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Background: Population based cancer registration linked to additional data sources is essential in cancer control. Quality and efficiency of therapy and services as well as risk factors for preventing cancers can be assessed. Results are based on linked individual data, aggregated in the analysis and reporting. The current proposal for a regulation on data protection in the EU may seriously affect unbiased population based, clinical and translational cancer research. Everybody wants the benefits of biomedical research, but debate and distrust on maintenance of confidentiality and individual privacy prevail. Existing codes of conduct in research are challenged, as the complex nature of research where individual data for millions of people are aggregated and analysed is not acknowledged.

Aim: To advocate for changes in the proposed regulation by based on previous research results visualising what will be impossible to do in the future.

Strategy: The critical clauses in the regulation were identified, and studies on survival, treatment, long term follow-up after environmental or workplace exposures, introduction of wireless technologies etc. were collected and transcribed into short and clear summaries. New legal text was proposed where needed and all relevant MEP's and Commission were provided the developed material with personal letters. Networks in research, cancer leagues and other stakeholders were involved to raise awareness. Meetings were held with decision makers and officials.

Policy Process: It was accepted that individual consent, does not work for register based research, and technical procedures e.g. pseudonymisation does not solve the problem. Unfortunately the European Parliament voted to negotiate with the Commission and Council on a text impeding research. Networks across Europe are activated to influence this negotiation to avoid a serious setback for health research and health.

Outcomes: Continuous advocacy efforts are needed from all stakeholders to avoid a major setback for health in the future.

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ACCELERATING DECISION-MAKING WITH MICROSIMULATION: THE ADOPTION OF EVIDENCE IN CERVICAL CANCER SCREENING

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Background and Context: Microsimulation models, such as the Partnership's HPV Microsimulation Model (HPVMM) and Cancer Risk Management Model (CRMM), allow decision-makers to measure the effects of proposed interventions before they are implemented. This presents opportunities for accelerated and collaborative decision-making and coordinated cancer control strategies.

Aim: As the first cohort of HPV-vaccinated girls will turn 21 in 2016, we will soon face difficult questions about the value of cervical cancer screening in women. In vaccinated cohorts, we may be able to screen less, reducing the number of false-positives and over-treatment without negatively affecting population outcomes. Using the results of an HPVMM/CRMM case study, we will evaluate under what circumstances microsimulation modelling can support evidence-informed decision-making.

Strategy/Tactics: The HPVMM/CRMM will be used as a case study for its adoption and use in policy decision-making in Canada. in this analysis, we evaluated cervical cancer screening in vaccinated women. Our analysis compared current screening guidelines (21–69 × 3 years) with extended intervals (x 5 or x 10 years) or delayed start age (25- or 30–69).

Programme/Policy Process: Extending the interval of cervical cancer screening from every 3 years to 5 or 10 years was associated with a 20%–60% increase in the number of cervical cancer cases in Canada, respectively. Conversely, increasing the start age of screening from 21 to 25 or 30 was found to have no impact on the number of new cases.

Outcomes/What was learned: Microsimulation models such as the HPVMM and CRMM can be used to identify cost-effective strategies to prevent, screen and treat cervical cancer in Canada. More importantly, these findings must be translated more broadly to cancer control decision-makers to support evidence-based decision-making. This analysis, along with others, will be used to develop a framework to support the use of evidence and microsimulation modelling in cancer control decision-making.

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WOMEN'S EMPOWERMENT CANCER ADVOCACY NETWORK (WE CAN) 2014 EAST AFRICA WE CAN BREAST AND CERVICAL CANCER ADVOCACY, EDUCATION AND OUTREACH SUMMIT SEPTEMBER 11–13, DAR ES SALAAM, TANZANIA SEATTLE CANCER CARE ALLIANCE/UNIVERSITY OF WASHINGTON (SCCA/UW) NATIONAL CANCER INSTITUTE CENTER FOR GLOBAL HEALTH (NCI CGH)

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Background/Context: Breast and cervical cancer are the leading causes of cancer death for women in low-resource settings. This has been attributed to lack of awareness, late stage diagnosis and access to care. WE CAN fosters awareness, capacity building, knowledge transfer and sharing of best practices in advocacy to dispel damaging myths about cancer and improve outcomes.

Aim: Our objective is to ensure progress towards reducing breast and cervical cancer-related death and morbidity, to promote capacity building, to influence public policy and social norm change, and to empower women to be leaders in their own communities. The 2014 WE CAN Summit in Tanzania aimed to:

- improve knowledge regarding cancer prevention, detection and treatment;
- advance cancer advocacy skills;
- facilitate the exchange of "lessons learned" in cancer advocacy; and
- develop the East Africa WE CAN network.

Strategy: We hypothesize that the power of individual advocates is multiplied through regional networks. We conduct annual summits to connect advocates, physicians and policy makers to educate, raise awareness, exchange best practices, build capacity and strengthen regional advocacy networks.

Programme: We partner with local advocates, Ministries of Health (MOH) and healthcare providers to provide resource appropriate content, highlight advocacy efforts and develop advocacy goals through presentations, facilitated discussions and workshop sessions. The 2014 Summit was co-sponsored by WE CAN and the U.S. NCI with local hosts WAMA and MEWATA. WE CAN has been active since 2003, hosting 8 summits on 4 continents.

Outcomes/Lessons Learned: The 2014 Summit convened 65 survivors, advocates, medical professionals, and government representatives, from 10 countries. Outcomes include:

- creation of Malagasy Union Against Cancer
- linkages between VIA project and Tanzanian MOH
- increased integration of disenfranchised cervical cancer survivors
- decision to use WhatsApp platform for network communication
- 10+ advocacy action plans
- HIV/AIDS is preferable to cancer

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PROMOTING TOBACCO WITHOUT THE TOBACCO – CONTINUING USE OF PRICE BOARDS TO PROMOTE TOBACCO POST- POINT-OF-SALE DISPLAY BANS

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Publish consent withheld

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IMPACT OF ELECTRONIC CIGARETTE USE ON SMOKING CESSATION AMONG U.S. ADULTS: A LONGITUDINAL STUDY

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Background: Increasingly popular electronic cigarettes (ecigs) may be the most promising development in the effort to end cigarette smoking. However, there is sparse evidence that their use promotes cessation. Governments are seeking this information as they develop regulations regarding the manufacture, marketing and sale of this controversial product.

Aim: To determine whether use of ecigs increases the likelihood of smoking cessation.

Methods: Representative samples of adults in two U.S. metropolitan areas were surveyed by phone in 2011/2012 about their use novel tobacco products. In 2014, follow-up interviews were conducted with 695 of the 1374 baseline cigarette smokers who had agreed to be re-contacted. The follow-up interview assessed their current smoking status and their history of electronic cigarette usage. Respondents were categorized as intensive users (used ecigs daily for at least one month), intermittent users (used regularly, but not daily for more than one month), and non-users (had never used e-cigarettes or used at most once or twice).

Results: Ecig trial increased from 22% to 70% at follow-up. At follow-up, 23% percent were intensive users, 29% intermittent users, 18% had used once or twice, and 30% hadn't tried ecigs. A multivariate logistic regression, controlling for demographics and level of tobacco dependence, indicated that those who used ecigs intensively, were 6 times as likely to quit smoking as non-users. No such relationship was seen for intermittent users. Other analyses suggested that among those still smoking at follow-up, intermittent ecig use may have reduced likelihood of future quitting.

Conclusions: Daily use of electronic cigarettes for at least one month seems a powerful aid to quitting smoking. Further investigation of intermittent patterns of use is necessary to better understand the potential for undermining motivation to give up tobacco.

1. This study was supported by a grant from the U.S. National Cancer Insititute

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SHORT-TERM IMPACT OF AUSTRALIA'S NEW TOBACCO PLAIN PACKS ON ADULT SMOKERS' PACK-RELATED PERCEPTIONS AND RESPONSES: RESULTS FROM A CONTINUOUS TRACKING SURVEY

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Background: Given that the introduction of the tobacco plain packaging legislation in Australia is the first of its kind, research on its real-world impact is crucial for policy decision-making in other jurisdictions.

Aim: To investigate the impact of Australia's plain tobacco packaging policy on two stated purposes of the legislation – increasing the impact of health warnings and decreasing the promotional appeal of packaging – among adult smokers.

Methods: Serial cross-sectional study with weekly telephone surveys of adult smokers (April 2006 to May 2013, $n = 15{,}745$). Interrupted time-series analyses using ARIMA modelling and logistic regression analyses were used to investigate intervention effects.

Results: Adjusting for background trends, seasonality, and variations in anti-smoking advertising activity and cigarette costliness, results from ARIMA modelling showed that, two to three months after the introduction of the new packs there was a significant increase in the proportion of smokers having strong cognitive ($B = 0.098$, $SE = 0.034$, $p = 0.005$), emotional ($B = 0.086$, $SE = 0.035$, $p = 0.01$) and avoidant ($B = 0.098$, $SE = 0.028$, $p = 0.0005$) responses to on-pack health warnings. Three months following the introduction of the new packs, there was a significant increase in the proportion of smokers strongly disagreeing that the look of their cigarette pack is attractive ($B = 0.596$, $SE = 0.098$, $p < 0.0001$), says something good about them ($B = 0.539$, $SE = 0.089$, $p < 0.0001$), influences the brand they buy ($B = 0.423$, $SE = 0.091$, $p < 0.0001$), makes their pack stand out ($B = 0.546$, $SE = 0.108$, $p < 0.0001$), is fashionable ($B = 0.454$, $SE = 0.084$, $p < 0.0001$), and matches their style ($B = 0.470$, $SE = 0.086$, $p < 0.0001$). Logistic regression analyses, controlling for demographic and smoking characteristics, confirmed these effects. Changes in these outcomes were maintained six months post-intervention.

Conclusions: The introductory effects are consistent with the specific objectives of the plain packaging legislation. In an environment of strict tobacco promotion prohibition such as Australia, the plain packaging legislation has been successful in depriving tobacco companies of an ongoing opportunity to promote their products.

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SMOKING BEFORE FIRST CHILDBIRTH AND RISK OF BREAST CANCER

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Background: In spite of the overwhelming evidence of the detrimental effects of smoking on health the tobacco use among women is rising globally and the age of initiation of daily smoking among women seems to have become as young as it is in men. Today, the majority of women who initiate smoking do so before their first childbirth.

Aim: To prospectively examine how many breast cancer cases that could have been prevented if women did not initiate smoking before first birth by calculating the corresponding population attributable fraction (PAF) of breast cancer

Methods: We followed 137,412 women, aged 34–70 years, who completed a baseline questionnaire between 1991 and 2007, through linkages to national registries through December, 2010. We used Cox proportional hazards models to estimate hazard ratios (HRs) and 95% confidence intervals (CIs) while adjusting for relevant confounders

Results: During a mean follow-up of 12 years, 3,157 women developed invasive breast cancer confirmed by histology. Compared with never smokers, the multivariate adjusted HR estimate for passive smokers was significantly increased with 18% (HR = 1.18, 95% CI 1.03–1.35) for women overall and with 48% (HR = 1.48, 95% CI 1.10–2.00) when the analyses was restricted to non-alcohol drinkers. Compared with parous never smokers, those who had smoked >10 years before their first childbirth had a 24% (HR = 1.24, 95% CI 1.04–1.48) overall and non-drinkers had a 90% (HR = 1.90, 95% CI 1.01–3.58) increased risk of breast cancer. The PAF of breast cancer due to smoking initiation before first birth was 9, 3% (CI 3.2–14.9) overall and 15, 9% (CI 1.7–28.1) for women diagnosed before the age of 50.

Conclusions: One in eleven breast cancer cases could have been prevented if women did not initiate smoking before first birth

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SMOKING CESSATION AFTER A CANCER DIAGNOSIS

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Background: Smoking cessation reduces overall mortality, yet oncologists do not often provide smoking cessation support at the time of a cancer diagnosis. One possible reason for this is that there is very little evidence regarding the benefits of smoking cessation on cancer survival.

Aim: To illustrate the importance of smoking cessation at the time of diagnosis for cancer survival by using a simple modelling technique

Methods: We calculated 8-year absolute survival of people who quit smoking around the time of a cancer diagnosis ("recent quitters"), ex-smokers, continuing and never smokers using recently published mortality rates and applying these to cancer survival statistics from Australia and the USA.

Results: Eight year absolute survival, across all cancer types, was 37% for smokers, 43% for recent quitters and 49% for never-smokers in Australia, and in the USA was 43%, 49% and 54% for smokers, recent quitters and never-smokers, respectively

Conclusions: The benefits of quitting smoking after a cancer diagnosis compared to continued smoking are potentially very large. While large studies are needed to provide robust estimates of the effect of smoking cessation on cancer survival, the existing literature and our estimates suggest it is prudent to implement smoking cessation in treatment guidelines as an essential part of cancer care.

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ASSOCIATION BETWEEN SMOKING AND PRIMARY MALIGNANT BRAIN TUMORS: A NATIONAL POPULATION-BASED CASE-CONTROL STUDY IN CHINA

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Publish consent withheld

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TOOLS FOR CATALYZING A SHIFT TO NEW CERVICAL CANCER SCREENING STRATEGIES IN CENTRAL AMERICA

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Background and Context: Wide availability of new, more effective molecular screening tests for cervical cancer, particularly lower-cost HPV DNA tests, are creating opportunities for low- and middle-income countries to improve their population-based screening strategies. The World Health Organization (WHO) also released new screening guidelines recommending HPV testing as a first line of screening, thus generating critical political and practical momentum. Countries are embarking on a paradigm shift away from Pap to new molecular screening tests, and facing the associated challenges of integrating these approaches into their existing infrastructure within limited budgets.

Aim: Our aim is to facilitate the adoption of WHO screening guidelines and the introduction of new screening options in four Central American countries.

Strategy/Tactics: We have collaborated with ministries of health, UICC, and PAHO/WHO to catalyze the necessary policy and programmatic changes to strengthen national cervical cancer programs. We have carried out stakeholder mapping exercises and preliminary needs assessments to uncover barriers and facilitators to implementing HPV DNA testing, and also held policy dialogues with multi-sector stakeholders.

Programme/Policy Process: Several priority work areas have been undertaken, including: 1) generating buy-in from key ministerial and civil society stakeholders by updating national guidelines for cervical cancer, with input and validation from various disciplines, respected international experts, and organizations such as PAHO/WHO and UICC; 2) performing detailed situational assessments of current cervical cancer screening and treatment programs; and 3) determining immediate cost implications for the following 1–2 years including adoption, logistical implications, and allocation of human resources.

Outcomes/What was learned: Ministries of health are committed to improving the effectiveness of screening programs and will be able to implement new screening strategies. The multi-stakeholder approaches and tools we have developed to meet specific needs for expert validation, situational assessment, and costing may be of interest to others implementing new screening strategies at the population level.

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AN INTERNATIONAL PARTNERSHIP TO ALIGN CANCER CONTROL PLANNING EFFORTS WITH GLOBAL NONCOMMUNICABLE DISEASE (NCD) CONTROL TARGETS

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Background and Context: With the adoption of the Non-Communicable Disease (NCD) Framework, including the WHO Global Action Plan 2013–2020, governments have committed to reduce premature deaths from NCDs by 25% by 2025. The development, implementation and attainment of national NCD Plans, including integrated cancer plans, constitutes a cornerstone to reach this target. This integration presents a unique opportunity to prioritize cancer control as a public health imperative internationally.

Aim: The International Cancer Control Partnership (ICCP) is a new partnership of international cancer control agencies and organizations that are collaborating to assist countries in developing and implementing quality cancer control plans linked to NCD control.

Strategy/Tactics: This ICCP believes that prioritizing cancer is critical to reaching the "25 × 25" goal. ICCP partners assist countries by:

- encouraging knowledge-sharing through the ICCP-Portal (www.iccp-portal.org), which features:
    - o A searchable database of more than 126 publicly available cancer control and 25 NCD plans;
    - o A searchable library of more than 318 essential resources for cancer planning; and
    - o Case studies highlighting country experiences in cancer planning.
- performing gap analysis and highlighting priority areas for inclusion in plans.
- training personnel to develop plans with targets and evaluation strategies.
- supporting advocacy and mobilizing technical and financial resources for national cancer control plans
- offering technical assistance.

Anticipated Outcomes: ICCP partners agree to coordinate efforts in assisting countries with plan development and implementation utilizing evidence-based strategies to help meet global NCD targets. The data available through the ICCP Portal is key in identifying the gaps and lessons learned from many countries to best inform cancer control planning and coordinate cancer control planning efforts by member organizations.

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ENGAGING POLICY MAKERS, CIVIL SOCIETY AND YOUTH FOR PREVENTION AND CONTROL OF CANCER AND OTHER NCDS IN INDIA

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Background: NCDs including cancer are major public health problem in India. Cancer accounted for 6% of all deaths in India in 2008[1]. India is the first country to adapt the Global Monitoring NCD Framework to the national context and its national plan outlines 10 targets to reduce premature NCDs mortality. Effective multi-sectoral engagement at government and non-government platforms and fostering political-will is essential to create policy environment for operationalization of strategies under the plan. HRIDAY under a grant from the American Cancer Society undertook a two years project to encourage national-level actions to make cancer and other NCDs a global priority.

Aim: Engaging policymakers, civil society and youth for NCD prevention and control in India through evidence-based advocacy and strategic partnerships

Strategies: ***Multi-sectoral consultation*** produced recommendations for incorporating NCDs into India's development plans;

Students' Parliament on Health-1,000 school students discussed policy interventions to address risk factors of cancer and other NCDs; ***Exhibition for Parliamentarians and policymakers where*** youth urged Parliamentarians to set clear, time-bound national targets; ***Cancer survivors*** took lead in steering collaborative advocacy campaigns with policymakers and the media; ***Signature campaign*** with nearly 30,000 schools and colleges youth; ***Media sensitization*** through media briefs; ***Engagement of youth*** on social-media platforms.

Promoting effective Government-NGO partnership – Consultation to ***identify civil society's role*** in progressing towards the targets; ***advocating with new government***-disseminating policy briefs

Policy Process: Strategic advocacy with Parliamentarians and policymakers to urge them for according high priority to NCD prevention (Upstream-advocacy) with a strong component of active civil society engagement to garner public support and media mobilization (Downstream-advocacy)

Outcomes: Project was critical in sensitizing Parliamentarians and to align and prioritize civil society interventions with government initiatives to meet national the targets. Active role of cancer survivors in policy advocacy and visible media coverage of NCD issues have been other outcomes

1. World Health Organization; Global status report on noncommunicable diseases 2010

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"MEET THE TARGETS" PROJECT ON THE IMPLEMENTATION OF UNITED NATION POLITICAL DECLARATION ON NON-COMMUNICABLE DISEASES

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Background and Context: "Meet the targets project" project started on March 30, 2012 , ongoing for two years and finally came to an end on March 30,2014.The project is expected to extend for another two years. The project implementation becomes possible because of the financial support of 40,000 USD from American Cancer Society.

Aim: The project has two objectives. These are:
1. Making the political, social and economic environment in Ethiopia conducive for the war on NCD.
2. Working the development of National Cancer Control Program in Ethiopia.

Strategy/Tactics: Multi-Sectoral approach we followed helped us to put heavy pressure on policy makers & implementers.

Programme/Policy Process: The project collaborated with so many consortiums of which the followings are the major ones. Our society is:

- · A member of National Technical Working Group on NCDs.
- · One of the founding members of Consortium of Ethiopian NCD Associations.
- · One of the founding members & executive member of Ethiopian Civil Society Health Forum, consortium of more than 122 NGOs working on health.

Among policy actions taken we can site for instance:

- · The development of National Strategic Framework and the National Strategic Action Plan on NCDs.

· Federal Ministry of Health established a new Case Team of five full-time professionals for NCD.
  - Outcomes/What was learned: Better knowledge and understanding on the part of Ethiopia policy makers.
  - NCD finally confirmed to be one of the three top health priorities of Ethiopia.
  - Commemorating World Cancer Day at the Prime Minister's office and advocacy workshop on cancer given to members of parliament signifies turning point we reached.

· Cancer treatment is to be given in five major regional university hospitals.

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GLOBAL SURVEILLANCE OF CANCER SURVIVAL (CONCORD)

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Background: World-wide data on cancer survival are scarce. CONCORD-2 expands coverage to include geographic patterns and trends since 1995.

Aim: To initiate world-wide surveillance of cancer survival by centralised analysis of population-based registry data, as a metric of the effectiveness of health systems, in order to inform global policy on cancer control.

Methods: More than 270 population-based cancer registries in 67 countries provided individual tumour records for 28.7 million adults (15–99 years) diagnosed during 1995–2009 with cancer of the stomach, colon, rectum, liver, lung, breast (women), cervix, ovary or prostate, or leukaemia, and 75,000 children with leukaemia. Standardised quality control procedures were applied to all data sets; major errors were checked with the registry concerned. Net survival was estimated, corrected for background mortality by single year of age, sex, calendar year (and race) in each country or region. All-ages survival estimates were standardised with the International Cancer Survival Standard weights.

Results: Five-year survival has increased for colon, rectal and breast cancers. Survival remains low for liver and lung cancer in all geographical areas. Striking increases in prostate cancer survival have occurred in many countries, but the range is wide. The global range in cervical and ovarian cancer survival is also very wide. Stomach cancer survival is very high in Eastern Asia, while survival for both adult and childhood leukaemia is remarkably low. We will present comparative data on quality control, and world-wide patterns and trends in cancer survival since 1995.

Conclusions: Robust comparison of survival trends and inequalities up to 2009 should prompt improvement of national health systems. The results will contribute to the overarching goal of UICC's World Cancer Declaration 2013: "major reductions in premature deaths from cancer, and improvements in quality of life and cancer survival".

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BUILDING CAPACITY FOR ONCOLOGY NURSING EDUCATION AND TRAINING IN LOW- AND MIDDLE-INCOME COUNTRIES: A CALL TO ACTION

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8. *St. Jude Children's Research Hospital, Memphis, Tennessee, USA*
9. *Nurse Consultant, Bogota, Colombia*
10. *Union for International Cancer Control, Geneva, Switzerland*
11. *Chinese University of Hong Kong, Shatin, Hong Kong*
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Background and Context: As the cancer burden increases in low- and middle-income countries (LMICs), nursing education, the practice environment, role expansion and research are not keeping pace. The International Taskforce on Oncology Nursing in LMICs was established to highlight the critical role of LMIC nurses in cancer care and engage ministries of health, nursing associations, academic institutions, health care delivery organizations, and funders to work on solutions.

Aim: The Taskforce sought to develop a White Paper, recommendations and action plan to highlight the critical need for oncology nursing education and training in LMICs and catalyze action from ministries of health, nursing associations, academic institutions and funders.

Strategy/Tactics: The U.S. National Cancer Institute convened a group of international stakeholders from International Society of Nurses in Cancer Care, Union for International Cancer Control, International Network for Cancer Treatment and Research, Partners in Health, St. Jude Children's Research Hospital, Boston Children's Hospital along with oncology nurses from Africa, Asia, Latin America and Middle East. The Taskforce conducted an environmental scan and literature review of oncology nursing education activities in LMICs. The findings formed the basis for the development of a white paper and consensus recommendations that serve as tools for stakeholders to focus attention on priority issues for oncology nursing.

Programme/Policy Process: The Taskforce identified education and training needs, defined recommendations and obtained endorsements from leading organizations and individuals in the global cancer community. Next steps include developing and implementing an action plan and identifying potential funding sources from developed and developing countries including government, philanthropic organizations and professional associations.

Outcomes/What was learned: The Taskforce summarized key challenges faced by oncology nurses in LMICs and developed consensus for recommendations targeted to specific audiences with the power to affect change in oncology nursing in LMICs. It is also critical to develop a plan to disseminate and implement the recommendations.

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FINDING THE KEYS TO SUCCESSFUL PUBLIC HEALTH CAMPAIGNS PROMOTING HEALTHY WEIGHT AND LIFESTYLE TO ADULTS: QUANTITATIVE AND QUALITATIVE AUDIENCE TESTING RESEARCH

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Background: We have little evidence about the characteristics of effective campaigns relating to obesity prevention.

Aim: to quantitatively and qualitatively test adult's reactions to various existing public health television advertisements addressing healthy eating, physical activity and healthy weight to determine which ads have the highest levels of perceived effectiveness, message acceptance and emotional impact.

Methods: Quantitative: 3,313 Australian adults aged 21–55 years completed a web-based survey. Participants were randomly assigned to view and rate four of eight shortlisted ads related to a specified lifestyle topic (healthy eating, physical activity or healthy weight). Qualitative: 24 group discussions with a total of 172 participants, segmented by life stage (young adults, parents), sex and education, were conducted in regional and metropolitan locations in Victoria, NSW and Queensland, Australia. Three groups were assigned to each of the respective advertising streams (Weight, Activity, Eating).

Results: Quantitative: Ads featuring graphic imagery were generally among the highest rated on all three response measures, except for 'Man drinking fat' which rated low on message acceptance. Animated ads performed well in terms of personalised perceived effectiveness and message acceptance, but had minimal negative emotional impact. Most depicted scene style ads tended to be rated lowest for personalised perceived effectiveness. Qualitative: Segments of the target audience responded differently to the various styles of ads and messages, depending on demographic factors and their current status with respect to weight, diet and lifestyle. Those who were furthest from the weight, diet and activity recommendations responded best to ads that involved gentle persuasion and helpful hints, while those who were closer to the recommendations reacted to stronger, more graphic and more emotive advertising.

Conclusions: Findings from this program of research provide insights into the kinds of messages and executional characteristics that could be pursued as part of effective lifestyle mass media campaigns.

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GREEN TEA CONSUMPTION IS ASSOCIATED WITH A REDUCED RISK OF ADULT LEUKEMIA

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Background: Tea polyphenols have consistently demonstrated leukemic-inhibition in numerous vivo and vitro studies [1–6]. However, epidemiologic studies on the association between tea consumption and adult leukemia risk are limited and inconclusive [7–12].

Aim: A case-control study conducted in China between 2008 and 2012 to investigate the association between tea consumption and adult leukemia risk.

Methods: This included 493 incident, hematologically confirmed leukemia cases and 493 outpatient controls matched to each case by gender, year-of-birth quinquennium, and study site. Information on type, duration, frequency, and quantity of tea consumption, diet, lifestyle, and demographic characteristics was collected by face-to-face interview using a reliable structured questionnaire. Odds ratios (ORs) were estimated using conditional logistic regression after adjusted for resident locality, education, tobacco smoking, alcohol consumption, and fruits intake.

Results: Among cases with leukemia subtype information (414 out of 493), 67.6% were acute myeloid leukemia, 16.9% acute lymphoblastic leukemia, 10.4% chronic myeloid leukemia, and 5.1% chronic lymphocytic leukemia. There were 49.5% of the cases who drank tea compared with 65.9% of the controls. Among tea drinkers, 95.8% reported drinking green tea only or green tea with black or oolong tea. Compared with non-tea drinkers, the adjusted ORs (95% confidence intervals) were 0.30 (0.17–0.54), 0.26 (0.16–0.42), and 0.28 (0.17–0.47) for those who consumed tea ≥30 years, ≥2 cups daily, and dried tealeaves >1000 g annually, respectively. A significant inverse relationship was observed across all tea measurements with a statistically significant test for trend ($P < 0.001$). In analysis of leukaemia subtype, higher tea consumption was associated with a lower risk of acute myeloid leukaemia. The inverse association existed in both males and females after stratification, and a greater risk reduction was observed in females.

Conclusions: We conclude that regular daily consumption of green tea can protect against adult leukemia.

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ADHERENCE TO DIETARY AND LIFESTYLE RECOMMENDATIONS AND PROSTATE CANCER RISK IN THE PROSTATE TESTING FOR CANCER AND TREATMENT (PROTECT) TRIAL

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Background: The World Cancer Research Fund (WCRF) and the American Institute for Cancer Research (AICR) published eight recommendations for cancer prevention but they are not targeted at prostate cancer prevention. Little is known whether adherence to these recommendations or to disease specific dietary guidelines reduces prostate cancer risk.

Aim: We investigated whether adherence to the WCRF/AICR recommendations for cancer prevention and a prostate cancer specific dietary index are associated with prostate cancer risk in the Prostate Testing for Cancer and Treatment (ProtecT) trial.

Methods: We conducted a nested case-control study of 1,806 screen-detected prostate cancer cases and 12,005 controls. We developed a prostate cancer dietary index by incorporating three dietary factors most strongly associated with prostate cancer. Scores were computed to quantify adherence to the WCRF/AICR recommendations and the prostate cancer dietary index separately. Associations between the scores and prostate cancer risk were estimated by conditional and multinomial logistic regression models. Analyses were additionally conducted investigating grade and stage of prostate cancer.

Results: The prostate cancer dietary index score was associated with decreased risk of prostate cancer (OR per 1 score increment: 0.91, 95% CI: 0.84, 0.99; p-trend = 0.04) but the WCRF/AICR index score was not (OR: 0.99, 95% CI: 0.94, 1.05; p-trend = 0.82). There was no heterogeneity in association by prostate cancer stage (p = 0.46) or grade (p = 0.86). Greater adherence to recommendations to increase plant foods (OR per 0.25 index score increment: 0.94; 95% CI: 0.89, 0.99; p-trend = 0.02) and tomato products (OR adherence vs. non-adherence: 0.82; 95% CI: 0.70, 0.97; p = 0.02) were inversely associated with overall prostate cancer risk.

Conclusions: Adherence to the prostate cancer-specific dietary recommendations was associated with decreased risk of prostate cancer. High intake of plant foods and tomato products in particular may help protect against prostate cancer.

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LONG-TERM FOLLOW-UP OF BREAST CANCER MORTALITY IN TURKU, HELSINKI AND THE REST OF FINLAND WITH EMPLOYMENT OF DIFFERENT SCREENING POLICIES

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Background: Since 1987, the city of Turku, Finland, has offered mammography screening for women aged 40 to 74, biennially for women aged 50 to 74, annually for women aged 40 to 49 born in even calendar years and triennially for women born in odd years. The city of Helsinki and the rest of Finland (with a few exceptions) invited women aged 50 to 59 biennially (national policy). In Finland, the breast cancer incidence follows regional urbanization levels.1 In all study regions, the incidence of breast cancer continued to rise during the screening period.2

Aim: The study was conducted to compare the effects of different screening policies on breast cancer mortality in Turku, Helsinki and the rest of Finland (RoF).

Methods: The screening effect was evaluated by comparing the cumulative invasive breast cancer (BC) mortality of women aged 40–84 years between the pre-screening period (1976–1986) and the follow-up period 1998–2009 (screening period) in the three regions.

Results: In Turku, the cumulative BC mortality rate was 0.0262 during the screening period and 0.0310 during the pre-screening period, and the risk ratio (RR) was 0.85 (95% CI 0.71–1.00; P = 0.055). In Helsinki and in RoF, the rates were approximately the same during the screening period as during the pre-screening period. The rates in Helsinki were 0.0365 and 0.0356, RR = 1.01 (95% CI 0.92–1.10; P = 0.89) and in RoF 0.0265 and 0.0268, RR = 0.99 (95% CI 0.95–1.02; P = 0.51), during the screening and pre-screening periods, respectively. Cumulative BC mortality rates are shown in the figure.

Conclusions: Long-term evaluation showed that cumulative breast cancer mortality decreased in Turku, while in Helsinki and in the rest of Finland, it stayed at the previous level. Factors other than the large-scale screening in Turku may also have influenced the difference, which needs further exploration.

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AN IMPACTFUL E-LEARNING COURSE FOR PALLIATIVE CARE IN CANCER FOR AFRICAN HEALTHCARE PROFESSIONALS

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Background and Context: Affordable and accessible resources to support palliative care education are at a premium. Technology is advancing rapidly; the use of online materials would appear a sound way to support global palliative care education. An elearning course has been made freely available to African healthcare professionals since April 2014 with the first evaluation information now available including a study on the self-reported impact on patient care from the learners themselves.

Aim: To develop an impactful elearning course that demonstrates long term improvement in clinical practice in African healthcare professionals. We will report on evaluation and feedback 3 and 6 months after completion of the course to evaluate if the resources have had a long term impact on clinical practice.

Strategy/Tactics: ecancer and Cardiff University collaborated to produce 'open access' learning resources for Africa, where the incidence and death rate for cancer continue to rise. Effective online education involves more than uploading material to a website, Careful design, underpinned by educational theory, is needed to produce engaging, interactive and effective learning material. Responsible resource management suggests the need to develop materials which supplement, rather than duplicate, educational initiatives already in existence.

Programme/Policy Process: Learning material was filmed across sites in Wales (UK) and in South Africa with leading experts from across the continent. To increase effectiveness for an African context, additional content and the expertise of African palliative care professionals was sought for additional filmed material and peer review process in partnership with the African Palliative Care Association.

Outcomes/What was learned: The longitudinal feedback will provide information on sustainability and effectiveness of learning based on learner feedback and self-reported changes in clinical practice due to the educational intervention.

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COMPARISON OF CANCER SURVIVAL IN NEW ZEALAND AND IN AUSTRALIA, 2006–10 AND 2000–05

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Background: Australia and New Zealand have generally similar health care systems. Both countries have diverse populations in geographical location, ethnicity, and socio-economic factors. Australia has shown good overall cancer survival outcomes in international comparisons. New Zealand has higher mortality as well as mortality to incidence ratio for many cancer sites compared to Australia. Cancer survival in the two countries has not previously been compared systematically.

Aim: To explore the differences in cancer survival between two countries and to address the possible reasons for survival discrepancies

Methods: We compared cancer survival for patients diagnosed in 2006–10 and in 2000–05, using data from the national cancer registration and mortality systems in each country.

Results: Cancer survival, assessed as relative survival at 1, 5 and 10 years from diagnosis, was significantly higher in Australia than in New Zealand for all cancers combined, in both males and females, and for several major cancer sites, including colorectal, lung, and female breast and ovarian cancer. Other sites showed no differences, including melanoma and laryngeal cancer. These differences were not explained by age differences between the patient populations.

Conclusions: There are substantial differences in cancer survival between New Zealand and Australia, despite generally similar health care systems. These differences are consistent with differences in population-based cancer mortality for major sites, and do not seem explicable by differences in incidence. Possible reasons for these differences will be discussed.

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IMPLEMENTATION OF IRELAND'S NATIONAL CANCER CONTROL STRATEGY 2007–2013

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Background: In 2006, the Republic of Ireland (population 4.6 million) published "A Strategy for Cancer Control in Ireland" and developed a National Cancer Control Programme and National Cancer Screening Services in 2007. Previously, Ireland had poor outcomes and delays in diagnosis. Surgical services were scattered across 36 hospitals.

Aim: To implement national services providing timely access to evidence based multidisciplinary care.

Methods: National screening programmes BreastCheck (age 50–64, 72% uptake in 2012) and CervicalCheck (age 25–60, 75% uptake 2012) were implemented in 2007 and BowelScreen in 2012.

Surgical services consolidated in 8 newly designated cancer centres. All 8 centres have high volume, sustainable diagnostics, surgical, medical and radiation oncology. All patients reviewed at multidisciplinary team meetings.

Results: Breast: 8 hospitals (14,590 urgent referrals seen within 2 weeks and 31,704 non-urgent referrals seen in 12 weeks in 2013. 5.5% had cancer)

Rectal: 10 hospitals

Lung: 8 hospitals, rapid access clinics saw 2,890 referrals in 2013 (30% diagnosed with cancer) (Surgery in 4)

Prostate: 8 hospitals, rapid access clinics saw 2,870 referrals in 2013 (36% diagnosed with cancer)

Pancreatic: 2 centres

Upper gastrointestinal: 4 centres

Brain: 2 centres

Gynaecology: 7 centres

Breast, lung, prostate and melanoma clinical pathways and electronic GP referrals implemented nationally.

Quality assurance programmes in histopathology, imaging and endoscopy implemented.

National Programme for Radiation Oncology: 2 new Dublin centres opened in 2011, 2 in Cork and Galway opening in 2017.

National Medical Oncology Drug Programme and Protocols implemented in 2012,

National treatment guidelines for breast, prostate, lung, GI and gynae cancers in advanced development.

Conclusions: Radical change has been accomplished nationally in the public sector.

We aim to improve five year survival by up to 10% in most cancers.

Data on patient volumes and performance indicators to be presented at the meeting.

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TOWARDS AN EVIDENCE-BASED MODEL OF PALLIATIVE AND SUPPORTIVE CARE FOR PEOPLE WITH HIGH-GRADE MALIGNANT GLIOMA AND THEIR CARERS

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Background: The supportive and palliative care needs of patients with high-grade malignant glioma and their carers are increasingly recognised internationally, but few guidelines exist to recommend best palliative and supportive care practice across the illness trajectory.

Aim: We aimed to develop and describe an evidence-based model of supportive and palliative care for integration into existing neuro-oncological services.

Methods: Mixed methods sequential approach involving three phases: (1) Defining needs and experiences via a systematic literature review and qualitative study with 10 patients, 23 carers and 36 health professionals; (2) Describing service use via an epidemiological cohort study ($N = 1{,}821$) of incident malignant glioma cases in Victoria, Australia, over a 6-year period (2003–2009), using linked inpatient hospital, emergency and death data; and (3) Development of recommendations for practice improvement and formation of a model of supportive and palliative care across the illness trajectory.

Results: The evidence base for improving care supports a new model which responds to this unique cancer trajectory involving rapid, unpredictable deteriorations; uncertain, but limited prognosis; and marked, often early, behavioural and cognitive changes. Four overlapping components appear critical to optimal patient care.

1. Coordination, continuity and support; proactively offered through a consistent contact that provides regular screening during tele-medicine reviews.
2. Staged information; routinely delivered with opportunity for carer education at key points including diagnosis, following first-line treatment, and at first recurrence.
3. Provision of supportive and palliative care services; including routine referral to palliative care at first recurrence, access to step-down longer term palliative care inpatient facilities with respite capacity, and outpatient allied health.
4. Education for HCPs; including awareness and advocacy for a more collaborative role of palliative care alongside acute providers.

Conclusions: These guidelines form an evidence-based and collaboratively developed model of palliative and supportive care for patients with glioma, with applicability to other tertiary neuro-oncology services.

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A POPULATION STUDY OF THE SEVERITY OF SYMPTOMS AND THEIR CORRELATES AMONG 1127 MEN TREATED FOR PROSTATE CANCER IN THE AUSTRALIAN HEALTHCARE SETTING

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Background: Prostate cancer and its treatment induce multiple symptoms that significantly impair function and distress patients. Although symptom burden associated with specific treatment pathways has been described, the severity of symptoms across the population and correlates of symptom severity are less well understood.

Aim: To describe the severity of symptoms and identify correlates of symptom severity among men treated for prostate cancer.

Methods: The severity of prostate cancer specific symptoms of 1127 men treated for prostate cancer from 12 Australian healthcare settings was assessed using Expended Prostate Cancer Index Composite short form, in which symptoms related to five domains (urinary incontinence, urinary irritative/obstructive, bowel, sexual and hormonal function) were measured on a 0–100 scale with higher scores indicating less severe symptoms. Information on overall health-related quality of life, socio-demographics and treatment were also collected. The mean score of each domain was calculated and its potential correlates were identified using bivariate analyses.

Results: Symptom severity was highest for sexual function (mean 24.6, standard deviation [SD] 26.3), followed by urinary incontinence (mean 67.7, SD 31.65). The mean scores of symptoms of other domains ranged from 82.3 to 88.7. Across domains, symptom severity was positively ($p < 0.05$) associated with quality of life. Sexual function severity was also significantly associated with age, education, work status, income, marital status, time since diagnosis. Receipt of surgery and radiotherapy was associated with severity of symptoms related to hormonal function, bowel function and urinary incontinence.

Conclusions: Overall, the severity of prostate cancer specific symptoms was positively associated with men's overall health-related quality of life. Sexual function related symptom was the most concern for men treated for prostate cancer and must be addressed.

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INTRODUCING CAREHPV INTO A PUBLIC SECTOR SCREENING PROGRAM IN EL SALVADOR

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Background and Context: CAPE (Cervical Cancer Prevention in El Salvador) introduces a low-cost HPV-DNA test into a public sector program. At 19%, El Salvador has one of the lowest screening rates in Latin America. Coverage rates are poor and follow-up for abnormal cytology is inadequate.

Aim: Started in October 2012, CAPE consists of three phases. The aim is to implement a phased program that will ultimately screen 30,000 women. The true impact of this program lies in its final Phase wherein the program is handed over to the government of El Salvador, and the Ministry of Health makes it the national screening program. Results of phase 2 of the program (n = 8,053) are presented.

Strategy/Tactics: 8,035 women, age 30–49, were screened in phase 2. 6,737 had both self- and provider-collected careHPV samples and 1,298 had only provider-testing. The agreement between both forms of sampling was 83.6% with a kappa of 0.45. HPV-positive women were referred to treatment using the strategy their community followed. Cohort A was referred to colposcopy, and Cohort B had immediate visual triage and was treated with cryotherapy.

Programme/Policy Process: A pilot program introducing HPV testing was successfully implemented in a low-resource setting. Requiring women to return for a colposcopy made them less likely to complete treatment. Outreach to women who had not been screened recently helped find women at higher risk for HPV.

Outcomes/What was learned: Overall, 341 (12.5%) women were HPV positive in Cohort A, and 325 (11.3%) were positive in Cohort B. Currently, 2,736 women in Cohort A (70.1%), and 2,889 women in Cohort B (77.9%) have completed their 6-month follow-up. In Cohort A, all were referred for colposcopy – 313 attended their appointment, and 243 were eventually treated. 29.9% have not yet completed follow-up and were not included in the analysis. In Cohort B, 257/325 received immediate treatment.

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PREGNANCY OUTCOMES FOLLOWING DIAGNOSIS AND TREATMENT OF ADOLESCENT AND YOUNG ADULT CANCER

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Background: Improvements in cancer therapy have led to an expanding population of adolescent and young adult (AYA) cancer survivors. In contrast to childhood survivors, there is a still lack of data concerning reproductive outcomes among AYA survivors.

Aim: To investigate obstetric and perinatal outcomes among female survivors of AYA cancers and their offspring.

Methods: Using multivariate analysis of statewide linked data, outcomes of all first completed pregnancies (n = 1894) in female survivors of AYA cancer diagnosed in Western Australia during the period 1982–2007 were compared with those among females with no cancer history. Comparison pregnancies were matched by maternal age-group, parity and year of delivery.

Results: Compared with the non-cancer group, survivors of AYA cancer had an increased risk of threatened abortion (adjusted relative risk 2.09, 95% confidence interval 1.51–2.74), gestational diabetes (2.65, 2.08–3.57), pre-eclampsia (1.32, 1.04–1.87), post-partum hemorrhage (2.83, 1.92–4.67), cesarean delivery (2.62, 2.22–3.04), and maternal postpartum hospitalization >5 days (3.01, 1.72–5.58), but no excess risk of threatened preterm delivery, antepartum hemorrhage, premature rupture of membranes, failure of labor to progress or retained placenta. Their offspring had an increased risk of premature birth (<37 weeks: 1.68, 1.21–2.08), low birth weight (<2500 g: 1.51, 1.23–2.12), fetal growth restriction (3.27, 2.45–4.56), and neonatal distress indicated by low Apgar score (<7) at 1 minute (2.83, 2.28–3.56), need for resuscitation (1.66, 1.27–2.19) or special care nursery admission (1.44, 1.13–1.78). Congenital abnormalities and perinatal deaths (intrauterine or ≤7 days of birth) were not increased among offspring.

Conclusions: Survivors of AYA cancer have moderate excess risks of adverse obstetric and perinatal outcomes arising from subsequent pregnancies that may require additional surveillance or intervention.

English »

AfrikaansAlbanianArabicArmenianAzerbaijaniBasqueBengaliBelarusian BulgarianCatalanChinese (Simp)Chinese (Trad)CroatianCzechDanish DutchEnglishEsperantoEstonianFilipinoFinnishFrenchGalician GeorgianGermanGreekGujaratiHaitian CreoleHebrewHindiHungarian IcelandicIndonesianIrishItalianJapaneseKannadaKoreanLaoLatin LatvianLithuanianMacedonianMalayMalteseNorwegianPersian PolishPortugueseRomanianRussianSerbianSlovakSlovenian SpanishSwahiliSwedishTamilTeluguThaiTurkishUkrainianUrdu VietnameseWelshYiddish

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English »

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IMPACT OF PLAIN PACKAGING IN AUSTRALIA: LESSONS FOR INDIA

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Background/context: Successful introduction of plain packaging in Australia, inspired the researchers, advocates, policy specialists and lawyers from India and Australia to form an Australia-India Taskforce on Tobacco Control. The Taskforce aims to translate research and policy advocacy strategies from Australia to strengthen tobacco control in India. The task force has earlier produced a policy document and also advocated for a Private Members Bill on Plain packaging in the Indian Parliament. Drawing lessons from current research on impact of plain packaging in Australia and contextualizing it to Indian context, would provide important evidence for India to strengthen effectiveness of its health warnings through implementing plain packaging.

Objectives: a) To review research evidence on impact of plain packaging in Australia, and b) to examine how these findings apply to any implementation of similar legislation in the Indian context

Methodology: Searches for available published and unpublished evidence on impact of plain packaging on adult smokers, adolescents' perceptions, quit rate will be conducted through Pubmed, Embase and Scopus databases. Grey literature and government documents, research reports and non-governmental organization papers will be identified through Australia India Taskforce. This research evidence will be synthesized and a contextual analysis will be undertaken to understand feasibility of translating this evidence into Indian context.

Outcomes: Our research on exploring perceptions of Indians about plain packaging of tobacco products revealed that 53% participants reported noticing branding, while 28% reported noticing pictorial warnings. Evaluation of health warnings in India has been shown to be weak. This literature review and contextual analysis will be presented as White Paper to different Ministries in India at the central level, to advocate for Indian government to consider plain packaging of tobacco products.

Discussion: This translational research will ensure introduction of stricter tobacco control measures in India that will lower the cancer burden in the country.

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ADVANCING TOBACCO DEPENDENCE TREATMENT SERVICES THROUGH TRAINING: KING HUSSEIN CANCER CENTER AND GLOBAL BRIDGES SPEARHEADING CHANGE IN THE REGION

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Background and Context: In addition to cancer prevention, quitting tobacco improves cancer patients' treatment outcomes and survival, and reduces risk of developing recurring cancers. Despite the need, Eastern Mediterranean Region (EMR) suffers a shortage of tobacco dependence treatment (TDT) services. Article 14 of FCTC emphasizes training of healthcare professionals (HCPs) to expand TDT services1. Results from Global Health Professions Student Survey (GHPSS) and a 2007 survey of training programs indicate a shortage of TDT training in the region2,3.

Aim: Recognizing the shortage in TDT competence, curricula, and staff to teach, King Hussein Cancer Center (KHCC) -regional host for Global Bridges- embarked on training HCPs in EMR. Outcomes are assessed against Moore et al's expanded CME assessment framework4.

Strategy/Tactics: KHCC developed an evidence-based curriculum that responds to regional needs. Workshops prepare trainees to value TDT as an integral component of tobacco control, practice TDT, and create a network of professionals to advocate for TDT-promoting policies.

Programme/Policy Process: Training methods combine teaching, interactive exercises, and case studies. A learning and competence assessment (pre-workshop and post-workshop tests) is utilized and a workshop evaluation is administered. Workshops are conducted in close coordination with in-country partners who provide CME accreditation.

Outcomes/What was learned: Since 2011, KHCC has intercepted 1828 professionals from 19 countries, half of which trained through intensive 10- to 16-hour training workshops. Participants leave with improved knowledge (test scores rising from 53% pre-workshop to 74% post-workshop), and high levels of post-workshop confidence in offering counseling (79%) and prescribing medications (69%). Participants report workshops as valuable (score: 3.7/4) and content as practical (score: 3.4/4). Countries report intentions to develop a business case for deployment of TDT services, prioritize TDT within patient's overall treatment plan, and use combination therapy. To-date, five clinics have been launched in Jordan, Dubai, and Oman, with plans underway in Morocco.

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THE CASE FOR BANNING SLIMS AND SUPERSLIMS CIGARETTES

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Background and Context: For decades, the tobacco industry has targeted females with slims/superslims cigarettes. In recent years in a vast number of countries worldwide, a proliferation of new slims/superslims brands have been introduced in the market, and global sales volumes for the slims/superslims category have grown dramatically.

Aim: This presentation will make the case for banning "slims" and "superslims" cigarettes, that is cigarettes with a diameter of 7.5 mm or less.

Strategy/Tactics: Slims/superslims cigarettes are detrimental in numerous ways, including (1) preying on weight concerns of women and girls; (2) making the cigarette more fashionable and attractive; (3) being packaged in "perfume packs" or "purse packs" that are stylish and attractive, and that have a thin package design that undermines the impact of the health warning; and (4) creating perceptions that slims/superslims cigarettes are significantly less harmful than regular cigarettes.

Programme/Policy Process: The European Union's initial proposed revisions to the Tobacco Products Directive, released in December 2012, contained a provision to prohibit slims/superslims cigarettes of 7.5 mm or less but, following tobacco industry lobbying, this provision was not included in the final adopted Directive.

In Australia, while slims/superslims cigarettes have not yet been prohibited, the implementation of plain and standardized packaging has meant that "perfume pack" dimensions for packaging are now prohibited.

Outcomes/What was learned: The tobacco industry's targeting of females through slims/superslims cigarettes should not be able to continue. Governments should implement a ban on slims/superslims cigarettes as soon as possible.

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EXPERIENCE IMPLEMENTING WHO'S TRADE AND TOBACCO CONTROL CAPACITY BUILDING MODULE AT REGIONAL AND COUNTRY-LEVELS

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Background and Context: Transnational companies are increasingly using international trade and investment agreements to frustrate governmental cancer prevention initiatives, particularly in tobacco control. Legal implications and the political economy of trade and investment law must be integrated into cancer prevention approaches. This presentation will focus on WHO's intensive regional and country-level capacity building in the nexus of trade, tobacco control and health with over 75 governments and implications for other risk factor control initiatives.

Aim: The aims of WHO's tobacco control and trade module are to:
1. Raise awareness and build capacity in trade, health and tobacco control;
2. Review recent legal challenges to tobacco control measures;
3. Examine obligations under bilateral, regional and global trade instruments vis-à-vis the WHO Framework Convention on Tobacco Control and its Guidelines; and
4. Promote a "whole-of-government" approach to health and trade policy making.

Strategy/Tactics: WHO's approach emphasizes the need for ministries to *join forces to accelerate progress* though a 'health in all policies' approach. To provide foundational training in health, tobacco control and trade law, WHO developed a 2–3 day module of presentations, interactive exercises and case studies targeted at government representatives.

Programme/Policy Process: Workshops brought Ministries of Health, Trade, other relevant sectors and civil society together, with an eye to harmonizing health and trade objectives and to defending tobacco control policies from trade-related arguments proffered by the tobacco industry.

Outcomes/What was learned: Participants reported substantially increased awareness of tobacco control and trade issues and obligations. Regional consultations often led to requests for specific, in-country support. Participant identified outcomes of the workshops included the need to:
- Ensure implementation and strengthening of current regulations
- Ensure that new trade obligations are mindful of health implications
- Ensure that existing trade obligations are implemented in line with public health priorities
- Not be swayed or intimidated by industry interference
- Support tobacco farmers to transition to alternate crops or livelihoods

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THE TOBACCO-FREE INVESTMENT INITIATIVE

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Background and Context: Australians are contributing to the tobacco epidemic by unwittingly investing in tobacco companies via their Superannuation Funds. The Australian superannuation industry is the world's fourth largest, with approximately $1.8 trillion AUD in total assets. An estimated 0.5% of that total ($9 billion AUD) is invested in tobacco companies. This financial support of the tobacco industry stands in sharp contrast to the Australian Government's excellent record on tobacco control, clear community awareness of the dangers of smoking, and an ongoing decline in the percentage of Australians who smoke tobacco.

Aim: In 2010 the Tobacco-Free Investment Initiative was founded, aiming to reduce investment in the tobacco industry by Australian Superannuation Funds.

Strategy/Tactics: Engagement with the superannuation industry was actively sought. Initially, contact was made with the two Superannuation Funds providing services for Peter MacCallum Cancer Centre employees. Over many constructive meetings, the case for tobacco divestment was presented. In July 2012, First State Super divested all tobacco stocks ($200 million AUD). In January 2013, HESTA followed suit ($35 million AUD). Attention then turned to other health industry-related Funds, government-controlled Funds, and large mainstream Funds.

Programme/Policy Process: Superannuation Fund investment teams, executives and board members were approached privately. Strong working relationships were fostered with superannuation industry leaders, who initiated further introductions and facilitated opportunities to present at superannuation workshops and conferences.

Outcomes / What was Learned: Since the commencement of the Initiative, 16 large Australian Superannuation Funds have divested tobacco stocks worth more than $1.2 billion AUD. Conversations are currently taking place with a further 20 Funds. Financial support of the tobacco industry must be reduced across the globe, with a view to diminishing its power and influence and thus decreasing the number of smokers worldwide. The next step for this Initiative is to expand internationally.

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TRANSLATION OF A GLOBAL BEST PRACTICE IN TOBACCO CONTROL: EXPLORING PLAIN PACKAGING FOR INDIA APPLYING THE AUSTRALIAN EXPERIENCE

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Background and Context: In India, 50% of cancers in men and 20% in women are attributable to tobacco consumption. 90% of all oral cancers are due to tobacco use. Strong pictorial health warnings for tobacco packages are effective in preventing tobacco use and promoting quitting. Current pictorial warnings in India fall short of recommended best practices. Plain packaging (PP) of tobacco products is an effective strategy to enhance the impact of pictorial warnings and curb misuse of the pack for advertising. Australia's best practice of adopting PP can be espoused by other nations. Nascent steps have been adopted in India with the potential of translation into policy and practice.

Aim: To provide an overview of the move towards PP in India and potential next steps-progress made towards PP in India and what can LMICs learn from India's experience?

Programme/Policy Process: The Australia-India Taskforce on Tobacco Control, comprising of tobacco control experts from both countries (researchers, advocates, policy specialists, lawyers), was constituted in 2011. The Taskforce developed a Policy Document exploring feasibility of PP as a policy measure for India. This was seminal in bringing PP within radar of the Indian Government, as well as catalyzing preliminary research and advocacy for strengthening existing pictorial health warnings/progressing towards PP. PP was brought into the ambit of Parliamentary debate, through a Private Members Bill. The recent transition to a new Central Government provides fertile ground to amplify evidence-based advocacy on PP. As other LMICs contemplate PP, India's case provides valuable insights on global collaboration, generation of context specific evidence and strategically engaging multi-sectoral stakeholders.

Outcomes/What was learned: This ground work has generated a future course of action to develop a White Paper for contextualising PP in the Indian socio-political and legal milieu, focusing on multi-stakeholder partnerships within and among the Government and Non-Government sectors.

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MORE COMPREHENSIVE TOBACCO CONTROL POLICIES ASSOCIATED WITH REDUCED SOCIO-ECONOMIC AND AGE GROUP DISPARITIES IN SMOKING PREVALENCE: EVIDENCE FROM VICTORIA, AUSTRALIA

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Background: In many countries smoking prevalence is highest among younger adults and lower socio-economic (SES) groups and concerns exist about how to reduce disparities.

Aim: We investigated the relative impact on smoking prevalence among these population subgroups during a period of substantial strengthening of tobacco control policies and mass media campaign investment in Victoria Australia (2005–2011), compared with an earlier period of lower tobacco control activity (1998–2004).

Methods: Annual telephone surveys with randomly selected Victorian adults from 1998 to 2011 (n = 1963 to n = 4503) were used to monitor the rate of decline in regular smoking prevalence in the Victorian population. Adjusted interaction analyses examined differences in the rate of decline between demographic groups across the two phases (1998–2004 and 2005–2011).

Results: From 1998–2011, there was a significant linear decline in regular smoking among Victorian adults from 21.2% to 14.4%. While the rates of decline in regular smoking across the whole population were similar across the two phases, significant interaction effects were found between age and SES groups. From 1998–2004, the prevalence of regular smoking declined most rapidly among older Victorians (4.6% annual decrease in odds of being a regular smoker) and higher SES adults (7.4% annual decrease in odds). This trend reversed between 2005–2011, when regular smoking declined most rapidly among lower SES (5.3% annual decrease in odds) and younger adults (18–29 years: 7.9% annual decrease in odds).

Conclusions: The recent period of stronger tobacco control activity, involving smoke-free bars, a tobacco tax increase, more comprehensive tobacco marketing bans, graphic health warnings, and ongoing investment in high intensity high emotion anti-smoking campaigns was associated with relatively greater declines in smoking prevalence among younger and low SES adults. This adds to the wider literature suggesting that more comprehensive implementation of tobacco control policies and programs benefits those with higher smoking prevalence.

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ASSOCIATION OF ORAL PRECANCER WITH NON TOBACCO ARECA NUT CONSUMPTION

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Background: Worldwide smoking practices are in vogue, but chewing tobacco with *pan* or *pan masala* is typical to the Indian sub-continent. There is sufficient evidence to implicate tobacco to oral cancers, but it is unknown if non tobacco areca nut chewing substances (AS) are harmful. Clandestine sale of AS in the form of plain *pan masala* in the society may have a direct causal relationship to oral precancer and cancer.

Aim: To study the direct risk imposition (odds ratio) from the use of AS.

Methods: In order to achieve a sample size of 0.4 million, all households in old city of Lucknow were visited by trained social workers and dentists, ensuring similarity in style of asking questions during the interview. All permanent residents, residing for more than 6 months, age 15 years and above were included, while the mentally challenged were excluded. A two page survey tool was designed and validated. General oral health examination revealed oral mucosal lesions. Regular supervisory visits were made. The survey was carried out mainly during early morning or evening to ensure maximum compliance.

Results: 3% population consumed AS whereas 24% consumed tobacco. Usage of AS declined with advancement of age. Prevalence of Oral Precancer, when Leukoplakia, Erythroplakia, Oral Sub Mucous Fibrosis, Verrucous hyperplasia, Smokers Palate and Lichen Planus were considered, was 3.2% amongst AS users; only 0.16% amongst non-users, and 12.2% amongst tobacco users. Odds ratio (95 % CI) for oral precancer in AS Users was 20.71 (18.79–22.82) against non-users, while in tobacco users was 88.07 (84.02–92.31)

Conclusions: AS consumption was very commonly seen in the population. The odds of developing oral precancer was 20 times more in AS users than non users. Hence, we conclude that non tobacco areca nut products carry a huge risk to develop oral precancer.

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IMPACT OF A POST-DISCHARGE SMOKING CESSATION INTERVENTION FOR SMOKERS ADMITTED TO A SMOKE-FREE PSYCHIATRIC HOSPITAL: A RANDOMISED CONTROLLED TRIAL

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Background: Persons with a mental disorder smoke at higher rates and suffer disproportionate tobacco-related burden than the general population. An admission to a smoke-free psychiatric hospital – where smokers are required to abstain from smoking with the support of behavioural and pharmacological nicotine dependence treatment – is a unique opportunity to initiate smoking cessation treatment among such smokers.

Aim: To determine if a smoking cessation intervention initiated during a smoke-free psychiatric hospitalisation and continued post-discharge was effective in reducing smoking behaviours among persons with a mental disorder.

Methods: A randomised controlled trial was conducted at an Australian inpatient psychiatric facility with a total smoke-free policy. Participants were 205 patient smokers randomly allocated to a treatment as usual control ($n = 101$), or a smoking cessation intervention ($n = 104$) incorporating psychosocial and pharmacological support for four months post-discharge. Follow-up assessments were conducted at one week, two, four and six months post-discharge and included: abstinence from cigarettes, quit attempts, daily cigarette consumption and nicotine dependence.

Results: Seven-day point prevalence abstinence was significantly higher for intervention (11.5%) than control (2%) participants at four months post-discharge (OR = 6.46, $p = .01$). Participants in the intervention condition reported significantly more quit attempts (F [1,202.5] = 15.23, $p = .0001$), and lower daily cigarette consumption (F [4, 586] = 6.5, $p < .001$) and levels of nicotine dependence (F [3, 406] = 8.5, $p < .0001$) than controls at all follow-up assessments. Use of nicotine replacement therapy was associated with validated abstinence at the four month follow-up (χ^2 (3) = 6.8, $p = .009$).

Conclusions: Post-discharge cessation support was effective in encouraging quit attempts and reducing cigarette consumption up to six months post-discharge. Additional support strategies are required to facilitate longer term cessation benefits for smokers with a mental disorder.

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LONGER TERM IMPACT OF CIGARETTE PACKAGE WARNINGS IN AUSTRALIA COMPARED TO THE UNITED KINGDOM AND CANADA

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Background: Previous research on the impact of tobacco package warnings in some countries shows that in the short term following the introduction of larger and stronger pack warnings, smokers reported greater levels of awareness and impact. However, no study to date has systematically explored differential decay of effects over time and how this might vary by warning regimen.

Aim: This study aimed to examine longer term impact of the 2006 Australian pictorial package warnings in comparison to the 2003 UK text only warnings, and controlling for time since implementation, to assess the strength of warnings from Australia, UK and Canada for a comparable period (2–5 years post implementation).

Methods: The data came from the International Tobacco Control Australia, Canada, and UK Surveys (2002–2012), prospective multi-country cohort surveys of adult smokers. Key measures included reported salience of pack warnings, cognitive responses to warnings, forgoing cigarettes as a result of the warnings, and avoiding warnings.

Results: Although salience of the UK warnings was higher than the Australian and Canadian pictorial warnings, this did not lead to greater levels of cognitive reactions, forgoing or avoiding. There was no difference in ratings between the Australian and UK warnings for cognitive responses and forgoing, but the Canadian warnings were responded to more strongly. Reactions to the Australian warnings were greater than UK ones on avoiding, but were inferior to the Canadian warnings. The impact of warnings wore-out over time in all three countries. Declines were comparable between Australia and the UK on all measures except avoiding, where Australia had a greater decline; for salience Canada had a lower rate of decline.

Conclusions: The data suggests that warning size may be more important than warning type (pictorial vs. text-only), but that both likely play a critical and interactive role.

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NARGHILE ,WATER PIPE SMOKING ASSOCIATED WITH EARLIER DEVELOPMENT OF ORAL CANCER

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Background: Water Pipe Smoking(WPS, Narghile) is a special form of smoked tobacco consists of wet mixture of flavored tobacco that is placed in a ceramic cup and lit by a piece of burning coal was known for the last 500 years. WPS has been revival and hastily spreading notably among youth. Its relationship with oral cancer remains to be determined.

Aim: The objective of this study was to investigate the relationship between the frequency of Narghile smoking and the age of oral cancer development.

Methods: Data of patients with biopsy-proven squamous cell carcinoma of the oral cavity, extracted from the Jordan Cancer Registry 1996–2009 and Patients with valid contact details were contacted, interviewed, and asked about the frequency of smoking cigarettes, Narghile, and drinking alcohol. Relationship between age at diagnosis and risk factors assessed using multiple regression analysis.

Results: One hundred and sixty four oral cancer patients satisfied the inclusion criteria, and were contactable for the purpose of this research (Males: N = 112 mean age = 58.8 (SD = 17.2); Females: N = 52 mean age = 56.8 (SD = 18.5). Seventy one per cent of the sample were cigarette smokers, while 35% and 20% were Narghile smokers and alcohol drinkers, respectively. Adjusted for sex, cigarette smoking and alcohol drinking, the multivariate regression analysis showed that regular and occasional Narghile smokers were significantly younger when developing their oral cancer, by comparison to non-smokers. ($B = –20.5$ (95%CI = –25.7, –15.3) and $B = –14.2$ (95%CI = –21.5, –6.9), respectively).

Conclusions: Water Pipe Smoking is a significant and independent risk factor that is associated with the evolution and development of oral cancer at a younger age. Longitudinal studies on the impact of Narghile smoking on the earlier development of oral cancer needed to establish a cause-effect relationship. Anti-smoking campaigns should put emphasis on this growing habit, particularly among young people.

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THE EFFECT OF A VOICE-SITE ON INFORMED CHOICE FOR WOMEN CONSIDERING CERVICAL CANCER SCREENING IN RURAL INDIA: A PHASE II CONTROLLED TRIAL

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Background: Visual Inspection with Acetic acid (VIA) and cryotherapy is effective for cervical cancer screening in low-resource settings. Its implementation poses many challenges, including engaging women with low levels of literacy to participate through informed choice.

Aim: To assess the feasibility of a mobile phone-delivered VoiceSite to increase informed choice

Methods: Two villages in KV Kuppam block, Tamil Nadu, India were selected for a non-randomised controlled trial of a Voice site, providing pre-recorded information about cervical cancer, patient stories, clinic information and the ability to record questions and concerns. An adapted version of the multi-dimensional measure of informed choice (MMIC) and a modified scale of involvement preferences was administered at baseline via a quasi-random door-to-door community survey to 100 women in each village. The Voicesite number was disseminated to village (A) through women's self-help groups and posters from October 2013 until March 2014. Useage patterns of the Voicesite, informed choice, involvement preferences and awareness of the Voicesite were measured at the end of the six-month period.

Results: At baseline, mean age was 38 and 36 years; mean knowledge was 4.0 and 4.7 (out of 16 maximum); mean attitude 4.8 and 4.7 (where 7 is negative attitude) with 6% and 10% women ever-screened in Village A and B respectively. Involvement preferences were significantly different between villages, with strong perceived roles for husbands in decision-making. Approximately 25% eligible women accessed the Voicesite over the six-month period. The post-intervention survey data collection will be completed by June 2014.

Conclusions: Women had very low levels of informed participation in cervical cancer screening at baseline. The Voicesite was accessed by a substantial proportion of women. An adapted measure of the MMIC was feasible via a door-to-door survey. Our results will inform the design of a phase 3 efficacy trial of the Voicesite on informed choice in ow-resource settings.

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IMPACT OF HPV VACCINATION IN THE GENERAL AND INDIGENOUS AUSTRALIAN POPULATION: ANALYSIS OF GENITAL WARTS DIAGNOSES IN NATIONAL HOSPITAL DATA

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Background: Human papillomavirus (HPV) is associated with several cancers, especially cervical cancer. A publicly-funded HPV vaccination program targeting 12–13 year old females commenced in Australia in 2007, with catch-up of females 13–26 years to 2009. Indigenous females in Australia are at higher risk of cervical cancer, but analyses of vaccine impact have not previously been reported according to Indigenous status. Vaccination potentially impacts cervical abnormalities and genital warts but Indigenous status is not recorded on registers of cervical abnormalities.

Aim: To examine the impact of HPV vaccination in Australia, using genital warts as an early outcome measure, including by Indigenous status.

Methods: We analysed data from a comprehensive national dataset (the Australian National Hospital Morbidity Database) of all hospital admissions between 1999–2011 coded as involving a diagnosis of genital warts

Results: Admission rates decreased from mid-2007 in females aged 12–17 years (annual decline 44.1%; 95% CI: 35.4–51.6%), and from mid-2008 in both females and males aged 18–26 years (annual decline 31.8%; 95% CI: 28.4–35.2% and 14.0%; 95% CI: 5.1–22.1% respectively. The overall observed reductions in 2010/2011, compared to 2006/2007, were 89.9% (95%CI:84.4–93.4%) for females aged 12–17 years, 72.7%(95%CI:67.0–77.5%) for females aged 18–26 years and 38.3% (95%CI:27.7–47.2%) for males aged 18–26 years. Post-vaccination reductions were similar for Indigenous (86.7%; 95%CI:76.0–92.7) and other Australian females (76.1%; 95% CI:71.6–79.9%) aged 15–24 years (Pheterogeneity = 0.08).

Conclusions: We observed a marked decline in hospital admissions involving a diagnosis of genital warts in young people in Australia after 2007. These population-based findings confirm results from previous studies, including indirect benefits to males from the female vaccination program. The impact of HPV vaccination in young Indigenous females appears similar to that in non-Indigenous females. In the long term, HPV vaccination may contribute to closing the gap in cervical cancer between Indigenous and non-Indigenous females.

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PREVENTING CERVICAL CANCER IN KAREN WOMEN – A PEER EDUCATION PROJECT

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Background and Context: This colourful and inspiring presentation provides conference delegates with knowledge and tools of how to engage hard to reach communities with cancer prevention messages.

Women from migrant and refugee backgrounds face a multitude of barriers to cervical screening and are less likely to be screened. In 2013, PapScreen Victoria designed and delivered a highly innovative peer education project to increase cervical cancer prevention awareness among women who have recently arrived in Australia. The project was underpinned by health promotion principles with a commitment to reducing health inequalities in a marginalised refugee community.

Aim: Increase awareness of cervical cancer prevention among Karen women from Burma.

Strategy/Tactics: The peer education model was an effective method to increase awareness of cancer screening. The project successfully built the capacity of 10 Karen women to disseminate messages about the benefits of Pap tests and the Human Papillomavirus vaccine amongst their small community.

Programme/Policy Process: Ten women were recruited as educators; attendeding training about Pap tests and HPV vaccination and visiting local Pap test service providers. Resources were developed in Karen reflecting the communities' religious beliefs and values system. The educators worked together in pairs to deliver education sessions in their community and supported women to make appointments for Pap tests and provided assistance to families to access the HPV vaccination program.

Outcomes/What was learned: Participatory evaluation methods demonstrated that prevention messages were shared with over 130 community members. This resulted in 41 Pap test appointments and an increase in Karen children being vaccinated for HPV. Peer educators continue to disseminate culturally relevant information and are now considered 'go to people' for cervical cancer prevention information. The links between the educators and their local community health services have improved, and their commitment to ongoing dissemination of information continues beyond the life of program.

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FOR A FUTURE WITHOUT CERVICAL CANCER IN EL SALVADOR

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Background and Context: In El Salvador, cervical cancer is the principal cause of death from cancer among women. At present neither vaccine against Human Papilloma Virus is included in the National Regime of Vaccination.

Aim: The objective of this project is to advocate for the inclusion of the **Vaccine of the Human Papilloma Virus in the National Plan of Immunization** by mobilizing different groups of the civil society and the government, to achieve a meaningful change in the health policies and the concession of the necessary resources.

Strategy/Tactics: The primary vehicle through which we plan to achieve our objective is to gain support from the Salvadoran parliament women by increasing their awareness about the origins of cervical cancer and the benefits of the vaccine against HPV. As a support for this main activity we will organize educational and informative sessions with focal groups such as: organized women, young people and journalists, using the methodology of the course "With Love We Learn".

Programme/Policy Process: The process of advocacy will include the realization of a Round Table with Parliament Women of the Legislative Assembly of the Republic of El Salvador, with the objective that these women introduce "constituent mail" to get financial support to introduce the vaccine.

Outcomes/ What was learned: 1) Prevention of Cervical Cancer is one of the main commitments that the Parliamentary Group of Women of the Legislative Assembly (GPM) has adopted in his new work period, to ensure the quality of life of Salvadoran women through of different activities designed to ensure the overall health of women and girls. 2) Parliamentary Group of Women of the Legislative Assembly (GPM) has adopted the commitment to present the budgetary guidelines for the General Budget of the Nation 2014, which includes specific actions to prevent Cervical Cancer.

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NAIVETY AND LANGUAGE, NOT CULTURE! NEW APPROACHES FOR CANCER PREVENTION THROUGH HPV VACCINATION AMONG CULTURALLY AND LINGUISTICALLY DIVERSE POPULATION GROUPS

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Background and Context: The Australian adolescent HPV vaccine program has disparate uptake rates seven years after its introduction, especially within its culturally and linguistically diverse (CALD) sub-populations. The ethnocentric implementation strategy exposed critical socio-cultural and system dynamics that reveal important lessons for diverse nations when introducing new vaccines related to cancer prevention.

Aim: To understand the risk factors for HPV-related cancers in vulnerable population groups when participation in prevention programs is low so that novel approaches can be developed as part of the cancer prevention strategy.

Strategy/Tactics: A qualitative cross-cultural study within a socio-ecological framework on Australian male and female CALD parental attitudes toward adolescent HPV vaccination. Focus groups were purposively selected according to cultural and linguistic characteristics: Arabic, Turkish, Sri-Lankan, and Horn of Africa immigrants ($n = 60$) residing in Victoria where low adolescent HPV vaccine uptake rates and disparate cervical cancer screening among women had been identified. Recruitment was through local government immunisation services and cultural agencies. Participants were asked to review current HPV vaccine resources and recommend innovative and culturally acceptable alternatives.

Programme/Policy Process: A socio-ecological approach integrated with a Community Based Participatory Marketing model will optimise outcomes for CALD populations. Intracultural diversity is fundamental to the implementation of prevention strategies requiring cultural relativism, population engagement, and differentiated policy discourses.

Outcomes/What was learned: Naivety and language contributed to very low knowledge levels, and compromised their cognitive decision making, informed consent and self-efficacy.CALD populations remain at risk for developing HPV-related cancers if culturally tailored interventions are not developed. Socio-cultural-impact analysis of ethnocentric strategies is vital to increase prevention among CALD populations. Diverse cultural and linguistic norms and social class determinants of cancer and vaccine knowledge acquisition and decision-making in immigrant populations need to be sufficiently addressed. Building linguistic, knowledge and cultural capital will empower and engender action.

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A MOBILE PHONE-BASED SURVEY ON KNOWLEDGE OF CERVICAL CANCER AND HPV VACCINATION IN KENYA

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Background and Context: Cervical cancer is a major global health problem, resulting in high mortality yearly. This high incidence is attributed to inadequacy of screening programs as well as lack of awareness of the disease in especially in developing countries. A survey was conducted on the awareness and knowledge on cervical cancer, its risk factors and HPV vaccination in Kenya.

Strategy: A random cross-sectional, mobile phone-based survey was employed. For two weeks, daily posts requesting members of the public to participate were made through the social media platform. Those interested, activated the survey by sending the code "ccv" to the number 0700040030, after which they received the instructions about the survey. They received 10 questions about their age, gender, source of information, causes of cervical cancer, knowledge on HPV vaccination, the age group to be vaccinated, willingness to be vaccinated & recommendation to others. The questions were answered sequentially, with a message of appreciation at the end. Data was collected and analysed using m-surveys DIY platform.

Outcomes: There were 283 respondents, 182 completed the whole survey. 70% were women and 30% men of age group of 17–30 years. Only 28% correctly identified HPV virus association with cervical cancer, as well as associated with poor hygiene, diet, alcohol intake and genetics. Although 55% were aware of the HPV vaccine, 8% could identify the correct target group. 38% obtained information from friends and relatives, 20% from medical personnel and 6% from social media. Despite only 20% having been vaccinated or knowing anyone who had been, a majority were willing to be vaccinated.

Conclusion: There is gross unawareness of cervical cancer among the participants; with most respondents obtaining information from friends and relatives. If substantial impact is to be made, a means of disseminating correct and accurate information to the public should be established.

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RENEWAL OF THE NATIONAL CERVICAL SCREENING PROGRAM – FROM EVIDENCE-BASED RECOMMENDATIONS TO POLICY AND PRACTICE

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Background and Context: The Australian National Cervical Screening Program (NCSP 1991) has halved the incidence and mortality of cervical cancer. New scientific knowledge and new technologies including liquid based cytology, Human Papilloma Virus (HPV) testing and implementation of the National HPV Vaccination Program have led to an evidence–based review of the NCSP (Renewal). In April 2014 it was recommended to the Australian Government that a biennial Pap test for women 18 to 69 years of age be replaced with a primary HPV test every 5 years for both HPV vaccinated and unvaccinated women 25 to 74 years of age.

Aim: To outline the Renewal process, recommendations and development of the implementation plan for managing substantial policy and practice change to a national screening program involving national, state and territory governments, multiple health care sectors, clinical disciplines and consumers.

Strategy/Tactics: The aim of the Renewal is to ensure that all Australian women, HPV vaccinated and unvaccinated, have access to a cervical screening program that is acceptable, effective, efficient and based on current evidence.

Programme/Policy Process: The Renewal:
o Assessed the evidence;
o Determined a cost-effective screening pathway;
o Investigated options for improved national data collection systems and registry functions to enable policy, planning, service delivery and quality management; and
o Assessed the feasibility and acceptability of the renewed program for women.

Evaluation of the evidence of the safety, clinical effectiveness and cost-effectiveness, is an integral part of the listing of new medical technologies and services on the Australian Medicare Benefits Schedule (MBS).

Outcomes/What was learned: Changing policy and practice requires planning, governance, collaboration, coordination of multiple concurrent activities, risk management and communication. It also requires leadership, courage and commitment. This process may be applicable to future decisions about the use of emerging evidence and technologies in other established screening programs.

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EXERCISE TRAINING AND INFLAMMATORY BLOOD BIOMARKERS IN BREAST CANCER PATIENTS: A METAANALYSIS OF RANDOMIZED-CONTROLLED TRIALS

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Background: It has been widely known that inflammatory biomarkers play a crucial role in tumorigenesis, angiogenesis and metastasis. Exercise training has been proposed as a safe and effective non-pharmacological strategy in modulating inflammatory status among breast cancer patients; however this evidence remains unclear.

Aim: To determine the effects of exercise training in the blood parameters of Inflammatory biomarkers in Breast cancer patients through a metaanalysis of randomized-controlled trials.

Methods: PRISMA statement and the Cochrane Handbook were followed. Electronic searches were implemented in MEDLINE, CENTRAL, EMBASE, Scopus and DARE database to retrieve trials published between 1980-March 2014 providing effects of exercise interventions on pro-inflammatory biomarkers, such as interleukin (IL) -2, IL-6, IL-8, tumoral necrosis factor alpha (TNF-α) and C-reactive protein (CRP) in Breast cancer survivors. We conducted an Inverse of variance (IV) fixed-effects model in absence of heterogeneity ($I^2 < 50\%$); otherwise a random-effects model was selected. Standardized-Mean Differences (SMD) were calculated to estimate differences between groups ($p < 0.05$ with 95% Confidence interval). Heterogeneity was measured with the Chi^2 test ($p < 0.10$) and I^2statistics.

Results: A total of 15 studies were included ($n = 1447$; mean age = 51.6 years old). Exercise interventions resulted in positive effects for CRP (MD = 0.37, 95%CI, 0.04 to 0.71; $p = 0.03$; $I^2 = 15\%$), IL-2 (MD = −6.04, 85%CI, −11.41 to −0.67; $p = 0.03$; $I^2 = 0\%$), IL-10 (−22.90, 95%CI, −41.27 to −4.53; $p = 0.001$, $I^2 = 0\%$) and waist circumference as indicator of body composition (MD = −1.12, 95%CI, −2.06 to −0.18; $p = 0.02$; $I^2 = 45\%$). Non-significant differences were observed for IL-6 and TNF- α. There was no evidence of publication bias.

Conclusions: These findings suggest that exercise improves the pro-inflammatory profile in breast cancer patients and consequently the immunological responses and the carcinogenic processes related to tumoral environment. Differences found for IL-10 provide novel evidence for the role of exercise as an effective anti-inflammatory intervention in Breast cancer patients.

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BE FRANK AND HELP BEAT CANCER: EMPOWERING HAIRDRESSERS TO RAISE BREAST CANCER AWARENESS

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Background and Context: Breast cancer is the most common cancer and most common cause of cancer-related deaths in Malaysia. 50% of breast cancer deaths in Malaysia are attributable to late presentation and lack of treatment. Although community based awareness programmes including “Friend to Friend” and “Black Barbershop” have been successfully implemented in other countries to reduce late presentation, there have been limited studies on such programmes in Asia.

Aim: To reduce late presentation of breast cancer in the Malaysian community by training hairdressers to become community champions for cancer awareness

Strategy/Tactics: Malaysian women go to salons to be pampered and often build good relationships with their hairdressers. By engaging with women in a safe non-clinical environment, we aim to reduce the fear associated with finding out more about breast cancer.

Programme/Policy Process: The pilot programme was run in the suburban town of Shah Alam where there is low knowledge of breast cancer and <10% uptake of mammographic screening. Through door-to-door visits, telephone calls and through the Malaysian Hairdressers Association, hairdressers were invited to participate in a one-day training on key preventive measures for breast cancer, and they were provided with breast cancer awareness packs and free mammogram vouchers to be distributed to their clients. Breast cancer knowledge was assessed before and after the programme using "Breast Cancer Awareness Measures" questionnaires.

Outcomes/What was learned: Of 60 salons approached in a 4-week period, 16 salons agreed to participate and 32 hairdressers attended training. Of these, 8 salons (50%) distributed the breast cancer awareness packs. Breast cancer knowledge improved by a mean of 80%. Collectively, the eight salons distributed 800 breast cancer awareness packs to their clients within 6 months. Taken together, our pilot study suggests that training hairdressers as community awareness champions is feasible in an Asian middle income country.

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DEVELOPMENT OF A SERVICE MODEL FOR A BREAST CANCER SCREENING PROGRAM AND EVALUATION OF ITS EFFECTIVENESS

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Background: Breast cancer screening programs should be population-based and involve all women in the 50–69 years age group at least and performed at 1–2 year intervals, using mammogram only or mammogram with clinical breast examination, to be successful.

Aim: The aim of this study was to evaluate the reasons women did or did not participate in services related to the early diagnosis breast cancer, and to evaluate the impact of three education methods such as individual education, individual education and spouse brochure, group education on increasing their participation in breast cancer screening though mammography.

Methods: This descriptive and interventional study was conducted in Turkey and USA. The study sample consisted of 446 women in Turkey and 104 women in the USA.

Results: In Turkey, 26.7% of the women and 71.2% in the USA reported having a screening mammogram over the last 2 years. The mean knowledge scores of women regarding breast cancer and screening were 6.08 ± 3.78 for Turkey and 11.34 ± 2.19 for USA out of a possible 15 points. The method of education and the knowledge scores have the significant influence on screening mammogram rates in the women following education in Turkey. The screening mammogram rate following group education was higher than the individual education method.

Conclusions: The knowledge level of women regarding breast cancer and screening following education is an important factor influencing the decision to have a screening mammogram.

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OPTIMAL UPTAKE RATES FOR INITIAL TREATMENTS FOR CERVICAL CANCER IN CONCORDANCE WITH GUIDELINES IN AUSTRALIA AND CANADA

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Background: Prior work estimating optimal treatment utilisation rates for cervical cancer has focused on radiotherapy or chemotherapy, using proportions of patients with clinical indications for specific treatment strategies which were obtained from the published literature.

Aim: To estimate optimal uptake rates for surgery, radiotherapy, chemotherapy and chemo-radiotherapy for cervical cancer in Australia and Canada, and to quantify the differences in the optimal and the observed treatment utilisation rates in the two settings.

Methods: A decision tree was constructed to reflect treatments according to guidelines and current practice (in 1999–2008) in Australia and Canada. Observed stage distribution and proportions of patients with each clinical indication were used as inputs.

Results: The estimated overall optimal treatment rates for cervical cancer in Australia and Canada differed, largely due to the difference in the overall stage distribution at diagnosis in the two countries. The estimated optimal rates for surgery, radiotherapy, chemotherapy and chemo-radiotherapy in Australia were 63% (95% credible range:61–64%), 52% (53–56%), 36%(35–38%) and 36%(35–38%), respectively. The corresponding rates in Canada were 38% (36–39%), 68% (68–71%), 51% (49–52%) and 50% (49–51%), respectively. The absolute differences between the optimal and the observed rates were similar in the two countries; the absolute differences for chemotherapy and chemo-radiotherapy were higher (9–15%) than those for surgery and radiotherapy (<5%) in both countries.

Conclusions: This is the first study to use detailed patterns of care data in multiple countries to compare optimal and observed rates of all treatment modalities for cervical cancer. We found that optimal treatment rates were largely dependent on the overall stage distribution in a given setting. In Australia and Canada, observed surgery rates were similar to the estimated optimal rates, whereas radiotherapy, chemotherapy and chemo-radiotherapy appeared to be under-utilised.

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FORUM FOR IMPROVING CANCER CONTROL IN LATIN AMERICA

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Background and Context: Every year, more than one million Latin Americans are diagnosed with cancer, over two million live with the disease, and more than 600,000 die.Reducing such burden requires all stakeholders to join forces in concerted actions to improve cancer control whilst considering the region's circumstances.

Aim: To promote multi-sector and cross-country knowledge-sharing and collaboration in the field of oncology in Latin America by convening key stakeholders to discuss cancer control in the region with a view to reaching an agreement on priorities with a concrete call-to-action.

Strategy/Tactics: In May 2014, UICC and SLACOM jointly convened the *Forum for Improving Cancer Control in Latin America*, gathering in Bogotá leading physicians and NGO representatives from nine countries from the region.

Programme/Policy Process: The Forum consisted of interactive, professionally moderated roundtable discussions and small group sessions. They focused on the current status of cancer control in the region, main goals and challenges, as well as priority actions on how to improve prevention, diagnosis, access to treatment and care, and patient quality of life. Topics were analyzed from three different perspectives – individual, healthcare institutions, and public policy – in order to get a 360° view and identify key issues in each case.

Outcomes/What was learned: Agreement was reached on the need to develop processes and define protocols for early diagnosis and appropriate treatment, focus on palliative care as a public policy, strengthen education and training of health professionals, and facilitate access to healthcare at the right time and to treatment with multidisciplinary support. Learnings from the Forum will be disseminated through an official document. The meeting also set the basis for the establishment of a lasting working group, multisectorial in character and regional in scope.

The Forum was also possible thanks to an unrestricted grant from Bayer HealthCare

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THE POWER OF EMPATHY IN ADVOCATING FOR CANCER CONTROL POLICY: COMBINING EVIDENCE AND A PERSONAL CANCER STORY TO MOTIVATE STAKEHOLDERS TO ADVOCATE FOR THE FIRST ASBESTOS REGISTRY IN CANADA

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Background and Context: All forms of asbestos cause cancer and is the leading cause of industrial deaths in Canada. The Canadian Cancer Society believes that all efforts must be made to end exposure to this cancer-causing substance. Creating a public registry is a crucial first step in ensuring that Canadians are not exposed. Access to the information has the potential to protect the public and workers – approximately 4,200 workers in Saskatchewan are unknowingly exposed each year.

Aim: Using the Society's experience, knowledge and expertise to develop and implement a strategy that motivates multiple stakeholders into taking action to protect workers and the public from exposure to asbestos. Using research, policy and practice, develop an advocacy strategy and public awareness campaign to convince policy-makers to adopt a mandatory public asbestos registry.

Strategy/Tactics:
1. Public awareness campaign based on a personal cancer experience
2. Transfer research, policy and knowledge into meaningful action
3. Engage necessary partners and stakeholders to collaborate on a communications strategy
4. Develop and time appropriate initiatives (earned media, letter writing campaign, online tools) to keep the issue in the public domain

Programme/Policy Process: Within months this issue moved from a Private Members Bill to the first bill ever adopted by the entire legislative assembly, making Saskatchewan the first Canadian province to create a mandatory on-line public asbestos registry. Howard's Law was was adopted in honour of a building inspector who died of mesothelioma at the age of 59.

Outcomes/What was learned: Combining evidence, experience and a high profile preventable death generated public support for a cancer control policy. Targeted engagement and strategic communication planning is critical. Howard's Law campaign is an example of the power of empathy in advocacy.

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UPDATING CLINICAL GUIDELINES: A QSTREAM EDUCATION PROGRAM FOR RESEARCH TRANSLATION IN OVARIAN CANCER

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Background and Context: The pilot study explored the impact of an online QStream spaced education program on the knowledge and referral patterns of oncologists at two hospitals in Sydney who care for women with gynecological cancer, including gynaecological oncologists, medical and radiation oncologists and their trainees.

Aim: The program aimed to increase their knowledge about the latest evidence regarding genetic assessment and consideration of genetic testing for women with a particular type of ovarian cancer.

Strategy/Tactics: QStream is based on the theory that educational encounters that are spaced and repeated over time result in more efficient learning and improved learning retention. This is important for busy clinicians in cancer care where there is a plethora of new and emerging evidence that results in revised and updated guidelines that require timely dissemination and translation. Participants completed an online, case based program with questions that were emailed and repeated over a number of weeks. After the program semi structured interviews were conducted and were subject to thematic analysis by two researchers. In addition, the number of women diagnosed with ovarian cancer and the number subsequently referred for assessment and consideration of genetic testing over a 12 month period was identified from gynecological oncology records.

Programme/Policy Process: This pilot program evaluated the utility of the QStream platform for disseminating new evidence and updated clinical guidelines

Outcomes/What was learned: The results of changes in referral numbers and qualitative themes will be reported. In addition, implementation science strategies for promoting behavior change will be explored. Overall, participants enjoyed the QStream program and the ease of access that it entails. In addition, they enjoyed the feedback and links and indicated the QStream platform would be useful for disseminating new research findings and updated clinical guidelines.

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INTEGRATING UNIVERSAL CONSENT FOR BIOBANKING AND HEALTH DATA COLLECTION WITHIN CLINICAL PATHWAYS IN NSW – THE BSN CONSENT PROJECT

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Background and Context: Clinically annotated biobanks provide essential infrastructure for translational cancer research. Obtaining patient consent to access biological samples and health data for research can be laborious and inefficient. The Biobanking Stakeholder Network (BSN) Consent Project is a collaborative initiative involving seven hospitals at four NSW sites.

Aim: To develop a universal consent model for biobanking embedded within routine clinical pathways, applicable to any NSW hospital. The model should provide all cancer patients with an opportunity to consent to the use of their biospecimens linked to clinical and health services data to enable translational cancer research.

Strategy/Tactics: Two patient consent formats were deployed – a Local Health District (LHD) approved form (three sites), and a consent sticker embedded within a 'Request/Consent for Medical Procedure' form (one site). Multidisciplinary stakeholders were engaged across hospital departments and endorsement sought from high-level LHD executives. Tumour streams were strategically selected to pilot feasibility of surgical staff obtaining consent. Numbers of relevant operations, consents, and final diagnoses were collected.

Programme/Policy Process: Consent forms and educational materials were reviewed by consumer groups and approved by relevant LHD committees. Access to Medicare/Pharmaceutical Benefits Scheme data was sought at three sites and granted at one site to date. A program of staff engagement and education was implemented at all sites, encouraging a gradual shift towards integration of biobanking processes into routine clinical pathways.

Outcomes/What was learned: Pilots have been completed at two sites (breast, upper/lower gastrointestinal, urological and gynaecological cancers), consenting 24/54 (44%, site 1) and 80/110 (60%, site 2) of suitable patients. The main reasons for patients not being offered consent included doctors not remembering, lack of access to forms and time constraints. While early results show a willingness to enhance research capacity for improved cancer outcomes, further work is needed to improve integration of consenting processes.

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OPTIMAL CARE PATHWAYS: ACHIEVEMENTS AND FUTURE DIRECTIONS

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Background and Context: The Victorian Cancer Services Framework (2003) recommended establishing tumour streams to reduce variations in practice. In response, the Department of Health developed the Optimal Care Pathways (formerly known as Patient Management Frameworks) to guide optimal management of people with cancer across fifteen tumour types.

Aim: The OCPs aim to improve cancer outcomes by providing a state-wide consistent approach to care that facilitates the auditing of pathways and service planning.

In 2013 the Department of Health Victoria partnered with the Cancer Council Victoria to undertake a review of the existing Patient Management Frameworks and consider the development of new additional pathways. The objectives of this update of the OCPs was to:

- ensure they reflect best contemporary evidence and practice;
- ensure their scope incorporates emerging areas of practice (for example, optimal communication and supportive care);
- develop consumer versions to assist patient and carers navigate the care pathway; and
- develop quick reference guides designed for use by General Practitioners to inform referral practices.

Strategy/Tactics: Recommendations for improving the pathways were identified via stakeholder consultation and a review of the literature. A generic template has been developed. Multidisciplinary expert working groups for each tumour stream have met to review and agree the content for four tumour streams. This was followed by waves of public consultation, key stakeholder review and consultation with relevant Colleges and peak organisations, before final publication.

Outcomes/What was learned: The tumour streams which have been updated to date are: colorectal cancer, lung cancer and prostate cancer. A new OCP has been developed for liver cancer. Work is commencing on updating OCPs for melanoma, lymphoma, and paediatric cancer. Work on patient navigation aids is also progressing.

An implementation plan to guide their dissemination and use of OCP is being developed along with an evaluation strategy.

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ESTABLISHING A TRANSLATIONAL CANCER RESEARCH PROGRAM BY DEVELOPING RESEARCH INFRASTRUCTURE AND INFLUENCING SYSTEM CHANGES

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Background and Context: The Translational Cancer Research Network (TCRN) is one of seven Translational Cancer Research Centres funded by Cancer Institute of NSW. The program aims to encourage collaboration between academic and clinical leaders to integrate into interdisciplinary and translational enterprises focussing on cancer control.

The TCRN is based at the University of New South Wales and partners with South Eastern Sydney Local Health District (SESLHD), the Border Medical Oncology Research Unit (Albury/Wodonga) and the University of Technology, Sydney.

Aim: The TCRN is a network formed from the partner institutions to create an innovative and supportive environment for the translation of research findings into improvements in patient care and outcomes.

Strategy/Tactics: Our strategy has been four-fold:
1) develop infrastructure linking health and university
2) create or influence system changes
3) develop the 2020 cancer workforce, and
4) Link members via communication and grants

Underwriting this strategy is the intention that everything we establish is sustainable beyond CINSW program funding.

Programme/Policy Process: We have used the following investment decisions: Value for money, linked to goals, for the benefit of most to deliver 3 different resource types:

- TCRN-led projects (in house expertise)
- Embedded expertise (contracted expertise)
- Outsourcing (expertise via innovation grants)

Outcomes/What was learned: In 3 years we have:

- Established a successful network of 250+ members across 10 different sites.
- Established a universal consent for Biobanking at 5 NSW public and private hospitals and de-coupled collection of tissue into Biobank
- Construction of Health-grade data storage for direct linkage to NSW Health systems
- Automated data transfer of pathology data between Biobank data system and SEALS LIMS
- Automated acquisition of whole slide images from specimens into Biobank
- Linkage of Commonwealth data (MBS, PBS) with biospecimens (580 cases to date)
- Established a Consumer Advisory Committee

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GRASS ROOTS ADVOCACY TO INFLUENCE HEALTHY PUBLIC POLICY

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Background and Context: Primary schools are a key setting for reducing children's future risk of skin cancer. However in New South Wales (NSW), Australia, the State Government had not updated the school sun protection guidelines since 1997. Efforts to persuade the State Government to update the guidelines in line with current evidence had been met with resistance for over four years.

Aim: To influence the NSW State Government to ensure that all primary schools implement comprehensive sun protection measures, to reduce children's future risk of skin cancer.

Strategy/Tactics: Influencing policy-makers to implement healthy public policy requires a multi-faceted approach combining pressure and persuasion. A campaign team was established with experience in skin cancer prevention, advocacy, community engagement and media. The strategy set out to build community and political support before lobbying the Minister for Education directly.

Community consultation demonstrated latent support for protecting children from the sun; the challenge was to transform this support into visible action. The advocacy campaign involved strategic research with 1,000 parents; a photo petition featuring over 2,400 community members; mobilising 74 community members to make representation on the issue to local politicians; positive media coverage; and direct lobbying to the Minister for Education.

Programme/Policy Process: As a result the NSW Ministry of Education consulted with Cancer Council NSW on best-practice sun protection recommendations, and released updated guidelines in June 2013. The comprehensive Sun Safety for Students guidelines direct each school community to develop and implement a comprehensive Sun Safety Action Plan.

Outcomes/What was learned: Cross–organisational collaboration enabled an integrated advocacy campaign that significantly shifted the power balance on this issue. Community organising and media advocacy moved the issue into the public arena and convinced the State Government that the community expected them to act.

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UPDATE OF THE EUROPEAN CODE AGAINST CANCER

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Background and Context: Many cancers can be prevented by avoiding exposure to known risk factors such as tobacco smoking, alcohol, unhealthy diet, UV exposure, radon, or infection with hepatitis B virus or HPV, and a significant proportion of cancers can be treated more effectively if detected early. The 4th Edition of the European Code Against Cancer provides a set of recommendations for the individual to take action that, if followed, will impact reducing the cancer risk.

Aim: To review the new scientific evidence since the last edition in 2003, to reflect the expansion of the European Union to include 13 new Member States, and to improve the communication of the recommendations to lay people.

Strategy/Tactics: To update the scientific evidence base and develop recommendations to reduce cancer risk.

Programme/Policy Process: The process developed was based on: (a) identification of established causes of cancer and prevention interventions using recent comprehensive authoritative sources of scientific evidence; (b) evaluation of the science by experts supported by systematic literature searches where necessary; (c) advice and empirical evidence on communication to the layman; (d) oversight by a pan-European Scientific Committee of senior experts of leading European institutions of cancer research and prevention.

Outcomes/What was learned: Three levels of information are contained in an ad-hoc website: (1) the European Code Against Cancer itself consisting in "12 ways to reduce your cancer risk"; (2) additional information, in the form of questions and answers for lay people, on risk factors, and what individuals can do protect themselves.; (3) the scientific justification of the recommendations published in the peer-reviewed literature.

The European Code Against Cancer provides the potential for scaling up to the global level, broken down by regions of the world, using the established scientific methodology and similar presentation of outcomes.

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ACCESS TO CANCER TREATMENTS IN THE FACE OF INTELLECTUAL PROPERTY AND INTERNATIONAL TRADE LAWS

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Background and Context: The affordability and availability of cancer treatments is often affected by the existence of intellectual property rights as well as international trade obligations.

Aim: For those involved in cancer treatment and the development of cancer control policies (particularly in low and middle income countries) it is important to have a basic understanding of the legal framework that may affect access to, as well as the affordability of cancer medicines. Awareness of the inbuilt flexibilities in international trade agreements that may allow for greater and reduced cost access to essential cancer treatments is also essential knowledge for those working in the field.

Strategy/Tactics: This presentation will give participants a broad overview of the intellectual property and trade laws that impact access to medicines.

Programme/Policy Process: The presentation will include a basic introduction to intellectual property law, the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS), the Doha Declaration and examples of bi and multi-lateral free trade agreements that affect access to medicines. The presentation will also provide examples that illustrate how countries have successfully relied on the existence of these flexibilities to reduce the cost of essential medications including a review of recent high profile cases from India.

Outcomes/What was learned: The aim of the presentation will be to equip participants with a basic understanding of the international legal framework that affects access to cancer medicines. This will enable participants to identify situations where the legal flexibilities built into the international agreements may be used to ensure affordable access to essential cancer treatments as well as identify risks and advocacy opportunities surrounding the negation of new free trade agreements.

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THE CREATION OF A STAKEHOLDER WORKSHOP PROCESS WHEREBY A FOUR-LEVELLED 'CALL TO ACTION' ADVOCACY FRAMEWORK IS APPLIED TO THE ANALYSIS OF PHOTOVOICE NARRATIVES OF CANCER CHALLENGES COLLECTED IN SOUTH AFRICAN

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Background: Some of the main barriers to the improvement of cancer care in South Africa are the relatively low placing of cancer care on the political agenda, socioeconomic problems, cultural beliefs and practices, poor ratio of treatment services to population and lack of cancer advocacy. PLWC undertook a photovoice advocacy project to highlight the challenges that cancer patients face in South Africa.

Aim: The aim was to provide a workshop forum where the thematic content analysis of the photovoice data could be used to direct and stimulate cancer advocacy discussion, planning and implementation.

Strategy / tactics: The strategy of a stakeholder advocacy workshop was used to as a process whereby stakeholders could receive feedback about the thematic content analysis of the photovoice data and also be introduced to the four-levelled 'call to action' advocacy framework that was developed for this purpose.

Delegates were then divided into facilitated groups for discussion. Through the medium of various workshop activities, delegates were encouraged to discuss advocacy initiatives that could be taken back to their own organisations for implementation or further development for implementation . A joint call to action was also developed to drive and give momentum to cancer advocacy initiative in South Africa as a joint cancer NGO community

Results: Accurate information about cancer challenges enables more targeted and appropriate advocacy efforts in a diverse population. Offering a workshop that encourages representatives to discuss advocacy projects that can benefit their respective communities is appropriate and productive. In dealing with vulnerable and under-privileged communities it is necessary to offer input of an empowering nature to support cancer advocacy initiatives.

At the time of the UICC World Cancer Conference in December 2014 it will be possible to report more specifically and fully on the advocacy outcomes of this workshop process.

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REDUCING TIME TO CANCER DIAGNOSIS IN RURAL WESTERN AUSTRALIA (WA): RESULTS OF A CLUSTER RANDOMISED CONTROLLED TRIAL OF COMMUNITY AND PRIMARY CARE INTERVENTIONS

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6. *University of Cambridge, Cambridge, UK*
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8. *Rural Clinical School Western Australia, Albany, WA, Australia*

Background: Rural cancer patients in Australia have significantly poorer outcomes than metropolitan patients and this may be partly due to later presentation and diagnosis. Interventions aimed at raising community awareness of cancer symptoms and improving GPs assessment of symptoms could reduce time to cancer diagnosis but there have been few RCTs previously reported.

Aim: To test a complex intervention targeted at the community and at primary healthcare providers to reduce the time to diagnosis for common cancers in rural WA.

Methods: A 2 × 2 factorial cluster randomised trial of: 1. A community symptom awareness campaign to promote earlier help-seeking for specific cancer-related symptoms; 2. A general practice based academic-detailing intervention aimed at implementing cancer symptom risk models (Hamilton CAPER charts) and best practice diagnostic routes. Two matched geographical areas of rural WA were randomised to the community intervention or control region. General practices within both geographical regions were randomised to receive multiple academic detailing visits or no intervention. The primary outcome measure is the total diagnostic interval (i.e. the time from first symptom/attendance for cancer screening to date of cancer diagnosis) of newly diagnosed cancer patients from both trial arms, calculated from the Symptom questionnaire and medical records. Additional measures include TNM stage, measures of campaign coverage/impact, and health economic outcomes.

Results: Over 1,100 people with breast, lung, bowel or prostate cancer had been recruited to the trial after 20 months and we estimate a final accrual of 1,250 by March 2014. We will report the combined and separate effects of the community and provider-based interventions on total diagnostic interval.

Conclusions: This is the largest trial known to date to test this type of intervention using such rigorous methods. Results will be of international relevance on the role of symptom awareness campaigns and GP interventions to achieve earlier cancer diagnosis.

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A NOVEL APPROACH TO IMPROVE RECRUITMENT OF CANCER PATIENTS: EXPERIENCE FROM THE IMPROVING RURAL CANCER OUTCOMES TRIAL

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Background: Recruitment of participants is critical to the success of randomised controlled trials (RCTs). However, poor accrual to RCTs is a common problem. Recruitment through cancer registries usually involves an approach via the treating clinician. Standardised formats for patient information and consent forms (PICFs), as recommended by many ethics committees, often result in lengthy and uninviting documents.

Aim: To implement a recruitment method based on social marketing approaches and direct-to-patient approach by the WA Cancer Registry (WACR) within the Improving Rural Cancer Outcomes Trial.

Methods: In collaboration with consumers and Cancer Council WA we developed an inviting and simple patient information brochure about participation in the trial. This was mailed with a letter from the WACR directly to newly diagnosed cancer patients who met our inclusion criteria. After three-weeks, researchers follow-up non-responders via phone or mail to see if they would like to participate.

Results: Our initial target sample size was 850 participants recruited over 24 months by March 2014, requiring a 40% accrual rate. By mid-February 2014, 1,220 people had been recruited to the trial (59% accrual rate). The estimated final sample will be 1,250 representing 47% higher accrual than originally estimated. Participants responded positively to the language and appealing use of colour of both their questionnaire and plain-language information flyer. The design helped prompt recall of the invitation during follow-up.

Conclusions: Our novel recruitment methods resulted in an approximately 50% higher accrual rate than originally planned. This is a very unusual finding given the optimistic biases inherent in most research protocols. The simple and colourful patient information materials and direct-to-patient recruitment from the WACR were crucial to high participation rate. Ethics committees should consider altering their standard, to allow more engaging layout and language that is patient friendly in PICFs and allow cancer registries to approach patients directly.

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A NATIONAL STRATEGY FOR QUALITY AND SAFETY IN RADIOTHERAPY: A POLICY APPROACH FOR GLOBAL CONSIDERATION

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Background and Context: Canada utilizes a public payer, private health care delivery model, delegated sub-nationally. Effective coordination of uniform access to safe, high quality care can be challenging in this and other similar international models. Quality improvement in radiotherapy (RT) is particularly relevant, since approximately 50% of all cancer patients require RT during their illness. The Canadian Partnership for Quality Radiotherapy (CPQR) is a novel national policy approach employing pan-Canadian engagement to accelerate development and implementation of guidelines for safe, high quality RT. Similar policy strategies can inform comparable international contexts.

Aim: To create a national culture of safe, high quality RT delivery for all patients; develop and implement a comprehensive sustainable national RT plan for quality and safety.

Strategy/Tactics: Strategies include: Creating and implementing national quality assurance (QA) guidelines and indicators for RT programs, technical equipment and patient experiences; integrating these into a national accreditation program; developing a national RT incident reporting and learning system.

Programme/Policy Process: All CPQR products are processed using a feedback loop operational structure. Products are developed, reviewed and validated through community consultation, and endorsed by the steering committee and national stakeholders. Active dissemination strategies have been deployed nationally.

Outcomes/What was learned: CPQR's national RT policy approach has been successful due to its interprofessional structure and early engagement. The national RT programmatic QA guidelines and key quality indicators were released in 2011 and 2013, receiving 3849 downloads. Approximately 50% of Canadian RT centres indicated implementing CPQR guidelines and consequently changing local QA practices. 9 QA guidelines for RT equipment were developed and externally validated, 6 are developing. National monitoring and learning structures are developing through an accreditation program and incident reporting repository for sustainability. Knowledge exchange activities included 26 presentations and 10 national/international invited discussions. A national systematic evaluation process will be executed shortly.

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ONLINE HUB FOR THE LEARNING AND DEVELOPMENT OF HEALTH PROFESSIONALS IN CANCER CARE

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Background and Context: The provision of optimal cancer care is complex and involves a range of multidisciplinary health professionals and settings. The widely distributed and heterogeneous nature of the cancer workforce in Australia presents particular challenges to professional learning and development. Cancer Australia's national cancer control agency, through Cancer Learning, provides online, accessible and evidence-based resources and learning activities for health professionals

Aim: To support the uptake of best practice cancer care by health professionals through providing accessible and evidence-based online learning and development resources.

Strategy/Tactics: A national multi-phase project led by Cancer Australia and involving a collaboration of stakeholders in cancer care, has informed the development of an online hub, Cancer Learning. An iterative action based research approach has allowed for ongoing evaluation and improvements to Cancer Learning.

Programme/Policy Process: Cancer Australia has supported Cancer Learning since its development in 2007. During 2013–2014, Cancer Learning was redeveloped through a rigorous process of user research to incorporate evidence based e-learning packages in priority areas of cancer care, including multidisciplinary care, supportive care and nursing education (including in specific tumour types). Resources are jointly developed with leading multidisciplinary experts in cancer care and delivered through dynamic online platforms.

Outcomes/What was learned: Evaluations have been positive and site usage continues to grow, with over 2,600 registered users and over 4,500 unique users each month. Cancer Learning has achieved Health on the Net status, certifying the site's content as quality and reliable and has been endorsed by various Australian peak cancer care bodies. Collaborative partnerships have reduced duplication, standardised approaches and enhanced uptake of quality evidence-based learning and development. This national initiative highlights the important role that online initiatives can play in supporting the professional learning and development of all health professionals involved in cancer care, regardless of geographical location.

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CONTINUOUS INNOVATION INDICATORS: MEASURING PROGRESS IN CANCER TREATMENTS

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Background and Context: Progress in treating solid tumors is usually achieved by step-wise increases in knowledge and modest gains of survival time. Moving forward at maximum speed while keeping treatments affordable will require strategies that can manage costs while stimulating continuous innovation. There is, however, a lack of publicly available information regarding step-wise progress toward better treatments. To ensure that scientific innovation is adequately considered in policy decisions, the field needs new tools that provide accurate information about current momentum in cancer research.

Aim: The Innovation Indicators provide objective, scientifically rigorous, and forward-facing measures that permit the measurement of innovation progress across different cancer types.

Strategy/Tactics: We developed a flexible value model for innovation in cancer research, which allows for variable definitions of "success" and treatment priorities. Our tool further provides full accountability with regard to the underlying data. The user can compare progress over time or across diagnoses based on easy-to-understand metrics.

Programme/Policy Process: As part of its Patient Access to Cancer care Excellence (PACE) initiative, Lilly Oncology convened a Global Council of opinion leaders in cancer research, care, and policy in November 2012 to identify specific strategies to address barriers to innovation in oncology research and remove obstacles to improved cancer care. As a result of this meeting, PACE decided to increase understanding among patients, researchers, and policymakers of continuous innovation in cancer care. We presented a prototype of our tool in November 2013 and have been incorporating refinements since then based on feedback by professional organizations and cancer advocacy groups.

Outcomes/What was learned: This represents the public introduction of the Continuous Innovation Indicators to a cancer policy/advocacy audience. We present Evidence Scores and Research Momentum Scores based on the analysis of 12 solid tumors. Feedback from this presentation will guide future developments of this new tool.

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EVIQ CANCER TREATMENTS ONLINE (WWW.EVIQ.ORG.AU) – AN INTERNATIONAL PERSPECTIVE

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Background and Context: eviQ is an Australian government, evidence-based, point-of-care resource providing access to over 600 cancer treatment protocols in Medical and Radiation Oncology, Haematology and Cancer Genetics. Each protocol includes a treatment schedule, administering instructions, side effects, key evidence and patient information.

Aim: eviQ's primary purpose is to support health professionals in the safe delivery of cancer treatments.

Strategy/Tactics: With over 600 clinicians involved in content development, eviQ remains clinician owned and driven. Endorsed nationally, eviQ is embedded into Australian clinical practice, policy and information systems.

Programme/Policy Process: A strict governance framework ensures scope, quality and currency are maintained and all content developed complies with Australian regulations.

Outcomes/What was learned: Since 2009, eviQ has approximately 40000 registrants and over 10 million page views. 45% registrants are nurses 16% doctors, 13% pharmacists, 8% patients and 18% other. eviQ has been used in 148 countries of which 8%, 49% and 36% (7% unknown) are low, middle and high income countries respectively.

Table 1: International Registrants (Top 10 Countries) (May 2014)

Country and Number of Registrants	
New Zealand	983
USA	304
India	212
Ireland	151
Canada	147
United Kingdom	143
Malaysia	121
Singapore	64
Morocco	58
Italy	58

Compared to similar international websites, eviQ was reported to be a high quality resource.[1]

A 2011 survey of Australian users showed that 85% of 381 respondents found eviQ relevant to their practice and 83% a quality resource.[2]

A recent survey of international users (146 responses; 48 countries) showed some use eviQ to make treatment related decisions where such information is not well developed in their country. Others use eviQ to review their local protocols and gain a global perspective of evidence-based practice. Many noted that eviQ's practical treatment information and treatment specific patient information set it apart from other cancer resources.

As a free online resource, eviQ crosses geographical and economic boundaries providing evidence-based cancer treatment information to all.

1. Langton JM, Pearson SA. eviQ cancer treatments online: how does the web-based protocol system fare in a comprehensive quality assessment? *Asia-Pac J Clin Oncol* 2011; 7: 357–63.
2. Evaluation of the Cancer Institute NSW web based portal eviQ – Cancer Institute NSW Executive Summary. 2012

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COMMUNITY CANCER PROGRAMS NETWORK – BRINGING CANCER CARE CLOSER TO HOME

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Background and Context: Manitoba is one of 10 Canadian Provinces. It has a total population of 1, 260, 000 people spread over a land mass larger than Japan and twice the size of the United Kingdom. The majority (730,000) people live in the capital city of Winnipeg. The remainder of the provinces population is spread over a large rural and remote geographical area. This presents challenges to provide equitable access to comprehensive cancer care for all Manitobans.

Aim: To provide comprehensive cancer care closer to home.

Strategy/Tactics: Programme/Policy Process: The Community Cancer Programs Network (CCPN) is an innovative program of CancerCare Manitoba (CCMB) that works in partnership with the Regional Health Authorities enabling patients living outside of Winnipeg to receive their cancer care closer to home. The CCPN is comprised of 15 Community Cancer Programs (CCPs), the Western Manitoba Cancer Centre (WMCC), and the Community Cancer Resource and Support Program (CCRSP).

Community Cancer Program sites are outpatient units located in community hospitals and are staffed by a multi-disciplinary team of family physicians, nurses, pharmacists, social workers and other health professionals who have received specialized education in oncology. The initial education takes place in the urban centre of Winnipeg at CCMB. This group of specialists work with CancerCare Manitoba oncologists and staff to provide comprehensive cancer care, including systemic therapy, follow-up care and support closer to home. This allows patients to stay connected to their families and communities and decrease the financial burden associated with cancer. The Oncologist maintains ongoing contact with the CCP team and retains overall responsibility for the patient's care.

Outcomes/What was learned: In 2012–2013, over 29,000 outpatient visits occurred at Community Cancer Programs in Manitoba, saving patients more than 11 million km of travel. This means 110,000 additional hours that patients could spend with their families, friends and community supports.

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PROMOTING EQUITY IN CANCER SURVIVORSHIP CARE

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Background: In developed countries, new models of care (MoC) are emerging to address cancer survivors' unmet needs, but few consider health and social disparities in their development, limiting access to quality survivorship care for many[1,2]. Understanding how disparities influence the development of and access to survivorship MoC is essential to ensure individuals' needs, rather than social privileges, guide the distribution of opportunities for quality survivorship care and optimal health.

Aim: This study explores and explains how the layering and intersection of social, political, economic and personal factors, and health experiences and health management strategies shape the development of and access to quality survivorship care for Canadians with cancer. Moving beyond simply describing, this study considers *possibilities for action* to create equitable survivorship MoC that recognize the complexities inherent in survivorship care.

Methods: Using a qualitative Interpretive Description approach informed by an intersectional lens, this study involves three phases: 1) secondary analysis of a Canadian Communication in Cancer Care database, 2) survivor and key stakeholder interviews, and 3) critical textual analysis (e.g., survivorship guidelines, education programs, resources).

Results: Phase 1 results are presented, offering survivors' transition experiences from cancer treatment to survivorship care. Major themes such as communication with health professionals about survivorship care, experience of accessing survivorship resources, and alignment of survivorship resources with individuals' needs will be explored. These findings highlight problematic areas and recommendations for improvement in how we communicate about, shape and enact equitable survivorship MoCs.

Conclusions: This study offers insights into how current survivorship MoC may unwittingly reduce opportunities for survivor health and makes recommendations to promote strategic thinking, applicable to a global context, regarding MoC for equitable cancer survivorship.

1. Casillas, J. & Ayanian, J. (2011). Disparities in cancer for cancer survivors. In M. Feuerstein & P. Ganz, Eds., Health services for cancer survivors: Practice, policy and research (pp. 153–168). New York: Springer.

2. Maddison, A.R., Asada, Y. & Urquhart, R. (2011). Inequity in access to cancer care: A review of the Canadian literature. *Cancer Causes Control* 22:359–366.

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NATIONAL BREAST CANCER QUALITY REGISTER AS A POWERFUL TOOL TO IMPROVE TREATMENT

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Background: The National Cancer Strategy 2007 pointed to fragmented care and unexplained regional differences in Sweden. Breast cancer, one of the three major cancers has the most developed care process. Until 2008 regional reporting on selected clinical and outcome data prevailed. Since 2008 a national quality breast cancer register replaced regional reporting and encompasses the compulsory cancer registration. Since primary breast cancer treatment goes beyond a year in some cases when all adjuvant modalities are used, the annual reports lag. We report data from 2012.

Aim: 1. to report on target levels according to national and international guidelines. 2. to identify regional differences and thereby suggest improvements for health care providers. 3. to make the report comprehensive to consumers and non professional stake holders.

Methods: Reporting of all primary breast cancers is done by electronic transmission, linked to the population register. Data are presented on hospital, regional and county level and compared to national mean levels. Target levels are set according to Swedish national and European guidelines.

Results: The completion rate was 98%. 92% had a confirmed diagnosis preoperatively. Fifty hospitals in Sweden perform breast cancer surgery, 80 % perform >150 cases per annum. Waiting times <3 weeks between treatment plan and surgery were only met in 50%. Breast conserving treatment varied between 60–90 % for small and medium size tumors. Breast reconstruction was nationally preformed in <10 % and in one county in 21%. Locoregional radiotherapy and adjuvant chemotherapy was unevenly distributed.

Conclusions: The report identifies strenghts and weaknesses in Swedish breast cancer care. A strong professional commitment with consumer representative adds to transparency and helps improving the breast cancer process.

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A CHEMOINFORMATICS APPROACH FOR IDENTIFYING PRIORITY AGENTS FOR CANCER HAZARD EVALUATION: THE IARC MONOGRAPHS AND PESTICIDES

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Background: Identification of cancer hazards is the first step towards cancer prevention. The IARC Monographs Programme has evaluated nearly 1000 agents for carcinogenic potential since 1971. A chemoinformatics approach can be used to systematize, inform and further increase efficiency in selecting agents for evaluation. IARC will evaluate several pesticides in February 2015. Considering the large number of chemically similar pesticides, a ranking method is needed to determine their priority for evaluation.

Aim: Integration of a chemoinformatics and computational approach for ranking of pesticide chemicals for the IARC evaluation process.

Methods: Information from USEPA pesticide database, PubChem BioAssay, ToxRefDB, PubChem Compound DB, NCBI BioSytems and NCBI Pubmed databases were integrated using web technologies, chemoinformatics algorithms and network graphs to develop the ranking software.

Results: A total 5700 entries from USEPA pesticide structure database were downloaded. Up to 3100 entries had been associated with PubChem compound identifiers. Use of network clustering algorithms on chemical similarity maps suggested up to 40 distinct chemical clusters of pesticides can be obtained, representing the vast chemical diversity among pesticides. Overlaying the retrieved information from various databases on these maps identified clusters of pesticides that can be given high priority in the evaluation process. Pesticides already evaluated by IARC monographs were ranked high. Comparison of these maps highlighted the clusters of pesticides that have been studied in-vitro and in-animal but not in epidemiological studies. A web interface to access the enriched maps will be provided online.

Conclusions: Use of chemical clustering and bioassay and literature data yielded cluster level ranking of pesticides for their evaluation of carcinogenic potential. The approach can readily be extended to other compounds classes such as drugs, environmental pollutants, endogenous metabolites and food components. Furthermore, untargeted metabolomics data in prospective cohorts can be screened for several pesticides that have evidence from only animal or in-vitro studies.

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THE NEW SOUTH WALES CANCER, LIFESTYLE AND EVALUATION OF RISK STUDY (CLEAR): A RESOURCE FOR CANCER RESEARCH

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Background: The New South Wales (NSW) Cancer, Lifestyle and Evaluation of Risk Study (CLEAR) is a Cancer Council NSW initiative that commenced in 2006. It is an ongoing case-control study that collects lifestyle and demographic information and biospecimens, for release as an open resource for cancer researchers.

Aim: To provide ongoing data on the relative importance of known and emerging exposures and their relationships to leading and emerging cancer types.

Methods: CLEAR participants are recruited from i) hospitals, ii) cancer related databases, and iii) self-referral in response to widespread promotion. Eligible cases are NSW residents aged 18 years and above, registered and enrolled within 18 months of diagnosis of their first primary cancer. Controls are cancer-free partners of cases. Study participation, entails completion of a questionnaire and providing an optional blood sample. Self-reported cancer status is verified via annual record linkage with the NSW Central Cancer Registry.

Results: CLEAR has recruited 10,750 participants (8,517cases, 2,233 controls: 20% response rate). Participants are 54% female (n = 5845) and 46% male (n = 4905), with a median age of 61.6 years (cases) and 61.3 years (controls). The most common self-reported cancers were cancers of the breast (n = 2186), prostate (n = 1390), colorectum (n = 1049), melanoma (n = 944 and lung (n = 311). Data will be presented on the frequency of incident cancers diagnosed since enrolment, with a corresponding positive predictive value for each verified cancer type. We found increased lung cancer risk in current smokers in both men (OR 31.72, 95%CI: 14.87–67.65) and women (OR 20.89, 95%CI: 12.02–36.30), after adjusting for age, SES and migrant status; these results were similar to the Million Women's Study[1]. Details of other analyses will also be discussed.

Conclusions: CLEAR is a valuable resource for researchers and has the potential to significantly advance our knowledge in the occurrence and outcome of various cancers.

1. Pirie et al *Lancet*. 2013; doi: 10.1016/S0140- 6736(12):61720–6

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JOINING FORCES IN CANCER INFORMATION AND SUPPORT: COLLABORATION ADDS VALUE

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Background and Context: People affected by cancer need trustworthy, evidence-based and customized information which is communicated with empathy and focus on their individual situation. Cancer information services (CIS) provide this information free of charge. They collaborate in the International Cancer Information Service Group (ICISG), a global network with 85 member organizations in 54 countries, incl. a European chapter of 32 CIS in 26 countries.

Aim: Collaboration aims at providing, comparing and harmonizing high-quality cancer information and support, by sharing information resources, best practice and innovative approaches, e.g. social media, and by intercultural impact research, evaluation of user data and surveys, by identifying needs and trends, development of effective and helpful strategies and new communication tools to meet these needs.

Strategy/Tactics: Exchange of best practice at conferences, e.g. ICISG session on social media at UICC WCC; European CIS workshops; support for organizations to start and develop a CIS; ICISG website relaunch in 2014 incl. needs assessment tool, tool box for program operations and social media; Europe-wide staff exchange program and CIS surveys, latest in 2014, based on over 300,000 inquiries; collaborating with UICC and sharing expertise in a EU CANCON joint action 2014–2017 to improve cancer control and survivorship.

Programme/Policy Process: Support for set-up of new CIS (e.g. in Eastern Europe) and for growing number of members. Guidance and sharing know-how for quality information and for overcoming digital divide. Survey data, challenges and best practice examples will be presented; they demonstrate the value of collaboration for the development of cancer information strategies.

Outcomes/What was learned: Interaction with CIS can strengthen and accelerate the cancer control knowledge exchange and lead to increased abilities, skills, desirable individual behaviors and public health action. ICISG has developed an Action Plan which is adaptable to other regions of the world, and ICISG can provide technical assistance.

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THE INTERNATIONAL COLLABORATION ON CANCER REPORTING (ICCR) – FROM CLINICAL NEED TO INTERNATIONAL PARTNERSHIPS AND GLOBAL GOALS

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Background and Context: Datasets or checklists for the pathology reporting of cancer have been produced in a number of countries in the last 2 decades both at a national and institutional level. These have been driven largely by clinical need, yet the same data aggregated at the population level, is critical for public health management and intervention. Although many datasets have common elements, there has been no previous attempt to develop internationally agreed, evidence-based standards for the reporting of cancer – a pre-requisite for clinical practice as well as national and international benchmarking for cancer control.

Aim: To develop a process for the production, dissemination and implementation of international evidence-based pathology cancer datasets (IPCD).

Strategy/Tactics: The International Collaboration on Cancer Reporting (ICCR) was established in 2011 between the Pathology Colleges and Associations of the USA, UK, Canada and Australia. Cancer datasets from various organisations are harmonised and updated by internationally recognised pathologists and subjected to evidentiary and worldwide review, followed by publication in peer-reviewed journals. Key international cancer organisations endorse and participate in the process.

Programme/Policy Process: Four datasets have been published and posted to the ICCR website to date and a further 6 are under development. The International Agency for Research in Cancer (IARC) has partnered with ICCR to synchronise the publication of subsequent ICCR datasets with future WHO Tumour Classification volumes. The ICCR is involved with the major staging organisations and the European Society of Pathology (ESP) has recently joined ICCR as a founding member, bringing over 68 countries and more than one billion people under a common process.

Outcomes/What was learned: The ICCR has developed an efficient process for the production of internationally standardized and evidence-based cancer datasets. Engagement with key international cancer and pathology organisations ensures their adoption worldwide.

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ENHANCING ACCESS TO ESTIMATES OF OCCUPATIONAL AND ENVIRONMENTAL CARCINOGEN EXPOSURE: CAREX CANADA'S KNOWLEDGE TRANSLATION PROGRAMME

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4. *Occupational Cancer Research Centre, Toronto, ON, Canada*

Background and Context: CAREX Canada is a national surveillance project that estimates the number of Canadians exposed to known or suspected carcinogens in workplace and community environments.

Aim: The project aims to support those looking to better understand – and help reduce or eliminate – these exposures. This involves collaborating with research, policy, and program specialists working at federal or provincial government ministries or agencies, professional groups, and labour organizations.

Strategy/Tactics: Using a knowledge translation and exchange approach, we have tailored our support for each audience based on their reported needs. One of the key strategies of this approach is developing knowledge products called summary packages that present custom snapshots of CAREX Canada's estimates of exposures to carcinogens and highlight ways that these estimates can be used to help set priorities for cancer prevention.

Programme/Policy Process: CAREX Canada has produced occupational summary packages by industry, occupation, jurisdiction, and cancer site (e.g. wood product manufacturing, welders, British Columbia, lung carcinogens), as well as environmental summary packages by exposure pathway, population, and jurisdiction (e.g. indoor air, outdoor air, First Nations, and Quebec).

Outcomes/What was learned: Interview surveys with target audiences across the country show that these tailored knowledge products are a useful and accessible means to support cancer prevention research, programs, and policies. Respondents reported intent to use them for outreach and education efforts, as well as for informing stakeholders and decision-makers about priority carcinogen exposures. Many expressed interest in adapting them to incorporate exposure reduction recommendations for their own audiences. For example, provincial regulatory agencies are co-developing educational packages for workers that aim to reduce exposures in the construction industry. This is one of many ways that the CAREX Canada project is enhancing access to exposure estimates, and helping to apply what we know about exposures to cancer prevention efforts.

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EARLY DETECTION SAVES LIVES THROUGH MOBILE SCREENING UNITS

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Background and Context: According to the South African Cancer Registry- ,breast cancer is reported to be the top cancer amongst women, often diagnosed too late resulting in a negative life expectancy.[1] This results in a negative effect on economic viability of the family unit, due to many women being family bread winners. National Health System protocols outline clinical exams at primary health facilities with referrals for mammography to tertiary level, resulting in patients travelling long distances at great cost difficult to access for non-urban communities.

Aim: Pilot a screening programme to reduce the incidence of breast cancer in South Africa and ultimately reduce the mortality by encouraging early detection of breast lumps and prompt referral.

Strategy/Tactics: Screen South African women for breast cancer while providing healthcare services to all communities in conjunction with existing health care structures through mobile education units and mobile clinics.

Programme/Policy Process: In 2013, had two educational cars, one educational truck & one mobile Women's Health Cancer Unit,servicing 103 clinics and 15 hospitals in Gauteng, Limpopo, Mpumulanga, Kwa-Zulu Natal, Orange Free State and North West Province – on a rotational basis. Another educational car and mammography unit servicing, Western Cape, Eastern Cape and Northern Cape offering services to two hospitals and theirs referring clinics, on a weekly basis. Since inception all data has successfully been captured and made available to National Department of Health and IARC recently funded data collection project.

Outcomes/What was learned: As of 2013 we have provided:5 797 free mammograms,62 530 clinical examinations, educated 99 141 women. We have worked with public health facilities and practitioners, to develop solutions answering some of South Africa's screening challenges and complementing existing public health services to ensure the model is replicable,scalable,adaptable and sustainable. Due to continued needs assessments, newly built units are built to deliver an integrated service approach.

1. http://www.nioh.ac.za/?page=national_cancer_registry&id=41

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THERE IS AN APP FOR THAT! COMMUNICATING UV VIA THE SUNSMART APP

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Background and Context: The Australian SunSmart mobile phone application is an extension of the internationally standardised Global Solar UV Index. The SunSmart iPhone app was launched in November 2010, and subsequent Android and Samsung mobile versions and an iPad tablet version have been released.

Aim: The aim of the app is to translate the UV Index into an easy-to-understand, useful tool with a strong call to action that enables Australians to make informed daily decisions about when to use sun protection.

Programme/Policy Process: The app's main objective is to communicate the times of day sun protection is required (and not required) based on UV Index forecast information released by the Australian Government Bureau of Meteorology. Additional features include hourly forecast UV Index, daily reminders of sun protection times, a vitamin D tracker, and a sunscreen calculator.

Strategy/Tactics: Both paid and unpaid media have been utilised to promote the app since its launch. Research has been conducted to inform development the app, and quantitative and qualitative evaluation projects have assessed use, perceptions and behavioural intentions associated with the app.

Overall, the results have been very positive; surveys in 2011 revealed 87% of users felt that the app met or exceeded their expectations, 86% of users agreed that the app made them more aware of the times of day sun protection is required and more than half refer to the app on a daily basis. Qualitative research in 2013 provided insights into how people use the app and ideas for future updates.

Outcomes/What was learned: As of May 2014, the mobile application had been downloaded 114,000 times. The future challenge now will be to continue to update and refresh the app so it continues to be used by Australians to assist them improving their sun protection behaviours.

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A HUMAN RIGHTS-BASED APPROACH TO CANCER PREVENTION AND TREATMENT

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Background and Context: A human rights-based approach has significant potential to assist in formulating a just and effective response to the growing and unequal burden of cancer. Standards and principles of international human rights law and efforts to improve cancer prevention and treatment share the common goal of advancing the right to the highest attainable standard of health.

Aim: This work seeks to explore the utility of a rights-based approach in advancing and defending regulatory actions to reduce exposure to cancer risk factors (e.g. tobacco and alcohol use, and unhealthy diets), and in promoting access to and availability of cancer treatment.

Strategy/Tactics: Analysis of relevant human rights instruments, and examples of how these have been interpreted in practice at an international and domestic level will be used to demonstrate the potential value of a rights-based approach to the cancer context.

Programme/Policy Process: The above analysis will inform discussion of:

- The tension between health and other rights (e.g. freedom of speech and property rights) that may arise when governments regulate cancer risk factors
- The role of international human rights law in advocating for stronger regulation of cancer risk factors including tobacco, alcohol and unhealthy diets

- The role of the right to health and a rights-based approach more broadly in promoting access to cancer treatment at both individual and population levels

Outcomes/What was learned: A human rights-based approach can provide a valuable opportunity and framework for advancing interventions in the cancer and NCD epidemic broadly, allowing policy makers and advocates to take collective action using the norms and standards documented in international legal instruments to implement policies and practices that promote full realisation of the highest attainable standard of health.

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THE IMPACT OF ALCOHOL OUTLET DENSITY ON ALCOHOL CONSUMPTION AMONG URBAN AND REGIONAL AUSTRALIAN ADOLESCENTS

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Background: Alcohol is a group 1 carcinogen. Longitudinal studies have shown that drinking at an early age increases the likelihood of drinking as an adult. Identifying factors that can reduce adolescent drinking may help to reduce their cancer risk. Higher density of alcohol outlets in a community has been associated with greater alcohol consumption among adults. However the relationship is less clear for adolescents, particularly in an Australian context.

Aim: To examine the association between alcohol outlet density and adolescents' alcohol consumption in urban and regional settings.

Methods: Data from a national survey of students (12–17 years) conducted triennially between 2002 and 2011 (n range 16,215–18,943) was used. The outcome measures were past month alcohol use, risky drinking amongst all students and risky drinking amongst current drinkers. Each student was assigned a postcode-level alcohol outlet density (number of licences per 1,000 population) for general, on-premise, off-premise and club licences. Logistic regressions examined the associations between each outlet type and drinking outcomes by geographic location.

Results: In metropolitan communities, off-premise density was associated with past month use (OR = 1.39, $p < .01$) and club density (OR = 2.12, $p < .001$) was associated with current risky drinking. Each outlet type, except general licences, was significantly associated with risky drinking. For adolescents living in regional and rural areas, club density was associated with past month use (OR = 1.10, $p = .03$) and risky drinking (OR = 1.18, $p = .02$). No associations were found between outlet density and current risky drinking in regional communities.

Conclusions: Exposure to a high density of outlets in an adolescent's neighbourhood, particularly off-premise outlets and licensed clubs in metropolitan areas, and licensed clubs in regional areas, is related to increased likelihood of alcohol consumption. Limiting the number of these types of liquor licences within communities may be beneficial in reducing alcohol use and subsequent harms associated with risky drinking among adolescents.

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ALCOHOL ADVERTISING REVIEW BOARD: TWO YEAR SUMMARY OF A NATIONAL ADVOCACY INITIATIVE

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Background and Context: There is an urgent need for action to address harmful drinking patterns in Australia. A comprehensive approach to reducing harm from alcohol must address young people's exposure to alcohol advertising, which contributes to attitudes and behaviours regarding alcohol. Australia's self-regulatory alcohol advertising system consistently fails to ensure alcohol advertising is socially responsible and exposure to young people is minimised.

Aim: Strong, independent regulation of alcohol advertising is needed. To extend existing advocacy activity, the McCusker Centre for Action on Alcohol and Youth and Cancer Council Western Australia, with support from health organisations around Australia, established the Alcohol Advertising Review Board (AARB). A world-first advocacy initiative, the AARB provides an alternative system for alcohol advertising review.

Strategy/Tactics: Alternative codes and processes for reviewing alcohol advertising were developed. The Content Code uses only provisions from existing international self-regulated alcohol advertising codes. The Placement Code comprises provisions that would reasonably reduce young people's exposure to advertising. The AARB uses media and other advocacy strategies to highlight the limitations of self-regulation, put pressure on irresponsible alcohol promoters, engage the community, and emphasise the need for independent, legislated controls on alcohol advertising.

Programme/Policy Process: The AARB reviews alcohol advertising complaints from the Australian community, delivering determinations free of industry influence. Determination and annual reports are published and promoted to raise awareness of the project and advocacy aims.

Outcomes/What was learned: The AARB quickly gained the attention of the media, community, and alcohol industry. In two years of operation, it has received substantially more complaints than the self-regulatory system. Significant industry counter-activity and encouraging successes highlight the importance of national advocacy activity toward independent regulation of alcohol advertising.

The AARB provides a model independent complaint review system that may be relevant to other jurisdictions where concerns exist regarding the effectiveness of advertising self-regulation.

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"THE WORK AROUND": AN INNOVATIVE DATA COLLECTION APPROACH TO SUPPORT A CANCER SCREENING PROGRAM

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Background and Context: The National Bowel Cancer Screening Program (NBCSP) commenced in Western Australia (WA) in January 2007. Histopathology outcome reporting was poor (<10%) and has limited program assessment1. WA Health instigated an innovative data retrieval approach to trace histopathology outcomes on participants in 2009. Our project, an Australian first, involves cross referencing NBCSP participants with pathology laboratories to track histopathology data.

Aim: To collect histopathology data for NBCSP participants in WA and facilitate program monitoring and evaluation.

Strategy/Tactics: Participants with positive FOBT results (n = 8,716; January 2007 to June 2012) were identified by the NBCSP Register and cross-matched to four laboratory databases (representing 91% of colorectal pathology reporting in WA) to ascertain histology findings. Reports were provided to the national NBCSP Register for inclusion in the national dataset.

Programme/Policy Process: The project was instigated by WA Health, with extensive collaboration from four WA pathology laboratories, the Commonwealth Department of Health and Medicare Australia.

Outcomes/What was learned: The project has identified 5,020 histopathology reports (4,762 colonoscopic biopsies and 258 resections). In total, 269 NBCSP participants had a cancer identified (5.4%; M = 64%; F = 36%; p =< 0.001); prior to project commencement, only nine cancers in WA had been recorded on the NBCSP Register after two years of the program. Of cancers with staging information, 36.8% (57/155) were stage I disease, suggesting a staging shift to earlier diagnosis among NBCSP participants.

Our project has enhanced the completeness of histopathological data for NBCSP participants and has significantly contributed to the national dataset. Outcomes have driven program change in data collection, administrative redesign and the prioritisation of a national automated data transfer trial between the NBCSP Register and pathology laboratories. Our project continues; all partners are committed until automated data transfer is implemented. This innovative approach has since been adopted by several other jurisdictions nationally.

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ULTRA-PROCESSED PRODUCTS ATTENUATING AND REVERSING THE IMPACT OF AN EFFECTIVE INTERVENTION TO INCREASE HOUSEHOLD AVAILABILITY OF FRUITS AND VEGETABLES

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Background: The competition between ultra-processed products (UPP) and fruits and vegetables (FV) for shares in populations' diet has been sparsely explored as a potential factor limiting the consumption of FV. Among the UPP, sodas and cookies have been consistently associated to several nutritional problems, such as obesity, and their participation in populations' diet follow an increasingly worrying trend in countries such as Brazil.

Aim: This study aims at examining the influence of the increasing trend of household availability of ultra-processed sodas and cookies (SC) over the impact of a multi-setting multi-component intervention that integrates several actions to promote the consumption of F&V among families from low-income communities in Rio de Janeiro, Brazil, between 2007 and 2010.

Methods: A communitarian before-and-after intervention study design was adopted. Data collection has included two baseline assessments and a post-intervention one on the household availability of FV and UPP.

Results: The intervention effectively increased the household availability of FV (+2.7 percentage points: CI95% 1.5–4.0), overcoming the current trend of stagnation found in the Brazilian population living at similar conditions. On the other hand the share of SC in families' diets, which has not been an object of the intervention, followed the increasing trend found in Brazil (+5.8 percentage points: CI95% 3.3–8.4).

Conclusions: Families that increased the acquisition of SC have experienced lower increase, or decrease, in the acquisition of FV ($p < 0.05$). Families that have increased the share of calories from SC (51.6%) have had a chance four times lower to experience an increase in the household availability of FV. Therefore, regulatory measures aimed at reducing the demand for unhealthy products (e.g. price control, marketing regulation) competing with healthy foods might amplify the positive impact achieved by effective community-based interventions at local level.

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CAN YOU SEE WHAT THEY'RE SAYING? A CONTENT ANALYSIS OF SKIN CANCER AND RECREATIONAL TANNING COVERAGE IN POPULAR MAGAZINES

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Background: The mass media is an important source of skin cancer information for the public. Images influence knowledge, attitudes, and behaviours related to skin cancer, including UV exposure and skin self-examination. Nevertheless, little is known about images accompanying skin cancer content in popular media.

Aim: To examine magazine coverage of skin cancer and tanning for information conveyed in text and images about risk factors, UV exposure and protection, and early detection.

Methods: Directed content analysis and descriptive statistics were used to compare skin cancer and tanning content in 31 popular North American magazines (2000–2012) according to content type (image vs text). Data included 855 articles containing 1372 images.

Results: The most commonly mentioned risk factor was UV exposure, which was almost entirely communicated through text (40%) rather than images (4%) (chi-square = 477.3, df = 1, $p < 0.01$). The most frequently encouraged prevention strategy was sunscreen use, which was more often portrayed in text (62%) than images (20%) (chi-square = 393.6, df = 1, $p < 0.01$). Images (42%) conveyed the tanned look as attractive more so than text (31%) (chi-square = 28.5, df = 1, $p < 0.01$) and text (17%) more often discouraged indoor tanning compared to images (1%) (chi-square = 201.7, df = 1, $p < 0.01$). There was little focus on early detection in either content type, but when identified tended to be conveyed more through text than images (e.g., skin self-examination, 17% vs 6%, chi-square = 65.1, df = 1, $p < 0.01$).

Conclusions: The public may be receiving mixed messages from the media about risks and prevention of skin cancer. Images and text conveyed discordant messages: images encouraged, whereas text discouraged, unhealthy skin cancer behaviours. Neither text nor images provided substantial information about early detection. This knowledge can be used to inform skin cancer campaigns, especially with regards to visual health communication messaging.

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A QUALITATIVE INVESTIGATION OF KNOWLEDGE, BELIEFS AND ATTITUDES REGARDING SUGAR-SWEETENED BEVERAGES, INCLUDING RESPONSES TO POTENTIAL REGULATORY MEASURES AIMED AT CURBING OBESITY

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Background: Obesity is a leading preventable risk factor for cancer. Sugar-sweetened beverage (SSB) consumption increases the risk of overweight and obesity in adults and children. Establishing public understanding of the relationship between SSB consumption, health and excess weight, plus attitudes towards measures to reduce SSB consumption are health priorities.

Aim: This research explored behaviours, attitudes and beliefs regarding the consumption of SSBs, including perceptions of potential regulatory measures, e.g., taxation and restrictions on marketing/sales to children.

Methods: Eight focus groups were conducted (n = 57) in 2014 with regular (at least weekly) consumers of SSBs. Separate groups contained: young adults; and parents of primary school-aged children; by SES (mid vs. low); and by gender.

Results: The findings indicate that consumption of SSBs for most participants and their children was: normalised, approaching multiple times per week, and considered a necessary accompaniment to physical activity. They had limited understanding of the sugar content of sports drinks, juices and flavoured waters and milks, and of the link between consumption and excess weight; and did not perceive themselves to be at risk of weight gain or other associated health problems. Participants acknowledged the need not to drink SSBs to excess; however, had no conception of what "excess" was. There was little awareness or understanding of health agency recommendations regarding sugar consumption and SSBs. There was support for regulations that reduced consumption of SSBs amongst children, but less support and some strong disagreement with regulations that affected participants' own consumption.

Conclusions: The findings indicate limited awareness and understanding of the link between SSB consumption and health problems, the sugar content of different drinks, and the health consequences of consuming sugar in this form. Next steps for future research to progress policy will be addressed.

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CANCER WARNING STATEMENTS ON ALCOHOLIC BEVERAGE LABELS

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Background: A growing evidence base relating to the alcohol-cancer link provides a new means of informing drinkers of alcohol-related harms in ways they are likely to find meaningful and motivating.

Aim: This presentation will outline an extensive 3-phase study that developed and tested a range of cancer warning statements that can be included on alcoholic beverages to encourage drinkers to reduce their alcohol consumption.

Methods: The study generated both qualitative and quantitative data and involved more than 4,000 drinkers from across Australia. The criteria for inclusion were a minimum age of 18 years and a minimum alcohol intake of 2–3 standard drinks per month. Attitudinal and behavioural intentions data were collected to assess the effects of a series of warning statements that varied according to several message characteristics. The first characteristic was the way cancer was mentioned: some of the proposed warning statements referenced cancer in general and others nominated specific cancer sites. The second characteristic was message frame, with some messages using positive framing and others adopting a negative frame. The third characteristic was the way causality was inferred: some messages featured the wording "increases risk of cancer" while others used the wording "can cause cancer".

Results: Participants found the cancer warning statements to be believable, convincing, and personally relevant. Drinking intentions improved after exposure. Message effects were compared between heavy and moderate drinkers to identify any differences by drinking status. All tested messages were effective among both groups of drinkers, suggesting that they could be used as a suite of rotating messages on alcoholic beverages.

Conclusions: The results indicate the potential for alcohol warning statements to improve drinkers' awareness of the alcohol-cancer link and favourably influence alcohol consumption intentions. As such, they should be given consideration by policy makers as a means of informing drinkers of alcohol-related harms.

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AN ALARMING ASSOCIATION BETWEEN AMBIENT CONCENTRATIONS OF FINE PARTICULATE MATTER AND PROSTATE CANCER

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Background: Prostate cancer (PCa) is the most common and most lethal cancer in male urogenital system. There is insufficient convincing data addressing whether exposure of ambient fine particulate matter (PM2.5) increases the risk of PCa or cancer related deaths.

Aim: To investigate the association between PM2.5 concentrations and PCa incidence and mortality.

Methods: It is a population study based on pubic data provided by the US government. County-level PM2.5 concentrations from 2001 to 2010 were downloaded from the US EPA Air Quality Statistics Report. Annual PM2.5 data includes the 98th percentile (%ile) of the daily average measurements and the weighted annual mean (Wtd Mean, mean weighted by calendar quarter). County-level data of PCa profiles were obtained from the State Cancer Profiles website, including age-standardized annual incidence rates and annual mortality rates for all races, including Hispanics, from 2006 to 2010. Linear regression analysis was performed to estimate correlations. Probability (p) value less than 0.05 was considered statistically significant.

Results: Higher levels of average PM2.5 Wtd Means and average PM2.5 98th %ile values in period of 2001 to 2005 were associated with higher incidence ($p < 0.05$), higher levels of average PM2.5 Wtd Means in period of both 2001 to 2005 and 2006 to 2010 were associated with higher mortality ($p < 0.05$).

Conclusions: For the first time, it is confirmed that ambient PM2.5 concentrations are positively associated with increased mortality in PCa, not only long-term exposure, but also short peaks of exposure may contribute to the increased incidence of PCa.

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SECOND TO FOURTH DIGIT RATIO (2D : 4D) AND PROSTATE CANCER RISK: EVIDENCE FROM THE PROTEUS CASE-CONTROL STUDY IN MONTREAL, CANADA

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Background: A few recent studies suggest that the ratio of the lengths of the second to the fourth finger (2D : 4D) may relate to cancer development, including prostate cancer. Low 2D : 4D has been linked to higher intrauterine testosterone exposure, possibly explaining such findings.

Aim: To assess the association between 2D : 4D and prostate cancer risk.

Methods: This analysis was carried out in the context of PROtEuS: Prostate Cancer & Environment Study, a population-based case-control study conducted in Montréal, Canada. Subjects included 1,937 incident prostate cancer cases aged ≤75 years, histologically-confirmed, diagnosed across French hospitals in Greater Montreal in 2005–2009. Concurrently, 1,995 population controls from the same residential area were randomly selected from the French electoral list, and frequency-matched to cases by age (±5 years). In-person interviews elicited information on socio-demographic, lifestyle and environmental factors. The lengths of the 2nd (index) and 4th finger (ring) of the right hand of study subjects were measured by trained interviewers. Unconditional logistic regression was used to estimate odds ratios (ORs) and 95% confidence intervals (CI) for the association between 2D : 4D and prostate cancer risk, adjusting for age, ancestry, and a first-degree family history of prostate cancer.

Results: The OR for each increment of 2D : 4D, defined a one standard deviation, was 0.917 (95% CI: 0.857–0.981). Corresponding ORs were 0.931 (95% CI: 0.866–1.002) and 0.882 (95% CI: 0.796–0.976) for men diagnosed with less and more aggressive cancers, respectively. ORs stratified by age at diagnosis/interview (<60, ≥60 years) did not differ. In analyses restricted to men of African descent, the OR for each increment of 2D : 4D was 1.284 (95% CI: 0.989–1.665).

Conclusions: Our findings suggest an inverse association between 2D : 4D and prostate cancer risk, particularly pronounced for aggressive cancers. Contrastingly, there was evidence of a positive association among men of African descent.

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CANCER BELIEFS AND BEHAVIORS SURVEY IN TURKEY

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Background: Cancer beliefs and behaviors have similarities and differences in different countries. Having a successful implementation of cancer control plan require the better understanding the beliefs and behaviors in a community.

Aim: To investigate the cancer related beliefs and behaviors in Turkey.

Methods: A face to face survey was conducted among 1234 people representing the different socioeconomic groups at 15–65 years of age from 15 different districts during january-february 2014. Study population was selected by multistep, semi-random sampling method. Beliefs regarding the magnitude of cancer, etiology, treatability, risk behaviors, screening practices were asked in addition to personal characteristics. The results were compared with global facts.

Results: Fifty-three percent of the population described the cancer as the number one health problem. People believed that the main contributing factors to cancer development; smoking 97%, alcohol 93%, stress 90%, infectious causes 89%, sun exposure 87%, mobile phone 84%, obesity 70%, fatty diet 68%, limited vegetable intake 65%, limited fruit intake 63%, limited grain intake 60%, limited exercise 58%. Smoking rate was 41%. 51% was not aware of sun and cancer connection. The percentage exercising more than 3 times/week was only 14%. 32% among women >40 years of age had mammography and 30.5% (among >18 years) had pap smear. Screening rate was 2.5% for prostate was and 6% for colorectal cancers (for those >50 years of age). 21% believe that they will die if they get cancer, 40% was not sure. 76% said that cancer is treatable. 57% said that the doctor must decide to the treatment, 36% said that they have to participate in the decision making with physician.

Conclusions: A successful implementation of cancer control plans require more focus on beliefs and behavior. Stigma associated with cancer and damaging myths and misconceptions must be targeted as stated by WCD 2013.

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STRUCTURE VERSUS FLEXIBILITY: HOW SHOULD AN INDIGENOUS CANCER SUPPORT GROUP OPERATE?

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Background: Cancer support groups provide emotional and practical support, and foster a sense of community and belonging. Despite evidence on their positive effects on people affected by cancer, there is scarce evidence on Indigenous-specific cancer peer-support programs in Australia.

Aim: Using qualitative data, this paper explores different understandings of how a cancer support group should operate and the impact of unresolved tensions following the establishment of an Indigenous women cancer peer-support group in a regional town in Western Australia.

Methods: Data were collected through semi-structured interviews with 24 participants purposively selected among Aboriginal and mainstream healthcare service providers, and group members and clients. Interviews were audiotaped and transcribed verbatim. Transcripts were subjected to inductive thematic analysis. NVivo was used to manage the data and assist in the data analysis. Rigour was enhanced through team member checking, coding validation and peer debriefing.

Results: Flexibility and a resistance to formal structuring were at the core of how the group operated. It was acknowledged that the group partly owned its success to its fluid approach; however, most mainstream healthcare service providers believed that a more structured approach would be needed for the group to be sustainable. This was seen as acting in opposition to the flexible, organic approach considered necessary to adequately respond to Aboriginal women's needs. At the core of these tensions were opposing perspectives on the constructs of 'structure' and 'flexibility' between Aboriginal and non-Aboriginal participants.

Conclusions: Despite the group's achievements, unresolved tensions between opposing perspectives on how a support group should operate negatively impacted on the working relationship between the group and mainstream service providers, and posed a threat to the group's sustainability. Our results support the need to acknowledge and address different perspectives and world views in order to build strong, effective partnerships between service providers and Aboriginal communities.

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KEEP CALM, LET'S TALK ABOUT SEX

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Background and Context: A person coping with cancer experiences many physical and emotional changes. As part of cancer survivor's quality of life sexuality undergoes a change due to the disease and its treatments.

The caregiving staff, and patients themselves, often refrain from tackling issues relating to sexuality for various reasons, namely: shame and embarrassment, myths, cultural differences, etc.

The Israel Cancer Association has identified patients' and caregivers' needs and has been making intense efforts to meet these needs for many years.

Aim: ICA sexuality-related activities aim to:
1. Serve as an accessible source of free sexuality counselling for every survivor and/or partner interested in this service.
2. Bolster the confidence and hone the skills of caregivers to enable them to assist patients and their partners with sexuality-related issues, as part of their comprehensive treatment.

Strategy/Tactics: Diverse activities are offered to patients, such as: individual and couple counselling, support groups, workshops, information booklets, and more.

Courses, workshops, lectures, professional forums and other activities are held for caregiving staff. Attitudes and knowledge of personnel participating in these activities were reviewed before and after each activity, through evaluation questionnaires.

Programme: The presentation will feature statistics pertaining to diverse activities, how they are held, and their scope. These data will also demonstrate the changes in caregivers' attitudes and knowledge regarding sexuality before and after two courses on: "Rehabilitation of sexual health of cancer survivors and their partners".

Outcomes: Following intense Israel Cancer Association sexuality counselling activity over the years, a change has been observed in the attitudes and knowledge of trained caregiving staff. However, there is a need to expand the program for additional segments of the patient and caregiver populations, and further research is necessary.

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A RANDOMIZED PLACEBO-CONTROLLED FEASIBILITY TRIAL OF DIETARY INTERVENTIONS FOR PROSTATE CANCER PREVENTION: PRODIET

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Background: Prostate cancer screening identifies many men with increased disease risk, e.g. prostate specific antigen (PSA) results below biopsy thresholds and negative prostatic biopsies. There is growing interest in dietary factors like lycopene that may reduce disease risk but little evidence of acceptability in relevant individuals.

Aim: The ProDiet trial aimed to establish the feasibility of dietary interventions in men at elevated risk of prostate cancer.

Methods: Men aged 50–69 years with PSA values just below biopsy recommendations (2.0–2.95 ng/ml) or negative biopsies identified through the community-based Prostate cancer testing and Treatment trial (ProtecT) were randomized to daily lycopene and green tea or placebo for 6 months in a factorial design. Lycopene and green tea (epigallocatechin) levels were measured in serum taken at baseline and 6 months.

Results: 133 men were randomized (34% of 469 invited, remainder declined the invitation): 44 to lycopene capsules, 45 to placebo capsules and 44 to a lycopene-rich diet; 45 to green tea capsules, 43 to placebo capsules, 45 to green tea drink and 127 completed follow-up (95%). At 6 months, mean lycopene values were 25.4 % greater in the dietary advice group (95% CI 1.07–1.46) and 41.9% greater in the lycopene capsule group (95% CI 1.22–1.66) than in the placebo group. Median epigallocatechin levels were 22.1 nM greater in the dietary advice group (95% CI 2.59–41.61) and 9.5 nM greater in the green tea capsule group (95% CI –1.79–20.79) than in the placebo group. Mean PSA levels, blood pressure and weight were unaltered in all groups. Most men would participate in a longer trial (99/133, 74%).

Conclusions: Men adhered successfully to dietary interventions with raised green tea and lycopene levels at 6 months. Evidence-based dietary interventions for men at risk of prostate cancer would seem to be feasible and acceptable.

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PSYCHOLOGICAL DISTRESS, SELF-EFFICACY, QUALITY OF LIFE AND BURDEN IN INFORMAL CANCER CAREGIVERS, AND THE RELATIONSHIP WITH PATIENT OUTCOMES

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Background: Caregivers of people with advanced cancer take on a vital role in the care of the patient but often at a cost to their own psychological functioning. Previous research has demonstrated that some caregivers do very poorly, reporting high levels of distress, burden and reduced quality of life

Aim: This study aims to identify the relationship between caregiver and patient outcomes, and identify predictors of high caregiver and patient distress.

Methods: A cross-sectional survey design was used. Caregivers completed measures on: psychological functioning (Brief Symptom Inventory), self-efficacy (Caregiver Self-efficacy Scale), burden (Caregiver Reaction Assessment), Quality of Life (Quality of Life Questionnaire) and Care tasks (Clinical Care Tasks Measure). Patients with a diagnosis of lung or gastrointestinal cancer completed questionnaires on symptoms (Memorial Symptom Assessment Scale), psychological functioning (Brief Symptom Inventory) and quality of life (EORTC QLQ C-30). Correlations identified factors related to distress in both caregivers and patients and factors were used in multiple regression models to determine their predictive value.

Results: Data will be reported on 66 dyads. Caregivers were mostly female (70%) aged between 29–78(mean 57 years). Patients were mostly male (62%), aged between 39–87 (mean 62 years). Caregivers and patients frequently lived together (78%) and were most frequently married (65%). Psychological functioning was poorer in the caregiver group than in was in the patient group ($p < 0.05$). Caregiver and patient distress were strongly correlated. Regression models will further explore predictors of high caregiver and patient distress.

Conclusions: Psychological distress impacts a significant number of caregivers, with higher distress than patients themselves. Carer and patient distress is closely related, indicating the importance of supporting both the caregiver and patient. This study identifies factors contributing to poorly functioning caregiver and patient dyads, which allows for high-risk patients and caregivers to be identified and engaged in supports.

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BUILDING INTERNATIONAL RESEARCH CAPACITY; EXPLORING ONCOLOGY NURSES FAMILY ASSESSMENT PRACTICES

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Background: An international study between Denmark and Australia has built an understanding of family assessment practices by oncology nurses. This has provided a platform for further research exploring the oncology patient and family needs. The role of the family varies in different countries. In Australia, family is noted to provide close emotional and physical support. However in Denmark the family may form a less involved role often decided by the patient. The oncology nurse is the key point of contact for the patient and becomes the gatekeeper to inform tailored support.

Aim: To investigate the oncology nurses' family assessment practices.

Methods: An investigation of oncology nurses' family assessment practices was conducted. Focus groups [22] were conducted with oncology nurses in both Australia and Denmark [$N = 62$]. An interpretive analysis of transcribed audio data was conducted.

Results: Nurses in Denmark and Australia valued family as part of the patient's care however assessment processes differed in relation to cultural concerns and health systems. In Denmark nurses formed the main aspect of support to the patient although the family was not always present. Whereas Australian nurses described their role as one to identify concerns from picking up on cues from the family and refer to a specialist. Both nationalities noted time and space for family assessment and level of experience and expertise influenced the nurse's role in family assessment. Nurses also identified that a structured approach may increase their ability to assess and provide support.

Conclusions: The cultural aspect of family support influenced how the nurses engaged in family assessment. The hospital organization also influenced family assessment which may be difficult to change. The development of simple questions to engage the family may improve overall family support. A follow-on study is exploring the family needs during oncology care to understand what the family wants from the nurses.

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ADAPTING EVIDENCE-BASED PSYCHOLOGICAL THERAPY TO THE COMPUTER SCREEN FOR ADOLESCENT AND YOUNG ADULT CANCER SURVIVORS: PRELIMINARY RESULTS FROM THE 'RECAPTURE LIFE' RANDOMISED CONTROLLED TRIAL

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Background: For adolescents and young adults (AYAs) with cancer, the time following cancer treatment completion can be a time of psychological vulnerability as they attempt to return to 'normal'.[1] Assisting AYAs to develop adaptive coping skills at this time of transition may prevent later distress.[2] To address this need, our team developed an online intervention named 'ReCaPTure LiFe' (Resilience and Coping skills for young People To Live well Following Cancer) for AYAs aged 15–25 years in the first year post-treatment.[3]

Aim: This national, multisite phase II randomised controlled trial (RCT) aimed to establish the feasibility, acceptability, and preliminary efficacy of Recapture Life, relative to an online peer-support group control, and a 12-week waitlist.

Methods: Recapture Life is a manualised program that promotes resilience using evidence-based cognitive behavioural therapy techniques, tailored to the AYA experience. Recapture Life involves six, weekly, small-group sessions, delivered online by a psychologist using video-conferencing technology.

Results: To date, 21 AYAs have completed the program (response rate: 51%) from across five states in Australia. Participants have resided an average of 103 km from their nearest capital city ($SD = 118.5$, range = 6–345), and groups have been conducted across different timezones, with participants >4000 km apart. Further groups are underway. Early data indicate significantly improved quality of life following the Recapture Life program, particularly regarding cancer-related concerns ($p = 0.033$) and identity changes ($p = 0.033$), improved scores on distress ($p = 0.021$) and anxiety ($p = 0.015$), and a reduced need for help ($p = 0.024$). Qualitative feedback from participants also confirmed the acceptability of Recapture Life's online, group-based format and skills-focused content.

Conclusions: Preliminary data indicate that Recapture Life is acceptable and feasible to deliver to AYAs across Australia. Through its innovative online methods, this program has the potential to extend the reach of evidence-based psychosocial support to bridge the physical and emotional isolation experienced by vulnerable AYAs post-treatment.

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INVESTIGATING THE IMPACT OF DISTRESS ON WELLBEING AMONG ADOLESCENT AND YOUNG ADULT (AYA) CANCER PATIENTS AT PRINCESS MARGARET CANCER CENTRE: A NEEDS ASSESSMENT ANALYSIS

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Background: It has become increasingly recognized that adolescents and young adults (AYA) with cancer have unique medical and psychosocial needs that differ from those of the pediatric and older adult oncology populations[1 2 3] AYA is defined by the National Cancer Institute (NCI) as including those between 18–39 years of age which encompasses important developmental stages, marked by distinct and complex psychosocial, emotional, and physical stresses which can be assessed by distress screening[4].

Aim: Our study will investigate the types of distress that have the highest influence on the wellbeing of the AYA population, and whether there are differences found between disease sites, age groups or gender.

Methods: This study was a retrospective, cross-sectional quantitative data analysis design. The study examines the patient self-reported Distress Assessment and Response Tool (DART) results captured between March 1st 2010 and March 12th 2013 using a Chi-square test (categorical data), T-test (continuous data), Correlations between ESAS vs. SDI-16, PHQ-9, GAD-7: Pearson correlation coefficient, and a Multivariable logistic regression analysis

Results: Amongst the three SDI (social) subscales, SDI-Everyday Living showed a stronger correlation with ESAS wellbeing ($r = 0.53$, $p < 0.001$) than SDI-Money Matters ($r = 0.31$, $p < 0.001$) and SDI-Self and Others ($r = 0.44$, $p < 0.001$)

PHQ-9 (depression scale) demonstrated a stronger association with ESAS wellbeing ($r = 0.61$, $p < 0.001$), than GAD-7 (anxiety scale) and ESAS wellbeing ($r = 0.51$, $p < 0.001$)

Conclusions: The results of our study suggest (or demonstrate) that social difficulties (SDI-16) and the presence of depressive symptoms (PHQ-9) are the types of distresses that have the strongest association with wellbeing for the AYA cancer population. More specifically, the SDI-Everyday Living subscale had the strongest correlation with ESAS wellbeing. These findings suggest that the social difficulties of daily life, particularly those involving personal independence, domestic chores and personal care, are especially applicable to AYAs, and a significant contributor to distress and wellbeing.

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REDUCING THE PSYCHOLOGICAL DISTRESS OF FAMILY CAREGIVERS OF HOME BASED PALLIATIVE CARE PATIENTS: A RANDOMISED CONTROLLED TRIAL

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Background: Best practice in palliative care incorporates comprehensive support of family caregivers since many of them experience burden and distress. However, systematically implemented evidence-based psychological support initiatives are few.

Aim: We evaluated a one-to-one psycho-educational intervention aimed at mitigating the distress caregivers commonly experience when supporting a patient with advanced cancer receiving home-based palliative care. We hypothesised that primary caregivers receiving this intervention would report decreased distress.

Methods: The study consisted of a randomised controlled trial comparing two versions of the intervention (one face-to-face home visit plus telephone calls versus two visits) plus standard care to a control group (standard care only) across four sites in Australia. Recruitment to the one visit condition was 57; the two visit condition 93, and the control: 148. We previously reported non-significant changes in distress between Times 1 (baseline) and 2 (one week post-intervention), but significant gains in caregivers' sense of competence and preparedness for the role. Here, we report changes in distress (as assessed by the General Health Questionnaire (GHQ) between Times 1 and 3 (8 weeks post death).

Results: There was significantly less worsening in GHQ scores between Times 1 and 3 in the two intervention groups combined than in the Control group. The 1 visit plus telephone calls intervention effect was significant but the two visit intervention was not. The results, particularly the one visit condition, are consistent with the aim of the intervention to confer some protection against the rise in distress observed in the Control group.

Conclusions: These results support existing evidence demonstrating that relatively short psycho-educational interventions can help family caregivers who are supporting a dying relative. The sustained benefit during the bereavement period may also have positive resource implications, which should be explored in subsequent research.

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DEVELOPMENT, VALIDATION AND USAGE OF MEASURES OF UNMET NEEDS FOR ADOLESCENT AND YOUNG ADULTS WHO HAVE A SIBLING OR PARENT WITH CANCER

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Background: Adolescents and young adults (AYAs) who have a family member (parent or sibling) diagnosed with cancer typically face significant changes in family dynamics, distress and unmet needs. Previously there were no tools for measuring and identifying the unmet needs of this population, reducing the ability to provide targeted support services or identify gaps in service provision.

Aim: The aim of this project was to develop and validate unmet needs measures for AYAs who have a family member diagnosed with cancer, and to implement usage of these measures.

Methods: Unmet needs measures for offspring (Offspring Cancer Needs Instrument; OCNI) and siblings (Sibling Cancer Needs Instrument; SCNI) were developed following focus groups and telephone interviews with young people ($n = 11$ siblings; $n = 14$ offspring), a literature review, and a staff survey ($n = 26$). Following this, the SCNI and OCNI were piloted ($n = 74$ siblings; $n = 116$ offspring) and validated ($n = 106$ siblings; $n = 256$ offspring).

Results: The final OCNI (47 items) and the final SCNI (45 items) have similar domain structures including items addressing unmet needs associated with information, practical assistance, 'time out' and recreation, dealing with feelings, support from friends and other young people, understanding from my family, and for the SCNI, the sibling relationship. Both measures have excellent psychometric properties ($\alpha = 0.98$ SCNI; $\alpha = 0.97$ OCNI). For both measures, the greatest proportion of unmet needs were associated with the information domain.

Conclusions: The development and validation process for the OCNI and SCNI has resulted in measures for unmet needs for AYAs who have a family member with cancer that can be confidently used. Clinically, the measures have been integrated into individual assessment processes, and are used to identify individual support needs and gaps in service provision.

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"THIS ISN'T WHAT MINE LOOKED LIKE": A QUALITATIVE STUDY OF SYMPTOM APPRAISAL AND HELP SEEKING IN UK PATIENTS RECENTLY DIAGNOSED WITH MELANOMA

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Background: Melanoma thickness at diagnosis is an important prognostic feature.

Aim: This qualitative study aimed to explore symptom appraisal and help-seeking decisions among patients recently diagnosed with melanomas, and to compare experiences of people with 'thinner' (<1 mm) and 'thicker' (>2 mm) melanomas.

Methods: In-depth interviews were conducted with adult patients recruited from UK dermatology clinics in Cambridge and Edinburgh within ten weeks of melanoma diagnosis.

Results: 63 patients were interviewed (29–93 years, 31 women, 30 thicker melanomas (superficial spreading 10, nodular 10, others 10). All described their skin changes using rich lay vocabulary. Many included unassuming features such as 'just a little spot' as well as common features of changes in size, colour and shape. There appeared to be subtly different patterns of symptoms: descriptions of vertical growth, bleeding, oozing and itch were features of thicker melanomas irrespective of pathological type.

Appraisal was influenced by explanations such as normal life changes, prior beliefs, and whether skin changes matched known melanoma descriptions. Most decisions to seek help were triggered by common factors such as advice from family and friends; family experiences of melanoma or media coverage also prompted people with thinner melanomas. Eleven patients reported previous reassurance about their skin changes by a healthcare professional, with little guidance on monitoring change or when it would be appropriate to re-consult.

Conclusions: Patients diagnosed with both thinner and thicker melanomas often did not recognise or interpret their skin changes as warning signs or prompts to seek timely medical attention. The findings provide guidance for melanoma awareness campaigns on more appropriate images, helpful descriptive language, and the need to stress the often apparently innocuous nature of potentially serious skin changes. The importance of appropriate advice, monitoring and safety-netting procedures by healthcare professionals for people presenting with skin changes is also highlighted.

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DOES HER2 AFFECT PROGNOSIS IN OESOPHAGEAL AND GASTRIC CANCER: A SYSTEMATIC REVIEW

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Background: Prognosis for gastric and oesophageal cancers remains poor. Human epidermal growth factor receptor 2 (HER2) is found in up to 30% of these cancers and may be a prognostic marker and thus target for treatment.

Aim: To evaluate the prognostic value of HER2 status in gastric and oesophageal cancer.

Methods: Systematic review of the literature (all languages) using defined criteria including provision of survival in HER2 positive (H2 + ve) and negative (H2 – ve) groups using immunohistochemistry (IHC) or in-situ hybridization (ISH) testing for these cancers. HER2 status had not influenced treatment.

Results: 65 papers (67 studies: 50 gastric, 17 oesophageal) published between 1970 and 2010 met the inclusion criteria, and represented 8,659 gastric and 2,075 oesophageal patients. The studies were heterogeneous and the methodological quality was flawed (consecutive samples not used, evaluation done post-hoc, small numbers, loss to follow up not reported). HER2 positivity ranged from 2–64%; 67% used IHC and 33% ISH testing, although testing methodology and positivity criteria varied. Other differences included patient population (age; tumour stage; curative resection or not; treatment received), specimen used (biopsy or resection).

For gastric cancer, in 2 studies within-study median survival in H2 + ve was statistically significantly longer than in H2 – ve (survival difference range 9.9–37.6 months), shorter in 21 studies (range 2.5–89 months) and no different in 23 studies. For oesophageal cancer, in 1 study within-study median survival in H2 + ve was statistically significantly longer than in H2 – ve (13.6 months), shorter in 8 studies (range 4.6–48 months) and no different in 6 studies.

Heterogeneity of the studies precluded meta-analysis.

Conclusions: The published studies are generally of poor quality, with major methodological flaws. The scientific evidence for HER2 being prognostic in these cancers is not conclusive, and should not guide treatment. HER2 as a predictive treatment marker is currently being evaluated in clinical trials.

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THE PARADOX OF FAVORABLE OUTCOMES AND INFERIOR SURVIVAL IMPROVEMENT – AYA CANCER SURVIVAL IN THE UNITED STATES

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Background: US cancer centers have justified the creation of Adolescent and Young Adult (AYA) oncology programs based on the "survival gap": the observation that improvement in AYA cancer survival over the past 30 is inferior to that of children and older adults. Recent articles have questioned the significance of this gap, noting that AYAs have the highest 5-year survival of any age group.

Aim: We present a novel method for visualizing AYA survival outcomes over time by age of diagnosis using "heat maps."

Methods: We analyzed relative survival for all cancers in 5-year age intervals and by year of diagnosis between 1975 and 2005, in the National Cancer Institute's SEER9, SEER13, and SEER18 registries. Ages 15 to 39 were defined as AYA. Survival percentages are colored based on their value. Greener shades indicate greater survival, while redder shades indicate inferior survival.

Results: Between 1975 and 1979, 5-year survival was 59.8% among children, 71.3% among AYAs and 47.1%, among older adults. The 2000 to 2004 5-year survivals are 80.2% for children, 80.6% for AYAs, and 63.3% for older adults. Initially, AYAs had the highest 5-year survival of all age groups. During the 1980's and 1990's, survival increased dramatically in first children and then in older adults, but increased much less in AYAs. Heat maps also visually demonstrate age-related temporal trends in cancer survival, such as the increased cancer mortality related to non-Hodgkin's lymphoma and Kaposi's sarcoma in young males during the early years of the HIV/AIDS epidemic.

Conclusions: Heat maps provide a novel method of demonstrating AYA survival trends over time on one axis and across age groups on a secondary axis. Despite having the highest 5-year survival rates for all age groups, AYAs have had the lowest survival improvement over the past 30 years.

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A HIGH LDL-C TO HDL-C RATIO PREDICTS POOR PROGNOSIS FOR INITIALLY METASTATIC COLORECTAL CANCER PATIENTS WITH ELEVATIONS IN LDL-C

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Background: Though lipid disequilibrium has been documented for several types of cancer including colorectal cancer (CRC), it remains unknown whether lipid parameters are associated with the outcome of metastatic CRC (mCRC) patients.

Aim: We retrospectively examined the lipid profiles of 453 mCRC patients and investigated whether any of the lipid parameters correlated with the outcome of mCRC patients.

Methods: Pretreatment serum lipids, including triglyceride, cholesterol, high-density lipoprotein cholesterol (HDL-C) and low-density lipoprotein cholesterol (LDL-C), were collected in 453 initially mCRC patients. The LDL-C to HDL-C ratio (LHR) was calculated and divided into the first, second and third tertile. Univariate and multivariate analyses were performed to evaluate the impact of lipids on overall survival (OS) and progression free survival (PFS).

Results: Nearly two fifths of the patients (41.3%) exhibited elevations in LDL-C while most patients (88.3%) showed normal HDL-C levels Decreased HDL-C ($P = 0.035$) and increased LDL-C ($P = 0.023$) were prognostic factors for poor OS, while triglyceride ($P = 0.542$) and cholesterol ($P = 0.215$) were not. Multivariate analysis revealed that LDL-C (P = 0.031) was an independent prognostic factor. Triglyceride, cholesterol, HDL-C and LDL-C did not correlate with PFS. Among patients with elevations in LDL-C levels, patients in the third tertile of the LHR had a markedly shorter mean OS compared to those in the 1st or 2nd tertile ($P = 0.012$).

Conclusions: Increased LDL-C level is an independent prognostic factor for poor prognosis in mCRC patients and a high LHR predicts poor prognosis for initially mCRC patients with elevations in LDL-C.

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EXPLORING THE COST-EFFECTIVENESS OF NEXT-GENERATION SEQUENCING IN LUNG ADENOCARCINOMA: WHAT IS THE EFFECT OF A MATURING EVIDENCE BASE?

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Background: Advancements in next-generation sequencing (NGS) show promise in further individualizing cancer therapy. To ensure appropriate diffusion and use of NGS in clinical practice it is necessary to assess the value of NGS in supporting evidence-based decision making.

Aim: To identify parameters that are important drivers of the cost-effectiveness of NGS, by comparing the use of NGS to select targeted therapy based on an individual's genomic profile versus no (further) testing and best supportive care in lung adenocarcinoma patients who have progressed on standard treatment regimes.

Methods: A combined decision tree and Markov model was developed to compare costs and quality-adjusted life-years over a life-time horizon from the Australian health-care payer perspective. A population-based molecular cohort (Cancer 2015) and the published literature were used as the main sources of data. Comprehensive sensitivity and scenario analyses were used to explore the impact of uncertainty on cost-effective estimates and which parameters are key drivers of uncertainty.

Results: Given the current evidence base, the cost-effectiveness of NGS is questionable. Uncertainty surrounding a number of parameters likely to impact the cost-effectiveness of NGS has been identified, including the probability of having an actionable mutation, NGS turn-around time, survival after entering genomic directed trials and the personal utility of genomic information. Evidence concerning these parameters is currently naïve but this is likely to change. The effect of the expanding evidence base will be tested by re-running the analysis just prior to the meeting; to highlight how a maturing evidence base can impact the results of a cost-effectiveness analysis over time.

Conclusions: Innovative funding approaches are likely to be required in facilitating the most appropriate diffusion of NGS into clinical care. An iterative process to the economic evaluation of NGS will be necessary as our understanding of its impact on health outcomes (and the health budget) improves.

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RADIOTHERAPY FOR STAGE I-II TESTICULAR SEMINOMA: A PROSPECTIVE EVALUATION OF BODY IMAGE AND SEXUAL FUNCTIONING

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Background: Orchiectomy followed by infradiaphragmatic radiotherapy is commonly used for stage I-II Testicular Seminoma (TS). Treatment can impact body image (BI), sexual functioning (SF) and quality of life. Unfortunately sexual functioning is often underestimated and prospective data are limited.

Aim: To prospectively evaluate treatment outcome, side effects, BI and SF in patients after orchiectomy and radiotherapy for TS.

Methods: Questionnaires on BI and SF were sent to 238 patients. The questionnaire prior to radiotherapy (baseline) was returned by 155 patients; 127 returned the second after 3 months, 114 completed the questionnaire after 6 months.

Results: Median age was 36 years (range 18–70), median follow-up was 66 months (range 2–146). Seven patients had disease relapse with no relapses within the radiation field. During irradiation 73% experienced nausea, 29% reported fatigue. After orchiectomy 61% found their body had changed, 49% expressed concerns about fertility.

Experiencing difficulties with sexual contacts ($p = 0.002$), having concerns about undressing in the presence of others ($p = 0.03$) and fertility concerns ($p < 0.001$) correlated negatively with age.

Six months after radiotherapy the quality of erections was significantly decreased compared to prior radiotherapy ($p = 0.006$). The number of sexually active patients remained stable (90%). Sexual satisfaction, importance of sex, quantity of spontaneous erections, difficulty of getting or maintaining an erection and sexual interest did not significantly change (all $p > 0.05$). After 6 months 46% expressed that cancer treatment negatively had influenced their sexual life. This correlated with sexual interest, -functioning and -satisfaction (all $p < 0.001$).

Conclusions: Disease and treatment caused concerns about fertility, changes in body image and negatively influenced sexual life. A significant decrease in the quality of erections was reported, but no decrease in sexually active patients was found. Sexual functioning is very important in this young patient population. These data can help when discussing sexuality in patients with TS.

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PALLIATIVE CARE IN EGYPT: THE EXPERIENCE OF THE GHARBIAH CANCER SOCIETY

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Background and Context: The need for palliative care in middle and low resources countries, including Egypt, is emerging .The Gharbiah Cancer Society (GCS) is a nonprofit, nongovernmental hospital, located in Tanta, the Capital of the Gharbiah governorate in the mid-Nile Delta. The Society provides acute care to patients with cancer including surgery, chemo-, and radiotherapy. Review of 9 year-data of Gharbiah population-based cancer registry from 1999 to 2007 revealed 3480 cancer cases/year, with Age Standardized Rate (ASR) of 161.7/100,000 for males & 120.8/100.000 for females.

Aim: About 70 % of cases present in advanced stages (III&IV) with liver cancer the most frequent cancer in male and breast cancer as the most frequent cancer in females. The GCS started a comprehensive palliative care services in April 2011 with 10-bed inpatient unit and 6 days/week outpatient clinic. All palliative care equipment were provided by public donations.

Strategy/Tactics: Through collaboration with National Cancer Institute, Bethesda, Maryland and the San Diego Hospice and the Institute for Palliative Medicine and Middle East Cancer Consortium , a fellowship training program was developed for a medical oncologist in palliative medicine and End-of-Life Care training course for nurses.

Programme/Policy Process: The program succeeded in convincing local health authorities to increase the recommended opioids dose and to allow more physicians to prescribe opioids for cancer pain. In a period of 24 months, symptom management and palliative care were provided to 195 patients with advanced malignancies. The opioids consumption was increased by 30 folds.

Outcomes/What was learned: The Major challenges for the program were inadequate public and health professionals awareness of palliative care services and lack of vehicles and finances to cover home visits. The initial results of the program warrant allocating more resources for coverage of a large number of trainees and instituting a home visits program.

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INTEGRATING PALLIATIVE CARE IN CANCER MANAGEMENT: AN OVERVIEW OF THE KENYA SITUATION

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Background and Context: Over 80% percent of cancer cases in Kenya present late, when very little can be achieved with therapeutic intervention[1]. Accessing cancer screening and treatment is one of the major hurdles cancer patients face. For most, palliative care (PC) seems to be the only option left to support them and their families[1]

Aim: For many years PC in Kenya has been provided by a few hospices, thus making access very limited to many who are in need. Kenya Hospices and Palliative Care Association (KEHPCA) is working to change this so that many who are in need of palliative care (PC) can easily access it closer to their home regions. This is through the integration PC in the public health care system.

Strategy/Tactics: Palliative care has now been recognised as an essential element of care for cancer patients. It is ncluded in the: Kenya National Patients' Rights Charter; the National Cancer Control Strategy, and the National Guidelines for Cancer Management.

Programme/Policy Process: KEHPCA is working closely with the Ministry of Health to integrate palliative care as an essential service in government hospitals and so far 40 high volume hospitals have set up palliative care units.

Over 500 multi- displinary health care workers have undergone a basic training in PC and have started palliative care units within their institutions. Since the inception of the project, over 4000 cancer patients have received services.

Outcomes/What was learned: Morphine powered is now on the essential medicine list for the county and has been made available where PC services are available. Integrating palliative care in the public health care system is essential for a successful palliative care program in a country.

1. National Cancer Control Strategy-Kenya 2012–2016 Cancer Registry -KEMRI

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QUALITY OF PAIN MANAGEMENT FOR END-OF-LIFE CANCER PATIENTS RECEIVING HOSPICE AND NON-HOSPICE CARE: PAIN ASSESSMENT AND PATIENT EDUCATION

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Background: Relief of pain is one of the major goals of hospice/palliative care for cancer patients at the end-of-life. The hospice care in Taiwan has been promoted for more than 20 years. The impact of hospice care on quality of pain management has not been systematically evaluated.

Aim: The purpose of this study was to compare the quality of pain assessment and patient education in end-of-life cancer patients who received hospice care and who did not.

Methods: A retrospective chart review was conducted for cancer patients who died in 2011. Patients were classified into hospice group if they received in-patient hospice care or hospice consultation/combined care in their last hospitalization. Six hundred and twenty-four randomly selected medical charts (312 for hospice group, 312 for non-hospice group) were screened for existence of pain during the last hospitalization. For patients who had pain, a set of quality indicators related to pain assessment, side effect assessment, and patient education were examined.

Results: Among 624 decedent cancer patients, 476 (76.3%) had pain during their last hospitalization (hospice = 265, non-hospice = 211). Compared to the non-hospice group, the hospice group had a higher achievement rate of using pain scale (64.5% vs. 24.9%), completing primary elements of comprehensive assessment (29.4% vs. 6.2%), assessing side effect of opioids for sedation (12.8% vs. 0.8%), nausea (32.2%vs. 6.0%), constipation (47.1& vs. 18.8%), and urinary retention (48.3 vs. 21.1%). The hospice group also showed a higher achievement rate in teaching patients about side effects of analgesics (66.4% vs. 56.4%), non-pharmacological interventions (27.2% vs. 14.2%), and cause of pain (17.0% vs. 6.6%).

Conclusions: Although the overall achievement rates for several quality indicators are unsatisfactory, hospice group did demonstrate a better quality in pain assessment and patient education. Continuous professional education and implement of pain management guideline are imperative.

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FAMILY CAREGIVER INVOLVEMENT IN HOME BASED PALLIATIVE CARE FOR CANCER PATIENTS IN INDONESIA

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Background: Family caregiver involvement in patient care is a pivotal feature of health care systems worldwide particularly in Indonesia. Active family engagement in the patient's care in times of illness is expected in the Indonesian culture. Little is known of the level and type of care being provided by family in palliative care, including home based care. An understanding of this topic is essential to better understand current family involvement.

Aim: The study aimed to explore the involvement of family caregiver in home-based palliative care for cancer patients in an Indonesian palliative care facility.

Methods: An ethnographic approach was utilised in this study. Observations and informal interviews were undertaken in the patient's home during home visits from one Indonesian palliative care service.

Results: Findings identified that in general the primary family care giver was the patient's spouse. Family caregivers experienced several burdens including employment status, financial status and limited respite. The study highlighted the involvement of others in care giving such as other family members, home care nurses and paid carers. This involvement raises potential communication issues. Disagreement regarding best care and treatment for the patient among family member was frequently found in this study. Interestingly, the study found that family caregivers had easy access and open communication with palliative health professionals. Family caregivers were involved in different types of care including personal care, meals and management. In addition, spiritual care was conducted by most family caregivers through supporting patients to do religious practices.

Conclusions: This study revealed the involvement of family and other parties in the home based care of palliative patients. The findings show health professionals have a potential role to assist communication among family caregivers. The findings may guide and inform health professionals involved in the palliative care about better coordination among those involved in patient care.

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CANCER INFORMATION NEEDS IN GERMANY: LESSONS LEARNED FROM A POPULATION-BASED SURVEY

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Background: 30,000 inquiries/year to the German Cancer Information Service support evidence from studies that cancer patients and their families have strong and frequently unmet needs for information and shared decision making, Population-based findings about these needs have been lacking as basis for tailored offers in Germany.

Aim: To evaluate cancer information needs, preferred resources and interest in active participation among the German population, and assess to what extent these needs are currently met.

Methods: A representative sample of 1852 persons above age 16, and in addition 395 patients and close relatives were asked in personal interviews about their need for information, preferred channels, expectations on quality and communication, and their preferences for information and shared decision making in case of illness.

Results: More than 50% of all respondents and 65% of patients want to take active part in medical decisions. About 60% of all participants want to be fully informed. Two thirds had searched for cancer information before, only 40–60% found the previously obtained information helpful. Those not affected were interested mainly in risk factors and prevention. The typical information seeker is between 30 and 60 years old, female, with higher education; those with lower education level are not actively searching for information and can be reached best with low-threshold information. Preferred information sources are physicians and the social network. Expected quality criteria of information sources: reliable and independent, personally relevant, cutting-edge, in detail, comprehensible, free of charge. One-on-one conversation is the preferred way to obtain information.

Conclusions: The results of this study can contribute to tailoring cancer information better to the target groups' needs and demands. In view of the wide-spread range of topics, the marked interest in prevention is a common denominator across groups. Preference of one-on-one conversation supports a complementary role of independent information- and counseling services.

1. What are the unmet supportive care needs of People with cancer? A systematic Review. James D. Harrison et al. Supportive Care Cancer 2009
2. The relation between information provision and health-related quality of life, anxiety and depression among cancer survivors: a systematic Review. O. Husson et al., *Annals of Oncology* 22: 761–772, 2011

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PEER-TO-PEER SUPPORT OF MEN WITH ADVANCED PROSTATE CANCER: AN EXERCISE IN FINDING APPROPRIATE TECHNOLOGY

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Background and Context: Peer-to-peer support for men with prostate cancer excels in two areas. Men get
- great reassurance from the opportunity to talk to a man who has already experienced the path ahead; and
- a low-pressure environment in which to seek and absorb information.

PCFA develops strategies to meet the needs of men with special needs. Support for The Advanced Prostate Cancer Support Group is one strategy.

Aim: To provide peer-to-peer support for men with advanced prostate cancer (locally advanced, metastatic, recurrent) across Australia.

Strategy/Tactics: Initially used an email list, Skype videoconferencing, and man-to-man phone calls.

Major problems emerged:
- Information in emails had no repository.
- Few members had sufficient technology skills, or health-literacy levels.

We tested available technology.

Programme/Policy Process: Looking at our members, we found:
- Age: range 30–90, median 70 years
- IT: get email (depending often on partners, children) Email attachments, clicking links in emails defeated many. Almost nil actual use of social media.
- Phone: Most landline, some only mobile.

We started:
- monthly Australia-wide teleconference, often a guest speaker;
- smaller (up to 8) peer-to-peer teleconferences using personal smart phone; and
- online forums with emailling each member for each new topic posted. (JimJimJimJim.com)
- preamble to many postings translating key points with readability and health-literacy appropriate to members.

Outcomes/What was learned: **Measures:** 512 men made initial phone contact. 108 became members. 25 typically join each monthly teleconference. Postings average 1 per day. 45% of emails read. 6% of email links clicked. 61% of members watched YouTube video urging participation in public comment on new drug.

Appropriate technology: Online forum software and teleconferencing little changed since 1980s.

National support: PCFA affiliation, gaining resources, training and audience was a key to success.

Key message: "Blue sky" technologies are key to the future. Today, telephone, email, and messages appropriate in readability and health-literacy suit clientele including older people.

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INVOLVING CONSUMERS LEADS TO BETTER CANCER CARE

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Background: People affected by cancer and the broader community are seeking to be active participants in decision making about their health and contributing to healthcare more broadly. Evidence strongly indicates that where people accessing healthcare are fully informed and involved in decision-making, this leads to better health outcomes, improved safety and a more trusted health system. Cancer Australia, the national cancer control agency is taking a leadership approach in promoting the integral role of consumers in patient centred cancer control and harnessing their valuable expertise in shaping cancer care.

Aim: A national approach to strengthen and integrate consumer engagement in cancer control for better health outcomes.

Strategy: Inclusive governance, participatory, evidence based, consumer reference groups and resource testing. Participants, including consumers, executives, health professionals, researchers and policy makers, involved in developing and implementing approaches and resources to support meaningful consumer engagement. The values, preferences and contribution of people with cancer were central to success.

Programme: Cancer Australia has engaged the cancer control sector nationally and internationally in the development of: National Framework for Consumer Involvement in Cancer Control; Consumer Involvement Toolkit; Consumer Learning; and Australian Cancer Trials, consumer friendly websites to guide organisations in integrating consumer involvement in cancer control. Cancer Australia has engaged over 50 organisations and 500 consultations from across Australia and internationally in the development of Frameworks, tools and resources to assist organisations committed to meaningful consumer engagement for better health outcomes.

Outcomes: Development of an internationally recognised and nationally agreed consumer engagement framework, freely accessible case studies from experts in the field, online tools and resources to support consumer engagement. Cancer Australia's resources encourage everyone involved in healthcare to open a dialogue and work together with consumers, recognising it can lead to positive change across the continuum of cancer care. These resources have universal relevance internationally.

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CONSUMER EXPERIENCE OF A TELEPHONE BASED PEER SUPPORT INTERVENTION FOR WOMEN WITH A BRCA1/2 MUTATION

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6. *Early in Life Mental Health Service, Monash Health Mental Health Program, Clayton, Victoria, Australia*
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8. *Genetic Medicine, Royal Melbourne Hospital, Department of Medicine, Victoria, Australia*

Background and Context: BRCA 1/2 mutation carriers have emerged as a group with substantial unmet supportive care needs. However, the relative novelty of testing for genetic mutations that increase cancer risk means few support services exist outside of Familial Cancer Centres. Peer support (PS) has a long history as a supportive care intervention for people with cancer and other chronic diseases, and may be appropriate for carriers, but has not been tested amongst this group.

Aim: To describe an innovative, effective PS program for female BRCA1/2 mutation carriers.

Strategy/Tactics: The program consisted of regularly scheduled one-on-one phone calls over four months with a trained volunteer (also a mutation carrier). Forty-two peers were recruited and completed the 3-day training program. 105 participants were matched with a peer to receive support.

Programme/Policy Process: The average age of peers was 49 years (SD = 10), and recipients 44(SD = 13).The average number of calls received was 3.7 (SD = 2.1), and average length of first call was 33.5 minutes (SD = 18.3). Satisfaction with the program was high for both peers and recipients, and 80% of pairs ended their contact through mutual agreement. When asked about preferences for matching pairs, peers and recipients differed in how important age and surgery experience was.

Outcomes/What was learned: Participants identified several challenges with program contact, highlighting areas for improvement. Peers and recipients were interested in a more flexible approach to contact, including a negotiable call schedule and contact via new mediums (email or text messaging). It may be that a mixed medium intervention, where participants can tailor the method of communication to suit their needs, would be preferable and effective, especially given the participants' relative youth, though this would need to be tested. The mismatch in importance placed on different characteristics for matching suggests further refinement in the matching process is needed.

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CREATING AN EFFECTIVE MEANS OF CAPTURING CANCER CARE EXPERIENCES

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Background and Context: The Danish Cancer Society offers professional multidisciplinary psychosocial support through 15 counselling centers and a nationwide telephone and online helpline. The counsellors have up to 90.000 contacts a year and a unique insight in to the everyday life of people affected by cancer.

Aim: Gathering information on the unique experiences of patients and relatives provides the organisation with a powerful instrument to assess and influence the performance of the healthcare system. We sat out to create simple and ongoing systematic data collection of our users' experiences with cancer care.

Strategy/Tactics: In addition to the obligatory registration of demographic data, the counsellors were invited to add information whenever they met a user experience relevant for the organisation's policy and media activities. The informants were asked for their consent and contact information in case of the need for follow-up questions.

Programme/Policy Process: The method is inductive as the quality issues are determined by the patient and relatives, and is neither expensive nor time-consuming. Once a week new data are evaluated by a small workgroup and if necessary the data are distributed almost instantaneously to relevant internal parties. Twice a year a report describing and discussing the main issues is produced.

Outcomes/What was learned: Patient stories can be used to vividly communicate the complexity of experiences across sector boundaries and through the whole patient pathway. Albeit the information gathered is neither representative nor generalisable it gives the organisation an immediate insight into important issues concerning people affected by cancer, and in the long run shows trends and flaws in regard to cancer care. These experiences give The Danish Cancer Society an efficient tool for dialogue with local as well as national health care providers and authorities about quality improvement.

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MAKING THE LAW WORK BETTER FOR PEOPLE AFFECTED BY CANCER

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Background and Context: Cancer Council Victoria's McCabe Centre for Law and Cancer, and Strategy and Support Division, with funding from the Legal Services Board of Victoria's major grants program, are examining the intersection of law and policy, and cancer treatment and supportive care.

Aim: The aim of this project is to make the law work better for people affected by cancer, by analysing the laws and policies that impact on cancer treatment and supportive care, developing education materials about legal rights and responsibilities, and through law reform.

Strategy/Tactics: With input from Cancer Council Victoria's Clinical Network and expert stakeholders, we developed a list of key topics. In 2013, we looked at:

- Financial support for travelling for treatment;
- Insurance discrimination, including the use of genetic information;
- Employment-related issues for people working or returning to work while undergoing cancer treatment, or having finished active treatment;
- Advance care planning, particularly uncertainty among patients and health professionals about laws governing end-of-life decision making.

Programme/Policy Process: We published a discussion paper, ran a series of events, consulted with key stakeholders, and circulated an online survey to the Breast Cancer Network of Australia's Review and Survey Group. Using responses to the discussion paper and consultation feedback, we published a major report and developed fact sheets for patients, carers and health professionals.

Outcomes/What was learned: This presentation highlights the achievements and outcomes from the project's first year, including education sessions for regional general physicians about advance care planning; an advocacy alliance to improve transport and accommodation support; the development of fact sheets and online materials on discrimination protection in insurance and employment; and recommendations for law reform and research on legal frameworks governing end-of-life decision-making.

The presentation will also discuss future focus areas, including regulatory of complementary and alternative therapies; and informed consent in different settings.

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THE ECONOMIC COST OF CANCER TO PATIENTS AND THEIR FAMILIES IN SOUTHEAST ASIA

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Background: Cancer cases are expected to double within 20 years in Southeast Asia. Although certain cancers are preventable with existing screening methods, most countries in the region have failed to organize effective prevention programs. This is partially due to the paucity of data regarding the socio-economic impact of cancer on households.

Aim: The ASEAN CosTs In ONcology (ACTION) study aims to assess the economic impact of cancer in the year following a cancer diagnosis.

Methods: ACTION recruited 9513 adult patients, with a first time cancer diagnosis received in hospital in the last 12 weeks, using random sampling in 47 hospitals in Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Thailand and Vietnam. Data were compiled from routine medical records and by interview, using a study questionnaire.

Results: Among females, breast cancer was most common (40%), followed by cervix (17%). Among males, mouth (20%) and colorectal (15%) cancers were most common. This suggests under-recruitment of the more virulent types of cancer (lung, liver), likely due to censoring by clinicians. At diagnosis, 41% had grade III or IV cancer; 48% reported a household income below the national mean; 54% had experienced economic hardship in the previous year; and 55% had no health insurance. Low household income, absence of paid work and, most especially, having experienced economic hardship in the past year (a 5.6 point difference, versus no hardship, for the EORTC QLQ-C30 global health score, $p < 0.001$, after adjustment) were associated with lower quality of life at the time of diagnosis.

Conclusions: Poor patients are in the majority and have the lowest quality of life at diagnosis. We anticipate this will have negative consequences on compliance to treatment and that they, and their families, will also have the worst outcomes in the following year: results will be presented at the Congress.

1. Kimman M, Jan S, Kingston D, Monaghan H, Sokha E, Thabrany H, Bounxouei B, Bhoo-Pathy N, Khin M, Cristal-Luna G, Khuhaprema T, Hung NC, Woodward M. Socioeconomic impact of cancer in member countries of the Association of Southeast Asian Nations (ASEAN): the ACTION study protocol. *Asia Pacific Journal of Cancer Prevention*; 2012; 13(2):421–5.

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GLOBAL MORTALITY TRENDS IN HEPATITIS B INDUCED LIVER CANCER

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Background: Liver cancer due to chronic hepatitis B infection (LCHB) is a preventable disease. The hepatitis B vaccine has been used since 1982 and is highly effective in preventing hepatitis B infection. However, the vaccine only prevents new infections and the full effect of the vaccine on liver cancer mortality cannot be expected for some decades.

Aim: Global Burden of Disease (GBD) 2013 data was used to identify countries with the highest mortality rate for LCHB.

Methods: The analytical process to generate global mortality estimates starts with collecting and preparing incidence and mortality data from vital and cancer registries as well as verbal autopsy surveys. Mortality to incidence ratios are applied to the incidence to generate further mortality estimates. They are entered into the cause of death ensemble model to generate results for countries lacking data. The mortality estimates for a specific cause are rescaled to the total mortality envelope. A proportion model is used to allocate liver cancer deaths to the underlying causes (hepatitis B/C, alcohol, other).[1]

Results: The three countries with the highest mortality rate (age standardized rate per 100.000) secondary to LCHB in 1980 were Mongolia (male 35.9, female 14.1), China (male 15.05, female 6.97) and Mali (male 16.38, female 9.32). Since 1980 mortality has increased in Mongolia (2000: male 61.6, female 39.41; 2010: male 88.68, female 45.22). Mortality remained stable in Mali (2000: male 21.36, female 8.59; 2010: male 21.81, female 9.0) and in China (2000: male 18.01, female 6.38; 2010: male 14.69, female 5.22). In 2010 hepatitis B vaccine coverage was around 96% in Mongolia, 99% in China and 76% in Mali[2].

Conclusions: Mortality secondary to HBLC is rising or remains stable in highly endemic areas. Implications for policy include optimizing vaccine coverage as well as allocation of resources for early detection and treatment.

1. Lozano et al: Global and regional mortality from 235 causes of death for 20 age groups in 1990 and 2010: a systematic analysis for the Global Burden of Disease Study 2010. *Lancet*. 2012 Dec 15;380(9859):2095–128.
2. WHO vaccine-preventable diseases: monitoring system 2013 global summary. http://apps.who.int/immunization_monitoring/globalsummary/timeseries/tswucoveragebcg.html

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RATES OF CHEMOTHERAPY ADVERSE-EVENTS IN CLINICAL PRACTICE: RESULTS FROM PROSPECTIVE COHORT STUDY

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Background: While the adverse events associated with chemotherapy are often reported in clinical trial publications, there is little evidence about the incidence and management of adverse events in the clinical practice setting.

Aim: To investigate the frequency and severity of chemotherapy adverse events in a population receiving standard care.

Methods: The Elements of Cancer Care (EoCC) study collected both primary and secondary data from a prospective cohort of individuals with breast, colorectal or lung cancer undergoing chemotherapy in 12 cancer centres in New South Wales, Australia. Occurrences of adverse events were identified through blood test results and self-report at monthly interviews. The adverse event interview questions were designed to elicit information about both the experience and grade of 11 adverse events according to the NCI Common Toxicity Criteria. Rates of adverse advents were calculated at any grade, worst grade and by cumulative incidence.

Results: There were 482 individuals in the EoCC study, 54% with breast cancer, 33% with colorectal cancer and 13% with non-small cell lung cancer. The sample was predominantly female (74%) and 51% were aged 60 or over. 86% of participants reported at least one adverse event during the study period, and 27% of individuals reported a grade IV event. Fatigue was most the common self-reported event (85%), followed by diarrhoea (74%), constipation (74%), dyspnoea (71%) and mucositis (71%). Blood tests indicate that 75% of individuals were anaemic during the study period.

Conclusions: This work produces the first Australian estimates of the incidence of chemotherapy adverse events in a standard-practice setting. Adverse events are common in this cohort, indicating that adverse events may occur more often in clinical practice than reported in clinical trials. This study highlights the value in investigating the patient experience of chemotherapy outside the clinical trial setting.

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LET'S TALK ABOUT SEX: A PHONE-BASED INTERVENTION TO DELIVER PSYCHOSEXUAL CARE FOR PEOPLE AFFECTED BY CANCER

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Background: Many people affected by cancer experience psychosexual issues requiring specialist counseling. Despite the effect cancer can have on a person's sexuality, it is rarely discussed in the clinical setting. In 2012, Cancer Council Victoria (CCV) piloted a doctor-led, psychosexual counselling service delivered via a telephone Helpline.

Aim: To evaluate the CCV psychosexual counselling service to determine user profile and perceptions of the service, and feasibility for service delivers.

Methods: Service use data was analysed to determine user profile. In-depth interviews were conducted with service users by telephone to explore their experience of using the service. Views of the four specialist psychosexual doctors who provided counselling were obtained through interview.

Results: Over nine months, 51 telephone appointments were conducted, and operated at 74% capacity. Thirty-nine individuals received counselling, with eight having multiple appointments. The top two cancer types of service users were breast (31%) and prostate (26%). Service users received counselling, written information, referral to other services, or a combination. The cost per session was approximately $200. Interviewed service users (n = 6) were generally very satisfied with the help they received. Specific feedback reflected the positive impact on service users' perception of themselves as well as the benefit of receiving tailored advice around sexual health issues. Both clients and counsellors found using the phone to deliver counselling acceptable, while the cost per session was deemed to be reasonable by the organisation.

Conclusions: Results from the small sample of interviews indicate the CCV psychosexual counselling service provides valuable support to people experiencing sexual difficulties as a result of cancer diagnosis and treatment. Service improvement needs were identified with regards to strategies for increasing attendance, refining eligibility criteria and enhancing Helpline staff training.

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RADIOTHERAPY QUALITY OF CARE INDICATORS FOR LOCALLY ADVANCED CERVICAL CANCER: A CONSENSUS GUIDELINE

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Background and Context: Radiotherapy plays an important curative role in patients with locally advanced cervical cancer (LACC). Optimal treatment depends on strong, multidisciplinary support and availability of specialized skills. There are currently no standards to define best practice and the treatment landscape is rapidly changing with increasing emphasis on new imaging modalities, brachytherapy approaches and the concept of personalized medicine.

Aim: The purpose of this study was to develop a suite of radiotherapy quality of care indicators (QIs) for the curative management of LACC to guide assessment of programmatic performance and motivate practice harmonization.

Strategy/Tactics: A comprehensive literature search was conducted to identify candidate QIs. A modified Delphi method was used. Phase 1 involved surveying all Canadian GYN radiation oncologists to rate the importance of each QI from 0–9 (9, essential) on a Likert scale and achievability at their centre on a binary scale (yes/no). The ability to meet previously validated, pre-specified criteria was evaluated. Phase 2 consisted of a face-to-face meeting with a smaller expert panel facilitated by an outside moderator to discuss, vote and compile a suite of QIs yielding a consensus guideline.

Outcomes/What was learned: The literature review identified 83 candidate QIs. Survey response rate was 71%. Forty-four QIs met criteria for endorsement after Phase 1. Phase 2 yielded a final list of 40 QIs that were subcategorized to encompass all aspects of patient management: Pre-treatment assessment, External beam radiotherapy, Brachytherapy, Follow-up and Expertise/Workload. The most prominent theme from the GYN radiation oncology community was the importance of having QIs to measure the current state, evolution and future uptake of MR-guided brachytherapy.

This is the first prospective study establishing radiotherapy quality of care indicators in LACC based on expert consensus. These QIs should be used to guide programmatic direction and resource allocation to assure consistent treatment and optimal patient care.

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CLINICAL APPLICATION OF INTELLIGENT PAIN MANAGMENT SYSTEM TO CANCER-PAIN CONTROL

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Background: The chronic cancer pain has been considered one of the most distressing symptoms which has frustrated the patients and families not only in the treatment effectiveness field but also on the economic level. Adequate pain management was also regarded as an efficient way comprised of the following factors, including correct conceptions about the use of drugs commonly used to treat cancer pain, and timely communication between patients and clinicians, in addition to the formal assessment procedures and real-time follow-up.

Aim: To investigat the feasibility to make the clinical intervention for cancer pain more effective with the help of intelligent pain management system (PIMS), developed by Shanghai Xinhua Translational Institute for Cancer Pain.

Methods: 120 patients with cancer pain symptom from the Oncology Center of Xinhua Hospital Affiliated to Shanghai Jiao Tong University School of Medicine Chongming Branch were randomly assigned into two groups (trial and control groups). For the trial group PIMS was used to collect the data about cancer pain assessment, whereas the conventional methods were used for control group to follow-up, for instance, telephone or door to door visit.

Results: During the 90 days' follow-up, for the trial group, pain controlled days were 49.73 ± 2.54, which was siginificantly longer than that (37.00 ± 2.33) for the control group ($p < 0.001$). Moreover, the frequency of daily breakthrough pain was 2.98 ± 0.13 times for the trial group, which was significantly lower than that for the control group (4.10 ± 0.11, $p < 0.001$).

Conclusions: The utilisation of the PIMS for collecting the data about cancer pain assessment resulted in improved life quality of patients with cancer pain symptom, and may throw light upon the cancer pain treatment as well as the palliative care method.

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GENETIC TEST DECLINING AND HIGH CANCER RISK PERCEPTION IN DNA MISMATCH REPAIR GENE MUTATION FAMILIES

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Background: About half of people from mutation-carrying families do not undergo genetic counselling and/or testing to identify their mutation status and risk of colorectal cancer (CRC).

Aim: We studied perceived CRC risk and qualitative analysis of reasons for declining in this group.

Methods: We studied 26 participants (mean age 43.1 years, 14 women) in the Australasian Colorectal Cancer Family Registry who were relatives of mismatch repair gene mutation carriers; who had not been diagnosed with any cancer at the time of recruitment and who had declined an invitation to attend genetic counselling and/or testing at the time of interview. Bounded estimates of perceived CRC risk over the next 10 years, understanding of genetic testing and CRC risk, reasons for declining testing and self-reported colonoscopy screening were elicited during a face-to-face semi-structured interviews.

Results: A sub-group of decliners (31%) unconditionally rejected genetic testing compared to conditional decliners who would consider genetic testing in the future. Mean perceived 10-year risk of CRC was 54% [95% CI 37, 71] in unconditional decliners, compared with the mean perceived 10-year risk of CRC of 20% [95% CI 5,36] in people who conditionally decline genetic testing. This difference remained after adjusting for potential confounding factors (age, gender and reported screening colonoscopy).

Conclusions: The unconditional decliner group perceive themselves to be at 3.26 times higher risk than conditional decliners. Novel interventions in general practice clinics may improve genetic testing uptake and/or appropriate colonoscopy screening for this high-risk and under-serviced group.

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PILOT OF PAIN INDICATOR AUDIT TOOL AS PART OF A COMPLEX INTERVENTION TO IMPROVE CANCER PAIN OUTCOMES

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3. *University of Technology, Sydney*
4. *Faculty of Nursing, Johns Hopkins University, Baltimore*
5. *Sydney University, Sydney*
6. *Canspeak, Sydney*
7. *Peter MacCallum Cancer Centre, Melbourne*
8. *Palliative Care, University of Melbourne, Melbourne*

Background: Pain is under-managed in adults with cancer despite internationally available guidelines. Adherence is poor which detracts from outcomes. Audit and feedback improves guideline translation and pain outcomes. A set of palliative care indicators for pain has been developed using systematic review and modified RAND process, and implemented in July 2014 using an audit tool in 22 sites in Victoria, Australia. The indicators are: use of validated pain scale (Indicator 1); assessment of pain at first presentation (Indicator 2); regular pain assessment (Indicator 3); bowel regime plan (Indicator 4); routine prescription of opioid analgesia for breakthrough cancer pain (Indicator 5); and the scheduling of pain medication for severe pain (Indicator 6).

Aim: pilot the audit tool in New South Wales (NSW) as part of complex systems intervention to improve cancer pain guideline uptake to be evaluated in a planned multisite randomised controlled trial.

Methods: Medical records of 35 patients with advanced cancer and pain from public palliative care (n = 20) and private oncology (n = 15) health services in NSW were audited. NSW data was compared with the data from Victoria (n = 278) and shown in brackets (%V) for each indicator.

Results: Compliance for: Indicator 1 was 90.6% across both services (96%V), Indicator 2 was 95% of public palliative care of and 73% of private oncology patients, (87%V)). A pain chart greatly increased comprehensiveness of pain assessment. Indicator 3: 83% (96%V) Indicator 4: 100% of public and 66% of private patients. (87%V) Indicator 5 and 6 were similar between services: overall 71.4% (87%V) and 94.3% (85%V).

Conclusions: The audit tool was found to be a feasible component of a complex intervention for improving translation of cancer pain management guidelines into practice.

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JOINING FORCES TO FUND NATIONAL CANCER RESEARCH: CANCER AUSTRALIA'S PRIORITY-DRIVEN COLLABORATIVE CANCER RESEARCH SCHEME (PDCCRS)

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2. *Cancer Australia, Sydney, NSW, Australia*

Background: Cancer research in Australia is funded by many different government and non-government organisations. A coordinated approach to funding priority-driven cancer research could maximise national cancer research investment, avoid potential duplication of funded research and target research which yields rapid changes in care and outcomes.

Aim: To establish a national collaborative approach to funding cancer research in Australia which will impact on policy and practice and lead to improved cancer outcomes.

Strategy: Cancer Australia developed an annual national priority-driven cancer research project grants scheme, the Priority-driven Collaborative Cancer Research Scheme (PdCCRS), to bring together funders and establish a single grant application process for cancer researchers. The scheme has been intentionally designed to co-fund research in shared priority areas and support research that will directly impact on practice, policy and outcomes.

Programme: The PdCCRS application process is conducted in collaboration with Australia's National Health and Medical Research Council. Cancer Australia sets its own research priorities and undertakes ongoing grant management on behalf of all funding partners.

Costs and returns: From 2007–2013, Cancer Australia and fifteen funding partners have supported 240 project grants totalling AUS$82.2M. Approximately 54% of all grants have been co-funded and without co-funding 30% fewer grants would have been funded. As the Scheme has matured in recent years, each dollar invested by the Australian Government, is yielding a 100% return on investment by Funding Partners. All monies provided by funding partners go directly to supporting research.

Outcomes: A coordinated, centrally-managed national grants process reduces grant review and administration costs. The co-funding model results in more cancer research grants being funded and leveraged new funding from funders who previously did not support research. Joining forces in funding of cancer research efficiently and effectively increases the national cancer research funding pool to support more cancer research.

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UTILISING SOCIAL MEDIA TO ENGAGE NEW AUDIENCES IN A DISCUSSION ABOUT CANCER. VIRTUAL MORNING TEA A NEW TWIST ON A TRADITIONAL FUNDRAISING EVENT

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1. *Cancer Council Australia, Sydney, NSW, Australia*

Background and Context: Australia's Biggest Morning Tea was in its 19th year and the previous year raised $11 million. An opportunity was sought to engage online communities in an engaging activity to raise funds and get more people talking about beating cancer.

Aim: Objectives were to acquire a new group of people to participate in a Morning Tea and increase our digital presence to promote the campaign.

Strategy/Tactics: Virtual Morning Tea was created to provide busy people the opportunity to engage online. It was a Facebook application that ran in the lead up to the campaign. Participants could make donations directly to Cancer Council. A virtual morning tea created new media angles, sponsor engagement opportunities, new celebrities participation and a lot of fun stories to share on our own digital tools.

Programme Process: Cancer Council regularly invests time in exploring new digital acquisition strategies. The business problem was briefed to our digital agency. The agency response delivered a selection of ideas from which virtual morning tea was selected. The creative was deliberately different to create a distinction between a virtual and an actual morning tea. The campaign was run in the build up to Australia's Biggest Morning Tea and was leveraged throughout the campaign.

Costs and returns: Funds raised online increased 34% and online registrations grew 24%. 30% increase in site traffic and there was an 82% growth in referrals from Facebook indicating success in driving participates back to the site.

Outcomes/What was learned: 840 Virtual teas were created which attracted 17,035 participants sharing over 800 stories. The campaign was run for a second year with almost no participation. A lesson to keep campaigns fresh when engaging digitally. Cancer Council continually strives to develop our digital footprint to enhance the relevance and reach of our fundraising activities.

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LICENSED PRODUCTS GENERATE INCOME, INCREASE BRAND AWARENESS AND PROVIDE EDUCATION OPPORTUNITIES

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1. *Cancer Council Australia, Sydney, NSW, Australia*
2. *Skin Health Pty Ltd, Melbourne, VIC, Australia*

Background and Context: Cancer Council Australia has developed a successful licencing program where a quality, affordable and innovative range of sun protection merchandise is marketed under the trusted Cancer Council name, generating royalty income for CCA.

Aim: Providing affordable products in line with health messaging which generates an income stream to fund research and patient support.

Strategy/Tactics: To work with commercial partners to provide a range of branded merchandise including high SPF sunscreens, sun protection cosmetics, eye wear, clothing, hats, and recreational shelters. Initially the products were targeted at the Australian market and sold in supermarkets, pharmacies, department stores, convenience stores, and Cancer Council retail shops, amongst others. All products are independently tested to meet Australian regulatory guidelines for product quality. We have subsequently expanded into the international market.

Programme Process: A licensing manager at Cancer Council Australia, on behalf of the Cancer Councils and their retail units, sources products and negotiates with distributers to license products which fit the anti-cancer health messaging of Cancer Councils.

Costs and returns: The program has enabled CCA to generate substantial royalties from the sales of these products, and extend the Sunsmart educational messaging through over 6,000 outlets across Australia and 23 countries. In the last 10 years, licenced merchandise royalty income has increased 4 fold. The costs to CCA are essentially the salary of the licensing manager. More recently, CCA and some commercial partners have begun to collaborate with cancer organisations in other countries to develop local programs with combined education strategies, and sharing of royalty income from sales in the local market.

Outcomes/What was learned: This fundraising strategy results in a strong return on investment, with risks largely borne by the licensees. It has provided an opportunity to strengthen the Cancer Council brand awareness and extend the health messaging into the retail sector.

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MILLION DOLLAR CORPORATE PARTNERSHIPS

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1. *Cancer Council Australia, Sydney, NSW, Australia*

Background and Context: By joining forces with the corporate sector, Cancer Council Australia is successfully raising funds and awareness to reduce the impact of cancer in Australia.

Through million dollar corporate partnerships, like:
o Coles supermarkets – a 19 year partnership which has raised $16.7 m. Last year we raised $2.1 m for Cancer Council Helpline, a free, telephone support service for people affected by cancer.
o eftpos – a 'charity of the year' style, $1 m partnership which enables Australian secondary schools to apply for grants up to $25k to erect shade to help reduce skin cancer risk for our children.

Aim: Cancer Council will share insights on attracting and retaining million dollar partnerships, which can be adapted elsewhere

Strategy/Tactics: Outline methods used to attract and retain million dollar partners, including:
o Keeping a 19 year partnership compelling, through an innovative, integrated fundraising model;
o the eftpos Giveback 2013 campaign and the extensive social media campaign.

Programme Process: Analyse different methods of managing million dollar corporate partnerships, which leads to the common elements of success (outlined below).

Costs and returns: Corporates are an important funding source, but it's becoming more difficult to obtain.

If done right, corporate partnerships are one of the most cost effective forms of fundraising, and best ways to raise awareness.

Outcomes/What was learned: How can you get and keep million dollar corporate partnerships?
- **Be ahead of the trend** – understand current trends in your jurisdiction
- **Innovation** – keep mature partnerships compelling, and new partnerships unique.
- **Social media** – integrate both organisations and leverage the partnership (eg: eftpos social media campaign to vote for beneficiaries).
- **PR angles** – strategic alignment of objectives for genuine partnerships, and prepare PR mitigation plan.
- **Transparency** – directed funding to a measurable social impact.

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FUNDRAISING FOR CANCER PATIENTS, CAN IT BE A SUSTAINABLE ACTIVITY IN RESOURCE CONSTRAINT SETTINGS?

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1. *Nuclear Medicine, Oncology and Radiotherapy Institute (NORI), Islamabad, Pakistan*

Background and Context: NORI is providing health-care services to cancer patients for the last 25 years. Due to scarcity of funds from government, many essential services were lacking. New administration in 2007 realized that sustainable fundraising program was the need of time.

- Aim: To establish a transparent and sustainable platform for fundraising activities for cancer patients of NORI hospital in order to enhance the services

Strategy/Tactics: Establishment of NORI patient welfare society (NPWS) in 2008 as a transparent platform for fund raising activities. Awareness among philanthropist through regular meetings and publicity of activities. Transparent reporting system for all relevant stakeholders.

Programme Process: NPWS was registered with concerned regulatory authorities. Charter was devised and general body (GB) formed, which elected the executive body (EB). Fundraising activities initiated and awareness campaign launched. Yearly audit is carried out and EB presents its performance along with its financial and audit report in annual GB meeting.

Costs and returns: Approximately PKR 60 M was generated in the last six years. A new Radiology department was built. Nuclear Medicine department is extended and capacity of diagnostic labs is enhanced. Hospital management information system and PACS system installed for quick flow of information. Repair and maintenance work of wards was carried out along with maintenance of grassy lawns with fountains and birds for recreation of indoor patients. Regular in hospital musical activities with involvement of patients and regular psychological counseling sessions carried out. In-hospital pharmacy was established in 2009 providing quality medicines at significantly lower cost.

Outcomes/What was learned: NORI is providing better services to its cancer patients. Fundraising projects for cancer patients are quite feasible in resource constraint settings. Stakeholder management is the most important issue and can be achieved by periodical appraisals with transparent reporting mechanisms. Support from government could be an added asset for sustainability.

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BE FRANK CAMPAIGN BY CANCER RESEARCH INITIATIVES FOUNDATION (CARIF)

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2. *Account Executive, M&C Saatchi, Kuala Lumpur, Malaysia*
3. *SimplyGiving.com, Kuala Lumpur, Malaysia*

Background and Context: The 'Be Frank Campaign' by CARIF is inspired by Malaysian cancer survivor, Frank Chong, who is the first Malaysian to run the world's most challenging 89 km Comrades Marathon in South Africa for three consecutive years since 2012. This campaign captures the very essence of Frank: his courage in standing up to cancer and his determination to bust cancer myths by being frank (speaking up) about cancer.

Aim: The aim was to inspire all Malaysians that anyone can "Be Frank: raise fund for cancer research" and "Be Frank: speak up about cancer".

Strategy/Tactics: The "Be Frank Campaign" included cancer survivors and their caregivers in three ways. First, "Franks" organised events, including jazz evenings, yogathons, bake offs and quit tobacco or lose weight challenges to raise funds for cancer research. Second, "Franks" recorded selfies and posted on "Be Frank" Facebook. Finally, "Franks" ran the Frankathon, an interactive running event where participants raise funds by 'Donating a kilometer'.

Programme Process: Recruitment channels include radio, newspapers, blogs, social media and ground event. Emphasis on every one and anyone can 'Be Frank'. In parallel, we adopted participants and sponsors to convert kilometers to donations.

Costs and returns: This innovative way of execution enabled us to involve a large number of participants and 5,300 kilometers donated which was traditionally impossible with limitation of space. RM4,900 was spent and in return, a total of RM55,500 was raised in a span of one month.

Outcomes/What was learned: We found that the simple and impactful message of "Be Frank" was key to attracting attention to the campaign. "Frankathon", we found that barriers to participation were low, and consequently, the campaign quickly reached anyone at any given time or space by incorporating the campaign into their existing exercise routine.

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LOTTERIES – A UNIQUE AND SUSTAINABLE SOURCE OF UNDESIGNATED FUNDING FOR CANCER RESEARCH

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1. *The Princess Margaret Cancer Foundation, Toronto, ON, Canada*

Background and Context: Securing undesignated funding for any cancer organization is the most difficult money to raise. The Princess Margaret Cancer Foundation has found a significant source of undesignated funding in their lottery program

Aim: To raise significant and sustainable sources of undesignated funding for the research enterprise

Strategy/Tactics: Invest in a robust lottery program (non-taxceipted) to fund and build a leading cancer research organization. Appeal to people that might not write a pure donation cheque to the Foundation thereby raising more money than what traditional fundraising programs alone can provide an organization.

Programme Process: The Princess Margaret Cancer Foundation (along with an outsourced lottery partner organization) runs two annual lotteries a year. All prizes and media and marketing of the programs are expensed against the gross revenue. Sell outs are critical to optimizing the net return as they often have high break-evens.

Costs and returns: Lotteries are not for the faint of heart. We invest significant moneys to garner significant net funds for the cancer research centre.

Princess Margaret has been running lotteries since 1996 and since inception the lottery program has raise over $250 million for cancer research programs at the Princess Margaret Cancer Centre. Lotteries have averaged a return 33% with the balance expended in running of the program – marketing, logistics and operations. These are a government regulated program, are not tax receiptable, and we view these as part of The PMCF's social enterprise model.

Outcomes/What was learned: Lotteries are a great way to raise undesignated funds but they require significant investment and risk. Aligning oneself with reputable organizations to help run them is key.

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PREVENTION AND EARLY DETECTION FUNDRAISING & AWARENESS: BECAUSE CARING COUNTS BY COLGATE PALMOLIVE –SOFTLAN S. NAIR [11] PUBLIC HEALTH, [2]EARLY DETECTION & AWARENESS, [3] COLGATE PALMOLIVE MALAYSIA-SOFTLAN, [4]NATIONAL CANCER SOCIETY MALAYSIA (NCSM), [5] MALAYSIA

Sangeetha Nair[1]
1. *National Cancer Society Malaysia, Kuala Lumpur, Malaysia*

Background: Early detection represents one of the most promising approaches in reducing the growing cancer burden. In Malaysia, despite having all the available facilities, early detection is generally limited and ignored. Breast Cancer is the leading cancer among Malaysian women, therefore it is important to encourage early detection. In 2009,Colgate Palmolive Malaysia-Softlan initiated an early detection programme as part of their corporate social responsibly project with National Cancer Society Malaysia and two other cancer NGOs

Objective: To educate women on the importance of early screening and detection. To instill a better understanding of breast cancer and its rate of cure through early detection. To educate Malaysian women about the importance of monthly Self Breast Examination. Lastly, to provide free-mammograms to underprivileged women, funded by the Colgate Palmolive initiatives.

Method: We run educational and early detection roadshows in shopping malls throughout the month of October. NCSM provides nurses to give free Clinical Breast Examination to shoppers and also a wide range of information about breast cancer. We also educate women on how to do their monthly Self Breast Examination.

Results: The results that were derived were not based on questionnaires; They were based on the number of women that visited our education booth for information and also the number of women that walked in for free Clinical Breast Examinations. Colgate-Palmolive raised RM33,333 for NCSM to provide free mammograms to unprivileged communities.

Conclusion: In conclusion, as an ongoing campaign, this is a very successful campaign for all the partners involved as well as the community at large. This campaign is now being organized state-wise. We are now reaching out to communities in other Malaysian states besides Kuala Lumpur

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THREE YEAR 13 MILLION USD 609 PATIENT REPORT OF INDIAN CANCER SOCIETY'S AAA RATED HDFC DEBT FUND FOR CANCER CURE

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2. *Medical Oncology, Tata Memorial Hospital, Mumbai, Maharashtra, India*
3. *Pediatric Oncology, Tata Memorial Hospital, Mumbai, Maharashtra, India*

Background and Context: In India cancer affects million and kills 6,00,000 patients each year. Cure rates hover around 30%, mainly because 55% families cannot afford treatment costs.

Aim: Provide financial assistance to cover all expenses for underprivileged patients with potentially curable cancers.

Strategy/Tactics: In 2011 the Indian Cancer Society and HDFC Mutual Fund joined hands to provide financial aid by launch of the first debt fund specifically for cancer cure. In this 100 per cent debt-oriented three-year close-ended capital protection-oriented mutual fund scheme, a total amount of USD 13 Million (INR 770 million) was collected from around 1,500 customers. Philanthropic supporters donated the dividend earned to the cause of cancer cure while preserving their capital and getting the benefit of income tax exemption.

Programme Process: Under the supervision of a two tier all-India Due Diligence Team and Governing Advisory Council, eight leading hospitals of repute from different parts of the country were empanelled for this fund using a transparent and predefined criteria. The USD 2.5 million (INR 148.9 million) donations received were then used to grant financial aid for medical treatment to 609 financially challenged (family income of less than INR 1,00,000 per year; USD 1,695) cancer patients with potentially curable disease. Of these, more than 80% of the patients are less than 30 years of age. The funds disbursed were specifically earmarked for each individual patient. Empanelled hospitals also contributed by waiving hospital bed and consultant doctor fees as well as by minimizing other charges.

Costs and returns: These 609 patients (45% ALL, 33% solid tumors) were from 29 states of India with less than 1% abandonment of treatment.

Outcomes/What was learned: This unprecedented success, led to the second edition of the debt fund tripling the donations available. HDFC also committing to match the donations upto INR 50 million (USD 846,000) every year.

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MACMILLAN CANCER SUPPORT: WORLD'S BIGGEST COFFEE MORNING (WBCM) SEGMENTATION

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1. *Macmillan Cancer Support, London, UK*

Background and Context: WBCM is Macmillan's flagship fundraising event and one of the most successful in the UK. Started in 1990 by a local fundraising committee, it has grown exponentially. In 2012 WBCM made £15million. The challenge was to continue the remarkable increase in participants and income under increasing competitive pressure.

Aim: To enhance our communication with previous Coffee Morning hosts, making it more effective and targeted to generate more income.

Strategy/Tactics: Patterns were uncovered which allowed translation of soft measures like loyalty and engagement into hard measures.

Programme Process:

Techniques:
1. Longitudinal analysis of registration and behaviour patterns to analyse attrition, return and inactivity patterns. The correlation of these with length of relationship allowed us to understand parameters we needed to apply to represent loyalty levels and evaluate future engagement.
2. Profiling supporters to understand their donation behaviour and value, length of relationship, frequency of hosting, acquisition method, responsiveness to communications taken before, during and after their WBCM relationship allowed us to develop measure of engagement.

Costs and returns: Growth was driven by dramatic increase in registrations, up 60% on 2012; a direct result of targeting and messaging insights delivered. In addition the value of these hosts increased by £10 on 2012. ROI on Coffee Morning increased 21%.

Outcomes/What was learned: Segmentation enabled us to achieve objectives;
1. Increased participation and value of previous host registering for WBCM 2013
2. Improved ROI by 21% with better targeting, saving direct marketing cost
3. Allowed confident estimate of future income and acquisition population required to achieve targets.

The segmentation's power lies in its simplicity, based on hard measures and yet representative of complex behaviour. This project formed a key part of a suite of analysis undertaken to ensure that WBCM broke all records in 2013. Income increased by 37% to £20.5 m and attracted 154,000 participants, up 39%.

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RAISING FUNDS TO FINANCE THE FIGHT AGAINST CHILDHOOD CANCER IN CONGO: THE EXPERIENCE OF THE CALISSA IKAMA FOUNDATION

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1. *ALIAM contre le cancer, Paris, France*
2. *Fondation Calissa Ikama, Brazzaville, Congo*

Background and Context: The action taken by the Calissa Ikama Foundation since its creation in 2008, allowed obtaining significant advances in the field of the fight against cancer in the Congo.

Of the nine negative points identified in 2008, eight points still require improvement: four negative points and four encouraging points.

The Calissa Ikama Foundation has developed an action plan, containing six priority projects, which will be carried out in 2014–2015. The implementation of these projects will transform these encouraging and negatives points into positives ones.

Aim: Mobilize 340,000 U.S. Dollars, essential for the implementation of these different projects.

Strategy/Tactics: The Calissa Ikama Foundation board of directors members, volunteers and sympathisans have used their address book and their relational capital to reach political and business leaders, and invite them to charity event that was held Saturday, February 15, 2014.

The funds should come from the sale of tables, gifts and donations before, during and after the evening.

Programme Process: The program for the evening included: film on the history of the Calissa Ikama Foundation; communication about the treatment of childhood cancer at University Hospital of Brazzaville by an oncologist, presentation of the project to establish a Pediatric Oncology Unit in Brazzaville by a pediatrician, progressive announcement of the development of fundraising and encouragement and thanks guests.

Costs and returns: The organization of the event has cost 16,700 dollars and 171,730 dollars or 50% of the funds sought were raised.

Outcomes/What was learned: In a country that suffers from a large deficit in communication about cancer and who has not yet implemented its national policy, find funds for actions against cancer is not easy.

The action of the Calissa Ikama Foundation shows that with more willpower, determination and passion, it is possible to find funding locally relying on the private sector and philanthropy.

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LIVESTRONG DAY MODEL FOR GRASSROOTS FUNDRAISING

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1. *LIVESTRONG Foundation, Austin, TX, USA*

Background and Context: The LIVESTRONG Foundation seeks to serve and improve the lives of people affected by cancer. In order to execute our vision, we use a combination of traditional and grassroots fundraising tactics throughout the year. We chose May 16, 2014, "LIVESTRONG Day[1]," as a moment in time to implement a new, sustainable grassroots fundraising model.

Aim: We set a goal to leverage our existing network, and their social networks, to capitalize on a previously established annual occurrence to spark grassroots fundraising.

Strategy/Tactics: We engaged 500 individuals in our networks to each find five new supporters who were willing to donate $10. We recruited these individuals through messaging documents, which included financial impact statements and in-person or teleconference trainings. Once this layer of support was activated on our behalf, we created separate email messaging to more than two million current and formerly engaged supporters and invited them to give $10. We raised awareness of our goal and supported the broader outreach by spreading the word via our social media pages. Finally, we thanked our donors with a homemade video that saw success in viewership and increased awareness.

Programme Process: The organization facilitated diverse engagement, optimized our online donation form, and clearly demonstrated the impact of a donation through simple, custom messaging. To ensure that our efforts supported a sustainable revenue model, we also launched a multi-installment email series to convert new donors within 90 days of their original gift.

Costs and returns: Because of the grassroots model implemented, fundraising on LIVESTRONG Day had minimal costs to the organization. The campaign returned more than $23,000 over three days, as compared to our average fundraising benchmark of $13,000.

Outcomes/What was learned: We gained hundreds of new donors and established a benchmark moving forward for single-day fundraising events.

[1]http://blog.livestrong.org/2014/05/05/livestrong-day-2014/

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CHRISTMAS STARS – CHRISTMAS CAMPAIGN

Ola Alexander Opdalshei[1]
1. *Norwegian Cancer Society, Oslo, Norway*

Background and Context: The Cancer Society does not receive any economic support from the Government and are therefore completely dependent on the numerous private donations they receive each year. Christmas is an important fundraising month for organizations in Norway. We wanted to ask for more than money. We also wanted to show that the donations give hope to the cancer patiens and their relatives.

Aim: We wanted to increase donations, as well as directlycreating a direct link between the donation and the creation of hope to patients actually fighting cancer this christmas.

Strategy/Tactics: We decided that for every gift we received at www.kreftforeningen.no/christmas , we would send a Christmas star to a hospital. The stars were therefore a greeting from the people who donated money to cancer research and a visible symbol of hope. During Christmas. For the new year to come. And to all other days of the year.

The Christmas campaign is normally a direct mail sent to 600 000 people. The new concept this year, were the the paper Christmas stars sent to hospitals according to donors whishes, a film and a web page for online donations.

Programme Process:

Costs and returns: The total returns on the campaign were 15.5 million NOK as a direct response. The aim was 12 million NOK. The cost budget was 5 million NOK in total, NOK 300, 000,- were used on the Christmas Star part of the campaign. All of the large hospital joined us – 19 in total.

Outcomes/What was learned: The reception of the idea and the stars was very good, both from the public, from the patients and from the next of kin.

We didn't have enough time to fully exploit the stars concept in 2013, and we aim to four times double the number of stars sent to the hospitals in 2014

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CHANGES IN AUSTRALIAN INCIDENCE AND MORTALITY FROM 1987–2007: SHARING THE NEWS

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2. *School of Public Health , University of Sydney, Sydney, NSW*
3. *School of Public Health and Community Medicine, University of NSW, Sydney, NSW*

Background and Context: In late 2011 we were confronted by the array of information giving the impression that investments in cancer were failing. Cancer is fast becoming the largest burden of disease globally and the need for simple measures to explain the extent of change to stakeholders is increasing.

Aim: Our aim was to provide simple summary measures of changes in cancer mortality and incidence in Australia. The State of Cancer Control report was designed to be a Cancer Council NSW resource for prioritisation, and public communications.

Strategy/Tactics: We used national data on cancer deaths and new cancer cases and compared expected and observed numbers of deaths and cases diagnosed in 2007, compared to 1987 in people aged less than 75 years.

Programme Process: The **first release** was aligned with a national campaign (May 2013) focusing on 61,000 cancer deaths found to be averted and a 28% reduction in cancer mortality over twenty years. We worked closely with national and state Cancer Councils to maximise exposure. The **second release** focused on the 276% increase in prostate cancer incidence (November 2013) and was not aligned with a national campaign.

Costs and returns: The major costs incurred were in staff time spent on data analysis, preparing the report and media release, pitching and managing the media interest. There was no paid advertising or editorial spend for either release. The returns were:

	First Release	Second Release
Media hits	1766	297
Households reached	80,925,667	34,014,401
Audience impressions	312,362,678	72,602,861
Value ($AUD)	$2,771,061	$1,157,970

Outcomes/What was learned: Releasing our research findings in stages, and in collaboration with other Cancer Councils, gave us more media coverage than a one release. The report had many interesting news angles that were beneficial in increasing awareness and highlighting the contribution cancer control investment has made over the last few decades.

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LEVERAGING FORMALISED LOCALISM IN FUNDRAISING

Noelene Kotschan[1]
1. *PinkDrive, Johannesburg, Australia*

Background and Context: Post-Apartheid South Africa developed legislation to advance the economic transformation of black people, known as Broad-Based Black Economic Empowerment (B-BBEE).[1] This ultimately formalised and forced corporates to consider the principle of localism.[2] For NGO's this posed an opportunity to link the benefits of corporate giving not only with accepted principle of "feel good", tax rebates and brand awareness but the benefit of BBBEE through, Socio- Economic Development. This is something PinkDrive has leveraged in all its fundraising activities.

Aim: Annually raise R20 million by developing a broad base of loyal corporate and individual donors.

Strategy/Tactics: Create fundraising platforms that benefit corporates through events designed to leverage corporates' need for B-BBEE points, brand awareness and tax benefits while ensuring individual public giving.

Programme Process: Identified sporting events as an ideal platform for raising funds. Coverage received by sporting events in South Africa. We are now official beneficiary for the majority of major sporting events in South Africa, e.g. Cape Argus Momentum Pick n Pay Cycle Tour, Old Mutual Two Oceans Marathon, Comrades Marathon, Mandela Day Marathon, 94.7 Momentum Cycle Tour, and, International Pink Cricket Days.

Costs and returns: We have successfully managed to get all costs covered for each event, by offering sponsors branding opportunities. Clear profit at any event is between R500k and over R1million from both corporate and individual donations. In 2013 over 100 corporate B-BBEE certificates were issued indicating the level to which we have harnessed the policy of B-BBEE in our fundraising efforts.

Outcomes/What was learned: One needs to make fundraising simple, easy, cost effective and let donors have fun to ensure they engage with you. Most importantly have a 'tangible' product. The mobile mammography units act as billboards for corporates who invest in the cause providing them with a daily/weekly ROI.

1. https://www.thedti.gov.za/economic_empowerment/bee.jsp
2. http://mitpress.mit.edu/books/localist-movements-global-economy

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DISPLAYING THE GLOBAL BURDEN OF CANCER – AN INTERNATIONAL COLLABORATION

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Background: Cancer is becoming more prevalent across the world as disease prevention improves and people live longer. Measuring the global burden of cancer is not straightforward. Cancer incidence and mortality data are not collected uniformly across countries; many countries have little or no collection of cancer incidence or mortality data. The International Agency for Research on Cancer (IARC) publishes global estimates of incidence, mortality and prevalence by country, cancer and sex every two to four years in their GLOBOCAN publication.

Aim: The National Cancer Intelligence Network (NCIN) was asked to collaborate with IARC to produce an interactive display of cancer data worldwide to allow easy comparisons of the differences between sexes, sites and countries. It was imperative to represent the underlying data quality for each country.

Methods: Using Instant Atlas Software, a global interactive cancer map was produced showing cancer by sex, site and country globally. The interactive atlas provides the opportunity to compare the estimated age standardised rates with other countries and where the country lies within the inter-quartile range of the 184 countries included. Continent specific views have been created allowing comparisons within the five populated continents. Data quality is shown both as individual maps for incidence and mortality data and when a user hovers over the results for each country.

Results: The Global Interactive Atlas is an easy to use tool that highlights clearly the different burden of cancers across the world, whether it is the increased rates of malignant melanoma in Australia, South Africa, The Americas and Europe, the differing global pictures for gynaecological cancers or the very high prevalence of upper gastrointestinal cancers in Japan.

Conclusions: Easy comparisons between sexes and sites and across countries within the same continent or globally have been made widely available through this collaboration between IARC and Public Health England.

1. The most recent set of estimates is for 2012: http://globocan.iarc.fr/ia/World/atlas.html

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RESOURCE REQUIREMENT FOR CANCER REGISTRATION IN LOW AND MIDDLE INCOME COUNTRIES: A CASE STUDY IN KENYA

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Background: With an estimated 14.1 million new cancer cases and 8.2 million deaths from cancer worldwide in 2012, cancer is a leading cause of morbidity and mortality globally, with more than half the global burden of cancer borne by low- and middle-income countries. High quality cancer registry data is critical for successful cancer control policies. Therefore data on the resources needed to support cancer registration critical.

Aim: (1) Provide a framework for systematically collecting activity-based resource and cost data from cancer registries; (2) Engage global stakeholders to identify and quantify the resources needed to strengthen and expand existing registries or establish new registries where none exist to support the successful collection of high quality cancer data; and (3) Share estimates of the costs of establishing and maintaining cancer registries with stakeholders so they can be included in the components of national cancer plans.

Methods: Working with an in-country consultant, we conducted site visits to understand the data collection infrastructure and types of activities performed by cancer registries in Kenya. We adapted a cost data collection tool developed for use in the U.S. and pilot-tested the tool with registries in Nairobi and Eldoret and analyzed the resources necessary to operate a cancer registry in Kenya.

Results: Preliminary analyses find the majority of resources (62% in Nairobi) devoted to cancer registration in the registries are provided in-kind. Cost per case reported in Nairobi is $7.68 ($20.39 with in-kind). More than 80% of registry resources are expended on core activities, with more than half on data collection activities.

Conclusions: In-kind support is crucial to registry operations; partnerships with universities and hospitals will support the establishment of new registries. Expansion of existing registries requires streamlining data collection activities (involving travel to hospitals and other data sources and time spent accessing medical records).

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RACIAL AND ETHNIC INCIDENCE AND SURVIVAL DISPARITIES AMONG CHILDREN WITH ACUTE LYMPHOBLASTIC LEUKEMIA IN CALIFORNIA, 1988–2011: WHAT CAN BE DONE TO IMPROVE SURVIVAL AMONG THE MINORITY GROUPS?

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Background: Despite advances in diagnosis and treatment, survival from acute lymphoblastic leukemia (ALL) has been persistently lower among Black, Hispanic and Asian children compared to White children in the US. The reasons for survival disparities remain unclear.

Aim: Estimate survival from and incidence of ALL over 24 years and examine the possible underlying causes of survival disparities in California.

Methods: All children with ALL aged 0–19 years and registered in the California Cancer Registry (CCR) from 1988 to 2011 were eligible. Overall survival (OS) and 95% confidence intervals (CI) were estimated using the Kaplan-Meier method. Cox regression was used to compare the hazard of death between different racial/ethnic groups and over time. The impact of age, sex, immunophenotype, health insurance, treament, and socioeconomic status (SES) on survival were examined. Age-adjusted incidence rates of ALL were estimated using SEER*Stat, and the annual percentage changes (APC) were calculated using weighted least squares method.

Results: Survival improved steadily during 1988–2011, but inequalities persisted between our cohort of 9460 children of different race/ethnicities. Five-year OS was 85.0% (95%CI 83.7–86.3%) for Whites, 74.6% (95%CI 69.6–78.9%) for Blacks, 79.3% (95%CI 78.1–80.5%) for Hispanics and 81.5% (95%CI 78.6–84.1%) for Asians. The survival gap widened with time from diagnosis. Non-White children had a 35%–49% increased risk of death, even after controlling for SES, treating hospital, time to treatment and known prognostic factors such as age, sex, and immunophenotype. The APC in incidence rates varied from 0.28% (95%CI = –0.27–1.26%) among Asians to 1.77% (95%CI = 0.57–2.99%) among Blacks.

Conclusions: There is strong evidence that the survival inequalities observed between children of different race/ethnicities in California are due to a double burden: SES and biology. Data on relapse post-treatment, genetic information and non-adherence to chemotherapy are key to better understand the causes of survival variations, but they are not routinely collected by population-based cancer registries.

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USE OF COLD COAGULATION AS TREATMENT MODALITY IN A 'SEE AND TREAT' PROGRAMME OF CERVICAL SCREENING IN RURAL MALAWI

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Background and Context: Cervical cancer is the most common female cancer in Malawi, with incidence projected to increase in coming decades. Although government policy supports screening using visual inspection with acetic acid (VIA), in reality screening provision is limited due to lack of infrastructure and trained personnel, and the cost and availability of gas for cryotherapy. Recently, cold coagulation has been recognised as a safe and acceptable procedure suitable for low –resource settings (1,2).

Aim: To introduce cold coagulation as an alternative to cryotherapy within a pathway of care (screening with VIA, treatment with cold coagulation, enhanced surgical skills for Wertheim hysterectomy, specific follow-up and palliative care clinics) at Nkhoma Hospital in central Malawi.

Strategy/Tactics: Detailed planning was undertaken for VIA clinics, approvals obtained from the Ministry, and Regional and Village Chiefs, and awareness sessions held in hospital, health centre and village settings. Two cold coagulators were introduced into the clinic setting and both theoretical and practical training provided in safe use and maintenance of equipment.

Programme/Policy Process: Over 3500 women were screened in the first nine months. VIA positivity is less than 10%: 80% of these women received treatment using cold coagulation, over 75% on the same day. Treated women return for 3-month and one-year follow up visits.

Outcomes/What was learned: Introduction of cold coagulation has proved to be acceptable to both providers and patients in this setting. Provider support includes initial familiarisation and training, plus ongoing competency assessment. This treatment modality is one component of a pathway of care designed to reduce the incidence of and mortality from cervical cancer in this low-resource setting where the need is great. A whole-team approach is central to provision of care.

1. Treatment Technologies for Precancerous Cervical Lesions in Low-Resource Settings: Review and Evaluation. PATH, published January 2013 www.rho.org/HPV-screening-treatment.htm
2. Dolman et al. Meta-analysis of the efficacy of cold coagulation as a treatment method for cervical intraepithelial neoplasia: a systematic reviewBJOG. 2014 Mar 6. doi: 10.1111/1471-0528.12655

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MENTHOL CIGARETTE SMOKING AND OBESITY: IS THERE A LINK?

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Background: Cigarette smoking is a major risk factor for cancer. Studies show that current smokers have higher body mass index (BMI) than non-smokers, thus increasing their risk for disease. However, few studies have examined how the type of cigarette smoked (menthol/non-menthol) influences BMI categories.

Aim: This study investigates 1) the relationship between menthol cigarette smoking and obesity and 2) the association of BMI with the nicotine metabolite ratio among young adult menthol and non-menthol daily smokers.

Methods: Young adult smokers aged 18–35 years were recruited via Craigslist.com, newspaper advertisements, and peer-to-peer referrals to participate in a laboratory study ($n = 175$). Participants completed a brief survey that assessed sociodemographics, smoking history, and psychosocial factors. Measured height and weight were used to compute BMI. Carbon monoxide and saliva samples were collected. We used multiple regression (ANCOVA) to estimate differences in overall BMI and BMI categories, controlling for gender, race/ethnicity, marital, education, and employment status. We calculated the log of the nicotine metabolite ratio to examine differences for normal, overweight, and obese smokers.

Results: Results showed that 62% of normal, 54% of overweight, and 91% of obese smokers used menthol cigarettes ($p < 0.0001$). After controlling for the covariates, BMI was not significantly higher among menthol compared to non-menthol smokers (29 versus 27 $p < 0.0001$). However, 38% of menthol compared to 51% of non-menthol smokers were normal weight; 22% versus 40% were overweight; and 41% versus 9% were obese ($p < 0.0001$). Although non-menthol smokers had higher nicotine metabolite ratios than menthol smokers who were normal, overweight, and obese, these differences were not significant.

Conclusions: Consistent with prior studies that suggest that menthol smokers have higher BMI than non-menthol smokers, our data show that menthol smokers are more likely to be obese. Studies are needed to determine how flavored tobacco products influence BMI among smokers.

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ALTERNATIVE METHODS FOR PRIMARY CERVICAL CANCER SCREENING IN SUB-SAHARAN AFRICA: A SYSTEMATIC REVIEW AND META-ANALYSIS OF ACCURACY OF VIA, VILI AND HPV TESTING

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Background: Alternative methods to cytology have been developed to improve cervical cancer screening in limited-resource settings. However, geographical differences have been observed. In sub-Saharan Africa (SSA), many trials have been put in place to investigate accuracy of Visual Inspection with Acetic Acid (VIA), Visual Inspection with Lugol's Iodine (VILI) and testing for Human Papillomavirus (HPV testing) for cervical cancer screening, but results are equivocal.

Aim: To compare accuracy of VIA, VILI and HPV testing to detect cervical intraepithelial neoplasia grade 2 or worse in SSA

Methods: From a systematic search, we included studies when (i) VIA, VILI or HPV testing were used as standalone tools for primary screening, (ii) study population was not at risk for cervical cancer, (iii) screening procedure was performed by nurses, and (iv) reference standard was colposcopy followed by directed biopsies. We applied bivariate and random-effects models to pool absolute sensitivity and specificity of VIA, VILI and HPV testing. Relative sensitivity and specificity of one test versus any other was also calculated.

Results: Fifteen studies were eligible and provided data on 61.381, 46.435 and 11.322 women for VIA, VILI and HPV testing, respectively. Pooled sensitivity of VILI (95.1%, 95% CI 90.1–97.7) was significantly higher than that of VIA (82.4%, 95% CI 76.3–87.3) and pooled specificity of VILI (87.2%, 95% CI 78.1–92.8) did not differ from that of VIA (87.4%, 95% CI 77.1–93.4). Pooled sensitivity (88.3%, 95% CI 73.1–95.5) and specificity (73.9%, 95% CI 50.7–88.7) of HPV testing were not different from those of VIA or VILI. Although performances of these tests were not affected by study region or place of screening, accuracy of visual methods increased significantly with sample size and publication year.

Conclusions: In the context of primary screening in SSA, VILI is a simple, low-cost and more viable alternative to cytology than VIA for cervical cancer early detection.

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THE ASSOCIATION OF PERCEIVED EFFICACY AND THREAT WITH INTENTIONS TO QUIT SMOKING IN INDIGENOUS SMOKERS AGED 18–45 YEARS IN REGIONAL NEW SOUTH WALES: FINDINGS FROM A COMMUNITY-BASED SURVEY

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Background: Smoking prevalence in Indigenous Australians is staring to decline, but not for some subgroups of reproductive age.[1] This is the first study to use the validated Risk Behaviour Diagnosis (RBD) scale in Indigenous smokers globally, as far as authors are aware.

Aim: To assess associations between intentions to quit smoking and perceived efficacy for quitting and perceived threat from smoking in Aboriginal smokers of reproductive age.

Methods: A cross-sectional community based survey was conducted with 121 Aboriginal smokers aged 18–45 years old from January-May 2014. Participants were recruited at community events on the Mid North Coast of NSW. The response rate was 89%. Data were collected on smoking and quitting attitudes and behaviours, home smoking rules and professional support. Perceived efficacy for quitting, and perceived threat from smoking, were assessed with a validated RBD Scale.[2] A logistic regression explored the impact of perceived efficacy, perceived threat and consulting history, on self-reported intentions to quit smoking, after controlling for potential confounders.

Results: Perceived efficacy for quitting OR 4.8 (95%CI = 1.78–12.93), and consulting previously with a doctor OR 3.82 (95%CI = 1.43–10.2) were significant predictors of intentions to quit smoking, in the adjusted model. The attitude that 'smoking is not doing harm right now' was also a negative predictor of intention to quit OR 0.25 (95%CI = 0.08–0.8). Perceived threat was one of several confounders.

Conclusions: Perceived efficacy and previously consulting with a doctor may be important predictors of intentions to quit smoking in Aboriginal smokers of reproductive age in NSW, thus could help identify which Aboriginal people are likely to make a quit attempt. Messages could be directed towards boosting perceived efficacy and encouraging cessation support from a health professional.

1. Australian Bureau of Statistics. 4727.0.55.006 – Australian Aboriginal and Torres Strait Islander Health Survey: Updated Results, 2012–13 Canberra: Australian Bureau of Statistics; 2014
2. Gould GS, Watt K, McEwen A, Cadet-James Y, Clough AR. Validation of risk assessment scales and predictors of intentions to quit smoking in Australian Aboriginal and Torres Strait Islander peoples: a cross-sectional survey protocol. *BMJ Open*. 2014 June 1, 2014;4(6).

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INTERNATIONAL STUDY OF CANCER MANAGEMENT IN GENERAL PRACTICE (NEW ZEALAND): PRELIMINARY FINDINGS

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Background: Cancer survival differs between countries. It depends not only on the treatment given but also on the speed of diagnosis. The time interval required to diagnose a suspected cancer depends on the responsiveness of primary care services to patients needing investigation. New Zealand study is a part of the International Cancer Benchmarking Partnership (ICBP) Module 3 that investigates whether differences in primary care component of cancer management influence cancer survival internationally.

Aim:
1. To determine potential barriers to primary care access for the diagnosis of cancer, access to cancer investigations and specialist review
2. To assess GP knowledge and attitudes in management of suspected cancer

Methods: The nation-wide online survey collects data from (a) vocationally registered GPs; (b) general-registrant doctors; and (c) GP registrars. Respondents were invited using snowball sampling via Champions, GP e-newsletters and GP Conferences from May to September 2014. The questionnaire composed of three sections: 1. demographic data of the GP and practice; 2. clinical vignettes for lung, colorectal and ovarian cancers; 3. access to diagnostics and specialist services from primary care setting.

Results: Total of 235 GPs completed the survey. 77 % of the samples were vocationally-trained GPs while two thirds (67%) have >11 years in general practice. Up to 62% were locally trained GPs while 38% were trained overseas for primary medical degree. Preliminary analysis reveals that average consultation time in GP practice was 15 minutes (SD = 3.5). Majority (94%) undertook continuing cancer education in the past year and about a third (27.3%) spent more than six hours.

Conclusions: The study explains the roles of primary care in cancer survival outcomes that are pivotal to improve cancer outcomes. The data of local cancer care pathways and services as well as from international benchmarking will identify solutions to improve access to diagnostics and referral services in primary care.

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OBESITY AND RISK OF BREAST CANCER IN INDIA

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Background: Obesity is a known risk factor of breast cancer. However the contribution of different measures of obesity(BMI, WHR, WC and HC) and their role in pre- and postmenopausal women is still not clear.

Aim: To study the role of obesity in causation of breast cancer.

Methods: A hospital-based case control study was conducted in Tata Memorial Hospital during the period of January 2009 to September 2013. Questionnaire data was collected on 1637 breast cancer cases and 1515 female controls.

Results: Risk of BC increased in underweight women (BMI < 18.5 kg/m^2) when compared to women with normal BMI of Asian category (18.5–22.9 kg/m^2). The risk of developing BC in premenopausal women was 1.75 (95% CI: 1.16–2.65) whereas in postmenopausal women was 1.89 (95% CI: 1.09–3.29). A protective association observed in premenopausal women (OR = 0.93; 95% CI: 0.91–0.95) with per unit increase in BMI (world) continued in women who had attained menopause less than 10 years ago (OR = 0.95; 95% CI: 0.92–0.98). However the risk of BC increased in women in highest category of BMI (world) who had attained menopause ≥10 years ago from the date of enrolment (OR = 1.85; 95% CI: 1.05–3.28). With every 0.1 increase in WHR the risk of BC increased (OR = 1.69; 95% CI: 1.47–1.96) and (OR = 1.71; 95% CI: 1.41–2.00) in premenopausal and postmenopausal women respectively.

Conclusions: The study demonstrates that BC is preventable in India and is possible to reverse the increasing trend of BC. The strategies to reduce BMI should consider the cut-off of 18.5 kg/m^2 as BMI lower than this might increase the risk for pre- and postmenopausal BC. Future studies on BC should include much more sophisticated measurement of central obesity and total body fat.

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EMPOWERING CANADIANS THROUGH IT'S MY LIFE! – STOP CANCER BEFORE IT STARTS, AN ONLINE INTERACTIVE CANCER PREVENTION TOOL

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Background: About half of all cancers can be prevented using the knowledge we currently have, but changing behaviour remains a challenge. Many Canadians are unable to identify lifestyle risk factors linked to cancer.[1] Almost three-quarters of Canadian home Internet users go online for health information.[2]

Aim: The Canadian Cancer Society (the Society) developed It's My Life!, a bilingual online tool with 3 goals:
- Build awareness about cancer statistics, prevention and screening in a compelling way.
- Engage and motivate users to take action and encourage sharing through social media.
- Connect users to relevant information, programs and services on the Society's website, cancer.ca.

Strategy: Our innovative online tool raises awareness using evidence-based information. It covers the 13 most common and preventable cancers in Canada and 16 risk factors for cancer and is divided into 4 sections: likelihood of developing cancer, lifestyle risk factors, cancer statistics and pledging a healthy change. Users can navigate at their own pace and receive information tailored for them.

Programme: The tool was promoted through the Society's website, social media and external communications. To help evaluate the tool, users can participate in an exit survey to gauge their initial impressions and in a future survey to evaluate change in awareness and behaviour. Social media and web metrics are being tracked to examine engagement.

Outcomes: It's My Life! was launched in September 2014 on itsmylife.cancer.ca. In the first 3 weeks, people used the tool 12,142 times (66% new users and 34% returning users). Users made 2,447 pledges to change some aspect of their behaviour. Initial feedback suggests an increase in awareness and the intent to change lifestyle. The impact the tool has on behaviour change will be evaluated.

1. The cancer prevention – attitudes, awareness and behaviours survey – 2008, conducted by Environics Research Group on behalf of the Canadian Partnership Against Cancer.
2. Statistics Canada. Canadian Internet use survey – 2009 [Internet]. Ottawa (ON): Statistics Canada. available from www.statcan.gc.ca/daily-quotidian/100510/dq100510a-eng.htm (accessed September 5, 2013).

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SMOKING ON THE MARGINS: AN EQUITY ANALYSIS OF A MUNICIPAL OUTDOOR SMOKE-FREE POLICY

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Background: The City of Vancouver introduced a complete ban on smoking in its parks and recreation facilities and sites, including 220 parks and a dozen beaches, in 2010. This study reports on the introduction of that ban from the perspective of health equity.

Aim: This study examined three key aspects of the ban in Vancouver and their engagement with issues of health equity: public and official support for the ban; smoking rates before and after implementation; and enforcement.

Methods: Informed by critical multiplism and health equity frameworks, this study combined evidence from nine sources: document review; key informant interviews; field observations; a telephone survey; focus groups with smokers and non-smokers; media analysis; focus groups with enforcement officers; citations for policy infractions; and beach litter data.

Results: Findings demonstrate that equity issues were not considered during policy formulation or implementation. Although there is evidence of both public and official support for the policy, concern has been expressed that it may be ineffective and unfair. Observational data suggest that smoking initially declined following the ban, particularly at beaches, but that rates of smoking in the parks vary by location in the city. We also found evidence suggesting differences in both enforcement and compliance between the city's parks and beaches, and between different populations of park and beach users.

Conclusions: The current smoke-free policy appears uneven in its ability to meet tobacco control's aims. Given current smoking prevalence in Vancouver, the ban may be unintentionally increasing health inequities because it appears that the least enforcement of the ban and greatest levels of smoking continue to occur in the least advantaged areas of the city. Jurisdictions considering outdoor smoke-free policies should consider tailored messaging and adequate resource allocation to enhance voluntary compliance and support enforcement to meet both tobacco control and health equity objectives.

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TOBACCO-SPECIFIC PULMONARY CARCINOGEN HIGHER IN OLDER SMOKERS IN THE UNITED STATES: NATIONAL HEALTH AND NUTRITION EXAMINATION SURVEY 2007–2012

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Background: Tobacco use is the leading cause of cancer-related death of approximately 1.2 million annually in the world. Cigarette smoking causes 90% of lung cancer cases and about 30% of all cancer death in the developed countries is related to tobacco use. NNK, the most carcinogenic tobacco nitrosamine (TSNA), has been classified as Group 1 human carcinogen by IARC. NNAL, the major metabolite of NNK, is not only a biomarker of exposure, but also an indicator of lung cancer risk.

Aim: This study is aimed to investigate the tobacco carcinogen levels in US cigarette smokers.

Methods: We have measured urinary NNAL in participants aged ≥6 years in NHANES from 2007 to 2012. Log NNAL was plotted as a function of CPD by age groups using a locally weighted polynomial regression (LOESS) function. Weighted log linear regression of NNAL concentrations on CPD controlling for other covariates was conducted.

Results: NNAL concentrations generally increased for all age groups 1–40 CPD. NNAL levels increased more rapidly for CPD 1-10 than CPD 10-40. NNAL tend to plateau generally across all age groups at CPD < 10. NNAL levels increased as smokers' age increased almost regardless how many cigarettes they smoked per day. Age group 45–54 resembles the lower age groups in the pattern of NNAL levels by showing higher NNAL than age group 35–44. Age group 55–64 and age group 65+ had very similar NNAL level.

Conclusions: NNAL in smokers is not only associated with self-reported CPD, but also related to smoker's age. At the same CPD, older smokers have relatively higher carcinogenic NNAL concentrations, which could be translated to higher carcinogen dose and might be associated with higher risk of lung cancer. Tobacco product standards on TSNA levels are urgently needed to protect individuals addicted to nicotine and to reduce the burden of cancer around the world.

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THE EXPRESSION OF MICRORNA-375 IN PLASMA AND TISSUE IS MATCHED IN HUMAN COLORECTAL CANCER

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Background: Aim: The purpose of our study is to systematically assess the expression of miRNAs in cancer tissue and matched plasma samples and to evaluate their usefulness as non-invasive diagnostic biomarkers for the detection of CRC.

Methods: he study was divided into two phases: firstly, qRT-PCR based TaqMan Low Density MiRNA Arrays (TLDAs) was used to screen the differentially expressed miRNAs in 6 plasma samples of CRC patients and 6 healthy controls. Secondly, marker validation by stem-loop reverse transcription real-time PCR using an independent set of paired cancer tissues ($n = 88$) and matched plasma samples (CRC, $n = 88$; control, $n = 40$). Correlation analysis was determined by Pearson's test. Receiver operating characteristic curve analyses were applied to obtain diagnostic utility of the differentially expressed miRNAs. Target gene prediction and signal pathway analyses were used to predict the function of miRNAs.

Results: In the screening phase, 42 miRNAs identified to be differentially expressed from Taqman MicroRNA Array. Five of them (miR-375, miR-150, miR-206, miR-125b and miR-126*) were chosen to be validated in plasma and tissue samples. The results indicated that for plasma sample, the expression of miR-375($p < 0.0001$) and miR-206($p = 0.0002$) were dysregulated and could discriminate CRC patients from healthy controls. For tissue samples, miR-375($p < 0.0001$), miR-150($p < 0.0001$), miR-125b ($p = 0.0065$) and miR-126*($p = 0.0009$) were down-regulated in CRC patients. Three of them (miR-375, miR-150 and miR-125b) were useful biomarkers for differentiating cancer tissue from adjacent normal mucosa. The level of miR-375 was significantly down-regulated and positively correlated in both tissue and plasma samples($r = 0.4663, p = 0.0007$).

Conclusions: Our results indicate that the down-regulation of miR-375 in plasma and tissue is matched in CRC. Therefore, plasma miR-375 holds a great promise to be an alternative tissue biomarker for CRC detection.

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THE EFFECT OF DENDRITIC CELL THERAPY ON THE OVERALL SURVIVAL OF PATIENTS WITH LOCALLY ADVANCED OR METASTATIC BREAST CANCER

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Background: Advanced breast cancer is difficult to treat and is considered incurable. Goals of treatment are to improve the quality of life of such women, and to extend their overall survival, despite having an incurable disease. Numerous treatment modalities, from chemotherapy to biologic treatment, are available. Women with advanced and metastatic breast cancer have had the option to receive dendritic cell therapy (DCT), in an effort to harness their immune systems' capacity to control their cancer with minimal toxicity and greater efficacy.

Aim: This study analyzes the impact of the addition of dendritic stem cell vaccination to standard modalities of treatment on the overall survival of women with advanced breast cancer.

Methods: A retrospective cohort study of 62 patients with advanced breast cancer was done. Thirty-six (36) patients who received standard systemic therapy served as the control group, and 26 patients who received standard systemic therapy plus dendritic stem cell therapy was the intervention group (DCT group). Analysis was done using T-test to compare the mean survival of both groups. A Cox Regression Model was created using data from patients with complete tumor marker profiles to determine the role of various prognostic (explanatory) variables in determining survival in this cohort of patients.

Results: Mean overall survival in the DCT group was 48.1 months, while that in the chemotherapy alone group was 32.6 months ($P = 0.01$). The regression analysis showed that the DCT patients had better overall survival compared to control group ($HR = 0.2764$, $p = 0.014$). Consistent with global data, HER2 positivity ($HR = 0.6048$, $p = 0.311$), higher age ($HR = 0.7722$, $p = 0.753$), ER positivity ($HR = 0.6579$, $p = 0.513$) and PR positivity ($HR = 0.4766$, $p = 0.193$) showed better prognosis, compared with their younger or tumor marker negative status counterparts.

Conclusions: Patients with advanced breast cancer showed longer survival when given systemic treatment plus dendritic cell therapy compared with systemic treatment alone.

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CIRCULATING NON-CODING RNAS AS BIOMARKERS FOR THE EARLY DETECTION OF HEAD AND NECK CANCER

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Background: Head and Neck Squamous Cell Carcinoma (HNSCC) is the 6th common malignancy in men. We currently have little understanding of the molecular events of this disease and no biomarkers currently exist for early detection. Recently, small non-coding RNAs such as microRNAs (miRNAs) were shown to be highly stable and could be found in body fluids such as serum. Given this, circulating miRNAs found in the blood of HNSCC patients could act as potential clinical biomarkers for early detection.

Aim: To discovery novel serum biomarkers for the early detection of HNSC.

Methods: Using Agilent miRNA arrays we screened for the expression of circulating miRNAs in patient sera ($n = 52$) showing the four representative subtypes of HNSCC and in sera isolated from normal individuals ($n = 11$). A number of candidate miRNAs biomarkers were identified and validated using TaqMan qPCR. These biomarkers were then assessed for clinical relevance.

Results: Ninety-three dysregulated serum miRNAs were identified across all tumours in comparison to healthy sera. Specifically 166 serum miRNAs were deregulated in oral SCC serum, 22 in hypopharyngeal cancers and 34 in the oropharyngeal cohort. Unsupervised hierarchical clustering and principal component analysis indicated that sera profiles could clearly distinguish between HNSCC and control samples. A selection of these miRNAs was then validated using singleplex TaqMan qPCR.

Conclusions: Our study demonstrates that the expression levels of serum miRNAs can distinguish four different subtypes of HNSCC. QPCR analysis supported these findings with further studies now being validated in a larger cohort of clinical samples. Our findings provide a promising foundation for the application of small RNAs as biomarkers for the early detection of HNSCC.

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ENGAGEMENT FOR CANCER PREVENTION: FORMING PARTNERSHIPS WITH CANADA'S INDIGENOUS PEOPLES

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Background and Context: Cancer rates are rising for Indigenous Peoples in Canada, recognized under the Canadian constitution as First Nations, Inuit and Métis peoples. Coalitions Linking Action and Science for Prevention (CLASP) is a model for accelerating access to and uptake of evidence-informed cancer prevention practices and policies for Canadians including those bearing an excess burden of disease. CLASP projects focus on risk factors such as physical activity, nutrition, and commercial tobacco misuse.

Aim: CLASP aims to engage Indigenous populations who are not frequently applicants in major request for proposal (RFP) processes as well as to work with and for Indigenous Peoples to ensure all programming and evaluation follows ethical protocols, and is conducted in a contextually appropriate and culturally safe way.

Strategy/Tactics: Indigenous Peoples were engaged through purposeful outreach via webinars, teleconferences, and participation in face-to-face events. RFP evaluation criteria (with points allocated to proposals including populations bearing excess burden of cancer) encouraged the submission of proposals involving Indigenous Peoples.

Programme/Policy Process: Representatives from Indigenous communities and organizations accounted for 13% of all participants at pre-RFP events. In response to the most recent RFP, 71% of submitted proposals included Indigenous partners and focus. Selected through an external peer-review process, since 2009, eight of twelve funded CLASP projects have included Indigenous communities and organizations.

Outcomes/What was learned: Partnerships with Indigenous Peoples are critical to addressing cancer prevention. Proactive and early engagement, relationship and capacity building are important pre-cursors to issuing a RFP if involvement of these groups is desired. Ongoing participation in program processes (such as evaluation activities) to ensure ethical protocols are respected and integrated is essential. Further, multi-disciplinary project teams including Indigenous Peoples enhance the likelihood of sustaining the impact of work by building capacity and broadening the reach of prevention activities.

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BRAZILIAN INQUIRY OF ONCOLOGY NUTRITION

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Hospital malnutrition is high in cancer patients and associated with increased morbidity and mortality.The patient generated subjective global assessment(PG-SGA)is a simple,no-cost,relatively fast screening, which is considered the gold standard nutritional evaluation in cancer patients.

Aim: Assess the nutritional status nationwide of cancer patients with tumors of different locations and correlate with history of weight loss, reduced intake, decreased activity of daily living and the presence of pain.

Methods: Trained nutritionists evaluated 4822 patients with cancer who were hospitalized in 45 hospitals in 17 states of Brazil, during the month of November 2012, through the PG-SGA. The sample comprised 14% of all cancer patients who were hospitalized in Brazil Health System in that period. All patients signed an informed consent.

Results: Mean age was 58.0 ± 13.1 years, 56.8% were male, 43.2%female and 29% of elderly people. 45%were with nutritional risk or moderate malnutrition (B, n = 1608) or were severely malnourished (C, n = 568). Individuals with esophageal tumors (B = 41.2% and C = 36.7%) and stomach (B = 47.0% and C = 26.3%) had been recognized with a higher frequency of malnutrition(>73%) than those with tumors in other sites ($p = 0.000$).These individuals also had a higher prevalence of weight loss and intake reduction ($p = 0.000$).Cancer promoted decrease in quality of life with reduction in daily activities in more than 54% of patients and 16% reported pain. These changes were evaluated as statistically more significant ($p = 0.000$) in those patients with liver tumors, pancreas and biliary tract, and the lung and thorax tumors when compared to other locations.There was a strong correlation between the presence of malnutrition and history of weight of loss, reduced intake, decrease on daily activity and pain ($p = 0.000$).

Conclusions: Cancer brings a great impact on the nutritional status and quality of life. Abdominal, head and neck tumors are more debilitating than tumors at other sites. Cancer patients should be screened on admission for early intervention.

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BONE SCAN QUANTITATIVE PARAMETERS AS PROGNOSTIC IMAGING BIOMARKERS IN CA. PROSTATE

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Background: Prostate cancer metastasize to bone in about 80% of the patients. The present knowledge of quantifying metastatic bone disease is not sufficient. A lot of work has been done to quantify the bone metastasis using bone scans.

Aim: This study explored the prognostic value of bone scan quantitative parameters in prostate cancer patients. In addition utility of four different bone scan quantitative parameters as disease predictor was also compared.

Methods: This was a retrospective study based on 141 consecutive prostate cancer patients at high risk, based on clinical stage, Gleason score and prostate-specific antigen, who had undergone baseline whole-body bone scans. Four different bone scan quantitative parameters namely; Bone scan index (BSI), Extent of disease (EOD), percentage uptake (%PAB) and bone lesions scoring (BLS) were calculated. Utility of these parameters in stratifying disease prognosis was evaluated. Cox proportional-hazards regression models were used to investigate the association between clinical stage, Gleason score, PSA, bone scan quantitative parameters and survival.

Results: The % PAB and % BSI quantitative method was found to be the best ones (with R^2 of 0.9 and 0.8 respectively) whereas BLS and EOD showed moderate correlation with tumour burden in 141 patients. Kaplan Meir curve analysis showed that % PAB and EOD were best in predicting survival followed by BLS and BSI. In a multivariate analysis, Gleason score ($p = 0.01$) and BSI ($p < 0.001$), % PAB ($p < 0.001$), EOD ($p < 0.01$) were associated with survival, but clinical stage and PSA were not prognostic.

Conclusions: All four bone scan quantitative parameters were found to be good prognostic indicator, risk stratification calculators and tumour burden evaluators. These imaging biomarker, reflecting the extent of metastatic disease, can be of value both in clinical trials and in patient management when deciding on treatment

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EPIDEMIOLOGICAL AND CLINICAL CHARACTERISTICS OF PROSTATE CANCER MEN WITH MULTIPLE CANCERS

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Background: The epidemiological and clinical characteristics of multiple cancers in prostate cancer men remain unclear.

Aim: To characterize the difference in men with prostate cancer only and multiple cancers.

Methods: Patients with prostate adenocarcinoma diagnosed between 1973 and 2010 in SEER were divided into two groups: 1). by the number of cancers: one cancer (prostate cancer only), two cancers, three cancers and four or more cancers, and 2) by the order of prostate cancer occurrence: prostate cancer is the first cancer, last cancer, and neither the first nor the last cancer. These patients' age at prostate cancer diagnosis, race, marital status at diagnosis, cause of the death and survival were evaluated.

Results: Among 955,031 men with prostate cancer, 1,139,227 cancers were reported with a rate of 1.2 cancers/man. The ratios of men with one, two, three and four or more cancers were 83.5, 14.2, 2.0 and 0.3%, respectively. Older age, married and white men were more likely to have multiple cancers ($p < 0.001$). Patients with multiple cancers showed a longer survival compared with patients with prostate cancer only. Prostate cancer death was the first cause of death for men with prostate cancer only. Lung cancer and heart diseases were the most common causes of death among men with multiple cancers.

Conclusions: A large portion of prostate cancer patients has multiple cancers, which shows different epidemiological and clinical characteristics from the men with prostate cancer only. These findings indicate the challenges in clinical management of these men and the need to study the cause-effect between prostate cancer and other cancers in cancer development, detection, and treatment modality. Further evaluation on the risk factors such as race, age, marital status, histology, staging, treatment, and interrelations of these cancers is warranted.

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SOCIAL MARKETING CAMPAIGNS FOR TOBACCO CONTROL IN THAILAND, 2005–2013

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Background and Context: ThaiHealth. the health promotion foundation in Thailand, has been recognized for many successful social marketing campaigns for tobacco control, the most famous being the "smoking kid" campaign which went viral on YouTube in 2012, receiving millions of views and praised as the best anti-smoking ad ever produced. Yet, many of these campaigns have seen little analysis.

Aim: We reviewed the campaigns launched on radio and television for tobacco control since 2005. Specific attention was given to media mix, reach, evaluation and focus as compared to other concurrent elements of tobacco control by government agencies and non-governmental organizations.

Strategy/Tactics: Media campaigns have variable effects depending on whether they tell the public why they should be motivated to act or how they should carry out a change in behavior. We did content analysis to determine the emphasis in Thailand.

Programme/Policy Process: The approach evident in the analysis of the 27 TV and radio spots on tobacco shows a light-hearted approach which emphasizes how family and community prize tobacco control including smoke-free places, realization of the dangers to health from smoking, and the moral obligation to preserve life. This soft-sell approach is comparable to efforts to nudge people in the right direction, rather than forcing them by very strict regulatory enforcement methods.

Outcomes/What was Learned: Analysis of smoker awareness shows that ThaiHealth has been successful in getting public awareness of various dimensions of tobacco harm and benefits from not smoking/protection against secondhand smoke exposure. This has been done through an emphasis on a caring, helpful approach in contrast to the rather dramatic warnings of disease and death of picture pack warnings on Thai cigarette packs. This focus has targeted specific populations to bring tobacco control messages that resonate with tobacco-using segments of society.

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NATIONWIDE CANCER AWARENESS PROGRAM

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Background and Context: NCDs have slowly replaced the Communicable Diseases down the line when it comes to human mortality. Increased use of Tobacco, Lifestyle changes in recent years integrated with effective promotional strategies of junk food and soft drinks have already added to the toll taking it to academic proportions globally.

The eagles vision and an early foresight for tackling the above problem was envisioned by our Founders leading to inception of Cancer Aid Society in 1987, when a youth at the age of 21 decided to catch hold of youth early so as keep them away the ills of the Society leading to the NCDs.

Aim: Strategy was devised using the catchy slogans,

"Your Health: Our Concern",

"Our Goal: Cancer & NCD Control" &

"Each One Teach Thirty".

We targeted the children and youth based on the Philosophy of "Three Generations".

Strategy/Tactics: Absence of funding for Prevention of Non Communicable diseases specifically Cancer at National & International level was the biggest challenge in the times to come leading to the development of Sponsored Cancer Awareness Program which educates the masses about the Do's, Don'ts for Prevention of Cancer & NCDs. It includes addictions to drugs, alcohol, smoking or chewing tobacco, chewing pan masala, good dietary habits, healthy living habits, good genital and personal hygiene along with the early symptoms of Cancer when it is curable if treated.

Programme/Policy Process: Self sponsored

Outcomes/What was Learned: Increasing awareness on prevention of Cancer and NCDs thereby improving the Health hygiene, Dietary habits and decreased use of tobacco products.

Early Detection and treatment of Patients, Decreased mortality and Improved Palliative Care due to decreased sufferings/ exploitation of patients and families.

This program was adjudged The "Best Cancer Awareness Program" in a Conclave of 165 Cancer NGOs of India in 2013.

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TOBACCO CONTROL IN PREVENTION OF ORAL CANCER

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Background and Context: India has a very high incidence of Oral Cancer due to excessive use of Smokeless Tobacco -GUTKA. The tobacco chewing starts from quite young, school going age.hence awareness programs for the society is a must.

Aim: Create awareness about the health hazards of Tobacco and motivate Doctors to help in Tobacco cessation program.

Strategy/Tactics: Doctors should learn the "5A" of Smoking Cessation & tobacco control-
1. ASK every pt. about smoking
2. ADVISE all patients to quit tobacco
3. ASSESS their willingness to quit
4. ASSIST smokers with treatments and referrals &
5. ARRANGE follow ups.

Doctors should incultate the habit of using the "5A" in their regular, day to day, practice and thereby help in Tobacco Cessation program. As the Doctors are in Live contact with the patients & public, their words are better heard & followed by them.Specialists who treat smokers now emphasize a double-barreled approach that combines counseling and medication. There are plenty of tools to help smokers quit their habit–websites, groups, email reminders, SMS support are being increasingly used. Pharmacotherapy- like Nicotine Gums, Patches, nasal sprays and drugs like Bupropion & Varenicline are being increasingly used. But the cold turkey method has still has the highest number of unaided quitters.

Outcomes/What was Learned: This is an ongoing process, but the doctors have now become motivated in Tobacco Control

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SUCCESSFUL STRATEGIES OF EDUCATION AND COMMUNICATION TO PREVENT THE OCCURRENCE OF ORAL CANCER AMONG RURAL INDIAN POPULATION

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Background and Context: In the Indian subcontinent the tobacco habit includes tobacco smoking, chewing, rubbing and plugging. This results in cancers of the oral cavity, throat, larynx, and the food pipe, in addition to lung. A majority of cancer deaths in India are tobacco-related. However this is not well understood by the common public.

Aim: To halt the occurrence of oral cancer by user-driven education

Strategy/Tactics: Communicating relevant information in a way that the target population understands is the first prerequisite to motivate people to give up or not to take up the use of tobacco in any form. This information has to be tailored according to the lifestyle and the beliefs of the people and also has to be customized to different demographic groups. Additional factors found to aid motivation for education are:

Programme/Policy Process:
1. Those promoting health should not practice ill health themselves (like those helping to quit tobacco should not use it themselves).
2. Be positive, stressing on advantages of a healthy life.
3. Offer choices to move to a healthy life-style like choosing a less-threatening way to give up the use of tobacco by staggering the first use rather than cold-turkey.
4. Make support and help to deal with withdrawal readily available.
5. Stress that withdrawal is a temporary phase lasting for a few days.
6. Be ready with individualized cessation schedule if they ask for.
7. Applaud them for their effort.
8. Reinforce advantages of quitting

This methodology was developed by conducting formative research and was first tried and tested in a large-scale project which will be used as a demonstration.

Outcomes/What was Learned: This strategy brought down significantly the occurrence of pre-cancerous lesions and oral cancer

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HOW DO YOU SOLVE A PROBLEM LIKE ANGELINA?

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Background and Context: Celebrity announcements about illness, including cancer, provide an opportunity to quickly connect to the public with timely and accurate health information. When actress Angelina Jolie revealed her status as a BRCA 1 gene mutation carrier in May 2013, calls to Cancer Council Victoria's Helpline regarding breast cancer risk increased by 1033%. In response to this community concern Cancer Council Victoria (CCV) held a public webinar.

Aim: To use a webinar as an innovative approach to address an increased demand for accurate information and support regarding breast cancer risk, detection and prevention.

Strategy/Tactics: Registrants were invited to participate in surveys before and after the webinar. The pre-webinar survey identified the concerns and information needs of respondents in order to guide content. The post webinar survey evaluated the effectiveness of the webinar.

Programme/Policy Process: A free, one-hour, public webinar was hosted by CCV in June 2013. The webinar employed mixed presentation techniques, power point slides delivered by a Cancer Genetic Counsellor and an interactive question and answer session.

Outcomes/What was Learned: In all, 512 individuals pre-registered with 205 (40%) attending the live webinar. A total of 155 (30%) registrants submitted pre-webinar questions or topic suggestions with 82 (85%) respondents stating that the option to pre-submit was a 'good' or 'excellent' opportunity. Eight-five respondents (90%) stated that the webinar was 'useful to their situation'.

Ninety six (98%) respondents confirmed that the Cancer Genetic Counsellor's knowledge was 'good' or 'excellent'.

The mode of delivery was considered 'good' or 'excellent' by 87 (91%) of the respondents.

The survey results suggest that the use of webinars can effectively address the need for accurate information and support. Ninety-three (94%) respondents confirmed they would participate in another webinar. CCV will host further webinars and continue researching their impact.

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ENHANCING LEGISLATION AS A TOOL FOR THE CONTROL OF TOBACCO USES

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Background and Context: Lawyers have a critical role in reducing cancer morbidity and mortality; however, this is a skill which has not been realized especially in the Lower and middle Income Countries (LMIC).

Tobacco kills nearly six million people each year, of which more than 600 000 are non-smokers dying from breathing second-hand smoke (WHO 2014)

Second hand smoke is an established cause of heart disease and several types of cancer (Bonaya J – E pub 2012) Combined efforts from all sectors is one way of reducing tobacco related morbidity and mortality.

Aim: This is an experience paper highlighting the role played by lawyers to undertake advocacy on Enactment of legislation on tobacco free environment to promote a generation of tobacco free kids

Sensitization of law enforcers and the community to enhance their understanding in legislation in as far as control of tobacco use and their rights within the law is concerned

Strategy/Tactics:
- Dissemination of tobacco control legislation through advocacy on law enforcement
- Community education on the dangers on both first and second hand smokers
- Advocacy on alternative cropping for tobacco farmers
- 10 counties reached, about 500 people made up of law enforce religious group and civil societies, community health workers sensitized

Programme/Policy Process:
- The advocacy saw the designation of smoking areas both in public and social places
- Awareness of individual of persons arrested for contravening on of tobacco legislation

Outcomes/What was Learned:

– The enforcement of tobacco legislation is still a challenge since a large number of the law enforcing urgency still needs to be sensitized on the tobacco legislation
– Joint efforts with all stakeholders as a way of realizing our theme.
– Lack of knowledge (poverty, awareness of rights and effects of tobacco use)

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JORDAN TOBACCO DEPENDENCE TREATMENT (TDT) GUIDELINES: RATIONALE AND DEVELOPMENT

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5. *Section of Pulmonary and Critical Care, Department of Medicine, King Hussein Cancer Center, Amman, Jordan*

Background and Context: Available statistics in Jordan indicate that tobacco consumption is increasing among adults and youth (32% and 26% respectively). Two thirds of smokers have made at least one quit attempt. However, data indicates that cessation support for smokers continues to be low with few healthcare providers discussing tobacco use with their patients, and infrequent referrals to TDT clinics. More efforts are needed to promote TDT, such as developing national treatment guidelines.

Aim: Jordan TDT Guidelines were developed to provide guidance for health professionals and educators on how to identify smokers and offer them an evidence-based cessation support.

Strategy/Tactics: A Jordanian TDT Guidelines Group composed of national and international experts was first formed; a National situation analysis for TDT practices was conducted (information on availability of clinics, medications, trained staff was reviewed); following this local review, and after a full and detailed review of current international evidence on TDT, guidelines were drafted; review by national, regional and international experts was done; finally, guidelines were formally endorsed by the Ministry of Health before launching in a national TDT workshop.

Programme/Policy Process: Jordan TDT guidelines are unique in that they provide guidance on support for waterpipe users, in addition to the traditional guidance on the use of brief advice (AAR, 5A's), face-to-face support, and pharmacotherapy use. Other topics addressed include support for adolescent tobacco use, a concerning public health issue in Jordan. A concise description is given for each topic, and main points per topic are emphasized. Practical flowcharts also are available.

Outcomes/What was Learned: Our guidelines are the first comprehensive guidelines in Arabic. They are unique in providing guidance regarding waterpipe use, since this form of tobacco is spreading increasingly in the region. They are drafted by international collaboration, and moreover endorsed by local health authorities.

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BREAST CANCER CHALLENGES IN SOUTH AFRICA

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Background and Context: In South Africa public health care system is constrained with the bulk of accessible budgets being allocated to the management of infectious diseases like ARV's. Focus on cancer control is not on a priority on the public health care systems' agenda. Late diagnoses, poor access to treatment and poor condition of public treatment facilities lead to unnecessary cancer deaths.

Aim: CANSA took hands with Phakamisa – a special breast cancer initiative of AstraZeneca. This programmes was uniquely developed to address the challenges of breast cancer in SA and to make a difference at a grass roots level where the need for practical support and intervention is greatest.

Strategy/Tactics: To enhance CANSA's community driven prevention and early detection women's health programmes CANSA's Phakamisa programme, which in Zulu means to uplift, aims to ease the burden of Breast Cancer on women in the public sector by supporting these patients who rely on public health care for treatment. A new management strategy using a specially developed *mobisite*, a Phakamisa Hot Line and information through social media differentiate this prevention programme from all previous mind liked ones. This cellphone programme is utilized by navigators to communicate with patients, reminding them to take their medication and to go for follow up medical examinations.

Programme: Phakamisa programme goals are achieved by means of a three pillar model:

- Support to breast cancer patients
- Training of Health Care Practitioners
- Ensuring hormonal treatments available in public treatment facilities

Outcomes: In three year 600 000 women have been exposed to the programme via 400 trained navigators 40 000+ public meetings were held 5 000 women raised concerns about their own breast health 2000 malignant lumps detected and referred for early diagnosis and treatment. This South African model have been launched in Kenya in Ghana

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QUALITY INDICATORS FOR RADIATION TREATMENT: A GLOBAL PERSPECTIVE

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11. *Canadian Association of Medical Radiation Technologists, Canada*
12. *Saint John Regional Hospital, Saint John, New Brunswick, Canada*
13. *Canadian Partnership Against Cancer, Canada*

Background and Context: Radiotherapy (RT) is an important treatment for cancer but is unavailable in many low and middle-income countries (LMICs). There is a UICC initiative to quantify the global investment necessary to make RT universally accessible. An important consideration is assuring quality and safety. Many existing RT quality and safety guidelines were developed in a top-down manner from experience in developed nations, are not readily adapted to LMICs and are not well suited to measuring programmatic or systems-level performance as drivers of quality improvement.

Aim: Develop and validate RT key quality indicators (KQIs) to motivate practice improvement and harmonization of care

Strategy/Tactics: The Canadian Partnership for Quality Radiotherapy (CPQR) used a Delphi process with engagement of front-line providers to develop KQIs that are adaptable to different environments and changing practice patterns over time.

Programme/Policy Process: A literature review identified an initial set of KQIs. The first Delphi round involved oncologists, physicists, therapists and administrators from across Canada who were asked to rate each KQI for importance, clarity and feasibility. This was followed by a second in-person Delphi round, during which the KQIs were revised to build consensus. Participants reviewed and endorsed the final set of KQIs prior to dissemination.

Outcomes/What was Learned: The literature review identified 454 RT quality guidelines that were consolidated to form 51 KQIs in four categories: programmatic organization, personnel, equipment and policies/procedures. From the initial Delphi round, there was high agreement about importance in 63% of the KQIs, clarity in 49% and feasibility in 45%. The KQIs were revised during the in-person meeting, resulting in a final set of 45 KQIs (available at www.cpqr.ca). There was >90% agreement for >90% of these KQIs, which are now used extensively in Canada. They are easily adapted to LMICs using a similar methodology with engagement of local practitioners.

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THE VIEWS OF ONCOLOGY PROFESSIONALS REGARDING THE VICTORIAN CANCER TRIALS LINK (VCTL), AN ONLINE CLINICAL TRIALS PORTAL

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Background and Context: Cancer Council Victoria (CCV) spent $AUS 22.9M in 2013 in support of cancer research. CCV's Clinical Network (CCV CN) aims to improve clinical care and patient outcomes and established the Victorian Cancer Trials Link (VCTL) website in 2009 to better link patients with possible clinical trials.

Aim: Assess usage of the VCTL by CCV CN members and gauge members' views regarding possible improvements.

Method: A group familiar with clinical trial activity and the VCTL developed questions and piloted these with CCV staff. A 37-item online survey was developed using Survey Monkey. Members of the CCV CN were invited by email to complete the survey. A small prize incentive was used to enhance survey participation. The survey was available for two weeks and members received two reminder emails.

Results: The survey link was emailed to 707 individuals; 97 participated (14% response rate), Most respondents were clinical research professionals (n = 97, 32%) or medical oncologists (n = 23, 24%). Awareness of the VCTL was high (n = 97, 83%). Of those who had visited the site in the past 12 months, 43% (n = 60) had visited 1–3 times. People who had not visited VCTL reported that they find information from another source (n = 8, 62%): usually via multidisciplinary meetings, through Cancer Trials Australia or disease-specific cooperative trial groups. 78% of respondents (n = 67) had or would recommend the website to others. Suggestions for improvement of VCTL included improved search capability (such as phase I trials specifically), more frequent promotion and improved currency / accuracy of trial information.

Conclusions: There is high awareness of the VCTL, at least in some professional groups. Not all CCV CN members are active in research, which may explain low response rate. Additional surveys and website statistics should be monitored to determine the effect of additional promotion and any website improvements.

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STUDY: DECREASING CANCER MORTALITY RATES IN SERBIA

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The study assessed the present response of Serbia health care system to increasing trends in morbidity rates caused by malignant neoplasms. The objective was to identify the key shortcomings and to propose feasible solutions for overcoming them. Authors reviewed the latest epidemiology data, health care expenditures and evaluated the current normative and organization of health care delivery. Economics Institute organized two Forums, with the leading oncology specialists and state authorities. Conclusions from these discussions gave a valid contribution and are incorporated in the study.

Epidemiology data show that incidence of malignant neoplasms in Serbia is close to majority of European countries, however survival rates lack behind the EU average, consequently mortality rates are among the highest in Europe. The reasons beyond this are double fold; (1 the country did not earmarked sufficient resources for fighting cancer and (2) organization of health care services is outdated and fragmental with the high spatial inequity and over-involvement of the tertiary care. Financing of health care has been affected by the economic crisis, since 2008 the state Health Insurance Fund's income has been decreasing steadily, on average by 4% points annually. Lack of resources brought uneven supply of pharmaceuticals, causing delay in therapies, while patients are deprived of possibilities to be treated with the more advanced protocols. Delivery of health care is affected by the shortages of health care specialists; caused by the absence of staff planning and shortfalls in the education system. In such environment, the major burden is shifted on the tertiary institutions, which perform basic services which could be delivered at the secondary care level.

Key recommendations point to the necessity of urgent response of the state authorities. The viable solution could be reached only by the active involvement of practicing professionals, patients groups and national professional bodies.

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USING THE NATIONAL CANCER PATIENT EXPERIENCE SURVEY TO DRIVE IMPROVEMENTS IN STAFF AND PATIENT EXPERIENCE

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Background and Context: The annual Cancer Patient Experience Survey (CPES) conducted by the National Health Service (NHS) measures the experience of 70,000 cancer patients in England. Over the 3 years it's run, CPES has driven improvements. At a national level around half the measures surveyed improved in the 2012/13 survey compared to previous two years.

The data alone does not provide a framework for making changes, so Macmillan developed the Macmillan Values Based Standard® (VBS) as a framework for improving patient and staff experience.

Macmillan worked with more than 300 patients, staff, carers and family members to develop VBS. It identifies specific behaviours which patients want staff to get right and staff want to be empowered to deliver. These are practical things staff can do every day and are what patients can expect.

Aim: To raise awareness of the importance of patient experience, and roll out VBS to achieve improvements in patient care and staff experience.

Strategy/Tactics: Through a media campaign around CPES results, Macmillan identified the 10 best and 10 worst performing Trusts, this acted as a springboard for poorly performing Trusts to partner with Macmillan to make improvements.

Programme/Policy Process: Over the course of 2013/14, Macmillan has begun working with staff and patients across 20 NHS Hospital Trusts, and 16 other sites, to analyse their performance in the CPES, alongside local insights, to create a holistic picture of priorities for improvement. Using VBS as a framework, staff are empowered to tackle the issues and co-design potential solutions.

Outcomes/What was Learned: Early findings demonstrated that implementing VBS led to improvements in patient and staff experience. For example Dorset County Hospital improved the quality of information that patients receive; Imperial College Healthcare NHS Trust film patients talking about their treatment by staff, who then watch the footage and make relevant changes.

1. NHS England. Cancer Patient Experience Survey 2013 National Report. Results are based on responses from patients with a cancer diagnosis who were discharged from hospital between 1st September and 30th November 2012 from 155 NHS trusts in England.

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INTEGRATED MARKETING/INFLUENCING CAMPAIGN TO IMPROVE SUPPORT FOR HIDDEN CANCER CARERS

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Background and Context: Caring for someone with cancer can have significant emotional, physical and financial impacts. In the UK, over 1 million friends and family provide unpaid support to someone with cancer at an economic value of over £12 billion. However, over half this group don't identify themselves as 'carers' and miss out on support available from the health and social care system. Health professionals are ideally placed to identify cancer carers and signpost them to support, but often fail to do so, and may not see it as part of their role.

Aim: In 2013 Macmillan delivered a marketing/influencing campaign to increase the identification of cancer carers, to ensure they are signposted to support.

Strategy/Tactics: The campaign had two strands:
(1) Influencing the new Care Bill, calling for government to place a duty on the National Health Service (NHS) to ensure health professionals identify carers and signpost. Tactics included forming strategic relationships with key national health bodies such as NHS England and Department of Health, and other charities including Carers UK.
(2) Digital marketing aimed at hidden carers to help them self-identify and access support. Tactics included targeting people who match known demographic of cancer carers.

Activities were aligned to ensure cross-selling of messaging and maximum take-up.

Programme/Policy Process: Macmillan is currently working with NHS England to influence the Care Bill's statutory guidance, which is due to be launched in October 2014. Further digital marketing activity is planned for October, based on learning from 2013 activity.

Outcomes/What was Learned: The influencing activity successfully resulted in a commitment to include statutory guidance on the identification of carers by the NHS in the Care Bill.

The marketing activity resulted in a 550% increase in traffic to the carers pages of Macmillan's website, equating to over 30,000 visitors accessing information and support.

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JOINING FORCES ACROSS A CANCER NGO AND CANCER HOSPITALS TO THE ADVANTAGE OF CANCER PATIENTS

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Background and Context: On a yearly basis the The Danish Cancer Society counsel cancer patients and relatives up to 90.000 times. From our users we have learned that the psychosocial needs can appear early and that patients emphasize easy access to psychosocial counselling in a non hospital environment.

Aim: Inspired by the concept of healing architecture, our aim was to build seven counselling centres next door to cancer treatment and initiate a successful partnership between the Danish Cancer Society and the hospitals to the advantage of people affected by cancer.

Strategy/Tactics: Our strategy was to offer extraordinary buildings to uplift people affected by cancer by providing a place for support, rest and recovery. We also engaged in creating different platforms for our professional counsellors to meet with hospital staff for knowledge sharing and skills training.

Programme/Policy Process: The new counselling centres offer drop-in counselling and a variety of innovative and well documented patient support activities i.e. an evidence based programme for physical activity for patients undergoing chemotherapy, mindfulness and the facilitation of meetings with peers. Also many more volunteers have been engaged.

Outcomes/What was Learned: We have achieved an output beyond the reach of the partners' individual efforts. Our collaboration with hospitals has worked well because we have partnered with like services who have an early intervention focus and offer a compatible service to ours. We see an increase in patients coming, they are contacting us earlier and our experiences indicate that our users have a broader socio-economic background than before.

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CHANGES OF TOBACCO USE AND CANCER INCIDENCE: COMPARISONS BETWEEN DIFFERENT BIRTH COHORTS OF MEN IN SWEDEN

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Background: In international overviews Sweden stands out as a country with low incidence of tobacco-related cancers and a unique pattern of tobacco use with record low prevalence of smoking and record high prevalence among men of use of snus, the Swedish kind of moist oral tobacco. This raises many questions about the relationship between changes of the patterns of tobacco use and changes of incidence of tobacco-related cancers.

Aim: Time series of cancer incidence and tobacco use prevalence cannot take into account the effects of differences between different birth cohorts with respect to initiation and cessation of different tobacco products. The current study was aimed at getting a more detailed analysis by comparing different birth cohorts with regard to tobacco use and age-specific cancer incidence rates.

Methods: Birth-cohort-specific incidence data were retrieved from the NORDCAN database1 and matched against tobacco use data for corresponding birth cohorts retrieved from large nationwide representative surveys. Incidence rates included cancer of the bladder, larynx, lip, lung, mouth and pancreas. Tobacco use data included primary initiation of daily smoking and primary initiation of daily snus use.

Results: For cohorts born in 5-year spans around 1942, 1947, 1952 and 1957 we found a decrease of initiation of daily smoking from 56% in the oldest cohort to 39% in the youngest one, and an increase of initiation of snus use from 6% to 21%. For all cancers there was a shift towards lower incidence rates when going from older to younger cohorts. For example, the mouth cancer incidence rate at age 50–54 was 3.760/105 in the oldest cohort and 2.239/105 in the youngest one.

Conclusions: The current study demonstrates that decrease of smoking is associated with decreasing incidence of smoking-related cancers also when there is a concomitant increase of the use of Swedish snus.

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RISK PREDICTION MODELS FOR MELANOMA: A SYSTEMATIC REVIEW

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Background: Melanoma incidence is rising rapidly worldwide among white skinned populations.

Earlier diagnosis is the principal factor that can improve prognosis. Defining high-risk populations using risk prediction models may help targeted screening and early detection approaches.

Aim: To identify and compare existing risk prediction models for melanoma.

Methods: In this systematic review we searched Medline, EMBASE and the Cochrane Library for primary research studies reporting or validating models to predict risk of developing cutaneous melanoma. To be included, models needed to have been developed using a step-wise method, include a combination of risk factors and be applicable to the general population. Screening of studies for inclusion and data extraction were completed independently by at least two researchers.

Results: 4141 papers were identified from the literature search and six through citation searching. 25 risk models were included. Between them, the models considered 144 possible risk factors, including 18 measures of number of naevi and 26 of sun/UV exposure. Those most frequently included in final risk models were number of naevi, presence of freckles, history of sunburn, hair colour and skin colour. Despite the different factors included and different cut-offs for sensitivity and specificity, almost all models yielded sensitivities and specificities that fit along a summary ROC with AUROC of 0.755, suggesting most models had similar discrimination. Only 2 models have been validated in separate populations and both also showed good discrimination with AUROC values of 0.79 (0.70–0.86) and 0.70 (0.64–0.77).

Conclusions: A large number of risk prediction models for melanoma have been developed. Comparison between them is difficult due to the lack of validation studies and number of different variables considered. Further research should focus on validating existing models rather than developing new ones.

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EVALUATION OF COMMUNITY BASED CERVICAL SCREENING IN OGUN STATE, NIGERIA

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Background: The WHO supported a study of the effectiveness and acceptability of VIA and Cryotherapy in six African countries including Nigeria. The Nigerian project site was based in Ogun State.

Aim: To evaluate the impact of the adoption of Visual Inspection with Acetic Acid (VIA) and Cryotherapy and identify the characteristics for effective implementation of cervical cancer screening programme in Nigeria

Method: 2000 women and 31 trained health workers in cervical screening were interviewed using self-validated questionnaires; 10 cervical screening centres were also assessed using standard check lists

Results: Awareness of cervical cancer and screening are very low (6.5% and 4.8% respectively). Only 2.3% could identify a virus as the cause of cervical cancer while 4.1% identified cervical screening as a way to prevent cervical cancer. 97.7% and 97.9% had no or poor knowledge of risk factors and knowledge of symptoms of cervical cancer. 90.5% identified lack of awareness as the barrier to uptake of cervical screening. 1.4% of the women have had cervical screening done. 96% of the women would like to have cervical screening done. 74.2% of health workers had a good understanding of VIA and 70.7% of them knew what to do with a positive screening result. 48.4% of trained health workers were no longer involved with cervical screening. 87.1% of the health workers lacked access to adequate support. Cost is not a determinant of number of patients accessing VIA services at the facilities ($P = 0.38$).

Conclusions: Awareness and knowledge of cervical cancer is very poor. Uptake of cervical screening is even poorer. Most women desire cervical screening. Health workers have good understanding of cervical screening and the health facilities are adequately equipped for cervical screening. The major barriers to uptake of screening services are low level of awareness, lack of support by local and state government and huge health staff turnover.

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EPIDEMIOLOGICAL CHARACTERISTICS OF CARCINOMA OF THE CERVIX IN FEDERAL TEACHING HOSPITAL, ABAKALIKI, NIGERIA

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Background: *Cervical cancer is the second most common malignancy in women worldwide with a high incidence in under-developed countries and Nigeria is one of these countries.* Its presentation in our environment is usually late.

Aim: To study the epidemiological characteristics of cancer of the cervix in the Federal Teaching Hospital Abakaliki.

Methods: Retrospective study of all cases of cancer of cervix admitted at the Federal Teaching Hospital, Abakaliki from 1st January 2012 to 31st December 2013. The case records of the patients were retrieved from the ward admissions and discharge books and the operating theatre record books.The data were analyzed using IBM SPSS statistics 20 and the results expressed in descriptive statistics by simple percentages.

Results: Over the 2 year study period 1178 women were admitted, 99(8.4%) were found to have gynecological malignancy while (60.6%) were cancer of the cervix The mean age of the patients was 42.4 years, Twenty-five (69.4 %) were grandmultiparous. Five (17.9%) admitted to multiple sexual partners. A common presenting complain was bleeding through the vagina (64.2%), (14.3%) were urinary incontinence and (38.9%) were cachetic. Late stage cancers were (84.6%), and (73.0%) were squamous cell carcinoma.

Conclusions: Cancer of the cervix present late in the Federal Teaching Hospital Abakaliki. Screening for pre-malignant lesions of the cervix should be encouraged.

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DIAGNOSTIC VALUE OF RECTAL BLEEDING IN PREDICTING CRC IN DEVELOPING COUNTRY – PILOT STUDY

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Background: Colorectal cancer is one of the most common cancers all over the world with previous reports suggesting increasing incidence in developing countries due to lack of organized screening programme. Timely and efficient referral leading to early diagnosis of colorectal cancer may contribute to improved survival.

Aim: This study was initiated to determine the diagnostic value of rectal bleeding in predicting colorectal cancer in Nigeria. We presented the preliminary analysis of the data.

Methods: This is a prospective study of patients' ages 45 years and above presenting with rectal bleeding at 5 primary health care facilities that were referred for colonoscopy at the Endoscopy unit of Obafemi Awolowo University Teaching Hospitals Ile-Ife. Data obtained included the socioeconomic, clinical, anthropometric, colonoscopy and histopathological parameters.

Results: In this interim analysis, 56 patients were recruited into the study. Thirty–three (59%) patients were males. The median age was 58 years (range 45–89 years). Median duration of rectal bleeding was 6 months (0.25–360 months). Forty six (86%) patients had seen a doctor before the procedure. Changes in bowel habit and weight loss was found in 22 (39%) and 24 (43%) patients respectively. Colorectal cancer was found in 12(21%) and polyps in 9(16%) of the patients. Hemorrhoids and diverticulosis were found in 63% and 34% respectively. We then correlate the clinical and anthropometric data of cancer patients and non-cancer patient to assess the predictive value.

Conclusions: Given the high specificity of rectal bleeding in predicting the possibility of occurrence of colorectal cancer and polyps, this symptom may be used to select patients needing screening in poor resource setting.

1. Tong G, Chai J, Cheng J, Xia Y, Feng R, Zhang L, Wang D. Diagnostic Value of Rectal Bleeding in Predicting Colorectal Cancer: a Systematic Review *Asian Pac J Cancer Prev*, 15 (2), 1015–1021

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VARIATIONS IN SERUM ANDROGENS AND ESTRADIOL IN PROSTATE DISORDERS IN CALABAR

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Background: Variations in serum androgen and estradiol levels in men with prostate disease in Calabar Metropolis was studied.

Aim: To asses the relationship between PSA and the hormones measured and the relationship of the hormones with themselves

Methods: 133 patients with prostate cancer (PC), 74 with Benign Prostatic Hyperplasia (BPH) and 60 apparently healthy men were selected for the study. Patients were further divided into prostate cancer group (133) and BPH (74). Those with prostate cancer were divided into fresh cases, and those on various forms of treatment. Serum Testosterone, Dihydrotestosterone, Dehydroepiandosterone, Estradiol, and Prostate Specific Antigen was determined using standard methods.

Results: Serum PSA was significantly higher ($p < 5.00$) in men with PC and BPH. Treated cases of cancer had relatively lower values than fresh cancer (FC) cases but significantly higher values than controls ($p < 0.05$).E_2/DHT was significantly higher ($p < 0.05$) in prostate cancer than in controls. FC had significantly higher ($p < 0.05$) serum E_2/DHT than Hormone Manipulation (HM), significantly higher E_2, E2/DHT and E_2/T ratio than men on Orchiectomy and Hormone Manipulation (OHM). HM showed significantly higher ($p < 0.05$) serum levels of E_2, E_2/DHT and E_2/T than OHM. BPH had significantly higher ($p < 0.05$) E_2/T than controls. Dihydrotestosterone and Testosterone and Estradiol and Testosterone showed a strong association ($r = 0.268$; $p = 0.000$, $r = 0.295$; $p < 0.011$) in FC and ($r = 0.252$; $p = 0.033$, $r = 0.420$; $p = 0.000$) in the BPH group. In the controls, Estradiol and Testosterone showed a strong association ($r = 0.338$; $p = 0.008$).

Conclusions: The lower levels of E_2 seen in men who had undergone orchiectomy and are on hormone manipulation than in other groups tends to give the best expectation in terms of management of prostate cancer patients and these patients have the best survival rates than those on hormone manipulation alone.

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DEMOGRAPHIC VARIATION OF CANCER INCIDENCE IN JORDAN 2000–2009 (AGE AND SEX AS EXAMPLE)

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Background: Age and sex are major determinants of cancer incidence.There are major differences in the underlying age structures of the registry populations compiled in cancer incidence in five continents

Aim: to explore the charactristic of top ten cancer by age group and sex 2000–2009

Methods: Descriptive study done,cases were identified from Jordan cancer registry(JCR), all cancers patients that diagnosed and registered in 2000–2009 were included, data about age, sex, primary site, morphology,were collected and filtered,SPSS software version 17 used for analysis frequencies and top ten cancers were calculated

Results: Total number of cases in JCR in were(38222),(49.2%) were males(50.8 %)were females, M : F ratio 0.97:1.There is difference of distribution of cancer cases by age group and sex,about (41.1) % of the cases in <60 years,Male (58.3%) than female (41.7%).On the other hand females is more common (59.2%) in the age group 20–59 years than males (40.8%),while in the age >20 years years males (56.3%) were slightly more than female(43.7%).Top ten cancers : lymphoma, leukemia and brain & CNS were predominat cancers in the age group 0–19 years in both sexes,while breast cancer is markedly the commonest cancer in female in the age group 20–49 years.In males,lymphoma and leukemia and colorectal cancer are the commonest in this age group.In the age group50 years and more breast cancer again is the first in females while in males lung cancer, colorectal and prostate cancers are the commenest

Conclusions: There isvariation of percentages and rank of top ten cancers by different age groups in Jordan as compared with other national,international countries, lymphoma,leukemia and brain are the commonest cancer in the young age group in both sexes,breast is thecommonest in females from 20 and above.While lung and colorecatl cancers were thecommenest in >50 years.efforts and attention to each each agegroup and sex with type of cancer should taken in consideration in cancer prevention and cancer management

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AN ANALYSIS OF THE RELATIONSHIP BETWEEN CANCER PATIENTS AND THEIR QUALITY OF LIFE IN TRINIDAD AND TOBAGO

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Background: Quality of life is conceptualized as a person's position in life in the context of their goals, expectations and the effects these on the person's physical, psychological state, level of independence and social relationships. Research has suggested that cancer impacts the quality of life (QoL) of patients. Furthermore, several predictors of QoL in patients exist, namely year since diagnosis, type of cancer, stage, and treatment, and studies have considered this relationship. In developing this thesis, the researcher drew on Social Cognitive Theory (SCT).

Aim: The SCT concept of outcome expectations refers to the physical, social, and self-evaluative expectations one holds and when there is a negative outcome these lower the QoL.

Methods and Results: Utilizing an instrument to capture both epidemiological (demographic and medical) and quality of life data (EORTC-QLQ 30) as well as focus group sessions, the study results show overall that cancer related factors namely year since diagnosis and type of cancer can explain 18% of the variance in the quality of life of these patients; a significant relationship between age and quality of life; stages 1 and 2; 1 and 3; 1 and 4 and quality of life andthe year since diagnosis and quality of life;sex and quality of life; negative relationships between treatment and quality of life; no significant association type of cancer (breast and prostate) and quality of life. Over 34% of the patients experienced a good quality of life; 27% experienced a very good QoL with only 3% experiencing a very bad QoL.

Conclusions: The study concludes that QoL is a relevant concept and this study can facilitate the assessment of the impact of the disease on QoL and allow for strategies to minimize the adverse effects on the lives of Ca patients.

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A POPULATION-BASED STUDY OF ADVERSE PHYSICAL EFFECTS FOLLOWING PROSTATE CANCER TREATMENT: RESULTS FROM THE PICTURE (PROSTATE CANCER TREATMENT – YOUR EXPERIENCE) STUDY

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Background: Men and clinicians need reliable population based information when making decisions about investigation and treatment of prostate cancer. In the absence of clearly preferred treatments, differences in outcomes become more important.

Aim: To investigate rates of adverse physical effects among prostate cancer survivors 2–15 years post diagnosis by treatment, and estimate population burden.

Methods: A cross sectional, postal survey to 6,559 survivors (all ages) diagnosed with primary, invasive prostate cancer (ICD10-C61), identified in Northern Ireland and the Republic of Ireland via cancer registries. Questions included symptoms at diagnosis, treatments received and adverse physical effects (impotence, urinary incontinence, bowel problems, breast changes, libido loss, hot flashes, fatigue) experienced 'ever' and 'current' i.e. at questionnaire completion. Physical effect levels were weighted by age, country and time since diagnosis for all prostate cancer survivors. Bonferroni corrections were applied to account for multiple comparisons.

Results: Adjusted response rate 54%, (n = 3,348). 75% reported at least one current physical effect (90% ever), with 29% reporting at least three. These varied by treatment. Current impotence was reported by 76% post-prostatectomy, 64% post-external beam radiotherapy with hormone therapy, with average for all survivors of 57%. Urinary incontinence (overall current level: 16%) was highest post-prostatectomy (current 28%, ever 70%). 42% of brachytherapy patients reported no current adverse physical effects; however 43% reported current impotence and 8% current incontinence. Current hot flashes (41%), breast changes (18%) and fatigue (28%) were reported more commonly by patients on hormone therapy.

Conclusions: This study provides evidence that adverse physical effects following prostate cancer represent a significant public health burden; an estimated 1.6% of men over 45 is a prostate cancer survivor with a current adverse physical effect. This information should facilitate investigation and treatment decision-making and follow-up care of patients.

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THE ASSOCIATION BETWEEN BODY MASS INDEX (BMI), MORPHOLOGIC TYPE AND SURVIVAL IN PATIENTS WITH RENAL CELL CARCINOMA (RCC) IN LATVIA

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Background: The increasing prevalence of obesity may be a contributing factor for the rising incidence of RCC over the past several decades. According to *Eurostat* (2008) data 1.9% of the Latvian population was underweight, 43.2% – of normal weight, 38% – overweight and 16,9% – obese.

Aim: To assess the association between BMI, histological pattern and survival of RCC.

Methods: This was a Riga East University Hospital-based retrospective study from 2009 to 2010 about 305 patients with histologically confirmed renal carcinoma.

Results: All study patients were stratified into 4 groups according to their BMI: underweight (BMI < 18.5), normal weight (BMI = 18.5–24.9), overweight (BMI = 25–29.9) and obese (BMI > 30). Only 1 patient was underweight (0.3%), 69 were of normal weight (22.6%), 114 – overweight (37.4%) and 121 – obese (39.7%). According to one-way ANOVA test there were no statistically significant differences (p > 0.05) between BMI, stage of the disease and its histological type. Statistically significant difference was observed in cancer specific survival trends by Kaplan–Meier method between patients with normal and elevated BMI (p = 0.028). The difference in the survival curves between overweight and obese patients was not statistically significant (p = 0.369).

Conclusions: The proportion of overweight and obese persons among the RCC patients is higher than in general population. The stage of the disease and its histological type does not depend on BMI whereas survival curves were significantly better for those with BMI exceeding normal.

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EARLY VERSUS LATE ONSET BREAST CANCER IN PAKISTANI WOMEN UNDERGOING BREAST CONSERVATIVE THERAPY: ARE THE OUTCOMES DIFFERENT?

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Background: Early onset breast cancer is associated with poor outcomes but variable results have been reported.1, 2 It is a significant problem in Pakistani women but remains under reported. Breast conservation plays an important role in surgical management of this younger patient group.

Aim: To determine outcome of breast conservative therapy in early onset breast cancer in Pakistani population and compare it with older counterparts.

Methods: A review of patients with invasive breast cancer who underwent breast conservation at Shaukat Khanum Cancer Hospital between 1997–2009 was performed. Patients were divided into two groups i.e. Group I age ≤40 and Group II >40 years. A total of 401 patients with breast cancer were identified in Group I and 405 patients in Group II. Demographics, histopathological findings and receptor status of two groups were compared. Chi square test was used for categorical variables. Outcome was assessed on basis of 10 year locoregional recurrence free survival (LRRFS), disease free survival (DFS) and overall survival (OS) in two groups. For survival analysis Kaplan Meier curves were used and significance was determined using Log rank test. Cox hazard model was used to determine independent predictors of outcome.

Results: Median follow up was 4.31(0.1–15.5) years. Median age at presentation was 34.6 years (17–40) and 51.89 years (41–82) for two groups. Groups were significantly different from each other with respect to grade, receptor status, tumor stage and use of neoadjuvant therapy. No significant difference was present between the two groups for estimated 10 year LRRFS (86% vs. 95%) (P = 0.1), DFS (70% vs. 70%) (P = 0.5) and OS (75% vs. 63%) (P = 0.1). On multivariate analysis, tumor stage was an independent predictor of LRRFS, DFS and OS.

Conclusions: Early onset breast cancer is associated with a distinct biology but does not lead to poorer outcomes in our population.

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THE RELATIONSHIP BETWEEN VIRAL LOAD MEASUREMENTS OF HPV-16 AND PROGNOSTIC OF CERVICAL CANCER

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Background: Human papillomavirus (HPV)infection, is a major risk factor for the development of cervical cancer worldwide, particularly HPV-16.A strong association has been shown between viral load of human HPV-16 and the progress of cervical lesions. However, little data is available for the significance of viral load in prognostic of cervical cancer.

Aim: In this study,we demonstrated relationship between viral load of HPV 16 infection and cervical cancer,and its potential clinical significance as a prognostic factor.

Methods: Two hundred-ten human papillomavirus 16-positive patients who underwent radical hysterectomy with pelvic lymphadenectomy for FIGO stage IA2-IIA cervical cancer were recruited in this study.Viral load measurements of HPV16 were identified by qRT-PCR.The association of viral load with clinicopathologic characteristics and overall survivals were analyzed.

Results: Viral load measurements of HPV-16 were detected in all of 210 evaluable cases, and the results of correlation analysis indicated that HPV16 viral load was significant related with cervical cancer patients age ($P = 0.013$), FIGO stage ($P = 0.024$),and lymph node metastasis ($P = 0.041$).Univariate analysis showed that the patient's age, viral load of HPV-16, FIGO stage, histological grade, lymph node metastasis were the poor factors for overall survival time ($P < 0.05$). Kaplan-meier survival analysis showed that the overall 5-year survival rates of the viral copy number range 10^7–10^9,10^5–10^6,10^3–10^4 of HPV16 were 34.4%, 48.0% and 87.1%, respectively ($P < 0.05$). Cox regression analysis showed that lymph node metastasis (OR = 9.617; 95% CI 1.598–7.719; $p = 0.002$), viral load of HPV-16 (OR = 12.403; 95% CI 1.628–5.535; $p = 0.001$) are independent prognostic factors.

Conclusions: Our findings suggest that viral load of HPV-16 is an independent reliable prognostic factor of early-stage cervical cancer.

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ATTITUDES TO CANCER FOLLOW-UP CARE IN GENERAL PRACTICE

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Background: Traditionally follow-up of cancer patients in Australia has occurred in secondary care and patients sometimes continue to attend specialist clinics for follow-up many years after they have been diagnosed. This is the first Australian study to explore the attitudes of surgical, radiation and medical oncologists, general medical practitioners (GPs) and cancer patients to follow-up cancer care.

Aim: This study investigates attitudes and beliefs of patients, GPs, surgical, radiation and medical oncologists, with regards to follow-up care of patients who have no current evidence of recurrent cancer. The aim is to explore the feasibility of follow-up care and consultations being performed by GP's, rather than by specialist clinicians in hospital based cancer clinics.

Methods: This research is a qualitative, feasibility study involving 60 participants, including 20 patients, 20 GPs and 20 hospital-based medical, radiation and surgical oncologists. Patients attending follow-up consultations at the Prince of Wales Hospital Cancer Clinic who have completed treatment for either breast or colorectal cancer, were invited to participate by letter from their treating specialists. Interviews were transcribed verbatim, emergent themes identified using the qualitative research framework developed by Miles and Huberman[1], validated by inter-rater coding by members of the research team, and analysed using NVivo qualitative research software. This study was approved by the South Eastern Sydney Local Health District Human Research Ethics Committee.

Results: Emergent themes include; psychosocial needs of patients, capability of follow-up care providers, distinguishing follow-up care requirements in relation to tumour type and relationships between primary care providers, specialist clinicians and patients.

Conclusions: Cancer follow-up care encompasses psychosocial needs of patients, continual assessments and monitoring. With consideration of the themes emerging from this pilot study an intervention study is planned comparing a package of primary care-led cancer follow-up care with usual care.

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A CROSS-SECTIONAL STUDY ASSESSING THE ASSOCIATION OF UNMET SUPPORTIVE CARE NEEDS AND COMORBIDITY AMONG INDIGENOUS CANCER PATIENTS IN QUEENSLAND, AUSTRALIA

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Background: Supportive care needs (SCN) of cancer patients change during their cancer trajectory. Indigenous cancer patients face unique barriers to treatment; this may be partially explained by increased levels of comorbidity.

Aim: To explore the SCN of Indigenous cancer patients undergoing treatment and examine the impact of comorbidity on need fulfilment.

Methods: Indigenous patients undergoing cancer treatment were recruited from four public hospitals. The Supportive Care Needs Assessment Tool for Indigenous People was administered to measure type and level of unmet need (26 items; 0 = no need to 5 = high need) across four domains: *Physical & Psychological*, *Hospital Care*, *Information & Communication*, and *Practical & Cultural*. For each domain, summated item scores were standardised on a 0–100 scale. Standardised scores were then dichotomised (none vs. some unmet need) for logistic regression analysis. Comorbidity data was collected via medical charts. A modified Charlson Comorbidity Index (CI), based on the presence and severity of select chronic conditions, was calculated and categorised as none (CI = 0), mild (CI = 1), and moderate-severe (CI = 2+).

Results: Among 248 patients, 68 (27%) had mild and 43 (17%) had moderate-severe comorbidity. Median domain scores between comorbidity groups were not significant ($p > 0.05$). Patients without comorbidity had significantly greater odds of having any unmet need in the *Information & Communication* (OR1.92, 95%CI 1.05–3.53, $p = 0.04$) and *Practical & Cultural* (OR2.27, 95%CI 1.32–3.90, $p < 0.01$) domains. Increased odds of having unmet need in the *Physical & Psychological* and *Hospital Care* domains was not significant ($p > 0.05$).

Conclusions: Patients with better health were more likely to report unmet need in the *Information & Communication* and *Practical & Cultural* domains. Speculatively, those with better health or who are less familiar with the health system may be more vulnerable to the impacts of cancer. A better understanding of this paradox may help improve treatment outcomes among Indigenous cancer patients.

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CHINESE WOMEN LIVING WITH CERVICAL CANCER IN THE FIRST THREE MONTHS FOLLOWING DIAGNOSIS: A QUALITATIVE STUDY

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Background: An earlier study revealed that Mainland Chinese women suffered a relatively low health-related quality of life during the first three months after being diagnosed with cervical cancer. This merited conducting a qualitative study to explore their experiences during this period.

Aim: To describe the experiences of Chinese women suffering from cervical cancer in the first three months following diagnosis.

Methods: A descriptive phenomenological method was used. Fourteen participants were interviewed at the time of diagnosis and ten were re-interviewed three months later. The number of interviews conducted was determined by data saturation.

Results: Five themes were discerned: dealing with the emotional chaos down to the hassles caused by the disease and its treatment; handling the diagnosis and the disease in my own way and in accordance with Chinese culture; instinctively depending on my partner and experiencing improved relationships within the family but no sexual life; sharing information and support with fellow patients but hiding the diagnosis from friends and acquaintances; returning to previous existence wanting to be treated as normal but with changed attitudes to life.

Conclusions: The lived experience was seen as a sudden life transition triggered by receiving the diagnosis. Cultural and societal contexts influenced patient adaptation to the situation.

Implications for Practice: Family members and fellow patients could be mobilized to help patients since their support was highly valued. Regarding their hope for an ordinary life, patients could benefit from the relief of side effects and information, for instance, on how to resume sexual activity.

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CIN2 REGRESSION FOR YOUNG PATIENTS WHO WERE CONSERVATIVELY MANAGED

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Background: Women previously treated for a high-grade squamous cervical intraepithelial lesion (CIN3) are at increased risk of cervical cancer and must be treated. However, recent research suggests CIN2 lesions in younger patients may be managed conservatively.

Aim: To investigate health outcomes of conservatively managed young patients with CIN2.

Methods: A retrospective investigation was performed for patients aged 18 to <25 years with biopsy confirmed CIN2 for 01-Jan-2001 to 31-Dec-2012. Patient's cervical test results were linked with hospital morbidity records to confirm treatment (ablative and/or excisional). Patients treated within 4 months of receiving their CIN2 diagnosis were allocated to the "immediate treatment" group. Patients who remained untreated at ≥4 months were allocated to the "conservative management" group. Regression was defined as a lower grade epithelial lesion than CIN2.

Results: Of the 2,960 patients identified, 1,970 (66.6%) were treated immediately and 990 (33.4%) met the definition for conservative treatment. The median follow-up time was 3.4 years (min <1 year and max 12 years) and mean patient age was 21.6 years. Of the patients treated conservatively, cervical pathology results reported disease persistence for 361 patients (36.4%). One patient was histologically confirmed with squamous cell carcinoma (approximately 5 years post CIN2 diagnosis). Disease regression was observed for 63.5% of patients that were conservatively managed.

Conclusions: This study observed a high regression rate for patients conservatively managed; however, these patients should remain under routine surveillance. Thus 'see and treat' protocols may not be necessary for women aged 18 to <25 with CIN2.

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CHARACTERISTICS OF CHRONIC LYMPHOCYTIC LEUKEMIA (CLL) IN SENEGAL. CLINICAL FEATURES, CYTOLOGY, IMMUNOPHENOTYPE, CYTOGENTIC ABNORMALITIES AND ALTERED EXPRESSION OF MICRORNA

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Background: The incidence of CLL is not known in Senegal for several reasons, among them the difficuty to access the diagnosis since there is only clinical features and cytology without the possibility to apply the WHO classification criteria. Morever, no research in place can be set up without any precise diagnosis.

Aim: To obtain a precise diagnosis of lymphoproliferative disorders in adults in Dakar and to set up flow cytometry to develop immunophenotyping analysis of hematopoietic maligancies

Methods: From peripheral blood lymphocytes, we developed flow cytometry technique using monoclonal antobodies to detect the expression of kappa/lambda light chains, CD19, CD22, CD20, FMC7, CD5, CD10, CD23, CD38 and FISH technique to detect cytogenetic abnormalities: trisomy 12, deletion 13q14, 11q22-23, 17p. RNA was obtained to test micro-RNA mir15a, mir16-1, mir181a, mir181b, mir34a et 34b by qRTPCR.

Results: Twelve cases of CLL were identified, with advanced clincal stage and high hyperlymphocytosis (122 000 to 336 000/mm3). The immunophenotyping score was in favor of typical CLL with high expression of CD38, an unfavorable marker. Nine patients had cytogenetic abnormalities with 2 simultaneous abnormalities in 4 patients. The analysis of microRNA showed high value of mir15a, mir16-1 and low value of mir181a and 181b which were described in aggressive CLL.

Conclusions: Although the low number of cases of CLL, this study shows the aggressiveness of CLL in Senegal probably due to the delay of diagnosis. This analysis demonstrates the possibility to set up flow cytometry technique to obtain a precise diagnosis of CLL on site. Such experiment would be a model for epidemiologic, clinico-biological and translational research studies in order to set up the capacity building for diagnosis and research in the country.

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TELEPATHOLOGY IN HEMATOPATHOLOGY: EXPERIENCE IN FRANCOPHONE AFRICA

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Background: In any country, independently of the objectives (treatment or research) an acurate diagnosis based on pathology is a prerequisite. The huge differences in the number of pathology labs and pathologists between african and industrialized countries justify the development of innovative technology based on internet communications such as telepathology.

Aim: To implement the development of telepathology in hematopathology to acess second opinion from experts on cytology and histology offering support in diagnosis, exchanges for research topics and training.

Methods: To assess existing resources and to set up equipment with microscope connected to numerical camera, computer and internet was the first step. Then, the open source software i-Path, developed by the University of Basel, used through the network INCTR/AMCC/INCa France for telecommunication was set up. Significative numerical pictures (JPEG) were sent via internet to the i-path community to obtain second opinion from experts in hematopathology.

Results: In May 2014, 148 cases were recorded in the francophone africa group for diagnosis support included children and adults cases and 26 cases in the group of research project on lymphoproliferative disorders in Senegal, a research topic for a PhD thesis on chronic lymphocytic leukemia. The cases from children were mostly Burkitt lymphoma and acute lymphoblastic leukemia. In adults, large cell lymphoma cases and differential diagnosis with metastasis of carcinoma were the most frequent cases.

Conclusions: This experiment demonstrates the importance of a second opinion for support diagnosis especially for cytology in hematopathology in low resource countries. Moreover, the use of telepathology can help for improving the standard and new techniques in hematopatholgy such as immuno-cyto or histo-chemistry as well as for training.

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TREATMENT FOR OLDER WOMEN WITH BREAST CANCER – CHALLENGES AND OPPORTUNITIES – AN EXPERIENCE FROM TORONTO SUNNYBROOK ODETTE CANCER CENTRE, TORONTO, ONTARIO, CANADA

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Background: As the mean age of the global population increases, breast cancer in older women will be increasingly encountered in clinical practice

Aim: To present the needs, decisional support and development of a patient decision-aid (PtDA) for women 70 years and older post lumpectomy with early stage breast cancer

Methods: Focus groups, one-on-one patient interviews and a survey were conducted. Patients' decision aid was developed. Measures included patients' satisfaction with the PtDA, self-reported decisional conflict, and level of distress, treatment-related knowledge, and choice predisposition

Results: Sixteen women participated in focus groups, age 76 (range: 70 to 84), and ninety-two, 60 years and older participated in the survey. The majority of women received adequate decisional support during their cancer journey. No significant differences in overall decisional support based on age at diagnosis, education level, ethnicity or the presence of co morbidities. Participants desired educational resources such as a worksheet, consultation summary, or workbook to assist in making a treatment decision. The PtDA was helpful and informative. In comparison with their baseline scores, patients had a statistically significant ($p < 0.05$) reduction in decisional conflict (adjusted mean difference [AMD], –7.18; 95% confidence interval [CI], –13.50 to 12.59); increased clarity of the benefits and risks (AMD, –10.86; CI, –20.33 to 21.49); and improved general treatment knowledge (AMD, 8.99; CI, 2.88–10.28) after using the PtDA. General trends were also reported in the patients' choice predisposition scores that suggested potential differences in treatment decision after PtDA use

Conclusions: Our studies showed that treatments for older women with breast cancer should be tailored according to their needs. Our group is working towards development of a multidisciplinary clinical program for frail women with breast cancer. The results of our studies will be presented at the congress

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BREAST AND CERVICAL CANCER SCREENING BEHAVIORS AMONG UNIVERSITY OF CALABAR WOMEN, CROSS RIVER STATE, NIGERIA

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Background: Breast and Cervical cancer are the leading female cancers in Cross River state. This study describes the level of breast and cervical cancer knowledge and screening behaviour among female staff of the University of Calabar, Cross River State Nigeria.

Aim: The aim of this study is to access the rate of breast and cervical screening behaviour among women working in the University of Calabar community

Methods: Participants were recruited from females working in the University of Calabar using a well structured questionnaire to draw out information on knowledge, screening behaviors and awareness of breast and cervical cancer. The study characteristics was investigated using predictive analytical software (PASW)

Results: The study revealed poor knowledge and screening behaviour among female staff of the University of Calabar community. About 26% of the respondents reported to have ever had a pap test and 74% reported as never having done Pap test. Ninety two (92%) of the subjects perform self breast examination while 8% do not. The frequency distribution of those that perform self breast examination are as follows 44% every month, 10% every 2 months, 12% every 3 months and 34% after every 3 months. 66% of the women had reportedly been going for professional breast checkup, 24% do not while 10% were not sure. A negligible number of these women have had routine mammography. The study also revealed that most of the women were well educated as follows, 84% have had tertiary education, 12% secondary education and 4% primary education

Conclusions: The study revealed poor knowledge and screening behaviors of cervical cancer among female staff of the University community, despite the fact that the majority of these women were educated. Thus, there is an urgent need for comprehensive breast and cervical cancer education campaign in this community.

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CANCER EPIDEMIOLOGY IN LOW INCOME COUNTRY: A CASE STUDY OF ADEN CANCER REGISTRY, YEMEN, 15 YEARS PERIOD

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Background: Cancer is a major public health problem worldwide and increasing in developing countries. Aden Cancer Registry (ACR), Yemen is an example of cancer registries in low income countries start to function in 1997 with low spending cost in registering cancer cases

Aim: This study aims to explore the trend of cancer incidence along 15 years of period and compare findings with selected countries in the Middle East Region

Methods: Cases reported from the different health care facilities are registered in Aden Cancer Registry as a population based cancer registry. All cancer cases were abstracted from patients' medical records, based on clinical, histopathology, and radiological diagnosis then was coded using the International classification of diseases for oncology (ICD-O). CanReg4 programme is used to analyze the data for the years through 1997 and 2011

Results: A total of 6974 cases were included in this study, with 47% were males and 53% females. The overall annual incidence rate was 21.6 per 100,000 populations. In males the average annual incidence was 20.0 per 100,000 populations and in female 22.9 per 100,000 populations. The ten top types of cancers among males were colon, Non-Hodgkin lymphoma (NHL), Leukaemia, Stomach, bladder, Oesophagus, skin, lung and trachea, liver, and Hodgkin diseases (HD). The rates and types of cancers among females were different which included some reproductive organs. These include Breast, NHL, Leukaemia, skin, ovary, cervix uteri, Oesophagus, thyroid, stomach, and HD. However, the incidence rates among male population were higher than in females except for the breast and the other specific related reproductive cancer

Conclusions: Rates of diagnosed cancer in ACR are far from that reported in high income countries but it is going more near to countries in the region

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CONTRIBUTION OF DNA MISMATCH REPAIR (MMR) DEFECTS AND INFLAMMATION TOWARDS OUTCOME FROM COLORECTAL CANCER IN AMERICAN BLACKS

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Background: American Black patients with colorectal cancer (CRC) show higher mortality than their White counterparts; there are several factors that contribute, including a potential role for biology. DNA MMR defects in sporadic CRC include: (a) epigenetic inactivation of *hMLH1* expression and subsequent mono/dinucleotide microsatellite instability (MSI) formation observed in 15–20% of all CRC patients and associated with neo-antigen stimulated inflammation that helps achieve improved survival compared to MMR-proficient CRC patients, and (b) inflammation-driven loss of function of hMSH3 and subsequent tetranucleotide MSI observed in 60% of CRC patients and associated with poor survival outcome compared to patients without defective hMSH3.

Aim: Determine frequency of these two DNA MMR defects in American Blacks and examine cytotoxic immunity that might contribute towards racial disparity observed for CRC.

Methods: Over 500 CRCs from a population-based cohort comprising 45% American Blacks were assessed for mono/di and tetranucleotide MSI using five National Cancer Institute recommended markers and five tetranucleotide markers. We utilized immunohistochemistry to determine infiltrating immune biomarkers in specimens.

Results: Among White CRCs, 14% showed mono/dinucleotide MSI (associated with *hMLH1* methylation) whereas American Black CRCs demonstrated 7% MSI ($P = 0.009$). White CRCs demonstrated 28% tetranucleotide MSI (associated with hMSH3 loss of function) compared to 49% among Black CRCs ($P = 0.014$). CRCs with mono/dinucleotide MSI had higher $CD8^+$ T cell infiltrates than non-MSI CRCs (88.0 vs 30.4/hpf, $P < 0.0001$); however, we observed no difference between American Black and White CRCs in $CD8^+$, $CD57^+$ and IL-17-expression cell infiltrates. American Black CRCs showed diminished infiltration of cells expressing granzyme B^+, with a paucity of representation as "high responders" compared to Whites.

Conclusions: The observed racial disparity for American Blacks with CRC may be in part due to biology as a consequence of (a) reduced classic MSI, (b) increased tetranucelotide MSI, and (c) reduction in cytoprotective responses within CRCs.

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SYMPTOM CLUSTERS IN CANCER PATIENTS RECEIVING PALLIATIVE CARE

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Background: It is reported that the understanding of the relation of symptoms observed in cancer patients contributes to symptom control and an improvement in quality of life.

Aim: The purpose of this study is to determine the symptom clusters of inpatients at the Palliative Care Clinic.

Methods: A total of 170 inpatients at the Palliative Care Clinic who are aged 18 and older, provided consent for the study, and were conscious were included in the study. Data was collected in the study utilizing the Introductory Characteristics Questionnaire and the Memorial Symptom Assessment Scale. In order to compose symptom clusters, the hierarchical clustering analysis was utilized. Symptoms with prevalence under 20% were not included in the clustering analysis.

Results: The most frequent symptoms experienced by patients in the past week were determined as 95% lack of energy, 91% weight loss, 89% lack of appetite, 88% pain, 88% feeling sad, 83% feeling angry. The symptoms felt by almost constantly by patients in the past week were determined to be feeling sad(59.1%), lack of energy (56.1%), and lack of appetite (49.3%).

The clusters were determined as follows: 1st Cluster: feeling bloated, problems with urination, diarrhea, itching, mouth sores, hair loss, swelling of arm or legs hand, changes in skin, 2nd Cluster: nausea, vomiting, 3rd Cluster: cough, shortness of breath, difficulty swallowing, change in the way food tastes, 4th Cluster: feeling drowsy, numbness in hands and feet, difficulty sleeping, dizziness, constipation, I don't look like myself 5th Cluster: pain, feeling nervous, dry mouth, worring, feeling ırritable, weight loss.

Conclusions: According to the results of this study conducted with patients receiving palliative support, it is considered that more effective symptom management can be ensured by expanding the planned treatment and care in a manner covering all symptoms and decreasing the number of drugs used.

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"THEY SEE THE PLACE IN A DIFFERENT WAY" MĀORI CANCER PATIENTS, FAMILIES, COMMUNITY AND HOSPICE VIEWS OF HOSPICE CARE

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Background: Māori are the indigenous people of Aotearoa/New Zealand and have a poor cancer survival rate compared to non-Māori.[1] As well as improving cancer survival, it is critical to ensure that palliative care is as responsive to Māori as it is for all patients and their whānau (families). The few studies undertaken of Māori hospice experiences have found negative perceptions about hospice care.[2–4] A need for more public awareness of hospice services has been noted, including the message that hospice supports the whole family. Studies also highlight a perception that hospices are mono-cultural and the importance of respecting cultural practices without making assumptions about care preferences.[5]

Aim: This is the first study to explore Māori perceptions and experiences of hospice care from three perspectives including: patients and whānau; hospice; and non-hospice health providers.

Methods: Face to face interviews were undertaken with: hospice patients and whānau (n = 8), people who work for hospice (n = 4), and those from non-hospice organizations (n = 5). Interviews were recorded digitally and transcribed verbatim. A thematic analysis was carried out on the interview transcripts.

Results: A number of interconnected themes emerged from the interviews: changing perceptions of hospice; experiences of hospice care; and finally, the importance of hospices' relationships with other health and social service providers, alongside growing the Māori workforce and improving cultural safety.

Conclusions: The study has shown that negative perceptions of hospice are being changed by hospices' work with other organizations and the positive stories of whānau who have experienced hospice services. In order for Māori to feel comfortable about accessing hospice services it is critical that this work continues and gains momentum by incorporating whānau involvement, continuity of care and after hours care, alongside a greater Māori workforce and culturally safe care throughout the final stage of the cancer journey.

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KNOWLEDGE, ATTITUDES AND PRACTICES OF ONCOLOGY HEALTHCARE PROVIDERS TOWARDS COMPLEMENTARY AND ALTERNATIVE MEDICINE FOR CANCER CARE IN QATAR

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Background: Complementary and Alternative Medicine (CAM) is defined as a diverse group of medical systems, practices and products that are usually used as an adjunct to conventional treatment. Reasons for CAM use by cancer patients are: cure of disease, control of symptoms or boosting of immunity. Our healthcare system provides limited assistance to cancer patients who seek CAM treatment. This is usually due to lack of information, limited experience and education concerning CAM.

Aim: To study knowledge, attitudes and practices of Healthcare Professionals (HCP) towards CAM use in cancer care in Qatar.

Methods: This study was performed as a descriptive cross-sectional trial using an anonymous survey of a sample of 231 randomly chosen health care professionals working in the National Center for Cancer Care and Research (NCCCR) in Qatar. A semi-structured novel 17-item questionnaire was administered to the 231 health care professionals.

Results: Our study showed that 12% of respondents never heard about CAM. However, 92% of HCP were interested in CAM education opportunities. Herbal medicine was the most familiar type of CAM among HCP (48%), followed by vitamins and minerals (37%), acupuncture (34%), massage (33%), nutritional therapy (32%), Yoga (29%) and spiritual healing (27%). Some types of CAM therapy were less familiar such as music therapy (23%) homeopathy (18%), aromatherapy (16%), hypnosis (15%) and art therapy (14%). The majority of HCP thought that CAM therapy improves patient's psychological and emotional well-being (66%), quality of life (48%) and helps to relieve symptoms of disease (27%).

Conclusions: There is a need for increased knowledge of HCP at NCCCR about CAM given their vital role in the overall management of cancer patients. This can be achieved through structured and comprehensive education and training programs. Such plan will ensure a safe and efficacious integration of CAM therapy into cancer care guidelines.

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KNOWLEDGE AND ATTITUDES OF CHINESE ONCOLOGY NURSES TO PALLIATIVE CARE

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Background: Dying patients and their families often have unique physical, psychosocial, social and spiritual needs that require specialized End-of-Life (EOL) skills. Oncology nurses play a crucial role in palliative care and must be highly knowledgeable to ensure their practice are of a high quality standard. But there is currently little education for oncology nurses in the principles and practice of palliative care in China.

Aim: the central purpose of this study was to determine the baseline level of knowledge and attitudes regarding pain and End-of-Life (EOL) care of Chinese oncology nurses working in 14 hospital units in Cancer Hospital of Chinese Academy of Medical Sciences.

Methods: Oncology nurses (N = 313) representing 14 hospital units were administered the Professional End-of-Life Care Attitude Scale (PEAS) and the Knowledge and Attitude Survey Regarding Pain (KASRP).

Data analysis quantified total, personal, professional apprehension levels and average correct response rate of pain management and identified differences by professional degree, gender, department and personal experiences.

Results: There were no difference in score by education degree ($p > 0.05$). All units showed a high level of apprehension in caring for dying patients. (Mean = 89,SD = 5.12). Individuals with less nursing experience reported higher personal communication apprehension scores. The average correct response rate was 49.5 % with rates ranging from 23.5 %to 84.5 % for each survey question. It was only positively correlated to length of working experience in oncology units ($p < 0.05$).

Conclusions: The results of this study support the universal concern of inadequate knowledge and attitudes of nurses to cancer pain management and End-of-Life care. These findings will inform the development of appropriate care education for oncology nurses working in this hospital. Educational and quality improvement initiates in pain management and End-of-Life care could enhance nurses' knowledge base in the area of pain and palliative care and possibly improve practices.

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PROSPECTIVE AUDIT FOR PAIN CONTROL

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Background: For a country like India where 80% of cancer patients report to the cancer hospital at an advanced stage and the concept of Palliative Care is synonymous with terminal care, it is necessary to propagate the right concept of pain management and palliative care among patients and doctors.

Aim: To stress the importance of treating pain at the onset, improve the knowledge about pain, its management and impart scientific skills of measuring pain and its intensity which is limited among doctors and nurses.

Methods: A standard of 100% was set. A Pain Screening Questionnaire was designed to be filled up by the attending Physicians/Oncologists at the Outpatient clinics. The responses were compared with the OPD record list in the PCU on a day to day basis. The number of patients referred for pain management was then compared against the standard. Conscious patients of all ages with a sound state of mind were included.

Results: 66.37% of patients (231/348) were referred to the pain clinic in the first round of the audit as compared to 90.93% (231/311) in the second round. The most frequently identified barriers in adequate pain management are found to be physician's underestimation and patient's reluctance to report pain.[1]

Conclusions: The audit reflected scope of improving practice in many areas for getting referral for pain management early on presentation. In this audit, patients from the outpatient department were included. It is now anticipated that if those in the inpatient and home care were also taken, the results may have further declined.

There is no auditing of Palliative Care services in India[2]. Improvement in patient care have been demonstrated with the help of audit in many places like Australia, Europe and Canada[3]. It is important to conduct audit in resource poor countries like India to improve palliative care services.

1. Salminen E, Clemens KE, Syrjanen K, Salmenoja H. Needs of developing the skills of palliative care at the oncology ward: An audit of symptoms among 203 consecutive cancer patients in Finland. *Support Cancer Care.* 2008;16:3–8.
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TRENDS IN THE AGGRESSIVENESS OF END-OF-LIFE CANCER CARE IN THE STATE OF QATAR

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Background: The quality of end-of-life (EoL) care is becoming recognized as a key component of excellence in cancer care. Quality measures for EoL care constitute a combination of overly aggressive medical intervention and underuse of palliative care services. This is the first study to investigate the aggressiveness of EoL cancer care in the Middle East.

Aim: The aim of this study was to describe trends in the aggressiveness of EOL cancer care in Qatar and to compare our findings with those reported in North America.

Method: This retrospective, population-based cohort study analyzed all cancer deaths in Qatar registered by the National Death Registry between January 1, 2009 and December 31, 2013. A retrospective chart review of 1,025 patients was conducted to measure markers of EOL cancer care. Aggressiveness of EoL care was then examined by a composite measure adapted from Earle et al. with scores ranging from 0 to 7, in which higher scores indicate more aggressive EoL care.

Results: The proportion of patients who experienced at least one event of potentially aggressive EOL cancer care decreased during the 5-year study period from 82.3% to 71.0% ($p = 0.038$). The mean composite score for the aggressiveness of EoL care was 2.10 (mean) ± 0.77 (standard-deviation), decreasing significantly from 2.24 in 2009 to 1.92 in 2013 ($p < 0.01$). This change can be attributed to significantly reduced proportions of more than one ER visits and ICU admissions within 30 days of death since 2009.

Conclusion: The aggressiveness of EoL cancer care has decreased over time in Qatar, whereas the North American trends are increasing. Although trends are decreasing in Qatar, the overall rates of these measures are higher than those in North America.Community education along with establishment of alternative palliative care services is needed to improve the quality of EoL care in Qatar.

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ADDRESSING THE KNOWLEDGE GAP IN PALLIATIVE CARE AMONG THE INDIGENOUS WORKFORCE: THE ROLE OF THE PROGRAM OF EXPERIENCE IN PALLIATIVE APPROACH (PEPA)

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Background: Indigenous patients with life-limiting conditions have complex needs, experience reduced access to and uptake of treatment, and have lower utilisation of palliative care services than the general population. Lack of understanding of the role of palliative care and poor availability of culturally-safe specialist palliative care services impact on Indigenous people's end-of-life decision-making.

In 2003 the Australian Department of Health funded the Program of Experience in Palliative Approach (PEPA) to enhance the skills of the generalist health workforce to support people with palliative care needs. Indigenous health professionals have been a specific target since 2007. To date, 218 Indigenous health workers have completed a PEPA placement (8% of overall number of participants) and 866 participants (7%) have participated in workshops. The program has been administered and implemented differently in each jurisdiction.

Aim: To evaluate the Aboriginal PEPA program for understanding the processes of delivering PEPA in a culturally-appropriate manner and the impact this has had on end-of-life care of Aboriginal people.

Methods: A qualitative approach was taken and involved interviews with jurisdictional Managers, Aboriginal Project Officers, consultants and Aboriginal PEPA participants.

Results: Innovative delivery methods and flexible placement options have enhanced participation numbers however participants highlighted some challenges: recruitment, staff retention, stigma around death and dying, funding, content and perceived lack of required support from some local managers. Although findings vary by jurisdiction, connections to an oncology department, the involvement of an Aboriginal mentor during the PEPA placement, and turning PEPA into an accredited course to attract participants were some of the suggestions for program improvement.

Conclusions: Despite that several issues were identified for further improvement, Indigenous PEPA program provides a flexible, clinical learning experience that is tailored to meet the needs of Indigenous health professionals at various levels.

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AVAILABILITY OF PALLIATIVE CARE SERVICES FOR CHILDREN WITH CANCER IN TURKEY

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Background: The paradigm of palliative care is a vital component of the care of children with cancer.

Aim: To assess the availability of palliative care (PC) services and resources for pediatric cancer patients in Turkey.

Methods: An institutional self assessment tool was sent to the head of the pediatric oncology units /departments.

Results: All invited centers (n:31) responded the survey. All centers had pediatric oncology doctor(s) and nurse(s), but psychologist, social worker, psychiatrist, and physiotherapist were part of the treatment team in only 26 %, 13%, 7%, 7% of the centers. Three centers reported a PC team, not designated for PC. The perception about the integration of PC into pediatric oncology practice was defined as very poor (7%), poor (63%), or sufficient (30%). Knowledge/skills of oncology professionals on modern PC was defined as insufficient, sufficient, and very good by the 61%, 36%, 3% of the participants, respectively. Pediatric pain team was reported by 7 centers. None reported a clinical ethic committee. Regular meetings of treatment teams were reported by 80%. Sleeping accommodations for parents in child's room was available in 90%, family lounge in 29 %. One or two beds for terminally ill children were available in 7 centers. Four centers reported periodic education/training on PC for staff, mostly on symptom management. The PC education was defined as poor (74%) or very poor (26%). The majority (80%) emphasized the need to integrate PC services into routine cancer care, instead of designated PC teams, however 61% thought that was not possible with the current human resources. The perceived obstacles to PC implementation were reported as lack of professionals (58%), physical space (48%), and education (26%).

Conclusions: Pediatric PC services are lacking at the majority of centers due to lack of staff, education, and allocated space. Institutional and governmental attempts are needed for implementing PC services.

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CERVICAL CANCER AWARENESS AND PREVENTION CERVICAL CANCER PREVENTION: EDUCATING YOUNG ADULTS ON THE IMPORTANCE OF CERVICAL CANCER AWARENESS AND THE IMPORTANCE OF HPV VACCINATION S.NAIR[1] EARLY PREVENTION [1], HPV VACCINATION[2], NATIONAL CANCER SOCIETY MALAYSIA (NCSM)[3], MALAYSIA[4]

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Background: Cervical Cancer is the second most common cancer among women in Malaysia. In most developing countries, it is not a norm to discuss about cervical cancer. In 2013, Lam Soon Edible Oil Sdn Bhd embarked on a campaign 'May Cares for You' with National Cancer Society Malaysia. Educating young adults about how cervical cancer is preventable through pap smears and HPV vaccination. 'May Cares for You' was a university based programme targeting young women aged between 18–23 years old.

Objectives: To emphasise the importance of Cervical Cancer awareness. To educate young women on the importance of HPV vaccination, and its role in the prevention of cervical cancer. To encourage young adults to advocate the prevention of cervical cancer through early detection and HPV vaccination

Method: NCSM conducted five educational roadshows in various local universities. Educational talks were conducted by NCSM's in house doctor. Besides the talks, educational booth were also available providing additional information on Cervical Cancer and the importance of HPV vaccinations. Focusing on cervical cancer and ways to prevent or detect it. With emphasis on HPV vaccinations and stressing the need of young adults to take their vaccinations.

Results:
- NCSM discovered, that many college-going women were completely unaware of even where the cervix is much less its relationship with cervical cancer.
- There was a definite improvement of this lack of understanding amongst the students after the educational talks and information powered by NCSM.
- A competition was run after the talks based on questions about cervical cancer to ascertain the levels of understanding and the winners would receive free HPV vaccination vouchers at NCSM's clinics.

Conclusion: The campaign was very received by the university students. NCSM will continue running such educational campaign not only targeting young adults but people from all walks of life.

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ROLE OF PRIVATE ENTERPRISE IN CANCER CONTROL IN LOW TO MIDDLE INCOME COUNTRIES

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Background and Context: About 70% of cancer deaths globally occur in low to middle income countries (LMICs) where prioritization and allocation of resources to cancer care are often quite poor. In the absence of governmental focus on this problem, public-private partnerships may be an avenue to provide effective cancer control.

Aim: To establish collaborative cancer prevention and management facilities.

Strategy/Tactics: The Foundation for Cancer Care in West Africa (FCCWA), was established to stimulate the development of broad and effective partnerships between oncology professionals, private enterprise and academic institutions, locally and internationally. Capacity building, attraction of grant support, establishment of collaborative networks and the development of a privately-funded facility to provide clinical care were the initial chosen strategies.

Programme/Policy Process: Collaborations were established between oncology professionals at the Roswell Park Cancer Institute, the University of Nigeria Teaching Hospital in Enugu, Nigeria and the Lagos State University Teaching Hospital (LASUTH) in Lagos, Nigeria. Cancer control workshops were conducted in Enugu in 2009 and in Lagos in 2013 with grant support from the UICC. A monthly tumor board conference was established at LASUTH in Lagos, and further capacity building is ongoing with grant support from the United States NCI. An outpatient oncology clinic in Lagos (Lakeshore Cancer Clinic), which is the first phase of a cancer center development plan has just been completed.

Outcomes/What was Learned: The translation of cancer control knowledge from the academic realm to practical, community-level application requires immense collaborative efforts. In low to middle income countries, government institutions are often limited by political will, bureaucracy and financial resources. However, effective partnership between such institutions and private enterprises, non-governmental organizations and academic institutions can lead to tangible results and strides in cancer control. The use of creative healthcare financing models can serve as a catalyst to effect positive change.

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SHIFTING U.S. GLOBAL HEALTH POLICY TO PROVIDE INTERNATIONAL DEVELOPMENT ASSISTANCE FOR CANCER CONTROL IN LOW- AND MIDDLE-INCOME COUNTRIES

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Background/Context: The U.S. is a major contributor to international development assistance.[1] Its policies drive global health initiatives in countries receiving funding. Given limited resources to address the global cancer burden, advocates must identify opportunities to leverage existing funds and platforms.

Aim: LIVESTRONG Foundation lobbied Congress members and government staff to develop legislation or operational guidance enabling greater flexibility of existing U.S. global health investments. By linking current global health priorities to cancer, more interventions could be put in place to tackle emerging NCDs.

Strategy/Tactics: LIVESTRONG was one of fewer than 20 organizations invited to deliver testimony to members of Congress regarding the allocation of FY15 global health funds. We stressed U.S. investments should address the current global disease burden, and offered examples of linkages between cancer and communicable-disease priorities with substantial budgets. Later, we sponsored a delegation of congressional staff to travel and observe programs in sub-Saharan Africa that demonstrate the connection between cancer and other global health priorities. Finally, we pushed for new legislation of the U.S. PEPFAR program to include language linking HIV/AIDS and cancer.

Programme/Policy Process: It was important to identify components of global health legislation or funding that could be related to cancer control, and moments in the congressional calendar when those would be debated. An ongoing contentious political context in the U.S. altered our standard advocacy process and timeline. Updates to PEPFAR legislation were particularly cumbersome due to conservative interpretations and stakeholders. Lobbying activities required a high degree of flexibility, ingenuity, and clandestine efforts to be successful.

Outcomes/What was Learned: A multi-pronged strategy was required to challenge the status quo, and field-based case studies were essential. We were successful in fostering unlikely champions to highlight best practices and updating PEPFAR legislation to include cancer. Our approach is applicable to advocacy in both donor and recipient countries.

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AN EXPLORATION OF THE RELATIONSHIP BETWEEN FUNDING AND PATIENT ACCRUAL TO ONCOLOGY CLINICAL TRIALS: ADDITIONAL FUNDING INTERVENTION TRIAL (AFIT)

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Aim: Since 1988, Cancer Council Victoria's (CCV's) Clinical Trials Management Scheme (CTMS) has retrospectively awarded funding to departments coordinating oncology clinical trials. Analysis of the CTMS data, indicates there may be a positive relationship between funding allocated to sites and the number of new participants accrued to oncology clinical trials. To explore this relationship, CCV's Clinical Network was awarded a $1M grant from the Victorian Cancer Agency, to implement AFIT in 2013.

Methods: Since 1988, Cancer Council Victoria's (CCV's) Clinical Trials Management Scheme (CTMS) has retrospectively awarded funding to departments coordinating oncology clinical trials. Analysis of the CTMS data, indicates there may be a positive relationship between funding allocated to sites and the number of new participants accrued to oncology clinical trials. To explore this relationship, CCV's Clinical Network was awarded a $1M grant from the Victorian Cancer Agency, to implement AFIT in 2013.

Results: Patient accrual data for AFIT was collected early 2014. The parameters to be examined include: comparisons between intervention sites and control sites of total recruitment of new participants into clinical trials; a comparison of reported full time equivalent personnel between intervention and control sites and assessments of how the AFIT intervention funding was utilised based on survey responses. Clinical trial recruitment will continue to be monitored post 2013 through the normal CTMS mechanism, enabling monitoring of any long-term study effects.

Conclusions: AFIT aims to ensure how CCV can best continue to support oncology clinical trials research in Victoria. Although there are limitations to the study, it is the first research study of its type internationally. AFIT will also be useful for government and hospital decision-makers to inform their work in cancer clinical trials.

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CHALLENGES IN TIMES OF AUSTERITY

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Background and Context: "The Cyprus Haircut"

In March 2013 Cyprus was broke!

For the first time in history there was a bail-in known as "The Haircut". What this meant, was that all Bank Deposits above €100,000 in the two major Banks of the island were confiscated. The future for all, including "The Cyprus Association of Cancer Patients and Friends (PASYKAF)" was uncertain. A social crime!

Aim: Providing Palliative Care Services to Cancer Patients in Cyprus

PASYKAF is an NGO dedicated to fighting cancer. With a multidisciplinary team of more than 50 health professionals we provide free services to more than 5000 patients and members of their family including Home Based Palliative Care Services.

PASYKAF depends 90% on fundraising activities. By March 2013 we had zero money and donations were drying up. We were faced with the following 3 options:
1. Cut Wages
2. Cut Staff
3. Cut Level of Care

Strategy/Tactics: PASYKAF took two basic strategic realizations / decisions:
1. this crisis was beyond each and every one of us individually so unity (joining forces) was imperative
2. at these difficult times we would have to give more – not less

Thus, yes to cutting wages, no to cutting staff or level of care

Programme/Policy Process: We took immediately short term, intermediate and long term measures and most importantly reorganized our Fundraising Department, improved our procedures, introduced a new CRM System and implemented new HR Policies including new Performance Indicators for all services and functions with the aim to improve quality and productivity (all to be presented during the horal session)

Outcomes/What was Learned: For PASYKAF the challenge was to accept that the economic crisis was over. We had to reinvent ourselves in order to succeed. We owe it to all our patients, especially to end of life, who have the right to palliation and pain control.[1]

1. ABC Australia, Foreign Correspondent "The Haircut" Broadcast: 30/04/2013 Reporter: Stephen Long PASYKAF reference (minutes 19:37–23:38) Copy the following link: http://www.abc.net.au/foreign/content/2013/s3748481.htm

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THE EXPERIENCE OF GHARBIAH POPULATION-BASED CANCER REGISTRY (GPBCR) IN EGYPT

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Establishing and maintaining population-based cancer registries in developing countries is challenging. The quality and richness of the GPBCR database of 1999–2007 that contained 33,652 confirmed cancer cases was recognized by its publication in the International Agency for Research on Cancer (IARC)'s Cancer Incidence in 5 Continents monographs of 2008 and 2014, as one of only 8 registries with outstanding quality from Africa.

The successes of the GPBCR were achieved through creative ideas for overcoming challenges during the inception and maintenance of the registration process. At the inception, adapting the IARC registration software and obtaining reliable census, mortality, and geographic information were among the critical tasks.

During the registration process, birthdates, national identification numbers, new sources of data, priorities for data collection and registration, revising data forms for new variables, linkage between the census and mortality records, manuals and guidelines, multiple cancer primaries, personnel substitution, registration of non-residents, CanReg 4 limitations, phone checks, and duplicate name prevention were among the challenges. While the GPBCR is continuing its expansion in quality registration and developing programs in education and research, the registry continues to serve as resource for improving cancer registration in the region and globally. The GPBCR is capable of helping groups in establishing cancer registries through assistance in developing appropriate registration forms, advising on field logistics, training of registry personnel, trouble-shooting of technical data problems, using incomplete and inconsistent data, and setting-up databases for cancer research.

Funding Sources: This work has been funded by the Office of International Affairs of the National Cancer Institute, Bethesda, Maryland, USA; the Middle East Cancer Consortium and The Ministry of Health & Population Egypt.

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CHALLENGES TO ATTEND PATIENTS WITH GYNECOLOGIC CANCER AFTER THE IMPLANTATION OF THE REGULATORY SYSTEM AT THE CANCER HOSPITAL II, NATIONAL CANCER INSTITUTE, BRAZIL

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Background and Context: The "Estimate of Cancer Incidence in Brazil 2014–2015"1 points out to approximately 576,000 new cancer cases, including non-melanoma skin ones. In women the estimate for cervix cancer is 15,590 new cases. The great majority of diagnosed patients have difficult to access treatment. As time is an essential variable to the success of treatment, this access difficulty leads to treatment in advanced disease stages and thus reduces the cure chances.

Aim: We intend to present the challenges to implement the Regulatory System (SISREG) at the Cancer Hospital II (HCII), headquartered in Rio de Janeiro and specialized in gynecologic cancer. The SISREG is the online national information system for management and operation of the Regulatory Center and currently attends 1,600 Brazilian cities (29%)2. In theory, the Regulatory System aims to integrate the Brazilian public health system by controlling the flows and providing agility and credibility to the regulatory process.

Strategy/Tactics: The Software is provided by the Ministry of Health to manage regulation, ranging from the basic assistance care to hospitalization.

Programme/Policy Process: In this paper we have evaluated the impact of regulation in HCII, from August 2013 to March 2014, identifying that the process has been reducing the number of new registrations and moreover, patients probably will come in more advanced disease stages. Patients complain of the delay in the arrival at the hospital through primary health care regulation, decreasing on average 40% of registrations/month.

Outcomes/What was Learned: In order to the regulation to succeed it is necessary to improve the organizational structure, focusing on awareness, training and appropriate remuneration to the professionals of primary care centers, thus committing them to the system's effective operation.

1. 1- BRASIL. Ministério da Saúde. Instituto Nacional de Câncer. Estimativas da Incidência de Câncer no Brasil. Estimativas 2014. Rio de Janeiro: INCA, 2013. 2- DEPARTAMENTO DE INFORMÁTICA DO SUS (DATASUS). site http://www.datasus.gov.br/DATASUS/index.php?acao=11&id=30430 acesso em 23/4/2014

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SUSTAINABLE CANCER CARE IN AFRICA: PRESENT STATUS OF POLICIES AND FUNDING?

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Background and Content: Non communicable diseases and especially cancer are recognized as an increasing problem for low and middle income countries.

In 2012, it was estimated that 847,000 new cancer cases occurred in Africa (6% of the world total) and 591,000 deaths (7, 2% of the world total), with about three quarters of those happening in Sub-Saharan Africa. The figure is thought to approach 1.4 million annually within the next 2 decades.

In females, cancers of the breast and cervix have the highest incidence, while in males prostate cancer, followed by liver and Kaposi sarcoma appear most frequently.

The response to this challenge would be universal, sustainable and affordable cancer care. However, the progress towards that goal is still slow.

Aim: To evaluate the progress with respect of national policies and funding towards efficient cancer care systems in Africa.

Strategy/Tactics: Equitable, affordable and sustainable access to cancer care is analysed in the context of GDP, number of cancers, burden of disease and cost effectiveness

Programme/Policy Process: As the demand for cancer care will increase in Africa, due to aging population and increase in incidence, the policy makers will need to consider a greater share of GDP allocation for the disease associated with an increase of health care costs.

Cancer research as a route to sustainable and affordable systems needs to include translational research, health services research and health economics.

Outcomes/What was Learned: With the number of annual cancer cases and deaths to increase by at least 70% by 2030 and with an overwhelming pressure on health systems in developing countries, there is a pressing need for a coordinated approach towards improving the delivery of cancer care in Africa.

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BUILDING A PAN-REGIONAL NETWORK TO FOSTER BEST PRACTICE EXCHANGE AND A BOTTOM-UP APPROACH TO ADVOCATING QUALITY MEASURES IN CANCER CARE

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3. *German Cancer Society (GCS), Berlin, Germany*
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5. *Dutch Cancer Society, Amsterdam*

Background and Context: Health system management in many European countries has led to infrastructures that do not take a holistic view of cancer control. Recent global developments on NCDs since the 2011 UN High Level Meeting have given a renewed focus to national cancer planning and registration, but entrenched, fragmented structures are often barriers to demand for robust models of care with quality measures across all cancers.

Aim: GCS and UICC joined forces to establish a pan-European network of members to collate models of success, share recommendations and develop a common advocacy agenda to ensure national health structures and services respond to the dynamic demands of cancer care.

Strategy/Tactics: A stakeholder meeting identified a core group of organisations that worked together to identify building blocks for monitoring and improving cancer care. An initial think-piece was published to engage a broader set of stakeholders and consider new routes to facilitating rapid transfer of best practice across Europe, as well as securing political will to support national action. This was augmented by roundtables on special oncology topics with strong German data.

Programme/Policy Process: Necessary national structures were identified to define and develop a quality of care strategy and measures common to all health systems.

Outcomes/What was Learned: National cancer plans are an important tool to manage the cancer burden and guide future interventions from an economic, social and medical perspective. Links to guidelines, certification, caregiver groups and patients were common themes. Patient-reported outcomes across the care continuum are needed – particularly addressing special groups e.g. the elderly. Evidence-based quality indicators with peer-review certification process, quality review, and building trust and transparency, are key to embedding new knowledge into current practice. Cases studies will be used to illustrate that Cancer Centres are a key instrument for assessment of patient needs, and related psychosocial issues.

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STRATEGIES FOR INDEPTH INVOLVEMENT OF NATIONAL ACCREDIATIALING PROGRAMS IN CANCER CARE THE TURKISH EXPERIENCE

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5. *Medical Oncology, Ege University, Izmir, Turkey*
6. *Medical Oncology, Selcuk University, Konya, Turkey*
7. *Medical Oncology, Ataturk Hospital, Izmir, Turkey*
8. *Medical Oncology, Ankara Hospital, Ankara, Turkey*
9. *Medical Oncology, Erciyes University, Kayseri, Turkey*

Background and Context: Accrediation Institutions are long established in USA and play an important role in improving quality of patient care and advancement of science both in teaching institutions and individual students. Previous efforts until 2012 to establish a similar institution within the Turkish Medical Oncology Society had limited success and no satisfactory achievements.

Aim: Creation of a more proactive accreditation council to encourage and lead institutions and students toward higher educational and operational standarts of cancer care in Turkey.

Strategy/Tactics: The Accreditation Council members are appointed with their prior consent to obligation of dedication. Three members rapidly changed during the two year term with the replacements when unexpected other obligations come into way of Council members from their own or other National institutions. The targets and aims of National Accreditation Council of Medical Oncology are re-established with participation of all Medical Oncologists in Turkey during SWOT analysis meeting of National Medical Oncology Society. Also an experienced professional team is hired for better structured board exams. The teaching faculty and fellows are all directly involved in establishing teaching institution standarts, effective use of log books etc.

Programme/Policy Process: Changes are made in the Society bylaws to implement changes, including but not limited, to define the role and responsibilities of Accreditation Council, to have two committee members to continue the term for another 2 years to achieve better continuity etc. Program directors and students are informed of a prerequisite for log books and passing of national accreditation examination to apply for Society grants and international exchange programs.

Outcomes/What was Learned: Good planning, wide participation by all involved parties and perseverence are essential steps for launching of a successful National Accreditation Program/Institution. These efforts will sure to pay of in the long run for the better care of the cancer patients and advancement of science.

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ENHANCING CANCER CONTROL IN PRIMARY HEALTH CARE: A SYSTEM RESPONSE

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1. *Cancer Institute NSW, Eveleigh, NSW, Australia*

Background and Context: Primary care is the mainstay of Australian healthcare, providing comprehensive ongoing care and functioning as the gateway to the health system. Primary care providers have an important role to play across the spectrum of cancer control and while there are examples of this occurring both in Australia and internationally engagement is variable. A system-wide response is required to address the barriers to full and effective engagement.

Aim: To enhance the role of primary care in cancer control, at both a system and individual level.

Strategy/Tactics: The Cancer Institute NSW is the government's cancer control agency in New South Wales, Australia. Under the NSW Cancer Plan 2011–2015, the Institute has identified enhancing the role of primary care in cancer control as a key strategic objective.

Programme/Policy Process: Greater engagement between cancer and primary care systems, and a patient-centred focus are required before a comprehensive enhancement of primary care's role in cancer control can be achieved. In the Institute an overarching program is underway including providing specific cancer data to primary care organisations, promoting evidence for an enhanced primary care role and fostering relationships between hospitals and primary care organisations around cancer control projects. However barriers including attitudes regarding care responsibilities, nihilism, inadequate information flows, underdeveloped/underutilised models of care and funding structures need to be overcome. Further work is planned to improve transitions and information sharing and support the implementation of models where primary care plays an enhanced role.

Outcomes/What was learned: There is support for an enhanced primary care role in cancer control however ongoing development, strong relationships and change management programs are required to support implementation. This work highlights the potential challenges associated with political reform and emphasises the need for programs and policy responses to affect change through multiple channels.

600

ADHERENCE TO SURVEILLANCE GUIDELINES FOR EARLY BREAST CANCER IN CROATIA

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Clinical practice guidelines for long-term follow-up of early breast cancer patients developed by oncology societies in the Europe recommend that breast cancer survivors undergo regulars evaluation with history and physical examinations, as well as annual mammography. Routine blood tests, tumor markers and/or surveillance imaging studies beyond mammography are not recommended. However, variations in patterns of cancer surveillance have been identified.

The aim of this study was to analyze usual patterns of follow up among oncologist in Croatia.

We conducted a questionnaire /during our annual meeting/ among oncologist who are practicing in public hospitals or academic medical centers in Croatia. The questionnaire covered questions about patterns of follow-up of asymptomatic women with early breast cancer.

Oncologist's responses were anonymized and entered into a secure database for analysis.

10% of oncologist report they usually follow up asymptomatic breast cancer patients with chest X-ray, abdominal ultrasound, bone scan and mammography, while 30% of oncologist use CT of chest, abdomen and pelvis scan and bone scan. Only 10% of oncologists adhere to the guidelines, using only mammography and physical examination. Around 40% responders never think about costs of a test or procedure they order.

Despite well established guidelines for surveillance of breast cancer patients, nearly half of the oncologist surveyed use tests that provide little or no value to the asymptomatic patients with early breast cancer. Oncologist in Croatia should reconsider use of this tests in order to improve the value and reduce costs of care that is provided.We expect that finding of this study will help clinicians and policy-makers improve cancer care.

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DEVELOPING A SERVICE CAPABILITY FRAMEWORK: A GUIDE FOR HEALTH SERVICES PROVIDING CARE TO CHILDREN AND ADOLESCENTS WITH CANCER

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3. *Peter MacCallum Cancer Centre, Melbourne, Victoria, Australia*
4. *Cancer Services, Barwon Health, Geelong, Victoria, Australia*

Background and Context: The Paediatric Integrated Cancer Service (PICS) is a partnership between health services across Victoria, Australia, caring for children with cancer, supporting an integrated, coordinated multidisciplinary approach to paediatric and adolescent cancer care.

Aim: To support a collaborative approach to statewide care, a Service Capability Framework (SCF) was developed by PICS to define minimum requirements for providing sustainable, coordinated and safe care across a variety of settings.

Strategy/Tactics: A literature review was undertaken to gather evidence to guide rationale and recommendations. An expert steering group was established, with wider consultation from other disciplines. The SCF was endorsed by the tertiary referral centres, as well as the Victorian Government's Risk Management and Insurance Group.

Programme/Polcy Process: The SCF presents four levels of care for health service participation, including an algorithm of risk factors that may escalate the level of care required. The levels are defined according to complexity of care, patient critical mass and the level of paediatric oncology services available. These sites vary from supportive care in regional Victoria, through to specialist metropolitan tertiary referral centres. Levels are defined across critical time points in the patient's care, supporting clinical decision making and referral. Each level describes the infrastructure, workforce, education, research, quality, clinical governance and service networks required. The SCF also describes minimum requirements in speciality areas such as clinical trials, laboratory services, imaging, multidisciplinary team meetings, nursing, pharmacy, psychosocial and psycho-oncology care, radiation oncology, surgery and management of late effects.

Outcomes/ What was Learnt: The SCF supports health services to plan, develop and deliver high level safe and effective paediatric cancer care within an agreed scope of practice. The SCF supports health services to deliver a level of care that meets the needs of their local community whilst maintaining patient safety and building confidence in referring shared care.

602

STRUCTURING CANCER RESEARCH IN MOROCCO

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1. *Lalla Salma Foundation, Rabat, Morocco*

Background and Context: Research is a horizontal measure to the four strategic axes of the National Cancer Prevention and Control Plan of Morocco (2010–2019): prevention, early detection, diagnosis and treatment, and palliative care.

During 2010–2011, the situation analysis of cancer research in Morocco showed a lack of strategy and appropriate framework. Thus, the Scientific Committee of Lalla Salma Foundation initiated a plan of oncology research development.

Aim: Establish the organizational, financial and scientific requirements for the development of cancer research. The vision is to strengthen cancer control by undertaking research activities focused on patients and Moroccan society wellbeing.

Strategy/Tactics:
- Definition of an institutional framework for the deployment of cancer research
- Establishing mechanisms for research funding
- Development of training on research and centers of proficiency
- Institution of multidisciplinary team networking
- Creation of a specific structure for cancer research

Programme/Policy Process: Awaiting the creation of an institution in charge of cancer research, Lalla Salma Foundation will be supporting the implementation of cancer research development strategy in Morocco, in partnership with concerned public and private organizations.

Outcomes/What was learned:
- Definition of three Collaborative Research Programs (childhood cancers, hematologic cancers and solid tumors) and definition of their research priorities,
- Establishment of the cancer research funding process,
- Creation of the Cancer Research Institute, as Public Interest Group between Lalla Salma Foundation, the Ministry of Health and the Ministry of Higher Education and Scientific Research.
- Institution of basic and continuing training programs on oncology research,
- Establishing annual call for research proposals, the first selected projects started in early 2014.

All this is accomplished in partnership with several public and private organizations involved in the cancer control. It *is a real demonstration of "Joining Forces: Accelerating progress"*.

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WORKING THROUGH CANCER PROGRAMME

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Background and Context: More than 750,000 people of a working age are living with cancer in the UK. 40% of all new diagnoses are amongst working-age people. With survival rates improving and people retiring later, this population is growing. However cancer survivors struggle on their own to go back to work and are 1.4 times more likely to be unemployed than the general population.

Aim: Having understood the scale, Macmillan set up a programme to tackle the main barriers preventing people from returning to work. These include lack of work-related health interventions and accommodating workplaces.

Strategy/Tactics: Initially, as part of the National Cancer Survivorship Initiative (NCSI), a work and finance project was established. NCSI project ran a number of pilot vocational rehabilitation (VR) services to develop a model of VR support for people with cancer. Following piloting, further research was undertaken to support the development of interventions with employers, health professionals and people with cancer.

Programme/Policy Process: Following on from the NCSI project, Macmillan's Working through Cancer programme has delivered the following:
- A package of support for employers on work and cancer
- Information services for people living with cancer, including a legal advice helpline and national campaigns on rights at work
- Policy influencing to improve availability and access to VR
- Resources and support to enable health professionals have early conversations about work, linked to national care planning processes

Outcomes/What was Learned: A strategic framework for cancer work support developed together with a 3-level model of individual intervention, which was successfully evaluated. Using learning from pilots, Macmillan influenced the new state-funded Health and Work service to include support for people with complex health problems including cancer.

Cancer is not highest priority for employers, yet over 7,500 have signed up for resources, indicating a need and demand for support on this issue.

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MAXSMILES: BLOOD CANCER AND RARE CANCER PATIENT SUPPORT GROUP

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1. *The Max Foundation, Bangkok, Thailand*

Background and Context: Cancer is one of the most stigmatized diseases in Thailand, and when patients are diagnosed they feel scared, depressed, lonely and isolated. In order to provide peer support to patients, MaxSmiles was formed by a small group of 30 CML and GIST patients in a park in Bangkok in 2007. Some had been living with cancer for many years and some were newly diagnosed, but they all came join together to share and listen to each other's stories.

Aim:
1. To create an effective grassroots patient support group for patients to come and, support and encourage one another
2. To improve patient education
3. To create sense of social responsibility, advocacy and community service among patients

Patient Group Strategy:
1. Identify a patient group leader who is in good health and is eager to develop community among CML and GIST patients
2. Arrange monthly meetings in a venue that is peaceful and quiet. It is critical to create good atmosphere during the meeting to encourage sharing.
3. Encourage members to contribute something to the group, such as snacks, educational materials, and etc. Having lunch together is a good way to casually socialize and share experiences.

Meeting Structure:
1. Meet and socialize
2. Share personal experiences related to treatment
3. Group activity

Outcomes: MaxSmiles has meetings on every first Saturday of the month, with around 30–50 active members, and an annual patient education meeting with 150 participants. MaxSmiles is an active patient support group in Thailand with 2,000 members around the country. MaxSmiles opened the channel for the new member to reach us on many type of media, is now available on the Newsletter, World Wide Web and Facebook. MaxSmiles expanded to three more regions using the strategy described above and hopes to share this approach with patients in other countries.

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PATIENT EMPOWERMENT WORKSHOP

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PATIENT EMPOWERMENT WORKSHOP

An initiative of Cim*ab Foundation to provide women with breast cancer the tools to enforce their rights. It was given in ten cities of Mexico to 332 women.

The workshop provides useful tools to understand their rights, obligations, legal framework, and strategies to be a participative patient and how to file a complaint and integrate the patient's voice into the health system.

There still is a vertical relationship within the health system between patients and doctors. Support groups have not ignited a social movement of their own. This situation is observed in both, the public and private sector. Patient groups are not taken into consideration when addressing patients' needs in the continuum of the disease.

Health is a constitutional right, quality of care is approached from the administrative and managerial perspectives. Up until the twentieth century it was considered cruel to inform patients of their condition. Conspiracy between doctors and families took place, resulting in passive patients. Today, patient empowerment must be exercised in healthcare. Each actor, user or provider, assumes a role with cultural and socioeconomic consequences.

This workshop addresses the problem from a rights and citizenship perspective. It recognizes access to quality healthcare as a right for all and empowers patients to establish a horizontal relationship between them and doctors, hospital managers, and health officials. Emphasis is placed in informing all attendees that before being patients, they are citizens with rights.

The purpose is to identify how exercising patient rights translates into timely quality care, patient decision-making, privacy and dignity. It seeks to build awareness among participants of the responsibility they have towards themselves. This approach will result in improvements of our healthcare systems.

Data analysis: Surveys conducted to evaluate the workshop's impact reflect a change in the way patients' approach their cancer process.

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PSYCHO-EDUCATION INTERVENTION FOR SAUDI BREAST CANCER SURVIVORS TO IMPROVE QUALITY OF LIFE

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Background and Context: Breast cancer survivors face several challenges from physical, emotional and social. Female Breast cancer survivors in Saudi Arabia are no different. One area that is neglected is lack of awareness in survivorship and the transition from treatment phase to survivorship phase. Benchmarking indicates a big gap between Zahra Breast Cancer Association and International partners in the area of survivorship.

Aim: A group was formed to raise awareness about survivorship and psychoeducate survivors in skills that would help them cope with daily life challenges to improve quality of life. It is a 6 weeks intervention group, each session 90 minutes for breast cancer survivors who met the criteria for the study.

Strategy/Tactics: This study involved a small sample of 7 survivors, criteria from 22 survivors accepted to attend the first trial. The educational group is led by two psychologists. The sessions also include other health care professionals to cover multiple health education areas. Qualitative and quantitative measurements were used such as QOL, HADS and Focus group. Data was collected before beginning of group, at six weeks after group began and 3 months after group ended.

Programme/Policy Process: Outcomes/What was learned: Results indicate that the survivors struggled with negative body image, fear of recurrence of breast cancer, hopelessness, physical problems and sleep difficulty. The psychoeducation group has positive indication and alternation on the level of survivorship when compared to the level before the group. Also there were significant improvement on level of anxiety and distress. The group was helpful in adjusting the physical and emotional distress for breast cancer survivors. This study high lightened the importance of medical information, psychosocial or supportive care requirements in post breast cancer treatment survivorship. It also brings to attention the importance of the role of health professional even after completion of treatment.

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INVOLVING CARERS, PARTNERS AND FAMILY MEMBERS IN HEALTH PROGRAMS FOR CANCER SURVIVORS

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Background and Context: Recognising that cancer affects not only survivors, but also carers, partners and family ('carers'), we present the benefits and challenges of including carers in an innovative survivorship program called ENRICH (Exercise and Nutrition Routine Improving Cancer Health).

Involving carers in health behaviour interventions potentially increases social support, and positively influences patient adherence to lifestyle programs. Studies have shown over half of caregivers report negative health behaviours such as decreased PA and/or weight gain.

Aim: Our aim is to engage more carers to attend a program designed to improve cancer survivor's health and wellbeing.

Strategy/Tactics: ENRICH is an education program, comprising physical activity (PA) and healthy eating topics delivered via face-to-face discussions and practical activities. Social Cognitive Theory and Chronic Disease Self-Management frameworks foster sustainable, positive skills development and behavioural change. Dietitians and exercise physiologists co-facilitate sessions. Participants are adult cancer survivors (completed active treatment) and/or carers.

Cancer Council NSW recognises the needs of carers through their inclusion in survivorship programs. ENRICH addresses carers health behaviours. Carers attending with survivors provide additional support for sustainable behaviour change.

Promotional material includes an invitation for survivors and/or carers to attend. Eligibility and suitability assessment also encourages survivors and/or carers to attend.

Programme/Policy Process: Format and content of the ENRICH program has been designed to be suitable for both survivors and carers across cancer types, ages and physical capabilities.

Outcomes/What was Learned: More survivors participate than carers because uptake is stronger when recommendation to attend is made by an oncology health professional. Carers might not recognise that supportive care needs could continue after treatment finishes. More work is needed to engage health professionals and carers to recognise, and act upon, these needs.

Evaluations showed no difference in enjoyment levels between survivors and carers. Both also reported the program was relevant to their own situations.

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IMPROVING CANCER CARE IN UGANDA THROUGH THE DEVELOPMENT OF A NATIONAL PALLIATIVE CARE POLICY

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Background and Context: A population based study reported 13% of people diagnosed with any cancer in Uganda survived, except for breast cancer, which had 46% survival rate. Relief from physical, psychosocial and spiritual problems faced by patients and their families should be integral to cancer services and this can be achieved in over 90% of patients through palliative care. To make services more accessible to all people in Uganda, a national palliative care policy draft has been developed through collaborative efforts between the African Palliative Care Association, Ministry of Health of Uganda, Palliative Care Association of Uganda and Makerere University and with funding support from the American Cancer Society.

Aim: Uganda's national palliative care policy aims to provide relief from pain and suffering of people with cancer and their families by ensuring access to the highest attainable services at all levels of the health care system through a primary health care approach.

Strategy/Tactics: For sustained commitment to improving cancer care, APCA has influenced MOH and other stakeholders to realize the need for a national palliative care policy. By mobilizing evidence, riding on previous achievements and challenges, financial and technical assistance, a policy has been drafted for presentation to the members of parliament and cabinet.

Programme/Policy Process: A meticulous review of evidence described the *problem requiring policy, viable options for addressing it and implementing strategies. Policy development which used* a participatory process, with the leadership of the ministry of health, and contribution of palliative care service providers, researchers, academicians and others has resulted into a draft policy.

Outcomes/What was Learned: The policy will influence the inclusion of palliative care in future national health budgets. Uganda's policy development experiences will encourage other developing countries to consider the right to health through providing health services, even to those whose disease is beyond cure.

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PILOTING AN EDUCATION PROGRAM FOR CANCER SURVIVORS, THEIR FRIENDS AND FAMILY: LESSONS LEARNED

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Background and Context: Increased cancer detection, an ageing population and improvements in cancer treatment, have resulted in increasing numbers of cancer survivors. Many survivors and carers report a lack of information and support following treatment. Current evidence supports the delivery of education for cancer survivors.

Aim: To pilot a group based program for cancer survivors and their carers and evaluate the mode of delivery, content and overall satisfaction for participants and facilitators of the program.

Strategy/Tactics: Cancer Council Victoria (CCV) developed and piloted a one day module as part of the Living with Cancer Education Program (LWCEP) for cancer survivors, their families and friends that included information on survivorship care and support, diet and exercise. CCV collaborated with trained health professional facilitators to deliver the pilot module across four cancer centres.

Programme/Policy Process: A multidisciplinary advisory committee made up of LWCEP facilitators agreed on topics to be included in the pilot program through a consensus process. Following the pilot, eight facilitators attended a semi-structured focus group to discuss mode of delivery, content and program satisfaction. Additionally, 66 participants were invited to complete a 31-item (open, closed) post program questionnaire assessing mode of delivery, content, overall program satisfaction and demographics.

Outcomes/What was Learned: The facilitator focus group identified common themes: program content is clear and relevant; PowerPoint presentations require refinement; participant needs varied; program extremely well received.

Fifty-five (83%) post program participant questionnaires were completed. Forty-five respondents had completed cancer treatment. Ten were family member/friends. Forty-six (84%) preferred content delivered over one full day rather than shorter four weekly sessions. Fifty-three (96%) were either satisfied or very satisfied with the program. Topics evaluated most highly were: support services, staying healthy after cancer and emotions and cancer.

Future directions of the program include wider delivery across regional areas and flexible delivery formats, including large forums and webinars.

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THE KNOWLEDGE IN THE ROOM: EVIDENCE-GATHERING AND PARTNERSHIP-BUILDING THROUGH COMMUNITY SHARING CIRCLES TO ADDRESS CONCERNS ABOUT CANCER IN FIRST NATION (ABORIGINAL) COMMUNITIES IN THE NORTHWEST TERRITORIES, CANADA

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1. *Government of the Northwest Territories, Yellowknife, NT, Canada*

Background and Context: Concerned by apparent increases in the numbers of people diagnosed with and dying from cancer, some Dene communities of the Northwest Territories (Canada) approached the Government of the Northwest Territories (GNWT) to learn more about underlying causes and address the needs of people affected by the disease.

Aim: The aim of this initiative was to allow a culturally appropriate airing of concerns; enhance knowledge exchange; facilitate dialogue on a sensitive topic, mobilize communities to address barriers and gaps in the cancer care continuum; and establish an evidence base and linkages that could be used towards the development of a needs-based, culturally-safe territorial cancer strategy.

Strategy/Tactics: The GNWT delivered two sharing circles in 2012, in partnership with the Saint Elizabeth First Nations, Inuit, and Métis Program and a third in 2013, each in a different remote community.

Programme/Policy Process: The sharing session approach fostered culturally-appropriate, meaningful discussions on cancer, with value placed on preexisting community knowledge and the lived experience of cancer survivors and affected community members. Experience sharing and knowledge exchange increased understanding among and between community members, community champions, health care professionals, and facilitators.

Outcomes/What was Learned: We were able to identify areas for improvement in cancer prevention and patient transition experiences throughout the cancer journey, specifically: risk factor and screening awareness; availability of culturally-appropriate resources; integration of traditional medicine; palliative care and survivor support needs; etc. Other outcomes included self-reported participant empowerment and ownership of community wellness initiatives, and strengthened collaboration between the GNWT and community leadership.

The sharing session approach is an important input in the development of its forthcoming cancer strategy. Such methodology enhances the quality of evidence and relationships, ultimately strengthening strategy development and implementation. Inclusive, culturally-appropriate approaches such as community sharing circles can be considered a best practice in needs assessment, data collection, and stakeholder engagement.

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DEVELOPING A REHABILITATION FRAMEWORK FOR CANCER SURVIVORSHIP

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Background and Context: One of the consequences of cancer treatment is that patients experience a degree of functional decline that impacts on their ability to transition back to their former lifesyle at completion of treatment. There is growing national and international evidence that a holistic, multidisciplinary rehabilitation program can improve the qualtity of life of cancer survivors. In the private health sector however, there is often limited opportunity for multidisciplinary involvement in cancer care and this has implications for patients' supportive care need outcomes during and post treatment.

Aim: The purpose of this paper is to present the conceptual framework for the development and implementation of a cancer survivor rehabiltation program in a private healthcare institution.

Strategy/Tactics: 1. literature review; 2. Convened a multidisciplinary party to further analyse the needs of cancer patients post trreatment; 3. A preliminary framework and business plan was developed and presented to the hospital executive; 4. Discussion with health insurers regarding rebates; 5. Engaged with researchers for the purpose of evaluating the program; 6. A date for the 8-week pilot program set and purposefully recruited participants as they would also act as key informants for the future development/enhancement of the program.

Programme/Policy Process: A physical and psychological rehabilitation program with four key concepts integrated into the design was developed and piloted. 1. the particiapants had a 1:1 session with a psychologist; 2. the exercise program was individually tailored and supervised; 3. single tumour stream; and 4. closed group format.

Outcomes/What was Learned: The intergrated rehabilitation design was well received by participants who valued being able to address both psychological and physical needs as well as being able to share their experiences and discuss tumour stream specific issues. There is a need for this program to have continuous quality evaluation to allow for iterative changes according to group needs.

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THE ESTABLISHMENT OF PCFA AFFILIATED GAY/BI-SEXUAL PROSTATE CANCER SUPPORT GROUPS IN AUSTRALIA

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Background and Context: In Australia, prostate cancer is the most common non-skin cancer in the male population, and accounts for 25–30% of cancer diagnosed each year in men. In almost all research conducted to examine issues affecting men with prostate cancer, the specific needs of gay and bisexual men are often not considered.

Aim: In redressing this situation, through its Gay and Bisexual Men's Prostate Cancer Initiative, Prostate Cancer Foundation of Australia (PCFA) has commissioned research studies into the needs of gay and bisexual men pertaining to prostate cancer information and support.

Strategy/Tactics: Findings from these studies showed that there is a dearth of information resources and support specifically for gay and bisexual men living with prostate cancer. These findings informed the work of PCFA in its effort to ensure appropriate support services are available for gay and bisexual men with prostate cancer.

Programme/Policy Process: This presentation discusses the steps PCFA had taken to establish prostate cancer support groups specifically for gay and bisexual men, including the process of identifying localities, conducting community consultations, and providing ongoing support to the leaders of these support groups.

Outcomes/What was Learned: Six support groups specifically for gay and bisexual men have been established in Darwin, Adelaide, Brisbane, Melbourne, Perth and Sydney. Work is continuing to establish groups in regional areas where there are identified unmet needs.

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HAMAARI PATHSHALA – A PLATFORM FOR INFORMAL EDUCATION FOR CHILDREN UNDER TREATMENT

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1. *V CARE FOUNDATION, MUMBAI, India*

Background and Context: In developing countries like India, about 80% of the population lives in villages with no or inadequate medical facilities with preference being given for the long term treatment at the premier cancer hospital in Mumbai due to low acceptance of facilities in other places. Patients need to travel from distant home towns and villages, at times accompanied by their young children, and live in low cost accommodations (Dharamshalas) for a long period for treatment. Resultantly, in a large number of cases, the children on treatment and those accompanying their parents who are on treatment are deprived of their elementary or primary education.

Aim: V Care Foundation has endeavoured to fill this void by imparting elementary or primary education on an informal platform to these youngsters in the age group of 3–18, so that -
i. they can be gainfully occupied; and
ii. they acquire elementary education skills

Strategy/Tactics: V Care started the project about 14 years ago to run an informal school called Hamaari Pathshala at one such Dharamshala. Children under-going treatment or accompanying their parents undergoing treatment come every evening to this school

Programme/Policy Process: V Care volunteers teach them basics of mathematics, languages and computer skills through simple and interesting project-based activities along with art, craft and fun activities like dance and music. Simultaneously, awareness is created about nutrition, hygiene and psycho-social issues thereby supplementing the line of treatment

Outcomes/What was learned: Currently, about 25 to 30 children attend the school every evening. These children are extremely satisfied and happy to participate and learn. Some have got jobs due to the basic learning imbibed here. The parents are happy as the children are in supervised set up and the parents get some time to be on their own.

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CANCER CARE PACKAGE PROGRAM- DELIVERING FREE REQUESTED PRODUCTS RIGHT TO THE DOORSTEP FOR CANCER PATIENTS ACROSS THE UNITED STATES

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1. *American Association for Cancer Support, Inc., Knoxville, TN, United States*

Background and Context: The Cancer Care Package program was established in early 2011 in Tennessee, USA. Cancer Care Package is an essential program for those cancer patients with low income, or no income, across United States. The packages are created to offer quick and sustaining aid which include supplies such as personal care items, clothing, over the counter medications, and other available products all of which will help alleviate the patient's and families' struggles during their difficult period.

Aim: To distribute the requested products for economically challenged cancer patients and their household, free of charge

Strategy/Tactics: Cancer patient or guardian submit the request for products, which are then shipped bimonthly, up to six packages per year per patient.

Programme/Policy Process: Patients must be verified by medical professional about their current cancer diagnosis

Outcomes/What was Learned: According to the number of Cancer Care Packages shipment during the first quarter of 2014, the cancer patients across the United States have received free Cancer Care Packages which the average value 319.73 US Dollars per package (value does not include the priority shipping cost). This means the cancer patient and family could save on average spending expenses of 1,918.38 US Dollars per patients. This amount is equivalent of roughly 264 working hours with the US federal minimum wage rate at 7.25 US Dollars.

The packages are shipped via United Stated Postal Service in the large priority mail packages to patients in 38 states by the end of the year 2013.

The top requested products are categorized as personal hygiene care items, OTC medication, clothing, and computer laptops.

1. http://americancancersupport.com/programs/

2. http://www.dol.gov/whd/minwage/america.htm

3. https://www.facebook.com/156934751040385/photos/a.273760626024463.63079.156934751040385/575604039173452/?type=1&theater

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THE HEALTHY LIVING AFTER CANCER PARTNERSHIP PROJECT

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Background and Context: There is considerable evidence for the efficacy of physical activity, diet and weight loss interventions in improving health outcomes for cancer survivors, but limited uptake into practice.

Aim: Healthy Living after Cancer (HLaC) is an evidence-based, telephone-delivered lifestyle intervention targeting cancer survivors. This paper describes the translation of HLaC into practice in partnership with Australian state-based Cancer Councils.

Strategy/Tactics: Cancer Councils were approached as they had an existing service delivery model (i.e., Cancer Helplines). A two-year translation process involved numerous contacts with Cancer Council stakeholders, with emphasis on "fit" of HLaC with Cancer Council strategic planning. Ten national and international academic, clinical, program and policy investigators and consumer advocates were engaged via extension of established research collaborations. A trials group-sponsored Concept Development Workshop was held, which solidified partner buy-in leading to a collaboratively-developed Partnership Proposal submitted to and funded by the NHMRC.

Programme/Policy Process: HLaC will integrate a six-month, telephone-delivered lifestyle intervention (and program evaluation) into the Cancer Helplines of four partner Cancer Councils (NSW, Vic, SA, WA). The project plan involves three phases over five years: infrastructure and capacity building; implementation and evaluation; and advocacy for continued funding, pending successful findings. Primary outcomes in this single-group, pre-post design dissemination study are related to program implementation: adoption (i.e., patient referrals from cancer treatment centres); reach, retention and representativeness of program participants (i.e., cancer survivors); fidelity of program implementation and evaluation by the Cancer Councils; participant and staff satisfaction; documentation of the fixed and recurrent costs associated with program delivery. Secondary (participant-reported) outcomes are: physical activity and dietary behaviour change, weight and quality of life.

Outcomes/What was Learned: Integration of evidence, utilisation of existing models of care delivery, engagement with multiple stakeholders, and capacity building are critical to the translation of interventions to improve healthy living after cancer.

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USING PHOTOVOICE TO COLLECT FEEDBACK ABOUT CHALLENGES OF SEXUALITY IN ADVANCED BREAST CANCER PATIENTS IN SOUTH AFRICA

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Background and Context: The issue of sexual challenges for advanced breast cancer sufferers in the country is not well understood and due to cultural and personal privacy issues around sexuality, is seldom explored or spoken about.

People Living With Cancer implemented a photovoice advocacy project to highlight challenges that cancer patients face in South Africa. After the thematic content analysis of the pilot study, only 3 references to sexuality were noted (N = 112). The first reference was by a breast cancer sufferer who indicated concern that her husband would not be able to relate to her as a ‘real woman’ and the other 2 were by women whose husbands left them because of their diagnosis of cancer (ovarian cancer and breast cancer). The low incidence of comments on this important quality of life issue prompted the researchers to undertake a focus group process to explore the issue.

Aim: To collect photovoice contributions focussing on challenges of sexuality in a sample of advanced breast cancer sufferers in South Africa.

Strategy/Tactics: A wide socioeconomic range of breast cancer patients who attended an advocacy and fundraising breakfast in Cape Town South Africa was approached to complete a questionnaire indicating whether they had experienced sexual challenges as a result of their cancer diagnosis. 10 Women with advanced breast cancer were identified and individual follow-up photovoice interviews were conducted.

Programme/Policy Process: Photovoice contributions were anonymous so that the privacy of contributors was protected and so that openness could be encouraged. Where possible, partners/spouses were also invited to offer feedback about their views.

Outcomes/What was Learned: Many cancer patients and their partners did not anticipate sexual challenges and were unprepared when they occurred. Cancer treatments were an obstacle to sexual comfort. Sexual challenges were difficult to address in the context of the seriousness of cancer, and this contributed to emotional stress.

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SUPPORT GROUP LEADER TRAINING: DEVELOPMENT AND IMPLEMENTATION

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Background and Context: Prostate cancer is the most significant male cancer in Australia, affecting not only men diagnosed, but also their partners, family and friends and the wider community. Prostate Cancer Foundation of Australia (PCFA) is uniquely placed through its peer led supportive care network to assist men and women dealing with prostate cancer at various stages of their journey. This person-centred and community based support network is based on an empowerment and strengths based framework within a tiered supportive care model. Most recently, PCFA has been involved in the development of an evidence based training programme to enhance the capacity of PCFA affiliated prostate cancer support group leaders to provide support to people dealing with cancer. The training consists of a suite of seven modules.

Aim: To develop and implement evidence-based best practice support group leader training.

Strategy/Tactics: The development of these modules was undertaken by an internal working group of key PCFA staff and an external consultant, who wrote the program

Programme/Policy Process: The development of the program was informed by contemporary evidence of what works in peer based support programs and was reviewed by an Expert Advisory Panel throughout its development.

Outcomes/What was Learned: Initial training was delivered in 2013 with positive results. The evaluation demonstrated increased capability of support group leader knowledge and skills in facilitating groups.

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ONLINE CANCER FORUM USERS’ VOICE IN FRANCE: INSIGHTS FOR SERVICES REORIENTATION TOWARDS CANCER-RELATED COMMUNITY CAPACITY BUILDING

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Background and Context: The inability of a facilitator to pursue online interactions with the users of the French League Against Cancer’s Forum, led to a service reorientation. Users’ discontentment prompted the need of appraising their opinions to inform further administrative intern actions.

Aim: To explore the overall experiences of using the League’s forum and collect users’ suggestions to improve the Forum as a tool for cancer public service.

Strategy/Tactics: An original questionnaire was developed assembling our expertise in cancer public education, health literacy, and social inequities in accessing health services. The questionnaire composed of 18 questions explored socio-demographics, general profile as a user, type and extension of participation, benefices and suggestions.

Programme/Policy Process: The questionnaire was pilot tested with 3 staff experienced with cancer public services. Upon approval of the League’s President, it was formally presented to the Board of Directors to be criticized, revised for culturally-sensitive language and questions’ appropriateness. The questionnaire was posted on the League’s webpage with a special announce and link (June-October 2013). Reponses from 56 respondents were analyzed though descriptive statistics and the method of content analysis was used to extract meanings of their suggestions.

Outcomes/What was Learned: The participation of a small sample was equally relevant for a qualitative, critical review of work philosophy/policy.

Participants' trust on the League's respectability was a factor of using the Forum and seeking of emotional support on it. Since an online forum should offer conditions for survivors' networking and exchange, the provision of indirect professional monitoring seemed to undermine the development of cancer-related community capacity building. Community initiatives led by survivors assuming the social leadership for self-help, information-sharing and social advocacy should be the focus of community empowerment actions. Cancer organizations should avoid a downstream approach that reinforces the hegemony of the professional expertise.

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THE ROLES OF DATA SYSTEMS IN DEVELOPING A ROBUST EVIDENCE BASE ALONG THE CANCER JOURNEY

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Background and Context: Australian cancer data strategies include increasing the range of data collected by population-based cancer registries and linking these data with data from other registries, bio-specimen databases, administrative and research databases and surveys, to obtain a broader range of data to support population health monitoring, health-service management and research. Prototype systems indicate the utility of this strategy.

Aim: To link registry data with administrative and other data at a person level to provide de-identified integrated data, employing privacy-protecting pathways; to demonstrate the value of these integrated data for population health and health services monitoring and research; and to establish this as an ongoing process.

Strategy/Tactics: These include: (1) linking data from population-based cancer registries, bio-specimen databases, screening registries, hospital inpatient and emergency department data, radiotherapy databases, health insurance data, clinical cancer registries, and population based cohort data covering behavioral environmental and other risk factors, and patient reporting; (2) adding stage and other prognostic data from structured pathology and other pathology and clinical reporting to population-based registries; (3) testing data validity with specialist clinical registries and allied databases; (4) presenting output data to stakeholders; and (5) publishing output data in the international peer reviewed literature.

Programme/Policy Process: Develop prototype systems at a jurisdictional level with ethics committee approvals, and using privacy-protecting data linkage processes, and demonstrate by example the value of output data for health and health-service monitoring and research to policy makers, service providers, researchers and consumers.

Outcomes/What was Learned: Challenges include: collecting data on stage and other prognostic markers in population-based registries; and gaining administrative approvals for access to existing databases. Prototype systems at a jurisdictional level show "proof of concept" and that the challenges are not so much technical as gaining administrative approvals for data access to all the data required.

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A MODEL FOR IMPROVING BREAST CANCER CARE THROUGH THE HOPE PEER-NURSE NAVIGATION IN GHANA

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Background and Context: Breast cancer is the leading malignancy in Ghana among women with over 60% reporting late. In addition to profound emotional and physical effects of the disease, breast cancer can present significant social, financial, and logistical challenges for patients and their families contributing to patient's fear and frustration and may affect their timely access to care. In Ghana, finding one's way through the healthcare system and knowing what support and services available can be challenging for breast cancer patients who have to make major life decisions around limited resources. While coping with the shock of a cancer diagnosis, patients are expected to negotiate a complicated series of tests, meet appointments, and follow treatment regimens. It is critical that newly diagnosed patients be informed about the disease, its implications, and how treatment experience may be coordinated between different service providers. As supportive care is increasingly been recognized as an integral part of quality cancer treatment, little is known about any existing services for breast cancer patients in Ghana.

Aim: To provide support for newly diagnosed breast cancer patients by breast cancer survivors previously diagnosed and treated at Peace and Love Hospital to improve care and quality of life of breast cancer survivors.

Strategy/Tactics: Using a combination of breast cancer survivors and nurses trained in oncology living in the same communities, newly diagnosed breast cancer patients are guided towards achieving quality health outcomes within culturally appropriate context.

Programme/Policy Process: Breast Care International in collaboration with Carrie's TOUCH, USA has created an integrated Peer–Nurse Navigation program based on Helping Others through Personal Experiences (HOPE).

Outcomes/What was Learned: In three months (August–October 2013), program registered 12 patients. Age range (26–74). Frequently complaints include financial challenges, husband deserted family, chemotherapy side effects, and fear of dying.

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ESTABLISHING PAEDIATRIC LONG TERM FOLLOW-UP TRANSITION CLINICS IN THE TERTIARY ADULT HEALTH CARE SECTOR

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Background and Context: The number of new patients referred to the Paediatric Long Term Follow-up (LTF) Program, in addition to existing LTF patients requiring ongoing review, exceeds current clinic capacity.

Aim: The Long Term Follow-up Program (LTFP) collaboratively established transition clinics with two tertiary adult health care providers to support the process of transition and to enhance transfer of adolescent/young adults (AYA) to the tertiary adult health care sector.

Strategy/Tactics: In the three years (36 months) prior to June 2012, 14 patients were transitioned to tertiary adult health care providers (an average of 4.6 patients per year). Transition clinics were implemented in July 2012. In the period July 2012 to December 2013 (18 months) a total of 28 patients have been transitioned to tertiary adult health care providers (an average of 18.7 patients per year). An additional 15 patients are planned for transition by June 2014 (an average of 21.5per year).

Programme/Policy Process: The Long Term Follow-Up Program now has a clear process in place to support the potentially difficult period of transition for survivors of childhood cancer to the appropriate tertiary adult health care centre.

Outcomes/What was Learned: Following the implementation of formalised transition clinics, transition of AYA's to tertiary adult health services has increased to 7% of all patients referred to the LTFP. Transition has increased from 5 patients per annum to 22 patients per annum, creating capacity within the LTFP for new referrals and reducing waiting list times. The implementation of formalised transition clinics supports AYA patients receiving a personalised and supported transition, reduces the numbers of AYA patients 'bouncing back' to the paediatric sector, and provides the opportunity for the adult health care sector to receive an in-depth 'face to face' hand over of these complex patients.

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PARTNERING FOR SUCCESS: LESSONS FROM BREAST AND CERVICAL CANCER SCREENING IN RURAL HONDURAS

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Background and Context: Women in rural areas of Honduras have limited access to cancer education, screening, and care. We collaborated with village leaders to pilot a breast and cervical cancer screening initiative in El Rosario, Honduras. Our objectives were to improve community awareness and access to cancer screening, to strengthen connections between the community and Honduran providers to ensure continuity of care, and to link patients with abnormal findings to cancer treatment. Cervical Cancer represents 42% of all cancer cases in Honduras, breast cancer is rapidly arising as 2nd. most common cancer among women.

Aim: Our objectives were to improve community awareness and access to cancer screening, to strengthen connections between the community and Honduran providers to ensure continuity of care, and to link patients with abnormal findings to cancer treatment.

Strategy/Tactics: Collaboration between a Major Cancer Center with advanced technology to strengthen a local cancer institution activities towards Cervical and Breast cancer education, screening and diagnosis.

Programme/Policy Process: A team of health professionals and staff from Dartmouth-Hitchcock Medical Center joined Honduran clinicians and medical students from La Liga Contra el Cáncer to conduct two days of cancer screening. Providers offered free clinical breast exams, Papanicolaou (Pap) tests, onsite colposcopy and biopsy, and primary care consults in addition to training medical students

Outcomes/What was Learned: 472 women screened,4.6% had visible cervical lesions, several HPV high risk strains identified. 238 breast examination performed, 1 advanced carcinoma detected, 2 patient with suspicious breast lesions referred. Women from rural areas are receptive to education and screening, collaboration between institutions can upgrade cancer care providing technology to practice. Medical Students are a valuable tool for cancer organizations as human resource for education and screening and the experience increases their participation in cancer prevention. More research and insight is mandatory to tailor screening policies in our communities.

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CERVICAL CANCER SECONDARY PREVENTION: POC STI SCREENING AND TREATMENT ON THE ZDFMS INTEGRATED MOBILE HCT/ CERVICAL CANCER SCREENING PROGRAM

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Background and Context: Zambia has one of the World's highest prevalence for both HIV (16% women of reproductive age) and cervical cancer (52.8/100,000 ASR) (GloboCan, Zambia Factsheet).Chlamydia trachomatis infection increases the risk of HPV acquisition or HPV persistence, and repeated CT infections increase the risk of CIN3+ among women with prevalent as well as persistent high-risk HPV infection (Jensen KE, et al). Point of care (POC) STI screening and same-day treatment was introduced, on a trial run, on the already existing integrated mobile HCT and Cervical cancer screening and early treatment (2° prevention) program, with proven strengths of task shifting, telemedicine, and demand creation.

Aim: Secondary prevention of Cervical cancer by early treatment of asymptomatic common STIs

Strategy/Tactics: Zambia Defence Force Medical Services (DFMS), with support from PCI, trained personnel from the HCT and Cervical cancer screening team on the three STIs (RST, GC, and CT) SOPs and the integration thereof. Positive results would be treated immediately, with adequate partner notification call-up and treatment.

Programme/Policy Process: 1,470 women (median age 35) were screened for Cervical cancer and HIV/STIs: Out of these, 119 (8%) VIA+ (including? Cervical cancer) 205 (14%) were positive for STIs [193(94%) asymptomatic, 12 (6%) symptomatic], 275(18.7%) HIV+. There was a high consent / test rates of 100%/100% for syphilis; 99.8%/100% HIV; 97.1%/92.7% cervical cancer; and, 97.4%/73.9% each, for GC and CT. Waiting time was not significantly changed by addition of the new tests.

Outcomes/What was Learned: In a country with an absent routine medical check-up schedule, a population with poor health seeking behavior ('what doesn't hurt doesn't need attention'), and the project's results showing a high STI incidence of 14% with 94% asymptomatic for STI, the addition of POC STI screening and treatment in the routine Cervical cancer screening will be an essential tool for secondary prevention.

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PINK CARAVAN NATIONAL BREAST CANCER SCREENING AND AWARENESS CAMPAIGN 2011–2014, UNITED ARAB EMIRATES, AN INITIATIVE BY FRIENDS OF CANCER PATIENTS

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Background and Context: A big challenge in the United Arab Emirates is the social reticence surrounding the topic of cancer. Concerted efforts by Pink Caravan medical teams to educate public is breaking ground in mobilizing communities to seek screening and treatment. Over 4 years, 35 medicals performed 28,091 clinical breast examinations, 21,560 female and 6,531 male

Aim: Pink Caravan launched in 2011 aiming to clinically screening 5,000+ patients annually per 10 day ride

Strategy/Tactics: Every year over 150 experienced horse riders cross all 7 Emirates, gathering support across sectors: schools, universities, corporations and royalty. The real impact is created by Pink Caravan's mobile clinics that accompany the 300 km ride, conducting free early detection breast cancer centers en-route, offering screening and awareness.

Programme/Policy Process: Activities aren't limited to the ride, numerous activations take place throughout the year to ensure access to services. The final calendar for October 2014 set at 3 University and 32 Corporate Wellness Days.

Outcomes/What was Learned: Pink Caravan in collaboration with Canadian University of Dubai, published in the '*International Journal of Research Studies in Biosciences (IJRSB) Volume 2, Issue 3, April 2014, PP 8–13 ISSN 2349-0357 (Print) & ISSN 2349-0365 (Online)*' www.arcjournals.org'. Titled: *'A Study of Women's Behavior and Attitude towards Breast Cancer Screening Examinations in Ras Al Khaimah, United Arab Emirates'* co-authored by Dr. Rami El Khatib, School of Environment and Health Sciences.

This study was conducted to address the behavior and attitude of 496 women of different socio-demographic characteristic towards breast cancer screening in the UAE. While 236 women (48 %) from this study were referred to mammogram / ultrasound, only 88 women responded, requiring more health education, awareness and health support.

Therefore the study helped shape the October 2014 campaign planning, latest results will be available at the World Cancer Congress in December.

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THE ROLE OF MHEALTH IN CANCER CARE: DESIGNING WITH THE USER IN MIND

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Background and Context: Low- and middle-income countries (LMICs) now bear the majority share of the burden of cancer, yet their health systems are not prepared (Farmer, et al).

There are now over 6 billion mobile subscribers worldwide and at least 50% of the population in LMICs owns a cell phone (PEW). The field of 'mHealth' seeks to capitalize on this opportunity.

MHealth is already being used to improve access, adherence, and quality of care in many LMICs, and we have evidence of improvements in each of these areas. Yet, cancer is a very different disease from TB or malaria. There is an opportunity to apply these tools and lessons along the cancer continuum, though attention needs to be focused on understanding the needs of end users if we are to successfully roll out mHealth interventions that create impact.

Aim: Tools are available **now** to help us in the fight against cancer; we need to know how to apply them effectively, integrate with health systems and community networks, and solve real challenges experienced by patients, families, clinicians, and administrators.

This session will cover the importance of human-centered design (HCD) in mHealth interventions in cancer.

Strategy/Tactics: Present an overview of the mHealth landscape and examples of evidence-based use cases to support cancer prevention and screening, diagnosis and treatment, palliative care, and cancer control systems.

This session will cover the basics of mHealth, its relevance to cancer programs, and the importance of human-centered design (HCD).

Programme/Policy Process: 10 minute presentation

Break out informally afterward to allow participants to apply mHealth use cases to their own context. They will map out stakeholders and user requirements, creating a blueprint for their own mHealth program.

Outcomes/What was learned: Participants will have a basic working knowledge of HCD and how to apply it to mHealth designs

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2. Pew Research Center, February 2014, "Emerging Nations Embrace Internet, Mobile Technology"

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USING CANCER REGISTRY DATA TO EVALUATE ISRAELI NATIONAL SCREENING PROGRAMS FOR BREAST AND COLORECTAL CANCER

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Background and Context: In 2004, the Israel Ministry of Health instituted a national health care quality measurement program. This program documented increased compliance with guidelines for breast and colon through 2010.

Aim: We used cancer registry data to study the impact of increased screening on initial stage of breast and colon cancer.

Strategy/Tactics: The Israel National Cancer Registry (INCR) was established in 1960; reporting has been mandatory since 1982. Stage is coded according to the summary stage criteria of the Middle East Cancer Consortium (MECC). We selected cases of invasive and in situ cancer diagnosed from 2000–2010 at ICD-O-III sites C50 (breast) and C18-C20 (colorectal) excluding lymphomas at these sites.

Programme/Policy Process: Annual number of breast cancer cases in women ages 50–75 increased by 22% from 2000 to 2010. Of cases with a documented stage, the percentage coded as in situ or localized rose from 54.6% to 64.3% and the percentage with distant spread at diagnosis dropped from 3.7% to 2.3%.

Annual number of cases of colorectal cancer in the population ages 50–75 increased by 14% from 2000–2010. Of cases with a documented stage, the percentage coded as in situ or localized rose from 20.5% to 35.3% and the percentage with distant spread dropped from 15% to 10.5%.

Outcomes/What was Learned: We observed a shift in the percentage of breast and colorectal cancer detected at earlier stages during the period from 2000–2010, in parallel with increased cancer screening in the target populations. The INCR data are useful for assessing the implementation of national interventions.

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SCREENING OF RURAL FEMALE POPULATION FOR BREAST CANCER BY MOBILE MAMMOGRAPHY UNIT OF NIMRA, JAMSHORO PAKISTAN

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Background and Context: Breast Cancer is a common cancer in our part of the world, 1 out of 9 women are suffering from Breast Cancer in Pakistan. Patients from rural areas are often presenting with advance disease due to illiteracy, poverty, and social factors. Detection of Breast Cancer in its early stage provides a greater chance of cure, especially when disease is only confined to the breast. This Institute has Mobile Mammography unit who is covering 360 Kilometer radius for the awareness drive with collaboration of provincial Govt: Health system, Pink Ribbon Pakistan and Aga Khan Health system. For this project equipment and manpower was provided by NIMRA, funding for scientific material and logistics was provided by UICC Geneva under Cancer Capacity Building Project.

Aim: Our aim is to diagnose Breast Cancer at an early stage by providing screening facility at the door step of rural female community and to train Health Care professionals e.g. Doctors, Lady heatlh Visitors, Lady health Workers, and Nurses working in basic health units and rural health centres to know about early diagnosis of breast cancer and their treatment. We also train female population of rural area in early detection of Breast Cancer and self examination of Breast.

Strategy/Tactics: Our team comprises oncologists, radiologists, nurses and other essential staff to pay visit fortnightly to the Rural and Basic Health Units of the area.

Programme/Policy Process: Our policy was togather medical/paramedical staff to educate them about prevention, detection and self examination of breast.

Outcomes/What was Learned: This study comprises from Jan 2011 to Dec 2013 during this period total 646 patients were screened out of which 106 were suspicous of malignancy, 97 were benign and 443 were normal. Suspicous patients were refered at Breast Care Clinic NIMRA for their further diagnosis and treatment. This program helps to poor civil socity women for screening at door step and educating helth care professionals in early detection and self examination of breast.

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OPTIMISING THE EXPANSION OF THE NATIONAL BOWEL CANCER SCREENING PROGRAM – INFLUENCING THE NATIONAL POLICY AGENDA

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Background and Context: The National Bowel Cancer Screening Program (NBCSP) has experienced a long and drawn-out expansion. Commenced in 2006, it invited just two age groups, those turning 55 and 65 years. Through the years, various commitments and extensions have been made. Finally, in the 2012–13 Budget, the Federal Government made an on-going commitment and agreed to fully implement biennial screening for 50–74 year-olds. While this commitment was welcomed, concerns were raised over the lengthy implementation time-line (2034) which could have serious implications on bowel cancer.

Aim: To estimate theimpact and compare various expansion scenarios of the (NBSCP) in terms of bowel cancer deaths prevented due to early identification and prevention of bowel cancer.

Strategy/Tactics: Using a well-established, validated computer simulation model for bowel cancer screening (MISCAN-Colon), adjusted to reflect the Australian situation, five implementation scenarios were developed and modelled. Their impact on bowel cancer mortality was compared. This is the first time Australian data has been used in internationally recognised cancer modelling software, allowing researchers to quantify the number of deaths prevented as a result of various screening scenarios for bowel cancer and enabling a comparison between the current adhoc screening program and the various simulated scenarios.

Programme/Policy Process: The preliminary results of the modelling were made available for the Cancer Council Australia's election manifesto in July 2013. During the 2013 election campaign, the Shadow Health Minister, using information provided in the manifesto, announced that under a coalition government the NBCSP would be fully implemented by 2020. This commitment is expected to be translated into policy in the near future.

Outcomes/What was Learned: Our results provided a strong argument to act with immediacy. The importance of relevant and timely evidence-based research to advocate for changes to public policy cannot be underestimated.

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SISTERS HAND IN HAND: A COMMUNITY OUTREACH PROJECT TARGETING RURAL AFRICAN AMERICAN WOMEN

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Background and Context: A 28 year comprehensive cancer screening program at Audrain Medical Center in rural Mexico Mo. USA, provides services to 2500 women annually from 25 states of the nation. Over 650 early stage cancers have been diagnosed during the life of the program. A large disparity gap was identified with only 3 documented African American women seeking preventative care in the cancer screening program.

Aim: Sisters Hand in Hand proposed that we reach underserved African American women in their places of worship to understand culture barriers, fears, and begin building trusting relationships.

Strategy/Tactics: African American women leaders in the faith community were identified and a focus group of 9 women from 3 African American churches was developed. A common mission blossomed connecting underserved women with education and cancer screening services. The women were asked ways to best reach women in their community. Beauty Shops, church services and Juneteenth celebrations were identified to best target outreach activities. Cancer center staff served as a liaison between the faith community and the cancer screening program, offering support, education, and guidance, while the focus group women took ownership of community outreach activities.

Programme/Policy Process: Support from key African American stakeholders led to buy-in from the general population of the faith community forging a trusting bond between the community and the cancer screening program.

Outcomes/What was Learned: The number of African American women utilizing comprehensive cancer screening services grew from 3 to 187 during the outreach program. Culturally, African American women do not share their personal stories, many fear cancer yet do not talk about it. Trust of the health care system was lacking, but due to the one on one relationship building, reaching women in their place of comfort and faith, the barriers are lowering, communication increasing and screening rates increasing.

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TOBACCO FREE BANGLADESH: A DREAM NEED TO BECOME REALITY

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Nearly 80% of the smokers worldwide live in low and middle-income countries, where the burden of tobacco-related illness and death is heaviest. Tobacco users who die prematurely deprive their families of income, raise the cost of health care and hinder economic development.

Bangladesh is a country in south Asia, has the highest population density in the world. According to 2011 census total population of Bangladesh is142,316,000 which ranks 8th in the world. Total 41.3 million adults currently smoke tobacco or use it in a smokeless form Bangladesh. About 21.2 m men, 0.7 m women currently smoke tobacco. Nearly 12.5 m men, 13.4 m women currently use smokeless tobacco. Among the youth about 2% currently smoke cigarettes. Smoking rates are much higher among men than women; an estimated 45 percent of men and 1.5 percent of women smoke. In Bangladesh, more than 95,000 people die each year from tobacco-related diseases.

Due to the threat on public health, economy and development, a global treaty has been developed, named Framework Convention on Tobacco Control (FCTC), by all countries' active participation, support and input led by the World Health Organization. Bangladesh was a first signatory of the FCTC in 2003. Subsequently, Bangladesh introduced the 'Smoking and Tobacco Products Uses (Control) Act 2005' and developed Rules under this law in 2006. The new law "Smoking & tobacco products use (Control) (Amendment) Bill 2013" passed parliament on 29 April 2013. It is far stronger than the previous one.

I have done a survey on tobacco use and healthy Hazards very recently, the results not yet been published to any journal. Here I searched for the starting age, maximum consumption in group of age, the brand/quality of cigarettes smoked, gender issue and related to suffering from diseases.

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EVALUATION OF SEE AND TREAT PROGRAM IMPLEMENTATION IN EAST JAVA PROVINCE, INDONESIA THREE YEARS EXPERIENCE

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Background and Context: Almost 80% cervical cancer patients came to Dr. Soetomo Hospital in stage II above, although the Pap smear movement has developed since 1969 in East Java Province, because most of women with precancerous lesion did not go to see the gynecologist due to no pain symptom and difficult geographic area besides the poor. See and Treat has four pillars in the activities from awareness to sustainability

Aim: to share our experience in reducing cervical cancer cases effort using a very simple method by Visual Inspected with Acetic acid (See) and using cryotherapy (Treat) in low resource area in East Java Province.

Strategy/Tactics: A retrospective study of program achievement from 14 districts, by community empowerment and create the special strategy, using secondary data from the report of activities within 2008–20011. The evaluation consist of the achievement and analysis of people awareness, the training programs, the screening with VIA followed by cryotherapy and program sustainability.

Programme/Policy Process: Outcomes/What was learned: there were 60,352 women received education, 16,227 went for VIA screening with positive VIA 1,020 and 704 underwent to cryotherapy. There were some training had been done for 464 general practitioners, 717 midwives, 117 field coordinators, 998 health promoters in sub districts and 63 teachers of high school. For program sustainability there were many local government regulations that could support the program such as free VIA, free Pap smears and very low price for treatment.

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ADVANCING MULTIDISCIPLINARY CARE AND COLLABORATION THROUGH THE ESTABLISHMENT OF A DYSPHAGIA SERVICE AT THE KUWAIT CANCER CONTROL CENTER (KCCC)

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Background and Context: Head and neck cancer affects over 900,000 individuals globally. Of those newly diagnosed, 40% present with advanced disease, resulting in a high incidence of dysphagia – a comorbidity that leads to pneumonia and malnutrition. Establishing a multidisciplinary dysphagia service at KCCC with nurses, dietitians and speech-language pathologists is critical to management and eventual recovery of HNC patients.

Aim: To assess barriers and supports for a multidisciplinary dysphagia service for HNC patients in accordance with international best practice

To promote ongoing development of multidisciplinary collaboration through the creation of a dysphagia service

To advance scope of practice of dietitians and speech-language pathologists at both KCCC and in Kuwait

Strategy/Tactics: Prior to this initiative, there was no recognition of the risks associated with dysphagia, especially with HNC patients. This initiative supports KCCC's strategic goal of advancing multidisciplinary care in accordance with international best practice.

Programme/Policy Process: A multidisciplinary team including local and international experts and composed of nurses, dietitians, and speech-language pathologists: analyzed the current state of service; conducted an educational needs assessment; developed discipline specific and joint education and training; and, established a service level agreement between referring partners.

Outcomes/What was Learned: An interprofessional working group has initiated a formalized service whereby on-site dietitians screen patients for suspected dysphagia followed by referral to speech-language pathology assessment and management. SLPs from a local rehabilitation hospital provide service at KCCC given that no such services are available. Nursing developed a procedure and a self-learning module on dysphagia to ensure on-site sustainability. Dietitians developed texture-modified diets to support speech-language pathology assessment. Recommendations to increase dysphagia curriculum were offered to the Department of Speech-Language Pathology at Kuwait University and are now being incorporated to ensure ongoing dysphagia training, professional development and future growth of service.

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A SINGLE COMMUNITY-WIDE, LOW-LITERACY AND CULTURALLY APPROPRIATE EDUCATION RESOURCE – IS IT POSSIBLE?

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Background and Context: The National Bowel Cancer Screening Program (NBCSP) commenced in Western Australia in 2007. The Australian Government has identified a target cohort of Australians aged 50–74 years; however, staggered implementation has limited comprehensive promotion activities. Current NBCSP resources are verbose, intimidating invitees and negatively impacting on participation. Translating resources is costly and insufficient, as literacy in any language (English or country of origin) can be an issue among migrant residents aged 45 and over. As the NBCSP is a generic mail-out kit, there is no opportunity to tailor pack content to individuals.

Aim: To develop a single brochure to facilitate NBCSP participation that has cultural and low-literacy relevance and acceptability for the target cohort; and will potentially reduce costs in health promotion resource development.

Strategy/Tactics: An existing NBCSP brochure – "You're lookin' good on the outside, but what about the inside?" was identified as a suitable template. Select brochure illustrations will be used; whilst new illustrations are being purchased to broaden resource relevance (e.g. representation of ethnic groups and age groups). The brochure will be visually focused, with minimal text (Simple Measure Of Gobbledygook tested1) and will provide an illustrated step-by-step guide on how to complete the faecal occult blood test kit used in the NBCSP. Positive health messages will also be included.

Programme/Policy Process: A project reference group was established in May 2014, comprising consumer and multicultural community agency representatives, as well as WA Health staff, to guide the brochure's development. Formative evaluation through focus groups will test the brochure proof before publication

Outcomes/What was Learned: Evaluation of the final resource will include a randomised control trial whereby participation levels in the NBCSP are monitored in WA following the randomised inclusion of the brochure in kits being distributed. Findings will be presented at the conference.

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THE POTENTIAL FOR EARLY DIAGNOSIS OF ORAL CANCER BY ORAL HEALTH PROFESSIONALS IN LIMITED RESOURCE SETTINGS

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5. *Oral and Maxillofacial Surgery, Manipal College of Dental Sciences, Mangalore, Manipal University, Mangalore, India*
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Background and Context: Oral cancer accounts for over 300,000 cases annually with a large number of these originating from low and middle income countries and many of these patients report for treatment at an advanced stage. In a retrospective analysis of patients reporting to our clinics for the past 5 years we found an alarming 90% presenting with advanced Stage III and Stage IV oral cancers. Delay in diagnosis is complex and affected by numerous factors including the provider, the patient and the healthcare delivery model and infrastructure. Our proposal aims to improve early diagnosis of oral cancer by employing mobile technology and frontline primary care providers in high burden countries with limited resources.

Aim: To use mobile technology to enhance the capability of the front line health care providers* (FHPs) to assess risk and detect oral cancers at an early stage in limited resource settings.

Strategy/Tactics: We demonstrate the workflow of the mobile and web-based application to facilitate early diagnosis of oral cancer in resource limited settings. We propose a cluster-randomized design to study the effectiveness of a mobile health (mHealth) approach for early diagnosis of oral cancer.

Programme/Policy Process: Accredited social health activists (ASHA) will be trained to educate and motivate people in seven regions of the State of Karnataka, India to attend cancer awareness and screening camps. FHPs in these primary health centers will screen patients employing the mHealth approach and patients categorized as high risk, will be further assessed by a remote specialist.

Outcomes/What was Learned: We anticipate the potential of mobile technology to improve data collection, decision support, communication and remote diagnosis will enable frontline healthcare providers to diagnose a greater proportion of individuals with early stage oral cancer.

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BREAST CANCER AWARENESS SURVEY IN LAGOS MAINLAND LOCAL GOVERNMENT AREA OF LAGOS STATE, NIGERIA

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Background and Context: Breast Cancer is the commonest cancer affecting Nigerian women. The incidence is on the rise in Nigeria and developed countries; however the survival rates are much higher in developed countries

Aim: Our mission at Sebeccly Cancer Care is to improve breast cancer awareness among women in order to facilitate early detection of breast cancer thereby improving its prognosis, the center every October since 2011 has been dedicated to creating awareness on breast cancer and has also been offering free breast cancer screening to women in Lagos mainland local government area of lagos state.

Strategy/Tactics: The center launched 3 breast help-lines in order to create an open forum/dialogue for women to ask questions about breast cancer; encouraged to visit our centre and neighboring primary health care centers were they are taught the breast cancer screening guidelines appropriate for their age and had a clinical breast examination by a health care professional

Programme/Policy Process: The Center has been able to reach out to a total of 294 callers whose age ranged between 24 and 45 years, a majority being female (97%),72% had tertiary education,52% were married,80% were based in Lagos state and 90% owned a mobile phone. Thirty two breast abnormalities were detected, 2 had a pathologic diagnosis of breast cancer while 30 had benign breast lumps. All patients with breast abnormalities were referred to the surgical outpatient department for further evaluation and treatment. Also, many of these women had little knowledge about breast cancer and did not know where to report to if they had noticed breast mass

Outcomes/What was Learned: It is therefore recommended that the ongoing effort aimed at educating the public about breast cancer and breast health issues should be sustained and intensified with efforts made in making our medical facilities more accessible and user friendly.

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BOWEL CANCER SCREENING PROGRAMME: THE IMPACT OF LOCAL EDUCATION SESSIONS BY HEALTH CARE PROFESSIONALS IN SOUTH LONDON, UNITED KINGDOM

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Background and Context: Only 9% of colorectal cancers (CRCs) in the United Kingdom (UK) are diagnosed early[1] with 15% more patients being diagnosed at a later stage of the disease compared with most other European countries[2]. The National Health Service Bowel Cancer Screening Programme (BSCP) is provided free of charge to all men and women aged 60–74 years inclusive in the UK. However screening linked health inequality has been found with lower uptake in socioeconomically deprived populations[3,4,5]. However, men and women place a high value on the endorsement of bowel cancer screening by their health care practitioner[6,7].

Aim: To develop a new CRC awareness programme targeted at less affluent members of the community in South London, to increase uptake of FOB testing.

Strategy/Tactics: A team of six junior doctors delivered education sessions, targeting less affluent individuals aged 50–74 years over a three month period in South London.

Programme/Policy Process: The interactive education sessions held within ethnic minority communities covered information regarding CRC and the importance of screening with a demonstration and thorough explanation of the FOB test.

Questionnaires pre and post sessions were used to assess understanding of CRC, BCSP and willingness to participate in screening.

Outcomes/What was Learned: These sessions showed marked improvement in knowledge of CRC and self-reported intent to participate in BCSP among our participants
- Understanding of CRC: 19% pre-session to 95% post-session
- Willingness to participate in bowel screening: 39% pre- session to 95% post session
- 100% people showed willingness to discuss their concerns about bowel cancer with their GP
- Despite the improvement in understanding of bowel cancer, only 23–42% expressed willingness to change lifestyle factors

These results suggest that educational sessions targeted at socially deprived populations may increase screening rates but will require long term follow-up to assess coherence with post-session questionnaire responses.

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TRAIN ELEMENTARY SCHOOL STUDENT AS THE "HEALTH PROMOTION MESSANGER" – AN INNOVATIVE APPROACH FOR DIET EDUCATION

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Background and Context: Cancer has been the leading cause of death in Taiwan since 1982. The average age of those diagnosed with cancer shows a downward trend. The dietary factors such as more westernized style with too much meat, high fat, high calories and low intake of vegetable and fruits have been accounted as one of the major reasons.

Aim: The Formosa Cancer Foundation (FCF) targeted at the elementary school students and developed the "Vegetable and Fruit Checkbook (VFC) "program in the elementary schools nationwide to encourage consuming adequate portions of vegetable and fruits to lower the cancer risks.

Strategy/Tactics: FCF launched the interactive VFC program in 2007. The designated tasks on the checkbook are positive tasks such as eating proper daily servings of fruits and vegetables, teaching their parents about how to count one portion, deliver the messages of the important benefits of plant-based diet etc.

Programme/Policy Process: Parents must participate by signing each check to verify their child has finished the required task. The back side of each piece of the checkbook provides nutrition information and can be used as a coupon for NT$15 (USD 50 Cents) off when purchasing vegetable and fruits in the supermarket chainstores nationwide. Kids who finish their entire checkbook can send the stubs to FCF for a lucky draw.

Outcomes/What was Learned:
1 The checkbooks have been an effective way of enhancing family interaction and spreading the message out on fruit and vegetablehealth benefits.
2. It shows children know even more accurate about "5-A- Day" than parents did (75% vs 57 %), most children are able to clearly deliver the "5-A-Day" message to their parents.
3. The use of the VFC program to generate childres's influence upon parents can greatly leverage the effect of promoting " 5-A-Day" and health promotion information to the adults.

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UNPROVEN BREAST IMAGING AND THE LAW: A WIN

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Background and Context: From 2009, Cancer Council WA saw a growth in the promotion of unproven breast imaging techniques (thermography, electrical impedance and tactile imaging) in Australia, making unfounded claims they detect breast cancer. Evidence indicated that promotion of these technologies was convincing women that the imaging methods were effective in detecting breast cancer, and were at least as effective as a screening mammogram.[1] As these findings had significant implications for women's preference for, and uptake of, unproven breast imaging services over mammography Cancer Council WA took advocacy action.

Aim: To use legal, political and media advocacy to take action against claims by companies that unproven breast imaging techniques can detect breast cancer.

Strategy/Tactics: Cancer Council WA engaged and applied the Australian Consumer Law, therapeutic goods legislation and therapeutic goods advertising codes. Our legal, political and media advocacy included approaches to the Australian Competition and Consumer Commission (ACCC) and Therapeutic Goods Advertising (TGA) Complaints Resolution Panel.

Programme/Policy Process: A number of imaging devices were removed from the Australian Register of Therapeutic Goods and the ACCC commenced action against breast imaging service providers. In March 2014, the Federal Court found in two separate judgements that Perth companies Breast Check Pty Ltd and Safe Breast Imaging Pty Ltd misled and deceived consumers with their advertising claims. A Google search now finds scarce evidence of similar services being marketed in Australia.

Outcomes/What was Learned: The outcome of the ACCC's action emphasises that companies making health-related claims have a duty to ensure their claims do not mislead or deceive consumers. This should be interpreted as a powerful onus to ensure health claims are supported by sound evidence. Ramifications of this work will benefit the health of Australians with regard to cancer screening services and beyond.

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HOW PATIENTS WITH CHOLANGIOCARCINOMA EXPERIENCES ATTENDANCE AT THE SPECIALISED GASTROENTEROLOGY OR ONCOLOGY UNIT, AND THE TRANSITION BETWEEN THESE SPECIALITIES: A QUALITATIVE INTERVIEW STUDY

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Background: Cholangiocarcinoma (CC) is a relatively uncommon neoplasm. Diagnosis of the disease is difficult and the treatment is challenging. The optimal treatment is dependent on cooperation between surgical and oncology specialties. During treatment, patients therefore need to transition between specialties.

Aim: The primary aim was to obtain knowledge of the first symptoms of disease as experienced by patients to attendance at the specialized gastroenterology or oncology unit. Secondly, to gain knowledge of how patients experienced the diagnosis and subsequent treatment of the disease, specifically focusing on the transition between the surgery and oncology units.

Methods: We interviewed 11 informants diagnosed with CC through focus group interviews using a semi structured interview guide. Informants were recruited from a tertiary Hospital in the Capital Region of Denmark. Interview data were analyzed using systematic text condensation.

Results: Informants experienced numerous delays in the diagnostic process; all of which were perceived stressful. Delays occurred not only because the disease is rare and therefore seldom the first diagnostic option that is considered, but also more structural issues such as public holidays led to further delays after the initial diagnosis. At diagnosis, informants clearly felt that healthcare staff screened patients to assess how bluntly they could convey the diagnosis. Informants emphasized the importance of not concealing the truth, as this would not change their situation. In the transition between specialties, informants received conflicting information about their treatment and prognosis; this was experienced as very energy consuming. Inconsistent information from physicians fostered confusion among informants, and made them insecure about what information to rely on and subsequently the treatment itself.

Conclusions: Patients with CC experienced the course of being diagnosed flawed with stressful and at time unnecessary delays. Truthful and consistent information enhanced trust and reduced stress for these patients when transitioning between surgical and oncological specialties.

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PROVIDING COORDINATED CANCER CARE: WHO SHOULD WE BE TARGETING?

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Background: The need for better coordinated cancer care is internationally recognized as a priority for health service improvement. Good care coordination contributes to patient-centered, high-quality care. Understanding which factors impact care coordination is crucial to underpin service improvement.

Aim: This study investigated patient- and system- related predictors of poorly coordinated care, and identified patient preferences for resources to assist care coordination.

Methods: This population-based cross-sectional survey recruited patients with newly diagnosed colorectal cancer, notified to the NSW Central Cancer Registry between 29 November 2012 and 31 May 2013. Care coordination was assessed using the Patient Experience of Cancer Care Coordination questionnaire 6 months post diagnosis. Multivariate regression models were constructed to identify significant, independent predictors of poor care coordination.

Results: Of 1027 patients contacted, 560 participated (55%). Respondents had a mean age of 68.18 years, 60% male and 24% rectal cancer. Mean care coordination was 76.1(SD10.9). Preliminary results suggest that patients who had little or no understanding of the health system (β-4.4,95% CI:-6.26,-2.57, $p = <0.001$,), had more than 2 comorbid conditions (β-3.7,95%CI:-6.69,-0.67, $p = 0.04$), didn't attend a regular GP clinic/ practice (β-4.4,95% CI:-8.54,-0.31, $p = 0.04$), didn't receive a written plan prior to treatment (β-4.10,95% CI:-5.98,-2.22, $p = <0.001$) and didn't see a cancer care coordinator or specialist cancer nurse (β-3.17,95% CI:-5.20,-1.13, $p = 0.002$) experienced poorer care coordination. There were no significant associations with age, sex or cancer site. The most preferred resources amongst patients were, written plans before and after treatment (90%), access to a cancer care coordinator in hospital (82%) and by phone post discharge (87%), and copies of their medical records (electronic 90%, paper 87%).

Conclusions: These findings suggest patients would benefit from more timely and targeted education and information prior to treatment, together with greater access to cancer care coordinators and nurse specialists. This information will provide a focus for the development of targeted strategies to improve care coordination.

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CLINICOPATHOLOGICAL FEATURES OF GASTRIC CANCER IN IBADAN, 2000–2011

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Background: The most recent study on the clinicopathological features of gastric carcinoma from the University College Hospital (UCH), Ibadan, was done in 2000.

Aim: The aim of this study is to update the knowledge on the clinicopathological features of gastric carcinoma diagnosed in the Pathology Department of the UCH Ibadan between 2000 and 2011

Methods: This was a 12-year retrospective study involving review of clinical and demographic data and the histopathological features of gastric cancers diagnosed at the Pathology Department of the UCH. The student's chi square test, Fisher's exact test, and the student's t independent test (of SPSS version 19) were used as applicable in the statistical analyses.

Results: A total of 117 cases of gastric carcinoma were histologically diagnosed at the Pathology Department of UCH, Ibadan in this period giving a relative ratio frequency of 1.38% for all cancers. It represented 18.4% of all gastrointestinal tract malignancies diagnosed in the same period. There was a male preponderance with male : female ratio of 1.72:1 and the middle-aged and elderly made up about 76.1% of cases. The disease was clinically and histologically advanced in 92.8% of cases. Gastric tumours were predominantly antral/ pyloric in 80% of cases and exophytic in 62.3% cases. The intestinal histotype constituted 46.5% cases although a rise in the diffuse histological type was observed. The female gender was significantly associated with the less differentiated tumours than the male gender.

Conclusions: There is a decline in the relative ratio frequency of gastric carcinoma in Ibadan. There is also a fall in the rate of the intestinal type of gastric carcinoma relative to the diffuse type when compared to previous studies from our centre.

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IMMUNOEXPRESSION OF K-RAS, P53, PTEN, AND MLH1 GENES AMONG SAUDI PATIENTS WITH COLORECTAL CANCER

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Background: Colorectal cancer (CRC) is one of the leading causes of cancer-related deaths worldwide. CRC have been linked to several genetic variants such as, K-RAS, p53, PTEN, and MLH1 and MSH2 genes

Aim: The aim of the present study was to assess, the alteration of K-RAS, p53, PTEN, and MLH1, in colorectal cancer tissues obtained from Saudi patients.

Methods: Fifty Formalin fixed paraffin wax processed colorectal samples were retrieved from histopathology Laboratory. Five micron sections were obtained and immunostained, using antibodies to K-RAS, p53, PTEN, and MLH1.

Results: Of the 50 cases, 76% were adenocarcinomas, 14% invasive adenocarcinomas and 10% Mucinous carcinomas. Of the carcinomas 93% were identified in Stage II and 7% in Stage III Positive immunohistochemical expressions of K-RAS and p53 were identified in 38% and 54%, respectively, Lack of expressions were found in 21% and 11% in this order.

Conclusions: There is a considerable genetic variation in for K-RAS, p53, PTEN, and MLH1 genes among Saudi patients with colorectal cancer. Immunohistochemical testing for K-RAS, p53, PTEN, and MLH1 expression which provides prognostic information for management of patients with colorectal cancer.

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ROUTES TO DIAGNOSIS, A NOVEL ENGLISH METHODOLOGY

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Background: Cancer survival in England is lower than the European average, which has been partly attributed to later stage at diagnosis when there are fewer options for effective treatment. Understanding the routes taken by patients to their cancer diagnoses and the impact of different routes on patient survival will inform targeted implementation of awareness and early diagnosis initiatives and enable assessment of their success.

Aim: This innovative study defines a methodology by which the route the patient follows to the point of diagnosis can be categorised to examine demographic, organisational, service and personal reasons for delayed diagnosis.

Methods: Routes to Diagnosis uses routinely collected data sources to work backwards through patient pathways to examine the sequence of events that led to a cancer diagnosis. Administrative hospital patient episodes data are combined with Cancer Waiting Times data, data from the cancer screening programmes and cancer registration data. The method uses the cancer registration diagnosis date as an end-point and then works backwards to identify the likely referral route. Every case of cancer registered in England diagnosed in 2006–2008 (740,000 cases) is categorised into one of eight 'Routes to Diagnosis'.

Results: The results are fascinating. Different cancer types show substantial differences between the proportions of cases that present by each Route to Diagnosis. Patients presenting via Emergency Routes have significantly lower one-year relative survival. Results show differences in Routes to Diagnosis for tumour type, age, sex, deprivation, geography, ethnicity and year. Relative survival estimates are presented for 1, 3, 6, 9 and 12 month periods.

Conclusions: Linked cancer registration and administrative data can be used to robustly categorise the route to a cancer diagnosis for all patients. These categories can be used to enhance understanding of and explore possible reasons for delayed diagnosis

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VARIATION IN CANCER INCIDENCE (1996–2010) AND MORTALITY (1997–2011) BY DEPRIVATION QUINTILE, IN ENGLAND

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Background: Reducing inequalities in cancer incidence and mortality is a key goal of the Improving Outcomes Strategy for Cancer. Risk factors, including smoking, diet, drinking and exercise, affect the rate of cancer between socio-economic groups.

Aim: This study builds on previous reports of cancer incidence by deprivation, extending the period covered, range of sites and including cancer mortality.

Methods: For 37 individual sites and all cancers combined, incidence (1996–2000, 2001–2005, 2006–2010) and mortality (2002–2006, 2007–2011; all cancers additionally including 1997–2001) in England were analysed by deprivation quintile. Statistical significance tests were performed on deprivation trends across quintiles and changes in trend over time. Where relevant, trend differences between sexes were tested. For statistically significant trends, excess cases and deaths were calculated.

Results: If the more deprived had the same rates as the least deprived, there would have been around 15,300 fewer cases and 19,200 fewer deaths per year, for persons, across all cancers combined in the latest 5-year periods. Lung cancer dominates with around 11,700 excess cases and 9,900 excess deaths per year.

In the latest periods, for persons, 24 sites (65%) had statistically significant deprivation trends; of these, more deprived quintiles had higher rates in 19 sites for incidence and 23 for mortality. Some cancers (including breast, prostate and melanoma) showed inverse deprivation trends, with highest rates in the least deprived quintile.

Males had a greater association between deprivation and cancer than females in 7 sites, for incidence and mortality.

Deprivation trends of cancer incidence and mortality have not improved over time, with the gap reducing in 2 sites and increasing in 5 others, for incidence. Mortality saw no change.

Conclusions: Inequalities have not reduced. These results can be used to identify areas for targeted interventions to improve outcomes for more deprived populations.

Acknowledgement: CRUK/NCIN partnership

1. http://www.ncin.org.uk/about_ncin/cancer_by_deprivation_in_england

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CLINICAL SIGNIFICANCE OF INTERLEUKIN-6 IN DIAGNOSIS OF LUNG, ORAL, ESOPHAGEAL AND GALL BLADDER CARCINOMAS

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Background: Chronic inflammation predisposes to cancer development. Cytokines play an essential role in cancer pathogenesis. Interleukin-6 (IL-6) is a pleiotropic cytokine that enables growth and differentiation of tumour cells. The effects of IL-6 are mediated by Signal Transducers & Activators of Transcription (STAT3). STAT3 deficiency reduced tumor incidence and growth, while STAT3 hyperactivation has an opposite effect, also it negatively regulates p53 gene. Studies clearly indicate that IL-6/STAT3 signalling is crucial in the carcinogenesis that is linked to inflammation Increased IL-6 levels are observed in malignant cases. Only a few studies investigating role of IL-6 have been reported.

Aim: This study aims at determining IL-6 levels in lung, oral, esophageal and gall bladder cancer patients and their comparison with controls.

Methods: Subjects so far consisted of 50 patients diagnosed with lung, oral and Esophageal cancer at the Delhi State Cancer Institute. The institute caters to a huge workload of approximately 450 lung, 1550 oral, 275 esophageal and 550 gall bladder cancer patients per year. Fiftyhealthy individuals served as controls. Blood samples were collected. IL-6 was detected by ECLIA principle.

Results: IL-6 values were determined in 50 (26 oral, 9 esophageal, 8 lung cancer and 7 gall bladder) patients. Of these, 39/50 (21 oral, 7 esophageal, 7 lung cancer and 4 gall bladder) patients (78%) showed higher IL-6 levels (range: 7.1 till >5000 pg/ml), as compared to control group (Range: <1.5 pg/ml). This study indicates a significant correlation between IL-6 overexpression, inflammation and cancer development.

Conclusions: This study highlights the significance of IL-6 in lung, oral, esophageal and gall bladder carcinomas. Thus, IL-6 may be used as a tumour marker for cancer diagnosis. To definitely conclude this, further extensive studies would be required. Our data supports the emerging notion that IL-6 may be a clinically significant predictor and may represent a target for cancer treatment.

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CYCLIN D1 AND P53 IN URINARY BLADDER CARCINOMA AND PRECURSOR EPITHELIAL LESIONS

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Background: Urinary Bladder carcinoma (BC) varies from papillary non muscle-invasive (NMIBC) to solid muscle-infiltrating (MIBC) tumors. Cyclin D1 is essential for G1 phase cell cycle progression. p53, a tumor suppressor oncogene, is a cell-cycle associated protein and its mutations are described in various tumors. There is no report on the expression of these cell cycle proteins in precursor epithelial lesions of urinary bladder.

Aim: We performed a pilot study in Indian patients to analyze the expression of cyclin D1 and p53 in BC and in carcinoma-in-situ and to investigate the possible relationship between their expression, histopathological features and tumor recurrence and progression.

Methods: Immunohistochemistry for cyclin D1 and p53 was performed on formalin fixed paraffin embedded tissue in 29 BC from 15 patients comprising of 15 primary (11 NMIBC; 4 MIBC) and 14 recurrent (9 NMIBC; 5 MIBC) tumors. Immunohistochemical expression of cyclin D1 and p53 was evaluated as intensity of nuclear staining on a three-tier score (1–3+) and percentage of nuclei stained after evaluating 1000 tumor cells.

Results: Carcinoma-in-situ was seen in 12 primary and two recurrent tumors. We observed strong staining (2–3+) in 36% nuclei for cyclin D1 and p53 in all primary and recurrent MIBC. All primary NMIBC showed strong expression of p53 (2–3+) with 65% nuclei stained in low and 73% in high grade tumors. 8/11 NMIBC showed intense (2–3+) expression of cyclin D1. Overexpression of p53 was seen in all (14/14) and of cyclin D1 in 93% (13/14) of foci of carcinoma-in-situ in primary and recurrent tumors. Overexpression of cyclin D1 and p53 was not associated with tumor invasion and grade ($P > 0.05$).

Conclusions: Our results suggest that genetic alterations in cell cycle molecules cyclin D1 and p53 are early events in the pathogenesis of urothelial BC and persist with tumor progression.

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CHALLENGES IN TREATING SOLID TUMORS IN LOW INCOME COUNTRIES: CHILDREN HOSPITAL LAHORE PAKISTAN EXPERIENCE

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Background: The Children Hospital Lahore is a tertiary government hospital providing free cancer treatment and receiving over 500 new cancer patients per year. The solid tumors constitute the 50% of the new cases. In our center good prognosis group (Wilm tumor, Hodgkin Lymphoma and extracranial germ cell tumor GCT) fare better than Sarcomas, Neuroblastoma, NHL and Retinoblastoma.

Aim: The purpose of this study was to analyze treatment and outcome of children with biopsy proven first group solid tumors and discuss various factors causing poor outcome as compared to developed countries.

Methods: Retrospective review of 351 patients (WT 125, Hodgkin 140 and GCT 86) enrolled between January 2011 to May 2014 was done. Data regarding age, stage, histopathology, treatment, outcome and impact of delayed presentation were analyzed.

Results: Total 351 patients with age ranging from <1 to 15 years (<10 yrs = 312/351 – 89%) were included. M: F Ratio was 1.5:1 (211:140). 317/351 (90%) presented with advanced stage, 143/351 (40%) stage IV and 174/351(50%) stage III and only 34/351(10%) had stage II, (p-value = 0.014). 36% with Wilm tumor,40% cases of HD, among Hodgkin patients mixed cellularity was the most common. GCT, 24% cases–Yolk sac tumor was the most common type.

Total 199/351 (57%) have completed treatment, 56/351 (16%) are on treatment, 35/351 (10%) got LAMA and 43/351 (12%) expired due to metastatic and progressive disease and complications of therapy. Eleven patients (3%) relapsed during their course of therapy.

Conclusions: Survival of these patients can be significantly improved by strengthening the social support services and public awareness, training doctors and health staff at primary and secondary level for early referrals. Mortality of 12% can be reduced by early diagnosis and treatment and effective infection control practices. The abandonment rate (10%) can be decreased by effective counseling of parents, efficient follow-up services in the day care center.

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INCIDENCE OF K-RAS MUTATION IN METASTATIC COLORECTAL CARCINOMA AND FURTHER TO FIND ANY ASSOCIATED CORRELATION BETWEEN K-RAS MUTATION AND VARIOUS DEMOGRAPHIC AND CLINICAL FACTORS. A HOSPITAL BASED STUDY

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Background: Available data on incidence of K- RAS mutation is scarce in Asian region, we in the department of medical oncology at Army Hospital Research and Referral,New Delhi conducted a hospital based study to know presence of K–RAS mutational status in Indian patients diagnosed with metastatic colorectal cancer.

Aim:

1 To assess incidence of K-RAS gene mutation in the setting of metastatic colorectal cancer in patients of Indian population.
2 To find co-relation of K-RAS mutation with demographic and various clinical parameters in same patient population.

Methods: This was a prospective as well as retrospective, nonrandomized single arm study. It was done over a period of 4 years from Nov 2009–Jan 2013 (2 years prospective and 2 years retrospective).The study protocol was reviewed and duly permitted by the Institutional Scientific and Ethics committees.The DNA PCR and Sanger chain-termination method was used as diagnostic method for detecting K-RAS mutation. Data analysis was done using SPSS, version 11.5.

Results: Age of the patients ranged from 15–87 years with mean age of 58.4 years. Overall incidence of K-RAS oncogene mutation identified in 146 colorectal carcinoma cases was 22.6% (33/146 cases). Codon 12 was mutated in 78.8% cases where as codon 13 was mutated in 21.2% cases respectively.There was no association of K-RAS mutation with age, sex, gender, regional distribution, tumor location, tumor differentiation, tumor histology, levels of CEA, presentation as acute abdomen and presence of liver or lung metastasis.

Conclusions:

1 The rate of K-RAS mutation in Indian population was seen in lower frequency than reported in western population but close to rates reported in neighboring Asian and Middle Eastern population.

2 No significant association of K-RAS mutation was found with demographic characters and clinical factors. Similar results have been reported in most of the studies done in Asian and Eastern population.

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HISTOLOGICAL PATTERN OF MALIGNANT COLON TUMORS IN ALMADINAH ALMNOURA, KSA

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Background: Colorectal cancer is becoming a prevalent in in Almadinah almnoura, Kingdom of Saudi Arabia (KSA). With absence of colorectal screening programs and lack of updated information on the pattern of colon cancer, a progressive increase in the incidence and mortality is expected in KSA.

Aim: Since the histologic patter of colorectal cancer has an influence on the subsequent prognostic mode, the aim was to describe the pattern of malignant colorectal tumors in a cross-section retrospective setting.

Methods: Fifty malignant specimens were retrieved from histopathology in Almadinah Almnoura, KSA. All samples were re-evaluated for pattern of the malignant tumor.

Results: Males' females' ratio was 1.3: 1.0 with mean age of 59 years. Of the 50 samples, 36/50 (72%) were adenocarcinomas, 4/50(8%) were carcinoma in situ, 6/50(12%) invasive adenocarcinoma and 4/50(8%) mucinous carcinomas. Furthermore, 92% were categorized as moderate differentiated carcinomas and the remaining 8% were poorly differentiated carcinomas.

Conclusions: Early detection of colorectal cancer remains a real challenge toward better management of the diseases in KSA.

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THE ASSOCIATION OF HR-HPV AND EGFR, P53AND CD5 MARKERS IN HEAD AND NECK CANCER

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Background: Although, Human papillomaviruses (HPV) are linked to cervical cancer, cancer related studies of HPV, mainly the high-risk types, propose a potential etiologic responsibility for the virus in head and neck cancer (HNC). Since, patients with HPV infection have better prognosis, studies related to the association between HPV and some cancer related markers are important.

Aim: The aim of this study was to evaluate the association between HPV infection and epidermal growth factor receptor (EGFR), P53 and CD5 tumor markers HNC.

Methods: We retrospectively investigated 200 Formalin fixed paraffin wax processed head and neck tissues (150 were diagnosed as having HNC (cases) and 50 with different benign conditions (controls)). A 5 μ section was obtained from each block and immunostained for HR-HPV, EGFR, P53 and CD5 expression.

Results: HPV was identified in 28/150 (18.7%) of cancer cases and 3/50 (6%) of benign cases $p = 0.02$. A positive correlation between HPV and EGFR, or P53 or CD5, respectively, was found in 25/28(89.3%) $P < 0.001$, or 7/28(25%) or 3/28 (10.7%) of the cases; and 1/3(33.3%) or0/3 (0%) or 1/3(33.3%) of the controls, respectively.

Conclusions: There is a significant association between HPV infection and EGFR ($p = 0.02$), but not P53 CD5expression. Since, expression of EGFR is related to poor prognosis in patients with HNC and HPV infection with better Prognosis further investigation is necessary.

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SENSITIVITY OF APTIMA E6/E7 MRNA TEST IN DETECTION OF CERVICAL CANCER& ITS CONCORDANCE WITH HYBRID CAPTURE 2 HPV DNA TEST

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Background: APTIMA is a new test to detect mRNA of E6/E7 oncoprotein of 14 most high-risk types of Human Papillomavirus (HPV).Detection of HPV-E6/E7 mRNA is likely to be more specific as it signifies transforming infection. Hybrid Capture 2 (HC2) test for HPV DNA detection is widely evaluated and is considered as the 'gold standard' for HPV detection technologies.

Aim: The objectives of the study were to compare the sensitivity of APTIMA test with that of HC2 test for detection of cervical cancer and also to find out the concordance between the two tests.

Methods: Study is ongoing and has institutional ethics committee approval. Cervical swabs were collected in PreservCyt™ solution from biopsy-confirmed cervical cancer patients. Cervical specimens were also obtained from women with colposcopy and/or biopsy proved normal cervix or CIN1.Samples were tested by APTIMA and HC2 tests. The discrepant samples were genotyped using Linear-Array assay.

Results: Total 248 cervical cancer patients have been recruited till date, of which 74 cases have been tested for both APTIMA and HC2. All the women were positive on APTIMA, though HC2 was negative for 2 cases. One of the discrepant samples was negative on Linear-Array and the other had HPV 16 and 18. HC2 report alone was available for 248 cases of invasive cancers, of which 12 were test negative. The APTIMA test reports of these samples are awaited. Concordance between APTIMA and HC2 could be estimated for 192 samples analyzed for both tests. The agreement was 91.0% with kappa 0.78 (97% C.I. 0.68–0.87).

Conclusions: Sensitivity of APTIMA test assay was higher than HC2 for detection of cervical cancer. Strength of agreement between the two tests was good. Updated results of 300 cases of cervical cancer and 400 cases with normal cervix/ CIN 1 will be presented.

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CURATIVE RADIOTHERAPY TIMELINE MILESTONES IN MANAGEMENT OF GYNAECOLOGICAL CANCER AT THE ALAN WALKER CANCER CARE CENTRE, DARWIN: EFFECTIVE MULTI-DISCIPLINARY CARE IN REMOTE AUSTRALIA

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Background: The Alan Walker Cancer Care Centre, Darwin (AWCCC) has provided chemo-radiotherapy services for the Northern Territory since 2010. Its remoteness presents unique challenges in coordinating and completing treatment within a satisfactory time period, where multi-disciplinary and interstate care is needed. A comparable paper of note – Management Pathway for Patients with Cervical Cancer in the Auckland Region 2003–2007, Capelle et al. 2011.

Aim: This audit examined cervical and endometrial cancer care in a service where visiting gynaecological surgeons, brachytherapists and positron emission tomography (PET) is required with reference to *National Comprehensive Cancer Guidelines version 2.2013, 2012*, which recommends completing radiotherapy for cervical cancer within 56 days.

Methods: An audit was undertaken of all patients with cervical or uterine cancer who received curative intent external beam radiotherapy (EBRT) at the AWCCC between 2010 and 2012. Clinico-pathological data was collected with timeline milestones. The mean time between diagnosis and treatment milestones was calculated.

Results: 13 cervical and 7 uterine cases were identified. Mean time from biopsy to PET = 14.8 days. Mean times are from: biopsy to multidisciplinary team meeting (MDT) = 39.3 days; MDT to starting EBRT = 40.7 days; biopsy to radiotherapy completion = 127.2 days; starting EBRT to brachytherapy completion = 63.8 days and starting EBRT to brachytherapy completion for cervical cancer alone = 60 days [range: 33 to 92 days]. Mean EBRT duration 41.2 days. Median time from start EBRT to completion of all radiotherapy for all cases and cervical group alone = 54 days

Conclusions: AWCCC has overcome challenges of remoteness to complete radiotherapy protocols for gynaecological cancer and, more specifically for cervical cancer within a satisfactory time. It has succeeded in coordinating interstate multidisciplinary care between EBRT in Darwin and, interstate visiting surgeons, brachytherapists and PET. Quality care can be successfully provided in remote cancer centres.

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IMPROVING ACCESS TO PSYCHOLOGICAL SERVICES FOR PEOPLE WITH CANCER: A RANDOMISED CONTROLLED TRIAL OF AN INTERACTIVE WEB-BASED INTERVENTION

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Background: Approximately one third of cancer survivors experience persistent clinically significant distress [1], and unmet psychological needs in Australian cancer patients are highly prevalent [2]. The Internet presents a potentially feasible method of delivery for psychological care, at a minimal cost and with high community accessibility.

Aim: This two-phased project will develop and trial an innovative Internet-based psychological intervention for distressed cancer patients and assess the efficacy and cost-effectiveness of this intervention.

Methods: In the developmental phase we will adapt an existing manualised tele-based and evidence-based cognitive behavioural intervention to a web-based platform; which will be tested for usability, acceptability and user satisfaction in high distress cancer patients.

In the second phase we will conduct a large scale randomised controlled trial with 490 newly diagnosed melanoma and colorectal cancer patients identified as having high distress or at risk of high distress. Participants will be randomised to 1) a static patient education website or, 2) an individualised web-delivered cognitive behavioural intervention – CancerCope. Participants will be assessed at baseline, 2, 6 and 12 months after recruitment.

Results: This presentation will provide an overview of the development and testing of CancerCope.

In the second phase, it is anticipated that participants who receive access to CancerCope will experience significantly less anxiety and depression; less cancer specific distress; lower unmet psychological supportive care needs; higher positive adjustment and improved quality of life compared to participants who receive access to the static patient education website.

Conclusions: There is a clinical imperative to provide accessible evidence-based psychosocial therapies to cancer patients in the acute health care system, and as they progress through survivorship. This project will provide recommendations on the efficacy and potential economic value of a web-based psychological intervention to promote optimal mental health for people living with cancer.

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CLINICAL SIGNIFICANCE OF SERUM HMGB1 TEST IN ESOPHAGEAL SQUAMOUS CELL CARCINOMA

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Background: Aim: To explore the level of serum high-mobility group box 1 (HMGB1) in patients with esophageal squmous cell carcinoma (ESCC) and the feasibility of HMGB1 as a tumor marker.

Methods: Serum HMGB1 antigen, CEA, Cyfra21-1 and squamous cell carcinoma antigen (SCC) was measured by ELISA, ECLIA and MEIA respectively in 78 patients with ESCC preoperatively as well as a month after esophagectomy. At the same time, serum HMGB1, CEA, Cyfra21-1 and SCC of 60 healthy adult volunteers were detected with the same method. The unilateral P95 value of serum HMGB1 (>96 ug/L) was defined as positive.

Results: The preoperative positive ratio of serum HMGB1 in 78 patients with ESCC was 84.62%, and the level of serum HMGB1 was closely related to the size of the tumor, infiltration depth, lymph node metastasis and the tumor stage ($P < 0.05$). One month after esophagectomy, the level of serum HMGB1 in ESCC declined obviously compared with the preoperative level ($P < 0.01$), and the level of serum HMGB1 in T4, N1, stage III was higher compared to corresponding T, N and tumor stage ($P < 0.05$). The positive ratio of CEA, Cyfra21-1 and SCC was 10.33%, 25.6% and 42.3% respectively in 78 ESCC patients preoperatively. One month after esophagectomy, serum Cyfra21-1 and serum SCC were significantly decreased compared to the preoperative level ($P < 0.01$). However, there was no significant difference of preoperative serum CEA compared to a month after esophagectomy in ESCC ($P > 0.05$). The specificity of HMGB1, CEA, Cyfra21-1 and SCC were 93.33%, 88.33%, 90.03% and 93.33% respectively.

Conclusions: Compared to CEA, Cyfra21-1 and SCC, serum HMGB1 in patients with ESCC is easier for detection and its sensitivity and specificity are higher, which may be used as a marker in diagnosis, prediction of prognosis and monitor of postoperative recurrence of ESCC.

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ROUTES TO DIAGNOSIS: DOES IT MATTER WHEN OR HOW A CANCER IS DIAGNOSED?

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Background: Cancer survival in England is lower than the European average, which has been partly attributed to later stage at diagnosis. The Routes to Diagnosis study defines a methodology by which the route the patient follows to the point of diagnosis can be categorised to examine demographic, organisational, service and personal reasons for delayed diagnosis.

Aim: Initial results have been expanded to cover a greater number of cancer sites. Presentation by day of the week is examined as well as how the proportion of Emergency Presentations (EPs) changes over time.

Methods: Administrative hospital patient episodes data are combined with Cancer Waiting Times, cancer screening and cancer registration data. The method uses the diagnosis date as an end-point and then works backwards to identify the likely referral route. Every case of cancer diagnosed in England in 2006–2010 (1,272,584 cases) is categorised into one of 8 Routes to Diagnosis.

Results: EPs fell from 24% in 2006 to 22% in 2010, for all cancers combined. The proportion of Two Week Waits increased from 24% to 30% over the same period. Results are now available for 57 cancer sites including cancer of unknown primary and selected benign or in-situ tumours, as well as rarer sites such as the salivary glands, nasopharynx and anus. Analysis of EPs by day of week suggests little variation in survival by day of week for colorectal, lung and pancreatic cancers. A smaller proportion of EPs are seen on Saturday and Sunday.

Conclusions: The decline in Emergency presentations and increase in more managed Routes over the five year period is encouraging. Access to more complete data has also helped to reduce the proportion of cancers with unknown Routes. The expansion of cancer sites adds greater value for understanding rare and less common cancers.

1. Elliss-Brookes L et al. (2012) Routes to Diagnosis for cancer – Determining the patient journey using multiple routine datasets. *BJC* 107: 1220–1226

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METABOLIC SYNDROME IN KOREAN ADULT CANCER SURVIVORS, FAMILY MEMBERS AND NON-CANCER SUBJECTS

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Background: Metabolic syndrome may act to predict a prognosis biomarker of cancer, related to insulin resistance or glucose regulation. However, little was known for adult cancer survivors and family members.

Aim: We assessed the risk of metabolic syndrome in Korean adult cancer survivors, family members and non-cancer subjects.

Methods: We recruited 72,522 subjects who visited the health promotion center from January 2010 to December 2012 above the age of 40 years. This cross-sectional study compared the prevalence of metabolic syndrome with total 48,934 populations, defined by the revised ATP III using ANOVA analysis and multivariate logistic regression analysis. This study was approved by the institutional review board of Samsung Medical Center (SMC 2014-07-035).

Results: Among enrolled males ($n = 24{,}786$) and females ($n = 24{,}148$), 1,277 (5.2%) male and 1,191 (4.9%) female were classified with cancer survivors. In female survivors, the prevalence of metabolic syndrome(16.2%) was higher than family members and non-cancer relatives (10.8% and 11.7%, respectively; $P < 0.001$). The prevalence of male survivors was similar with other groups (27.7%, 24.8%, and 25.4%, respectively; $P = 0.117$). The odds ratios (95% Confidence Intervals (CI)) for metabolic syndrome were 1.00 (non-cancer relatives), 0.988 (0.876–1.113, family members), and 1.223 (1.018–1.469, survivors) in female; 0.990 (0.921–1.064, family members), and 1.041 (0.882–1.229) in male, after adjusting for age, smoking, physical activity, alcohol intake, BMI and insulin. Each variable was increased for female survivors; glucose (1.214 (1.055–1.396), blood pressure (1.193 (1.058–1.345), HDL-cholesterol (1.20 (1.066–1.35)), and abdominal obesity (1.229 (1.039–1.453)). Stomach survivors showed the low risk of metabolic syndrome (0.593 (0.419–0.838), $P = 0.009$), whereas, breast and prostate survivors had high risk (1.651 (1.025–2.657), 1.463(1.074–1.991), respectively). The family members of thyroid cancer were slightly increased the risk (1.270 (1.014–1.590)). Two primary cancer survivors had a similar risk.

Conclusions: Metabolic syndrome was increased in female Korean adult cancer survivors. The prevalence and metabolic parameters of family member were similar with non-cancer subjects.

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CONSTRUCTING AND PRETESTING A QUESTIONNAIRE TO ASSESS THE TREATMENT OF SMOKERS IN BRAZILIAN PUBLIC HEALTH CARE FACILITIES

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Background: Assessing public health interventions is crucial for the development of public policies. Currently, there is no instrument to assess the treatment for smoking cessation at the Brazilian public health system.

Aim: This study reports the development of a questionnaire for that purpose and assesses its suitability.

Methods: Cross-sectional study involving health professionals. A multidimensional self-administered questionnaire was constructed. Assessing its suitability counted on the participation of experts of the Brazilian National Cancer Institute and pretesting with 18 health professionals working in eight different multidisciplinary teams that treat smokers. Descriptive statistics were computed to measure the characteristics of the population studied.

Results: The instrument was well accepted, and considered clear and covering all parameters necessary to assess the treatment for smoking cessation by 100% of the respondents. The mean time spent to complete the questionnaire varied between 15 and 30 minutes. After performing the pretest, the instrument was reformulated. Its final version was a self-administered, multidimensional questionnaire comprising 30 questions.

Conclusions: Pretesting provided a substantial enhancement of the questionnaire, minimizing difficulties in understanding the questions and perfecting the response options. Thus, an efficient, understandable and easy-to-use questionnaire with suitable content and well accepted by health professionals could be developed. It will contribute in the process of assessing the treatment for smoking cessation at health care facilities of the Brazilian Public Health System.

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NICOTINAMIDE FOR SKIN CANCER CHEMOPREVENTION IN RENAL TRANSPLANT RECIPIENTS

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Background: Non-melanoma skin cancers (NMSCs) are predominantly caused by solar UV radiation, and are the most common and most costly cancer in Australia. UV radiation depletes adenosine triphosphate (ATP) in skin cells, thereby depriving them of the energy required for efficient DNA repair. UV radiation also suppresses the skin's immunity, thus hindering its cancer surveillance system. Nicotinamide (vitamin B3) has been shown to prevent UV radiation-induced ATP depletion and immunosuppression, and to enhance DNA repair. Our previous phase 2 clinical trials have shown nicotinamide to reduce premalignant actinic keratoses (AKs) by around one-third ($P < 0.001$) and new NMSCs by 76% ($P = 0.010$) in healthy human volunteers. Organ transplant recipients have a greatly elevated skin cancer risk due to chronic immunosuppression.

Aim: We aim to determine if nicotinamide reduces NMSCs and is safe in renal transplant recipients.

Methods: A phase 2 double-blinded randomised controlled trial was conducted. 22 immunosuppressed renal transplant recipients were randomised 1:1 to nicotinamide 500 mg twice daily or placebo for 6 months. Skin checks were conducted every 2 months. The primary endpoint is the number of new NMSCs during the 6 month study period, and the secondary endpoints include new individual squamous cell and basal cell carcinomas, and AK counts. Renal function in all participants was also monitored during the study, in order to confirm the safety of nicotinamide in this patient group.

Results: The study commenced recruitment July 2012 and completed recruitment March 2014. Data will be unblinded and analysed in September 2014. Thus far, 70 new histologically confirmed NMSC have arisen in this high-risk study population.

Conclusions: Nicotinamide is widely available, inexpensive and has excellent established safety profile for the general population. If nicotinamide shows evidence of chemopreventive efficacy and safety in the renal transplant recipient population, it could be instantly translated into clinical practice.

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IMPLEMENTING QCANCER INTO GENERAL PRACTITIONER (GP) CONSULTATIONS: EXPLORATORY STUDY USING SIMULATED CONSULTATIONS WITH AUSTRALIAN GPS

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Background: The QCancer risk tool has the potential to improve the diagnostic assessment of patients with symptoms suggestive of cancer in primary care. Aim: To investigate the feasibility of QCancer for translation into routine practice.Methods: Purposive sample of 15 GPs from Victoria, Australia. Qualitative analysis of semi-structured interviews and video recordings of simulated consultations to prompt use of a modified QCancer risk tool incorporating diagnostic referral guidance.Results: Experienced GPs found the QCancer risk tool to have limited value in their clinical practice. Less experienced GPs were more positive about its potential to inform diagnostic decision making. This partly reflects the low prevalence and rare experience of certain cancers in primary care. Large variations were found in interpreting the clinical history and symptom boxes in QCancer. Markedly different risk estimates were produced for the same simulated case. When multiple possible cancers were highlighted, ease of access and invasiveness of the tests determined the ordering of investigations, rather than the ranking of cancer risks. QCancer was seen as a potentially useful tool to reassure low cancer risk patients concerned about their symptoms, minimising possible over-investigation. The current presentation of QCancer cancer risks was too confronting to use in a consultation, especially for patients at increased risk of cancer, and had the potential to create significant loss of consultation control. Alternative formats involving diagnostic assessment guidance, rather than positive predictive values of cancer, would increase tool usage within a consultation.Conclusions: Implementation of cancer risk tools requires consideration of risk presentation to minimise the potential for confrontation within the consultation. Variable interpretation of patient histories and cancer risk estimates are a significant potential problem for implementing QCancer in practice. Professional experience and self-belief in clinical intuition influences tool usage. GPs need to recognise that problems exist in cancer diagnosis in primary care first before risk tools are to be used routinely.

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UNDERLYING THEMES IN HABITUAL SUN-RELATED BEHAVIOURS IN ADOLESCENTS AND THE ROLE OF APPEARANCE-BASED MOTIVATIONS

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Background: Appearance-based motivations may contribute to low adoption of sun protection behaviours in adolescents.

Aim: The aims of this study were to (1) investigate underlying themes in habitual sun-related behaviours reported by adolescents and (2) explore relationships with skin tone dissatisfaction, tanning intentions, and beliefs about the benefits and risks of sun tanning in an adolescent sample.

Methods: Analyses were conducted using data from the 2011 Adolescent Secondary Schools Alcohol and Drug Survey. In South Australia, data were available for 2875 students aged 12 to 17 years. Responses to questions about 7 sun-related behaviours were subjected to a principal components analysis to identify underlying factors. Bivariate correlations, run separately for males and females, examined patterns of associations between the resulting factors, skin tone dissatisfaction, tanning intentions, and several statements addressing beliefs about the desirability and risks of tanning.

Results: Sun-related behaviours could be reduced to three factors; Sun Protection (hat, sunscreen and wearing protective clothing), Appearance-enhancement (sunglasses and briefer clothing), and Shade Behaviour (seeking shade and time indoors). Appearance-enhancement was associated with higher skin tone dissatisfaction, stronger intentions to tan, stronger beliefs about the attractiveness of a tan, and perceived peer norms in support of tanning. These measures were associated with Sun Protection and Shade Behaviour but in the opposite direction. In general, misperceptions about the risks of tanning were more likely to be associated with Shade Behaviour (lower misperceptions) than with Sun Protection and Appearance-enhancement; however the patterns of associations with sun protection behaviours varied depending on the specific question and gender.

Conclusions: Sun-related behaviours in adolescents are not independent; they can be understood in terms of a smaller number of themes that may have different underlying motivations. Strategies to engage adolescents in sun protection should consider appearance-based motivations that encourage incidental sun protection (e.g., trendy hats and clothing).

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MONITORING APPROVAL OF NEW LEGISLATION BANNING SMOKING IN CHILDREN'S PLAYGROUNDS AND PUBLIC TRANSPORT STOPS IN SOUTH AUSTRALIA

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Background: On 31 May 2012, South Australian Government amended the *Tobacco Products Regulation Act 2007* to include smoking bans in prescribed (outdoor) public transport areas (bus stops, tram stops, railway stations, taxi ranks and airports) and within 10 metres of children's outdoor playground equipment.

Aim: The aim of this study was to track public approval for smoke-free public transport areas and children's playgrounds prior to and following the new legislation.

Methods: Approval of the new smoke-free regulations were investigated across three cross-sectional telephone surveys; with samples representative of the population aged 18 years and over. Interviews occurred pre-legislation in March-April 2011 (wave 1; n = 2002) and April-June (wave 2; n = 2005), as well as approximately 18 months post-legislation in October-December 2013 (wave 3; n = 2013).

Results: The approval rate for smoke-free children's playgrounds increased from 94.8% in wave 2 to 97.8% in wave 3. The approval rate for smoke-free public transport stops was just under 80% in waves 1 and 2 pre-legislation, but significantly increased to 93.5% post-legislation (wave 3). Furthermore, approval by smokers significantly increased from 50.9% (wave 1; pre-legislation) to 83.4% (wave 3; post-legislation). 'Never' smokers had a 5.4 times increased odds of approving smoke-free transport stops than smokers ($p < 0.001$).

Conclusions: Smoke-free outdoor public transport areas and children's playgrounds have strong community support. Moreover, support increased following the introduction of the legislation banning smoking in these areas, for smokers as well as non-smokers. Tracking public attitudes towards new smoke-free outdoor policies is useful for policy makers deliberating on implementing further regulations.

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PUBLIC CAMPAIGN AGAINST WATERPIPE / HOOKAH SMOKING IN TURKEY

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Background: Turkey has launched an public ad campaign against waterpipe tobacco smoking.

Aim: To create awareness about the risks and health effects of waterpipe smoking.

Methods: Prior to the ad campaign, two surveys were carried out: a qualitative survey (6 focus groups) aiming to test and develop the public ad concepts(each ad concept focusing on a different aspect of waterpipe smoking – sharing, flavor and myths about waterpipe smoking)and a pre-campaign quantitative survey (Total sample size = 1,282)aiming to understand the perception toward waterpipe smoking and to measure the attitude about the key messages of the campaign.

Results: The awareness about the health effects of waterpipe smoking is not as high as those of cigarette smoking.The intention to quit smoking cigarette is stronger than quitting waterpipe smoking (54% for cigarette smoking vs 24% for waterpipe smoking). Greater number of people advise cigarette smokers to quit smoking than they do for waterpipe smoking (77% advise for quitting cigarette smoking while 43% advise for quitting waterpipe smoking). The ratio of people, who think that smoking waterpipe is harmful to health, is 72% (this ratio is almost 100% for cigarette smoking as shown in other surveys.) The awareness about the negative health effects of smoking waterpipe is low. At least one third of people believe at the myths about smoking waterpipe(the ratio of persons, who says "definitely true" or "probably true" for the statements: 36% for "smoking waterpipe is not as addictive as smoking cigarette"; 31% for "smoking waterpipe is less harmful than smoking cigarette because it contains flavor"; 40% for "smoking waterpipe is less harmful than smoking cigarette because it is smoked less frequently;32% for "smoking waterpipe is less harmful than smoking cigarette because hookah smoke is filtered through water

Conclusions: The attitude toward waterpipe smoking is expected to change after public ad campaign

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ORAL EPITHELIUM ATYPIA ASSOCIATED WITH CIGARETTE SMOKING AMONG MEDICAL STUDENTS IN KSA

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Background: Oral cancer is one of the most health problems worldwide. Many factors have been linked to the etiology of oral cancer including tobacco use. In recent years, cigarette smoking is regarded as epidemic in Kingdom of Saudi Arabia (KSA), particularly among youth.

Aim: the aims of this study was to determine the prevalence of cigarette smoking among medical students and to assess the oral epithelium proliferative activity (cytological atypia if any) that associated with the habit of smoking.

Methods: In a cross-sectional survey, 379 medical students from College of Applied Medical Sciences at University of Hail, KSA, were interviewed for smoking habit. Of 379/137 (87 were smokers and 50 were non-smokers) responded to oral brush samples. Buccul cells were obtained and stained using Pap. method.

Results: The prevalence of the smokers among students was found to be 22.9%. Mild degree of cytological atypia was identified among 8/87(9.2%) smokers and none of the non-smokers. The risk of increased proliferative activity and 95% confidence level was found to be significant $P < 0.02$. Inflammatory infiltrate was detected among 21/87 (24.13%%) of the smokers and 7/50(14%) of the none smokers $P < 0.005$).

Conclusions: Smoking is prevalent among medical Saudi students. Cigarette Smoking is a risk factor that causes the oral epithelium to undergo proliferative changes which may develop in to oral dysplasia and cancer, even in young individuals. Strict control measures are highly recommended to reduce the burden of tobacco use among general youth at the age of university.

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EFFECTS OF PEER EDUCATION ON THE KNOWLEDGE OF BREAST CANCER AND PRACTICE OF BREAST SELF-EXAMINATION AMONG MANSOURA UNIVERSITY FEMALE STUDENTS, EGYPT

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Background: Breast cancer in women is a major health burden both in developed and developing countries. It is the second leading cause of death in women worldwide as well as in Egypt.

Aim: The aim of this study was to investigate the effects of peer education on the Knowledge of Breast Cancer and Practice of Breast Self-Examination among Mansoura University Female Students.

Methods: This study was conducted during December 2009 and May 2010 in Faculty of Nursing, Mansoura University, Egypt. Two categories of subjects were included in the study; A- 10 nursing students enrolled in the fourth year Bachelor of Nursing as trainees). B- 150 female university students. Two tools were used: 1-Knowledge of breast cancer and BSE form 2- Breast Self Examination Performance Checklist.

Results: There was an improvement in total knowledge post education I ($t = 43.020$, $p = 0.000$). And the improvement ($p = 0.000$) was maintained post education II ($t = 38.566$). There was an improvement in practice score post education I ($t = 58.083$, $p = 0.000$), as well as post education II ($t = 10.415$, $p = 0.000$). BSE performance increased significantly following education ($p = 0.000$) from 8.0% to 52.7 %.

Conclusions: There was inadequate knowledge about breast cancer and BSE among Mansoura university female students before peer education approaches. There was significant improvements in students' knowledge about breast cancer and BSE in post education I and improvement in post education I. Practicing BSE was lacking before peer education, it improved significantly after peer education. Data from this study re-enforce the continuing need for more BC education programs that are intended to attract the attention of young women. More education-based programming targeting female university students should be a primary consideration among health education/health promotion practitioners.

Key words: peer education – breast cancer – breast self examination

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EFFECT OF BREAST CANCER AND EARLY DETECTION MEASURES ‘AWARENESS PROGRAM ON WOMEN’ KNOWLEDGE, ATTITUDE AND PRACTICING BREAST SELF EXAMINATION AT TALKHA CEMENT FACTORY, EGYPT

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Background: Breast cancer in women is a major health burden both in developed and developing countries. It is the second leading cause of death in women worldwide as well as in Egypt.

Aim: The aim of this study was to assess the effect of implementing breast cancer and early detection measures ‘ awareness program among women working in Talkha Cement Factory on their knowledge, attitude regarding breast cancer and practicing breast self examination.

Methods: A quasi experimental research study was conducted, A total of 122 women who accept to participate voluntary and gave consent were recruited, two tools were used pre/ post program intervention

1. Self administered questionnaire to assess knowledge of women about breast cancer, risk factors, and early detection measures
2. Attitudes rating scale to determine women’ towards breast cancer practicing breast self examination

Results: The majority of women had lack of knowledge regarding breast cancer and early detection measures. After program implementation, a remarkable improvement in women’ knowledge, attitude regarding breast cancer and practicing breast self examination was observed. The differences were statistically significant (p = >0.01)

Conclusions: Implementing breast cancer and early detection measures’ awareness program among these group of women showed a significant impact in the form of remarkable increase in their level of knowledge, acquisition of ultimate positive attitude regarding breast cancer and improvement in practicing breast self examination.breast cancer and early detection measures’ awareness program should be adopted as an element of the services offered to the working female.

All channels of the national mass media should emphasize the importance of creating positive attitudes toward breast cancer and early detection measures program

Further studies should be undertaken to investigate factors that hinder practicing breast self examination

Key words: Breast Cancer – Early Detection Measures – Awareness Program – Knowledge – Attitude – Breast Self Examination – Egypt

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ASSOCIATIONS BETWEEN RISK ATTRIBUTES, “CONTROL” AND “DREAD”, WITH PERCEPTIONS OF IMPORTANCE OF CANCER RISK FACTORS

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Background: Previous studies indicate lay perceptions of the importance of lifestyle factors in cancer risk are not necessarily consistent with epidemiological evidence. Providing insight into the factors associated with these perceptions may inform future cancer prevention strategies.

Aim: This study explored whether differences in perceptions of importance of a range of factors in cancer risk could be explained by different factor attributes, with a specific focus on “Control” and “Dread” which feature prominently in the risk perception literature.

Methods: A sample of convenience (n = 168; 17–57 years) comprised of students (n = 130) and non-academic staff (n = 38) from two South Australian Universities completed an online survey assessing perceived importance of 12 factors in cancer risk and six attributes for each risk factor (control, voluntariness, knowledge, dread, catastrophic potential and severity of consequences; assessed by psychometric paradigm scales-modified; Fischhoff et al., 1978).

Results: Cigarette smoking was most commonly rated as very or extremely important in cancer risk (89%), followed by sun exposure, family history, pesticides and overweight (48–67%). Less than 40% rated other factors (e.g., alcohol, exercise, stress) as very or extremely important. Principal components analyses confirmed two attribute factors: “Control” (perceptions of controllability and voluntariness) and “Dread” (knowledge, dread and perceptions of severity of consequences and catastrophic potential). Logistic regression analyses, adjusted for gender, staff/student status, age and language spoken at home, indicated that “Dread” was positively associated with perceived importance for all risk factors ($p < .001$), and “Control” was positively associated with five risk factors (sun, diet, mobile phones, exercise and overweight; $p < .01$).

Conclusions: The degree of “Dread” associated with risk factors, and to some extent “Control” contributed to explaining variation in perceptions of importance of a number of cancer risk factors. However, the variation explained differed considerably between risk factors, indicating that other potential influencing factors should be explored in future studies.

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GOOD OR BAD? CHILDREN’S SOCIAL REPRESENTATIONS OF SMOKERS THROUGH A PHOTOVOICE PROJECT IN PETRÓPOLIS, RIO DE JANEIRO, BRAZIL

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Background: Tobacco use is a well-known public health concern related to many health problems such as cancer and heart disease. Smoking is referred to in the literature as a paediatric disease because most smokers begin using tobacco before the age of 18.

Aim: The general aim of this paper is to contribute for the development of tobacco strategies focused on children by assessing their social representations of smokers using the photovoice technique with students from Petrópolis, Rio de Janeiro, Brazil.

Methods: In total, 27 children, 15 girls and 12 boys aging from six to 16 years old, took part in the project that involved taking pictures, writing essays and discussing in groups. Children participated in three meetings in the period of 15 days. Thematic network analysis was performed to examine the data.

Results: Findings suggest that children’s representations of smokers are very complex. The decision to become a smoker is seen by participants as a personal choice. The identity associated with smoking is represented by participants as a characteristic that someone should not be proud of having. Primarily young children classified smokers as fools and stated that they should go to jail. On the other hand, participants demonstrated some affection toward tobacco users and said smokers need care. This mainly comes from the concern they have for the health of their family members. They expressed a strong intention to encourage their family members to stop smoking.

Conclusions: In practice the research suggests that any program aiming to prevent children from smoking should interact with other initiatives, such as those which provide smoking treatment. Their intention to support their family members on quitting process can be explored by campaign designers. Once this is the first study of children’s social representations of smokers in Brazil, further research needs to be carried out.

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RISING CANCER INCIDENCE AND REDUCTIONS IN MORTALITY IN AUSTRALIA FROM 1987–2007

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Background: Australia is well documented as having one of the highest incidence rates of cancer globally. In addition, the burden of disease attributable to cancer is rapidly increasing. Despite this, the CONCORD study in 2008 revealed good news, Australia had one of the highest cancer survival rates globally. The vast array of cancer statistics poses significant challenges, and overdiagnosis and lead time bias complicate the interpretation of changes.

Aim: Our aim was to provide summary measures of changes in Australian cancer incidence and mortality since 1987, and to describe the context of these changes.

Methods: We used publically available national data on mortality and newly registered cancer cases. We compared expected and observed numbers of cancer deaths and cases diagnosed in 2007, using 1987 as a baseline, for people under 75 years of age.

Results: There were 13,012 (21%) more new cancer diagnoses in 2007 compared to the expected number, had 1987 rates been maintained. Prostate cancer accounted for 10,245 of these new cancer cases and breast cancer accounted for 2,736 new cancer cases. These two cancer types alone accounted for virtually all of the excess cases diagnosed. However, there were 7,827 (28%) fewer observed cancer deaths in 2007 compared to the expected number. Lung cancer accounted for a reduction of 2,154 cancer deaths and colorectal cancer accounted for 1,797 fewer cancer deaths, just over half of the reduction in mortality.

Conclusions: Most of the increased cancer incidence in Australia in 2007, relative to 1987 was due to increases in prostate and breast cancer diagnoses. Debate exists regarding over-detection or bringing forward diagnoses for these two cancer types. Both will overestimate national survival rates. Reductions in mortality are more modest but less controversial. These may be more realistic indicators of progress in cancer programs.

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SHOULD THREAT MESSAGES BE AVOIDED FOR ABORIGINAL AUSTRALIAN SMOKERS? FINDINGS FROM A CROSS-SECTIONAL SURVEY IN REGIONAL NSW TO VALIDATE THE RISK BEHAVIOUR DIAGNOSIS SCALES

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Background: Smoking rates in Aboriginal Australians are gradually reducing in some age groups, but not for people in the peak reproductive years.[1] Smoking cessation is vital for cancer prevention.[2] Many regional programs avoid the use of threat messages when targeting Australian Aboriginal smokers.[3]

Aim: To assess, for the first time, the responses of Aboriginal smokers, 18–45 years, to Risk Behaviour Diagnosis scales (RBD)[4] and intentions to quit smoking, including gender differences.

Methods: We interviewed 121 Aboriginal smokers, using a structured questionnaire including adapted RBD scales. The RBD measured perceived threat (susceptibility and severity of threat) and perceived efficacy (self-efficacy and response efficacy) on Likert scales. Intentions to quit were assessed. Scales were recoded into high-low responses. Face validity was assessed via an Aboriginal panel, and scales assessed for reliability. Chi-square tests investigated the associations between intention to quit, efficacy/threat and gender.

Results: Among men, intention to quit was associated with perceived efficacy ($X^2 = 15.23$;df = 1; $p < 0.0001$), but not with perceived threat. For women, intention to quit was neither associated with efficacy nor threat. Both genders were more likely to have high intention to quit, with high efficacy and high threat (n = 54;45%:male$X^2 = 12.6$;df = 1; $p < 0.001$:female$X^2 = 5.6$;df = 1; $p < 0.05$). There was no difference in intention to quit with low efficacy-high threat for either gender (n = 39;32%). In contrast, all of the men with low threat-high efficacy (n = 5;4%) intended to quit, whereas all of the women with low threat-low efficacy (n = 6;5%) intended to quit.

Conclusions: High-perceived threat was associated with high intention to quit smoking only when perceived efficacy was high. Gender differences may be a consideration. The RBD scales could be used to tailor messages to the level of efficacy and threat in clinical consultations, and in regional programs. All Aboriginal Australian smokers may benefit from increased efficacy to quit smoking.

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SMOKING BEFORE FIRST CHILDBIRTH AND RISK OF BREAST CANCER RISK IS INDEPENDENT FROM ALCOHOL USE AND DOES NOT SEEM TO DIFFER ACROSS ETHNIC GROUPS: THE MULTIETHNIC COHORT STUDY

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Background: Smoking is not, while alcohol consumption is, established as a cause of breast cancer. During the last decade smoking before first childbirth has emerged as a possible risk factor for breast cancer.

Aim: to prospectively examine whether active smoking, especially before first childbirth, increases the risk of breast cancer overall, for non-drinkers of alcohol and if this association differs across ethnic groups.

Methods: We followed 88,300 women, enrolled at age 45–75 years as part of the Multiethnic Cohort Study. Breast cancer was ascertained by linkage to the Surveillance, Epidemiology, and End Results (SEER) Program cancer registries covering the states of Hawaii and California through December 2010. We used Cox proportional hazards models to estimate hazard ratios (HRs) and 95% confidence intervals (CIs) while adjusting for relevant confounders.

Results: During a mean follow-up of 15 years, 4,484 women developed invasive breast cancer. Compared with never smokers, smoking characteristics showed consistent dose-response associations with breast cancer risk [age at smoking initiation ($p_{trend} < 0.001$), smoking duration ($p_{trend} = 0.02$), number of cigarettes smoked daily ($p_{trend} = 0.03$) and pack-years ($p_{trend} = 0.003$)]. Among parous women, those who had smoked six or more years before their first childbirth had an increased risk of breast cancer of 20% overall (HR = 1.21, 95% CI: 1.05–1.39) and among non-drinkers only (HR = 1,24, 95% CI: 1.01–1.51), compared with never smokers. The test for heterogeneity for the association between ever /never smoking and breast cancer risk by ethnic groups was not significant (p = 0.59).

Conclusions: We found that the increase in breast cancer risk due to smoking is similar for drinkers and non-drinkers of alcohol. Our data does not support any difference for the smoking and breast cancer association for the five examined racial/ethnic groups, although this may be due to lack of power.

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ALCOHOL: A POPULATION STUDY OF PREDICTORS OF CONSUMPTION AND AWARENESS OF THE LINK WITH CANCER

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Background: Alcohol consumption is a common and widespread part of Australian culture. Its use (and overuse) can cause substantial negative social, health and economic consequences and consumption is a known risk factor for cancer.

Aim: To determine predictors of alcohol consumption in excess of the National Health and Medical Research Council (NHMRC) guidelines for lifetime risk among adults; adult awareness of these guidelines and the link between alcohol and cancer; and predictors of alcohol consumption among adolescents.

Methods: Data for adults were collected in cross-sectional representative population surveys of South Australians aged ≥15 years from 2004 to 2011. Each survey had a sample size of approximately 3,000 respondents. Data for school students were collected via the 2011 Australian School Students Alcohol and Drugs Survey (n = 3,050 SA students in year levels 7–12).

Results: In 2011 and 2012, 21.6% of adults drank in excess of the NHMRC guideline threshold (33.0% males; 10.7% females). While 53.5% correctly identified the consumption threshold for women, only 20.3% did so for men (39.0% nominated a higher amount). A large minority said they did not know the consumption threshold for women (39.2%) or men (40.4%). In 2012, only 36.6% saw alcohol as an important risk factor for cancer. Important predictors of excess consumption for men were a higher household income and not perceiving alcohol as an important risk factor for cancer. Predictors for women were similar but the role of household income was even more prominent. Predictors (demographic and social context) for consumption among school students will be presented.

Conclusions: A high proportion of the community are putting themselves at increased risk of cancer with their alcohol consumption. The results of this study will be discussed to inform future health promotion messages.

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COMMUNITY MENTAL HEALTH SERVICES AND SMOKING CESSATION CARE: AN UNREALISED POTENTIAL

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Background: The prevalence of smoking in people with a mental illness is higher than in the general population. Guidelines recommend health professionals assess smoking status and provide all smokers with smoking cessation care. Community mental health services have been recognised as important avenues for providing this care to smokers with a mental illness, however little research has examined the extent of current care provision.

Aim: To identify the need for and acceptability of smoking cessation care among patients of community mental health services, and investigate the current provision of such care.

Methods: A cross-sectional computer assisted telephone interview survey was conducted within one area health service in NSW, Australia. 1,418 clients of community mental health services were asked about their smoking status, desire to quit, smoking cessation care received during appointments, and their acceptability of receiving such care.

Results: Findings indicate a high need for smoking cessation care. Fifty-one percent of clients were smokers; many of whom wanted to quit: 63% were seriously thinking about quitting smoking and 54% had made a quit attempt in the past 12 months. High levels of acceptability for receiving smoking cessation care were expressed: 94% for assessment, 82% for advice to quit, and 85% for arrangement of further support. Actual levels of care provision were sub-optimal. Less than three quarters (73%) of participants reported having been asked their smoking status during CMH appointments. Of smokers, 67% were provided with any advice to quit, and 42% were offered any further support or referral (such as to the Quitline).

Conclusions: The need to address smoking for community mental health clients is considerable, and clinical practice change intervention is required to increase current sub-optimal levels of smoking cessation care are sub-optimal within these services.

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ANTI TOBACCO CAMPAIGNS IN INDIA AND ITS IMPACT ON ADOLESCENTS AND YOUNG ADULTS -A POPULATION BASED STUDY

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1. *Kims Hospital, Thiruvnanthapuram, Thiruvananthapuram, India*

Background: In India, more than 2000 person die everyday and about 8 lakh people die every year due to tobacco-related diseases. Adolescents and young adults have been a very vulnerable population to start tobacco use at an early age and have serious helath impacts in later life. Inspite of the various strategies tried by the Govt over the years, usage of tobacco goes up every year.

Aim: To have an overview of the various anti tobacco campaigns in India and to assess its impact on a young population

Methods: The data was collected by questionnaire method.439 men of age between 18–29 years participated in the study. There were working men as well as students of which 37 % were medicos and rest were non medicos. Of the 439 participants in the study 183 used some form of tobacco at any point of time

Results: Ban on public smoking and statutory warning on tobacco products had little impact on them. The campaign which worked well are the audio-visual ad with the tragic life story of a cancer patient and the one with tar squeezing out of a smokers lungs. 37 % of tobacco users had some impact,24.1% reduced the amount of tobacco use and 13.6% quit tobacco.

Conclusions: Over the years we have been focusing on educating them through awareness programmes via media/awareness camps. Even stringent laws came were brought in for the purpose. It is one of the rare situation where we have to scare someone to save them. But at the end of the day,that works.and that only works.we recommend similar audio/visual advertisements against alcohol use too.

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GLOBAL ADULT TOBACCO SURVEY (GATS) DATA AS A TOOL TO IMPROVE SMOKING CESSATION STRATEGIES IN BRAZIL

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Background: The epidemic and associated disease bruden of tobacco use is growing, particularly in low- and middle-income countries. Increasing the effectiveness of smoking cessation policies and programs may require greater consideration of the complexity of cultural and socioeconomic situations that shape the smokers' universe.

Aim: The purpose of this paper is to explore the association between educational level and "selected midpoints" linked to smoking cessation in Brazil.

Methods: As part of the Global Adult Tobacco Survey (GATS) conducted in 2008, data were collected from a representative sample of adult smokers (N = 7,003). We calculated the proportion of smokers who made a quit attempt in the last 12 months previous to the survey, as well as the proportions of smokers who visited a doctor in the last 12 months and received advice concerning quitting smoking, stratified by educational level. A Poisson regression model was used to assess the relationship between schooling level and smoking cessation questions.

Results: After controlling for age and gender, there were no statistical differences in quit attempts by educational level. However, smokers who had, at least, some college education and attempted to quit in the last 12 months (N = 0.5 million, after sampling expansion) visited a doctor and received advice to quit smoking, respectively, 1.3 times and 1.7 times more often than illiterate smokers who tried to quit in the 12 months prior of the survey (N = 1.6 million, after sampling expansion) (p-values < 0.001).

Conclusions: Although Brazil has been one of the most successful countries in reducing tobacco use and is the largest seventh economy of the world, disparities in health and education are still a major challenge for policymakers. Our results demonstrate that there is a niche to be explored to increase the population impact of tobacco control actions worldwide.

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BETEL-NUT CHEWING A TIME BOMB FOR ORAL CANCER IN PAPUA NEW GUINEA

Rose Andrew[1]
1. *PNG Cancer Centre, National Department of Health, Waigani, PNG, Papua New Guinea*

Background and Context: Published researches have shown that Betel-nut chewing poses a significant risk to Oral Cancer due to the inherent concentration of carcinogenic substances associated with the ingredients of Betel-nut chewing. This social practice coupled with consumption of other cancer-causing substances such as Tobacco and Alcohol significantly increases the risk of developing oral cancer among the general populace. In Papua New Guinea, betel-nut chewing is a traditional norm and widely accepted cultural practice. Compounded with this are the widespread consumption of alcohol and tobacco, and these lifestyle practices therefore pose a major risk for oral cancer in PNG, as evident through the increasing cases of oral cancer being registered and reported at all major hospitals.

Aim: To seek funding assistance from international donor agencies to develop and implement public oral health policies and oral cancer prevention programs throughout PNG.

Strategy/Tactics:
1) To develop Oral/Dental Public Health Policy Framework.
2) To develop and implement comprehensive oral cancer prevention programs.
3) To develop the required specialist human resources to implement public oral cancer prevention programs

Programme Process:
1) Develop Oral Health Policy Framework
2) Develop Oral Cancer Prevention Programs
3) Request funding support to implement ongoing prevention programs
4) Develop the required human resource capacity to fully implement prevention programs, as well to provide palliative care.

Costs and returns: The recurring costs are yet to be determined as part of the overall Oral Public Health Policy framework. The benefits will be a remarkable decrease in oral cancer cases due to change in lifestyle as a result of this prevention programs.

Outcomes/What was Learned: When the proper messages are disseminated to the public, the public can change their attitude towards consumption of carcinogenic substances such as betel nut, tobacco and alcohol. This will eventually reduce the cases of oral cancer which is prevalent and widespread across the country.

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TOGETHER WE CAN BEAT CANCER! A COMMUNITY ENGAGEMENT STRATEGY TO DRIVE EMOTIONAL CONNECTION WITH CANCER COUNCIL AND OUR MISSION

Karen Armstrong[1], Alan Sicolo[2]
1. *Cancer Council Australia, Sydney, NSW, Australia*
2. *Cancer Council South Australia, Eastwood, SA, Australia*

Background and Context: Cancer Council is a federated organisation, well supported by the public with strong brand awareness. Cancer Council lacked the more emotive aspects of providing hope, support and making a difference in the lives of individuals and the community.

Aim:
1. Drive emotional engagement
2. Increase brand understanding (who we are and what we do)
3. Drive prompted and unprompted brand awareness
4. Increase propensity to donate

Strategy/Tactics: Cancer Council's brand journey commenced with a common brand across the federation, completed in 2007. This collaboration tied all our individual cancer organisations under one identity.

A masterbrand strategy was implemented to deliver an iconic brand that drove association with all its sub-brands. Our unique position as an organisation for all Australians, all cancers and a breadth of activities – research, support, prevention and advocacy. This was Cancer Council's opportunity to reinforce that we are here together to beat cancer.

Programme Process: The most recent process to develop a creative campaign included:
1. Review available research and interview internal stakeholders
2. Agree core proposition
3. Agreed brief to engage our consumer's hearts and drive their knowledge on the breadth of Cancer Council's role.
4. Focus testing of concept boards
5. Creative production
6. In-market launch & evaluation of media strategies
7. On-going development of supporting creative materials and campaign integration

Costs and Returns: Returns have been measured in service uptake and brand tracking movement.

Outcomes/What was Learned:
1. Brand attributes: Cancer Council was able to increase our emotional brand attribute measures on 'community' & 'leadership'.
2. Brand understanding: Cancer Council Helpline has increased uptake and awareness in SA
3. Brand awareness: Cancer Council's unprompted brand awareness and an individual's propensity to donate has increased over time improving our metrics on our conversion funnel.

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PURPOSE DRIVEN FUNDRAISING

Lee Cooper[1]
1. *Cancer Council NSW, Woolloomooloo, NSW, Australia*

Background and Context: Fundraising has been the long term income generator of choice for the chairty and cancer sector. Charity fundraising market is becoming more and more competitive and not just from other charities.

In the current climite there has been a shift in the way in which causes generate income. There has been a shift away from supporting organisations "agency" model towards the project story. Over the last few years the new kid on the block of fundraising has grown to be a serious competitor to the traditional chairty market. With digital movements such as Kiva, Kickstarter and Pozible see a shift away from supporting the agency towards supporting the project all driven by the story.

Charities can no longer allow fundraising to lead over purpose. Purpose needs to become the story that inspires people to raise funds.

Aim: How can charity reboot their traditional fundrasign efforts and create purpose driven fundraisng

Strategy/Tactics: Examples of current purpose driven fundraising activities – charity and non charity sector

Defining purpose for your organisation for a fundraising context

Rebooting traditional efforts with purpose

Programme Process: Interactive presentation with case studies

Costs and returns: Refining existing content aligning donor stories to create purposful content to engage donors

Outcomes/What was Learned: Link between organisational strategy and fundraising strategy using purpose as the common link

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BREAST CANCER ORGANIZED SCREENING PROGRAM IN RIO DE JANEIRO, BRAZIL

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Background and Context: In Rio de Janeiro there is only opportunistic screening program for breast cancer women who arrive at health units and only 46% received mammography examination request and managed to carry it out. In countries that have deployed effective tracing programs, with coverage of the target population, quality of examinations and proper treatment, breast cancer mortality has been decreasing. The evidence of the impact of crawling on mortality from this neoplasia justify their adoption as public health policy, as recommended by the WHO.

Aim: The breast cancer organized screening program in the community of the Andarai, RJ is committed in assiting women asymptomatic 40–69 years.

Strategy/Tactics: The program provides for the attendance of these women for an indefinite period, free of charge, and conducting annual digital mammography, passing through the steps of early detection and diagnosis. In case of positivity fot malignant disease, the same will be treatded properly.

Programme Process: Since April 2014 have been 80 women with an avarage age of 54 years. 100% of them were asymptomatic and 49% had never done before mammography. Only 1 woman presented clinical suspect aged 44 years.

Costs and returns:
- Outcomes/What was learned: Preliminary results of the study suggest that population based organized screening are feasible and age of onset mammography screening should be 40 years in Rio de Janeiro.

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FUNDRAISING REPORT

Marc Keller[1], Ken Phinéas Tchiteya[2], Kévin Béhar[1]
1. *French league against cancer, Paris, France*
2. *International, Calissa Ikama, Brazzaville, Congo*

History and Context: The action led by the Calissa Ikama foundation, full member of the ALIAM (Alliance of African and Mediterranean French speaking leagues) since 2008 (date of its creation) allowed to make significant progress in the struggle against cancer in Congo (low-income country).

On the nine bad points identified in 2008, eight still need to be enhanced: four are still bad and four are encouraging.

The foundation developed a fundraising action plan including six priority projects that will be realized in 2014–2015 and will allow to turn these encouraging and bad points into positive points.

Aim: To collect 340 000 US dollars, essential to the realization of the different projects.

Strategy: The administrators of the foundation have used their address book and their capital stock to approach politics and business men.

The funds would provide from the sale of tables and direct donations before, during and after the reception.

Proceeding: Four main times: film on the history of the foundation Calissa Ikama; communication from an oncologist on children cancers taking care, communication of a pediatrician concerning an implantation of a pediatric oncology unit in Brazzaville, progressive announcement of the evolution of the collect and finally encouragements and thanks of the guests.

Costs and Benefits: The reception cost 16 700 US dollars and for now 171 730 US dollars (50% of the sought fund) has been collected.

What was Learned? Financing actions for the struggle against cancer is not an easy task, especially in a country that suffers from a huge gap in communication about cancer and that still has not put in place its national policy.

The action of Calissa Ikama foundation shows that with more will, more determination and more passion, it is possible to find local funds by relying on private sectors and sponsorship.

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THE BILLION DOLLAR CHALLENGE

Christine Lasky[1]
1. *The Princess Margaret Cancer Foundation, Toronto, ON, Canada*

Background and Context: The Princess Margaret Cancer Foundation is the most successful hospital based cancer fundraising entity in Canada. In 2012, with a need to continue to raise significant funds to support the leading work going on at the Princess Margaret Cancer Centre, we embarked on a historic 5 year financial campaign: THE BILLION DOLLAR CHALLENGE.

Aim: Over 5 years, secure $1 billion to revolutionize cancer care by creating the new gold standard: Personalized Cancer Medicine. The Princess Margaret would create the blueprint, develop and optimize new procedures for all patients at The Princess Margaret and share this with other cancer organizations across Canada and around the world.

Strategy/Tactics: To meet this challenge, we reached out to our vast community with a common message and purpose and the goal of securing $500 million which our researchers hope to match with $500 million in research grants. All programs – ongoing and new initiatives would be wrapped up in the BILLION DOLLAR CHALLENGE to help us lead the way in Personalized Cancer Medicine.

Process: The campaign was lead by the CEO and an integrated project team with representatives from all revenue lines and all functional areas. It was launched with an impactful marketing, relationship and communications plan. Mass media communications and targeted messaging and multiple events with consistent ongoing messaging have kept this challenge at the forefront of our public.

Costs and Returns: The investment to-date is $ 2 million plus with much of the work being done pro-bono. Two years into the campaign we have secured $455 million in funding and are tracking ahead of plan.

Outcomes/What was Learned: Refreshing the messaging along the way is key and getting more specific in terms of what the Billion dollars will be used for is critical. Ongoing communication of impact is very important.

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RAISING RESEARCH MONEY THROUGH AN INNOVATIVE EVENT – RIDE TO CONQUER CANCER

Christine Lasky[1]
1. *The Princess Margaret Cancer Foundation, Toronto, ON, Canada*

New Innovative Ways to Engage Your Public to Raise Needed Funds for a Leading Cancer Research Centre resulted in the creation of The Ride To Conquer Cancer

Aim: To create a ongoing stream of significant funding for the Princess Margaret Cancer Centre and other centres around the world

Strategy/Tactics: Invest in and launch a Big Bold event called The Ride To Conquer Cancer. Launched by The Princess Margaret Cancer Foundation in 2008, after almost 2 years of research and development, this unique bike ride has surpassed all other cycling events to become Canada's most successful cycling fundraiser and this intellectual property has been lent out to others in the US and Australia to raise important funds for cancer research and care. The RTCC has raised over $223 million in 6 years and enlisted over 11,00 cyclists to raise in excess of $2500 per person each year to participate in this event which runs over 2 days and covers200 plus km.

Programme Process: Riders register for the ride and then are provided support and online tools to either conduct peer to peer fundraising or conduct fundraising activities. The event logistics are outsourced by The Princess Margaret Cancer Foundation.

Costs and Returns: This program has raised over $223 million Canada wide. In Ontario, specifically in 2013 raised $ 20.3 million in gross revenue with an $ 6.3 million investment for marketing, logistics and other direct expenses. As a social enterprise model this return is viewed as very acceptable.

Outcomes/What was Learned: Engaging passionate people to fundraise in a highly differentiated and unique event and providing them with the tools and support to succeed in their training for the event and meeting and/or exceeding their fundraising minimums can generate significant ongoing net revenues for a cancer organization. Do not be afraid to invest!

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ROAD HOCKEY TO CONQUER CANCER – A UNIQUE TEAM FUNDRAISING PROGRAM APPEALING TO A DISTINCT NEW SEGMENT

Christine Lasky[1]
1. *The Princess Margaret Cancer Foundation, Toronto, ON, Canada*

Background and Context: The Princess Margaret Cancer Foundation was seeking a new unique fundraising program to appeal to a younger untapped segment of the population

Aim: To raise significant incremental funds for the Princess Margaret Cancer Centre

Strategy/Tactics: Launch a first of its kind – Road Hockey to Conquer Cancer one day mega fundraising event

Programme Process: Identifying a gap and an opportunity that tapped into something truly Canadian – hockey! Developed a program and the brand event experience to tap into the 25–45 male that is less likely to have been philanthropic in the past. Teams of 8 to 10 players register for the event and must raise $10,000 minimum as a team to participate. Incentives are in place to promote higher fundraising through a celebrity draft.

Costs and Returns: Since 2011, this dawn to dusk road hockey marathon has raised over $8.2 million across Canada, $7.3 million of this in Ontario. With over 6,000 participants, 1400 annually in Toronto and 200 prominent celebrities. Costs for the event have been managed down and are now at approximately 30% of gross fundraising revenue.

Outcomes/What was Learned: This programs engaged a segment of the population that is complementary to our other existing programs. It is a harder demographic to get on board but once they are engaged and experience the event – they get passionate and generally want to come back in future years.

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JOE'S TEAM – AN INNOVATIVE TRIATHLON/DUATHLON SPRINT EVENT TO RAISE MONEY FOR HEAD AND NECK CANCER RESEARCH

Christine Lasky[1]
1. *The Princess Margaret Cancer Foundation, Toronto, ON, Canada*

Background and Context: Inspired by a patient of the Princess Margaret Cancer Centre – Joe Finley this unique fundraising event was created to raise money specically for a Centre in Head and Neck Cancers.

Aim: To raise significant money for Head and Neck Cancers and engage a new group of people in support of the Princess Margaret Cancer Centre

Strategy/Tactics: Launch a trathlone/duathlon sprint event to be held annually in a presitgous part of Ontarios's cottage country. The event includes individual triathletes/duathletes as well as relay teams. In 2008 this new event was created. The event is followed by a BBQ and dance celebration open to participants/volunteers with a concert provided by top Canadian music talent. Each participant over 21 must raise $500 and those under 21 raise $250.

Programme Process: People register, train and then fundraise prior to the event. Organizing committee help immensely with team recruitment and sponsor acquisition.

Costs and Returns: Joe's Team revenues since inception are $6,000,000 with an average of 456 people participating. In an average year $857,000 is raised. Costs are minimized through donations and in-kind and the event usually cost less than 20% of gross revenue to run.

Outcomes/What was Learned: A good event to engage a distinct group of supporters. Long term viability dependent of the strength of the organizing committee. Having a distinct goal for which the money is being used has inspired a lot of supporters. Great event for the summer.

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A PILOT STUDY OF OUT OF POCKET EXPENDITURE IN TREATING CHILDREN WITH CANCER IN INDIAN GOVERNMENT HOSPITALS

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1. *Cankids Kidscan, New Delhi, Delhi, India*
2. *Max Super-Speciality Hospital, New Delhi, Delhi, India*
3. *McGill University, Montreal, QC, Canada*
4. *The George Institute for Global Health, Sydney, NSW, Australia*

Background and Context: The cost of managing children with cancer can be substantial, and in the absence of insurance and/or social support can lead to abandonment of treatment.

Aim: This pilot study looks at the feasibility of assessing out of pocket (OOP) expenditures incurred by parents/carers and non-governmental organisations (NGOs) in treating children with cancer in Indian government hospitals.

Strategy/Tactics: Parent/caregivers of 11 children with cancer treated at AIIMS (Department of Oncology and Pediatrics) and Safdarjung Hospital (Department of Pediatrics) were interviewed to assess OOP costs for 14 weeks (two weeks prior to diagnosis and 12 weeks subsequent to diagnosis)

Costs and Returns: The age range of the children was 3–19 years (median 6 years). 73% were not resident in Delhi. in 54% of the families the main working member was an unskilled worker and at least one parent was illiterate or had had no schooling.

The median OOP expenses were Rs 3124 (31£) and ranged from Rs 2532–7272 (25–73£). Median direct costs were 46% (range 7–87%) and median indirect costs were 54% (range 13–93%). Major direct costs preceding diagnosis were on investigations and following diagnosis were on chemotherapy and supportive care. Major indirect costs preceding diagnosis were on travel and following diagnosis on food.

The NGOs provided support in direct costs to all 11 families (range 1% to 93%) and in indirect costs to 4 families (range 33% to 87%).

All families had to use up their savings, borrowed money, gone into debt and had sold assets.

Outcomes/What was Learned: Such a study is feasible. It shows that despite "free treatment" children with cancer incur significant OOP expenses in Indian government hospitals which have significant socio-economic impacts. NGOs provide valuable assistance.

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FUNDRAISING STRATEGY FOR CANCER CONTROL IN NIGERIA

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1. *Partnership for Eradication of Cancer in Africa, Abuja, Nigeria*

Background and Context: Over two million Nigerians suffers from some form of invasive cancer, a 100,000 are diagnosed annually, of which 80,000 die. 80% of cancer deaths take place in poor countries due to lack of funding and dearth of medical facilities. This has led to increased cancer incidence and migration abroad for treatment. Except appropriate facilities and systems are established urgently, about 144 Million Nigerians living on <$2 a day may fall prey to this global epidemic.

Aim: This abstract aims at proposing a fundraising strategy to promote cancer control in Nigeria

Strategy/Tactics: This strategy will employ the joint effort of Actors to leverage over $200 million donor funds under a humanitarian programme to develop medical facilities and care centers for cancer patients.The funding shall be secured pursuant by Section 501 (c) (3) of the Internal Revenue Code of the United States.

Programme Process: A group of Nigerian Cancer Actors (NCA) will apply to a qualified United States donor group for funding using a business plan developed in partnership with the Western European Charity (WEC). Upon approval, a financial agreement would be signed between the NCA group, the donors and the WEC. Funds would be disbursed by donors to the bank of the WEC who acts as guarantors and in turn finances the business plan. Upon completion and commissioning of the projects, the WEC vacates its guarantee and the donors donate the facilities to the NCA for management.

Costs and Returns: The cost for securing the funding is limited to the cost of the business plan and logistics for negotiating and securing the donation. The returns on the project are multifaceted: cost of cancer control and death rate will drop and savings will be made on foreign exchange resulting from medical tourism.

Outcomes/What was Learned: There is no doubt that **joining forces accelerates progress**

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FUNDRAISING STRATEGIES FOR CANCER (NGOS)

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1. *Cancer Patients Aid Association, Mumbai, India*

Background: Survival and Competent function of any registered non-government charitable organization largely depends on continuous flow of funds and more importantly on newer fundraising strategies that are environment friendly and changing with changing times. The current paper presents an overview of changing fundraising strategies used by Cancer Patients Aid Association (CPAA) over 40 years, from 1969 to present is an important component of our day to day activities.

Aim: In India, where non government associations do not receive any grant or regular income, fund raising ends up playing a pivotal role not only with respect to patient oriented needs, but also has to cover the burden of infrastructure and administrative cost for the effective functioning of the organization. To ensure newer and long-term fundraising techniques or strategies which ensure regular source of income and work towards self-sufficiency for the non-government organization.

Method: This can be achieved by Compartmentalization of various activities into departments working towards self sufficiency e.g. •CPAA works on the motto of "total Management of Cancer" including awareness, patient care, diagnostic, insurance & rehabilitation, each of these activities is run as an individual profit centre with the responsibility of raising funds themselves with minimal support from the central administration.

Result: Successful collection of funds from these methods is responsible for an annual outgoing by CPAA working towards the cause of cancer since the last 44 years without receiving any grant or regular assistance.

Conclusion: Success of effective fundraising techniques depends largely on newer strategies being introduced from time to time, but they have to be backed by spectacular performance by the NGO, transparency, high credibility levels and a profile, which is also media savvy.

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WITH SUPPORTER NUMBERS DECLINING, HOW CANCER COUNCIL QUEENSLAND TOOK THE F2F STEP

Karen Shields[1]
1. *Cancer Council Queensland, Brisbane, QLD, Australia*

Background and Context: Despite a solid history of event and direct mail performance, Cancer Council Queensland recognized the need to expand it portfolio to include F2F fundraising and launched the Breakthrough campaign.

Aim: Secure a new, regular source of fundraised income from a new target audience who will work with us to beat cancer. The aim of Breakthrough is to raise $25.7M (net) over the next 10 years to fund cancer research and support programs.

Strategy/Tactics: F2F is a proven fundraising method, but Cancer Council Queensland was conscious of it's strong community support. A F2F pilot was conducted. Of particular focus was volunteer communication, 'inducting' agency campaigners, and linking the communication flow of supporters -> cancer patients -> agency campaigners. Focusing on these areas was paramount to a successful pilot.

Programme Process: 1. "10 year Plan" Board Proposal, with request for pilot 2. Internal communications – staff and volunteers 3. Campaigner training 4. Pilot Tracking 5. Results Report

Costs and Returns: Initial invest in Year 1 of approximately $434k with a forecasted 10 year gross income of $1.75M. Over 10 years CCQ aims to generate a 30% CIR and net income goal of $25.7M

Outcomes/What was Learned: The pilot was a success. Key learnings were around the importance of campaigner and volunteer engagement as well as continuing the supporter conversation post acquisition.

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INSIGHTS DRIVEN PRODUCT DEVELOPMENT – DAFFODIL DAY

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1. *Cancer Council SA, Eastwood, SA, Australia*
2. *Cancer Council NSW, Sydney, NSW, Australia*

Background and Context: Daffodil Day (DD) raises approximately $9 million annually across Australia for Cancer Council. Merchandise is available through retailers in August and street volunteers on Friday 23rd

Although DD has strong brand equity with high claimed participation rates, after 27 years it is in the mature phase of the product life cycle and the customer proposition has diluted.

Aim: Develop and trial a new approach to this fundraising product in the South Australian test market.

Communication Objectives:
- Position DD as the easiest way consumers can support cancer.
- Increase the propensity to purchase a pin when you see merchandise.

Fundraising objectives (SA):
- Sell through % increase YOY
- Revenue % increase YOY

Strategy/Tactics: Take a consumer centric approach by developing a consumer product that exists to maximise consumer value in return for their donation.

Product: Taking an evolutionary psychology approach to product definition, the consumer need/problem was defined as 'Fitness Signalling'. This hypothesis was based on the consumer insight that *generosity is attractive and demonstrates ones social conscience facilitating social acceptance*.

Communications: After seeing the communication we want consumers to think "If I'm not wearing a pin it says something about me". **Single minded proposition:** Wear a Cancer Council pin on Daffodil Day to show you care about beating cancer.

Distribution/Price:
– Reduce barriers to buying a pin:
– Increase number of sites by 20%
– Focus on high traffic locations

Programme Process:
1. Develop hypothesis on psychological motivations
2. Creative & media plan development
4. Test-market launch in SA
5. Post-campaign evaluation

Costs and Returns:
– YOY costs increase %
– YOY revenue increase %

Outcomes/What was Learned: 1. Donating is not a selfless act – donations must offer value to the consumer. The key is to identify the value received and maximise it.

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WEB SITE AND DONATIONS – SUCCESS THROUGH SERVING PEOPLES NEEDS

Ola Alexander Opdalshei[1]
1. *Norwegian Cancer Society, Oslo, Norway*

As a NGO funded in large part thanks to the contributions of our members, bequests & with very little government funding, we are constantly in search for new ways to attract income, and to improve existing ones. As our webpage created relatively small amount of money, during a full refurbishing of our webpage in 2012, we addressed this problem.

Aim – strategy: Traditionally, the way to promote fundraising on a website would be by giving as much space as possible on the home page to donation buttons/banners. The Norwegian Cancer Society has chosen a different approach, with great result. We know that people visit our webpage mainly because they are in need of information about cancer. About symptoms, a diagnose, about being a relative or an employer. Very few visit our website because they want to donate. We decided that our fundraising had to be adapted to our users needs.

Process: Firstly, our primary focus in setting up our new website was to address our users needs; to give them the information about cancer they came for in the first place. We never loose this at sight. Only when this need is met, we aim to direct the attention towards making a donation or using our help line. Secondly, we decided to make one donation option the prominent one, and all others a lesser priority – thus eliminating "the paradox of choice". Thirdly, we do our best to make all forms very user friendly, and we restrict ourselves to ask for only the most vital information about the donor – more information could be asked for later – after the donation is made.

Costs and Returns: After our new webpage was lauched in 2013, we hav not nly seen an increase in the number of donations in the prominent option – but also in all others. Alltogether, our new approach have so fare more than doubled our effectible online income streams.

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LOBBY DAY PROJECT: BREAST CANCER SURVIVORS TAKE ACTION IN THE BRAZILIAN NATIONAL CONGRESS

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1. *FEMAMA – Brazilian Federation of Philanthropic Breast Health Institutions, Porto Alegre, RS, Brazil*
2. *American Cancer Society, Washington, EUA*

Background and Context: There is a severe lack of investments in the health sector in Brazil, which directly affects access to treatment and healthcare. People's Initiative (PLP) 321/13, which states that 10% of the Union's gross revenue will be dedicated to healthcare, was pending in the Brazilian National Congress. Article 3 of the PEC (Proposed Amendment to the Constitution) to the "obligatory budget" stated that 15% of the Union's net income will be designated to healthcare, which would be BRL 180 million less than proposed in PLP 321/13. Thus, FEMAMA (Brazilian Federation of Philanthropic Institutions for Supporting Breast Health) decided to get involved to ensure that Congress would approve the PLP.

Aim: Approval of PLP 321/13, ensuring the expansion of resources for the healthcare sector.

Strategy/Tactics: 110 breast cancer survivors visited 503 parliamentary cabinets, convincing them of the importance of passing the PLP, which would be an unprecedented action for the country. FEMAMA assembled in front of the Congress building, with 130 flags that displayed the project's message, and organized a Philanthropic Institutions Reception, where parliamentarians told survivors and the press about their intention to approve the PLP.

Programme/Policy Process: Training survivors: Role Playing

Symbolic Act: Assembly in front of the National Congress

Twitter Action: Spreading messages about the project.

Visits: Simultaneous visits in 98% of parliamentary cabinets.

Philanthropic Institutions Reception: Speeches showing commitment to designating resources to healthcare.

Post-Lobby Day: Contacting and sending parliamentarians materials.

Outcomes/What was Learned: During Lobby Day, the Commission for Constitution, Justice and Citizenship voted to divide the PEC into two different projects. Therefore the vote on the PEC Article (which would designate only 15% of the Union's net income) was delayed, giving PLP 321/13 new life.

FEMAMA continues to work to ensure the approval of the proposal that will guarantee the most resources for healthcare.

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JOINING FORCES TO OVERCOME CANCER: THE KENYA CANCER RESEARCH AND CONTROL STAKEHOLDER MEETING EXPERIENCE

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Background and Context: In Kenya, cancer accounts for 7% of annual mortality. The Kenyan Ministry of Health (MOH) has a commitment to reduce cancer mortality as evidenced in their National Cancer Control Strategy (2011–2016). The U.S. government has a significant public health and research presence in Kenya, including investments from multiple agencies totaling over $900M from FY2010–2012 (1). However, there is often lack of coordination among organizations working in cancer research and control.

Aim: Workshop aims were: 1) Leverage existing infrastructure to further the aims of cancer control planning and implementation; 2) Create connections among external partners who have infrastructure needs; and 3) Integrate disparate programs into larger cancer control planning efforts.

Strategy/Tactics: The NCI Center for Global Health (CGH), working with the MOH, sought to improve coordination to better contribute to overall cancer control planning efforts. To do this, CGH and the MOH collaboratively executed an action-focused workshop that brought together over 80 stakeholders from leading cancer research and control institutions in Kenya, as well as international partners.

Programme/Policy Process: Actionable recommendations from the workshop include: the establishment and strengthening of a population-based national cancer registry; strengthening of training for community health workers, oncology nurses, and pathologists; and strengthening of the country's referral process, including the leveraging of existing resources to improve access to cancer care.

Outcomes/What was Learned: Political will to advance the cancer control agenda, and willingness of stakeholders to work together to identify priorities and actionable items, is critical to the success of a National Cancer Research and Control Stakeholder Meeting. Such a meeting can be instrumental to build on existing infrastructure and in-country networks, and create partnerships among external partners. Most importantly, such meetings ensure that investments from international partners in integrated into larger cancer control planning efforts prioritized by MOH.

1. Funding amounts come from the NIH RePORTER website and the USAID, 2011 Annual Report.

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THE DEVELOPMENT OF A COMMUNAL TUMOUR BOARD IN SOUTH WEST NIGERIA

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3. *SURGERY, BOWEN UNIVERSITY TEACHING HOSPITAL, OGBOMOSHO, NIGERIA*
4. *PATHOLOGY, LAGOS UNIVERSITY TEACHING HOSPITAL, LAGOS*

Background and Context: There are numerous challenges hindering the development of multidisciplinary teams in resource constrained environments such as the West African sub-region. Communal tumour boards through networking could be a suitable option for effective management of musculoskeletal tumours.

Aim: This study described the development of an integrated care pathway for patients with musculoskeletal tumours via multi institutional networking in Lagos metropolis.

Strategy/Tactics: Musculoskeletal tumours managed in different institutions in the Lagos metropolis were included for discussion at monthly meetings, under the aegis of the Lagos Musculoskeletal Oncology Network [LAMON]. The meetings ensured adherence as much as possible to agreed national and international guide lines in the management of musculoskeletal tumours. The agenda were structured into Radiology, Histopathology and other business. Decisions about surgery, chemotherapy, radiotherapy and timing of the modalities, were planned at the meetings.

Programme/Policy Process: The network extended to six pathologists, two radiation oncologists, five radiology consultants, two plastic surgery consultants, nine orthopaedic surgeons and two general surgeons working in various specialist hospitals in the city. In the first 18 months, 117 cases were reviewed of which 81 patients had definitive histological diagnoses. The common histological diagnoses include metastatic bone disease, osteosarcoma and soft tissue sarcoma. The challenges encountered included high cost of adjuvant therapy and available reconstruction modalities.

Outcomes/What was Learned: The network has so far contributed to the care of over a hundred patients within the first year of inception. In resource poor environment like the west-African sub-region numerous challenges hinder the care of patients with cancers and other chronic illnesses. With appropriate social and corporate support, communal tumour boards like LAMON may translate into model for multidisciplinary cancer care in developing countries.

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EDUCATIONAL RESOURCES OF THE NATIONAL SOCIETY OF PEDIATRIC HEMATOLOGISTS AND ONCOLOGISTS FOR IMPROVEMENT OF EARLY DIAGNOSING OF PEDIATRIC ONCOLOGICAL DISEASES

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Background and Context: Today a key role on early diagnosing of pediatric oncological diseases of professional societies in undoubted.

Aim: To present a role of National society of pediatric hematologists and oncologists (NSPHO) in early diagnosing of pediatric oncological diseases and educational work.

Strategy/Tactics: NSPHO – biggest society of pediatric hematology and oncology in Eastern Europe with more than 650 participants that covers

80% of all hem/onc physicians in Russian Federation. Strategy of NSPHO – effective educational programs to increases the quality of medical help for patients.

Programme/Policy Process: NSPHO have the following educational programs: “Far regions” – unique project of costless educational seminars in regions for pediatric hematologists and oncologists, pediatric surgeons, anesthesiologists, etc. “Treat together” – non-commercial program of trainings during 1 month in leading pediatric hem/onc Centre in Russia (The Federal Research Centre of Pediatric Hematology, Oncology and Immunology named after Dmitriy Rogachev) for pediatric hematologists/oncologists, pediatric surgeons, pathologist, etc. These programs realized with financial support of foundations. Effectiveness control with help of special questionnaire performed.

Outcomes/What was Learned: ”Far regions” program realized during last 4 years. More than 50 regions of Russia was visited. More than 6.000 physicians became participants of seminars. Program “Treat together” realized last 2 years, more than 100 specialists passed training with the help of these program. The experience of these programs showed the real effect – decreasing the number of cases of late diagnosing and unsuccessful treatment. This experience is unique.

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CANCER CRUSADES: STUDENT-INSPIRED, STUDENT-DIRECTED

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Background and Context: Cancer education largely encompasses the health professional-community-social activist triumvirate. Within medical education portals, it is restricted to curricular content or continuous professional development. An additional dimension, less explored – extramural sensitization to diagnostic skills as the centerpiece of cancer management – can inspire and empower a new generation of medical professionals with a strong skill-based knowledge of cancer management.

Aim: To empower medical students to graduate with enhanced insights into cancer; to use small group interactions in informal instruction for interprofessional sensitization and personality development and to inspire mentoring skills in GenNext.

Strategy/Tactics: An integrated medical curriculum in the College of Medicine at Sultan Qaboos University, Oman has pre-primed students to be initiated into cancer education. A series of innovative activities beyond the classroom/bedside duo created a new movement in cancer education.

Programme/Policy Process: A clinicopathologic conference (SCRAPS) was transformed into a student-propelled narrative illustrating a real-life journey with a breast cancer patient from clinic to radiology, witnessing and tracing FNAC and core biopsies to the lab, sharing the breaking of bad news and culminating in the MDT to experience the dynamics of multimodality decision making. These experiences catalyzed a cancer diagnostic skill-learning movement conceived by student scientific bodies (SCOME & SCORE) and mentored by the author. Armed with confidence, ideas and enthusiasm grew exponentially. A series of skill-workshops on tumor grossing, fine needle aspiration cytology and immunohistochemistry are now in demand beyond college hours; sessions oversubscribed.

Outcomes/What was Learned: A new understanding of the ‘clinical’ applications of the lab in cancer, real-life pathobiology, a spurt of ideas for student research and a newfound respect for laboratory technologists have been the overt outcomes. There is tremendous potential to go beyond conventional teaching and prepare a new generation of cancer-awakened professionals. The seed has been sowed.

1. Lakhtakia R, Badi MA, Obaidani AA, Jarrah AA. “Walk with me ”. *Journal of Cancer Education* 2014;29(1):196–7
2. Lakhtakia R. Will the real medical teacher stand up and be counted. *Sultan Qaboos Univ Med J* 2014;14(1):4–6

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ELECTRONIC CANCER REFERRAL FOR FAMILY DOCTORS (GPS)

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Background and Context: The NCCP developed and implemented GP referral guidelines. It established rapid access diagnostic clinics in the eight newly formed national cancer centres. Breast, prostate and lung cancers were prioritized.

Aim: The aim was to develop GP electronic referral systems and prompt specialist triage that follow evidence-based clinical pathways.

Strategy/Tactics: This multi-agency initiative involved NCCP, Irish Health Service Executive (HSE), Irish College of General Practitioners, GP Information Technology Group (GPIT), Healthlink (health messaging organization), multi-disciplinary cancer teams, GP Practice Management Software Companies and the Government Department of Finance IT Strategy. Evidence-based GP referral guidelines with paper-based referral forms were first developed for breast, prostate and lung cancer. When each guideline and referral form was working well, focus turned to implementing electronic referral systems. Collaboration with GP Practice Management Software Companies involved system design, coding, testing, messaging and audit.

Programme / Policy Process: Electronic cancer referral commenced in 2010 for breast, prostate and lung. The rapid access clinics ensure timely appointments for patients with urgent clinical findings.

Electronic referrals increased from 2,070 (2010) to 12,381 (2013); 35% of referrals are now made electronically.

Outcome: Electronic referral improves quality and safety, reducing risks letter referrals. GPs receive an immediate acknowledgment of the referral and a clinical response from cancer teams with details of patients’ appointments within five working days. Electronic referral for melanoma is being developed. This NCCP electronic referral model has been adopted by other health specialties in the HSE.

This project shows how multi-agency collaboration leads to innovation and better quality healthcare. The project utilized existing HSE and GP technologies (i.e. health messaging and GP Clinical Practice Management systems) to deliver a responsive, safe referral system. This initiative is transferable to other countries.

A video demonstrating this NCCP initiative is available: http://www.hse.ie/eng/services/list/5/nccp/profinfo/Electronic_Cancer_Referral_.html

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WHAT DRIVES THE COST OF CANCER TREATMENT? INSIGHTS FROM AN ANALYSIS OF A LONGITUDINAL COHORT (CANCER 2015) LINKED TO ADMINISTRATIVE REIMBURSEMENT DATA

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4. *Garvan Institute, Sydney, NSW, Australia*

Background: The Lancet Oncology Commission recently published the global challenges for delivering affordable cancer care. While the challenge of delivering affordable quality care is not unique to oncology, the growing dominance of (expensive) personalized medicine is.

Aim: We estimate current expenditure of delivering cancer care in Victoria, Australia; identify who bears this cost; and quantify the significant determinants of this burden, particularly focusing on the role of genomics.

Methods: Cancer 2015 is a large-scale prospective longitudinal population-based molecular cohort study. Tumour samples and blood are collected and a baseline questionnaire completed, which elicits information on patient demographics, tumour site and stage, treatment intentions and health-related quality-of-life. Patients also consented to have their Federal and State administrative health data linked. This analysis uses the cohort data, including the genomic information, linked to administrative reimbursement data. We quantify the cost of cancer across the range of payers and undertake regression analyses to estimate the determinants of this burden.

Results: Cancer 2015 has recruited over 1,200 new incident cancers from five hospitals in Victoria since June 2011. We have been able to identify genetic mutations in a large proportion of these cancers, and have linked this information with MBS/PBS and hospitalization records. The estimated burden is considerable; the average MBS and PBS expenditure is over $8,000, with some drug treatments costing over $40,000. Actionable mutations are a significant driver of cost, and this is irrespective of cancer stage.

Conclusions: The burden of cancer is considerable, and while it is borne across health funders, a large proportion of the expenditure is due to pharmaceuticals. The burden incurred by the State is mainly for those cancers which are operable. Actionable mutations are positively correlated with the lines of treatment; as more mutations become actionable the burden of cancer is predicted to further increase.

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DEVELOPMENT OF PALLIATIVE CARE IN KAZAKHSTAN

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Background and Context: The growing statistics of cancer incidence cancer incidence (about 30,000 new cases annually, 3–5% annual surplus), and the heavy percentage of advanced stages (about 46%) imply the necessity of developing a comprehensive system of palliative care for incurable cancer patients.

Aim: To improve the quality of life of incurable cancer patients by introduction of various forms of palliative care

Strategy/Tactics: Palliative care development strategy is reflected in the State Health Development Program for 2011–2015 "Salamatty Kazakhstan", as well as recently approved National Palliative Care Standard, and Diagnostics and Treatment Protocol.

As of today, palliative care in Kazakhstan is characterized by the lack of medical personnel (there are no educational programs for training palliative care specialists), deficit of specialized beds (about 300 hospice beds for a 17 million population); limited access to opioids (only injection forms and limited number of trans-dermal forms of painkillers are available); poor knowledge about palliative care and its advantages within the medical community.

Therefore, consolidation of efforts of the government bodies, healthcare organizations, social services, civil society and business is necessary in order to implement the government strategy on palliative care development. In view of this, a Kazakh Palliative Care Association was founded in 2013 aimed at uniting government and non-govermnent organizations involved in palliative care.

Programme/Policy Process: Outcomes/What was learned: Palliative care in Kazakhstan is only evolving, and only the united actions of all stakeholders will bring visible results that will benefit incurable cancer patients and their families.

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MOTIVATIONAL INTERVIEWING AND COGNITIVE BEHAVIORAL THERAPIES. NEW ROADS TO THE FINAL DESTINATIONS

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Background and Context: Modern medicine continues to make great strides in delaying the inevitability of death. Dealing with end of life (EOL) issues can be stressful for the health care providers.

Aim: Communication is the cornerstone of palliative care. Without clear, goal directed communication palliative care losses it purpose. Unfortunately, many patients may have difficulty in accepting the gravity and import of the palliative care consultation. This can result in a lack of focus, and more critically, the inability to achieve appropriate goals.

There is a wealth of data on delivering bad news to patients and families about a life-limiting diagnosis[1–39]. This data has been developed in a wide variety of disciplines that includes medicine and psychology. There is separate body of knowledge about talking with the patient that is at end or life or dying

Strategy/Tactics: Motivational Interviewing (MI) and Cognitive Behavioral Therapy (CBT) are validated methods of therapy that can help a patient overcome resistance to acknowledging a difficult truth, and acting on that truth. The Cochrane database indicates that MI may be beneficial in changing behaviors[102] Implementing didactic and role-playing strategies for teaching medical students, residents and oncology fellows can improve clinician's communications and outcomes

Programme/Policy Process: MI and CBT have a fundamental acceptance and utilization of distress including resistance and denial that promotes the acceptance of the offered therapeutic intervention.[10] Rather than confronting the resistance this distress can be used to improve their status or at least to change their perceptions, attitudes and behaviors[103]

Outcomes/What was learned: Motivational Interviewing and Cognitive Behavioral Therapy are empirically validated methods of therapy. Having the ability to implement the most rudimentary techniques of MI and Cognitive Behavioral Therapy can facilitate conversations of the most difficult type and generate positive change in patients and families

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ILLNESS TRAJECTORIES: EVIDENCE FOR IMPROVING PALLIATIVE CARE IN BOTSWANA

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Background and Context: Community Home based care (CHBC) a national program established in 1995 to take care of HIV related illnesses and other chronic illnesses. At its inception most of the patients were very ill and bedridden as a result of HIV/AIDS epidemic in the country. Following establishment of The National ARV programme in 2002, fewer patients were enrolled into the programme.

Aim: To determine the number of disease profile of the patients on CHBC program, to outline the disease profile and explore palliative services the patients are accessing.

Strategy/Tactics: Data collection was through the use of cross sectional survey of all patients in CHBC program. A semi structured questionnaire was used to collect data from the patients through the assistance of CHBC coordinators, social workers and monitoring and evaluation officers. Data was collected on the clinical profiles, needs, challenges that the clients faced. Access based software and SPSS11 to answer the objectives.

Programme/Policy Process: **Results:** Females make the majority of patients registered. Non communicable disease take the lead in CHBC enrolment: HIV related illness makes about 40%. 30% of the patients capable of limited self-care and are confined to bed or chair 50% of the time. Cancer following HIV is on the increase with women being mostly affected. Unmet needs in order of priority were pain, inadequate supply like food, lack of diapers, weight loss and depression.

Outcomes/What was learned: Conclusion: The results show a drastic decline in HIV and increase in NCDs and HIV related cancers. The analysis provides a baseline of the pattern of the disease in the program which can be used to plan for the program. The programme has since developed palliative strategy and is in the process of developing Pain management Guidelines which is a great achievement for the country health care.

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BUILDING A NETWORK OF PEDIATRIC PALLIATIVE CARE IN THAILAND THROUGH CANCER CHILDREN'S ACTIVITY AND EDUCATION.

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Background and Context: Pediatric palliative care (PPC) was new to oncology practices in Thailand, where 1000 new cancer children each year are cared for by 60 pediatric hematologist-oncologists in 25 centers, around 500 will relapse and need palliative care annually. Busy oncologists and overworked nurses are not always interested in psychosocial issues which are the integral part of PPC.

Aim: To build and expand a network of pediatric palliative care services for children with cancer to cover the entire country.

Strategy/Tactics: The wishing well foundation offered children's activity events to each hospital, followed by educational conferences on PPC for nurses, and finally site visits to empower each local center.

Programme/Policy Process: From the inception (2005) the foundation offered children's cancer camp twice a year, where 20–40 children from 4–8 hospitals participated at each camp. In addition, we organized 10–12 day-trips a year for children from 10 participating treatment centers. We fulfill wishes for any children with terminal cancer from the network of treatment centers. These activities improves quality of life for children and were welcomed by hospital personnels. With UICC's My Child Matters program support (2009–12), we organized 2 ELNEC conferences for pediatric nurses and an international pediatric palliative care congress for pediatricians to get the PPC service established in their center. In the recent years (2012–14), we visited each treatment centers to empower and provide PPC education for each local team.

Outcomes/What was learned: We have created a network of PPC services in Thailand, expanding from 2 centers in 2005 to 20 in 2014, improving access to pediatric palliative care for cancer children by this approach. The children's activities were completely supported by public donations. While education was efficiently introduced through conference, busy physicians often cannot attend and local empowerment was vital.

1. www.wishingwellthai.org
2. fondation-sanofi-espoir.com/en/ngo_child-matters.php

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THE ROLE OF A PHYSICIAN IN PALLIATIVE CARE OF CANCER PATIENTS ADMITTED IN A WESTERN KENYA COUNTY HOSPITAL

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3. *Research, Kenya Medical Research Institute, Kisumu, Kenya*

Background and Context: The physician by virtue of handling a large doctor to patient ratio in Homabay County hospital feels over whelmed by offering palliative care services. However emphasis on the significance of these services has had impact on the quality end of life care in patients admitted with cancer of the cervix, lymphomas and other malignancies in the adult medical ward of Homabay County Hospital. Homabay county hospital serves a population of 963,794. Situated on the Southern shores of Lake Victoria, has neither trained oncologist nor palliative care specialist. This called for need to sensitize the physicians and other health care providers to offer this service

Aim:
1) To sensitize physicians and other health care providers on palliative care as a service.
2) To include early symptom control as part of active management of cancer patients in the adult medical ward

Strategy/Tactics: Pretest questionnaires administered to 24 Physicians clinical officers and nurses providing care to terminally ill patients on basic palliative care knowledge. This was followed by a six weeks twice weekly lectures and short text message reminders on symptom control, accessibility to drugs and other provisions used in symptom management. Included was also communication on bereavement and psychosocial support. Post test questionnaires were administered after six weeks to assess the impact of the biweekly lectures and short text messages on the quality of palliative care service provision in the medical wards.

Programme/Policy Process: **Outcomes/What was learned:** The physicians felt empowered and did not feel like palliative care service provision was overwhelming.

They approached the administration on the need to make available morphine and other provisions like colostomy bags for ease of care provision.

Despite being in a resource challenged environment, short term discussions, lectures and even sort text messages can be useful in empowering health care providers in providing care.

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MANAGEMENT OF CHILDREN WITH END STAGE DISEASE IN A BURKKITT LYMPHOMA TREATMENT PROGRAM IN WESTERN KENYA

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Background and Context: Community mobilization and outreach activities to comb out all children with Burkitts Lymphoma (BL) in Western Kenya Region had not only resulted into BL cases presenting to the Health Center but also a huge number of children with end stage disease presenting to these facilities and needing attention.

A child with Life limiting conditions not only face the challenges of pain but of rejection by peers and community members who do not understand their plights but relates their dilemma with a taboo or a bad omen that has befallen the family. These children are really stigmatized especially those whose appearances have been disfigured.

Aim: This is an experience paper highlighting the plight of children that presented with life challenging conditions in a BL treatment program in Western Kenya region.

Strategy/Tactics: Pain management, management of distressing symptoms is provided by a team of health workers that include physicians, nurses, social workers, physiotherapists and nutritionists who see these children both in the clinic and in the community during outreach activities.

Programme/Policy Process: The document on cancer control that is all inclusive is in the process of implemntation

Outcomes/What was learned: Out of the 258 spotted cases, 110 have been enrolled in the research program with the remaining being ineligible due to advanced disease or other terminal conditions that presented as tumors and referred to us for management. A number of parents and their children have reported improved comfort as far as the distressing symptoms are concerned. This initiative registered marked improvement in quality of life to the suffer

A strong structure for management of children with end stage disease should be put on the ground which can only be achieved through collaboration and networking.

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RECOGNITION OF PALLIATIVE CARE AS A NURSING SPECIALTY IN ISRAEL:A BIG STEP FORWARD

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Background and Context: Palliative care services in Israel started in 1983 with the opening of the first hospice by The Israel Cancer Association. Since then nurses in hospitals and community clinics provide palliative care, mainly to cancer patients.

The events that initiated the current advancement were: The enactment of the Dying Patient Law in 2005, the policy statement published in 2009 by the Ministry of Health for the implementation of palliative care in the health system and the recognition of palliative care as a specialty for nurses.

Aim: The next step was to identify a group of nurses with many years of experience in palliative care, who were currently working in the field the nurses had an academic degree and had graduated from a post-graduate educational program in Oncology or Geriatric Nursing. These nurses were acknowledged as “Parents of the Profession”. The role of this group was to teach and mentor the next generation.

Strategy/Tactics: In 2011 we took the initiative to open a program (225 hours) in the Tel Aviv University Nursing Faculty in the continuing nursing education department. The students seeking recognition as specialists in palliative care were required to attend a research seminar (75 hours) and complete clinical experience in fields they were not familiar with before.

Programme/Policy Process: The 11 students who followed this course passed the official exam in 2012.

What was learned: We believe that this program will gain recognition by the academic community and thus provide valuable professionals to the developing force of palliative care nurses.

1. Steinberg A, Sprung CI: The Dying Patient Act. 2005 Israeli Innovative Legislation. *Israel Medical Association Journal* 2007;9 550–552.

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DETERMINING THE SYMPTOMS OF THE PATIENTS WITH HEAD AND NECK CANCERS RECEIVING RADIOTHERAPY

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This research was performed to determine the symptoms of the patients with head and neck cancers receiving radiotherapy.

This research was performed with 47 patients applying to the departments of Radiation Oncology in both Samsun Education and Research Hospital and Ondokuz Mayıs University Hospital. The data in the research were collected via Memorial Symptom Assessment Scale (MSAS) and personal data form based on literature during the middle of the radiation therapy, when the therapy ended and in the period after 1 month passed over the end of the therapy. In the evaluation of the data, percentile calculation, mean, Mann Whitney U Test and Bonferroni Adjusted Kruskal Wallis H Test were utilized.

At the end of the therapy with head and neck cancer, the avarage of MSAS-GDI (Global Distres Indeks), MSAS-physical, MSAS-psychological and Total Memorial Symptom Assessment Scale (TMSAS) were found to higher and after 1 month passed over the end of the therapy, the average of MSAS subscale reduced. There seems a meaningful statistical difference between the subscale groups, in the middle, at the end and 1 month after the end of the therapy ($p < 0.05$). The scores of MSAS subscale were checked against sex, education level, the phase of the sickness and the area that the cancer cells located. There found a meaningful statistical difference between the avarages of sex and MSAS-psychological score at the end of the radiotherapy ($p < 0.05$). It was determined that the avarage of MSAS-psychological scores at the end of the radiotherapy were meaningfully higher on the women than the men. There also found a meaningful statistical difference between the avarages of TMSAS of the area that the cancer cells were located,during the middle of radiotherapy and at the end of the therapy ($p < 0.05$). Determining symptoms during radiotherapy will contribute to increase the well-being of the patients.

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AN INVESTIGATION OF QUALITY OF LIFE IN PATIENTS WITH GASTRIC CANCER AFTER TOTAL GASTRECTOMY

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Background: The population of advanced gastric cancer is in a majority of the total gastric cancer population, and total gastrectomy is still commonly used in China. Postoperative quality of life of these patients is our concern.

Aim: To investigate the quality of life in patients after total gastrectomy with EORTC QLQ-C30 and QLQ-STO22 questionnaires.

Methods: Two hundred and four gastric cancer patients were recruited into the present study, who underwent the Roux-en-Y reconstruction and the functional jejunal interposition reconstruction after total gastrectomy. EORTC QLQ-C30 and QLQ-STO22 were employed to evaluate the quality of life in these subjects. All patients included in this study were received the questionnaires of quality of life after surgery in one month, three months, six months, nine months to twelve months respectively.

Results: Quality of life scores in the patients have different degrees in four symptom scales such as dysphagia, pain, regurgitation and anxiety in the QLQ-STO22 questionnaire. In the EORTC QLQ-C30 questionnaire, the scores of global health status are not high, and all patients have different degree of fatigue. At the same time, the scores in physical and role functional scales extended increased over time. There was not much statistical difference between Roux-en-Y reconstruction and the functional jejunal interposition reconstruction, except for Insomnia and regurgitation.

Conclusions: Quality of life in patients with gastric cancer after total gastrectomy still has a certain problem. These patients need guidance in diet, etc.

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ASSOCIATION BETWEEN AMBIENT CONCENTRATIONS OF FINE PARTICULATE MATTER AND THE INCIDENCE AND MORTALITY OF CANCER

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Background: There is insufficient convincing data addressing the public concerns, as to whether exposure of ambient fine particulate matter (PM2.5) increases the risk of cancer or cancer related death other than lung cancer.

Aim: To investigate the association between PM2.5 concentrations and incidence and mortality rates of cancer as a whole entity.

Methods: County-level PM2.5 concentrations from 2001 to 2010 were downloaded from the US EPA Air Quality Statistics Report. Annual PM2.5 data includes the 98th percentile (%ile) of the daily average measurements and the weighted annual mean (Wtd Mean).County-level data of cancer profiles for US males and females respectively were obtained from the State Cancer Profiles website, including age-standardized annual incidence rates and annual mortality rates for all cancer sites, all races, including Hispanics, from 2006 to 2010. Association between PM2.5 concentrations and incidence and mortality rates of female breast cancer was also studied. Linear regression analysis was performed to estimate correlations.

Results: Data indicated either average PM2.5 Wtd Means or average annual PM2.5 98th %iles might be associated to increased incidence and mortality rates of cancer of all sites. In female breast cancer, the unadjusted slope for the linear trend between average annual PM2.5 98th %iles in 2001–2005 and cancer incidence in 2006–2010 was 0.17 (95% Confidence Interval (CI) 0.05, 0.28, $p = 0.005$) per 1 $\mu g/m^3$ PM2.5, and that between average PM2.5 Wtd Means in 2001–2005 and cancer incidence in 2006–2010 was 0.35 (95% CI 0.01, 0.69, $p = 0.042$) per 1 $\mu g/m^3$ PM2.5.

Conclusions: Not only long-term exposure, but also short peaks of exposure to ambient PM2.5 were associated with increased incidence and mortality rates of cancer as a whole entity, both in US males and females. Exposure to ambient PM2.5 pollution might contribute to increased incidence of US female breast cancer in a short latency period of five years.

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THE POTENTIAL TO USE AN EXISTING CRITERION TO UNDERPIN FOOD MARKETING TO CHILDREN REGULATION IN AUSTRALIA

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Background: Policies restricting the marketing of foods and beverages to children require clear definitions of the foods that are subject to restrictions. Since 2007 the UK has used a Nutrient Profiling Model developed by the Food Standards Agency. Food Standards Australia New Zealand adapted this model to develop criteria to determine the eligibility of foods to carry a health claim. These criteria have also been used as the starting point for the algorithm for the Health Star Rating System for front-of-pack labelling.

Aim: This study investigated the potential of the Food Standards Australia New Zealand nutrient profiling criterion to underpin restrictions on the advertising of 'unhealthy' foods to children by comparing it to other criteria established by food companies.

Methods: Two weeks of food advertising from 6am to 9pm on three Sydney television channels were categorised as passing or failing the nutrient profiling criterion. Results were compared to the criteria set by companies in the voluntary industry codes for marketing to children.

Results: Of the 116 unique food advertisements, 61% promoted foods that failed nutrient profiling and were considered 'unhealthy' foods. Thirty-seven percent of advertisements that met the nutrition criteria outlined in the grocery manufacturers' company action plans failed nutrient profiling. Only one advertisement for fast food (4%) passed the fast food company criteria and nutrient profiling.

Conclusions: The Food Standards Australia New Zealand nutrient profiling criterion provides an independent assessment of the overall healthiness of a product and has potential to form the basis of nutrient criteria for regulating food marketing to children in Australia. Current criteria within voluntary self-regulatory initiatives are complex, lenient and fail to cover many foods advertised.

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CAN FRONT-OF-PACK LABELLING SCHEMES GUIDE HEALTHIER FOOD CHOICES? CONSUMER RESEARCH INTO SHOPPERS' RESPONSES.

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Background: Easily accessible and comprehensible nutrient information on the front of packaged foods can assist shoppers to make healthier food choices. Research in 2007 showed traffic-light labels allowed consumers to identify healthier products, however further research was needed to identify the optimal design of labels.

Aim: To present results from three pieces of consumer research that investigated nutrition literacy to inform components of front-of-pack labels and tested consumers' ability to use a range of mock labels.

Methods: Two studies used qualitative (n = 40) and quantitative methods (n = 405) to survey shoppers' understanding of energy terms ('energy', 'calories' and 'kilojoules') and commonly used terms that provide guidance about frequency of consumption ('eat often', 'eat moderately', 'eat occasionally', 'a sometimes food', and 'an extra food'). That information informed a third study, an online questionnaire (n = 4357) to examine shoppers' ability to use seven different front-of-pack labels to identify the healthier food product in nine pairs.

Results: Participants expressed uncertainty about their understanding of kilojoules and associated high energy with positive attributes such as providing sustained energy. Interpretation of frequency of food consumption terms varied considerably. The five labelling schemes that provided information on multiple nutrients (including total fat, saturated fats, sugars and sodium) enabled participants to identify the healthier product over 80% of the time. None of these schemes performed significantly better in terms of shoppers' ability to determine the healthier product, reliance on the 'back-of-pack' nutrition information panel, and speed of use.

Conclusions: Any front of pack nutrition labelling scheme introduced in Australia will be more effective if it includes information on fat, sugar and sodium content in addition to energy. Any scheme introduced must be accompanied by an education campaign, particularly noting the poor understanding of energy and kilojoules.

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ADVANCED STAGE PRESENTATION OF CANCER IN EASTERN INDIA- HOW IS THE ALTERNATIVE MEDICINE RESPONSIBLE?

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Background: Indian cancer patients are often presented with incurable diseases at the late stage of disease progression. The use of Traditional Complementary and Alternative Medicine (TCAM) has been identified by Indian oncologists as a potential factor for the delay in treatment.

Aim: Study disease status differences between TCAM and non-TCAM users among cancer patients in India

Methods: Total10200 patients of our institute were interviewed from Jan 2000 to Dec 2010. Age distribution was 1 month to 91 years, (mean 44.2). Male (54%), lung (14%), oral cavity (11%) colon (6%) patients were little predominating compared to the female (46%), The most frequent reported malignancy in female was breast (30%), uterine cervix (21%), gall bladder (11%) ovary (10%). Among paediatrics ALL (32.4%), Ewings Sarcoma (21.2%), Rhabdomyosarcoma (16.1%) and Brain tumour (13.6%).80% (8160) patients responded fully to the interview regarding the use of TCAM.

Results: A significant proportion of 42% (3629) used TCAM. The most common type of practice in this cohort was Ayurveda. 25% (2160), Homeopathy 22% (1901) and others 14%(1210) had used local TM practices (e.g. Siddha Meditation, Acupuncture and Reiki) before coming to our institute.90% of them have used TCAM and presented in 3rd stage (50%) or 4th stage (40%) of the disease. 60% of the total patient (5184) who came for consultation are maximally in 1st and 2nd stage of the disease(22% stage I, 18% II, 12% III and rest Stage IV of the disease)

Conclusions: Early diagnosis and intervention is effective. Delays in presentation related to the use of TCAM may be an important factor relating to the high rates of advanced disease on presentation and low survival rates. Lower socio-economic pattern of rural India, absence of facilities lack of awareness are the major factors in presentation of Cancer in the advanced stage.

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DEVELOPING STANDARDS TOOL AND EVALUATION OF POPULATION BASED CANCER REGISTRY IN IRAN

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Background: Cancer registry (CR) is one of the main infrastructures for planning and evaluation of National Cancer Control Program (NCCP). A national program for pathology based cancer registry was established in Iran in 1989. Recently, a few provinces updated the program and performed population based cancer registry (PBCR).

Aim: We aimed to develop an assessment tool and evaluate quality of Iranian PBCR according to the international standards.

Methods: We developed a validated questionnaire based on the cancer registry standards, based on the PBCR standards of the North American Association of Central Cancer Registries (NAACCR). We used this questionnaire and assessed the guideline, annual report, information technology, and organization structure of the national PBCR of Iran. In addition, we studied the knowledge, attitude, and practice of PBCR personnel, at the national, regional and laboratory level. We further, evaluated the quality indicators and coverage of PBCR.

Results: In overall, about 50% of the NACCR standards were not considered in the Iranian PBCR. Knowledge of PBCR personnel was low, particularly in the laboratory and city level. In addition, they did not have adequate performance about their job in the PBCR. Coding was not done in the laboratory level and coverage of reporting was considerably low. We estimated that the percentage of Death Certificate Only (DCO) was more than 20%. We provided 27 recommendations in different sections for improvement of PBCR. The Iranian government has updated the PBCR program according to our recommendation in order to achieve the international standards.

Conclusions: An active and continuous monitoring of the routine practice is needed to improve the quality of PBCR. The development of this questionnaire was useful tool for the assessment of PBRC, and can be used for improvement of cancer registration program in other countries.

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CANCER CARE NURSES' COMPETENCIES IN MALAYSIA: THE WORK ENVIRONMENT

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Background: The nurses' work environment thus plays a major role in their ability to provide quality care. The increase in cancer rates in Malaysia has led to the need for more qualified and competent nurses to offset a general shortage in the number of oncologists in the country. Although much research on competency has been undertaken in western contexts, a number of gaps remain. One such area that has yet to be studied in the context of Malaysia is the relationship between work environment and nursing competency.

Aim: (i) To determine the relationship between work environment and competency of cancer care nurses, and (ii) To determine predictors that contribute to cancer care nurse competency.

Methods: A customized instrument to measure cancer care nurse competency and related constructs was developed guided by literature and findings from focus group discussions.The questionnaire was administered to 645 cancer care nurses from public hospitals throughout Peninsular Malaysia. To measure the nurses' working environment, five sub scales were included: teamwork, relationship with doctor, relationship with supervisor, nursing leadership and facilities' control over practice. Descriptive statistics, Pearson product-moment correlations and multiple linear regression were used to analyze the data.

Results: Findings showed positive and moderate relationships between teamwork and cancer care nursing competencies ($r = .621$, $p < 0.00$), nurse-doctor relationship ($r = .590$, $p < .000$), and nurse-supervisor relationship ($r = .489$, $p < .000$). Teamwork ($\beta = .389$; $p < .000$) showed a major contribution to cancer care nurse competency.

Conclusions: The findings suggest that there is a need for greater teamwork to promote and improve cancer care nursing competency. Similarly, other elements of the work environment (nurse-doctor relationship, nurse-supervisor relationship) also contribute to nursing competency. The findings hint at the critical importance of the work environment in ensuring an effective health care delivery system as it pertains to cancer care in Malaysia.

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THE NATIONAL CANCER REGISTRY OF URUGUAY: A MODEL FOR SUSTAINABLE CANCER REGISTRATION IN LATIN-AMERICA

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Background: The National Cancer Registry of Uruguay(NCRU) was created by law in 1984. In 2002 government decided to attach it to the Honorary Committee to Fight Against Cancer(HCFAC), an organization ruled by public law, supported by governmental funds but operationally independent from the State. This Institution has a wide spectrum of programs regarding cancer control (population education for cancer prevention, early detection of breast and cervical cancer programs, others).

Aim: **Methods:** NCRU started recording cancer incidence in the capital city Montevideo(MVD) and cancer mortality in the whole country in 1987. Since being included in the (HCFAC) in 2002, systematic cancer registration has been extended to cover the whole country, providing essential data for the National Cancer Control Program (2005). Further, NCRU is linked with the national cervical and breast cancer prevention programs. NCRU employs 8 staff in its central unit and actively collects data throughout the country through 30 registrars.

Results: Along its 20 years, NCRU has published several cancer incidence and mortality atlas and scientific papers in peer reviewed journals.

Incidence data for capital city (Montevideo) were published in Cancer Incidence in Five Continents (CIFC), volumes 7 and 8. NCRU data covering the whole country for the first time were included in the last volume (X) of CIFC, and its quality of data has ranked in the highest category. NCRU is committed in the Global Initiative for Cancer Registration(IARC). More recent incidence and mortality data are presented.

Conclusions: Thanks to this particular institutional insertion and funding model, the NCRU achieved stability, allowing it to supply useful information to the National Cancer Control Program. Considering encouraging progress and the recent global initiatives, this model could be considered by other countries (particularly these corresponding to low and middle income status) in order to develop and sustain cancer registration.

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BARRIERS TO FOLLOW-UP OF ABNORMAL PAP SMEARS AMONG FEMALE SEX WORKERS IN LIMA, PERU

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Background: Despite public screening programs, cervical cancer remains the most prevalent cancer and the second leading cause of cancer deaths among women in Peru (IARC 2012). Female sex workers (FSW) in Peru are at elevated risk for cervical HPV infection, with a prevalence of 50.6–66.8%, of which 35.6–42% are high-risk types (Montano 2011, Brown 2012). Peruvian FSW receive annual Papanicolaou screening tests at designated health centers; however, women with positive results are frequently lost to follow-up.

Aim: The objective of this study is to determine rates of follow-up for abnormal Pap smears among FSW in Peru and to identify associated barriers.

Methods: 75 FSW attending the Alberto Barton Health Center in Lima, Peru were surveyed regarding their history of STI screening results and treatment. 15 women with a history of an abnormal Pap smear were interviewed in-depth about their experiences regarding follow-up care.

Results: Preliminary data indicates that of 22 women with abnormal Pap smears, only 7 (31.8%) had obtained follow-up care. The majority of FSW with abnormal Pap smears had not been informed of their results. Qualitative interviews revealed that among FSW informed of their results, lack of understanding of health consequences of HPV was associated with decreased follow-up, while fear of cervical cancer was associated with increased follow-up.

Conclusions: HPV infection is highly prevalent in Peruvian FSW, yet less than one-third of FSW with abnormal Pap smears receive follow-up care. The predominant barriers to follow-up were lack of standardization in recording and communicating test results and insufficient FSW knowledge regarding health consequences of HPV infection. Standardized record-keeping forms and procedures and distribution of educational pamphlets are being implemented to improve follow-up for HPV in this population.

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ROLE OF SUSTAINABLE CANCER AWARENESS PROGRAMS IN DECREASING MORBIDITY AND MORTALITY WITH CANCER: A SUDANESE EXPERIENCE

Hussain G Ahmed

Background: The prevalence of cancer has dramatically increased in Sudan in recent years and the majority of patients diagnosed at the advanced stages of the disease.

Aim: Therefore, the aim of this survey was to assess the level of cancer awareness before and after delivering educational programs by assessing the awareness in regard to the role of, chemical carcinogens, Tobacco and Alcohol, Microbial infectious agents and others in addition to the important of prevention and early detection.

Methods: Data were collected during Cancer Awareness and Educational Programs which were conducted remote states in Sudan at various places such as schools, clubs, mosques and Government health centers. This survey covered about 22,420 participants of whom, 1200 has responded.

Results: Before delivering the educational programs, 30%, 38% and 14% of the respondents had smoked tobacco, dipped Toombak and consumed alcohol, respectively. On asking them whether, these substances were carcinogenic, 68% of the study population and 80% of the users said no. Of the persons who responded to the question, whether some viruses, bacteria, parasites and fungi, can cause cancer, 82.8%, 81.4%, 82.8% and 77.8%, respectively, answered no. On asking them whether, Insecticides exposure, Plasticizers exposure, and Radiation exposure, 90%, 89.2% and 88% declared no. Reassessment after varied periods of delivering the educational programs showed significant differences in all variables indicating the successfulness of such programs.

Conclusions: The level of cancer awareness is low amongst Sudanese of remote states inhabitants, where the education level is very low. The full burden of cancer in Sudan remains mysterious, since there no effective cancer awareness programs in the country, which explains why patients attend at the late stages of the disease and why the incidence is increasing each year.

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BURDEN OF ORAL CANCER IN SUDAN AND THE POSSIBLE RISK FACTORS

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Background: Oral cancer mortality is very high in Sudan with 94.5% of patients diagnosed at late stage of the diseases (Stage 4). A progressive raise in the incidence is probable each year. Many factors have been incriminated as major etiological risk factors.

Aim: The aim was to assess the role of some risk factors for oral cancer in Sudan that were previously evidenced in published studies from Sudan.

Methods: MEDLINE database was used to identify the studies from Sudan that dealt with etiology of oral cancer

Results: Toombak dipping, Cigarette smoking, Alcohol consumption, Human Papilloma virus infection (HPV) (subtypes 16 and 18), hot meals, and P53 mutation are the most encountered risk factors.

Conclusions: Tobacco use particularly, Toombak dipping, HPV infection and genetic mutations play a chief responsibility in the etiology of oral cancer in Sudan. Other universally known risk factors for oral cancer still need more investigations.

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BREAST CANCER KNOWLEDGE, PERCEPTION AND SCREENING PRACTICES AMONG YEMENI WOMEN: AN APPLICATION OF THE HEALTH BELIEF MODEL

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Background: In Yemen, the main problem of breast cancer remains very late presentation, most of which should have been easily recognisable. Since stage of disease at diagnosis is the most important prognostic variable, early diagnosis is an important option to be considered.

Aim: In the present study, we aimed at describing breast cancer knowledge, perception and screening practices among a sample of Yemeni women.

Methods: In 2012, we conducted a cross–sectional study for 400 women attending four reproductive health clinics in Aden, Yemen using a structured questionnaire. Data on sociodemographic characteristics, breast cancer knowledge, perception and screening practices were collected based on the five subscales of the Health Belief Model (knowledge, perceived susceptibility, perceived severity, perceived barriers, and perceived benefits). The response format was a five–point Likert scale. Statistical Package for Social Sciences (SPSS) was used for statistical analysis. Logistic regression analysis was done with breast self-examination as dependent variable

Results: Two–thirds had poor knowledge and low perceived susceptibility scores. The majority (90.2%) had never ever performed any screening. Advancing in age, lower educational level, and not knowing anyone with breast cancer were significant independent predictors of poor knowledge whereas younger age, higher educational level and perception and knowledge scores were significant independent predictors of breast self-examination practice.

Conclusions: Poor knowledge, low perceived susceptibility and inadequate screening practices are prevailing. The need for implementing culturally sensitive targeted education measures is mandatory effort to improve early detection and reduce the burden of breast cancer

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FREQUENCY OF LOCALLY ADVANCED BREAST CANCER AND ITS DETERMINANT FACTORS IN NORTH PAKISTAN

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Background: Breast cancer is the most frequent malignancy among females in Pakistan and near half of the patients present with locally advanced stages. Poverty and lack of awareness about the disease and its management in the region may be the factors for delayed presentation.

Aim: To determine the frequency of locally advanced breast cancer (LABC), the reasons of delay and the association between socio-demographic variables with the delayed presentation

Methods: 315 histologically confirmed breast cancer patients were interviewed. Age at diagnosis, Family history, Education; Marital; Socio-economic and Menopausal status were the socio-demographic data obtained. LABC was defined in terms of the American Joint Committee on Cancer "TNM staging system". Questions were also asked about their beliefs and understanding of the disease which might lead to their delayed presentation. Results were analyzed using SPSS version 17.

Results: 39.0% of patients presented as locally advanced disease. Out of those, 40.7% wasted time using alternative medicines; 25.2% was not having enough resources; 17.1% presented late due to painless nature of the disease; 10.6% felt shyness and 6.5% presented late due to other reasons (pregnancy or lactation). Age, family history, socio-economic and educational status were significantly associated with delayed presentation ($P < 0.05$). Education and socioeconomic status were found to be two independent factors related to the delayed presentation after adjustment for other factors (OR of 2.26, 2.29 and 95% CI was 1.25-4.10, 1.06-4.94 respectively).

Conclusions: Significant percentage of women with breast cancer in North of Pakistan present with advanced stage of disease due to their misconceptions and false beliefs about the disease. These can be mended by educating the focused groups identified in the study. Long-term impact will be in terms of increased survival rates in these patients with reduced overall burden of the disease in the region.

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KNOWLEDGE OF BREAST CANCER AMONG NEWLY DIAGNOSED FEMALE CLIENTS AT KOMFO ANOKYE TEACHING HOSPITAL, KUMASI, GHANA

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Background: Cancer generally, describes malignant growth in tissues of which carcinoma is of the epithelial and sarcoma of connective tissue origin as in bones and muscles. Breast cancer incidences, pattern of presentation and survival rates vary worldwide. High incidence, advanced stage disease presentation and low survival rates causes worry, with recent data suggesting that health behavior may be influenced by knowledge level about breast cancer.

Aim: To determine breast cancer knowledge among newly diagnosed female clients at Komfo Anokye Teaching Hospital

Methods: The cross sectional study was descriptive, capturing new female clients at Komfo Anokye Teaching Hospital from geographically distinct territories of vast Ashanti and Northern Ghana. Data on social and demographic background, knowledge on; causes, predisposing factors, signs and symptoms, treatment and prevention of breast cancer were obtained after seeking consent and using self-structured close ended questionnaire.

Results: 150 filled questionnaires were analyzed using SPSS version 12. Majority (62.0%) of respondents was <40 years old, 24.0% had > 10 and 31.7% had > 14 years of education. Only 16.9% had "high" while 13.9% had "poor" and 69.2% had "moderate" knowledge scores about breast cancer. The knowledge scores and practice of BSE had a marginal positive association with education level ($P = 0.055$). The respondents had better knowledge of life time risk and association of early diagnosis with better chances of cure, but worse knowledge of risk factors as compared to women in educational institutions of other countries

Conclusions: Generally, respondents had moderate knowledge of breast cancer ($P < 0.05$). Diagnosis barriers, treatment and care can be addressed by increasing women's awareness of breast cancer and the benefits of preventive behavior, and improving the quality and appropriateness of health care and counseling services for indigenous women and their families

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THE PROVISION OF SMOKING CESSATION CARE FOR PEOPLE WITH MENTAL ILLNESS: EXPECTATIONS AND EXPERIENCES OF 'CARERS'

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Background: Smoking prevalence remains high among people with mental illness, who experience high levels of smoking-related morbidity and mortality and reduced life expectancy as a consequence. Health care services are considered to represent important avenues to provide smoking cessation care (SCC) for smokers with a mental illness.

'Carers' play an increasingly critical role in the care and support of people with mental illness. Research has not explored the expectations and experiences of carers regarding the provision of SCC for people with mental illness.

Aim: To examine: 1) carer expectations of SCC provision by health services for people with mental illness; and 2) carer reported SCC provision in four health care settings: mental health hospitals, community mental health services, General Practitioners (GPs) and community-based Non-Government Organisations (NGOs).

Methods: In the Hunter New England region of NSW, Australia, carers of a person with mental illness were surveyed utilising a self-administered questionnaire.

Results: One hundred and forty-four carers participated; with 68.8% reporting the person they cared for to be a smoker.

The proportions of all carers who considered that SCC should be provided in health care services were: mental health hospitals (71.4%), community mental health services (78.0%), GPs (82.7%), and NGOs (56.6%).

The reported prevalence of smoking assessment provided by mental health hospitals or community mental health services were 72.7%, and 63.5% respectively. Where assessment had occurred, only 56.4% and 55.8% had been provided with advice, treatment or referral for smoking. Reported assessment by GPs was 62.5%, with a lower proportion reported to have received further care (37.5%). Reported assessment was lowest for NGOs (58.6%), though more than half received further care (62.5%).

Conclusions: Participating carers expect smoking assessment and treatment from health care services. Participants reported moderate levels of assessment of smoking status, however treatment rates were generally reported to be lower.

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C/EBPB EXPRESSION IS AN INDEPENDENT PREDICTOR OF OVERALL SURVIVAL IN BREAST CANCER PATIENTS BY MHCII/CD4-DEPENDENT MECHANISM OF METASTASIS FORMATION

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Background: CCAAT-enhancer binding protein beta (C/EBPβ) is a transcription factor playing a critical role in mammary gland development and breast cancer progression. Loss of C/EBPβ increases metastatic dissemination of mouse mammary tumor cells. However, the mechanism, by which C/EBPβ expression affects metastasis formation remains unknown.

Aim: The aim of the study was to determine the relationship between C/EBPβ and survival of breast cancer patients, as well as to elucidate the mechanism linking C/EBPβ with metastasis formation.

Methods: C/EBPβ expression was evaluated in 137 cases of human breast cancer and correlated with overall survival by Kaplan-Meier analysis. Additionally, the mouse 4T1 tumor model was used to discover the mechanism explaining the effect of C/EBPβ on metastasis formation.

Results: Here we report that decreased C/EBPβ expression is associated with shorter overall survival of breast cancer patients. We also demonstrate that in the murine 4T1 model loss of C/EBPb affects tumor growth and morphology, as well as promotes metastatic spread to the lungs. Immunohistochemical analyses showed that C/EBPβ inhibition leads to increased expression of MHCII, followed by accumulation of CD45, CD3 and CD4-positive lymphocytes in the tumors. Inflammation involvement in C/EBPβ-mediated metastasis formation was confirmed by DNA microarray and experiments on CD4+ cell-deprived nude mice. Additionally, anti-CD3 and anti-CD4 treatments of C/EBPβ-silenced tumor-bearing mice resulted in reverting C/EBPβ effect on tumor growth.

Conclusions: Altogether, C/EBPβ is a predictor of overall survival in breast cancer patients, and affects tumor growth, morphology and lung metastasis formation in murine 4T1 model. The mechanism of metastasis formation, we have discovered, involves immunological response depending on C/EBPβ-mediated activation of MHCII and accumulation of CD4+ lymphocytes in the tumor.

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UK CANCER SURVIVORSHIP: WHAT THE DATA TELLS US ABOUT THE NUMBER OF CHILDREN, TEENAGERS AND YOUNG ADULTS LIVING WITH AND BEYOND CANCER

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Background: It is estimated there are around two million people in the UK today who are "living with and beyond" cancer. Macmillan Cancer Support and the National Cancer Intelligence Network are working in partnership to better understand this survivorship population. Children, teenagers and young adults (CTYA) have different needs to other sections of the cancer survivorship population. Children may experience effects from treatment on their physical growth, fertility, academic achievement, family life, emotions and social relationships; they may also go on to develop second cancers.

Aim: By analysing national patient-level datasets, our project aims to identify the characteristics and needs of the CTYA cancer population to provide a richer picture of cancer experiences and help improve care and outcomes.

Methods: We have produced 20-year limited duration cancer prevalence analysis for people aged 0–24, first diagnosed with cancer between 1991 and 2010. This study segments these data by cancer type, age, sex, time since diagnosis, UK, sub-national areas, deprivation quintiles and multiple tumours.

Results: Based on the period 1991–2010, there are more than 26,500 individuals living with and beyond cancer in the UK who were diagnosed as children, or as teenagers and young adults; 54% are male. Almost 10,000 were diagnosed as children (0–14) and over 16,500 between the ages of 15 and 24. Of those aged 0–24 at the end of 2010 over half have been living with and beyond cancer for five years or more. Further results by cancer type and care pathways will be presented.

Conclusions: Our analysis provides a new and more granular understanding of the CTYA cancer survivorship population in the UK. This should prove useful for commissioners, as well as healthcare, social care and educational providers, to understand and support the optimisation and personalisation of services for younger people diagnosed with cancer.

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PSYCHOLOGICAL DISTRESS AMONG CAREGIVERS OF LONGTERM SURVIVORS OF PRIMARY MALIGNANT GLIOMA – A MIXED METHODS STUDY

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Background: Caregivers of longterm survivors of primary malignant glioma (PMG) often have the unique and stressful challenge of caring for a person with cognitive impairment as well as cancer-related issues.

Aim: This study aimed to explore the needs and experiences of this caregiving cohort and identify factors that predict psychological distress.

Methods: This study used mixed methodology involving a cross-sectional quantitative questionnaire and semi-structured qualitative interviews. Sixty-nine caregivers (48%) of eligible patients with PMG surviving greater than two years were recruited from two Australian metropolitan tertiary hospitals. Caregivers completed measures of psychological distress (GHQ-12), strain and family wellbeing (FACQ-PC subscales) and patient functional wellbeing (FACT-Br subscales). Correlational analyses identified factors related to caregiver psychological distress. Those of significance ($p \leq .01$) were explored using multiple regression models to determine their predictive value. A subset of 12 caregivers also participated in face-to-face interviews subjected to thematic analyses by three researchers.

Results: Caregivers were mostly female (73%), spouses (67%) and caring for a median of 5.9 years. Whilst caregivers overall reported minimal psychological distress, over a quarter (28%) were at increased risk, warranting clinical attention. Controlling for caregiver age, gender and relationship to the patient, caregiver strain and patient functional wellbeing both significantly predicted caregiver psychological distress (adjusted $R^2 = .35$, $F(4,60) = 17.7$, $p < .001$), accounting for 35% of variance. Thematic analyses revealed unique challenges, such as dealing with invisible deficits and liminality in the context of chronic uncertainty.

Conclusions: Caregiver strain and patient functional wellbeing were the most important predictors of psychological distress among this cohort of caregivers. Other typical factors such as duration of caregiving, performance status and symptom burden were not predictive. Caregivers participating in this study revealed insights into the deficits specific to longterm survivors which in turn impacted their own quality of life, and may inform screening techniques and clinical interventions.

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MODIFYING BODY IMAGE RELATED AFFECT AND COGNITIONS IN BREAST CANCER SURVIVORS USING A SELF-COMPASSION BASED WRITING ACTIVITY

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Background: Continued improvements in breast cancer treatment have increased the number of survivors who need to cope with adverse changes to their bodies.The needs of breast cancer survivors, regarding post treatment body image adjustment, are not always adequately met and may result in ongoing difficulties for the woman. Self-compassion, the capacity to adopt a kind, caring attitude to oneself in times of distress or loss, has been linked with decreased psychological distress and increased positive affect.

Aim: The aim of this study was to determine the cognitive and affective impact of inducing a self-compassionate mindset in breast cancer survivors regarding adverse bodily changes.

Methods: Breast cancer survivors ($N = 105$) were recruited through an Australian consumer organisation, with participants completing a background questionnaire online, and then a paper based writing activity that focussed on difficulties regarding body image. Following completion of the background questionnaire, participants were randomly allocated to one of two writing conditions (unstructured or writing using self-compassionate prompts). Ratings of affect and body focused self-compassionate mindset were assessed immediately prior to, and following, completion of the writing activity.

Results: MANCOVA controlling for pre-intervention levels of affect and mindset, indicated a significant main effect for the experimental condition. Univariate tests revealed significantly lower low/irritable affect, improved positive affect and greater body focussed self-compassionate mindset compared to the control condition.

Conclusions: Writing according to prompts produced decreased low/irritable affect, improved positive affect and an increased self-compassionate mindset when breast cancer survivors were exposed to memories of difficult body image, compared with unstructured writing about these experiences. These findings provide preliminary evidence for the usefulness of the relatively simple and inexpensive self-compassionate-based writing intervention to address body image-related concerns in women with breast cancer.

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LIVING WELL AFTER BREAST CANCER: FEASIBILITY, ACCEPTABILITY AND EFFICACY OF A WEIGHT LOSS INTERVENTION FOR WOMEN FOLLOWING BREAST CANCER TREATMENT

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Background: *Over 50% of women with breast cancer are overweight or obese. Obese breast cancer survivors have a significantly higher risk of breast cancer-specific and overall mortality compared with non-obese survivors. Weight loss post-diagnosis may improve breast cancer outcomes, however very few breast cancer patients are advised to manage their weight despite recommendations from major international cancer organisations.*

Aim: *We conducted a feasibility trial to assess the acceptability and efficacy of a telephone-delivered weight loss program for women following treatment for breast cancer, on the primary outcome of weight loss and secondary outcomes including quality of life and treatment-related side-effects.*

Methods: *Women diagnosed with stage I-III breast cancer were recruited from an Australian State-based Cancer Registry. Participants were randomised to the weight loss intervention (posted intervention materials and up to 16 telephone calls from a dietitian over 6 months) or usual care. Weight was measured at baseline and 6-months. Secondary outcomes included quality of life (SF-36), fatigue (FACIT-Fatigue), body image (BIRS Total Score) and lymphoedema (bioelectrical impedance spectroscopy). Linear regression analyses adjusted for baseline values and confounding variables, using multiple imputation for missing data (82% retention at 6-months).*

Results: *Ninety women (mean ± SD BMI: 31.0 ± 4.3 kg/m², age: 55.3 ± 8.7 years; median 16 months post-diagnosis [min-max: 12–21]) participated. A significant intervention effect was observed for percentage weight loss at 6-months (intervention – usual care [95% CI]: –4.4 [–6.4, –2.4]%). No statistically significant intervention effects were observed for the secondary outcomes listed; however the mean intervention effect on the mental health component of quality of life was considered clinically meaningful (*0.4 [95%CI–0.6, 1.6]). No serious adverse *events were reported.*

Conclusions: *This study showed that weight loss is safe and feasible to achieve in women following treatment for breast cancer. More research is needed to understand the impact of weight loss on breast cancer-related outcomes.*

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ATTITUDE AND INSIGHT OF HUSBANDS OF MASTECTOMIZED PATIENTS IN A RESOURCE LIMITED SETTING.

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Background: Early Breast cancer patients have better prognosis and survival with proper treatment sequence. The longer the survival, more important gets the issue of sexual habits. Husbands are the primary caregivers and their attitude with interplay of relationship with wives holds the key to treatment.

Aim: To see the attitude and reaction of husbands towards their wives having undergone mastectomy for early breast cancer

Methods: 24 premenopausal mastectomized patients followed by adjuvant therapy for early breast cancer were selected for the study. All were triple negative and median age ranged from 33–40 years. The husbands were interviewed at the end of 1 year follow up using a predecided questionnaire.

Results: Acceptance for mastectomy amongst the husbands did not change on basis of education, religion and level of earning. 70% of the husbands said that they felt there was a change in body image of their wives after surgery but that did not create much of concern. Patients who were married for less than 10 years had sexual interaction 2–3 times a week. After a year 30% husbands reported having sex once a week. 50% Husbands said that they would like to resume sex atleast once a week but there were inhibitions and shyness from the end of their spouse. 20% husbands stated they would avoid sex in near future as mastectomy had a negative effect. 70% of the wives were coping with the disease through devotion and husband support while 30% were relying only on devotional support. 80% of the husbands accepted that chemotherapy was the most difficult phase.

Conclusions: Good counselling for both the members might improve bondage between husbands and wives and improve better adherence to treatment schedules in resource limited countries. Breast conservation surgery and implants may improve interactions.

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MAKING SENSE AND MOVING ON: UNDERSTANDING THE IMPACT OF CANCER ON THE LIFE NARRATIVES AND ADJUSTMENT OF ADOLESCENT AND YOUNG ADULT CANCER SURVIVORS, COMPARED TO HEALTHY CONTROLS.

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Background: Cancer during the adolescent and young adult (AYA) years disrupts a developmentally formative life period, and can significantly impede young people's goals and plans for the future.[1] This can result in a sense of 'biographical disruption' at a time where young people are at the cusp of entering adulthood; however, how this may impact AYAs subsequent adjustment is unknown. This study explored the impact of a cancer experience on how AYAs think about their 'life story', sense of self, and futures.

Aim: The two aims were to examine: 1) how the life stories and imagined futures of AYAs with, and without, cancer differ; and 2) the relationship between AYAs' current psychological distress, life stories and imagined future events.

Methods: Twenty-five AYAs with cancer (AYAC) and 60 healthy AYA controls completed structured interviews involving the validated *Life Narrative Task* and *Future Imaginings Task*. Interviews were audio-recorded and coded for content by two raters. Participants also completed the Depression, Anxiety, Stress Scales-Short Form and the Centrality of Events Scale to examine associations between memory/future imaginings, appraisals about their cancer experience, and current psychological adjustment.

Results: AYACs showed more illness-focused life narratives and future imaginings compared to healthy AYAs. In addition, AYACs with elevated distress showed less specific future imaginings, and had less redemptive life narratives (less positive appraisals), compared to healthy AYAs.

Conclusions: How young people integrate their cancer experience into their life story may significantly impact how they imagine their future lives. This appears to be related to their distress levels. Assisting AYAs to form adaptive appraisals about their cancer experience, and understand how it fits into their life narrative, may promote adjustment in the transition to cancer survivorship. These findings will be used to tailor existing evidence-based interventions to promote adaptation in the aftermath of cancer.

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LETS TALK ABOUT SEX BABY: EXPLORING THE BARRIERS AND FACILITATORS TO EFFECTIVE SEXUAL COMMUNICATION IN MALE CANCER SURVIVORS AND STRATEGIES TO IMPROVE PSYCHOSEXUAL INTERVENTIONS.

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Background: Changes to sexuality are a primary concern amongst the growing number of cancer survivors, leading to psychological distress and impacting long-term quality of life. Effective dyadic sexual communication has been found to be critical in improving sexual satisfaction post-treatment. However, research suggests that many men struggle to disclose about their sexual concerns and preferences with their partner.

Aim: This study aimed to qualitatively explore the common barriers and facilitators to sexual communication in male cancer survivors (MCSs) and to apply these findings to the tailoring of a psychosexual intervention, *Rekindle*, that is acceptable to these consumers.

Methods: Seventeen MCSs with a variety of cancer types, aged between 24–77 participated in semi-structured telephone interviews, which were coded in line with Grounded Theory methodology.

Results: The substantive theory that emerged found that those MCSs with a low quality of sexual communication experienced a diminished perceived masculinity following cancer-related sexual dysfunction. These feelings of inadequacy were compounded by inadequate partner support. Contrastingly, participants reporting effective sexual communication expressed the importance of a stable self-esteem and flexible partner support. All participants reported the benefits of a private, online resource like *Rekindle* and stated that providing a normalising experience coupled with skills-based content was the best way to retain MCSs in the intervention.

Conclusions: This study challenges the notion that most men struggle with intimate dyadic communication in suggesting that adequate partner support and a stable sense of self can mitigate MCSs' communicative behaviour, subsequently bolstering self-esteem. Recommendations are proposed for future research and clinical intervention, stressing the importance of a broader exploration into the diverse experiences of MCSs to enhance the efficacy of psychosexual interventions like *Rekindle*, and to reduce intervention attrition rates in this critical demographic.

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GINGER AS AN ADJUVANT FOR CHEMOTHERAPY-INDUCED NAUSEA AND VOMITING: WHERE DOES THE EVIDENCE STAND?

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Background: Despite advances in anti-emetic therapy, chemotherapy-induced nausea and vomiting (CINV) still poses a significant burden to patients undergoing chemotherapy. Nausea, in particular, is still highly prevalent in this population. Ginger has been traditionally used as a remedy for gastrointestinal complaints and has been suggested as a viable adjuvant treatment for nausea and vomiting in the cancer context.

Aim: To inform clinicians of the relevant literature regarding gingers application as an anti-CINV agent.

Methods: Data generated from three recent systematic reviews regarding the clinical efficacy, mechanisms of action, and safety concerns of ginger in the chemotherapy setting will be presented.

Results: Bioactive compounds within the rhizome of ginger interact with several pathways that are directly implicated in CINV (i.e. 5-HT3 antagonism) in addition to pathways that could play secondary roles by exacerbating symptoms. In regards to gingers clinical efficacy, of the seven RCTs included in our review, five reported favourable results. Of these, three studies found ginger reduced either acute nausea only or both acute and delayed nausea and vomiting when combined with standard anti-CINV treatment. The two remaining studies found ginger reduced either acute or delayed nausea and vomiting equal to metoclopramide. An oft-cited concern of ginger usage is its potentially adverse effects on platelet aggregation; however, our review was unable to find consistent data to support this conclusion.

Conclusions: While there have been multiple viable mechanisms of action identified as well as several clinical studies that support the use of ginger for CINV, the considerable limitations in the methodology employed in some studies present genuine uncertainty about its efficacy in the chemotherapy setting and further trials are currently being conducted to resolve these uncertainties. Furthermore, while the concerns regarding ginger's interaction with anti-coagulant therapy are not firmly supported by the current literature, caution is advised in at-risk patients.

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AWARENESS ABOUT BREAST-SELF EXAMINATION AND BEHAVIORAL-RELATED RISK FACTORS FOR BREAST CANCER AMONG YOUNG COLOMBIAN WOMEN: A CROSS-SECTIONAL ANALYSIS

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Background: Breast cancer is a growing public health problem worldwide. Breast-self examination (BSE) is an inexpensive strategy proposed to improve early detection and related to some reductions in mortality. Besides, behavioral risk factors are of special interest for cancer control and the overall burden of disease.

Aim: To establish assocations between the pratice of breast-self examination, the knowledge about breast cancer risk and behavioral-related risk factors for breast cancer among young Colombian women

Methods: A cross-sectional study was carried out involving data from 642 young Colombian women. Data for BSE were collected using validated tools and the Behavioral Risk Factors Surveillance System (BRFSS).

Results: Women were a mean age of 30.7 ± 11.8 years old. Fifty-seven percent of the women knew how to carry out BSE, although only 26.3% perfom it monthly. Further, a sedentary lifestyle was found in 53.3% of women and similar prevalences were observed for other behavioral variables. BSE was associated with age ($p = 0.02$), socioeconomic status ($p < 0.001$), knowledge about risk factors ($p < 0.001$) and unhealthy lifestyles ($p < 0.001$).

Conclusions: There exists a low level of knowledge and practice of BSE among young Colombian women. This population is in a high-risk of breast cancer beacuse of the critical prevalences of some behaviors related to unhealthy lifestyles found in this study. Further health-promotion strategies are warranted.

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A SINGLE INSTITUTION EXPERIENCE OF 701 JUVENILE NASOPHARYNGEAL ANGIOFIBROMAS (JNA): CHANGING EPIDEMIOLOGY IN PAST 6 DECADES AND CLINICAL/ MOLECULAR BEHAVIOUR IN INDIAN POPULATION.

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Background: The increasing incidence of JNA has been noted lately. Reservations persist regarding treating JNA at peripheral centre owing to the potentially fatal intraoperative haemorrhage. Molecular characterization in Indian population is lacking.

Aim: To appreciate (1)changing epidemiological trends n last 6-decades, (2) clinical presentation /treatment outcomes, (3) molecular expression (44 indian patients).

Methods: Archival databases of 701 cases admitted at our facility in last 6 decades since 1958 were analysed and classical charts were reviewed for age, clinical presentation, surgery and outcome. A 2-year prospective series of 44 patients underwent molecular profiling with 3 markers till date viz, androgen(AR), estrogen(ER), beta-catenin(BC).

Results: (1) Incidence rate was relatively constant in first 3 decades i.e. 50s to 70s (10 cases per year) and increased in next 2 decades i.e. 80s & 90s (15–20 per year). Subsequently thereafter marked increased incidence was noted specially in the current decade (33–37 cases per year). (2) 15% cases in last 2 years presented after adolescence (age 21–24 years). 75% presented in stage III with snoring (35%), voice change (40%), palatal buldge (45%), and cheek swelling (20%). Transpalatal approach (classical or extended) was adapted in 90% cases with piecemeal extraction in 80%. Recurrence was seen in 5% and staging showed significant effect on intraoperative hemorrhage/ completeness of resection.. (3) Mean fold expression of BC & AR was 21.2% and 49% higher than controls respectively. BC-upregulation was seen more often with recurrence while ER-alpha-expression was quite variable.

Conclusions: A multitude of environmental changes effecting hormonal mileu interior such as use of pesticides and oxytocin-induced-cattle-lactation may play a role or it may be a specific manifestation of emerging precautious puberty in males. A comparable cure rates with minimal morbidity may be obtained in the absence of hypotensive anaesthesia,/ preoperative embolization. Further molecular characterization may facilitate better understanding for therapeutic target(s).

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HOPES AND HYPES WITH IMAGE BASED BRACHYTHERAPY: AN INDIAN EXPERIENCE WITH 53 PATIENTS. CAN IT BE THE STANDARD YET?

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Background: Traditionally brachytherapy planning was based on dose prescription to specific points for the tumor and for OARs. Incorporation of CT and MRI allow sectional image based approach with better assessment of GTV, accurate delineation of CTV and Organs at risk (OARs) compared to traditional approaches. Moreover, with 3D volume and image based planning, treatment of complex shaped cervical cancers has achieved excellent results.

Aim: Our aim was to see the feasibility of IBBT in carcinoma cervix in developing countries where resources are low but carcinoma cervix is the commonest female malignancy.

Methods: A retrospective analysis of 53 patients of carcinoma cervix between April 2012 and November 2013 was done. 50 Gy of EBRT with weekly cisplatin, and4 sessions of Image based ICBT of 7 Gy each was the treatment protocol. For 7 patients MRI was done at each brachytherapy session, while for the rest of the 46 patients MRI was done at the first session of brachytherapy only and CT scan for the others. Dose was prescribed to HRCTV and constraints were given to rectum & bladder.

Results: For all patients 3D volume based plans were done. The mean dose to HRCTV was 6.74 Gy. The mean rectum and bladder doses were 4.61 and 4.26 Gy respectively. 47 patients (88%) showed more than 80% response after external beam radiotherapy. No patients had grade 3,4 toxicities.

Conclusions: In Asian countries too IBBT can be adopted, though availability of CT/MRI facilities and soft wares, compatible applicators and adequate training may be initial limitations.

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ANALYSIS OF SURGICAL TREATMENT FOR 72 PATIENTS WITH BRAIN METASTASES

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Publish consent withheld

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HIGH INCIDENCE OF GALL BLADDER CANCER IN GANGETIC WEST BENGAL: A STUDY FROM A HOSPITAL BASED CANCER REGISTRY

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Background: Gall bladder cancer accounts for about 1% of all cancer deaths. Incidence varies geographically with higher rates in certain areas and among women is approximately double than that of men.

Aim: The present communication makes an attempt to analyze the time trends of gallbladder cancer for people of Gangetic West Bengal

Methods: From our hospital based cancer registry we analyzed all cancer patients, who attended outpatient and inpatient departments from August 2004 to December 2012. A total of 20, 400 cases were registered. A comparison between total and gall bladder cases belonging to gangetic West Bengal were drawn. The Gangetic West Bengal consisted of Malda, Murshidabad, Nadia, Burdwan, Hooghly, Howrah and 24 Pgs(S) **through which districts the river Ganga flows**. A detailed dietary, water consumption and lifestyle history were noted for those patients.

Results: Among **patients residing in Gangetic belt (8,000), gall bladder cancer ranked third and was 16%. The probable reason noticed was particular dietary habits of Bengalis**. They fast till noon for 2 or 3 times a week for some particular religious reasons and then were habituated to take fatty diet. Fasting Muslim people tend to relish on spicy and fatty foods. Second history was repeated *Sulmonella typhi* infection because of contaminated water supply leading to chronic cholecystitis. Third arsenic contamination of drinking water in gall bladder producing carcinoma. Last and most important factor is consumption of polluted water of the river Ganga which the Indians drink as pure water. The heavy metals deposited, were Molybdenum, Mercury and Lead because of industrial pollution along the river bank.

Conclusions: Statistically, gall bladder cancer in this part is highest in India and second highest in the World. We intend to take preventive measures of gall bladder cancer by proper awareness and changing diet and drinking habit of people of this area

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UTILISATION OF COTESTING (HUMAN PAPILLOMAVIRUS DNA AND CERVICAL CYTOLOGY) AFTER TREATMENT OF CIN: A SURVEY OF GPS AWARENESS AND KNOWLEDGE

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Background: Patients with high-grade cervical squamous intraepithelial lesions (HSILs) were previously managed with annual cytology tests post treatment. However, this recommendation was revised and testing for high-risk human papillomavirus (HR HPV) types is now an integral part of post treatment follow-up.

Aim: To survey General Practitioners (GPs) awareness and compliance with the recommended cotesting (HPV and cytology) management pathway for patients following treatment for an HSIL.

Methods: Post consultation with key stakeholders, an anonymous self-complete questionnaire was developed and disseminated to all identified GPs that had provided a cervical screening test during the period 01-July-2012 to 30-June-2013.

Results: Responses were received from 745/2,545 GPs (30.9% response rate). The majority of GPs reported they did not always receive a clear follow-up plan for patients post treatment of an HSIL. A significant number (34.3%) of GPs were unaware of the use of cotesting (HPV and cytology) in the management of patients post HSIL treatment.

Conclusions: GPs require further support and education to ensure successful adoption of cotesting (HPV and cervical cytology testing), specifically in its use for patients treated for an HSIL. Appropriate use of HR HPV testing that confirms clearance of oncogenic HPV types will reassure and assist GPs in managing patients back to a routine cervical screening interval.

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METAPLASTIC CARCINOMA OF BREAST: THE BASILISK AMONG BREAST CANCER

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Background: Metaplastic carcinoma breast (MBC) is a rare & aggressive tumour, accounting for <1% of all breast cancers. 5-yr survival rate is 65% vs. 89% for conventional Invasive ductal cancer. Treatment paradigm is based on that of conventional IDC since available evidence is largely institutional case series-based. We aspire to add to the existing literature and study the clinico-epidemiologic and pathologic features in cases we came across

Aim: To evaluate & study the clinico-epidemiologic parameters, tumour characteristics, hormone receptor status, & marker positivity of metaplastic carcinoma breast.

Methods: Patients of breast lump presenting during the study period of 2009 – 2014, proven to have metaplastic carcinoma on histopathology were included in the study. Clinical presentation (age, menopausal status), tumour characteristics (size, grade, stage, margins, nodes, marker positivity) were studied.

Results: We encountered 33 cases during the study. Of the total, 1 patient was male. The mean age was 48.55 yrs ranging from 23–88 yrs. Cases were clustered in the 4th–5th decade of life. Based on conclusive oncological diagnosis, 23 patients underwent Modified Radical Mastectomy (MRM). Resected tumour was more commonly a pT_3 disease. Of the 4 patients with nodal disease 1 had N_3, 1 had N_2 and 2 had N_1 disease. 19 cases were triple negative tumours (ER, PR, Her2neu) & most were positive for epithelial markers and sarcomatous markers. 1 case had lymphovascular invasion and none had perineural invasion.

Conclusions: Metaplastic carcinoma at present, is at best a large pool of case series. With increasing recognition of its histopathological characteristics, known poor prognoses & a lack of uniform guidelines, it is pertinent that this entity is studied in its entirety.Increased awareness of its occurrence with subsequent data collection & analysis shall be the key in highlighting the natural history of the disease subset. This would further be instrumental in formulating management protocols.

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LATE DIAGNOSIS OF FEMALE BREAST CANCERS IN CAMEROON: BETWEEN IGNORANCE AND NEGLIGENCE

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Introduction: Breast cancer is the leading cause of cancer death among women in Cameroon. Among the causes of these deaths, many authors have pointed out the late delay in diagnosis. The objective of this study was to investigate among socioeconomic, health and sociocultural variables those wich determine more the late stages diagnosis in Breast cancer.

Method: A cross-sectional and analytic study were use on a population of 51 patients enrolled in the oncology department of the General Hospital of Yaoundé (HGY). Software SPSS 20, and Epi-info XLSAT 7 were used to analyze the data. The analysis plan included a descriptive analysis of the variables, a correlation study between the variables and bivariate analysis from the chi-square test to determine the relationship between the dependent variable (late stage diagnosis) and independent variables (socio-economic, health and socio-cultural).

Results: According to the analysis, the medium age at diagnosis was 47 years, with extremes of 20 and 74 years. The average time to diagnosis was 13 months (1 year 1 month) with a range of 2 months and 72 months (6 years). Three quarters of the cancers were diagnosed at stages 3 and 4 and more than a quarter of the cases had metastases. 74.5% of late cases had never received a screening examination. 66.6% of patients later had never heard of before breast cancer disease and 63.2% of late cases have neglected disease early.

Conclusion: Time late diagnosis and the therapeutic itinerary to medical care are the most decisive variables of late stage diagnosis of breast cancer in women in this study. Act on these variables required to emphase on the education of women to change their behavior and their therapeutic perception of the cancer disease.

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CULTURAL BELIEFS ABOUT CANCER INFLUENCING HELP-SEEKING AND SYMPTOM APPRAISAL: A META-SYNTHESIS OF QUALITATIVE FINDINGS

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Background: Culture is a social determinant of health that acts on a community and population level. Migration from developing to developed countries is growing rapidly. It is important to understand the impact cultural beliefs have on help-seeking and timely cancer diagnosis which can influence culturally safe and appropriate health services worldwide. This is the first systematic review and meta-synthesis of culturally specific factors influencing symptom appraisal and help-seeking in culturally or ethnically diverse populations.

Aim: To identify, compare and synthesise published qualitative evidence regarding culturally specific beliefs that influence help-seeking in symptomatic cancer patients from culturally or ethnically diverse populations.

Methods: Systematic review and meta-synthesis of qualitative research using Critical Interpretative Synthesis. Searches of Web of Science, Medline, CINAHL and PsycINFO databases for relevant research published in English between the years 2004–2014.

Results: 167 abstracts were retrieved and reviewed by two experienced researchers. 47 full papers were retrieved and evaluated for relevance to the research question and methodological quality. 12 papers met these criteria and were included in the meta-synthesis. Critical Interpretative Synthesis was conducted by three experienced qualitative researchers. The constant comparative method was used to identify which themes were most relevant for each ethnic group. Five major themes of faith, health-care access, knowledge, fear and attitude were identified across all ethnic groups; with variations in sub-themes (i.e. health literacy, god's will) found among the ethnic groups.

Conclusions: For health services to be evidence-based and effective in meeting the needs of all patients, culturally specific beliefs must be considered. This review found that culturally-specific faith-based understandings of the causes and progression of cancer and inadequate knowledge about the causes, signs and symptoms of cancer can impact timely diagnosis. These findings will inform the development of campaigns to promote earlier presentation for cancer diagnosis in patients from culturally or ethnically diverse backgrounds.

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AGE OF TECHNOLOGY: FALLING STANDARD OF CLINICAL COMPETENCE OF NEW MEDICAL GRADUATES; ONCOLOGY'S CONTRIBUTION TO REVERSE THIS TREND: IMPROVE CLINICAL COMPETENCE, CARE FOR ALL, INCLUDING CANCER PATIENTS

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Background: Cancer is the biggest killer. (1). In practice, 30–40% are cancer-related, yet cancer education is lagging behind (2). Cancer clinics are a huge repository for clinical signs. Clinical signs are not in abundance in other medical specialties (3). Every doctor should be competent in detecting and diagnosing through clinical signs. Use of "oncology patients" for training doctors must be a priority

Aim: Evaluation of clinical education of undergraduate students in Oncology Practice

Methods: Princess Margaret Hospital in Roseau conducts three weekly oncology clinics and in patient wards rounds. 3rd, 4th and 5th semester students are assigned to "shadow" the attending. In the last five years, from May 2008 till September 2013, 391 students rotated through the oncology clinic. 307 were assigned and 84 volunteered. The clinics lasts between 9 am and 3pm. Students are exposed to multiple clinical situations and relevant tasks. Differential diagnosis, lab findings, imaging and histopathology are discussed. A blinded evaluation questionnaire is given randomly.

Results: 57 "responses" were analyzed. 90% very positive, excellent learning experience, 80% will return and felt duration and physical facility needed upgrading.

Conclusions: A new oncology clinic with expanded clinical, teaching and research facility opened recently in collaboration with Ross and MOH has started functioning. The clinical educators must seize this opportunities.

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STAGES AT DIAGNOSIS OF COMMON CANCERS IN GHANA, WESTERN AFRICA

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Background: Stage is the extent of spread of the cancer.To plan treatment, doctors need to know the extent (stage) of the disease. Although about a third of cancers can be cured when diagnosed at early stages, majority of cancers diagnosed in developing and low-income countries are at terminal stages where cure is often impossible.

Aim: Discuss the stages at diagnosis of common cancers diagnosed and treated at the National Center for Radiotherapy and Nuclear Medicine (NCRNM), Komfo Anokye Teaching Hospital (KATH), Kumasi, Ghana.

Methods: Between 2004 and 2011, a total of 4470 cancer cases were diagnosed and treated at KATH NCRNM. Out of these, only 1032 cases were staged. These staged cases were extracted from KATH NCRNM Cancer Registry. Unknown, recurrent, unstaged and *not otherwise stated* stages were excluded in the analysis. ICD-O-3 coding scheme was used.

Results: Estimated 23% of cancers were staged. Overall, the stages at diagnosis were: Stage I, 6.2% (n = 64); Stage II, 19.3% (n = 199); Stage III, 59.6% (n = 615); Stage IV, 14.9% (n = 154). In the order of most common, the leading cancer was cervix uteri (n = 707): Stage I, 6.5% (n = 46); Stage II, 22.2% (n = 157); Stage III, 66.1% (n = 467); Stage IV, 5.2% (n = 37). Breast cancer (n = 143): Stage I, 4.2% (n = 6); Stage II, 15.4% (n = 22); Stage III, 46.9% (n = 67); Stage IV, 33.6%. Prostate (n = 32): Stage II, 3.1% (n = 1); Stage III, 21.9% (n = 7); Stage IV, 75% (n = 24). Ovary (n = 30): Stage I, 3.3% (n = 1); Stage II, 6.7% (n = 2); Stage III, 60% (n = 18); Stage IV, 30% (n = 9). Lymph nodes (n = 9): Stage II, 11.1% (n = 1); Stage III, 55.6% (n = 5); Stage IV, 33.3% (n = 3).

Conclusions: More than 70% of cancer cases diagnosed were locally advanced and palliative care is the main treatment option given.

Scaling up primary and secondary prevention of cancers are the cost-effective ways of dealing wit cancers in Africa.

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SAME GENETIC FACTORS OF PREDISPOSITION TO LUNG CANCER.

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Background: Aspects of the study of genetic factors in lung cancer (LC) remain undeveloped.

Aim: To study the genetic factors predisposing to LC

Methods: The study is based on data relating to approximately 2,000 patients with LC, were examined and treated at the Institute of Oncology prof. N.N. Petrov, Russia, the Institute of Oncology of Moldova. Performed genotyping oncogenes HRASI, GSTM1, CYP1A1, L-MYC; apoptosis genes: Casp5, Casp8, DR4. Genotyping was carried out by the so-called multiplex polymerase chain reaction.

Results: First as a result of clinical, genealogical and molecular-genetic studies proposed and theoretically formulated the concept of the two pathogenetic variants of LC: hereditary and environmental.

It was found that deficient GSTM1 genotype is associated with an increased risk of LC. This pattern has a functional explanation and associated with protein inactivation of carcinogens. Surplus CYP1A1 gene variant increases the risk of LC, but this effect is limited to squamous cell carcinoma. Not surprisingly, the most dangerous is the combination of unfavorable genotypes CYP1A1 and GSTM1; when such a combination LC individual risk increases more than 2 times. It is shown that the current trend towards increase oncogene alleles A4 HRASI in patients with hereditary pathogenic variant LC relative to patients with environmental variant gives you the opportunity to consider allele A4 HRASI as a marker of genetic susceptibility to LC. S- allele of L-MYC gene is associated with malignant metastatic LC. Study of apoptosis genes showed expediency widespread genotyping polymorphisms Casp5, Casp8 DR4 in existing international consortia.

Conclusions: In general, based on the development of the hereditary theory of LC give the opportunity to raise the question of an early (preclinical) diagnosis and prevention of this disease through the organization of specialized genetic counseling.

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PRELIMINARY APPLICATION OF CONTRAST-ENHANCED CONE-BEAM BREAST CT IN DIFFERENTIATING BENIGN AND MALIGNANT BREAST LESIONS

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Background: **Aim:** To evaluate the contrast enhancement and the optimal enhancement timing for contrast-enhanced cone-beam breast computed tomography (CE-CBBCT) in differentiating benign and malignant breast lesions.

Methods: Twenty-one subjects were enrolled under an Institutional Review Board approved study protocol, and had CE-CBBCT before biopsy and treatment. All subjects were female. They were between 36 and 68 years old with a median age of 52.2. The subjects received diagnostic mammography or ultrasound within two weeks and were categorized as BIRADS 4 or 5.The CE-CBBCT exam included one pre-contrast scan and two post-contrast scans (initiated at 40 seconds and 120 seconds from the start of injecting contrast material). Statistical analyses were performed in SPSS.

Results: Twenty-four lesions (5 benign, 19 malignant) in the 21 subjects were proved by pathology. Malignant lesions were enhanced by 34.7 HU ± 22.5 at 40 seconds and 74.5 HU ± 26.8 at 120 seconds ($P < 0.001$); Benign lesions were enhanced by 18.0 HU ± 9.5 at 40 seconds and 33.8 HU ± 11.0 at 120 seconds($P < 0.05$). Normal breast tissue was enhanced by 8.7 HU ± 7.7 and 12.9 HU ± 7.2, respectively at 40s and 120s ($P < 0.001$). Among the 21 subjects, mammography identified 10 subjects with mass, and 11 with asymmetry or architectural distortion. CE-CBBCT identified 17 subjects with mass and 4 with ductal and segmental enhancement. Lesion margins were more conspicuous on CE-CBBCT than mammography ($p < 0.05$). All subjects were identified on CE-CBBCT. Eleven subjects with multiple lesions were not seen on mammography. 9 of them had lesions with diameters less than 1.5 mm. The smallest lesion was 0.6 mm.

Conclusions: Both benign and malignant lesions had more enhancements at 120s than 40s after the contrast injection. Malignant lesions had more enhancement compared to benign lesions. CE-CBBCT may improve the conspicuity of breast lesions, detect minimal disease in the case of multiple lesions, improve the early detection and diagnosis of breast cancer.

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THE VALUE OF CONE-BEAM BREAST COMPUTED TOMOGRAPHY IN BREAST CANCER DETECTION AND DIAGNOSIS WITH COMPARISON TO CONVENTIONAL DIGITAL MAMMOGRAPHY

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Background: **Aim:** To assess the value of CBBCT in breast cancer detection and diagnosis with comparison to digital mammography (DM).

Methods: 28 patients with pathologically confirmed breast cancer were studied and were enrolled under an IRB approved study protocol. CBBCT exam was performed after DM. 6 patients had contrast-enhanced CBBCT (CE-CBBCT). The CBBCT and FFDM images were reviewed separately. Patient demographics, breast density, lesion type, size on CBBCT and DM were recorded. Vessels on CBBCT and CE-CBBCT were evaluated and the CT number were recorded. The accuracy of CBBCT and DM in breast cancer diagnosis and the detection of masses (ill-defined, lobulated and spiculated), and calcifications were compared with *Chi-square* test.

Results: No difference in detecting breast cancer between CBBCT and DM ($p>0.05$). Of the 28 patients, 26 had masses or asymmetrical density and 11 had malignant calcifications. CBBCT showed 23 with masses and 3 with focal asymmetrical density, whereas DM showed 16 with masses and 10 with focal asymmetrical density. 11 malignant calcification cases were both detected on CBBCT and DM. The difference between CBBCT and DM in the detection of lobulated masses and calcifications had no significance ($p>0.05$). There were differences in detecting ill-defined and spiculated masses on two modalities ($p < 0.05$). 23 cases with increased vessels around the lesion were observed on CBBCT. For the 6 patients who had CE-CBBCT, all masses had heterogeneous enhancement. Two cases were detected with new multifocal lesions with CE-CBBCT, not found in CBBCT or DM.

Conclusions: CBBCT can provide high quality 3D images without compression of the breast. It is a promising technique to visualize various manifestations of breast cancer and provide accurate localization of the lesions. Vessels can be clearly displayed in the 3D space. CE-CBBCT could be used to further help with breast cancer diagnosis and evaluating extent of disease.

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CORRELATIONS BETWEEN PERFUSION AND INTRAVOXEL INCOHERENT MOTION (IVIM) DIFFUSION IN NASOPHARYNGEAL CARCINOMA

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Background: The relationship between the two new functional magnetic resonance techniques (dynamic contrast-enhanced T1-weighted MR perfusion [DCE-MRI] and intravoxel incoherent motion diffusion MR[IVIM-MRI]) for nasopharyngeal carcinoma (NPC) has not been well understood

Aim: To study the correlations between DCE-MRI parameters and IVIM-MRI parameters in NPC

Methods: 30 patients with NPC underwent DCE-MRI and multi-b value based IVIM-MRI (b=0, 50, 80, 100,150,200,400,600,800, 1000 s/mm^2) on a 1.5T MR scanner. For each primary tumor, DCE-MRI parameters including Ktrans (volume transfer constant), Ve (volume fraction), fPV (fractional plasma volume) and kep as well as IVIM-MRI parameters (apparent diffusion coefficient [ADC], D [pure diffusion coefficient], D* [pseudo-diffusion coefficient] and f[fraction of D*]) were obtained respectively from the DCE-MRI and IVIM-MRI data. Pearson correlation coefficients between DCE-MRI parameters and IVIM-MRI parameters were calculated

Results: The Ktrans, Kep, Ve and fPV values of NPC were 0.336 ± 0.094/min, 1.502 ± 0.420/min, 0.234 ± 0.053 and 0.008 ± 0.009 respectively; whereas the ADC, D, D*, f of the corresponding NPC were $(0.950 \pm 0.175) \times 10^{-3}$ mm^2 /s, $(0.685 \pm 0.113) \times 10^{-3}$ mm^2 /s,$(0.020 \pm 0.018) \times 10^{-3}$ mm^2/s and $(0.315 \pm 0.102) \times 10^{-3}$ mm^2/s respectively. Ve value revealed a significant correlation with D* values($r = 0.450$, $p = 0.013$). Ktrans value showed correlation with D* values($r = 0.378$, $p = 0.039$). However Kep and fPV values did not show significant statistical correlation with the IVIM-MRI parameters (shown in the following table)

DCE-MRI	ADC		D		D*		f	
parameters	*r*	*p*	*R*	*p*	*r*	*p*	*r*	*p*
Ktrans	0.246	0.190	0.180	0.342	0.378	0.039	–0.288	0.123
Kep	0.126	0.506	0.084	0.661	0.005	0.981	–0.227	0.228
Ve	0.069	0.716	0.102	0.590	0.450	0.013	–0.019	0.921
fPV	0.021	0.911	–0.083	0.665	–0.115	0.546	0.011	0.956

Conclusions: Ktrans and fPV values of the DCE-MRI showed significant correlation with the IVIM-MRI parameters. The underlying physiological mechanism is to be studied

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EXPLORING OPTIONS FOR CANCER PREVENTION IN UNDERSERVED POPULATIONS: EXPERIENCE OF PESCA PROGRAMME IN HONDURAS.

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Background and Context: Cervical and Breast Cancer are the main incidences in Honduran Women. Access to cancer education and early detection is insufficient and mortality rates high. The Liga Contra el Cancer(LCC) an NGO through its National Program for Prevention and Education in Health and Cancer "PESCA"sums efforts to increase the scope of cancer early detection for this two cancers. Lack of economic and human resources is a main concern. The team of Cervical pathologist, oncologist,cytopathologist, and psychologist put this project together since october 2010 with support of LCC.

Aim: The purpose of the project was to demonstrate that medical students can deliver quality cancer care when properly trained and improve access of Honduran women to Cervical and Breast cancer education and screening. This strategy will build their strong awareness and participation in local and national cancer programs and enhance these activities in their future primary care practice.

Strategy/Tactics: The team invited Students from third year of medical school and up, to a 3 step program: 1 Cervical and Breast Cancer education, 2.Cervical Cytology sampling techniques and interpretation, 3. Participation in the scheduled campaigns of PESCA first as observer and then as a provider

Programme/Policy Process: Volunteers were trained in Logistic set up of campaigns, interaction with community leaders and media personnel, on site set up, public management and messages on risk factors and early detection with cervical cytology and breast self examination.

Outcomes/What was learned: Data was collected about performance during education to women, patient acceptance and quality of the cervical sample taken. We demonstrate that medical students after 2 months of training were able to take quality cervical cytologies and counsel women who assist to detection campaigns scheduled by PESCA. In countries with medical schools can use the students as valuable tools to fight against cervical and breast cancer.

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RAISING AWARENESS OF BREAST CANCER EARLY DETECTION IN KINGDOM OF SAUDI ARABIA

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Due to lack of knowledge of early detection of breast cancer, about 73% of cases in the KSA decide to consult the doctor at a very advanced stage of disease that cannot be cured1, compared with 30% of cases in developed countries, because of the attention of periodic examination system of the breast. ZAHRA BC association was established in 2007, to promote awareness for early detection of BC

To enhance awareness among women across the country for early detection, prevention and treatment of the disease, and assisting breast cancer patients by directing them to the appropriate channels.

Develop and carry out BC awareness programs.

Direct BC patients to specialized healthcare centers for receiving treatment and necessary services

Support scientific studies aiming to increase public awareness of the epidemiology and etiology of BC; using the recommendations to expand awareness of this disease in our society

Develop Saudi cadres specialized in BC research and implement training, educational and scholarship programs

construct affiliations with relevant health care foundations who can cooperate & participate with the Association in its activities.

At present; ZAHRA was able to take an active part in the BC awareness in KSA. seven successful awareness campaigns and Five offices was established. (174) lectures were performed where (11,590) ladies from different age groups attended.

In collaboration with Ministry of Health (365) health educators & nurses was recruited to target 20 cities during October 2014. (19,530) attended the campaign. (1,515,969) viewed our YouTube ad. (11) BC booklets was published with a version in Brail.

since 2009 (554) women benefited from ZAHRA's screening clinic & (28) private clinics promoted a special rates for screening.

ZAHRA services has increased 35% in the last 2 years. ZAHRA participated in (19) studies. (182) primary health care physicians along with (40) health educators enrolled in training programs.

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SHWE YAUNG HNIN SI CANCER FOUNDATION'S EFFORTS TO IMPROVE AWARENESS OF CANCER AMONG PEOPLE OF MYANMAR.

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Background: A non- profit cancer organization lead by dedicated Medical Professionals and include voluntary members, mainly family members of cancer patients and cancer survivors. Founded in February 2013, by a Medical Oncologist, in dedication to her beloved brother who died of Pancreatic cancer.

Aim: The aim is to improve awareness on prevention and early detection of cancer.

Strategy: Included dissemination of health knowledge on cancer prevention and screening, giving financial assistance for the needy cancer patients, and active partnership with Local and International Health Organizations. We began with the process of gathering the right people to work together for the benefit of the project and formed 8 working teams for: 1) Health Education, 2) Cancer Screening, 3) Treatment Support, 4) Research & Training, 5) Publicity & Information, 6) Local & Foreign Relation, 7) Cancer Survivors and 8) Fund Raising.

Programme: Implemented after obtaining registration in December 2013.1)Program for Breast Cancer and Cervical Cancer awareness at different community levels 2)Prepared in Myanmar language and distributed free Posters and Pamphlets, on Cancer Warning Signs, Cancer Prevention Ways, Tobacco, Alcohol, Betel, and cancer Risks 3)Cancer Education symposium using Professionals, Non-professional Celebrities and Cancer Survivors as speakers 4)A Cartoon Competition and a Health Fun Fair plus a free one-stop health screening program for the public.

Outcomes: The attendance and participation in all events were enormous. Members and donations have increased substantially and financial assistance of US $ 7950 for the needy cancer patients has been possible within 4 months. Dedicated team is the mainstay. Joining forces with Local Health Organizations accelerated the progress. Participation of Celebrities in the discussions and activities, Cancer Survivors sharing their experiences, when public education programs were combined with on-site free health screening programs, promoted more interest and participation of the public.

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ENCOURAGING EQUAL ACCESS TO BREAST CANCER HEALTH SERVICES THROUGH BREAST HEALTH EDUCATION

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Background and Context: Breast cancer is the most common cancer in women worldwide, and the number of cases is increasing in nearly every region and in every country. Susan G. Komen works on many levels to empower women and men around the world to take charge of their health and give those affected by breast cancer a strong sense of hope, courage and community. Our global programs aim to reduce breast cancer deaths by increasing early detection and access to quality breast cancer care and treatment.

Aim: We will present key lessons learned, unique approaches, and common themes. We want to share these practices in an effort to promote knowledge sharing among organizations working in breast health and women's health issues more broadly.

Strategy/Tactics: Because we believe that where a woman lives should not determine whether she lives, Komen is funding creative and impactful programs that address health disparities in communities around the world. Four examples of such initiatives include the: 1) Guna community in Panama, 2) Maassai community in Kenya, 3) Roma community in Hungary and 4) Arab Bedouin community in Israel.

Programme/Policy Process: In collaboration with local partners, Komen is addressing cultural barriers in the delivery of breast health messages by implementing projects that provide reliable, evidence based, and culturally appropriate information about the importance of early detection. These projects aim to increase the capacity of the target groups and transform community leaders into breast health promoters. The projects ultimately help underserved women be proactive and empowered in their breast health and knowledgeable on how to communicate with health professionals.

Outcomes/What was learned: Culturally appropriate education programs implemented by community members raise awareness about breast cancer and inspire participants to take action to protect their health.

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CERVICAL PRECANCER TREATMENT IN LOW-RESOURCE SETTINGS: LOWER PRICES, NEW TECHNOLOGY OPTIONS, AND OPTIMAL SCENARIOS FOR SMART DEPLOYMENT

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Background and Context: Cervical cancer is one of the most preventable cancers, and yet it is still a major killer of women in most low-resource countries. There are now feasible and appropriate screening methods to identify women in their 30s and 40s with the precancerous lesions that can lead to cervical cancer if left untreated. Many of the critical elements are now in place, with new WHO guidelines delineating the options for screening, validated training curricula, and updated data on disease burden. A major rate-limiting step is getting affordable treatment for precancer to women when and where they need it.

Aim: PATH is conducting a multi-pronged approach to determine and address the underlying causes of the treatment bottleneck.

Strategy/Tactics: We identified three major factors affecting the availability of treatment (equipment, supplies, training) and two affecting treatment utilization (access to screening, costs to women in terms of fees and travel). This analysis led us to focus on three aspects that could potentially address several of these root causes: driving down the cost of equipment, new technology options, and better ways to deploy the available treatment methods.

Programme/Policy Process: We have conducted clinical and operational studies to evaluate alternative treatment technologies like cold coagulation and CryoPen (a new cryotherapy device that does not require external gas), and we developed a model to simulate various scenarios of deployment of treatment methods (static and/or mobile, placement at different levels of the health system, combinations of gas and gas-free devices) to understand the impact on treatment coverage.

Outcomes/What was learned: Careful consideration of the characteristics of available treatment options and their smart deployment, taking into account population density and screening coverage, can help countries scale up their cervical cancer secondary prevention programs and ensure that precancer treatment is delivered in the most efficient and affordable way possible.

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IMPROVING EARLY DETECTION AND DIAGNOSIS OF BREAST CANCER IN THE COMMONWEALTH OF DOMINICA

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Background and Context: Based on findings from a resource-stratification[1] of breast cancer care in Dominica[2], a 4 – year clinical research project on breast cancer detection and diagnosis was undertaken having identified late diagnosis as the main cause of the high breast cancer mortality-to-incidence ratio in Dominica[3].

Aim: To assess the knowledge, attitudes, practice and behaviour (KAPB) of Government of Dominica Ministry of Health (MOH) primary care workers (HCW) and general practitioners (GPs) in order to improve early detection and diagnosis of breast cancer.

Strategy/Tactics: Programme/Policy Process:A 38-point questionnaire was administered by trained interviewers to identify the KAPB of Dominican MOH HCWs and GPs directly involved in breast care. Of 155 potential interviewees 98 responded. Data were analysed using Epi Info™ software. A workshop was conducted to reduce knowledge deficits about the early detection and diagnosis of breast cancer.

Outcomes/What was learned: The response rate was 63%. 86% of respondents were HCWs and 14% were GPs. 85% knew the clinical features of breast cancer and 97% knew when to refer patients for further evaluation. Only 77% felt that regular breast exams helped detect cancer earlier, and 57% of respondents knew when to start screening asymptomatic low risk women with mammograms. 74% felt that there were MOH guidelines for clinical breast exams CBEs). 91% knew that breast self exams should be done monthly in post menopausal women, but only 39% performed routine CBEs annually on women over 40. Most primary health care workers in the public and private sectors in Dominica., know the signs of breast cancer and when to refer patients. However CBEs were not performed routinely on women over 40.This is a good foundation on which to develop and implement guidelines for early detection and referral of potential breast cancer patients.

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AN ORGANIZED CERVICAL CANCER RECOMMENDATION FOR REGIONS WITH LOW RATE OF CERVICAL CANCER(IRAN/MUSLIM COUNTRIES)

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Background and Context: The overall cervical cancer incidence rate's is low in Iran, however, because of higher risk of death in women with cervical cancer in this area, a cervical cancer control program is needed.

Aim: The aim of this study was to provide an organized program for cervical cancer prevention in Iran and other Muslim country with low rate of cervical cancer

Strategy/Tactics: By using the practical guideline development cycle,w*e reviewed 190 full text records about cervical cancer in Iran (1971 to 2013 in which 13 articles were related to* the data that we needed for *developing the recommendation questions.*We also reviewed World Health Organization, IARC, GLOBOCON report, Iran Ministry of Health cancer registry report and 8 available foreign countries guidelines. For better decision making to make final recommendation, we also put into account the pap smear result of the 350 women who participated in Iran HPV survey after 5 years interval.

Programme/Policy Process: According the data that had shown the HPV and cervical cancer situation in Iran and highlighted the result of follow up 350 women of a population base survey for 5 years, the experts emphasizes the necessity of cervical cancer screening program for Iranian women. We recommended an organized screening program with cytologic evaluation (Pap smear) that would start at age 30, continued for every 5 years. The age of ending the screening is 69 years. There is no need to do screening for pregnant women and women who had a hysterectomy.

Outcomes/What was learned: Organized cervical cancer screening is a necessity for Iran, because we could not ignore more than 500–900 new cases with invasive cervical cancer who have been diagnosed every year in Iran. Iran National Health System and other Muslim countries could bring this recommendation for an organized screening program into account.

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NATIONAL SOCIETY OF PEDIATRIC HEMATOLOGISTS AND ONCOLOGISTS AS AN INSTRUMENT OF UNITED PROFESSIONAL COMMUNITY FORMING ON THE TERRITORY OF THE RUSSIAN FEDERATION

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Background and Context: Today one of major role in the medical work regulation is provided for professional societies. These societies provide not only educational resources bit plays a huge role in a question of protection of physicians and guidelines forming.

Aim: To present an activities of the National society of pediatric hematologists and oncologists (NSPHO) in a field of education, clinical guidelines forming and protection of society members.

Strategy/Tactics: NSPHO established in 2009 for optimizing of treatment of children with hematological and oncological diseases, forming of union scientific, educational and informational environment, protection of physicians and patients.

Programme/Policy Process: To follow the strategy NSPHO realizing the following programs: "Far regions" (educational seminars in regions), "Treat together" (trainings in leading hem/onc scientific center), "Clinical guidelines", "Catalogue of pediatric hematological and oncological centers of Russian Federation", "For fidelity to profession" prize and "Meetings of society".

Outcomes/What was learned: Now, the NSPHO is one of the fast growing professional associations. More than 80% of profession representatives is participants of NSPHO on the territory of Russian Federation. More than 450 participants visited last Meeting of NSPHO, 194 oral and 44 poster presentations were made. Society allows forming unique approaches to diagnosing, treatment and scientific analysis on all territory of Russian Federation.

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COSTING OF A STATE WIDE POPULATION BASED CANCER AWARENESS AND EARLY DETECTION CAMPAIGN IN 2.7 MILLION POPULATION OF PUNJAB STATE IN NORTHERN PART OF INDIA.

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Background and Context: Punjab state is reporting a rising burden of cancer. A 'door to door cancer awareness and early detection campaign' was launched in Punjab State covering about 2.67 million population in 2013. After initial training, health staff working in public health care facilities conducted survey on a 12 sign and symptom based clinical algorithm in Phase 1 followed by investigation and treatment in Phase 2

Aim: To ascertain unit cost for undertaking a large scale population-based cancer awareness and early detection campaign for cancer.

Strategy/Tactics: Data were collected using bottom-up costing methods. *Full economic cost* of implementing the campaign from health system perspective was calculated. Time costs of the participants and resource persons were additional costs besides the capital costs in the form of office space, consumables, non-consumables and overheads. Costs were stratified by phase of implementation.

Programme/Policy Process: Campaign could detect 87409 suspected cases with sign and symptoms, 24659 new or old confirmed cases (91/100,000) and 34430 cancer deaths in last five years. *Full economic cost of implementing the campaign in pilot district was INR 74,59,849 (USD 122280). However,* the financial cost was approximately INR 400,000 (USD 6557). Start-up phase of campaign was more resource intensive (63% of total) than the implementation phase. The economic cost per person contacted and suspected by clinical algorithm was found to be INR 12.8 (USD 0.21) and INR 2528.8 (USD 41.4) respectively. **Cost per confirmed case under the campaign** was INR **447081** (**7328 USD**). Outcomes/What was learned: Campaign was able to create awareness to a reasonable extent and helped in early detection of cancer cases in Punjab state. However, high economic cost points towards the fact that the opportunity cost of campaign put a significant burden on health system and other programs.

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SIGNS IN MR MAMMOGRAPHY: EYES SEES WHAT MIND KNOWS

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Background and Context: MR mammography (MRM) is new avenue in the diagnosis of breast cancer. With advances in temporal resolution MRM can accurately detect breast cancers larger than 3 millimetres. problem in recent years has been an international debate concerning methods, techniques, and the interpretation of the myriad images.

Aim: abstract will discuss the
- Known signs in MRM and illustrate them with examples so that, in future, this information can be applied in the practical interpretation of MR mammograms.
- Recent advances in MRM: role of diffusion, perfusion and spectroscopy imaging

Strategy/Tactics: MRI protocol was standardized in all cases. Diagnostic enhanced breast MRI was performed at 1.5T and 3.0T clinical MR imaging system by using a bilateral, dedicated phased-array 8-Channel Breast Array breast coil with patient in the prone position. protocol included an axial localizer sequence followed by sagittal and axial fast spin-echo T2 and T1-weighted and STIR sequences. This was followed by Multifunctional sequences, which included DWI, SWI, IDEAL, dynamic contrast enhanced MRI and Spectroscopy.

Programme/Policy Process:
- It is important for general radiologist to be familiar with indications and contraindications, equipment and patient positioning, imaging basics, the ACR BI-RADS® lexicon, common artifacts, common lesions, post-treatment evaluation, and silicone implant evaluation.
- With a focus on the basic imaging principles of breast MRI rather than on mathematical equations, this exhibit will show a practical approach to imaging protocols that helps radiologists increase their diagnostic effectiveness

Outcomes/What was learned: High sensitivity but low specificity, has been used like a mantra to characterize MRM. But results in recent decades suggest that we can greatly increase this limited specificity by extracting and analyzing all of morphologic and kinetic signs When MRM is interpreted as described in this exhibit, it can help to alleviate this major problem by allowing breast cancers to be detected and treated at a earlier, curable stage.

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"I AM MAXIMO. I AM AN ADVOCATE." THE UNIVERSAL STORY OF THE ADVOCATE

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Background and Context: Advocacy is a key part of the coordinated global fight against cancer, and the best way to strengthen advocacy efforts is to elevate the human story behind the cause. The "I am Maximo. I am an advocate." essay contest is a project of The Max Foundation through which individuals who have been impacted by a cancer diagnosis can share their inspirational stories and become an advocate for others.

The title of the project refers to *Maximo and the Big* C, a storybook developed by The Max Foundation Maximo embodies the universal story of the advocate, who faced with adversity, finds courage to overcome fear, and realizes their calling to give back to community.

Aim:
- To send 3 advocates to the 2014 UICC World Cancer Congress as an opportunity to provide learning, capacity building, and networking opportunities.
- To provide a platform for individuals impacted by cancer who have become advocates to give back to their communities.
- To inspire advocacy and promote volunteerism through the stories of individuals who have harnessed adversity in their own lives.

Strategy/Tactics: Essays will be solicited, reviewed and judged based on specific criteria. They will inspire others facing cancer to find the strength to become an advocate for others. They will contain an element of inspiration for those currently in a darker place.

Programme/Policy Process: Winners will receive paid trips to the UICC World Congress, and will each be paired with an experienced patient advocate. They will develop their patient advocacy skills, deepen their passion for the work, and return to their home countries to strengthen the grassroots cancer control movements.

Outcomes/What was learned: An eagerness in the community to be a part of such excercises and to share and learn from each other.

1. Our vast resource pool of advocates from more than 30 patient support groups we facilitate in the underserved and low and middle income countries

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DRAMA THERAPY WORKSHOP – AWARENESS THROUGH CREATIVE EXPRESSION

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Background and Context: We work with a group of CML and GIST survivors and their care givers from all over the vast land of India who come from diverse backgrounds and speak different languages.

However their cancer diagnosis has forged deep bonds and they meet in cities and towns spread over the length and breadth of our country and come together as one. In these meetings they share and learn from each other the skills needed to live the rest of their lives as cancer patients under long term therapy.

They fight the fear, the stigma and the challenges of managing a lifelong condition using many tools.

Aim: Drama Therapy workshops are conducted aimed at encouraging the participants, through this unique tool to tell their stories, set goals, resolve issues and process the big change in their lives.

Strategy/Tactics: In an informal environment and with a given set of creative tools, the participants are encouraged to act out scenarios that serve as awareness and educational capsules.

Programme/Policy Process: After an introductory presentation to the group, teams are formed. Team leaders or Directors chosen, scenarios distributed, casting done and roles assigned. The teams have 30 minutes in which to create their screenplay and draw their scripts. A few impromptu rehearsals and props chosen from available resources and the skits are ready to be performed

Outcomes/What was learned: Time and again we have seen a storehouse of talent emerge in these sessions and along with that, barriers of rank and file come down and vital messages of awareness, compliance and compassionate care are conveyed by peers amidst peers. This exercise in confidence building brings hidden skills and talents to the fore. There cannot be a better ice breaker and lasting relationships are forged amongst all the members of the group.

1. Our volunteers and treating physicians

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VALIDITY AND RELIABILITY STUDY OF CHEMOTHERAPY-INDUCED TASTE ALTERATION SCALE (CITAS)

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Background and Context: Chemotherapy-induced taste alterations result in physiological and psychosocial changes in an individual. The demonstration of the presence of this problem using objective and subjective assessment tools allows better symptom control.

Aim: The present study was designed as a descriptive study to evaluate the validity and reliability of CiTAS in Turkey that is used in the subjective assessment of taste alterations associated with chemotherapy.

Strategy/Tactics: The CiTAS validity and reliability study was conducted on patients receiving chemotherapy (n = 184) in the Chemotherapy Unit and Hematology Clinic (Outpatient) between December 2013 and May 2014.

The language was adapted to study validity and reliability of CiTAS. The validity of the scope of CiTAS was ensured by expert opinions. Cronbach's alpha, corrective factor analysis, and test-retest were used to evaluate the validity and reliability

Outcomes/What was learned: In the CiTAS validity and reliability study, Cronbach's alpha value of the scale was0.869. The alpha value was 0.89 for the decrease in basic taste subscale, 0.70 for discomfort subscale, 0.82 for phantogeusia and parageusia subscale, and 0.72 for general taste alterations subscale. The coefficients of the relationship between test-retest reliability results were significantly high (r: 0.939, n:28).

CiTAS appears to be a valid and reliable tool in the assessment of the symptoms and symptom management in taste alterations associated with chemotherapy. The evaluation of the symptoms using a measurement tool will contribute to the implementation of evidence-based symptom management

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IMPROVING INFORMATION DISSEMINATION IN BRCA1/2 FAMILIES WITH A FAMILY COMMUNICATION TOOL

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3. *ACT Genetic Service, The Canberra Hospital, Woden, ACT, Australia*
4. *Behavioural Sciences Unit, Kids Cancer Centre, Sydney Children's Hospital, Randwick, NSW, Australia*

Background: BRCA1/BRCA2 predictive testing in at-risk relatives provides many benefits. Survival outcomes for mutation-carriers can be improved by screening and risk-reducing interventions. Realisation of these benefits relies on communication between carriers and their at-risk relatives, however disseminating this information poses significant challenges. To assist, we have developed a Family Communication Tool (FCT), a table which records informed status of at-risk relatives.

Aim: To 1) assess the effectiveness of the FCT in increasing dissemination and uptake of predictive testing by at-risk family members; 2) determine what personal and family characteristics are associated with lower levels of dissemination.

Methods: BRCA1/BRCA2-carriers identified from four hospitals were invited to participate in the study. A telephone interview of consenting patients asked about informed status of at-risk relatives, uptake of predictive testing in relatives, and geographical location of relatives. This information was recorded within the FCT. Patients yet to inform all relatives were provided advice, offered a standard dissemination letter to provide to relatives, and advised of online resources to assist with dissemination. Patients will be followed-up 2–4 months after their initial phone call to determine whether the FCT and associated counselling had facilitated dissemination. The genetic database will be audited to count the number of associated predictive testing appointments made in the study period.

Results: Data to date from 165 individuals revealed 45% had not informed ≥1 relative, with an average of 6.2 uninformed. Further analysis will reveal whether associations exist between dissemination levels and personal and family cancer history, family size, relatives' geographical location, and Jewish ancestry. Effectiveness of the FCT will be measured upon completion of follow-up in November 2014.

Conclusions: This study will provide evidence on whether the FCT is valuable in assisting with dissemination, and to help understand the demographic characteristics of families who are more likely to require such support.

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UNDERSTANDING INFORMATION DISSEMINATION CHALLENGES IN BRCA1/2 FAMILIES

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Background: Predictive testing for BRCA1 and/or BRCA2 mutations provides numerous benefits for at-risk relatives. Targeted screening, medical prevention, and risk-reducing surgery can improve survival outcomes for mutation-carriers, and avoid unnecessary costs for non-carriers. This benefit is dependent on communication of the mutation, however significant barriers and challenges are faced in disseminating this information. Unless specifically elicited by the genetic counsellor, many of these challenges remain unidentified. Understanding these challenges can help genetic health professionals improve their counselling practice and follow-up procedures, and ultimately enhance the public health benefit of predictive testing.

Aim: This study aims to determine the major dissemination challenges within families, and the follow-up needs of those experiencing difficulties.

Methods: BRCA1/BRCA2-carriers identified from four hospitals were invited to participate in the study. A telephone interview of consenting patients assessed their experience disseminating information about the genetic finding to all at-risk family members, and their attitudes to follow-up. Thematic analysis was conducted in order to determine key themes.

Results: Interviews have been completed for 165 patients. Three major themes have emerged to date: 1) barriers to informing relatives 2) challenges experienced after informing, and 3) relatives' reluctance to follow-up with predictive testing. Barriers to informing relatives include emotional barriers, geographical barriers, family dynamics, and misunderstanding. Challenges experienced after informing include frustration, blame, regret, guilt and evasive behaviour. Relatives' reluctance to follow-up with predictive testing stems from emotional reasons, reinforcement issues, ignorance, misinformation, or lifestyle and practical issues. Patients reported either a need for psychosocial support and help to contact relatives, or information updates without direct clinical contact.

Conclusions: This study will provide evidence of common barriers and challenges to family communication faced by BRCA1/2-carriers, and help guide counselling practice and follow-up procedures. Identifying the preferred method of follow-up at results disclosure may be beneficial in directing ongoing patient support.

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THE RELATIONSHIP BETWEEN PASSIVE SMOKING AND BREAST CANCER RISK BY N-ACETYL-TRANSFERASE 2 (NAT2) IN NON-SMOKING ARAB ISRAELI WOMEN

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Background: Breast cancer is the most common malignancy among Israeli Arab women who have low rates of active smoking (7%) and high rates of passive smoking due to the smoking prevalence in Arab men (44%). The role of smoking in breast cancer etiology is controversial. The enzyme N-Acetyl-Transferase 2 (NAT2) acetylates tobacco carcinogens and certain NAT2 genotypes (rapid/intermediate/ slow) may modify cancer risk.

Aim: To evaluate the relationship between passive smoking and breast cancer risk by NAT2 status in non-smoking Israeli Arab women.

Methods: A case-control study consisting of 137 prevalent breast cancer patients and 274 population-based controls. Each participant was face-to-face interviewed using a detailed questionnaire tracing demographic, lifestyle and other characteristics as well as exposure to passive smoking in childhood (age 0–12), adolescence (age 13–18) and the present, and donated a tissue sample for genetic testing.

The exposure to passive smoking was compared between cases and controls adjusting for known risk factors by logistic regression models. Modification of breast cancer risk by NAT2 status was also assessed.

Results: Compared to the controls, cases were significantly older, had lower education and socioeconomic status, had later menopause and were more exposed to passive smoking in childhood, adolescence and the present. There were no differences in the NAT2 variants, with two thirds of both cases and controls having a slow acetylating phenotype. Following adjustment for potential confounders, the exposure to passive smoking was associated with increased risk for breast cancer, with an OR=2.1495%) CI 1.21-3.78). Additionally, longer exposure was associated with higher risk. NAT2 status did not modify these results.

Conclusions: Non-smokers highly exposed to passive smoking are at a higher risk for breast cancer, with a dose-response relationship. These results further stress the importance of smoking cessation for both the smokers and those exposed to it passively.

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PREVALENCE AND SOCIO-DEMOGRAPHIC DECIDING FACTS OF TOBACCO USE INSIDE A GROUP OF PEOPLE IN OUAGADOUGOU HAVING HIV

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Goal: Investigate the prevalence and determinants of tobacco use in a cohort of people living with HIV in the city of Ouagadougou.

Method: This is a descriptive and analytical multicenter cross-sectional study of adults with PLHIV (age ≥ 18 years) attending a clinic for treatment of their infection during the first quarter of 2011 in three urban clinical centers in the city of Ouagadougou.

Results: A total of 852 patients were recruited. Among them, 500 were already on ARV at the time of collection, 352 were initiating ARV treatment on the same day of collection. The prevalence of tobacco use was 7.8%. The ARV treatment, gainful employment, gender and alcohol consumption were associated with tobacco use.

Conclusion: These results support the adoption of measures to prevent tobacco PLHIV, the fight against unemployment and strengthening the integration of HIV testing and medical care and social psychology in our country and poor countries in general.

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SURVEY ON TOBACCO ADDICTION AT SENGHOR UUNIVERSITY IN ALEXANDRIA, EGYPT: MARS 2012

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Introduction: Tobacco addiction is one the main causes of evitable death. Tobacco kills every year more than 5 million of person in the world according to the WHO. Its effects on health are known to be harmful. In Egypt, a very few data are available on smoking in general and in the Universities in particular. Our survey wanted to study Tobacco addiction at Senghor University.

Method: transversal descriptive survey made in March 2012 with self-administrated questions to 200 students from 22 different countries and also to people working at Senghor University.

Results: In the end, 151 persons answered to the questionnaire (including 112 students and 38 employees from the University). 29% were women. The average age was 33 years old included between 20 and 59 years old. 12,2% of people who answered have a secondary and primary school level and for those who have a university level, 56,5% have a master's degree, 15,6% a bachelor's degree and 15,6% a doctorate. The Tobacco prevalence was 14% for actual smokers and 35% for former smokers. The most cited noxious effects of Tobacco are: cancer and pulmonary diseases (37 answers). 91% of our sample was exposed to second-hand smoke at the University. Nonetheless, 30% ignored the existence of the CCLAT convention (Convention Cadre de Lutte contre le Tabagisme) and the existence of an anti-Tobacco law. 7% allocate good effects to smoking including pleasure and incomes from taxes related to Tobacco sell.

Conclusion: The deleterious effects of Tobacco are well-known. Young and active population like students and University employees suffer from a lack of information and awareness on Tobacco addiction.

In concert with the staff and the students, we would like to propose non-smoking places and areas. Thanks to what we would be able to reduce Tobacco's prevalence and progressively make Senghor a nonsmoking University.

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APPLICATION OF FLUORESCENCE QUANTITATION POLYMERASE CHAIN REACTION(PCR) AND HC2-HPV-DNA FOR HIGH-RISK HPV DETECTION IN EARLY SCREENING OF UTERINE CERVICAL CANCER

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Background: Cervical cancer is a malignant neoplasm arising from cells originating in the cervix uteri.Human papillomavirus (HPV) infection appears to be a necessary factor in the development of almost all cases (more than 90%) of cervical cancer.

Aim: The aim of this study was to select the more suitable testing method for early screening of uterine cervical cancer to protect susceptible populations.

Methods: We used two methods to detect the infection status of 13 high risk HPV types during women's health screening. The study group consisting of 879 healthy women was divided into two groups according. One was the low age group(<40 years old), and the other was the high age group(≥ 40 years old).

Results: By fluorescence quantization PCR, the total high risk HPV-positive rate for the entire study group was 15.93% (140/879). By fluorescence quantization PCR, the positive rate was 10.2% (19/186)for the low age group, while the positive rate was 17.5% (121/693) for the high age group ($P < 0.05$). The total detected high risk HPV-positive rate by HC2-HPV-DNA was 11.83% (104/879). By HC2-HPV-DNA, the positive rate was 10.2% (19/186) for the low age group, while the positive rate was 12.3%(85/693) for the high age group. The positive and negative rates for combination of fluorescence quantization PCR and HC2-HPV-DNA were 9.56% (84/879) and 81.80% (719/879), respectively. Statistical difference was observed between fluorescence quantization PCR and HC2-HPV-DNA in detecting high risk HPV types ($P < 0.05$).

Conclusions: Women over 40 years old have a high risk for high risk HPV infection. High risk HPV detection methods must be enhanced to decrease the incidence and mortality of cervical cancer in women over 40 years old. The HC2-HPV-DNA is superior to fluorescence quantitation PCR for detecting 13 high risk HPV types and is more suitable for large scale health screening.

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ENVIRONMENTAL DETERMINANTS FOR HEAD & NECK CANCER PREVENTION IN NORTH INDIA.

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Background: Head and neck squamous cell cancer (HNSCC) is maximally encountered in India across the globe and the environmental practices herein probably have the biggest contribution in carcinogenesis.

Aim: This prospective study presents the possible association of various environmental determinants on 707 histologically proven HNSCC patients

Methods: The data was collected on (1) age, (2) sex, (3) religion, (4) education status, (5) income status, (6) site of involvement [categorized as per ICD-10 into nose, oral cavity, pharynx including oropharynx/ nasopharynx/ hypopharynx, larynx,, salivary gland including parotid/ submandibular gland, and ear, (7) passive smoking at home, (8) passive smoking at workplace, (9) severity of smoking, (10) age when became a regular smoker, (11) evidences of gastroesophageal reflux disease, (12) age when stopped smoking, (13) use of other tobacco products, (14) age at starting alcohol, (15) age at quitting alcohol, (16) current use of multivitamins and minerals.:

Results: The incidence of preventable cancer showed most significant association with tobacco, educational- and income status. Many other interesting observations have emerged from this study that may need to be further worked up. The rarity of malignancy tympanomastoid in a population with prevalence of ear discharge (chronic suppurative otitis media) of 15% (rural) raises the question against the predisposition of cancer by CSOM in Indian population. Secondly the significantly increased rate of pharyngeal cancer in 5th decade is unique

Conclusions: Two points have emerged from this study that are likely to have the highest impact on cancer control policy in India: (1) implementing compulsory education till class VI and (2) Enhancing family income to Rs 4000/ INR per month. With crude / non-standardized products being marketed a standardization-policy needs to be universally implemented by the government of India especially in the rural areas

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EVALUATION OF THE WESTERN AUSTRALIAN (WA) *LIVELIGHTER* "SUGARY DRINKS" OBESITY CAMPAIGN

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Background: The *LiveLighter* "Sugary Drinks" campaign, launched July 2013 in WA, graphically depicts visceral fat around vital organs and focuses on the contribution of sugar-sweetened beverage (SSB) consumption to the development of toxic fat and ultimately disease.

Aim: To evaluate recall and response to the campaign and determine the population impact on beliefs, intentions and behaviour with regard to consumption of SSB. Also, to monitor potential unintended consequences of the campaign.

Methods: A cohort design with a pre-campaign telephone survey of a representative sample of WA adults aged 25–49 (N = 1,504), repeated following the launch (N = 822) and two months later (N = 557). Multivariate logistic regression models accounting for repeated measures were tested.

Results: Campaign awareness of 70% (including 33% top-of-mind recall) was maintained despite reduced TARPs (1,138 to 468). Obese adults were more likely to be aware of the ad (80% cf. 64%), and overweight or obese adults to perceive it as self-relevant (67% cf. 29%), report a negative emotional response (44% cf. 26%) and rate it higher on measures of perceived effectiveness. The campaign was associated with increased awareness of the health consequences of excess consumption of SSB (67% cf. 88%). Despite no evidence of increased intentions to reduce consumption, there was evidence of reduced SSB intake among overweight respondents (54% cf. 47%). There was no increase in endorsement of stereotypes of overweight individuals.

Conclusions: Population reach compares favourably with other obesity prevention campaigns locally and internationally. The campaign performed well on outcomes previously associated with health-related intention and behaviour change, particularly among those most at risk of weight-related health problems. Further evidence that the campaign reached and resonated with the target group is found in greater campaign awareness among obese adults and reduced intake of SSB among those overweight or obese. The campaign did not unintentionally stigmatise overweight people.

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BURNOUT AND MEANING IN LIFE IN VOLUNTEERS WORKING IN PALLIATIVE CARE

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Background: Burnout is a serious problem faced by staff working in oncology and palliative care. Meaning in life can be a protective factor, leading to more satisfaction in work and less burnout. There is little research in developing countries like India on the prevalence of burnout and its association with meaning in life in volunteers working in palliative care.

Aim: Our study aims to detect the presence and level of burnout, the meaning in life and the association of burnout with meaning in life in volunteers working in palliative care clinic in a tertiary care oncology centre in a developing country.

Methods: In a cross sectional questionnaire survey, consenting volunteers working in palliative care clinic in a tertiary care cancer centre completed forms for demographic and experience related information, Professional Quality of Life Scale and Meaning in Life Questionnaire. Descriptive statistics for age group, years of experience, presence and degree of burnout, and meaning in life and chi square tests to look for association between meaning in life and burnout were used.

Results: 10 of 20 volunteers returned the questionnaires. Five participants were above 50 years of age. Six participants had worked more than 5 years in palliative care department. 6 participants had high scores (above 24) on Presence of Meaning component and only 2 had high scores on both Presence of Meaning and Search for Meaning components in Meaning in Life Questionnaire. All ten participants had low burnout scores. There was no significant association observed between meaning in life and burnout.

Conclusions: All participants in our study had low levels of burnout. Majority believed that there was a definite meaning in their life and followed a purpose, although this was not significantly associated with burnout.

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ASSESSMENT OF SOCIAL AND EMOTIONAL WELLBEING IN CANCER PATIENTS BY FACT-G SCORE AND IT'S CORRELATION WITH FACT-G TOTAL SCORE IN INDIAN SCENARIO

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Background: Over the past two decades, numerous instruments have been developed to measure health related quality of life. The Functional Assessment of Cancer Therapy scale was developed by Cella DF, et al. to measure quality of life in patients undergoing cancer treatment.[1]

Aim:
- To find out correlation between total Emotional Well Being (EWB) and Social Well Being (SWB) and FACT-G total score in Indian context
- To find out which statement in the SWB and EWB having minimum score
- To find out which statement in the SWB and EWB having maximum score

Methods: Patients suffering from cancer were enrolled and asked to fill the FACT-G form with the help of a social worker

Results: SWB:
The statement which got maximum score in SWB was "I get emotional support from my family"
The statement that got least score in the SWB was "I get support from my friends"

EWB:
The statement which got maximum score in emotional wellbeing was "I worry about dying"
The statement that got least score in the emotional wellbeing was "I worry that my condition will get worse
There was a correlation of 0.78 between total SWB and total FACT-G score
There was a correlation of 0.61 between total EWB and total FACT-G score

Conclusions: Family is the centre for attention for these patients and so adequate counselling and support should be provided to the family members. This is even more important as friends gradually provide less support which may be due to less social interaction and social stigma because of illness.

Results of EWB suggest that though patients worry most about dying but on the other hand worry least about their condition becoming worse. This may be because patients are usually kept in dark about the prognosis both by their relatives and doctors till the very end due to collusion.

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IMPACT OF PALLIATIVE CARE EDUCATION INTERVENTION ON NURSES' KNOWLEDGE, ATTITUDES AND EXPERIENCE TOWARDS THE CARE OF THE DYING AT ONCOLOGY CENTER -MANSOURA UNIVERSITY

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Background: Death is an inevitable phenomenon that affects every human being. Nurses play a key role in caring for dying patients. That role is seen as one of the most stressful facets of nursing, they spend more time with dying patients. Nurses' attitudes toward death and dying could affect the nursing care they provide.

Aim: The aim of this study was to evaluate the impact of an educational intervention on the attitudes of nurses toward care of the dying.

Methods: Design and setting: A quasiexperimental design was conducted at Oncology Centre –Mansoura University. One group of thirty five nurses from different departments accepted to participate voluntary and gave consent were recruited.

Tool of the study: One tool was used to collect data, "Frommelt Attitude Toward Care of the Dying" Scale (FATCOD), in addition to a demographics questionnaire. It was used pre- post intervention.

Results: The results indicate that implementing the educational intervention program affects positively and significantly nurses' attitudes towards care of the dying.

Conclusions: In order to prepare nurses to effectively care for the dying patient, education must be incorporated into undergraduate studies in all healthcare institutions. A palliative care elective course should be considered to allow the content to be expanded to a full semester course. In service training and continuous educational program is essential to improve nurses' attitudes towards care of the dying. It is also recommended that this study be repeated using a larger sample size.

Keywords: Educational Intervention, Palliative Care, Nurses, knowledge, Attitudes, Experience, Care of Dying

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SOCIAL CONSTRAINT AMONGST PEOPLE WITH ADVANCED CANCER: A CORRELATE WITH STIGMATISATION AND ANXIETY

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Background: People with advanced cancer experience Social Constraint when they feel they are required to restrict or modify their cognitions and emotions relating to cancer. Stigmatization experienced by people with cancer involves feelings of alienation and negatively impacts sense of self, wellbeing and social interactions. Current literature on social constraint amongst people with advanced cancer is limited, and the ways in which social constraint influences psychological distress and the social/psychological mechanisms of stigma are not well understood.

Aim: This study explored levels of social constraint reported by people with advanced cancer and its associations with stigmatisation and psychological distress.

Methods: This study had an exploratory cross-sectional design which involved a quantitative self-report questionnaire. Participants were patients of oncology outpatient services at two tertiary metropolitan hospitals. Outcomes measured included distress (Brief Symptom Inventory-18), social constraint (Social Constraint Scale) and stigmatisation (Social Impact Scale).

Results: Data was collected on forty five people. Descriptive statistics and correlational analyses explored associations between outcomes. The mean age for participants was 64 years and the majority were male (N = 26; 58%). Participants were diagnosed with advanced gastro intestinal cancer (47%) or advanced lung cancer (53%). Prevalence of overall psychological distress was 8.9%. Social Constraint significantly correlated with stigmatisation ($r = 0.352$; $p < 0.01$) and anxiety ($r = 0.401$; $p < 0.01$).

Conclusions: This study revealed a significant association between social constraint with stigmatisation and anxiety amongst people with advanced lung or gastro intestinal cancer. It is possible that people who experienced high levels of stigmatisation related to their cancer experience felt required to modify their cancer related cognitions and emotions to others, which may have adversely affected their psychological outcomes. These concepts are of relevance to future research and should be explored further in regards to coping and support interventions for people with advanced cancer.

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BONE LESION SCORE – A PREDICTOR OF SUCCESS OF RADIONUCLIDE THERAPY IN SKELETAL METASTASIS

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Background: Pain from skeletal metastases represents a complication of breast and prostate carcinoma. Bone-seeking radionuclides can target osteoblastic lesions to offer palliation but produce marrow toxicity. Thus radionuclide therapy, a needs to be administered according to a selection criterion. To set a logical criterion – bone lesion scoring system is devised, that is calculated by quantifying the pretherapy bone scan.

Aim: To device a quantitative method to predict the efficacy of radionuclide therapy for bone pain palliation.

Methods: 40 patients with carcinoma breast and prostate, with skeletal metastasis were enrolled. Bone lesion score was calculated on Tc MDP bone scan according to the bone lesion scoring system. Patients were injected 2600 MBq of Lu-EDTMP after 1 week of bone scan and blood counts. Follow up of patients done every week to monitor pain response and hematology, monitored with the help of visual analogue scale (0–10). Bone lesion Score: Skull: **0** = no **1** = <2, **2** = >2 Spine: **0** = no, **1** = <2, **2** = 3–5, **3** = >5 Pelvis: **0** = no, **1** = < 10%, **2** = 10–25%, **3** = >25% Thorax: **0** = no, **1** = <2, **2** = 3–5, **3** = >5 Extremities: **0** = no mets, **1** = <2, **2** = 3–5, **3** = >5

Results: The followup of patients after 2600 MBq Lu-EDTMP showed a better pain palliative response with initial bone lesion score of below 8. With bone lesion score of 8–10, the pain score reduction can be graded as minimal. The pain palliation was negligible in cases with bone lesion score of 11–15.

Conclusions: Bone lesion score can be considered a predictor of success of radionuclide therapy. The patients with a score of more than 10 indicating extensive skeletal involvement should not be considered for radionuclide therapy as the risk of bone marrow suppression outweighs the palliative benefits.

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DECISION MAKING FACTORS IN CONSULTATIONS BETWEEN OLDER PEOPLE AND THEIR ONCOLOGISTS

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Background: Patients and doctors may bring differing priorities, expectations and goals to a medical consultation.

Aim: To determine the frequency with which decision making factors, identified by older people with cancer and healthcare professionals, are discussed during oncology consultations.

Methods: Patients aged 70 or over were recruited from the institution's oncology clinics. Eligible patients were English speaking and attending an initial consultation or following a re-staging procedure to assess treatment response. Consultations were audio-recorded and transcribed. A content analysis was conducted using a coding scheme based on factors influencing cancer treatment decisions by healthcare professionals and older people, identified from previous qualitative research.

Results: 11 consultations with patients aged 70 to 84 years were analysed. Decision making factors reported as important by clinicians and patients, including age, and treatment benefits and risks were discussed in the majority of consultations. Of decision making factors reported as important by clinicians only, comorbidities, medication use and social support were routinely discussed (3.8, 3.6, and 2.6 times per consultation), compared with cognition and frailty (0.1 and 0.2 times per consultation). Decision making factors identified only by patients were less frequently addressed, with family views and quality of life infrequently discussed (0.6 and 0.9 times per consultation), although physician opinions (1.8 times per consultation) were expressed.

Conclusions: Consultations were medically focused, with clinicians' decision making factors more likely to be addressed than items considered important by patients.

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THE DISCUSSION OF AGE AND GERIATRIC ASSESSMENT DOMAINS IN CONSULTATIONS BETWEEN OLDER PEOPLE AND THEIR ONCOLOGISTS.

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Background: Incorporation of geriatric assessment domains into oncological assessment of older people with cancer may not be routine in oncology consultations

Aim: To explore the discussion of age and geriatric assessment domains during oncology consultations with older people.

Methods: Patients aged 70 or over were recruited from the institution's oncology clinics. Eligible patients were English speaking and attending an initial consultation or following re-staging procedure to assess treatment response. Consultations were audio-recorded and transcribed. Qualitative thematic analysis was conducted, and focused on discussion of age and geriatric assessment domains. Points of divergence were discussed by the research team and consensus reached.

Results: 11 consultations with patients aged 70 to 84 years were analysed. Age was discussed in direct relation to treatment decision making. Medical terminology was used by all consultation participants (doctors, patients and carers) when discussing medical conditions and medication, whilst physical function was described using non-specific lay terminology. Only limited enquiry about social supports was made. Inquiry about geriatric syndromes was rare. However, detailed and objective descriptions of physical function and social supports were revealed through social conversation with patients about interests and home life.

Conclusions: Age was a contributor to cancer treatment decision making in the consultations. Limited attention to geriatric assessment domains was seen, and geriatric terminology and concepts were not routinely used. Opened ended inquiry in a social manner provided most information about physical function and social supports.

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TENDENCY TO BREAST RECONSTRUCTION AFTER BREAST MASTECTOMY AMONG IRANIAN WOMEN WITH BREAST CANCER

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Background: Women with the medical history of breast cancer constitute the biggest group of patients who survived cancer. In Iran and other countries only limited patients elect reconstruction surgery

Aim: to evaluate the rate of tendency to breast reconstruction surgery among women with breast cancer who had mastectomy but did not reconstruction surgery and assess associated factors that effect on their decision

Methods: This cross sectional study was conducted in Mashhad, Iran during 2013. 108 consecutive patients with breast cancer after mastectomy were completed the valid and reliable questionnaire about their attitude towards breast reconstruction surgery and associated factors. Demographic data and 21 items of questionnaire were compared between patients with tendency to breast reconstruction and who did not.

Results: In this study 62 (57.4%) patients had a tendency to breast reconstruction and 46(42.6%) of them had not. the most of the participants (45%) belong to age group of 35–45 year old. 81% were married, 11% were single and others were divorced or widow. 31% had a college education and 16%had only a high school diploma. The mean age of patients in first group (43.3±8.03) was 6.3 year lesser than the second group (49.6±9.9) ($P < 0.001$). The frequency of agreement about impact of the following items on their decision was significantly different between two groups. Impact of breast reconstruction on appearance and beauty ($P < 0.001$), mood ($P = 0.001$), Family living conditions ($P < 0.001$) and their opinion ($P < 0.001$). Lack of sufficient information ($p = 0.01$), Physician's opinion ($p < 0.001$) and Priority of Cancer Breast Treatment ($p = 0.02$).

Conclusions: More than half of the patients have a tendency to breast reconstruction surgery although they did not it yet. Identify the factors that can increase the tendency and factors that help to change the intention to action are important and should be investigate in future research.

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BONE TUMOR PROFILE IN DR. SOETOMO HOSPITAL SURABAYA – INDONESIA SIX YEARS EXPERIENCE

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Background: **Aim:** to study the profile of bone tumors based on data of Pathologic Based Cancer Registry in Pathology Laboratory Dr.Soetomo Hospital – School of Medicine Airlangga University, Surabaya as the top referral hospital in eastern part of Indonesia, for six years during period 2008 – 2013

Methods: a retrospective and descriptive study was done, using secondary data of histopathological result in Dr. Soetomo Surabaya sorted from Pathologic Based Cancer Registry. The sample were data from all patients with bone tumor which were processed and diagnosed in Pathology Laboratory Dr.Soetomo Hospital Surabaya – Indonesia period January 2nd, 2008 until December 31st, 2013 then classified mostly based on age, sex and location.

Results: there were 352 bone tumor cases in Pathology Laboratory Dr.Soetomo Hospital consist of 188 (53.41%) malignant tumor and 164 (46.59%) benign bone tumor. The most malignant bone tumor is osteosarcoma (27.13%), followed by metastatic bonedisease (14.89%), chondrosarcoma (13,83%), plasma cell myeloma (8.51%) and Ewing's sarcoma (6.91%). Malignant bone tumor affected mostly to male patients (51.60%)

more in metastatic bone disease, chondrosarcoma, Ewing's sarcoma, malignant lymphoma and chordoma. In age group osteosarcoma and Ewing's sarcoma affected to the range of 10 – 20 years old, while chondrosarcoma, metastatic bone disease, plasma cell myeloma, malignant lymphoma and chordoma affected to mostly older patients in age above fourties. The most benign bone tumor were osteochondroma (26.83%) followed by Giant cell tumor of bone (23.17%) and osteoma (15.24%).

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PURPOSES, OF JORDAN CANCER REGISTRATION CANCER FIGURES 1996–2010

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Background: Jordan Cancer Registry started in 1996 to define cancer pattern and burden and to provide a framework for assessing and controlling the impact of cancer on Jordanians. As national, population–based registry-covering whole of Jordan, "2010 Incidences" is latest published data.

Aim: NCCP contribution, cancer prevention and control

Methods: The registry collects cancer data in passive and active methods of case finding, collected data coded using the ICD_O3. Measures taken for quality control, the data stored, and computerized by CanReg_4 and CanReg_5, later data statistically and epidemiologically analyzed; using statistical programs. Age standardization facilitating national and international comparison

Results: Total (56000) registration (Males (49.6%) Females (50.4%).leading **male cancer**s, was Colorectal (11.6%), Lung (11.5%), Leukemia (8.9%), Urinary Bladder (8.6%) and Prostate (7.7%). While **female** cancers are Breast (34.1%), Colorectal (9.4%); Leukemia (6.5%); Lymphomas (5.5%) and Thyroid (5.1%). **Childhood cancers** were about (5.7%) of all cancers; Leukemia (34.8%), Brain &CNS (19.9%) and Lymphomas (17.1%). Whereas the most recent **mortality** among males' lung (30.2%), Colorectal (10.3%) and Prostate (6.2%). Females deaths; Breast (22.4%); Colorectal (8.9%) and Leukemia (7.1%). **Mean age** at diagnosis; males (53.5 years) with mode (65 yrs.); females (49.9 years) mode was (60 yrs.).

Conclusions: The accumulated fifteen years data should be converted into actions such early detection, prevention programs and more researches, Expand JCR abilities and capabilities of cancer surveillance in Jordan, make bigger efforts to educate people of the risk factors and its avoidance; raising public awareness. As most people pick up their bad habits at a younger age, leading to unhealthy diet and lifestyle, smoking, poor hygiene and many other risk factors; hence, education of the youth should be a priority to decrease these risks in the context of cancer control which can be reflected by registry figures.

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TRENDS OF MORTALITY FROM LEUKEMIA AND LYMPHOMAS IN CHILDREN BELOW 20 YEARS, BRAZIL

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Background: **Aim:** To describe trends of mortality from leukemia and lymphomas in children below 20 years in Brazilian cities that has Population-Based Cancer Registries.

Methods: We used data from cancer deaths in children below 20 years obtained from the Mortality Information System/DATASUS for the period 1996 to 2008. Deaths from leukemia were considered those whose underlying cause of death was coded as C91 to C95 and deaths from lymphomas those with codes C81 to C85 and C96 according to ICD-10, for individuals of both sexes, residents in Brazilian capitals. The study period was stratified in three years and mortality rates for Brazil and the capitals, adjusted for population, have been calculated. To analyze mortality trends we used polynomial regression models considering 5% significance levels.

Results: A trend of non-constant decline in mortality rates was observed for lymphoma; for leukemia no model was statistically significant for Brazil. There were also variations in the patterns of mortality for hematological malignancies for a few Brazilian capitals. Leukemia had higher rates of mortality for the entire period and for all age groups. For lymphomas, decreased mortality rates were seen for all age groups except 10–14 years. For this last group an increment of mortality was observed for the last study period.

Conclusions: The declining mortality trends observed for Brazil could be a reflection of improved survival, particularly in recent years. Variations in mortality from hematological malignancies between the studied Capitals suggest differences in access to diagnosis and treatment for these diseases.

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RACIAL DISPARITIES IN CERVICAL CANCER (CC) SURVIVAL IN BRAZIL

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Background and Aim: The purpose of this study is to examine differences in survival for black and non-black women diagnosed with (CC) and treated in a developing country.

Methods: Medical records of CC patients treated from 2006–2009 at the Brazilian National Cancer Institute were reviewed. Differences in survival were evaluated between black and non-black women. Chi-square tests and Odds Ratios (OR) with 95% confidence intervals (95% CI) were calculated. Survival was examined using the Kaplan–Meier method. Single and multivariate Cox proportional hazards modeling was used to estimate Hazard Ratios (HR) with 95% CI.

Results: The study sample included 1,482 women, including 188 (12.7%) who were black, 1,209 (81.6%) who were non-black and 85 (5.7%) not specified. There were no significant differences between black and non-black patients regarding age (p = 0.26), number of comorbidities (p = 0.20), performance status (p = 0.149) or stage at diagnosis (p = 0.15). Hemoglobin level at diagnosis lower than 12 g/dl was more frequent in black women (56.5% vs 45.6% p = 0.008), they less frequently received cancer-directed surgery (18.1% vs 28.3%, p = 0.005) and lymphadenectomy (10.6% vs 18.5%, p = 0.027). There were no differences in the amount of chemotherapy or radiotherapy received by black and non-black women. Overall, black women had a hazard ratio (HR) of 1.5 (95% confidence interval=1.2–1.8) of CC mortality compared with non-blacks. After adjusting for hemoglobin levels, there was no significant difference in CC specific mortality.

Conclusions: In this cohort, black women presented worse survival compared to non-black counterparts, but there was no difference after adjusting for hemoglobin level, which is lower in black CC patients.

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PROGNOSTIC FACTORS IN CERVICAL CANCER: A BRAZILIAN COHORT

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Background: Despite the increasing advances in the prevention and treatment of cervical cancer, there is still morbidity and mortality caused by the disease specially in developing countries, where data regarding the prognostic factors are scarce.

Aim: The aim of this study was to evaluate the prognostic factors associated with overall survival of patients with cervical cancer treated at the Brazilian National Cancer Institute.

Methods: Medical records of patients diagnosed with cervical cancer between 2006 and 2009 were retrospectively analyzed including: age, ethnicity, marital status, FIGO stage, performance status, hemoglobin level, histology, comorbidities, tumor differentiation, occupation and type of treatment. Clinical and epidemiological characteristics collected were compared using the chi-squared test. For the survival analysis the Kaplan-Meier method and log-rank test were employed. Cox regression was performed to identify prognostic factors associated with survival, considering a confidence interval of 95%. The p-value <0.05 was considered significant.

Results: 1482 records were analyzed. Cox model associated a worse prognosis for women with locally advanced disease ($p < 0.001$) or distant metastasis ($p < 0.001$), performance status 2–4 ($p <0.001$), hemoglobin levels at the beginning of treatment <12 g/dL ($p < 0.001$), >1 comorbidity ($p = 0.04$) and absence of lymphadenectomy ($p < 0.04$). Age, race, marital status, tumor differentiation and surgical treatment were not significantly associated with overall survival.

Conclusions: The independent prognostic factors for overall survival were FIGO stage, performance status, hemoglobin levels lower than 12 g/dL, the presence of comorbidities and the absence of lymphadenectomy.

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PATTERNS OF CARE AND OUTCOME OF ELDERLY WOMEN DIAGNOSED WITH CERVICAL CANCER (CC) IN THE DEVELOPING WORLD

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Background: Scarce data exist about the impact of age in CC patients in the developing world, with 80% of incident CC.

Aim: The objective of the current study was to examine patterns of care and outcome of these patients.

Methods: Medical records of CC patients treated at the Brazilian National Cancer Institute from 2006–2009 were reviewed. Patients were divided into 2 cohorts: ≥70 and <70 years. Chi-square and Odds Ratios (OR) with 95% confidence intervals (CI) were calculated. Survival was examined using the Kaplan–Meier method. Single and multivariate Cox proportional hazards modeling was used to estimate Hazard Ratios (HR) with 95% CI.

Results: A total of 1482 patients were analyzed: 1339 (90.4%) <70 and 143 (9.6%) ≥ 70 years. Compared to the younger patients, the elderly presented more comorbidities ($p < 0.001$), but lower rates of alcohol and tobacco dependence ($p < 0.001$ and $p < 0.001$, respectively). A marked difference in treatment was noted for the elderly cohort, even after stratifying by stage. Only 21% of the older patients underwent surgery compared with 27.6% of the younger ($p = 0.030$). Elderly women were 2.1 times more likely to receive no treatment (OR 2.1; 95%CI,1.39–3.23). After adjustment for potential confounding variables, the HR for death in the elderly was 0.80(95%CI,0.61–1.05).

Conclusions: These results corroborate previous data from developed countries: elderly patients have more advanced disease at diagnosis and age is an important factor in the allocation of treatment. Elderly women are more likely to forego treatment. However, there wasn't statistical difference regarding overall survival in this cohort.

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THE CHALLENGES OF CODING CANCER OF UNKNOWN PRIMARY (CUP) – A SURVEY OF CURRENT REGISTRATION AND REPORTING PRACTICES IN AUSTRALIA, THE UNITED KINGDOM, AND REPUBLIC OF IRELAND

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Background: Cancer of unknown primary (CUP) is a malignancy without an identified primary site. The definition of CUP in cancer registry reports appears inconsistent, potentially impeding an assessment of the true burden of this poor prognosis malignancy.

Aim: The aim of the study was to document and compare the current CUP registration and reporting practices by population-based cancer registries in Australia, the four countries of the United Kingdom (UK), and the Republic of Ireland.

Methods: Cancer registry directors were asked to complete a survey about the procedures and coding rules followed in the registration of CUP, and the reporting of CUP statistics. A total of 20 registries in Australia ($n = 8$), the UK ($n = 11$) and Ireland ($n = 1$) were approached and agreed to participate.

Results: The survey findings show no evidence of consistent national or international coding guidance for registering and reporting CUP, resulting in varied cancer registration practices. The variation in practice includes differing interpretations of ICDO3 and ICD10 codes for unknown primary, the investigation of death certificate only notifications, electronic notifications, consideration of prior registrations of site-specific cancers, and the types of notifiers approached for additional information. In addition, there is variation in coding practices for tumours with non-epithelial morphologies such as melanoma and sarcoma, and the use of ill-defined primary site codes such as 'gastrointestinal' cancer. Reporting practices also vary, with some registries using ICDO3 codes and others using different ICD10 codes to represent CUP.

Conclusions: Inconsistencies in the registration practices for CUP impact on CUP incidence reporting and hinder comparisons between jurisdictions. This obscures an accurate understanding of the burden of the disease which is important for its management, and creates challenges for CUP research based on registry data. The survey results will be used to better understand current incidence data and inform future national and international registration guidance.

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INCIDENCE, MORTALITY AND SURVIVAL TRENDS OF SMOKING-RELATED CANCERS IN WOMEN IN SETIF, ALGERIA, 1990–2009.

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Background: Tobacco use is the leading preventable cause of disease and premature death, in Algeria and in the world.

Aim: to estimate the impact of the tobacco on the cancerous mortality and the morbidity in the wilaya of Setif.

Methods: Incidence datas, were obtained from the population-based cancer registry of Setif, the sources of information of the cancer mortality were provided of the admission offices of the university hospital and the center for the fight against cancer of Algiers, Constantine. The informations of the cancer survival were obtained by the incidence and the mortality datas, this file was coupled with the active follow-up of the vital status of the electoral lists and the registers of the civil status of the wilaya.

These cancer sites included in the monograph 100E of the international agency for research on cancer on 2012. The colorectal, the ovary, the breast cancers and the myelogenous leukemia, by adding them to the list of the smoking-related cancers with the significatvely relationship between tobacco use and the following cancers included in the 2004 monograph : oral cavity and pharyngeal, esophageal, stomach, liver, pancreatic, laryngeal, lung and bronchial, cervical cancers and kidney, urinary bladder cancers.

Results: from 1990 to 2009, a significantly increase incidence rates, the annual percentage change was (+7, 2%). On 2001–2005, the cancer survival rates vary between (52, 8%) for breast cancer and 3, 3% for lung cancer.

Conclusions: The change over time in the smoking related cancers incidence of females in Algeria can be explained fairly well by the increase in cumulative cigarette consumption at the national level. Prevention and tobacco control efforts are still needed to further reduce the burden of this disease.

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ONE SIZE DOES NOT FIT ALL: INTRODUCING AN EQUITY FRAMEWORK INTO A TOBACCO REDUCTION STRATEGY

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Background: Inequity in the use of tobacco and differential responses to tobacco policies is a pattern in both high and low income countries and a direct cause of health inequity. It is essential to consider tailoring tobacco control initiatives with a view to reducing these inequities by catering to vulnerable sub-populations.

Aim: This presentation describes the development and testing of an equity framework for use in both practice and policy development in conjunction with a tobacco reduction strategy in a large Canadian province.

Strategy: This equity framework was collaboratively finalized and tested in partnership with regional and province-wide stakeholders in policy, community based and clinical settings. A critical approach was used to enable the consistent integration of issues linked to equity and gender in tobacco control strategies.

Programme: The equity framework was developed based on a literature review, review of existing generic equity tools, and a series of consultations and meetings with stakeholders held in 2013. The framework was applied and evaluated in regional settings for a range of tobacco reduction program challenges, and stakeholders were then trained and engaged in applying the framework.

Outcomes: The equity framework includes a tool and workbook. The tool is a chart that leads stakeholders through a process of critical thinking about the application of an equity sensitive approach to specific tobacco reduction issues and facilitates the accumulation of data and better practices for addressing tobacco reduction among sub-population of interest. Details of the process and consultation results will be shared, with a view to discussing how similar processes and tools might be useful and/or adapted in other jurisdictions, to identify sub populations responses to tobacco and tobacco control, seek out pertinent data and develop counteracting measures to reduce health inequity related to tobacco use by using an equity and gender approach.

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THE CASE FOR BANNING DUTY-FREE TOBACCO SALES AND FOR BANNING/RESTRICTING DUTY-FREE PERSONAL IMPORT ALLOWANCES

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Background and Context: Higher tobacco taxes and prices are a well-established means of reducing tobacco use. However, government decisions to allow duty-free tobacco sales and import allowances undermine the benefits of a high tobacco tax strategy.

A growing number of national governments are curbing duty-free tobacco, consistent with Article 6.2 of the WHO Framework Convention on Tobacco Control (FCTC).

Aim: This presentation will make the he case for banning duty-free tobacco sales and for banning/restricting duty-free personal import allowances

Strategy/Tactics: Duty-free tobacco sales:
- Result in less expensive tobacco
- Increase social acceptability of tobacco
- Associate tobacco with international travel, and with a luxurious lifestyle
- Provide a tax break available only to those who travel internationally
- **Provide an unfair privilege to some retailers to the detriment of other retailers**
- Reduce government revenue
- Contribute (in some parts of the world) to illicit trade

Programme/Policy Process: Two countries have banned duty-free sales to departing travellers – Nepal and Romania. In 1999, the European Union banned duty-free sales to individuals travelling within the EU. In Canada, the federal tobacco tax applies to sales in "duty free" stores.

Although a duty-free import allowance for travelers of 200 cigarettes is common in many countries, more countries are reducing the allowance, including recent changes in Australia and New Zealand. Here are the rankings for the lowest duty-free import allowances for cigarettes:

0	Barbados
0	Singapore
0	Sri Lanka
19	Hong Kong
40	various EU countries (mainly at land borders)
50	Australia
50	New Zealand

Proposed bans on duty-free tobacco sales have been strongly opposed by the tobacco industry – the industry's "scream test" has been passed.

Outcomes/What was learned: Intentionally reducing tobacco taxes/prices undermines public health and public revenue. Governments should ban duty-free tobacco sales to travellers (including on airplanes and ships), and should eliminate/restrict duty-free import allowances.

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TURKEY HOOKAH AWARENESS CAMPAIGN

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Background and Context: In Turkey, the prevalence of tobacco consumption as narghile (water-pipe) smoking has significantly increased especially among young people recently. In 2014 April, Turkey has launched an public ad campaign against waterpipe smoking.

Aim: Campaign Objectives:Raising awareness on the dangers of using hookah

Modifying formed or propagated false beliefs and attitudes concerning hookah 2. Causing behavioral change

3.

3.Raisin 4

Strategy/Tactics: Prior to the ad campaign, two surveys were carried out: a qualitative survey aiming to test and develop the public ad concepts(each ad concept focusing on a different aspect of waterpipe smoking – sharing, flavor and myths about waterpipe smoking)and a pre-campaign quantitative survey aiming to understand the perception toward waterpipe smoking and to measure the attitude about the key messages of the campaign.Based on quantitative ad qualitative survey we developed 5TV and Radio spots, outdoor materials,Brochures and Handouts,Newspaper Inserts, Internet and Social Media Strategies.We have started to air our first ad in April 2014.

Programme/Policy Process: **Outcomes/What was learned:** The results of pre-campaign quantitative survey mainly showed that the awareness about the health effects of water pipe smoking is not as high as those of cigarette smoking.It is important to conduct social marketing campaigns to raise people awareness about health hazards of water pipe.After airing all ads we will conduct a post campaign evaluation to measure impact of the campaign.(we are planning to conduct post campaign evaluation by September 2014)We also produced English, Arabic and French version of the materials.Since it is a global public health issue we want to share our materials with other countries without expecting copy write fees.

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ADVANCING SUPPORTIVE CANCER CARE AND HEALING: EVIDENCE-BASED TRAINING FOR ONCOLOGY NURSES IN GEORGIA JUNE 2014 UNIVERSITY OF WASHINGTON

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Background: Georgia faces an acute shortage of nurses and limited opportunities for continuing education. Nurses are underutilized and lack access to evidence-based practice guidelines and training in oncology nursing practices. Evidence shows that specific nursing interventions can enhance patients' behavioral management of physician-prescribed cancer treatment; increase quality of life; add to self-care competencies; improve healing; improve symptoms control and reduce anxiety.

Aim: This workshop aimed to:
- introduce new skills in psycho-oncology to practicing nurses and educators
- advance supportive care nursing education
- increase capacity of nurses to improve quality of life among oncology patients
- identify early innovators/key collaborators
- identify barriers to delivery of evidence-based nursing care
- set goals for overcoming barriers
- incorporate modules into TSMU curriculum

Strategy: In partnership with a local NGO and Tbilisi State Medical University (TSMU) we delivered interactive, evidence-based training modules, pre-selected by Georgian physicians and nurses. Demonstration videos and materials were developed for incorporation into the nursing curriculum. Content included state-of-science skills that nurses can utilize to relieve patients' cancer and treatment-related symptoms; reduce patients' anxiety and depressed mood; enhance patient and caregiver illness-management skills and competencies; and address nurse self-care.

Programme: The project included nurse observation, a 3-day intensive workshop and consultation with TSMU on integrating the modules into the nursing curriculum. Pre- and post-tests, exit surveys and follow-up interviews were conducted to assess knowledge acquisition and implementation.

Outcomes/Lessons learned:
- 37 nurses, educators and physicians trained (demand exceeded expectation), 9 trainers identified
- Enhancing Patient Quality of Life and Nurse Self-Care most highly rated
- Commitment from TSMU to pursue certification of nurses as lecturers
- Barriers: Role of nurse poorly defined, limited communication with patient, lack of printed information for patients
- Nurses reporting positive results after 4 months specifically in patient communication and meditation
- High demand for additional training

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CITIZEN SCIENCE: CANCER COUNCIL VOLUNTEERS AUDITING TOBACCO RETAIL OUTLETS

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Background and Context: The NSW Tobacco Retailer Notification Scheme (the Scheme) is intended to assist in monitoring and enforcement of tobacco retail legislation. The Scheme requires retailers to notify the government before selling tobacco.

Aim: We conducted a field audit of tobacco retailers to assess the accuracy of the Scheme's records and retailers' compliance with the legislation. We relied on volunteer auditors, as a way of engaging supporters as well as providing a cost effective way to conduct a large-scale audit.

Strategy/Tactics: The field audit assessed the effectiveness of the Scheme by investigating if there were retailers selling tobacco without notifying, assessing compliance with existing tobacco retail regulations, measuring price variations on cigarettes.

A distinctive feature of the study was the use of auditors drawn largely from existing Cancer Council supporters and volunteers. In addition to being cost effective, this strategy provided us with greater geographic reach and gave community members a practical way to contribute to tobacco control.

Programme/Policy Process: We recruited 180 volunteer auditors from organisational channels – community advocates, program volunteers, fundraising supporters, staff from other teams, and university partnerships.

We provided volunteers with briefing sessions, and a data collection kit. Project staff maintained contact with the data collectors for follow-up, trouble-shooting, and appreciation purposes.

All data collectors were offered a briefing on the results of the study before publication.

Outcomes/What was learned: Volunteers collected observational data from 1,565 listed tobacco retail outlets from 100 randomly selected postcodes. Volunteers also identified 174 unlisted retailers by searching randomly selected postcodes and their home postcodes.

Our post-study survey of data collectors indicated high level of satisfaction, increased understanding of tobacco retail issues, a strong sense of having contributed to cancer control, and strong desire to continue supporting Cancer Council and encourage others to do so.

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A PECULIAR AFRICAN COUNTRY WITH ITS PECULIAR CHALLENGES IN CERVICAL CANCER PREVENTION- THE SCHOOL-BASED CERVICAL CANCER VACCINATION AWARENESS INITIATIVE IN NIGERIA

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1. *Breast Without Spot, Enugu, ENUGU, Nigeria*

Background and Context: As a way of meeting Target 4 of the Revised World Cancer Declaration 2013, Breast Without Spot (BWS) launched a school-based cervical cancer vaccination awareness initiative on World Cancer Day 2014 with the aim of increasing awareness and uptake of Human Papillomavirus (HPV) vaccines in Nigeria. With a population of over 160 Million, Nigeria remains the most populous Nation in Africa. About 50.34% of the 28,903 newly-diagnosed cases of cervical cancer in West Africa occur among Nigerian women. The Country's hopes of accessing GAVI funding to enable mass vaccination of school-aged girls like fellow African Countries such as Uganda is far-fetched due to the National DPT-Diphtheria, Pertussis and Tetanus vaccine coverage of Nigeria standing as low as 43% against the 70% required to access GAVI funding.

Aim: To increase awareness and/or uptake of cervical cancer vaccination among parents of school-aged children, heads of schools, Teachers and the general populace in Nigeria.

To encourage Philanthropists to sponsor HPV vaccination of school-aged children in public schools whose parents might not be able to afford the vaccines

Strategy/Tactics: Hold series of awareness workshops, partnership with Philanthropists, Schools heads, Ministries of Education and Health, Parent-Teachers Forums, FBOs, CBOs.

Programme/Policy Process: Increase awareness by educating private Secondary Schools heads in Lagos State at a 'pilot' one-day awareness workshop on June 13th,2014. Launching of 'Journalist Cancer Control Advocate Award' to encourage support for cancer control advocacy among Nigerian Journalists and media organizations. Media support will be particularly beneficial to the vaccination program.

Outcomes/What was learned: (Will be updated after June 13th)Key informant interviews among a cross-section of school heads in Lagos State revealed low level of awareness of HPV vaccines. Rumors that the HPV vaccines available are ineffective among black women is a potential threat to the overall success of this initiative

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A NATION WITH 70% YOUTHS- USING OUR RESOURCES TO INCREASE CANCER CONTROL ADVOCACY IN NIGERIA

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Background and Context: In Nigeria,cancer morbidity and mortality statistics are mainly influenced by Knowledge, Attitude and Practices that result in significant late presentation of cancer patients to healthcare facilities! Breast Without Spot (BWS), a non-governmental, not-for-profit organization founded in 2008, is determined to downgrade tumours in Nigeria, through enthroning early detection and prevention of cancers and other non-communicable diseases – since 'late detection' was also the bane of the latter! BWS employs various strategies to achieve an impact on cancer control,targeted to empower Nigerians with information that could lead to a change of attitude & adoption of best practices.

Aim: To increase prevention and early detection of cancer in Nigeria.

Strategy/Tactics: Utilizing a ready population of vibrant, innovative and energetic youths to increase cancer control advocacy in Nigeria

Programme/Policy Process: BWS/NYSC cancer control advocate initiative is one of the major initiatives of BWS in which Nigerian graduates under the National Youth Service Corp (NYSC) are trained as cancer control advocates. Within the various communities they are posted for one full year, to raise awareness of cancer/ other NCDs in community gatherings, churches, schools, mosques, market places and corporate organizations An army of Cancer Control Advocates achieving ' One-on-One' grassroots impact

World Cancer Day Youth Jamboree is an initiative of BWS that targets Nigerian youths through social media and public health campaigns/ outreaches. Through this initiative, since 2011, BWS under the auspices of UICC successfully hosted this awareness event on World Cancer Day. The focus on youths, is defined by our belief that they are at best advantage to benefit from preventive lifestyle best practices. With the wide window for them to live long enough for such measures to significantly cut their cancer risk

Outcomes/What was learned: Youth involvement is relevant to the success of cancer control advocacy

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POPULATION-LEVEL RELEVANCE OF RISK FACTORS FOR CANCER: POOLED STUDY OF SEVEN AUSTRALIAN COHORTS

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5. *University of Newcastle, Newcastle, NSW, Australia*
6. *Baker IDI Heart and Diabetes Institute, Melbourne, VIC, Australia*
7. *University of Adelaide, Adelaide, SA, Australia*

Background and Context: Avoidable cancer burden can be quantified using the Population Attributable Fraction (PAF) which estimates the fraction of cancer attributable to modifiable risk factors by combining estimates of the strength of the exposure-cancer association and the exposure prevalence in the population. PAF is best estimated from cohort studies. Competing risk of death must be accounted for if cancer and death share the same risk factors. Large-scale cohort studies or pooled cohort studies are needed for analysis of rarer cancers, risk factor combinations and specific sub-populations.

Aim: To evaluate and compare the cancer burden attributable to lifestyle-related risk factors and their combinations in the Australian population using the most accurate methodology.

Strategy/Tactics: Seven Australian cohort studies (N = 369,727), with comprehensive data on exposure to lifestyle-related risk factors (e.g., smoking, alcohol consumption, overweight, diet, exercise) and up to 20 years follow-up, will be linked to the Australian Cancer Database and National Death Index, to collect cancer and death outcomes. Data will be modelled to estimatethe strength of the exposure-cancer association, in the presence of competing risk of death, using proportional hazards model with piecewise constant baseline hazard functions. The exposure prevalence estimates will be calculated from the Australian National Health Survey. Homogeneous cohort-specific PAF estimates will be pooled using inverse-variance weighting and the population-level relevance of the risk factors and their combinations for cancer in Australia, and in various population sub-groups (e.g., low SES), will be ranked.

Programme/Policy Process: We will provide the first estimates of the lifestyle-related avoidable cancer burden, including the most harmful risk factor combinations and the most vulnerable sub-groups, accounting for competing risk of death.

Outcomes/What was learned: We expect to provide the most accurate information on preventable cancers and cancer prevention target groups in Australia and internationally, essential in prioritising cancer interventions and public health policies.

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TESTING ‘JUST SAY AAH’ FOR SMOKEFREE SMILES: A VICTORIAN SMOKEFREE ORAL HEALTH PROJECT

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Background and Context: Oral Health Professionals are generally in a strong position to deliver brief smoking cessation interventions, however in Victoria this is not currently routinely done. Although the smoking prevalence in Victorian adults who smoke daily is currently 13.3%, there are many population groups where smoking prevalence is much higher. Many members of these sub-populations will access dental care through public and private settings.

Aim: Smokefree Smiles aims to train and support Victorian oral health professionals to embed brief smoking cessation interventions and routine Quitline referral into their daily practice.

Strategy/Tactics: Smokefree Smiles focusses on increasing the capacity of oral health professionals to deliver brief interventions through training provision and embed these processes through the development of tools and systems. The project will be testing a new brief smoking cessation intervention framework developed specifically for the oral health setting- *Ask, Advise and Help (Just say AAH).*

Smokefree Smiles has been funded by the Department of Health Victoria and has developed further partnerships between Quit Victoria, the Australian Dental Association Victorian Branch and Dental Health Services Victoria to tackle the issue of smoking in the oral health setting.

Programme/Policy Process: Smokefree Smiles is currently being piloted in a range of settings in Victoria, including: public and private, and metropolitan and rural sites.

Outcomes/What was learned: The pilot project will be completed by the end of 2014 and results and key learning’s will be presented.

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PRETTY SHADY – ENGAGING YOUNG AUSTRALIANS TO STOP SKIN CANCER ONE SUMMER AT A TIME

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Background and Context: Melanoma is the most common cancer in young Australians1. Yet, despite high incidence rates, skin cancer is one of the most preventable cancers2. Young people are the most ‘pro-tanning’ age group and also least likely to adopt sun protection measures3. While skin cancer prevention campaigns in NSW have contributed to positive shifts in knowledge and attitudes around skin cancer and sun tanning, routine and comprehensive use of sun protection measures remains a significant challenge.

Aim: To evaluate the implementation of a new skin cancer prevention campaign, *Pretty Shady*, targeting 13–24 year olds.

Strategy/Tactics: The *Pretty* Shady campaign was launched over the 2013/14 summer, aiming to positively reposition the five sun protection measures and address social barriers to sun protection. The campaign encouraged young people to “be part of the generation that stops skin cancer, one summer at a time”.

Programme/Policy Process: The campaign promotes effective sun protection measures in relevant digital environments as well as settings where young people are likely to be exposed to UVR and engage in tanning behaviours. An integrated marketing campaign was delivered utilising paid and unpaid advertising through ambient/street media, outdoor, cinema, subscription TV, seeding and social media platforms. Campaign components included an online video manifesto, celebrity ambassadors and limited edition giveaway sun protection products.

Outcomes/What was learned: The *Pretty Shady* campaign demonstrated strong online reach and engagement including over 1.2 mil views of the video manifesto on YouTube, over 5000 fans on Facebook with an average of 1.5 stories generated per fan and over 95,000 website visits. The campaign tracking survey showed that prompted recognition of the campaign peaked at 40% and averaged 19%. Recognition and engagement were higher among those with ‘pro-tanning’ attitudes. The campaign was successful in prompting action in 72% of those who had seen the campaign.

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ADVOCACY STRATEGIES FOR PUBLIC HEALTH POLICY GAINS -UTILISING THE SMOKEFREE AUCKLAND CAMPAIGN AS A CASE STUDY

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Background and Context: Engaging in local and central government consultation processes is an important strategy to improve population health outcomes. In recent years Cancer Society Auckland Health Promotion team has focused its capacity on influencing political processes for public health gain. This has included leading a Smokefree Auckland campaign aimed at a local government level.

Aim: Cancer Society Auckland (CSA) will outline their Smokefree Auckland campaign processes and strategies that have influenced and underpinned Auckland Council’s adoption of tobacco control goals aimed at achieving a Smokefree city.

Strategy/Tactics: Policy advocacy can be a powerful tool. Using research to highlight public opinion can effectively engage high profile media and put pressure on politicians to strengthen public health policy. This presentation highlights the results from the research and CSA’s approach to effectively influence Auckland Council. Strategies included a non-funded media campaign timed carefully to be a few days before council voted on the policy. Community members added weight to the key messages, through Breakfast TV airing a CSA video with families voicing strong support for a comprehensive Smokefree policy and a Smokefree vision for Auckland.

Programme/Policy Process: CSA has focused its capacity on influencing Council processes for public health gain by strongly campaigning for a comprehensive Smokefree Auckland policy. This involved a concerted and well planned advocacy approach.

Outcomes/What was learned: The advocacy strategies utilised in this campaign were highly effective. Overall, Auckland Council set bold Smokefree goals and this was underpinned by the adoption of a comprehensive Smokefree policy. CSA will demonstrate the impact of research as a mechanism to generate media. CSA will also present measures of the impact community mobilisation had on Council prioritisation of Smokefree. These advocacy strategies will be transferable and relevant across public health issues.

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CHANGING THE CANCER LANDSCAPE BY 2037: THE CANADIAN PARTNERSHIP AGAINST CANCER (CPAC)'S APPROACH TO DRIVING OUTCOMES AND MEASURING PERFORMANCE

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1. *Canadian Partnership Against Cancer, Toronto, Canada*

Background & Context: CPAC was established in 2007 by the Government of Canada to enable a collaborative approach to implementing the Canadian Strategy for Cancer Control. CPAC works with partners to effect change faster, more effectively and more efficiently.

Aim: In 2012, CPAC, with its partners, developed a Performance Measurement (PM) Strategy using an evidence-informed theory-of-change, which describes the 30-year impact of a CPAC-enabled, coordinated, and collaborative approach to cancer control. CPAC measures and tracks performance to demonstrate that its initiatives and programs, the collaborative model, and broader cancer control system are achieving the cancer strategy's immediate (2017) outcomes and laying the foundation for achieving intermediate (2027) and ultimate (2037) outcomes.

Strategy/Tactics: CPAC measures and tracks performance by beginning with the state of evidence, selecting appropriate indicators, establishing targets, analyzing gaps and determining recommendations for priority focus. The result is performance measurement that directly informs continued quality improvement and investment.

Programme/Policy Process: CPAC works with partners to set evidence-based targets and identify gaps between current and desired performance levels, signaling where improvements may be made. Within its evaluation framework, CPAC's portfolios have identified targets, related to the immediate and intermediate outcomes, for their indicators. Indicators have also been developed to assess CPAC's specific contribution to efficiency and acceleration of cancer control.

To gauge progress against longer-term outcomes, CPAC developed a multiple-methods design for knowledge transfer and exchange (KTE) monitoring and evaluation to measure the effectiveness of KTE efforts supporting implementation of the cancer strategy and achievement of outcomes.

Outcomes/What was learned: The development and implementation of a PM Strategy for cancer control is a leading practice for countries with a federated health policy environment. With sustained, focused effort, Canada's cancer community will change how Canadians experience cancer by 2037. Measuring and reporting on the impact of this work is critical.

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ESTABLISHING A PROTOCOL FOR INTERVENTION IN HOSPITALIZED SMOKERS. EXPERIENCE IN AN UROLOGY DEPARTMENT OF A PUBLIC HOSPITAL, MONTEVIDEO, URUGUAY.

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3. *Urology, Hospital Pasteur, Montevideo, Uruguay*

Apply an intervention protocol to support cessation in smokers During hospitalization and at discharge. Includes assessment of the degree of satisfaction With the intervention.

A prospective descriptive study of 10 male smokers who were admitted during April 2014 on a total of 50 male patients (20%) was performed. The protocol consisted of delivering a prospectus, a medical interview (general and smoking history) and mislead contraindications and / or refusal of treatment. Daily monitoring was performed with response evaluation and possible complications. Satisfaction was evaluated and treatment regimen was controlled 10 or 15 days according to pathology. At follow persistent cessation or relapse were evaluated and georeferenced to a smoking cessation program.

Nine patients was included, but one patient remained abstinent anyway and one of the included, despite smoking ban since 2006, kept smoking indoors, although to a lesser fullest extent (25%). Behavioral intervention was used together Bupropion 150 mg twice a day except one that provided a contraindication (epilepsy). No side effects occurred at all. In 5 of them included in the study who had insomnia and / or anxiety, benzodiazepines (clonazepam) were added. Only one of them smoked at discharge. Two of them who didn't smoke at discharge, latter smoked in ambulatory control, although less than before admission. No correlation between oncology and pathology even cessation was found. All patients included in the study were satisfied at discharge and post discharge, independent monitoring of the degree of abstinence.

Despite Uruguay ratified FCTC ten years ago, there is still a high percentage of smokers admitted to hospitals. This pilot experience in patients with high motivation (high percentage of surgical patients) improved assistance and constitutes a public health measure itself. Apply all measures at our disposal for the cessation of smoking at every opportunity is our ethical and professional obligation.

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YOUTH AGAINST CANCER IN KENYA

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1. *Youth Against Cancer in Kenya, Nairobi, Kenya*

Background and Context: Youth Against Cancer in Kenya (YACK) is a young organization that aims to create awareness about cancer among the youth. The organization is founded by youth in the University. The current perception in most of the world and especially Africa, is that cancer is an "old man's disease", the "rich man's disease. However this is not a reflection of the situation in Africa. An example closer to home in Kenya, many members of our youth have fallen victim of various types of cancer. With a significant number of families affected it has become evident that something needs to be done to change the current situation. With no known youth associated groups and no one to appeal to the youth, the youth are less conscience about the reality of cancer. Tackling this problem at youth level could also reduce the cancer rate in the old age.

Aim: Advocacy and creating awareness about cancer prevention among the youth in Kenya

Strategy/Tactics: Using modern technology and innovations like facebook, blogs, twitter, SMS text messages well as public fun events which are all very popular among the youths, youth can be made aware of cancer, causes of cancer, prevention and where to go for treatment if affected. Empowered and knowledgeable youth can also become great ambassadors among their peers and older members of the community, taking messages to the family members. The highest number of smokers in Kenya is the youth. We hope this programs will reduce, if not eliminate tobacco use as well

Programme/Policy Process: This is a new initiative and It is hoped that YACK will lead to less cancer cases if they youth are empowered to minmise risk of developing adult cancers

Outcomes/What was learned: Youth are more receptive to campaigns organised by their peers

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A SHORT INTRODUCTION TO CANCER STATISTICS

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Background: There is widespread interest in cancer statistics. One can expect that any national report on cancer statistics will quickly attract the attention of the mass media. It is important that statistical concepts be conveyed accurately, even if they are complicated.

Aim: In this presentation, we will explain some statistical concepts that are fundamental in statistical epidemiology. Some of these concepts are not as simple as one might think.

Methods: The basic statistical methods that are most useful in cancer are described in the text by Estève et al.[1] We will focus on explaining four measures in cancer statistics, namely incidence, prevalence, risk, and survival rates. Understanding these measures is useful to health care professionals in sharing the latest information on cancer control.

Results: Users of these concepts should approach their application judiciously. There are several measures of incidence, namely crude incidence, incidence rate, age-standardised incidence rate, cumulative incidence rate, and each has its own use. Measures of prevalence, risk and survival require even more careful consideration[2].

Conclusions: To interpret statistical reports in cancer correctly, it is essential to understand the definitions of the key concepts. In applications, one should use the relevant measures. These matters are important for researchers, policy makers, decision makers (including clinicians, patients and their carers who also make decisions), and those who summarise these reports for the media. Finally one should be mindful of the inherent difficulties associated with conveying statistical information, especially probabilities[3].

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INCREASING AWARENESS OF ALCOHOL AS A RISK FACTOR FOR CANCER: APPROACHES TAKEN IN CANADA

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1. *Canadian Cancer Society, Toronto, ON, Canada*

Background and Context: The Canadian Cancer Society (the Society) is a national, community-based organization, and one of our strategic priorities is to reduce cancer incidence rates. Alcohol increases the risk of several cancers, yet only one-third of Canadians are aware of this risk. The Society's drinking guidelines for cancer prevention (less than 1 drink a day for women and less than 2 drinks a day for men) are lower than the low-risk drinking guidelines adopted by Canadian provinces and territories (please see below, under Programme).

Aim: To increase awareness that alcohol increases cancer risk and to provide alcohol drinking guidelines for cancer prevention.

Strategy: Promote simple messaging on reducing alcohol consumption and work with partners to explain the difference between cancer prevention guidelines and public health drinking guidelines.

Programme: The Society's drinking guidelines for cancer prevention are found on our website, cancer.ca. To increase awareness of the link between alcohol and cancer, we integrated our guidelines into our brochure *Monthly Tips to Reduce Your Risk of Cancer* and our accompanying social media campaign. The Canadian Centre on Substance Abuse (CCSA) produced Canada's Low-Risk Alcohol Drinking Guidelines to reduce immediate and long-term alcohol-related harm (no more than 2 drinks a day for women and no more than 3 for men). We worked with CCSA to create a fact sheet to explain why these guidelines are different from cancer prevention and to clarify the research around alcohol and cancer risk.

What was learned: Having 2 drinking guidelines in Canada has led to some confusion among public health professionals about which guidelines to promote. Increasing awareness requires developing tailored messages for different audiences and working in partnerships to promote reduced alcohol consumption.

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ADDRESSING THE EDUCATIONAL NEEDS OF NURSES CARING FOR PEOPLE WITH CANCER IN IRELAND

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1. *Health Service Executive Ireland, Dublin, DUBLI, Ireland*

Background and Context: Ireland's National Cancer Strategy (2006) stresses the significant contribution from nurses in caring for people with cancer[1]. The National Cancer Control Programme (NCCP) developed a framework to enhance nursing cancer competence in acute and primary care settings [2]. This Framework outlined requirements by nurses in any healthcare setting.

Aim: To develop and implement nurse cancer education programmes to meet patient needs.

Strategy/Tactics: The NCCP collaborated with nurse leaders in educational and clinical practice settings to plan and implement training programmes. Focus group research was undertaken with nurses to identify their learning requirements in managing patients in their work settings.

The need for three educational programmes was identified:

1. A two-day programme for nurse working in Primary Care. This emphasised roles in disease prevention and lifestyle risk; screening; symptom awareness; appropriate referral pathways and long-term care.
2. A three-day programme for generalist inpatient based nurses. This emphasised roles in patient care from diagnosis to end of life.
3. A six-month skills-based Community Oncology Programme for public health nurses to provide shared acute care, in association with cancer centres, for patients receiving systemic therapy at home.

Programme/Policy Process: Three working groups were established to develop evidence-based curriculum documents for each programme. These were accredited by the Nursing and Midwifery Board of Ireland.

To date Programme showed that nurses enhanced their knowledge in relation to prevention, patient pathways and survivorship. programmes 1 and 3 have been implemented nationally and evaluated. The Primary Care

The skills-based programme resulted in reduced hospital bed utilisation and unnecessary hospital attendances. It greatly increased the skills of public health nurses and improved patient satisfaction.

Outcomes/What was learned: These nursing programmes highlight how cancer nursing care can be integrated successfully between specialist and primary care services to the benefit of patients.

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IMPROVING NCD PREVENTION BY COMPREHENSIVE HEALTH PROMOTION STRATEGIES THE COMPLEMENTARY ROLES OF THE PUBLIC AND NGO ACTORS

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Background and Context: Finland has a long history of implementing health policies intersectorally. In recent years important developments to further strengthen comprehensive health policy-making have taken place in the public sector.

The Finnish national NCD Alliance, formed in2014 by major NCD-related NGOs, is currently defining its strategies and actions to strengthen national health policy-making.

Aim: The aim is to strengthen comprehensive national level health policy-making for improved NCD prevention and for health equity.

Strategy/Tactics: A dialogue with Ministry of Social Affairs and Health (MSAH) and other relevant actors is being held by the NCD Alliance to strengthen common efforts for NCD prevention.

Programme/Policy Process: Since 2010 MSAH together with the Council of State and all Ministries has developed a comprehensive plan to implement Health in All Policies (HiAP) in which: 1) most important entry points for HiAP implementation were identified, 2) improved methods for health impact assessments and processes to improve policy proposals were developed, 3) commitment for and processes of HiAP implementation were strengthened.

Approaching the next parliamentary elections to be held in Spring 2015, during the fall 2014, the NCD Alliance identified its priorities for the next government period, interacted with the MSAH and relevant other actors to find alliances for an intersectoral NCD prevention programme, and for other strategic actions to improve health and health equity. In the presentation HiAP implementation plans and complementary efforts of the NCD alliance for improved NCD prevention will be described.

Outcomes/What was learned: To be able to act effectively, strategies and future plans of relevant actors need to be explored, interventions need to be carefully planned, and when possible they should complement the plans of others and fit to existing policy cycles.

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ESTABLISHING CANCER INFORMATION SERVICE CENTER IN ACCRA, GHANA

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Background and Context: African Cancer Organisation (ACO) seeks to establish a Cancer Information Service (CIS) Centre in Accra, Ghana. The CIS will offer information about cancer and support services to cancer patients, families and friends, general public and health care professionals. The whole idea is to promote primary prevention of cancer and early detection through culturally sensitive and linguistically appropriate cancer information, awareness and education programs. The project will navigate people to appropriate centers for further management and support.

Aim: The goal of the project is to ensure that every Ghanaian who is eligible has access to free and confidential cancer information service. The project will establish the needed infrastructure and also build capacity of personnel required to provide cancer information service to the public.

Strategy/Tactics: Trained information specialists will provide a one-on-one interaction by either telephone, e-mail, instant messaging or in person visit. The service will be free and confidential. The project involves setting up an office, distributing materials to educate the public about cancer, prevention, risk factors, sign and symptoms, diagnosis, treatment and life after cancer. This we believe will help prevent people from getting exposed to avoidable cancer risk factors and also help downstage cancers by early-detecting the disease at stages where cure is often possible.

Programme/Policy Process: There is solid evidence that making cancer information available and diagnosing it at an early stage will reduce deaths from cancer, and the success of interventions intended to detect cancer at an early stage greatly depends on education and awareness and sensitivity to the needs, beliefs and unique circumstance of the target population.

Outcomes/What was learned: Scaling up prevention and early diagnosis is the most cost-effective ways of dealing with cancer in Africa. ACO is by this looking for partners to collaborate to establish and sustain the CIS.

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PAPUA NEW GUINEA CANCER POLICY: DEVELOPING A NATIONAL CANCER CONTROL PROGRAM

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Background and Context: Because of the rising burden of cancer in Papua New Guinea, some efforts are now directed to cancer control. While some treatment is available, there is very little happening for prevention. Majority of cancer cases present in the late stage. However, cancer can be prevented by simple prevention techniques and messages. It was than agreed that a national cancer plan should be developed through which a National Cancer Control programme (NCCP) shall be developed. Through the plan program activities are coordinated and implemented strategically to have the most impact to reduce incidence of cancer. Therefore, we developed the first PNG national cancer policy 2015–2020 and are happy to present to the congress.

Aim: Aim of the cancer plan to is to provide the direction through which cancer stakeholders can plan and pool their limited resources targeting common cancer affecting the population. The plan provides a roadmap to follow to minimize and control cancer in the community. The plan takes into account the real and potential challenges (such as culture influences, beliefs etc..) that needs to be overcome in implementing the cancer plan and the appropriate technology.

Strategy/Tactics:The plan covers, prevention and early detection, diagnosis and treatment, registry and surveillance and palliative care. It is a challenge trying to identify the best techniques that will work for us. In this section we highlight some of the strategies and techniques in cancer control that are appropriate for our setting.

Programme/Policy Process: Basing on the above we framed our control policies together to make the NCCP for PNG. Here we highlight what those policy processes are.

Outcomes/What was learned: The development of the national cancer policy was an achievement in itself and we hope to achieve some milestones in the planning, implementation and monitoring evaluation phases of the plan.

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E -HEALTH STRATEGY FOR CONTROL AND TREATMENT OF SMOKERS FROM THE PROFESSIONAL COUNCIL OF ECONOMICS SCIENCES, CITY OF BUENOS AIRES, ARGENTINA (2013)

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Background and Context: In October 2012 as part of a comprehensive control program for tobacco control, an e- health service was implemented targeted to affiliates of Professional Council of Economic Sciences City of Buenos Aires.

Aim: To provide support and free online counseling to smokers in a population of 70 thousand affiliates.

Strategy/Tactics:The service consists of responsive and proactive telephone support, e-mail contacts, Facebook page, Twitter service and Web page. The services offer counseling and support, but when circumstances arise professional services of the Council are required.

Programme/Policy Process: In the first year, 1516 telephone calls were made to 490 affiliates. Of the total, 320 (21%) were incoming calls, while 1196 (79%) were outgoing calls, which means that for every call entered, four were calls response for controlling and monitoring.

A total of calls, 60% had 0–5 min of duration, 16% 5 to 10 minutes, 10% 10 to 15 minutes and 13% over 15 minutes.

A total of 750 personalized e- mails were sent and 287 responses were received.

The Facebook service gives advice and opinions and is regularly followed by a growing number of people (www.facebook.com / lineastop).The website has averaged 100 hits per month (www.lineastop.com).

A total of 276 smokers are under treatment and 98 of them are in abstinence. The abstinence rate is 35,5% in the first year.

Outcomes/What was learned: By using free tobacco quitline, Facebook, twitter and web page, 276 smokers were contacted and 35,5% of them are in abstinence.

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RESULT AND IMPLEMENTATION OF THE GRAPHIC HEALTH WARMING IN INDONESIA

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Background: Indonesia with 259 million inhabitants, is the 3rd largest tobacco consuming country after China and India in the world. Percentage of smokers in 1995 is 42% and increased to 60% in 2001. Serious steps should be taken to stop this smoking epidemic

Objectives: One of the best advocacies to fight for is Graphic Health Warning on cigarette packs considered as the most effective for reducing smokers in the society, in particular the young generation and illiterates in the urban areas. Health warning messages on cigarette packs was not effective.

Methods: Graphic Health Warning started 2006 and in 2007 research was made for 6 months in all levels of the society in Jakarta,Bogor, Cirebon to choose 4 out of the 6 pictures : the scariest – the most popular – the most informative – chosen by young people. Meetings were convened on the research result between NGO's and Government Institutions. A team of NGO's and Legal staff of the Ministry of Health worked on the amend of the Government Regulation no 19/1993 for Graphic Health Warning to be included. A big mass campaign was held in 2008 in the main street of Jakarta and press conferences.media campaign,seminars also were held for socialization.

Results and Implentation: November 2009 a comprehensive Bill no 36/2009 was declared and tobacco was stated as an addictive substance. The Tobacco Industry was sued at the Constitutional Court. October 2011 we won the case. The Ministry of Health in collaboration with NGO's drafted a new Government Regulation on Graphic Health Warning to be signed by the President. End of 2013 the President signed the Government Regulation on Graphic Health Warning to be implemented end of June to July 2014.

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USING MASS MEDIA AND ONLINE STRATEGIES TO INCREASE UNDERSTANDING OF THE UV INDEX

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Background and Context: Ultraviolet (UV) radiation is the leading cause of skin cancer. The UV Index is a limitless scale developed by the World Health Organization to quantify the levels of UV radiation reaching the Earth's surface. Public education campaigns about the UV Index have been widely recommended, yet not undertaken until recently. In 2012, Cancer Council Western Australia developed the first mass media campaign to specifically educate about the UV Index.

Aim: To develop and launch a mass media campaign that aims to increase the extent to which Western Australians aged between 18 – 45 years understand and use the UV Index to reduce harmful UV exposure.

Strategy/Tactics: This campaign marks a pivotal shift from previous SunSmart messaging by providing the public with the simple rationale for the SunSmart message and the ability to understand and plan their UV exposure. A key campaign message is 'Be SunSmart when UV is 3 or above'.

Programme/Policy Process: Focus groups and ad testing informed the development of a campaign comprising predominantly of an animated television commercial and website, supported by other media.

The television commercial was designed to drive traffic to the website, which provides more detailed education explaining the rationale for using the UV Index and localised UV forecasts.

Outcomes/What was learned: The first year's evaluation revealed modest but encouraging results, including:
- High awareness of any campaign strategies
- Increase in the proportion of people who correctly identified 3 as the level from which sun protection is required (of those who were aware of the campaign)
- Increase in intention to check the UV forecast

Initial results suggest that the UV Index is a concept that can be easily grasped by many. Evaluation of the campaign's second year is currently underway and key findings will be presented at the conference.

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PINK CHAIN CAMPAIGN IN CORPORATE OFFICES: CANCER AWARENESS CAMPAIGN HELPING PEOPLE TO UNDERSTAND PROBLEMS AND SCREENING MODALITIES IN CANCER IN HIGH RISK GROUP.

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Background and Context: In India, more than 70% cancer is preventable and more than 80% cancers are curable if detected early.In late stages, doctors have not much to do except palliation of symptoms.To make people present early to hospital generating awareness is the only way out to that can bring revolutionary change.

Aim: Prevention by educating people regarding various clinical features of different types of cancers and early detection by adopting a screening tests.

Strategy/Tactics: Screening of PINK CHAIN-A Docu-drama on Breast cancer and Lectures and check up by Medical Experts to teach people regarding different cancers, ways to prevent them, promote early detection, and boost the cure of the same.Special focus to make youth aware of their responsibilities and join this campaign to teach others as a part of their social responsibilities.To solve the quarries and clear the misconceptions of people regarding cancer & cancer related issues.

Programme/Policy Process: Pink Chain Campaign, a cancer awareness drive has been educating youth and officials to bring the change. The campaign, which started from a small school students' education about cancer,marked its footprints from Gandhi A for sensitizing youth.We covered many corporate offices and taught people about various aspects of cancer with special emphasis on cancer prevention and early detection promoting no to smoking and alcohol attitude.

Outcomes/What was learned: In our awareness campaign interim analysis, there is significant change in level of knowledge, attitude and practice in relation to cancer.Approximately there is more than 50% change in level of knowledge and attitude and 30–40% increase in change of safe practices and 20–30% decrease in addiction habits.Considering this as a reference we will be able to improve knowledge and attitude for cancer in 5 million people, 3–4 million people will start adopting screening modalities and approx 1 million people will change their addiction habits.

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SCIENTIFIC TECHNICAL LITERATURE: CONTRIBUTION TO THE KNOWLEDGE ON PREVENTION AND CONTROL OF CANCER

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Background and Context: The National Cancer Institute José Alencar Gomes da Silva (INCA), an agency of the Ministry of Health of Brazil responsible for developing and coordinating integrated actions for the prevention and control of cancer in the country, uses the production of publications as one of its strategies for this purpose.

Aim: To describe the importance of the publications about prevention and control of cancer as a support for the actions that contribute to the reduction in the incidence and mortality due to cancer, improving the knowledge of healthcare managers, professionals, researchers and students.

Strategy/Tactics: The basis of operations is the generation and dissemination of knowledge for the adoption of technical procedures, scientific and technological research and innovation in health.

Programme/Policy Process: All publications produced by INCA undergo an extensive editorial process, which is responsible for transforming the information in quality, transparent and broad-access publishing products.

Outcomes/What was learned: The publications produced by INCA contribute to the knowledge on prevention and control of cancer in the country and to the national public health activities concerning this area; they offer support for decision-making, and are used as efficient tools for health actions.

Examples of publications produced by INCA and its uses:
Guidelines for cervical cancer screening – Standardized recommendations for clinical approaches to care for women with precursor or invasive lesions. Clinical guidelines of the National Cervical Cancer Control Program.
Guidelines for the Surveillance of Work-Related Cancer – Technical and Epidemiological Guidelines to trigger epidemiological surveillance and working place-based actions.

Knowing Health: Preventing Tobacco and Other Risk Factors for Cancer – It presents smoking and other risk factors that increase the incidence of cancer.

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THE SENSORY EFFECTS OF LICORICE: THE ABUSE LIABILITY OF A FLAVOR ADDITIVE IN TOBACCO PRODUCTS

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Background: The U.S. Family Smoking Prevention and Tobacco Control Act of 2009 banned characterizing flavors in cigarettes except menthol. Non-characterizing flavors are still commonly used and may cause harm because the positive sensory effects (e.g. smell, taste, feel) facilitate the ease of tobacco use. Licorice is a common non-characterizing flavor and 63% of Mafco Worldwide's licorice product sales, the world's main distributor of licorice, are to tobacco industry (1). Licorice's sensory effects can reinforce the effects of nicotine and increase the abuse liability of flavored tobacco to consumers at risk for cancer.

Aim: This study investigates how tobacco industry uses licorice additives to alter consumer sensory perceptions and make tobacco more palatable.

Methods: We used the Legacy Tobacco Documents Library to identify documents relevant to the sensory perceptions of licorice in tobacco products. The initial search terms included licorice, sensory, and sensory qualities. We used a snowball technique to review additional documents.

Results: Tobacco industry has tested several types of licorice (e.g. spray dried powder, block juice, spray dried powder with block juice flavor, and licorice derivatives) and in combination with additives like cocoa and menthol to modify consumer sensory perceptions. Although each type has different effects, overall, licorice has been used to increase sweetness, enhance flavor and aroma, and mask undesirable characteristics such as the irritation and harshness of tobacco. Licorice reduces dryness to the mouth by improving the moisture of the tobacco product, which contributes to its increased shelf life. Licorice is known to enhance the core qualities of tobacco, while increasing the body, depth and smoothness of the smoke.

Conclusions: Preliminary results support the hypothesis that licorice is commonly used to enhance consumer sensory experiences. To reduce the burden of cancer globally, additional research is needed to determine how licorice contributes to the abuse liability of tobacco.

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THE DEVELOPMENT OF A COMPREHENSIVE EXPOSURE ASSESSMENT STRATEGY FOR POLYBROMINATED DIPHENYL ETHERS (PBDES) FOR USE IN CANCER EPIDEMIOLOGY STUDIES

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Background: Polybrominated diphenyl ethers (PBDEs) are flame retardants added to consumer products including electronics, polyurethane foam and appliances. They are persistent chemicals that have contaminated the food chain. Some are endocrine disruptors and may increase the risk of certain cancers, including breast cancer.

Aim: Our aim was to develop a PBDE exposure assessment strategy for use in epidemiology studies, including the Ontario Environment and Health Study, a population-based case-control study of breast cancer in Canadian women, aged 18–44 years.

Methods: To evaluate the routes and sources of PBDE exposures, the published and grey literature were searched. The literature was summarized and exposure sources were prioritized. Previously developed questionnaires and exposure assessment strategies were reviewed.

Results: Dust ingestion, dermal absorption, and hand-to-mouth contact were important exposure routes. Dietary sources include poultry, red meat, fatty fish, and fish oils. Occupational sources and air travel contribute to exposure. A questionnaire was developed to obtain occupational/environmental exposures and housing characteristics. To capture dietary sources, the Block 2005 food frequency questionnaire was modified, and a PBDE database will be developed. To evaluate absorbed dose, serum and urine will be collected and placed in a Biobank. Serum will be analyzed for PBDE congeners. We plan to collect air, dust, and surface wipes in 51 homes, to be used for validation.

Conclusions: A comprehensive exposure assessment strategy allows us to: evaluate associations between PBDE exposures and breast cancer (using serum biomarkers), understand sources of exposure measurement error (based on questionnaires), and identify important sources of human exposure.

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BLADDER CANCER RISK IS ASSOCIATED WITH OCCUPATIONAL EXPOSURES TO DIESEL BUT NOT GASOLINE ENGINE EMISSIONS IN A POPULATION-BASED CASE-CONTROL STUDY OF CANADIAN MEN

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Background: The International Agency for Research on Cancer classified diesel exhaust as a carcinogen and gasoline exhaust as a possible carcinogen based on evidence for lung cancer. There is limited evidence to support an association with bladder cancer.

Aim: To investigate the association between occupational exposure to diesel and gasoline engine emissions and bladder cancer in Canadian men.

Methods: Men diagnosed with bladder cancer cases (N = 670) and age frequency matched controls (N = 1642) were assembled from the population-based case-control component of the National Enhanced Cancer Surveillance System. Information on lifetime occupational history and possible cancer risk factors for 8 Canadian provinces was collected from 1994 to 1997. Concentration and frequency of exposures to diesel and gasoline engine emissions, and a measure of the reliability of exposure assessment was assigned to each job using a job-exposure matrix that was supplemented by expert review. Logistic regression was used to calculate odds ratios and 95% confidence intervals adjusted for other bladder cancer risk factors.

Results: Relative to unexposed men, exposure to high concentrations of diesel was associated with an increased risk of bladder cancer (OR = 1.87, 1.01 – 3.47). Duration of employment of up to six years (OR = 4.61, 1.33 – 16.04) and 20 or more years (OR = 2.50, 1.02 – 6.14) in occupations with exposure to high concentrations of diesel was also associated with bladder cancer (p_{trend}=0.05) relative to those who were unexposed. Exposure to gasoline engine emissions was not related to bladder cancer. We found that the effect of exposure to diesel was independent of the effect of cigarette smoking on bladder cancer.

Conclusions: These results support the hypothesis that exposures to high concentrations of diesel engine emissions increase the risk of bladder cancer. In contrast our analysis does not support an increased risk of bladder cancer from occupational exposure to gasoline engine emissions.

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OCCUPATIONAL EXPOSURE TO DIESEL AND GASOLINE ENGINE EMISSIONS AND COLON AND RECTAL CANCER RISK: RESULTS FROM A POPULATION-BASED CASE-CONTROL STUDY IN CANADIAN MEN.

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Background: Motor vehicle exhaust emissions are widespread and include a number of known and likely carcinogens. Investigating the carcinogenic potential of diesel and gasoline emissions has been identified as a high priority by the International Agency for Research on Cancer.

Aim: To investigate exposure to diesel and gasoline engine emissions with respect to colorectal cancer (CRC) risk in Canadian men.

Methods: We used data from a population-based case-control study with incident cases of colon (931) and rectal (840) cancer and 1642 controls from 7 Canadian provinces between 1994 and 1997. Lifetime occupational history and information on other risk factors was self-reported. Occupational hygienists, blinded to case-control status, assigned exposures to each job for 3 dimensions: concentration (low, medium, high); frequency (≤5%, 6–30%, >30% of time in a typical week); and reliability (possible, probable, definite). Logistic regression was used to estimate odds ratios (OR) and their associated 95% confidence intervals, adjusting for age, province, use of proxy respondents, smoking, body-mass index, physical activity, intake of alcohol, processed meat, juice, exposure to asbestos and aromatic amines.

Results: Among CRC cases, 638 (35%) were exposed to diesel and 814 (44%) were exposed to gasoline emissions. A trend for increasing CRC risk was observed for increasing levels of concentration of diesel emissions (OR_{high} = 1.65, 95% CI: 0.98-2.80; p = 0.008), relative to the unexposed. Examining colon and rectal cancers separately revealed that the association with diesel exposure was statistically significant for rectal (OR_{high} = 1.98, 95% CI: 1.09-3.60; p = 0.02), but not colon cancer (OR_{high} = 1.35, 95% CI: 0.72-2.54; p = 0.08). No statistically significant associations were observed for exposure to gasoline emissions.

Conclusions: Our findings suggest that occupational exposure to high concentrations of diesel emissions increases the risk rectal cancer. In contrast, our analysis does not support an increased risk of colon or rectal cancer from occupational exposure to gasoline engine emissions.

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RESULTS OF THE 2013 NATIONAL EARLY CHILDHOOD SUN PROTECTION SURVEY

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Background: Overexposure to Ultraviolet Radiation (UVR) in childhood is a significant predictor of skin cancer in later life. It is important then that early childhood services have comprehensive sun protection policies and practices in place to prevent skin damage to the children in their care. The National Early Childhood Sun Protection Survey was first implemented in 2008 to investigate the sun protection practices used by early childhood services across Australia, and was conducted for the second time in 2013.

Aim: To provide an overview of sun protection policies and practices in early childhood services across Australia in 2013, and to monitor changes in sun protection practices since 2008.

Methods: Approximately 15% of services in Australia were randomly selected to participate in an online survey, and 1037 services participated (response rate of 59%).

Results: Results indicated a high level of engagement with sun protection practices across Australian early childhood services. There were significant increases from 2008 to 2013 in the proportion of services that required the use of sunscreen, sun protective hats and sun protective clothing, although uptake of these measures varied across the different Australian states and territories. Almost half (49%) of services indicated that the issue of vitamin D and sun exposure had been raised at their service in the past year.

Conclusions: The improvements in early childhood sun protection practices in Australia since 2008 suggest that there is now a greater understanding of the importance of sun protection in early childhood. However, variation in use of sun protection practices across the Australian states and territories demonstrates the importance of each state/territory government endorsing comprehensive sun protection in early childhood services. Widespread concerns regarding vitamin D highlight the need for clear communication as to how to protect children's skin from the sun whilst safely achieving adequate vitamin D.

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RAPIDLY CHANGING CAUSAL FACTORS OF HEPATOCELLULAR CARCINOMA (HCC) IN JAPAN

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Background: Previously, about 70% of HCCs in Japan developed on the basis of hepatitis C virus (HCV) infection. However, the establishment of HCV screening system for blood transfusion resulted in a remarkable decrease of the chronic HCV hepatitis followed by a general reduction of HCV-related HCCs. The problem we now have is that we are observing not only a distinct increment of non-B non-C (NBNC) HCCs, not only proportionally but also absolutely.

Aim: To clarify the causal background of NBNC HCCs.

Methods: A total of 348 patients surgically treated for a HCC at C.I.H. from 2005 to 2014 were examined in terms of serological virus markers and clinicopathological features.

Results: Viral status: 81 hepatitis B virus (HBV), 137 HCV, 3 Double infection, 126 NBNC, 1 others. HCV(including double infection)/NBNC ratio were 1.43(43/30) and 0.59(26/44) for 2005- 2007 and 2012- 2014, respectively ($p < 0.05$).

M/F ratio were 6.4(109/17) for NBNC and 2.5(100/40) for HCV, respectively ($p < 0.05$).

Since metabolic disorder (MD) is thought to be an important cause of NBNC HCCs, NBNC patients were divided into MD+ and MD- groups. MD was defined as positive therapeutic history for any of following diseases; alcoholic liver disease, diabetes mellitus(DM), hypertension(HT), cardiovascular disease and/or hyperlipidemia and/or obesity (BMI > 25).

Of 113 MD+ NBNC patients, 102 were male with average age(aa) of 68.5 and 11 were female with aa of 71.1. Of 13 MD- patients, 7 male with aa of 63.7 and 6 female with aa of 56.3. Thus, most of NBNC HCC patients suffered MD. MD+ patients were older and male predominant in comparison with MD- (both $p < 0.05$).

Among MD, DM(54) and HT(50) were most frequent(including double).

Conclusions: While HCV-related HCCs are rapidly and remarkably decreasing in recent years, MD appears to have become a quite important causal factor of HCC and thus a target of HCC prevention in Japan.

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ALCOHOL CONSUMPTION AND PERSISTENT INFECTION OF HIGH RISK-HUMAN PAPILLOMAVIRUS.

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Publish consent withheld

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SYNERGISTIC EFFECT OF SECONDHAND SMOKING AND ALCOHOL DRINKING ON RISK OF HIGH RISK-PERSISTENT HUMAN PAPILLOMAVIRUS INFECTION.

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Publish consent withheld

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TRENDS OF FEMALE MALIGNANT NEOPLASMS AT DELHI STATE CANCER INSTITUTE (DSCI) – A TERTIARY LEVEL CANCER CARE CENTER CATERING TO NORTHERN INDIA

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Background: Population based registries under National Cancer Registry Program indicate that 50–60% of all cancers among Indian females, are related to breast and genital organs, with adverse influence on their productive role. Over 70% report in advanced stages and have high mortality rates.

Aim: To identify leading sites of neoplasm in females and detailed analysis of gynecological malignancies, in all age groups and to compare results with national and global data, with application of knowledge in early detection as emphasized by India's National Cancer Control Programme.

Methods: Systematic extraction of demographic and clinical details from hospital cancer registry between January 2011 to December 2013 was conducted to identify children, adolescents, young adults, and elder females diagnosed with various malignancies. Thereafter observation was analyzed system-wise and year-wise to determine trends.

Results: Female neoplasm constituted 13,412 (44.53%) of 30,120 total new patients registered with DSCI during three years, in males, females and children categories. Benign female neoplasms were 3420(25.15%). Of 9992 female malignancies registered, mammary glands were leading site 2513 (25.15%), followed by hepato- biliary and gastrointestinal system 2229 (22.31%), gynaecological malignancies 2200 (22.02%), oro-facial-pharyngial cancers 698 (6.99%) and hematological and lymphoproliferative malignancies 651(6.51%).

Leading ten organs constituting 71.6% of female malignancies were breast 2513(25.15%), Uterine cervix 1290 (12.91%), Gall Bladder 1224((12.25%), Ovary 620(6.21%), Bronchoalveolar 351(3.51%), Esophagus 262 (2.62%), Tongue 256(2.56%), Brain 232(2.32%), Hepatobiliary 221(2.21%), and Uterine corpus 186(1.86%).

Of gynecological malignancies, uterine cervix was commonest followed by ovarian and uterine cancers.

Year wise evaluation showed trends of common female malignancies to be similar every year.

Conclusions: Analysis of cancer registries at DSCI is a guide to trends of common female malignancies, so as to target clinical programs in screening, early detection, and treatment aptly, to reduce advanced stages reporting.

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A NOVEL AND SUSTAINABLE APPROACH TO EDUCATE THE PUBLIC ON CANCER AWARENESS IN DOMINICA: A UNIQUE ROSS INITIATIVE

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Background: Health education is pivotal in health care (1). Cancer is the biggest killer of human. Public education must be the highest priority (2). In spite of organized health education, no plan exists for sustainability. RUSM – Oncology Society, under direction, adopted a novel approach to educate and develop a method of sustainability, initiating high school students and then the community.

Aim: Sustainable communicty education for prevention and early detection of cancer.

Methods: The 5th Grade students leave school, for university education. In Dominica,after completing high school, they are respected members of the community. A group of 5–6 Ross Students, delivered a seminar on “Cancer prevention and early detection” to school leavers. Impact is assessed in a pre and post- questionnaire. In the 2nd phase, volunteer scholars 5–6 are given the same materials and trained by Ross students to address their community. As presenters will remain a part of the community, the information will be sustained. The attending community member’s impact on the presentation is assessed by pre- and post – questionnaire.

Results: In 10 higher secondary Schools in Dominica, 875 school leavers have been educated. The impact has been analyzed by sex (they are all 17–18 yrs), urban, semi urban and rural schools. Impact on communities was also assessed by sex, age, education, job, and urban, sub-urban and rural communities. The impact on students has been positive in almost all 12 points, so as on the community. However, the community gave a high value for children from their home, educating them on some important health issues. Details of these analysis will be presented.

Conclusions: The impact of this novel way to educate communities on important health issues has been positive, sustainable and can be done effectively at a very low cost. It may be followed elsewhere.

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IMPACT OF A 10% EXCISE TAX INCREASE ON THE RETAIL PRICE OF TOBACCO IN NEW ZEALAND

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Background: Evidence that tax increases are strongly associated with declines in smoking prevalence and tobacco consumption is overwhelming when the tax increase results in price increases to consumers. However, UK research suggests that tax increases are not being added to ‘discount’ brands as tobacco companies differentially shift tax increases between brand segments.

Aim: To examine the extent to which the January 2014 10% excise tax increase on tobacco in New Zealand (NZ) was passed on to consumers.

Methods: Price data were collected before and after the tax increase from a sample of NZ tobacco retailers, stratified by area deprivation. Four British American Tobacco brands were selected based on brand segmentation (premium, mainstream and value), together with one roll your own brand. The independent variables included the type of retailer, deprivation of the retail outlet location, proximity to a secondary school, if alcohol is sold, percentage of population aged under 19-years, and whether they were located in an urban or rural area.

Results: A preliminary analysis of the price data at both time points showed that the mean difference in price from before to after the tax change was only 3% for the value brand (461 retailers). This contrasted with the mean of 9% for the premium brand (448 retailers), and 11% for both mainstream and roll your own brands (471 and 464, resp.). This is a preliminary result; further analyses are examining other possible contributing variables that may explain these findings.

Conclusions: Tobacco companies in NZ do not appear to be adding the full 10% tax increase to discount brands. The price of these brands remains low, creating a greater price gap between premium and discount brands. If NZ is to achieve its goal of being smokefree by 2025 then changes to the excise tax will be needed.

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SUGAR-SWEETENED BEVERAGE (SSB) TAX: FRAMING THE MESSAGE FOR PUBLIC ACCEPTABILITY AND SUPPORT

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Background: An understanding of how to persuade the public to support a tax on SSBs is paramount in advocating for this public health intervention to policy-makers.

Aim: To determine the most acceptable message-framing for support of a tax on SSBs, aimed at funding obesity prevention interventions

Methods: A nationally representative telephone omnibus survey of 1,203 Australian adults in March 2014. Data were weighted to reflect the population and descriptive and multivariate analyses were undertaken.

Results: Use of money raised from a tax on SSB to fund programs to reduce childhood obesity and for children to play sport received the greatest support (85% and 84%) while replacing fast food and SSB sponsorship of children’s sport and subsidising the cost of healthy food received the least support (both 71%). Improving access to water fountains in public places and facilitating active transport received medium support (79% and 77%). Consistent with the individual ratings, childhood obesity programs ranked highest as the best way to use the money relative to the other options (26%) and did not differ by demographic characteristics. Children’s sport also ranked highly (20%) and consistently across demographic groups. Although receiving the least support individually, a healthy food subsidy ranked highly relative to the other options (21%) but was more acceptable to women (25% cf. 17%), younger adults (18–34: 32% cf. 35–49: 25% and 50+: 9%) and parents (30% cf. 14%). Sponsorship, water fountains (both 10%) and active transport (9%) were ranked lower.

Conclusions: A general message framing use of money raised by a tax on SSBs to fund childhood obesity programs and children’s sport is universally acceptable to the public. Use of the funds to subsidise healthy food is indicated but only for specific population subgroups. Emphasis on access to water fountains, active transport and sponsorship is less well supported.

831

MENTAL HEALTH PATIENTS' RECEPTIVITY TO AND UPTAKE OF A SMOKING CESSATION INTERVENTION, AND REPORTED CHANGES IN SMOKING BEHAVIOUR

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Background: Depending on diagnosis and setting, up to 90 per cent of people with a mental illness continue to smoke. This population subsequently experience higher rates of cancer and other smoking related health consequences, and a 25 year shorter life expectancy. Mental health inpatient settings represent an opportunity to initiate provision of evidence based, smoking cessation care to address this inequitable health burden; however little research has investigated the receptivity of patients in these settings to a smoking cessation intervention or subsequent uptake of cessation supports offered.

Aims: To determine patient receptivity to and uptake of a smoking cessation intervention, and explore associated factors; and to describe self-reported changes in smoking behaviour throughout intervention delivery.

Methods: Mental health inpatients were approached, assessed for eligibility and if applicable, offered the opportunity to participate in a smoking cessation intervention trial. The proportion of patients that consented to take part, and utilised telephone cessation counselling and NRT was measured. Factors associated with consent and intervention uptake were explored. Self-reported changes in smoking behaviours throughout the 16 week intervention period were also measured.

Results: Ninety per cent (n = 2098) of approached patients were receptive to talking to project staff about smoking. Sixty two per cent (n = 754) of eligible patients consented to take part in the study. Of those offered the intervention, 89% and 76% respectively utilised supportive telephone counselling and NRT. Thirty per cent of intervention participants reported periods of abstaining ≥7 days throughout the intervention period. Eighty two per cent reported reducing their cigarette consumption.

Conclusions: Mental health inpatients are willing to discuss their smoking, receptive to the offer of smoking cessation care, and a large majority choose to uptake offered supports. Consideration of factors associated with intervention uptake may increase the proportion of people with mental illness who receive smoking care.

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EVALUATING THE EFFICACY OF AN INTEGRATED SMOKING CESSATION INTERVENTION FOR MENTAL HEALTH PATIENTS: STUDY PROTOCOL FOR A RANDOMIZED CONTROLLED TRIAL.

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Background: As compared to the general population, smoking rates among people with mental illness are disproportionately high. As a result, people with mental illness experience higher rates of tobacco related disease, such as cancer. Smoke free policies within mental health hospitals can positively impact on patients' motivation and self-efficacy to address their smoking. However without post discharge support, preadmission smoking behaviours typically resume.

Aim: This presentation describes a randomized controlled trial aimed at assessing the effectiveness of a multi-modal smoking cessation intervention, initiated within mental health inpatient facilities for all smokers and continued post discharge, on 12 month post-discharge smoking cessation rates.

Methods: Seven hundred and fifty participants will be recruited from four psychiatric inpatient facilities in the state of New South Wales, Australia. After completing a baseline interview, participants will be randomly allocated to receive 'Supported Care', a multimodal smoking cessation intervention; or 'Normal Care', existing hospital care only. The 'Supported Care' intervention will consist of: a brief motivational interview and a package of self-help material for abstaining from smoking whilst in hospital; and following discharge, 16 weeks of motivational telephone-based counselling, 12 weeks of NRT, and a Quitline referral. Data will be collected by computer assisted telephone interview at one, six and twelve months post discharge. The primary outcomes are abstinence from smoking, and secondary outcomes comprise daily cigarette consumption, nicotine dependence, quit attempts, and readiness to change smoking behaviour.

Conclusions: If shown to be effective, the study will provide evidence for systemic changes in the provision of smoking cessation care to patients following discharge from psychiatric inpatient facilities.

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SMOKING PREVALENCE IN ADOLESCENTS AFTER SMOKING BANS IN TURKEY

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Background: The adolescents start smoking in earlier ages currently.Most of the factors related to onset of smoking are associated with the school environment and peer pressure.It is important to identify these measures for providing effective prevention strategies.Another aspect of prevention is legal regulations in the community against smoking. By the recent regulations, Turkey became a "Smoke Free Country".The smoke free air zone in Turkey include all open and enclosed areas of pre-school education institutions, private schools, and primary and secondary education institutions.

Aim: The aim of current study is to determine the smoking rates of adolescents at the high-school level.

Methods: 313 adolescents were interviewed for their smoking status.These adolescents were the students of a high-school in a district of Ankara.

Results: This study included 154 female (49.2%) and 159 male (50.8%) students with a median age of 16 (range: 14-19). Smoking prevalence among these adolescents were 13.7%.The rate of the ex-smokers were 6.4%. Mean duration for smoking was 2.95 ± 2.04 years, and mean cigarettes per day was 8.14 ± 7.68. Males smoked more than females,17% vs 10.4%, but the difference was not statistically significant (p = 0,09).An increasing trend was observed for smoking rates in adolescent population between 14 to 18 years of age.

Conclusions: Smoking in youth is a major public health problem all over the world.Many studies investigated the prevalence of smoking in adolescent age groups both nationally and internationally.One of the recent studies was Global Youth Tobacco Survey,which conducted in 2003 in Turkey.According to the results of that study, active smoking rate was 9.1%, and the rate of ever-smokers was 29.3%.We found higher rates for active smokers,but lower values for ever-smokers. This is related to the sampling differences in two studies. But, both studies suggest that smoking is very frequent. According to these results,more comprehensive approaches,including psychosocial support,should be administered to decrease,and ideally eliminate, smoking in adolescence.

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THE CORRELATION BETWEEN HISTORY OF BREASTFEEDING AND THE INCIDENCE OF CHILDHOOD ACUTE LEUKEMIA IN SEMARANG, INDONESIA

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Background: Acute leukemia is the most frequent childhood cancer. Breast milk as the best nutrition for baby known has antimicrobial, anti-inflammatory and immune modulatory components for preventing the occurrence of childhood infection and malignancies a well.

Aim: To analyze the correlation between the history of breastfeeding and the incidence of acute childhood leukemia (Acute Lymphoblastic Leukemia (ALL) and Acute Myelocytic Lekemia(AML) in Semarang Indonesia.

Methods: A case control study involving acute leukemia patients aged 1–14 year-old at Kariadi Hospital Semarang in 2013 until April 2014. The control group was age and gender matched healthy children. The parents were interviewed about breastfeeding history including duration, tipe of breastfeeding and exclusive breastfeed. Data about familial malignancy, maternal radiation, infection and alcoholism were collected using a questionnaire. Exclusive breastfeeding defined as the baby had breastmilk only until 4–6 month. Statistical analysis used were logistic regression and Mann Whitney

Results: In total 107 patients involved whereas ALL 85 patients (79.4%), AML 21 patients (19.6%) and mixed leukemia 1 (0.9%). Exclusive breastfeeding was more frequently found in healthy children than in lekemic (74.76% vs 53.27%), OR 0.385, 95% CI(0.21-0.68)p 0.001. The median of breasfeeding duration was longer in healthy children 12.27 month (IQR 3-24) than lekemic 1.5(IQR 1-8) $p = <0.01$. By used regression analysis showed OR and 95%CI for familial malignancy1.95(0.4-2.06)p0.16, infection 0.58(0.11-6.36)p0.88 and alcoholism 0.0 (0.0)p0.99 respectively.

Conclusions: Exclusive breastfeeding is protective factor for acute leukemia. Acute leukemia patients had breasfeeding shorter than healthy children. Familial malignancy,maternal radiation,infection and alcoholism were not the risk factors for acute leukemia.

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FOOD MARKETING WITH MOVIE CHARACTER TOYS: EFFECTS ON YOUNG CHILDREN'S PREFERENCES FOR HEALTHY AND UNHEALTHY FAST FOOD MEALS

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Background: Movie tie-in premiums are a pervasive method of targeting children with fast-food advertising.

Aim: To test whether (i) movie tie-in premiums accompanying fast-food meals influence young children's meal choices and their perceptions of these meals; and (ii) effects of these promotions occur to the same degree for both unhealthy and healthy fast-food meals.

Methods: Experimental design whereby ~800 students in grades 1 and 2 from Melbourne metropolitan primary schools will be randomly assigned to one of four conditions: (i) unhealthy vs. healthy meal (control – no premiums); (ii) unhealthy vs. healthy meal (both with premium); (iii) unhealthy meal (with premium) vs. healthy meal (without premium); (iv) unhealthy meal (without premium) vs. healthy meal (with premium). All participants will initially be shown a short promotional trailer for a current children's movie followed by an advertisement for a McDonald's Happy Meal associated with the same movie (Conditions 2–4) or an advertisement for a children's leisure activity (Control condition). Participants will then be shown their two meals on screen and asked to choose their preferred meal. They will also complete detailed ratings of each of these meals.

Results: Data collection for this study is being conducted in July this year. Results will be available for presentation at the conference. For the analyses, logistic regression will be used to test whether the proportion of students choosing the unhealthy meal over the healthy meal varies as a function of the inclusion of a movie tie-in premium. ANOVA will be used to test mean differences in ratings of the unhealthy and healthy meals by condition.

Conclusions: Results will inform a potential regulatory model whereby movie tie-in premiums would not be permitted to accompany unhealthy fast-food meals and/or the potential for premiums to only be permitted to accompany healthy fast-food meals.

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IMPACT OF CIGARETTE SMOKING ON NIGERIAN AIR QUALITY

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Background: Prevention is the most cost effective component of any cancer control program. This is of even greater significance in resource limited settings. Tobacco is the main cause of cancer related deaths. Second-hand smoke (SHS) contributes to this.

Aim: This pilot study was conducted to assess impact of cigarette smoking on the air quality in Nigerian public places, to provide baseline data for the design and conduct of more elaborate studies and to inform the Nigerian national debate.

Methods: A *TSI SidePak AM510 Personal Aerosol Monitor*(TSI, Inc., St. Paul, MN) was used to sample and record the levels of the Respirable Suspended Particles (RSP) in the air at 9 locations in two Nigerian cities.

Results: The locations where smoking was not permitted had a range of $PM_{2.5}$ levels from 9 to 27 $\mu g/m^3$. Locations with active smoking or obvious air pollution had $PM_{2.5}$ levels from 38 to 1063 $\mu g/m^3$.

Conclusions: The data in this study demonstrates that the degree of air pollution is dependent on the magnitude of cigarette smoking in a confined place. The greatest air pollution level was recorded in a crowded night club where there was heavy smoking. It illustrates the critical need to ensure that the public is protected from the toxicity of cigarette smoke.

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CANCER INCIDENCE AND MORTALITY DUE TO ALCOHOL IN IRELAND (2001–2010)

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Background: Alcohol is a group 1 carcinogen. It is one of the most important causes of cancer after smoking, obesity and physical inactivity.

Aim: The aim of this study was to determine cancer incidence and mortality in Ireland (2001–2010) that was attributable to alcohol consumption, with a view to enhancing public awareness.

Methods: The Alcohol Attributable Fraction (AAF) for each cancer was calculated from:

- ○ National population 5-year age-specific prevalence data of alcohol consumption [1]
- ○ Relative risk estimates of acquiring specific alcohol-related cancers.

National cancer incidence and mortality data were obtained from the National Cancer Registry and Central Statistics Office respectively[2,3].

Alcohol related cancer incidence and mortality were calculated from the Alcohol Attributable Fraction (AAF) for each cancer known to be causally related to alcohol.

Results: Between 2001 and 2010, 4.7% of all invasive cancers in males and 4.1% in females were attributable to alcohol i.e. 4,585 male cases and 4,593 female cases. Alcohol consumption was causally related to cancer of the upper aero-digestive tract, liver, colon, rectum, female breast and pancreas. The dose response relationship varied for each site. The greatest risk was for the upper aero-digestive tract where 2,961 (52.9%) of all these cancers in males and 866 (35.2%) in females were attributable to alcohol; 12.2% of breast cancers cases were attributable to alcohol. Over the 10-year study period 2,823 (6.7%) male cancer deaths and 1,700 (4.6%) female cancer deaths were attributable to alcohol.

Conclusions: Over half of alcohol related cancers could be prevented by adhering to low-risk alcohol consumption guidelines. Internationally public awareness of the link between alcohol and breast cancer must improve. The greatest potential is for the reduction of upper aero-digestive tract cancers through addressing the detrimental synergistic impact of alcohol with tobacco consumption.

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SYNERGISTIC EFFECT OF TOBACCO SMOKING AND ORAL CONTRACEPTIVE ON CERVICAL INTRAEPITHELIAL NEOPLASIA RISK IN KOREA

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Publish consent withheld

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CASE-CONTROL STUDY OF LIFETIME PHYSICAL ACTIVITY AND BREAST CANCER RISK AMONG SRI LANKAN WOMEN

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Background: Breast cancer is the commonest cancer among females in Sri Lanka. Over the last 15 years, it has become a major public health concern, with its incidence rising from 6.8 to 20.6 per 100,000 women. It is shown that only 30% of the risk of breast cancer is explained by the commonly known risk factors related to reproductive life and family history. The greater hidden risk is imposed by its newer risk factors related to lifestyle, such as long-term physical inactivity.

Aim: To examine the risk of long-term physical inactivity on breast cancer among Sri Lankan women

Methods: A case-control study was conducted in Colombo, Sri Lanka during 2011–2012 among newly diagnosed cases of breast cancer (n = 210) selected from the National Cancer Institute and unmatched controls excluded for breast cancer (n = 206) selected from the breast clinic in the same hospital. Their lifetime physical activity level was assessed in relation to occupational, household and sports/recreational activities using the Lifetime Total Physical Activity Questionnaire (LTPAQ) validated for Sri Lankan women. Multivariable logistic regression analysis was carried out to identify the 'low level' of physical activity as a risk factor for breast cancer.

Results: The median activity level for cases and controls was 130.5 MET-hours per week per year. Compared to the highest quartile (>169.3 MET-hours/week per year), women in the lowest quartile (<85.6 MET-hours/week per year) of lifetime total physical activity, showed a significant risk for breast cancer (adjusted OR=2.1 (95% CI: 1.2, 3.7; p = 0.008). By type of activity, the risk was decreased for occupational (OR = 0.53, 95% CI: 0.34, 0.83) and sports/recreational (OR = 0.62, 95% CI: 0.38, 1.00) activity, when comparing the highest and lowest quartiles.

Conclusions: This study provides evidence that high level of lifetime physical activity is associated with reduced breast cancer risk.

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INCREASING IMPLEMENTATION OF EFFECTIVE SMOKING CESSATION STRATEGIES – THE QUITSTAIR

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Background: A number of countries need to significantly accelerate reductions in smoking rates to reach policy targets. Uptake of a number of effective cessation strategies remains poor. The 'Quitstair' is a comprehensive stepped care model that uses evidence-based smoking cessation strategies. It encourages those who can quit with minimal intervention to do so, and offers more intensive support to those who need additional support to quit.

Aim: To identify the uptake of the Quitstair model and cessation rates among proactively recruited community smokers

Methods: A cohort pilot-test involving 250 current smokers from the general community in New South Wales, Australia. Random-digit dialling was used to identify households with a smoker and randomly select a smoker from each eligible household. Participants completed a telephone interview at recruitment and 4 months later. The stepped care intervention involved sequential steps through different types of support (e.g. written/online materials, Quitline telephone counselling, pharmacotherapy, referral) over a 4 month period. Intervention delivery was guided by a stepped care coordinator who contacted participants by telephone at 3, 7, 9 and 13 weeks.

Results: Approximately 55% of pro-actively-recruited smokers opted to enter the program. Drop-out rates at each step of the Quitstair ranged from 2% to 8% of remaining participants. The majority of participants: made at least one quit attempt; elected to follow the model and agreed to use more than one evidence-based strategy to assist in a quit attempt.

Conclusions: The Quitstair approach represents a shift towards a coordinated, systematic, and long-term model of care that includes repeated effort to assist individuals to use evidence-based strategies. This chronic-disease model of care capitalises on existing services and can be implemented in a range of settings. A randomised controlled trial of the approach is planned.

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THE PRELIMINARY REPORT OF BREAST CANCER SCREENING FOR 20000 WOMEN IN CHINA

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Aim: To observe the morbidities of breast cancer of 20 000 women in Liaoning province, explore risk factors of epidemiology and determine the optimal program for breast cancer screening.

Methods: Assessment in this National Health Service Breast Screening Programme (NHSBSP) was carried out by a specialist multidisciplinary team using the five approach: clinical examination, ultrasound, mammography, and, where appropriate, MRI. After confirmation of a suspicious abnormality, needle biopsy was performed. Informed patient consent was obtained.

Results: 33 cases were found breast cancer. Thus the total morbidity of breast cancer was 0.165%. Factors contributing toward increased risk of breast cancer were benign breast disease, family history of breast cancer, earlier menache (≤14 years old), irregular menstruation, shorter feeding time(≤12 months), overweight, previous use of oral contraceptives and drinking alcohol (p value<0.05). However, women smoke or not make no significant difference in morbidity of breast cancer (p <0.01). In the 33 cases of breast cancer with histologically diagnosis, the detection rate of clinical examination, mammography and ultrasound was 48.48% (16/33) 96.97% (32/33) and 75.76% (25/33) respectively. In the 33 cases, the level of diagnostic agreement between mammography and ultrasound was low

($\kappa = 0.155$). In screening high-risk women underwent breast MRI, it was statistically valuable to differentiate benign from malignant breast lesions by the values of ADC ($P < 0.05$) or time-signal intensity curves. The sensitivities, specificity and accuracy was 90.00% (9/10), 88.46% (26/29), 89.74% (35/39) respectively.

Conclusions: The high morbidity of breast cancer may be related to benign breast disease, family history of breast cancer, early menache, irregular menstruation, short feeding time, overweight, previous use of oral contraceptives and drinking alcohol in Liaoning province in China. A higher diagnostic value in breast cancer screening could be achieved by using combination of clinical examination, ultrasound and mammography. MRI with DWI or time-signal intensity curves appears to play an important role in differentiation of benign and malignant breast lesions.

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SELF-REPORTED PREVALENCE ON CANCER-RELATED RISKY BEHAVIORS OF JUNIOR HIGH SCHOOL STUDENTS IN TAIWAN

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6. *Cancer Center, Mackay Memorial Hospital, Taiwan*
7. *Taiwan Total Cancer Care Foundation, Taipei, Taiwan*

Background and Context: We performed an on-site cancer prevention educational program focusing on prevention of *all* cancer types and on emphasis of *oral cancer* by oncologists.

Aim: To have a better understanding for cancer risky behaviors in Taiwan, we performed a questionnaire survey for junior high school students after a cancer prevention education program.

Strategy/Tactics: We focused on 3 cancer-related risky behaviors **CBA** [cigarette smoking (**C**), betel-nut chewing (**B**),alcohol drinking (**A**)].
Programme/Policy Process: In terms of the frequency of behavior, the ever-experience of behavior, the starting time of risky behavior, the sources of cigarette/betel-nut/alcohol, the existence of behavior by their parents and senior family members.

Outcomes/What was learned: From JAN to DEC in 2013, 6219 junior high school students received our on-site cancer prevention educational program whose questionnaires are valid for analysis. Among them, 5207 and 1012 questionnaires are from western and eastern towns, respectively. Questionnaires from 7th, 8th, 9th grade of junior high school students represent 51%, 33%, and 16%, respectively. The self-reported percentage of "frequent" (with daily consumption) C, B, and A is 1.5%, 0.3%, and 0.3%, respectively. The frequency of "ever-experience" of C is significantly higher in eastern (10%) than western (7.6%) towns ($p = 0.003$, t test), the frequency of ever-experience of B is significantly higher in eastern (8.9%) than western (3.9%) towns ($p = 0.000$), and A is significantly higher in eastern (21.6%) than western (18%) towns ($p = 0.024$). The "starting time" of B is significantly younger by 3 years in eastern towns ($p = 0.000$, t test), the starting time of A is significantly younger by 3 years in western towns ($p = 0.037$). Conclusions: Self-reported survey on cancer risky behaviors revealed "frequent" cigarette smoking (C) is the most prevalent (1.5%) cancer-related risky behavior among CBA. Education on cessation of cancer-related risky behaviors CBA for junior high school students remains the most important endeavor.

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PREVALENCE AND DETERMINANTS OF TOBACCO USE AMONG RESTAURANT EMPLOYEES IN MUMBAI, INDIA.

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Background: India introduced complete ban on smoking in hospitality venues with the introduction of the Cigarettes and Other Tobacco Products Act (COTPA 2003)which aims to regulate both smoking and smokeless forms of tobacco.. Since the personal behavior practices of food handlers in restaurants demands that they should not smoke or use tobacco where food products are handled, Investigation was carried out to understand the extent of tobacco use and its addiction among employees in restaurants in Mumbai

Aim: To estimate the prevalence and determinants of tobacco use among food handling restaurant employees.

Methods: Representative random sample of restaurants from two administrative wards in Mumbai was undertaken through two stage sampling process. Socio demographic and information on tobacco use were collected by pretested structured questionnaire among restaurant workers handling food between September-December 2013. Nicotine addiction was measured using the Fagerström Test for Nicotine Dependence.

Results: Total 210 food handler employees from 26 eating establishments were surveyed for tobacco use. Majority (65.7%) were between the age group of 18–25 years and 116 (55.2%) were found to be current tobacco users. Smokeless tobacco use was most common (63.7%). 51.7% had initiated tobacco use before 18 years of age and nearly 57.8% were graded with medium to high Fagerstrom addiction score. Regression analysis showed Illiteracy (OR=0.5, CI 0.28, 0.96; $P = .03$), Religion (OR= 2.57, CI 1.55, 5.77; $P = 0.022$), Marital status (OR=0.51, CI 0.26, 1.01 ; $P = .05$) were associated with tobacco use after controlling for age.

Conclusions: Findings of the survey suggests high prevalence of tobacco use among young males working in the eating establishments with a medium to high tobacco addiction with majority of them initiating tobacco use as minors. The study findings calls for targeted tobacco prevention and cessation efforts for these mostly unorganized workers under the organized hospitality industry.

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'ALCOHOL CAUSES CANCER IN MORE PLACES THAN YOU THINK': USING A MASS MEDIA CAMPAIGN TO RAISE AWARENESS OF THE LINK BETWEEN ALCOHOL AND CANCER.

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Background: Awareness and knowledge ofthe link between alcohol and cancer is low. The Western Australian 'Alcohol and Cancer' campaign aimed to increase women's awareness that alcohol causes cancer, and of Australia's national guidelines to reduce the health risks from drinking alcohol. Three waves of paid mass media advertising were conducted from 2010 to 2011.

Aim: To evaluate the short-term impact on the 'Alcohol and Cancer' social marketing campaign.

Methods: Cross-sectional on-line surveys of approximately 150 Western Australian women aged 25 to 54 years were conducted prior to the campaign and immediately after Wave I and Wave III of the campaign to assess women's awareness of the campaign, knowledge about the links between alcohol and cancer, perceptions of risk, and drinking behaviour. Logistic regression analyses examined differences by evaluation survey in awareness and reactions to the campaign (Survey 1 vs. Survey 2) and knowledge and intentions (Baseline vs. Survey 1; Baseline vs. Survey 2), controlling for age group, location, education level, household composition and drinking behaviour.

Results: Prompted recognition of the campaign increased from 67% at Survey 1 to 81% at Survey 2 (Adj. OR=2.31, 95% CI=1.33-4.00, p = 0.003). Improvements in women's knowledge that drinking alcohol on a regular basis increases cancer risk were found at Survey 1 (Adj. OR=2.60, 95% CI=1.57-4.30, p < 0.001) and Survey 2 (Adj. OR=4.88, 95% CI=2.55-9.36, p < 0.001) compared with Baseline. Knowledge of the recommended number of standard drinks for low risk in the long-term increased from Baseline to Survey 1 (Adj. OR=1.68, 95% CI=1.02-2.76, p = 0.041), but not Baseline to Survey 2 (Adj. OR=1.42, 95% CI=0.84-2.39, p = 0.191). Among women who drink alcohol, likelihood and intentions for drinking did not change between surveys.

Conclusions: The 'Alcohol and Cancer' campaign reached the target audience and successfully raised women's awareness of links between alcohol and cancer, and knowledge of the alcohol guidelines.

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INFLUENCE OF A COMMUNITY-BASED BREAST HEALTH EDUCATION MODEL ON EARLY DIAGNOSIS OF BREAST CANCER IN GHANAIAN WOMEN

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Background: Breast cancer is increasingly becoming a disturbing health problem and a growing cause of mortality especially in sub-Saharan Africa. In Ghana, it is the leading cause of death among women and the most common cause of hospital admissions. Ghanaian women are disproportionately diagnosed at earlier age of 40–49 years with high-grade tumors that are more aggressive than White women in America.

Although there is plausible evidence that early detection and prompt diagnosis improve survival; for reasons that are still unclear, sixty percent of Ghanaian women delay for at least 10 months before diagnosis. Although biological differences are noted as a major risk factor, fear of the disease and treatment, lack of awareness, beliefs, and social stigma have been identified as important determinants of delayed presentation in Ghana. To promote early breast cancer presentation, Breast Care International (BCI) has implemented an educational model to create awareness of the disease. However, limited evidence exists that breast cancer awareness programs are achieving their desired aim of encouraging early diagnosis.

Aim: To determine how a short community-based breast health educational program might influence cultural beliefs, attitudes, and practices of breast cancer among women towards early detection.

Methods: Study uses Pretest Posttest non-equivalent control to analyze the differences in knowledge, attitudes, and practices about breast cancer among women who received an educational program provided by BCI and women who did not.

Results: A total of 310 in the experimental group and 325 in the control group recruited from 6 communities of similar sizes in diverse geographies were interviewed. Participants were female age between 18 and 78 years with a mean age of 40 and standard deviation of 14. No significant difference between any of the socio-demographic characteristics between the two groups.

Conclusions: Make positive contribution for improving breast cancer outcome.

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MAKING SENSE OF QUITTING UNASSISTED – EXPLORING THE REASONS WHY SMOKERS CHOOSE TO QUIT ON THEIR OWN

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Background and Context: Unassisted cessation is an enduring phenomenon and one that persists even in nations advanced in tobacco control where cessation assistance such as nicotine replacement therapy and smoking cessation medications are readily available.

Aim: To understand why a significant proportion of smokers still choose to quit unassisted rather than consult their GP, use over-the-counter or prescribed smoking cessation pharmacotherapy, or seek support from a quitline.

Strategy/Tactics: In-depth, one-on-one interviews with Australian adult ex-smokers who quit unassisted within the past 6–24 months.

Programme/Policy Process: Asking ex-smokers who choose to quit unassisted why they did so is an ideal way of gathering rich and informative data that can be used to inform smoking cessation policies and practices that reflect the needs of the smoker.

Outcomes/What was learned: The reasons smokers quit on their own are complex and go beyond previously reported issues such as misperceptions of effectiveness and safety of pharmacotherapy, structural barriers such as affordability and accessibility, and overconfidence in one's ability to quit unassisted. Factors impacting on a smoker's decision to quit unassisted include: (1) feeling personally responsible for quitting; (2) sizing-up the costs and benefits of assisted vs unassisted quitting; (3) giving preference to experiential quitting knowledge gained directly or indirectly over professional or theoretical knowledge; (4) believing quitting on one's own can be a positive experience.

Deep-rooted personal and societal values such as independence, strength, autonomy, self-control and self-reliance appear to be influencing beliefs and decisions about quitting. We conclude that existing policy-related measures aimed at making assistance more readily available and affordable, or at changing smokers' attitudes and beliefs about assistance may be of limited benefit to many smokers. Alternative strategies may be necessary to support those smokers who choose to quit on their own or to persuade them of the benefits of assistance.

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DEVELOPMENT OF A FRAMEWORK OF NATIONAL CANCER CONTROL INDICATORS IN AUSTRALIA

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Background and Context: Improving cancer outcomes is dependent, in large part, on the effectiveness of cancer control strategies. Monitoring of cancer control activities provides the ability to target policy or modify strategies to achieve best-practice care and improve cancer outcomes. There is currently no national framework to monitor and report control data across the whole continuum of care in Australia.

Aim: To develop a framework of key national cancer control indicators to monitor and report national trends in cancer control over time.

Strategy/Tactics: The Australian framework of cancer control indicators was informed by a review of international indicators. The strategy for the development of the framework involved bringing together key indicators which are already collected supplemented with additional indicators to provide a high level overview of cancer control in Australia and allow for international benchmarking in some areas. The framework of indicators selected also allows for monitoring of local cancer control efforts and assessment of policy and practice impacts in key areas.

Programme/Policy Process: The national cancer control framework incorporates over twenty indicators across the continuum of cancer control. The framework is adaptable so indicators can be added or modified over time as the practice or policy context evolves.

Outcomes/What was learned: A framework of national cancer control indicators has been developed for Australia. Consultation with stakeholders ensured that indicators have relevance to the Australian context and assess alignment with best-practice recommendations. Where national data does not exist, processes will be developed to collect and report these data. The ability to benchmark indicators internationally will highlight relative strengths and areas for development in national cancer control in Australia.

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INDIGENOUS PATIENT NAVIGATOR: LESSONS LEARNED FROM A PILOT STUDY IN QUEENSLAND, AUSTRALIA

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Background and Context: Compared with other Australians, Indigenous Australians have higher cancer incidence, higher cancer mortality,(1) more advanced cancer at diagnosis,(2,3) and lower cancer survival.(2,3) Navigating one's way through the complex health care system for cancer care can be arduous and fraught with uncertainty and fear.(4) Navigator programs have the potential to capture the unique complexities that may arise for Indigenous cancer patients.

Aim: To examine the feasibility of an intervention (Indigenous Patient Navigator – IPN) to reduce the inequity in cancer outcomes for Indigenous patients.

Strategy/Tactics: We developed a protocol for training Indigenous patient navigators, trained one IPN, and recruited 18 patients in this study. The supportive care needs of participants were assessed through a specific tool for Indigenous cancer patients.

Programme/Policy Process: Our process used a collaborative approach to integrate the practice (Hospital Indigenous Health Liaison Officers expertise) and research team.

Outcomes/What was learned: It is feasible and practical to have an IPN working in the hospital setting.

The patients: 18 (69.2%) patients were interviewed and 08 (31%) refused participation. The most frequent moderate to high needs were related to Physical & Psychological domains ('worrying about the illness spreading' (28%), 'concerns about the worries of those close to you' (22%), 'feeling down or sad' (17%), 'anxiety' (17%), and 'work around home' (17%).

Through one-one-one education and information provided to patients and family members, the IPN increased patients' awareness about the available support services.

The health care service: The IPN must work collaboratively with health care service staff to make this feasible.

The IPN: should have a 'health background' to be able to understand the training and complexities of cancer care.

The systematic measurement of needs/outcomes requires intensive training of the IPN with no research background.

Research: The translation of research to practice requires major involvement of the research team with patients.

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CHANGING THE LAW: EVIDENCE, ADVOCACY, AND COLLABORATION.

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Background and Context: In February 2012, New South Wales (NSW) was the first jurisdiction in Australia to announce a ban on commercial cosmetic UV tanning services – second in the world after Brazil to do so.

Cancer Council NSW, a non-profit cancer organisation and the Environmental Protection Authority, the government department responsible for the safe use of radiation emitting devices, worked collaboratively to address the public health risk from solaria. This collaboration contributed to public health reform in NSW that initiated change across Australia. Subsequently, on 31 December 2014, the ban of commercial solaria, with the exception of one state, will be effective across Australia.

Aim: Banning commercial solaria in NSW.

Strategy/Tactics: The working partnership was successful because it was underpinned by a clear understanding of the parameters within which the respective organisations operate. Each organisation, based on their strengths and roles, took responsibility for different elements of the reform process and built progressively toward the common goal.

Programme/Policy Process: Working collaboratively with government to change the law and implement reform relating to solaria required a multifaceted approach. This included:
- Promoting epidemiological evidence demonstrating increased risk of skin cancer.
- Monitoring industry compliance with a voluntary code of practice and existing government regulation.
- Reporting on global policy trends, including the successful ban in Brazil.
- Supporting community action calling for a ban.
- Political engagement to ensure parliamentarians remained briefed on the evidence and level of community support.

Outcomes/What was learned: Many organisations and individuals across NSW contributed to the successful outcome of a ban on commercial solaria. A collaborative working partnership between a non-profit cancer organisation with experience in policy advocacy and coordinating strategic activity, and a government department responsible for reviewing policy and implementing the reform, was a critical factor in the outcome.

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POLICIES INFORMED BY EVIDENCE WORKSHOP: IMPROVING DECISION MAKING PROCESSES FOR CANCER CONTROL IN BRAZIL

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Background and Context: Worldwide, the use of scientific evidence has been promoted as an element to be incorporated into planning, implementation, monitoring and evaluation of health policies and programs. Basing decision making on research evidence optimizes outcomes in health systems and services.

Aim: Sensitize decision makers, managers and their supporters, in the field of cancer control, for the incorporation of research evidence in policy formulation, planning and health management.

Strategy/Tactics: The Virtual Health Library – Prevention and Cancer Control, which is formed by a network of leading institutions in this field in

Brazil, developed in partnership with Pan American Health Organization the workshop Policies Informed by Evidence which gathered 40 health and information professionals involved in decision making processes.

Programme/Policy Process: Participants were selected taking into account their work on designing cancer control policies in Brazil. The workshop was developed in one day and was structured through sessions with the objective of reflecting upon key problems in cancer control and the ways to look for and apply the best available evidence to formulate strategies aimed to address these challenges. Information networks available and strategies for more effective searches were presented to the participants who were divided into groups and had to work on the development of strategies to problems presented by the moderator.

Outcomes/What was learned: The interest for the workshop was higher than expected and people who had not been invited to participate asked to be included in upcoming trainings. Participants rated the experience very positively and felt that they were more prepared to look for and understand the best available scientific evidence. New trainings involving legislators are being considered as well as an online course.

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CANCER COUNCIL NSW HEALTHY LUNCH BOX STRATEGY: UTILISING TRAINED VOLUNTEERS TO ACHIEVE HIGH REACH INTO THE COMMUNITY TO DELIVER NUTRITION SESSIONS

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Background and Context: Eat It To Beat It (EI2BI) is Cancer Council NSW's flagship nutrition program which aims to increase the amount of fruit and vegetables families in NSW eat. The current consumption of fruit and vegetables amongst adults in NSW is alarmingly poor with 90% of adults not eating the recommended amount of vegetables and 50% not eating enough fruit.

EI2BI is a multi-strategy community based program which trains community members to deliver nutrition sessions. One of the core strategies of the EI2BI program is delivery of the Healthy Lunch Box sessions to parents of Kindergarten children via Kindergarten Orientation sessions.

Aim: To improve parent's knowledge, self-efficacy and intention to include fruit and vegetables as part of a child's lunch box and to increase the reach of the program by using trained volunteers to deliver the majority of sessions.

Strategy/Tactics: Volunteers are trained to deliver a 25 minute Healthy Lunch Box session which are usually delivered as part of a two hour seminar organised by school where Kindergarten parents learn about general aspects of the school environment. This allows EI2BI to reach parents as part of an existing audience reducing administration time in recruiting parents to attend.

Programme/Policy Process: Each family who attends receives a show bag containing a CCNSW award-winning healthy lunch box resource and other supporting resources. Parents are asked to complete an evaluation form and return to CCNSW in a reply paid envelope after the session.

Outcomes/What was learned: In July – December 2013 EI2BI delivered 262 Healthy Lunch Box sessions to 7,496 parents across NSW. 80% (n = 209) of these sessions were delivered by trained volunteers. 801 parents (11%) returned an evaluation form. 81% of these parents (n = 644) indicated that they intended to increase the amount of fruit and vegetables in their child's lunch box.

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THE NIGERIAN NATIONAL SYSTEM OF CANCER REGISTRIES-DEVELOPING NATIONAL CANCER REGISTRATION IN DEVELOPING COUNTRIES.

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Background and Context: The incidence of cancers in low and middle income countries (LMIC) is rising rapidly necessitating the need for improved cancer registration. Nigeria with about 20% of the population of Africa is a major contributor to the overall cancer burden in Africa. We therefore established the Nigerian National System of Cancer Registries (NSCR) to provide representative cancer registry coverage in Nigeria. We describe the implementation of this system, highlight the key challenges encountered in implementation and how these were overcome.

Aim: To improve cancer registration in Nigeria by creating a coordinating system that liaises with international partners to provide training, mentoring and capacity building for registries and collate data from registries to generate national statistics on cancer.

Strategy/Tactics: In 2009, The Nigerian Ministry of Health, Society of Oncology and Cancer Research of Nigeria and the Institute of Human Virology Nigeria conceptualized the NSCR to provide technical and scientific support that strengthens cancer registries, develops new registries and generates quality data on cancer incidence.

Programme/Policy Process: We trained 80 staff from 24 cancer registries over a period of 5 years. Training focused on the principles of cancer registration, use of CanReg 4 & 5 software, coding and classification, presentation of data and presentation of reports.

Outcomes/What was learned: We ensured that data from 3 Nigerian registries (Ibadan, Abuja and Calabar) were included in GLOBOCAN 2012; transitioned the Enugu Cancer registry to a population-based registry, and established a new PBCR in Sokoto, North-Western Nigeria.

Large population, limited health care infrastructure, poor vital statistics and funding are challenges to cancer registration. Nigerian laws and constitutional arrangements which put legislative responsibility for health care on the concurrent agenda of the government offer uniques challenges. A coordinating system that trains, monitors and provides support to registries is critical in countries with large populations like Nigeria.

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CONSUMER ENGAGEMENT IN CANCER RESEARCH: DEVELOPMENT OF A CONSUMER ADVISORY COMMITTEE FOR RESEARCHERS IN SYDNEY, AUSTRALIA

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Background and Context: The value of consumer engagement in the planning and delivery of cancer research projects is increasingly recognised by both researchers and funding bodies. In order to encourage widespread participation, many funding bodies now incorporate a score for consumer involvement when allocating grants. However, researchers who are unfamiliar with this concept can struggle to access appropriate information and resources.

Aim: The Translational Cancer Research Network (TCRN) aimed to develop a new consumer committee structure to provide a more effective, continuous research support service to its members.

Strategy/Tactics: The TCRN established an in-house Consumer Advisory Committee (CAC), engaging trained consumers to provide informed advice to its members. The CAC's unique structure reduces reliance on a single individual, while allowing for 1:1 researcher-consumer relationships within the committee structure. Consequently:
- The CAC provides comprehensive, group support to researchers
- If an individual consumer is unavailable to assist with a project, continuity is maintained by other CAC members.

Programme/Policy Process: The TCRN recruited an independent chair and 10 consumers, all with experience as cancer patients, survivors or carers. Members received training in consumer involvement in research, via the TCRN.

Outcomes/What was learned: The CAC's role includes:
- Influencing research plan development and direction
- Helping researchers articulate the purpose of their work and its potential impact on the broader community.

Since its launch in 2012 the CAC has:
- Provided a consumer perspective for over 20 research projects
- Engaged with 25 TCRN supported PhD students, connecting them to real-world outcomes and helping them effectively communicate their research from the earliest stages of their careers.

The TCRN CAC are increasingly recognised and utilised by TCRN members and consequently are successfully promoting the concept of consumer engagement in cancer research.

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CONDUCTING A CANCER AWARENESS CAMPAIGN – SUBJECT BASED STRATEGIES

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Background and Context: Campaigning is an organized and coordinated activities carried out to achieve a

political, a social or a commercial goal. Cancer awareness campaign should be done for a social cause to bring awareness about the prevention, diagnosis and treatment of cancer.

Aim: The aim of cancer awareness campaign is to bring down the incidence of cancer and its consequences. The main objective is to give information about the cause, prevention, diagnosis and treatment of cancer. Cancer awareness campaign should motivate the people to quit tobacco and alcohol, encourage them to participate in cancer screening, cancer vaccination and genetic counseling if there is history of familial cancers.

Strategy/Tactics: Components of Cancer Awareness Campaign are: Campaign planning, Campaign Development, Campaign Execution, Campaign Monitoring, and Campaign Measurement

Cancer awareness campaigns should be customized based on the target population and campaigning methods should be developed in simple and cost effective manner.

Programme/Policy Process:

Target Subjects	Method of campaigning
General Public	Posters, Street play, Marathon Running, Newspaper, Radio, Television and Social media
Students	Guest lectures, Exhibitions, Projects, Essay writing competition
Health Workers	Seminars, Panel Discussion, Workshops
Political Leaders	Statistics of the cancer Burden and available facilities, Legal implementation on tobacco, alcohol and pollution control
Industrialists and investors	Seminars about the scope of investment in hospitals, pharmacy and radiotherapy

Outcomes/What was learned: Time to time monitoring of campaigns should be done by trained health workers and social workers. The impact of the campaign can be measured on short term basis by looking at the number of people participating in cancer screening, cancer vaccination and number of people taking oath to quit tobacco. Long term effect of Cancer awareness campaigns can be measured by looking at the hospital registries about incidence of cancer and number of cases detected in early stages

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THE PATIENTS' EXPECTATIONS OBSERVATORY: HAVING A BETTER UNDERSTANDING OF PATIENTS' EXPECTATIONS AND NEEDS IN ORDER TO IMPROVE CARE AND MANAGEMENT

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Context: Aware of the major role that patients play in their own care and management, UNICANCER has set up in November 2011 a unique initiative in France: the Patients' expectations Observatory.

Objective: To identify and prioritize the expectations of the patients and their relatives in order to adjust and improve the quality of services and care provided:
1. take into consideration the patients' impression of the healthcare organization
2. give a concrete illustration of the new form of users' participation in healthcare institutions, in adequation with the public authorities' recommandations

Methods: After a conventional analysis of available data, a very innovative participatory consultation on "Hospital care and patients' expectations" has been carried out in January 2012.

The results showed that patients expect both an effective treatment of their disease and individualized and personal support.

The expectations were then gathered into five different themes:
1. Announcement of the diagnosis and consideration of relatives
2. Coordination between the various care givers
3. Information on the treatments progress, side effects and on supportive care, including alternative medicine
4. Life outside the hospital during and after treatment
5. Hospitality Policy

Results: In 2013, 17 initiatives grouped into 6 themes based on the patients' expectations previously determined were identified in the Centers: human dignity, patient education, announcement of the diagnosis and consideration of relatives, access to supportive care treatments, coordination of care and professional reintegration support.

Since then, these initiatives that are considered best practice models for the improvement of patients care and management have become widespread in all the Centers in order to respond to patients' expectations in an equitable way.

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USING NETWORK ANALYSIS IN CANCON JOINT ACTION

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Background and Context: A new joint action to improve cancer control and survivorship started in Europe February 2014. The joint action, called CANCON, is co-funded by the European Union. For the 3-year programme a consortium was formed. Its members come from NGOs, governmental organisations, research institutes, universities and hospitals and other health care service providers. Joint actions aim to influence policy making.

Aim: To communicate effectively among the CANCON members and stakeholders and to grow outreach and improve audience development.

Strategy/Tactics: Overall implementation of external and internal communications and advocacy activities is based on network analysis. By using network approach we could identify the strength of a newly established CANCON network.

Programme/Policy Process: Three year implementation period allows tactical aims annually. First year will be concentrating on internal communications, the second year will focus on outreach and the third year specifically to agenda setting. Strategic decisions will be based on analysing the network activity.

Outcomes/What was learned: First network analysis indicated that CANCON network already existed based on earlier joint action. 66 pros. of respondents wanted more communication. Communication channels and frequency were identified. Universities were in the margin of the network. At the center communication relationships were dense and there were several knowledge brokers.

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PASSING FCTC COMPLIANT TOBACCO CONTROL LEGISLATION AMID CONSPICUOUS INDUSTRY INTERFERENCE: THE CASE OF SENEGAL.

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Background and Context: Senegal achieved significant legislative advances with the adoption of a Tobacco Control (TC) Act in 1981. However, since 1985, increasingly powerful industry lobbying resulted in important aspects of the Act being made less effective or reversed. In 2004 Senegal ratified the WHO Framework Convention on Tobacco Control (FCTC), but once again tobacco industry interference delayed preparation of a draft bill implementing the provisions of the FCTC until 2011.

Aim: To use civil society advocacy to catalyze a public health movement and reduce prevalence of tobacco use through adoption and implementation of new FCTC-compliant legislation in Senegal.

Strategy/Tactics: LISTAB conducted a program of advocacy activities in parallel to the three year legislative development process, from initial drafting by Ministry of Health, through parliamentary amendment and approval, and finally promulgation by the President.

Programme/Policy Process: Our activities included:
- Setting up a watchdog body called Tobacco Industry Monitoring Team
- Sensitizing and training decision makers, politicians and journalists on the FCTC, particularly Article 5.3
- Lobbying religious leaders and Members of Parliament, and identifying among them TC champions
- Running a national media campaign to gain exposure for TC issues and counter tobacco industry interference

Outcomes/What was learned: In March 2014, the TC bill was approved by the Senegalese parliament and promulgated by the President. In supporting this achievement, the work conducted by LISTAB highlights the importance of:
- Capacity building of tobacco control actors in both FCTC content and advocacy techniques to create a sustainable movement for policy change
- Engagement with MPs at all stages of policy design and implementation to create a favorable political environment for adoption of the bill in Parliament and countering industry interference
- Integrating media coverage to enhance outreach and help raise the profile of education campaigns, accelerating public understanding and galvanizing support for policy change.

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KHOJO CANCER MITAO CANCER

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Background and Context: To create awareness at mass level in developing country India, as we feel the their is much need of awareness required seeing the scenario of cancer in India

Aim: To reach the grass root mass of India to screen and detect this deadly disease as we all know early detection is the key to save cancer patients

Strategy/Tactics: we have 650 + branches in our NGO all over the country and we take awareness programs across the country with their help reaching the mass, moreover we have made one of its kind mobile detection unit focusing breast cancer and cervical cancer with mammography unit and x-ray to screen cancer patients across the country in remote areas where the screening facility is not available.

Programme/Policy Process: different awareness program with collage students in collage like last year we took a campaign known as I SMOKE campaign with post graduation students in more than 50 collages covering more than 50000 students, this year we conducted lectures in different cities with oncologist for awareness on cancer and about cervical cancer vaccination and very recently we launched our mobile cancer detection unit which had conducted 6 successful camps at different locations.

Outcomes/What was learned: we need to fight with the disease at early stage to win the battle.

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THE PAST, PRESENT AND FUTURE OF REGULATION OF CLAIMS ON FOOD PACKAGES IN AUSTRALIA

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Background and Context: Claims on food packages have been of concern for many years worldwide. In Australia in 2013, regulation requiring products carrying health claims (but not nutrition content claims) to meet minimum nutrition criteria was phased in after more than 10 years of consultation.

Aim: To detail the strategic research monitoring claims on Australian food products, highlight loopholes in the Standard and outline future activities that aim to ensure unsubstantiated claims are not on food labels.

Strategy/Tactics: To advocate for better regulation of claims on food packages, a multi-pronged approach has been conducted. Strategic research monitoring the range and types of claims on food labels and the healthiness of products carrying these claims underpinned both grassroots and political advocacy, including media and communications. A new advocacy project has been implemented to test industry self-substantiation of new food-health relationships, and this has been trialled in two Australian states.

Programme/Policy Process: After extensive consultation, products carrying health claims must meet minimum nutrient profiling criteria. With the implementation of the health claims Standard, the food industry can now selfsubstantiate food-health relationships for general level health claims. Although companies are required to hold substantial evidence of the relationship and must notify the food regulator of their claim, there is no requirement for food companies to provide this evidence for independent review unless a relevant authority investigates.

Outcomes/What was learned: Although the implementation of the Standard represents an improvement from the previous regulation, nutrition content claims are continuing to appear on unhealthy products. Claims outside the scope of the Standard, such as ingredient claims, are also on unhealthy foods, potentially misleading consumers into believing that these products are healthy. The health claims Standard should be expanded to ensure all claims on food packages are regulated to ensure they only appear on healthier foods.

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USE OF MOBILE PHONE TO DISSEMINATE INFORMATION ON THE DANGERS OF TOBACCO

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Background and Context: Tobacco is a single major contributor to morbidity and mortality worldwide among the youth and adults causing many deaths each year. Tobacco usage is the single most preventable cause of death and serious health problems in our society. Kenya like other developing countries has not been spared by this hazard. Although Kenya enacted the Tobacco Control Act in 2007, Prosecution of the offenders still remains a major challenge

Aim: To create awareness on the dangers related to use of tobacco by sending short text messages using mobile phones as effective tools of passing information in this digital age.

Strategy/Tactics: Tobacco and Alcohol Free initiative (TAFI), a community based organization in Western Kenya region established a network of 15 youth groups, faith based organizations and Community health workers who could work as channels of passing information. The groups were sensitized in a one day workshop. Text messages with specific messages on dangers of tobacco use and exposure were formulated jointly. Weekly to Community Health workers, youth leaders, and faith based leaders. These messages are sent on the days that they meet so that they can be shared during the meetings with those who do not have telephones

Programme/Policy Process: **Outcomes/What was learned:** These activities are still going on, over 3000 people have been reached with different messages, however, the reports we have is that people are getting to know the dangers. This has been an effective personalized method of Tobacco Control advocacy and implementation of the Tobacco Control Act.

It has also come out clearly that many people are yet to be sensitized for its impacts to be realized in the community.

Collaboration and networking should be strengthened as a way of improving the advocacy wing on the dangers of Tobacco.

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DESIGNING AND IMPLEMENTING A HEALTH DISPARITIES FRAMEWORK AT QUIT VICTORIA

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Background and Context: Smoking is one of the major markers of and contributors to social disadvantage in Victoria. The prevalence of smoking is significantly higher among people on low income, particularly those who face multiple personal and social difficulties and challenges. In late 2012 Quit Victoria extended its focus on high smoking rate groups, in addition to continuing population level work.

Aim: Quit Victoria in partnership with the community sector seeks to reduce smoking prevalence and behaviours in high smoking rate groups to reduce tobacco related health, social and economic disparities.

Strategy/Tactics: Quit Victoria's strategy was to contribute to, and localise the smoking as a social justice issue narrative. Mutually beneficial partnerships with community sector agencies were formed. Quit's messages were reframed to a softer 'smoking care' approach, which was consistent with stronger community voice elements in projects.

Programme/Policy Process: Priority populations were initially identified based on the level of leadership support within the community sector, a capacity to implement, and the acuity of need. Quit gathered evidence and practice wisdom from other jurisdictions to inform planning. Interventions were tailored to the setting- they are light, highly practical and responsive to dynamic environments.

Outcomes/What was learned: Quit Victoria learned that smoking cessation activities can be connected to other areas of shared mission and values beyond health. It was important to make the process of joining forces at partnership, project, and evaluation levels as easy as possible. This was balanced against a need for strong organisational commitment and ownership across partners, and a recognition that partnerships need time to develop. As a driver and a complement to local partnership work, policy and advocacy work should be advanced to address systemic barriers such as access to NRT, and attitudes to smokefree environments in the community sector.

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ETHNICITY AS A RISK IN THE FIRST 10 YEAR POPULATION STUDY IN SIKKIM – A NORTH EASTERN STATE OF INDIA

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Background: Sikkim is a state in the North East Part of India with a population of 610577. The Population Based cancer Registry (PBCR)was established in the year 2003 under the National Registry Programme of India. This is the first 10 year report and comes out with interesting findings of risks in a tribal group (Bhutia) in the population

Aim: The aim of the registry was to collect incident cancer cases in the entire state of Sikkim and also to look at cancers in different ethnic groups.

Methods: Incident cancer cases were registered in the PBCR data base actively since 2003. Age Adjusted incidence rates (AARs) per 100000 person – years was calculated using the world Standard population and analyzed by Ethnic groups (Bhutia, Rai and Others)

Results: There were a total of 1976 male and 1858 female cases of cancer between 2003 and 2012 in the Sikkim PBCR. The overall AARs were 88.7 and 98.7 per 100000 person – years in Males and Females respectively. Incidence rates were highest among the the Bhutia group (AAR = 172.4 and 147.4 per 100000 person- years in males and females respectively), and the largest difference in rates were observed for stomach cancers with AARs being 12.6 and 4.7 times higher in the Bhutia group compared with other ethnic groups in Males and females respectively

Conclusions: Based on the PBCR data of the past 10 years planning of screening programmes for vulnerable ethnic groups in a focused manner would be advantageous in a low resource setting.

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"PALLIATIVE CARE TRANSFORMING IDEAS TO ACTIONS"; A COMMUNITY OUTREACH PROGRAM

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Background and Context: Palliative care is "an approach that improves the quality of life of patients and their families facing the problem associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual" (WHO, 2014). With the increased prevalence of cancer and life threatening diseases and the discovery of better treatment modalities that increases longevity, improving the quality of life has become vital. Community health nurses, in Oman and globally, provides care to individuals, families and communities across the life span and the wellness-illness continuum in all community settings. They do so to prevent diseases, improve and restore health. Community health nurses play a vital role in providing palliative care in home settings.

Aim: As palliative care is in its infancy in Oman, the aim was to raise the awareness of healthcare professionals about palliative care and raise the public awareness about prevention and management of different life-threatening diseases and the role that a community health nurse play in providing palliative care to patients in community.

Strategy/Tactics: A scientific day followed by a community outreach program was planned.

Programme/Policy Process: The program was organized with the involvement of young nursing students. It consisted of a scientific day involving a multidisciplinary team including doctors and nurses as well as religious people as speakers. This scientific day was followed by a two-day community outreach program targeting the public.

Outcomes/What was learned: The program was expected to raise awareness among professionals about palliative care, role of a multidisciplinary team in providing this service and the role of community health nurses. In addition, it was expected that it will raise public awareness about prevention, management of these life-threatening disease and introduce palliative care service to them.

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PALLIATIVE CARE: GETTING STARTED – AN ONLINE PROGRAM

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Background and Context: Lack of time and resources are reported to make it difficult for health professionals to attend education. Often they attend professional development in their own time and at significant financial cost. Consequently there has been an increased focus on online education programs which offer accessibility and flexibility in terms of time and information delivery. The Centre for Palliative Care seeks to ensure all health professionals have access to a range of palliative care training programs that are evidence based and translate to the best clinical outcomes for patients and their families.

Aim: To develop an innovative and interactive online palliative care program that is freely accessible for generalist health care providers who require training in the key principles of palliative care.

Strategy/Tactics: The authors conducted a literature review to identify online programs already in existence that had a palliative care focus. The current module was developed in partnership between experienced palliative care education providers and an IT company that specialises in the development of interactive online education. The content has been reviewed by academics and clinical experts in the field and piloted with generalist clinicians.

Programme/Policy Process: "Palliative Care: Getting Started" provides a detailed introduction to the principles of palliative care practice. The module is evidence based, promotes best practice, and includes links to relevant resources valuable to clinical practice. Although the course was developed in Australia, we consider it has relevance for health professionals worldwide who are involved in the care of people with a life threatening illness.

Outcomes/What was learned:
- Pilot results will be discussed.
- Literature review identified accessibility and flexibility are the main benefits of online learning.
- Improved knowledge and access to key palliative care resources reduce the burden for clinicians caring for palliative patients.
- Caring for dying patients is the responsibility of all health professionals

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PALLIATIVE CARE MODEL IN HO CHI MINH CITY, VIETNAM

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Background and Context: As cancer rates climb in Viet Nam, an urgent need for palliative care (PC) services has emerged, since most cancer is diagnosed at an advanced stage. Actually, access to PC services remains very limited nationwide.

The Ho Chi Minh City Oncology Hospital (HCMCOH), one of the biggest cancer centers in VN has pioneered in developing this area. Many challenges must be overcome: lack of PC training and education for health care providers, fear of opioid use among health professionals.

Aim: Analyze the current status of palliative care services for cancer patients at HCMCOH

Strategy/Tactics: In 2009 the first analysis showed that only 15–20% health professionals using opioid as medication for pain control, and almost physicians are not awared of the role of PC as well as how to use opioid properly. So training and education should be prioritized.

Programme/Policy Process: Since 2009, the training programs have been organized annually for caregivers. This program has been supported by Dr. Eric L. Krakauer, Head of International Programs at the Harvard Medical School Center for PC.

Outcomes/What was learned: As a result, the first department of PC in HCM City was opened at HCMCOH in January, 2011, followed by PC department at Tropical Disease Hospital (June, 2013), and at Pham Ngoc Thach Hospital (September, 2013). A recent analysis showed that opioid use becomes standard in pain relief, and most trained physicians are awared of PC as one of critical components of cancer care. Since September, 2011 a home care program has been also initiated and has provided effective pain control for end of life cancer patients who want to stay home.

Going forward, a project of creating palliative medicine at the HCM City medical schools, and providing training and education of palliative care to physicians at district level hospitals is ongoing.

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EVIDENCE LEVEL OF INTEGRATIVE MEDICINE IN SUPPORTIVE CARE

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Background and Context: Integrative medicine is gaining public attention and claimed to be cost-effective and body-friendly.

Aim: To summarize the evidence level of the modalities of Integrative medicine used in supportive care for improving quality and span of life. To appraise the evidence level, and give suggestions to future research and practice.

Strategy/Tactics: A comprehensive search (the Cochrane Library, PubMed, Embase, and ISI Web of Knowledge) was conducted to identify all systematic reviews or meta-analyses of different modalities of Integrative medicine suggested for supportive-care. And the evidence levels were evaluated using GRADE approach

These included Relaxation technique, meditation/yoga, prayers, deep breathing and Psychotherapy. Other modalities were massage, diet advice, tub bath, exercise, creative activities like music playing, painting, model making. Also acupuncture and lastly, Homeopathic plant tinctures as local application.

Programme/Policy Process: 23 systematic reviews were included.

Based on available evidence, we could find that Relaxation technique, meditation/yoga, prayers, deep breathing and Psychotherapy, massage, diet advice, tub bath, exercise, creative activities like music playing, painting, model making, Acupuncture and certain Homeopathic plant tinctures as local application might have beneficial effects on improving quality of life. The results were inconsistent for Chinese herbal medicine plus cancer therapy, compound kushen injection, reflexology, lycopene, TENS, qigong, cupping, cannabis and Reiki.

However, the evidence levels for these interventions were low or moderate due to high risk of bias and/or small sample size of primary studies.

Outcomes/What was learned: Integrative medicine in supportive care may be beneficial to improve quality/span of life but the evidence levels were found to be low or moderate. Future large and rigor randomized controlled studies are needed to confirm the benefits of use of integrative medicine in supportive care

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GENERATING EVIDENCE FOR STRATEGIC FUNDING OF CANCER RESEARCH: CANCER AUSTRALIA'S AUDIT OF FUNDING IN AUSTRALIA TO CANCER RESEARCH PROJECTS AND RESEARCH PROGRAMS 2006 – 2011

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Background and Context: A strategic and coordinated approach to funding cancer research could facilitate the conduct of priority research and accelerate rapid changes in care and outcomes. However, to strategically target research funding, an understanding the current landscape of cancer research investment both nationally and internationally is required.

Aim: To undertake an audit of funding provided to cancer research projects and research programs in Australia in the period 2006 –2011.

Strategy/Tactics: Funding information was requested from Australian and international organisations likely to have directly funded cancer-related research projects and research programs in Australia between 2006–2011. The funded research was classified using the Common Scientific Outline to show the pattern of funding across the research continuum and to allow for comparisons of Australian and international data. This audit also purposefully analysed the extent of co-funding of cancer research and the degree of research collaborations.

Programme/Policy Process: The data from this audit has provided the evidence-base to inform Cancer Australia's future research priorities and the data and findings are expected to also be of value to other funders of cancer research, policy makers, researchers and consumers.

Outcomes/What was learned: The pattern of funding across the cancer research continuum was broadly similar in Australia, the UK and Canada. Australia, Canada and the UK all had proportionally higher levels of investment in the fields of cancer Biology and Treatment, and all had proportionally lower levels of investment in Prevention research. Further, only 10% of research grants were co-funded and the majority of collaborations occurred within the research institute of the grant recipient. An opportunity exists for national and international funders to co-fund cancer research in areas of shared priority and establish funding models which value and reward international collaborations.

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CANADIAN HEALTH TECHNOLOGY ASSESSMENT SYSTEM FOR CANCER DRUGS IMPROVING CANCER PATIENT OUTCOMES: HOW PATIENT ENGAGEMENT SYSTEMATICALLY INFORMS A UNIQUELY CANADIAN HTA SYSTEM

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Background and Context: In Canada, the oncology community believed that the Common Drug Review (CDR) required a new approach to address the needs of Canadian cancer patients, resulting in the implementation of the pan-Canadian Oncology Drug Review. (pCODR)

pCODR was established with input from a number of patient-centered cancer organisations across Canada working alongside cancer agencies, provincial governments and Provincial Deputy Ministers of Health, with the exception of Quebec. Since implementation of pCODR, Canada has seen unprecedented opportunities for cancer patient input and engagement in the Canadian patient community in the HTA decision-making process.

Aim: Referencing international HTA best practices and drawing on lessons learned, the Canadian Cancer Action Network will deliver (from the perspective of the patient community) a comprehensive overview to our international colleagues of how cancer patients and advocacy groups inform patient outcomes in Canada. This will include how the Canadian HTA system solicits and integrates patient input into decision-making in a collaborative, open and transparent process.

Strategy/Tactics: CCAN will highlight the impact and value of various tools and resources designed to assist Canadian patient advocacy groups in patient submissions, centering on the development and implementation of a patient advocacy guide, a first for Canada, created in collaboration with pCODR and the Li Ka Shing Knowledge Institute, St. Michael's Hospital. (Toronto, Canada)

Programme/Policy Process: CCAN will summarize current Canadian initiatives introducing support services to patient advocacy groups, drawing on a patient engagement model implemented by the National Institute for Health and Clinical Excellence, and how we anticipate this will significantly change the future for patient advocacy submissions in Canada.

Outcomes/What was learned: With the guide in practice (and with a Patient HTS Navigator working to support the patient advocacy community) CCAN will summarize the key strengths in terms of application, value and overall impact to improved HTA in Canada.

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CROSS-BOUNDARY CANCER STUDIES

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Background and Context: It is clear that the prevalence rate of cancer is continuing to increase in Asian countries, which are transitioning to super-aged societies. Changes in the disease structure and the accompanying pressure this places on the healthcare economy is causing changes to people's lifestyles and social infrastructure and it is also likely to change the way people view disease and illness.

Aim: We aim to study cancer through a multidisciplinary approach from the perspectives of medicine, pharmacology, economy, anthropology, thanatology and sociology, etc., and share information and engage in discussion. Through these discussions we aim to identify common challenges and points of difference in Asian countries, which will provide a basis for the launch of educational program, known as "Cross-boundary Cancer Studies."

Strategy/Tactics: This program is anticipated to be an issue-oriented study program that addresses the individual issue of cancer and presents proposals for social structures of the future.

Programmed/Policy Process:

The University of Tokyo is already engaged in multidisciplinary research and educational programs relating to cancer, as part of a graduate school cross-departmental educational program. The program is designed for students to learn about the social challenge of cancer in multidisciplinary lectures and to discuss how they can contribute to knowledge on the subject of cancer from their various areas of specialty.

We once again intend to benefit from the participation of students and young researchers from various specialist areas as we examine multidisciplinary research on cancer from the perspective of the medical sociology.

Outcomes/What was learned: The program also provides a forum for discussion among different specialties.

Discussion on the construction of a framework for multidisciplinary research on cancer and the actual implementation of such research will contribute to the development of public policies on cancer.

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IMPLEMENTING A CANCER REGISTRY IN A BRAZILIAN NATIONWIDE SELF-ADMINISTERED HEALTH CARE PLAN: STRATEGIES AND INITIAL FINDINGS

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Publish consent withheld

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KNOWLEDGE SUMMARIES OF COMPREHENSIVE BREAST CANCER CONTROL

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Background and Context: The World Health Organization's Global Action Plan promotes the formation and implementation of cancer management strategies. To date, a minority of countries has developed comprehensive breast cancer control plans – a missed opportunity to address the largest cancer-related cause of mortality for women worldwide. Because of variation in resource levels, prevalence, and cultural factors across regions, existing guidelines cannot be generalized.

Aim: Our objective is to produce Knowledge Summaries as a resource-stratified tool to coordinate breast cancer services within a larger health system. The Knowledge Summaries are concise, topic-directed, evidence-based documents intended to guide policy interventions and clinical practice.

Strategy/Tactics: A review of over 4000 published clinical studies, economic and cost analysis, and existing guidelines was performed. The findings are summarized and communicated in a parallel fashion for policymakers and clinicians – establishing a common language for cancer control. The framework for the Knowledge Summaries is shaped by the validated resource-stratified guidelines from the Breast Health Global Initiative and normative work from the World Health Organization.

Programme/Policy Process: Sixteen Knowledge Summaries have been developed addressing the full spectrum of cancer control from planning to advocacy and prevention to palliation. Rather than prescriptive guidelines, Knowledge Summaries provide specific goals for the development of comprehensive breast cancer care along a *Pathway*, recognizing variations that exist between and within health systems. This toolkit highlights foundational questions and answers across the life-course, facilitates multi-sectoral involvement, promotes equity, and empowers people and communities.

Outcomes/What was learned: Expert reviewers from all resource levels have contributed to these Summaries. Potential partners and test sites have been identified for implementation and validation of this tool.

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LESSONS LEARNED: ESTABLISHING PERFORMANCE MEASUREMENT FOR A PROVINCIAL CANCER CONTROL ORGANIZATION IN SASKATCHEWAN, CANADA

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Background: The Saskatchewan Cancer Agency (SCA) is responsible for the provision of cancer treatment, prevention, early detection programs, research, and education services to the people of the province of Saskatchewan, Canada. As the Canadian cancer control strategy matures and is implemented through the Canadian Partnership Against Cancer, there has been an increased emphasis on evidence based evaluation and decision-making.

Aim: By measuring outcomes and establishing performance indicators we can answer the question: "is the SCA really doing the right program activities to bring about the appropriate outcomes for SCA clients?"

Methods: To help answer this question, the SCA has access to a wealth of information systems available internally and externally, Cancer Registry, electronic health record, screening program for breast cancer, prevention program for cervical cancer, screening program for colorectal cancer, and other databases. Recently the SCA has incorporated a performance measurement function to the already established Epidemiology Department in order to carry out analyses and interpretation of performance related cancer control data. This includes work in cost analysis and quality indicator development and ongoing measurement.

Results: We will present: 1) how the department in functioning with this new scope, 2) how performance indicator development is being implemented across the SCA, and 3) lessons learned in establishment as well as gaining traction in using performance measures in planning and evaluation across the organization.

Conclusions: Despite evidence that well established performance measures are a valid method for ongoing planning and evaluation, implementing these measures across a large and diverse cancer control organization can be challenging.

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A LONGITUDINAL PILOT EVALUATION OF SUPPORTIVE CARE INTERVENTION FOR COLORECTAL CANCER PATIENTS IN GENERAL PRACTICE: THE SATP INTERVENTION

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Background: Patients with colorectal cancer experience considerable symptom load including physical and psychological morbidity, and unmet social needs even years after completing treatment. There is evidence that patient centred proactive approaches for needs assessment alongside management strategies may result in the needs addressed.

Aim: The primary aim of this GP delivered supportive approach, the SATp intervention, was to provide assessments and address needs of colorectal cancer patients with long-term needs following cancer treatment.

Methods: A total of 66 participants with localised colorectal cancer were enrolled into the SAT-p intervention. Participants were surveyed monthly for six months using a validated measure – self assessment tool for patients (SATp) and encouraged to visit a general practitioner (GP) with a copy of the SATp. General practitioners' notes were then reviewed for management actions taken when participants presented SATp in a consultation.

Results: Of 66 patients who completed the follow-up study, 86% visited a GP at least once. A total of 547 needs were identified (median 7; IQR [3-12.25]). Patients with physical needs utilised GP services more compared to those with social or psychological needs ($p = 0.054$). Psychological functioning was significantly ($p < 0.01$) improved by 6 months. There were non-statistically significant improvements in the physical and social functioning. GP consultations resulted in a total of 78 GP actions. Of these, 52/78 (44%) were prescriptions; 17/78(22%), investigations and 9/78(11.5%) were referrals. Prescriptions were mostly antidepressants (9/25-36%), sedatives (6/25-24%) and analgesics (3/25-12%). The chance of getting a prescription was the same whether patient had a physical ($p = 0.90$) or psychological need ($p = 0.41$).

Conclusions: The SAT-p intervention was found to be feasible and acceptable to patients. Regular use of needs assessment measures is an effective way to identify patient unmet needs and aid doctor patient consultation. GPs play and important role in supporting patients during surveillance.

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PREDICTING ATTENDANCE OF POST TREATMENT CANCER CARE PATIENTS IN GENERAL PRACTICE: THE ROLE OF CONCOMITANT HEALTH CONDITIONS IN THE THEORY OF PLANNED BEHAVIOUR

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Background: Due to the increasing numbers of patients at hospital cancer clinics, it is likely that specialist care of patients with colorectal cancer will need to be re-organised. More patients, who have been treated successfully, may need long-term support in primary care. Despite rigorous research work done in this field, uptake of this approach is rather slow. Issues that affect endorsement of this approach have not been fully determined and, in particular, patient factors that may affect uptake of this programme have not been explored.

Aim: To examine the role of comorbidities in the theory of planned behaviour (TPB) in influencing patients' intention to attend follow-up visits with a general practitioner (GP).

Methods: A self-administered questionnaire was developed based on the TPB to assess colorectal cancer (CRC) patients' intention to attend follow-up visits with a GP.

Results: Sixty-six patients participated in the study. All factors (attitude, subjective norms, and perceived behaviour control (PBC)) accounted for 43.3% of the variance on future follow-up visits. Attitude explained 23.3% of the variance, but PBC and subjective norms did not account for any significant variance (on future intention to attend a follow-up visit). Univariate analysis suggested that attitude and the presence of a coexisting chronic illness significantly affected future intention to visit a GP (attitude: $R2 = 0.233$, $F [1, 65] = 4.345$, $p < 0.01$; comorbidity: $R2 = 0.128$, $F [1, 65] = 3.019$, $p < 0.05$).

Conclusions: Patients who believe their GP has the skills and knowledge to detect a recurrence and patients with other comorbidities are more likely to visit their GP following treatment

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WHAT CAUSES BREAST CANCER? A SYSTEMATIC REVIEW OF CAUSAL ATTRIBUTIONS AMONG BREAST CANCER SURVIVORS AND HOW THESE COMPARE TO EXPERT ENDORSED RISK FACTORS

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Background: A number of studies have been conducted on causal attributions for breast cancer among affected women. An understanding of these causal attributions is important as beliefs that people hold with regard to the cause of their own illness help to provide a framework for determining factors which influence health-related behaviors and ways of coping.

Aim: The aim of this paper was to review published research that analyzed causal attributions for breast cancer among affected women. These attributions were compared with risk factors identified by published scientific evidence in order to determine the level of agreement between cancer survivors' attributions and expert opinion.

Methods: A comprehensive search for articles, published between 1982 and 2012, reporting studies on causal attributions among breast cancer survivors was undertaken. Of 5,135 potentially relevant articles, 22 studies met the inclusion criteria. Two additional articles were sourced from reference lists of included studies.

Results: Results indicated a consistent belief among survivors that their own breast cancer could be attributed to family history, environmental factors, stress, fate, or chance. Lifestyle factors were less frequently identified, despite expert health information highlighting the importance of these factors in controlling and modifying cancer risk.

Conclusions: The findings of this review indicate that beliefs about the causes of breast cancer among affected women are not always consistent with the judgement of experts. Further research examining psychological predictors of attributions and the impact of cancer prevention messages on adjustment and well-being of cancer survivors is warranted.

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THE PROCARE TRIAL: A PHASE II RANDOMISED CONTROLLED TRIAL OF SHARED CARE FOR FOLLOW-UP OF MEN WITH PROSTATE CANCER

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Background: Prostate cancer is the commonest cancer amongst men in Australia. Men who have completed treatment for prostate cancer require long term follow-up to monitor disease progression and to manage common adverse physical and psychosocial consequences of their treatment. There is growing recognition of the potential role of primary care in cancer follow-up.

Aim: This phase II randomised controlled trial of a complex intervention aims to evaluate the effect of a novel model of shared care to reduce unmet needs and psychological distress among men treated for low-intermediate risk prostate cancer.

Methods: Participants are randomised to the intervention or current hospital follow-up. The intervention is a shared care model of follow-up visits in the first 12 months after treatment and includes the following components: a survivorship care plan, GP management guidelines, register and recall systems, screening for distress and unmet needs and patient information resources. Outcome measures collected at baseline, 3, 6 and 12 months include anxiety, depression, unmet needs, prostate cancer-specific quality of life and satisfaction with care. Clinical processes and health care resource usage are also being measured.

Results: Eighty-eight men were randomised into the trial. This represents a patient accrual rate of 65% of eligible men and a 90% accrual rate of their general practitioners. Follow-up will be completed by July 2014. We will present the main results of the trial on psychosocial outcomes.

Conclusions: This is the first trial of shared care for prostate cancer in Australia and the first trial internationally to use the Distress Thermometer and a tailored screening tool for unmet needs in prostate cancer in primary care. It tests the feasibility and acceptability of this novel model of shared care and will inform policy, practice and the potential for future larger trials in this area.

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ARE WE TALKING WITH PATIENTS ABOUT SEXUALITY: CHALLENGES IN AMBULATORY SETTINGS

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Background: A cancer diagnosis and treatment can have a significant impact on an individual's quality of life. In particular, body changes and alterations in bodily function can influence self-image. In turn, relationships and sexuality can be compromised. There is evidence that focused conversations about these consequences are not happening often between cancer patients and their health care providers in busy ambulatory settings.

Aim: This study was undertaken to explore the perspective of both cancer patients and health care professionals about conversations regarding sexuality after a cancer diagnosis. The aim was to understand about the barriers that exist to having this type of conversation in a daily practice setting.

Methods: Thirty cancer patients and 30 health care professionals participated in interviews to explore their experiences in having conversations about sexuality. Transcripts were subjected to a standard qualitative content and theme analysis.

Results: Patients described many changes in their bodies that had the potential to impact on sexuality, but actual concerns were individualized. Few had had conversations with their providers about sexuality. Most thought it was the responsibility of the cancer care team to "open the door" to the topic area. Meanwhile, health care professionals recognized the potential for treatment related changes to have an impact on sexuality. However, they tended not to talk about the topic unless there was a requirement for informed consent prior to surgery or the patient raised the topic.

Conclusions: The results support the idea that conversations about sexuality between cancer patients and their providers are difficult for a number of reasons. Innovation is necessary to overcome the barriers experienced.

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SCREENING FOR SYMPTOM AND EMOTIONAL DISTRESS IN CANCER PATIENTS: OVERCOMING IMPLEMENTATION CHALLENGES IN AN AMBULATORY SETTING

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Background: Distress is commonly experienced by individuals who are coping with the consequences of cancer. It is important to be able to identify those who would benefit from further assessment and intervention.

Aim: We designed an intentional approach to identify those experiencing distress and implemented a programmatic approach to responding to those with elevated levels.

Methods: The programmatic approach includes a standardized screening tool to identify distress, a brief assessment conversation with the individual, a subsequent dialogue for deeper assessment as required, and intervention or referral based on that assessment. Education, quality improvement cycles, evidence-based practice guidelines, and inter-professional team algorithms were incorporated. Audit feedback, marketing to patients, role changes and clarity, and specified operational accountabilities were additional strategies needed to overcome the implementation challenges.

Results: Staff members report that conversations with patients are more focused on the concerns cited by patients and include more psychosocial aspects. The assessments provide a better opportunity to design a plan of care that is tailored to the individual patient and what is important to that person. Referrals have not increased to psychosocial experts as the majority of the issues are managed by the primary team of physician and nurse. Staff members indicated that it required a period of time to become comfortable with using the tool and incorporating the results into their routine practice.

Conclusions: Successful implementation of screening for symptom and emotional distress requires a programmatic approach. Screening must be followed by appropriate acknowledgement, assessment and intervention. Without an appropriate response by the health care professionals, there will be on-going challenges in achieving the desired outcomes.

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TELEPHONE, PRINT AND WEB-BASED INTERVENTIONS FOR PHYSICAL ACTIVITY, DIET AND/OR WEIGHT LOSS AMONG CANCER SURVIVORS: A SYSTEMATIC REVIEW

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Background: Evidence supports the efficacy of lifestyle interventions in cancer survivors, but they are yet to be widely incorporated into routine clinical care. Programs that are delivered via mediated (i.e., non face-to-face) modalities may offer a distinct advantage for their ability to offer accessible and cost-effective means to provide repeated contacts necessary to achieve behavior change in diverse and growing cancer survivor populations.

Aim: The purpose of this systematic review is to evaluate the efficacy of physical activity, dietary behavior and/or weight control interventions for cancer survivors in which telephone, short-message service (SMS), print and/or web-based approach is the primary method of intervention delivery.

Methods: A structured search of PubMed, Embase, Web of Science, CINAHL and CENTRAL for articles published up to May 2013 was conducted. Included studies: targeted and reported on physical activity (PA) and/or dietary change and/or weight control in adult cancer survivors; delivered at least 50% of intervention contacts by mediated modality; and included a control group. Detailed information on study design, intervention features and efficacy in improving behavioral outcomes (i.e., significant between-groups intervention effect) was extracted and summarized.

Results: Twenty-seven studies were included, using the following modalities: 22 telephone, three web, and two print. Sixteen studies targeted PA, two dietary change and nine targeted both. Breast cancer survivors were the most frequent group targeted (n = 12). Twenty of 27 studies found evidence for intervention efficacy (11/16 for PA; 2/2 for diet; 5/9 for PA & diet, with 3/5 that also targeted weight control achieving it).

Conclusions: Emerging evidence supports the use of mediated modalities, particularly telephone. Future research should focus on evaluation of: 1) newer technologies (i.e., SMS and Apps); 2) interventions for diverse cancer survivors; 3) longer-term outcomes to assess if changes are maintained; and 4) cost-effectiveness, where possible.

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HOW IS POST-TREATMENT SURVIVORSHIP CONCEPTUALISED BY PEOPLE FROM DIFFERENT CULTURAL GROUPS?

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Background: Immigrants diagnosed with cancer face multiple challenges within an unfamiliar health system. There is limited information about how the concept of survivorship is conceptualised by cancer survivors from Culturally and Linguistically Diverse (CALD) backgrounds. To understand the issues faced by CALD cancer survivors, we conducted focus groups with individuals from Chinese and Greek nationalities.

Aim: To understand how the concept of survivorship is conceptualised by CALD survivors.

Methods: Cancer survivors whose native language was Mandarin, Cantonese or Greek were identified through ethno-specific cancer support groups and cancer specialists in two states of Australia. Focus groups were facilitated by researchers in the participants' native language and followed a semi-structured interview format. Focus groups were taped, transcribed and analysed for principle themes.

Results: Six focus groups were conducted involving 41 CALD cancer survivors. There was an overall antipathy to the term "survivor," with the term "recovery" preferred. Participants from all three language groups expressed a strong desire for practical information following treatment particularly related to changes in lifestyle, as well as information about ways to cope with the physical and emotional consequences of treatment. All requested more information in their own language and all had a preference for written material.

Conclusions: The findings emphasise that people treated for cancer from CALD communities have overlapping but distinct requirements compared with those of the native community. It is not sufficient to translate materials into the relevant language.

Implications for cancer survivors: Identification of CALD-specific issues enables the development of targeted support materials.

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HELPING OUR SUPPORT GROUP LEADERS TO LEAD

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Background: Prostate Cancer Foundation of Australia (PCFA) is uniquely placed to impact the effects of prostate cancer on men and their networks, through our peer led support network. This network has been strengthened through the development and delivery of evidence-based training for peer Support Group Leaders (SGLs).

Aim: The training aimed to increase knowledge and the acquisition of skills for SGLs across three training modules: group purpose and group agreement (GPGA); welcoming new members (WNM); and group promotion (GrP).

Methods: A survey (6-point Likert scale) was used to conduct a retrospective post-then-pre evaluation of the training.

Results: Improvements in skill were recorded for: GrP module – skills to engage with Health Professionals ($M = 3.86$ to $M = 4.68$, $p < .000$); WNM module – skills to make a new member feel welcome ($M = 4.27$ to $M = 5.32$, $p < .000$); GPGA module – skills in the development ($M = 3.53$ to $M = 5.21$, $p < .000$) and implementation ($M = 3.61$ to $M = 5.2$, $p < .000$) of group purposes and agreements.

Increments in knowledge were recorded for: GrP module – the importance of interacting with Health Professionals ($M = 4.40$ to $M = 5.24$, $p < .000$) and ways to approach local media ($M = 3.60$ to $M = 4.76$, $p < .000$); WNM modules – ways to connect with potential new members ($M = 4.08$ to $M = 5.30$, $p < .000$), communicating group benefits ($M = 4.27$ to $M = 5.36$, $p < .000$) post workshop) and the importance of follow-up contact ($M = 3.96$ to $M = 5.34$, $p < .000$); GPGA – the benefits of group agreements ($M = 3.63$ to $M = 5.25$, $p < .000$) and an understanding of the importance of confidentiality issues ($M = 5.03$ to $M = 5.79$, $p < .000$).

Conclusions: The delivery of these evidence-based modules had a significant impact on SGLs who gained knowledge and skill in leading a support group. Training such as this provides best practice principles to community leaders, improving their confidence to lead and the confidence of people to refer to these groups, thus ameliorating the effects of prostate cancer on men and their families

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ASSOCIATION BETWEEN CHRONIC KIDNEY DISEASE AND CANCER EXPERIENCES AMONG KOREAN ADULTS: THE KOREAN NATIONAL HEALTH AND NUTRITION EXAMINATION SURVEY V (2010–2012)

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Background: Cancer survivors are increasing globally, including Korea. This might be due to earlier detection of cancer, more improved treatment of cancer and nationally increased concern of public health. Recently, higher rate of comorbidities in cancer survivors is reported and chronic kidney disease (CKD) is, one of them, shares risk factors of cancers.

Aim: There is lack of study to reveal that cancer survivors have higher risk of CKD prevalence, therefore we aimed to evaluate the association of cancer survivors and the prevalence risk of CKD using the 2010–2012 Korean National Health and Nutrition Examination Survey (KNHANES).

Methods: 11,296 subjects (4,671 in men and 6,625 in women) were included, and divided into two groups by cancer experiences. Multiple variables including age, sex, CKD prevalence, body mass index, daily calorie intake, smoking, alcohol drinking, and physical exercise were compared between two groups.

Results: In men, mean values of body mass index, blood pressure, daily calorie intake, and the percentage of current smokers were lower in cancer survivors. In women, body mass index, daily calorie intake, hight risk drinkers and current smokers were lower, but not significantly different in cancer survivors group. In logistic regression analyses, cancer survivors have the higher prevalence risk for CKD after multiple variables were fully adjusted, which was ORs (95% CIs) of cancer survivors for CKD were 4.13 (1.19–15.10) in men and 2.75 (1.21–6.21) in women.

Conclusions: Our study demonstrated that there might be association between CKD and cancer survivors in Korean adults. Iidentification of direct or indirect multifactorial factors of the association would bring positive effects on prevention of the disease progression of CKD and cancer and minimizing burden on public health in the furture.

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WHAT CAN THE YOUTH INTERNET CULTURE OFFER TO SURVIVORSHIP CARE IN YOUNG ADULTS WITH CANCER? A STUDY OF BLOGS WITH AN INTEREST IN GENDER DIFFERENCES

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Background: Young adulthood is a life stage when many societal roles are accomplished and major life changes occur. Undergoing cancer survivorship during this period can complicate developmental processes creating a need for support. However, there are few dedicated survivor support services for them, due to small numbers and limited resources.

While these barriers exist, it is worth noting the phenomena of youth internet culture that has become an integral part of their lives. This existing culture has potential to be utilised in providing survivorship support.

To better understand their online activities in order to design effective online services, we analysed young adult cancer patients' blog contents with emphasis on gender differences.

Aim: To investigate characteristics of young adults with cancer in ways they write blogs, with particular focus on gender differences

Methods: Based on the established criteria, we collected blog entries generated by young adults with cancer. We conducted a content analysis of their blog contents and compared percentages of each coded domain.

Results: 160 blogs were included for the analysis. Despite the large gaps between genders in the blog length and number of writers (female: 4237; male: 775), there were marked percentage similarities in each domain.

Conclusions: The results of this study do not support existing theory suggesting that male patients often feel reluctant to express their health concerns due to the gender norms associated with masculinity. We propose that males may feel less obliged to comply with their gender norms in an online space which can become an outlet to express and address their issues.

In conclusion, the online blogs can be actively incorporated into developing survivor support in young adult cancer patients, particularly benefiting those who are male.

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IMPLEMENTING SURVIVORSHIP CARE PLANS IN A COMPREHENSIVE CANCER CENTRE

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Background: Numerous reports have recommended that survivors receive a treatment summary and survivorship care plan (collectively, SCP) at the end of initial treatment.

Aim: To evaluate the impact of SCPs and describe enablers and barriers to implementation at Peter MacCallum Cancer Centre.

Methods: The Peter Mac Ethics Committee / IRB approved the study. A random sample of patients within 4 clinical services (CS) who had received a SCP were invited to participate. Questionnaires were sent to consenting patients by mail. Nurse coordinators (NC) delivering SCPs completed an online survey. NC representing the remaining 7 CS, all CS chairs, and all heads of allied health were invited to participate in semi-structured interviews. GPs (primary care physicians) of consenting patients were contacted by telephone and completed a brief survey.

Results: 118 patients were approached; 50 completed (42% rr). 80% (n = 39) had read their SCP. 78% (n = 35) considered it very or somewhat useful and 51% (n = 23) considered it very important in helping them to understand their cancer experience. 60% (n = 28) had not discussed their SCP with their GP; 55% (n = 26) felt it would help discussions. All NC (n = 7, 100%) delivering SCP considered them a very or somewhat useful tool for clinical practice, 43% (n = 3) considered them too long. 72% (n = 13) of GPs reported receiving the SCP and 92% (n = 12) had read it, 21% (n = 3) had discussed it with their patient. Most felt it would improve communications with the patient (n = 10, 71%) and cancer treatment providers (n = 9, 64%). 43% (n = 6) of GPs experienced challenges providing follow-up care. Themes from semi-structured interviews included lack of awareness of the SCP project, limited leadership and commitment within the organisation, lack of time, staffing and appropriate IT solutions.

Conclusions: All participants considered SCPs to be useful. Organisational commitment, clinical leadership and adequate resourcing are required prior to further implementation.

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SELF-REPORTED CHRONIC DISEASE IN THOSE WITH HISTORY OF CANCER – THE INFLUENCE OF SEX AND SOCIOECONOMIC STATUS

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Background: Chronic disease (CD) may be more prevalent after cancer. Low socioeconomic status (SES) is associated with higher incidence of some cancers, worse cancer outcomes and higher prevalence of CD. Little is known whether the association between cancer and CD differs according to sex, and whether it is further influenced by differences in SES.

Aim: to examine prevalence of self-reported CD in those with cancer according to sex and SES.

Methods: We reviewed CD and lifestyle behaviours from a state-wide telephone survey conducted between January 2010 and March 2012 comparing adults who self-reported previous cancer diagnosis and randomly selected age and sex matched controlswho did not. Analysis was stratified by sex and adjusted for socioeconomic status (SES).

Results: 2,103 cases and 4,185 controls were included. In men, cancer cases had an increased odds of reporting a previous diagnosis of cardiovascular disease (OR1.39, 95% CI1.16, 1.67), high blood pressure (OR 1.30, 95% CI 1.11, 1.53), high cholesterol (OR 1.35, 95% CI 1.15, 1.59) and diabetes (OR1.24, 95% CI1.01, 1.52) which remained significant, after controlling for SES with the exception of high blood pressure. In women, cancer cases had increased odds of having reported high cholesterol (OR1.23, 95% CI 1.07, 1.43), diabetes (OR 1.28, 95% CI 1.04, 1.58) and osteoporosis (OR 1.31, 95% CI 1.08, 1.58) which was no longer significant after adjusting for SES.

Conclusions: The prevalence of self-reported CD's was significantly higher amongst those with history of cancer compared to controls but in women this was largely a result of differences in SES.

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CHANGE IN SUPPORTIVE CARE NEEDS OVER THE EARLY DISEASE TRAJECTORY FOR ADULTS WITH PRIMARY BRAIN TUMOURS: A POPULATION-BASED STUDY

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Background: Primary brain tumours are rare among adults, but patients often experience physical, cognitive, neurological and psychosocial morbidity. Research has documented high rates of unmet supportive care needs among subgroups, such as patients receiving specific treatments or those receiving palliative care, but the needs of patients in the period soon after diagnosis are not known.

Aim: To describe the unmet supportive care needs of adults recently diagnosed with primary brain tumours and change in needs over the early diagnosis/treatment period.

Methods: A representative population-based sample of 40 patients was recruited approximately three months after diagnosis through a state cancer registry in Queensland, Australia. Patients or carer proxies completed surveys of supportive care needs in six domains (physical/daily living, psychological, patient care and support, sexuality, health system and information needs, and brain tumour-specific needs) at baseline and three months later. Mean supportive care needs scores (scale 0–100, with higher scores indicating higher levels of need) were calculated and compared over time.

Results: The highest mean supportive care needs score at each time point was for physical needs (baseline 47.9, SD 26.3), closely followed by psychological needs (baseline 45.8, SD 35.6). Mean scores for other domains ranged from 30.4 to 37.9. Mean scores in all domains except for sexuality significantly declined over time, with the greatest decline for the patient care and support needs domain (mean 15.9 point decrease).

Conclusions: Adults with primary brain tumours experience high levels of unmet physical and psychological needs early in the disease trajectory. However, levels of needs, particularly for patient care, decline over time, perhaps with the completion of primary treatments. Further research is needed to confirm these findings in a larger sample and investigate reasons for the decline seen.

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PREDICTORS OF BODY IMAGE IN OVERWEIGHT AND OBESE BREAST CANCER SURVIVORS: LIVING WELL AFTER BREAST CANCER

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Background: Despite high survival, many breast cancer treatments have negative effects on a woman's body, including loss of breast(s), tissue damage, deformities in the breast(s), decreased range of motion, lymphoedema, hair loss, weight gain, and muscle loss/weakness. These changes can have a profound impact on woman's perception of physical attractiveness, femininity and overall body image.

Aim: The aim of this paper is to better understand predictors of poor body image in a group of overweight/obese breast cancer survivors.

Methods: Overweight and obese women diagnosed with breast cancer were recruited from an Australian State-based cancer registry to participate in a weight loss intervention trial. Independent associations of baseline demographic (age, marital status, waist circumference, weight change post-diagnosis), treatment-related (surgery type, lymphoedema, menopausal status) and psychosocial (depression [PROMIS; range 8–40; higher scores = greater impairment], fatigue [FACIT-Fatigue; range 0–52; higher scores = lower fatigue]) variables with body image (Body Image and Relationships Scale; range 32–160; higher scores = greater impairment) were tested using linear regression models.

Results: Ninety women (mean ± SD BMI: 31.0 ± 4.3 kg/m^2; aged 55.3 ± 8.7 years; median 16 months post-diagnosis [range: 12–21 months]) were recruited. Mean body image score was 82.2 ± 20.1. Higher levels of depression (0.75 [95% CI 0.05, 1.46]; $p < 0.05$) and fatigue (-0.92 [95% CI -1.33, -0.50]; $p < 0.001$) were the only statistically significant independent predictors of more impaired body image. Time since breast cancer diagnosis (in months) was of borderline significance (-1.23 [95% CI -2.49, 0.03]; $p = 0.055$).

Conclusions: Body image was more strongly associated with the psychosocial variables than treatment-related variables in this sample of overweight/obese survivors; however due to the cross-sectional nature of the data, it is difficult to establish the direction of these relationships. Understanding and addressing psychosocial issues related to body image should be an important component of breast cancer survivorship care.

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THE CORRELATION BETWEEN PREOPERATIVE TUMOR MARKERS AND LYMPH NODE METASTASIS IN GASTRIC CANCER PATIENTS UNDERWENT CURATIVE TREATMENT

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Background: There were few studies on the correlation between the evaluated tumor markers and lymph node metastasis.

Aim: In this study, we aimed to explore the correlation between the CA724, CA242, CA199, CEA and the lymph node metastasis of gastric cancer and assess the prognostic value of them in different N stage patients.

Methods: We respectively analyzed the correlation between serum level of CA724, CA242, CA199, CEA and lymph node metastasis in 1501 gastric cancer patients.

Results: Lymph node metastasis of gastric cancer was related with tumor location, Bormann type, tumor size, histological type, depth of invasion and TNM stage ($P < 0.05$). The value of CA724, CA242, CA199 and CEA were positively correlated with the metastastic lymph nodes counts and pN stage ($P < 0.05$). The later the N stage was, the level of tumor and the positive rates of tumor markers were higher ($P < 0.05$). In comparing with single tumor markers, the positive rates of tumor markers combination were higher. The combination of CA724 + CA242 + CA199 + CEA had highest positive rate. In some pN stage, patients with higher CEA, CA199, CA724 and CA242 inclined to have poor prognosis.

Conclusions: The tumor makers CA724, CA242, CA199 and CEA were evaluated significantly in the gastric patients with later N stage. The combination of these four tumor markers maybe prefer diagnostic index of gastric cancer and its lymph node metastasis. These tumor markers can be a possible indicator of poorer prognosis in different N stage patients.

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EFFECTS OF A CLINICIAN REFERRAL AND EXERCISE PROGRAM FOR MEN WHO HAVE COMPLETED ACTIVE TREATMENT FOR PROSTATE CANCER: A MULTICENTRE CLUSTER RANDOMIZED CONTROLLED TRIAL [ENGAGE]

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Background: Exercise programs have a positive impact on quality of life outcomes in men with prostate cancer and have been shown to be safe, feasible and effective. Despite the potential benefits, many men living with prostate cancer do not participate in regular exercise.

Aim: To test the efficacy of a clinician referral and exercise program to improve physical activity levels, psychological wellbeing and quality of life among men with prostate cancer.

Methods: A multicentre, cluster randomized controlled trial in Melbourne, Australia, randomized 15 clinicians to either refer eligible participants (n = 54) to a supervised exercise program (two gym sessions and one home-based session per week for 12 weeks) or follow usual care (n = 93). The primary outcome was self-reported physical activity. Secondary outcomes: an objective measure of physical activity, quality of life, levels of anxiety and symptoms of depression.

Results: At 12 weeks, no significant intervention effects were observed for combined moderate and vigorous physical activity levels (effect size: 0.08; 95% CI: -0.28, 0.45; p = 0.48); significant intervention effects were observed for vigorous-intensity exercise (effect size: 0.46; 95% CI: 0.09, 0.82; p = 0.010). Significant intervention effects were observed for the percentage of participants meeting exercise guidelines (≥150 minutes per week) based on combined moderate-vigorous (Odds Ratio (OR): 3.9; 95% CI: 1.9, 7.8; p = 0.002) exercise; a significant inverse effect was observed on anxiety levels (effect size: 0.42, 95% CI: 0.06, 0.79; p = 0.02) and borderline intervention effects for depression symptoms (effect size: -0.35, 95% CI: -0.71, 0.02; p = 0.06); 80% of participants reported the clinician's recommendation influenced them to participate in the 12-week exercise program.

Conclusions: Clinicians are ideally suited to refer men to tailored exercise programs as part of their clinical care for men who have completed active treatment for prostate cancer, to improve physical activity levels and quality of life outcomes.

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IDENTIFYING VARIATION IN CANCER MORTALITY IN THE ELDERLY; NOT AS EASY AS IT SOUNDS

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Background: Age adjusted cancer mortality rates have fallen by 11% over the last decade. This improvement is focused on those under 75; 15% reduction in those under 75, 5% reduction for those 75 and over. It is widely observed that this trend is not uniform across the UK.

Aim: To uncover the extent to which mortality rates vary in those 75 and over and how to identify which areas warrant further investigation.

Methods: UK registry data was extracted from the UK Cancer Information Service. We extracted age-adjusted cancer (ICD-10 C00-C97) mortality rates and numbers of deaths, cross tabulated with higher tier local authorities or equivalents (LAs) for two decades up to 2011. We explored the data using a range of methods.

Results: There is variation in the age-adjusted mortality rate of those aged 75 and above; the area with the highest rate has more than double the rate of the area with the lowest rate. These areas are significantly different to the UK average. However, much of the variation in other geographies was found to be variation due to chance.

Conclusions: It is important to be able to accurately identify areas with genuinely higher mortality rates so that we can focus rationed efforts to improve outcomes.

The next stage is to unpick why variation may be present; this can be partially achieved through studying how mortality rates vary over time. If the mortality rate needs improvement in a stable system a systematic change of the whole system is probably needed. Alternatively the variation over time may indicate that something unpredictable is happening. These unpredictable changes are likely to be caused by an altering external factor that we need to understand.

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UNDERSTANDING THE VARIATION IN BRAIN AND CENTRAL NERVOUS SYSTEM SURVIVORSHIP OUTCOMES AND MORBIDITIES

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Background: 'Routes from Diagnosis' links and analyses routinely-collected cancer registry and HES data to map the cancer journey for cohorts of patients over up to 7 years after diagnosis. This approach brings together information on survival, morbidities and demographics, painting a detailed picture of survivorship.

Aim: We aimed to investigate the heterogeneity of survivorship outcomes within the brain and central nervous system grouping of tumour types, including the prevalence of 'meaningful' morbidities treated in inpatient care.

Methods: Clinical experts and data analysts collaborated to map cancer journeys for 8,762 patients diagnosed with brain/CNS tumours in England in 2003–4.

Tumour morphology largely determines survival length and morbidity prevalence. A Survivorship Outcome Framework was therefore applied separately to glioblastoma, meningioma and nerve sheath tumour cohorts in order to investigate differences in survivorship between these groups. Comorbidity prevalence was compared with a random sample of age- and sex-matched patients with an inpatient record.

Results: 63.8% and 87.2% of patients with meningiomas and nerve sheath tumours respectively survived 7+ years, whereas 78.7% of glioblastoma patients lived less than 12 months. Patients with meningiomas or nerve sheath tumours who survived 12 months experienced significantly higher levels of nervous system morbidities than a comparison group. Meningioma patients also experienced significantly higher levels of endocrine (ratio of 2.4), respiratory (1.5), musculoskeletal (2.9) and circulatory (2.0) morbidities.

Conclusions: If long-term patient outcomes are to be understood and improved, it is essential to make the greatest use possible of readily available data generated and held by the NHS. This study demonstrates the value of analysing routinely-collected data to unpick variations in survivorship outcomes within tumour types. The use of a non-cancer comparison group allows the variation in and burden of morbidity to be better understood, which in future could enable more tailored care pathways to be put in place.

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BODY IMAGE IN ADOLESCENTS AND YOUNG ADULTS WITH CANCER: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Background: Adolescents and young adults (AYAs) must deal with the effects of cancer and its treatment during a formative period in their body image development. These AYAs may have difficulties coping with appearance changes arising from cancer and its associated treatments, develop body image difficulties, and have poorer psychosocial adjustment, including higher levels of depression and anxiety and lower quality of life.

Aim: To review the impact of cancer and its treatment on body image in AYAs by examining case-control studies only.

Methods: MEDLINE, CINAHL, PsycINFO, and Embase were searched for studies meeting our search terms: *body image (including body dissatisfaction, physical appearance, attractiveness, etc.)*, *neoplasms (including cancer, tumours, leukaemia, etc.)*, and *adolescents and young adults* (including teen, teenager, etc.).

After eliminating duplicates, we identified 162 studies, with abstracts currently being screened for eligibility by the authors. Eligible studies were (a) written in English, (b) published in peer-reviewed journals, (c) compared the levels of body image between adolescents or young adults with cancer and their healthy peers or test norms, or provided sufficient information for a comparison with established normative data, and (d) comprised adolescent and/or young adult samples.

Results: While screening is still in progress, the results will be available for presentation at the WCC conference 2014. Studies that compared AYAs with cancer to healthy controls (or normative data) will be presented. Meta-analysis will then be conducted to derive between-group weighted mean effect sizes (and 95% confidence intervals).

The body image measures used and the quality of the included studies will also be reported.

Conclusions: This systematic review will add to the emerging literature examining the impact of cancer on body image functioning in AYA populations. The results may inform clinical practice as to whether body image should be an explicit focus of psychosocial interventions for AYAs with cancer.

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CANCER PATIENTS MOTIVES AND COMMITMENT TOWARDS ISLAMIC HEALING

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Background: Islamic medicine has long been in practice. It is an integration of spiritual, psychological, and physical healing (Rahman et al, 2008). In Malaysia, Islamic healing is a popular form of traditional, complimentary cancer treatment (Merriam & Muhamad, 2013, Muhamad et al, 2012). Despite widely practice, little is known why patients do it and how committed they are to Islamic healing.

Aim: To determine 1. Cancer patient motives and commitment towards Islamic healing, 2. relationship between motive and commitment towards Islamic healing

Methods: Cross sectional survey on 317 adult cancer patients in Peninsular Malaysia who practiced both conventional and Islamic healing. The instrument was a structured, custom designed questionnaire administered by enumerator. Respondents were selected by purposive sampling. Data was analyzed by descriptive statistics and Pearson-Product-Moment-Correlation-and-Regression.

Results: MOTIVES for seeking Islamic healing: Perception towards Islamic healing (M = 2.92), Religiosity (M = 2.89), Positive attitude (M = 2.7), Belief about Islamic healing (M = 2.41), Family sanction (M = 2.36), Recommendation by family and friends (M = 2.29), Healer credibility (M = 2.26), Economic factor and accessibility to healer (M = 2.20), Understanding on Islamic healing (M = 2.17), Cultural factors (M = 1.82), Dissatisfaction with conventional medical system (M = 1.80), and Delayed hospital system (M = 1.79). COMMITMENT to Islamic healing is high (M = 2.92). There is a positive RELATIONSHIP between motives and commitment towards Islamic healing. Motive factors explain 60% of commitment towards Islamic healing.

Conclusions: Cancer patients are motivated and committed to practice Islamic healing as compliment to conventional medicine.The motive is positively related to their commitment to Islamic healing. As the motives have to do with patient way of life and they are committed to such practice, Islamic healing is likely to stay. Hence where and when appropriate, Islamic healing has the potential to be incorporated with conventional health system. The joining forces of both healing systems would benefit cancer patients.

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SKIN-SPARING MASTECTOMY WITH IMMEDIATE BREAST RECONSTRUCTION – WHEN FEASIBLE, WHY NOT!

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Background: Conventional breast cancer surgery is mutilating & impedes reconstructive procedures. Skin-sparing mastectomy (SSM) removes the breast tissue, nipple–areola complex (NAC), and previous biopsy incisions. It preserves the inframammary fold and native skin over the breast and is increasingly being employed in the treatment of breast cancer to improve the aesthetic results of immediate breast reconstruction.

Aim:
1. To evaluate the utility of Skin sparing Mastectomy with breast reconstruction in the same sitting as a procedure of choice in eligible patients of breast cancer
2. To study the tumour characteristics, post-operative complications, aesthetic results and patient satisfaction using the BREAST-Q questionnaire.

Methods: Patients with operable breast cancer, satisfying the inclusion and exclusion criteria were selected after proper evaluation. They underwent skin sparing mastectomy and immediate breast reconstruction. Their tumour characteristics (age, menopausal status, tumour size, grade, margin status and lymph nodal positivity) post-operative complications, aesthetic results and patient satisfaction were reviewed

Results: 25 patients underwent SSM with IBR using Latissimus Dorsi pedicled flap. All patients were small to medium cup-size. 18 patients had multicentric tumour & the rest had unicentric tumour in whom breast conservation could not be offered. Resected margins were negative & lymph node clearance was adequate. 1 patient had local wound infection, 1 had local hematoma & 2 patients had skin envelope necrosis. Post operatively patient's aesthetic results and satisfaction were evaluated using Breast-Q questionnaire. 72% patients had scores denoting SATISFIED, 12% patients scored VERY SATISFIED.

Conclusions: SSM with IBR has become increasingly popular as an effective treatment for patients with breast cancer where breast conservation is not possible. With SSM the endangered breast tissue could be removed with safe margins while the spared skin could still function cosmetically. This provides opportunity for enhanced aesthetic outcomes with immediate reconstruction without compromise of local oncological safety. Patient satisfaction remains high with low psychological trauma.

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FINANCIAL HARDSHIP AND CHALLENGES ACCESSING INCOME SUPPORT FOR AYAS AND PARENT CARERS: ‘THE AMOUNT OF PRESSURE CENTRELINK PUTS ON YOU IS ENOUGH TO SEND ANYONE MENTAL’

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Background: Despite global interest in cancer service reform, evidence for best practice adolescent and young adult (AYA) care is scarce.

Aim: This study investigated treatment experiences of AYAs and their parents to inform a program logic model of best-practice supportive care. We present here the financial challenges encountered during and after treatment.

Methods: This mixed method study included in-depth interviews (60 AYAs; 60 parents) and a nationally representative survey (197 AYAs; 204 parents). Content/thematic analyses were applied to qualitative responses. Descriptive statistics were applied to survey data.

Results: Over half of AYAs and parents reported financial difficulties following the diagnosis and treatment of cancer. Top-ranking difficulties were vehicle and medical expenses (AYAs) and vehicle (parking, fuel) and utility costs (parents). AYAs reported considerable need for government income support (GIS) (58% on-treatment; 45% post-treatment). Many parents also reported needing GIS (38% on-treatment; 26% post-treatment); some were significantly challenged to meet even basic needs (food, housing). More than 80% of participants seeking GIS reported access difficulties: staff encounters were characterised by insensitivity about the seriousness of ill-health (including requirements to attend public GIS offices despite immunosuppression); conflicting advice about entitlements and changing decisions about eligibility; and lengthy delays processing claims. AYAs and parents described this exacerbating the distress associated with the diagnosis and treatment of cancer.

Conclusions: Families commonly experienced a double layer of financial hardship through the loss of AYA and parent income due to illness and carer responsibilities. Negative interactions with GIS staff compounded these distressing circumstances. These findings indicate a gap in the capacity of the GIS system to adequately respond to the age, employment and illness characteristics of the AYA population and their carers. Youth-friendly care should include greater emphasis on AYA and family financial support, while systematic reform to reduce the financial burden for individuals and families appears indicated.

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QUALITY OF LIFE, DEPRESSION AND ANXIETY LEVELS AND SOCIAL SUPPORT PERCEIVING IN CAREGIVERS OF TURKISH CANCER PATIENTS UNDER RADIOTHERAPY

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Background: Knowingly, cancer causes stress and burden not only to the patient but also to their caregivers. Due to increased stress patients caregivers’ immune system is affected, mortality rates are increased. During illness family caregivers had more anxiety, depression, exhaustion, role conflict, social isolation and burden. There have been a few works done for patients’ caregivers’ quality of life status in our country

Aim: Cancer patients’ caregivers may have psychological problems such as depression, anxiety and quality of life (QOL) may decreases. In this study, we examined the caregivers QOL and assed the overall effect of general anxiety and depression levels, and social support perceiving on this issue.

Methods: A total of 90 caregivers invited to this study. They were asked to complete cancer Turkish version of caregiver quality of life scale (CQOLC), multidimensional scale of perceived social support (MSPSS) and hospital anxiety and depression scale (HAD) which is used frequently in clinic psychiatry.

Results: The burden score and MSPSS total score was worse in caregivers, that are living together with the patients than those are living, separately ($p < 0.005$). In male caregivers, HAD depression score was higher ($p = 0.012$) and CQOLC disruptiveness score was less ($p = 0.014$) than women caregivers. In correlation analysis we found a negative correlation between CQOLC total score and HAD anxiety and depression scores. QOL decreases when anxiety and depression scores increase. There was a significant correlation between anxiety score and total, family, friend subscales of MSPSS.

Conclusions: Cancer is a stressful experience not only to the patient but also to the caregivers and leads to social, physical and psychological problems and disrupts the quality of life.

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DEVELOPMENT OF A POPULATION-BASED MODEL OF LOCAL CONTROL AND SURVIVAL BENEFIT OF RADIOTHERAPY FOR SELECTED GASTRO-INTESTINAL CANCERS

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Background: Evidence-based radiotherapy utilisation (RTU) models are used to estimate demand for radiotherapy and for planning radiotherapy services. These models can be further expanded to estimate the benefit of radiotherapy at the population level for individual cancer sites.

Aim: To quantify the benefits of definitive and adjuvant radiotherapy in terms of locoregional control (LC) and overall survival (OS) in the population of gastro-intestinal (GI) cancers based on the indications of radiotherapy recommended in evidence-based treatment guidelines.

Methods: Previously developed RTU models for oesophagus, stomach, colon, rectum, gall bladder and pancreatic cancers were merged and extended to incorporate an estimate of benefit of radiotherapy alone (RT) and in conjunction with concurrent chemotherapy (CRT). A literature review (1990–2013) was conducted to identify the 5-year LC and OS benefit proportions for radiotherapy indications in the individual cancer site models and summed to estimate the population-based gains for both outcomes. Palliative benefits were not considered.

Results: The model predicted that the application of guideline-recommended radiotherapy in GI cancer population has overall gains in LC and OS of 3% and 1% respectively compared with a population where no patients receive radiotherapy. An additional 2% LC and 1% OS advantage was estimated with CRT to bring the total benefit to 5% and 2% respectively. This could be interpreted as an incremental benefit in 5-year LC of 1000 patients and OS of 400 patients in every 20,000 patients (average yearly number of new cases of selected GI cancers) in the Australia population.

Conclusions: The radiotherapy survival benefit estimation applied to the cancer patient population can be utilised by the health service planners to evaluate the effect of a treatment modality, especially, the shortfall in survival expected with underutilisation of therapy for a particular population of patients and is adaptable to other populations with known epidemiological parameters.

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THE CHANGING LANDSCAPE OF ADVANCED MELANOMA AND ITS IMPACT FOR CANCER NURSE SPECIALISTS

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Background: Immunotherapy and targeted therapies are new standard treatments, changing the landscape for advanced melanoma. Patients on these treatments require greater monitoring for side effects, and increased time managing symptoms of their disease and its treatment.

The cancer nurse care coordinator's (NCC) role has traditionally been centred on patient support, care and assisting the patient to navigate the health care system. Whilst these are still undertaken, it is hypothesised that greater emphasis and time has shifted to symptom management, recording and monitoring side effects of these therapies. The monitoring of NCC contact time can be a lead indicator to identify service demands.

Aim: To determine changes in types of care provided to advanced melanoma patients and the impact of this on broader service delivery. To raise awareness in health professionals of system wide impacts and changing nature of care requirements for these patients through analysis of nurse care coordination.

Methods: Six months of data was analysised for the Melanoma and Skin Cancer NCC patient contact time, including visit reasons, for three patient sub-groups; those receiving immunotherapy, targeted therapy or neither.

Results: Increasing time has been spent providing care to patients receiving immunotherapy and targeted therapy. The care requirements for these groups has resulted in a shift in emphasis of the NCC role within the cancer care team, with greater focus on symptom management and monitoring for these new therapies.

Conclusions: The data provides an easy way to understand the complexities of patient interaction with the cancer system and provides insights into the impacts of new cancer treatments on service delivery. The patients' multidisciplinary team need to be aware of the resulting changes these therapies have on traditional care provision for advanced melanoma and develop strategies for ensuring that service delivery continues to meet changing patient needs.

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THE PROGNOSTIC VALUE OF BAFF AND APRIL SERUM LEVELS IN PATIENTS WITH FOLLICULAR LYMPHOMA

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Publish consent withheld

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QUALITY OF LIFE OF GYNAECOLOGICAL CANCER PATIENTS UNDERGOING RADIOTHERAPY TREATMENT AT THE ONCOLOGY DEPARTMENT AT THE KOMFO ANOKYE TEACHING HOSPITAL, GHANA

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Background: The diagnoses and treatment of cancer has a major disruptive effect on most patients' lives, and patients enter therapy with the recognition that therapy aimed at cure is followed by side effects that have negative impact on their Quality of life

In Ghana, between the years 2004–2006 at KATH, gynaecological cancers formed about half of the overall recorded cases of cancer.

Aim: To assess quality of life of gynaecological cancer patients receiving radiotherapy treatment at Oncology Directorate of the Komfo Anokye Teaching Hospital.

Methods: prospective, cross-sectional descriptive study was conducted within proposed period of four months to assess the QoL of gynaecological cancer patients receiving Radiotherapy treatment at the Oncology Directorate of Komfo Anokye Teaching Hospital. 60 eligible patients were recruited and given the FACT-G instrument survey to fill.

Result: Majority of the cases were cervical cancer (86.7%) and the others includes; vulva (6.7%), vagina (5.0%) and endometrium (1.7%).

Majority of the patients were found to be between 45 and 75 years (47%). Majority of the patients had stage 3 cancers (68%). Eighty percent of the patients had a very stable QoL while 1.7% of them had a poor QoL and generally there was a strong correlation between FWB and EWB ($r = 0.65$) but the other subscales were statistically insignificant.

Ninety percent of the patient were not at all satisfied with their sexual life, on the contrary, majority (50%) of the patients agreed that their families have accepted their conditions and hence were quite (58.3%) satisfied with the level of communication with them.

Conclusion: As recommended, it is envisaged that caregivers, clinicians and even other family members concerned must help give the best form of treatment and care to enable patient have a good QoL.

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EFFECT OF PROSTATE CANCER TREATMENT TYPES ON CARDIOVASCULAR DISEASE RISK FACTORS IN PROSTATE CANCER PATIENTS

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Background: Prostate cancer treatment in Africa mainly involves treatment with hormonal manipulation after orchiectomy and hormone manipulation alone. There are very limited if any prospective data on effect of prostate cancer treatment types on cardiovascular disease (CVD) risk factors in Africans with prostate cancer.

Aim: This study examined the effect of treatment with hormonal manipulation after orchiectomy (HMO) and hormone manipulation alone (HM) on CVD risk factors in prostate cancer patients.

Methods: The serum lipid profile was estimated in 153 prostate cancer patients and 88 apparently healthy men. Body mass index (BMI), Waist circumference, Systolic & Diastolic Blood Pressure were also measured. The prostate cancer patients were further subdivided into 3 groups: Fresh cases, HMO and HM groups.

Results: The prostate cancer patients had significantly higher ($p < 0.05$) mean values of waist circumference compared to the controls. When the fresh cases where compared with the treated cases, the treated cases had significantly higher ($p < 0.05$) total cholesterol, LDL-cholesterol, BMI and waist circumference. We observed that the HMO group showed significantly higher ($p < 0.05$) mean value only in BMI and waist circumference while the HM group, in addition to these, had significantly higher ($p < 0.05$) mean values of total and LDL-cholesterol when compared with the fresh cases.

Conclusions: From the results obtained in our own study, it appears that hormonal manipulation post orchiectomy may be a better option for androgen deprivation than hormonal manipulation alone because patients under the first option had less CVD risk factors compared to the latter. The only problem being that orchiectomy may not be very popular with the African man as being virile is seen as the greatest essence of manhood in Africa shown by the fact that in our study only 36% of patients chose hormonal manipulation post orchiectomy as a treatment option compared to 64% who chose hormonal manipulation alone.

905

FINAL RESULTS FROM A PHASE-II RANDOMIZED CONTROLLED STUDY EVALUATING ADXS11-001 IMMUNOTHERAPY TARGETING HPV-E7 IN WOMEN WITH RECURRENT/REFRACTORY CERVICAL CANCER

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Background: ADXS11-001 immunotherapy is a live attenuated *Listeria monocytogenes* (*Lm*) bioengineered to secrete HPV-16-E7 fusion protein targeting HPV transformed cells. The *Lm*-vector stimulates MHC class 1 and 2 pathways resulting in specific T-cell immunity to tumors.

Aim: A randomized phase-II study designed to evaluate the safety and efficacy of ADXS11-001 with and without cisplatin in patients with recurrent cervical cancer was conducted in India from November 2010 to July 2013. The final results are presented here.

Methods: Recurrent cervical cancer patients ($N = 110$) treated earlier by radiotherapy and/or chemotherapy were randomized to receive either 3 doses of ADXS11-001 at 1×10^9 cfu alone or 4 doses of ADXS11-001 at 1×10^9 cfu with cisplatin (40 mg/m^2). Naprosyn and oral promethazine were given as premedications and a course of ampicillin was given 72 h after infusion. Patients received CT scans at baseline and 3, 6, 9, 12 and 18 months. The primary endpoint was overall survival.

Results: The final 18-month survival was 22% (24/109) and 12 month survival was 32% (35/109). The response rate was 11% (5 CRs and 6 PRs/110) with tumor responses observed in both treatment arms; 31 additional patients had stable disease >3 months, for a disease control rate of 38% (42/110). Average duration of response in both treatment groups was ~9.5 months. The incidence of SAEs possibly related or related to ADXS11-001 was 2%. The majority of non-serious adverse events were predominately infusion associated, and either resolved on their own or responded to symptomatic treatment.

Conclusions: The 22% 18-month survival, 32% 12-month survival and 11% response-rate observed in recurrent disease setting is encouraging and suggests that ADXS11-001 is an active agent in cervical cancer. Baseline performance-status, type of prior therapy, aggressiveness of disease or addition of cisplatin to ADXS11-001 had no effect on survival outcomes or tumour responses.

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"IF YOU WERE GOING TO HAVE BOWEL CANCER SURGERY, WHO WOULD YOU CHOOSE?" HOW URBAN AND RURAL COLORECTAL PATIENTS EXPERIENCE DECISION-MAKING FOR REFERRAL TO HOSPITAL AND SPECIALIST

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Background: Urban-rural disparities in cancer outcome exist in many countries. Investigating patient pathways can illuminate areas of inequity amenable to intervention. In the state of Victoria, Australia, rural colorectal patients have poorer survival than urban patients. Receipt of timely, quality treatment contributes to better outcomes. Little is known about how decisions are made regarding which clinician or health service is attended, yet this choice can have important implications.

Aim: To explore rural and urban colorectal cancer patients' decision-making experiences regarding referral to healthcare providers.

Methods: A purposive sample of 19 Victorian patients (rural $n = 11$; urban $n = 9$) 6–12 months post-diagnosis completed a semi-structured telephone interview (40–90 mins). Interviews were transcribed verbatim and realist thematic analysis conducted.

Results: Quality of care and timeliness of treatment emerged as important themes but patients relied heavily on clinicians choosing treatment providers. The endoscopist was a key clinician facilitating referral to cancer-specific treatment provider, rather than GP. Patients with health insurance recognised having options, while uninsured patients, *"don't get a hell of a big choice"*. However, both patient groups wanted the referring clinician's opinion. A theme, 'informal quality checks', was evident; patients asked friends, family or GP about the reputation of surgeon referred to, and assessed professionalism by the surgeon's communication style. Rural patients distinguished local hospitals as having shorter waiting times and providing personalised care, while city hospitals had access to more specialist clinicians or equipment/techniques. Rural patients were more active in choosing chemotherapy locally.

Conclusions: Colorectal patients require expert advice about referral to hospital and surgeon but informally assess quality of provider. Endoscopists are key in facilitating referrals for initial cancer treatment. Uninsured patients perceived little or no choice for surgery treatment provider, but rural patients negotiated access to local chemotherapy. This work will provide directions for policy initiatives targeting rural patient pathways.

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A PHASE-II RANDOMIZED PLACEBO CONTROLLED STUDY ON EFFICACY OF TOPICAL APPLICATION OF CURCUMIN AND CURCUMIN CONTAINING POLYHERBAL CREAM TO CLEAR CERVICAL HUMAN PAPILLOMAVIRUS INFECTION

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Background: Human Papillomavirus (HPV) testing is recommended by WHO as the test of choice for cervical cancer screening. Till date there is no effective treatment directed towards clearance of HPV. The infected women are followed up till they clear infection or develop neoplasias. This is programmatically challenging. In-vitro studies observed anti-HPV properties of curcumin and demonstrated curcumin induced inhibition of HPV-E6/E7 transcription and restoration of expression of p53, Rb, PTPN13, inhibited by E6/E7.

Aim: The present four-arm, double-blind, randomized phase-II trial was designed to evaluate the efficacy of *Basant*^{TM}, a polyherbal cream containing extracts of curcumin (along with reetha, amla and aloe vera) and the efficacy of curcumin gelatine capsules to clear cervical HPV infections.

Methods: Non-pregnant women between 30–60 years were tested for HPV. HPV-detection in cervical samples was done by PCR using MY-09/11 L1 consensus primers. Women positive for any HPV were subjected to colposcopy and biopsy to rule out high-grade cervical neoplasias. HPV-positive women without high-grade lesions (N = 287) were randomized to four arms to be treated with *Basant*^{TM} vaginal cream, placebo vaginal cream, curcumin vaginal capsules and placebo vaginal capsules respectively. All subjects used one application of designated formulation daily for 30 consecutive days except during menstruation. They were recalled within one month of last application for repeat HPV test, cytology and colposcopy.

Results: HPV clearance rate in *Basant*^{TM} arm (87.7%) was significantly higher than placebo (73.3%). Curcumin alone also caused higher but not statistically significant clearance rate (81.3%) than placebo. Type-specific clearance of HPV types 16 and 18 also showed similar patterns. Vaginal irritation and itching was significantly higher after *Basant*^{TM} application but not after curcumin capsules. No serious adverse event was noted.

Conclusions: Curcumin is effective in achieving HPV clearance when applied locally on cervix. Phase-III trial is justified based on these findings.

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NEED AND TOLERANCE OF G-CSF IN PATIENTS WITH TARGETED CD20+ DIFFUSE LARGE B-CELL LYMPHOMA TREATED WITH R-CHOP REGIMENS

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Background: Diffuse large B-cell lymphoma (DLBCL) is an aggressive subtype of non-Hodgkin lymphoma (NHL) and is commonest in India. Targeting CD20+ cells by rituximab is therapy of choice now (R-CHOP). We face dreadful complication of febrile neutropenia which is treated by new GM-CSF, Pegfilgarstim. However in DLBCL it may improve CD20 expression also probably by activating effector.

Aim: This study was undertaken to evaluate the tolerability of Pegfilgarstim. We also studied efficacy of Pegfilgarstim in terms of prevention of neutropenia and more importantly better response rate.

Methods: A total of fifty-one patients below and above 60 years with newly diagnosed DLBCL were treated with R-CHOP every 21 days for 6–8 cycles and Pegfilgarstim 250 µg/m2 per day on day 4 in NCRI from Jan 12 to Jan 14. Twenty-eight patients were enrolled in >60 yrs with a median age of 72 years (192 doses) and 23 patients in <60 yr age group with Median age 37 yrs (176 doses). Patients were evaluated for response after cycles 4, 6, and 8. The primary endpoint was the rate of complete response, and secondary endpoints were progression-free survival (PFS), event-free survival, and overall survival (OS).

Results: Tolerability was same in both the groups. Side effects were mainly bone pain/bodyache (5.2 vs 5.1%) and local rash in some cases. A complete response (CR) was achieved in 10 (35.7 %) of elderly patients and 9 (39 %) in younger group. After a median follow-up of 19 months, the 2-year PFS and OS were 78% (n = 21) and 85% (n = 24) in elderly and 87% (n = 20) & 91% (n = 21) in younger group.

Conclusions: These data suggest that survival outcomes may be modestly improved when pegfilgarstim is combined with R-CHOP in the treatment of elderly DLBCL. Pegfilgarstim was well tolerated. Further investigation of Pegfilgarstim in combination with rituximab-containing chemotherapy is warranted.

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QUALITY OF IMPLEMENTATION OF A SMOKE-FREE POLICY IN AN INPATIENT PSYCHIATRIC FACILITY: ASSOCIATION WITH PATIENT ACCEPTABILITY

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Background: The quality of implementation of smoke-free policies in inpatient psychiatric facilities, including patient adherence, staff support and provision of nicotine dependence treatment, has been reported to be poor. The extent to which these quality indicators are associated with patient support for such policies, has not been examined.

Aim: To examine patients': 1) adherence to a smoke-free policy; 2) perception of staff support for the policy; 3) receipt of nicotine dependence treatment; and 4) acceptability of the smoke-free policy, and its association with these factors.

Methods: Cross-sectional survey of patients in an inpatient psychiatric facility with a total smoke-free policy.

Results: A total of 181 participants (53.6%; $n = 97$ smokers and 46.4%; $n = 84$ non-smokers) completed the survey (90.9% response rate). Smokers' adherence to the policy was poor (83.5% smoked). Only half (53.6%) perceived staff to be supportive of the policy. Most smokers used nicotine replacement therapy (75.3%); although receipt of advice to quit was low (36.1%) and few received optimal treatment (19.6%). Overall, 45.9% of patients viewed the smoke-free policy in the unit as positive (29.9% smokers; 64.3% non-smokers). For smokers, perceiving staff to be supportive of the policy and adhering to the smoke-free policy were associated with a more positive view towards the smoke-free policy

Conclusions: Strategies to increase patient adherence, staff support, and provision of adequate nicotine dependence treatment may improve patient support for smoke-free policies.

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MALE BREAST CANCER: EPIDEMIOLOGICAL STUDY IN PATIENTS ATTENDED IN THREE ACADEMIC HOPISTALS IN SÃO PAULO

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Introduction: Male breast cancer is rare, accounting for approximately 1% of all cases of breast cancer. In 2013, 2240 new cases of breast cancer in men were diagnosed in the United States, with 410 deaths secondary to that disease. The purpose of this study was to describe the epidemiological, and pathological characteristics and treatments used in male patients with invasive breast cancer treated in three oncology referral academic hospitals.

Methods: This retrospective study assessed data from medical records of male patients with invasive breast cancer diagnosed between February 2003 and April 2013, attended at Hospital Estadual Mário Covas (HESA), Hospital Padre Anchieta (HA) and Instituto Brasileiro de Controle do Câncer (IBCC). Data were subjected to statistical analysis.

Results: In 35 cases surveyed, the median age was 65 years. Most patients presented stage II disease at diagnosis. The most prevalent histological type was invasive ductal carcinoma, as well as hormonal receptor positivity. About 96.8% underwent mastectomy and 69% axillary dissection. Chemotherapy was indicated for 73.5% and endocrine therapy with tamoxifen in 88.5%. Overall survival and progression free survival at 5 years were 78.3% and 66% respectively. The median follow-up of these patients was 20 months.

Conclusions/Conclusion: The epidemiological and pathological features, as well as treatment, are similar to literature. The stage II was the most prevalent in our sample, different from those described in the literature.

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CAT'S CLAW (UNCARIA TOMENTOSA) FOR THE TREATMENT OF PALIATIVE CARE

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Introduction: Cat's claw (Uncaria tomentosa) is a native amazonic plant that exhibits anti-inflammatory and antitumor properties.

Patients and methods: This prospective phase II study assessed the effects of a 100-mg dose of a dry extract of U. tomentosa three times per day on individuals with advanced solid tumors, with no further therapeutic options and with at least 2 moths life expectancy. We used the EORTC QLQ C30 and FACIT-F questionnaires to assess the participants' quality of life, the HADS questionnaire to assess their anxiety and depression and the Pittsburgh index (PSQI) to assess their sleep quality. In addition, several biochemical and inflammatory parameters were analyzed.

Results: We recruited 51 volunteers; their median age was 64 (33–85) years old, and 47% were females. Their scores on the Karnofsky scale were equal to or less than 80% for more than 65% of the volunteers. Treatment caused an improvement in the patients' overall quality of life ($p = 0.0411$) and social functioning ($p = 0.0341$), as assessed by EORTC QLQ C-30, and a reduction of fatigue ($p = 0.0496$) by the Chalder Fatigue Questionnaire. None of the biochemical or inflammatory parameters assessed (interleukins 1 and 6, C-reactive protein, tumor necrosis factor alpha, erythrocyte sedimentation rate and alpha-1-acid glycoprotein) exhibited significant changes. No tumor response was detected according to the RECIST criteria; however, the disease stabilized for more than eight months in four participants. The medication was well tolerated by most patientes.

Conclusion: We conclude that use of cat's claw might be beneficial for patients with advanced cancer because it could improve their quality of life and reduce fatigue. The mechanism of this action does not seem to be related to the anti-inflammatory properties of this plant.

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CHEMOTHERAPY IN PATIENTS WITH HORMONE RESISTANT PROSTATE CANCER: ANALYSIS OF BENEFITS AND EFFICACY AT A PUBLIC HOSPITAL OF BRAZIL

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Purpose: Chemotherapy with docetaxel in hormone resistant prostate cancer improves overall survival (OS); we evaluated patients of a general public hospital in São Paulo, SP, Brazil, treated with docetaxel as first line chemotherapy and afterwards with second line chemotherapy based on mitoxantrone.

Objectives: To identify the benefits of chemotherapy in first and second line treatments.

Materials and Methods: We reviewed the records for 49 patients who received chemotherapy in the setting of disease progression despite castration. We evaluated progression-free survival (PFS) and OS according, reasons for stopping treatment, and pain control.

Results: Among 49 patients, who received chemotherapy with docetaxel, the median PFS was 7 months and OS was 15 months. Only 10 patients received second line chemotherapy and 8 of them received mitoxantrone. It was not possible to evaluate OS or PFS for those patients, although 50% of them seemed to have benefitted in controlling their pain.

Conclusion: In our hands Docetaxel as the first line chemotherapy option for patients with castrate resistant prostate cancer produced OS results similar to the literature. Without the use of new drugs that are not available in our public sector, the benefits of second line chemotherapy are uncertain.

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DISTANT METASTASIS IN SQUAMOUS CELL CANCER OF THE ORAL CAVITY

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Background: Squamous cell cancers (SCC) of the oral cavity are common in India. Majority of patients present with advanced disease. Despite aggressive multimodality management, loco-regional failure is common. Distant metastatic disease, though uncommon, is also a threat to survival and may occur even in the absence of loco-regional relapse.

Aim: Descriptive analysis of a cohort of oral SCC patients developing distant metastasis.

Methods: A retrospective descriptive analysis of records to identify patients of oral SCC treated by us at Sahara Hospital, Lucknow (India) during the period October 2011 to February 2014, who developed distant metastasis.

Results: During the study period we managed 170 patients of oral SCC. Loco-regional failure occurred in 40 (23.5%) patients. Distant metastatic disease appeared in 18 (10.6%) patients. No loco-regional relapse occurred in 12 (66.7%) of these patients. Most patients with metastasis were males (77.8%) and below 50 years of age (94.4%). Median time to relapse was 6 months (range 2–9 months). Metastatic disease sites were lung (8), bone (7), subcutaneous abdomen (3), axilla (2), mediastinal nodes (2) and brain (1). Multiple sites were involved in 4 patients. The most common oral primary sites were buccal mucosa (50%) and tongue (38.9%). Most patients (88.9%) had advanced (T4 or N2) disease and 83.3% had well or moderately differentiated cancers. Surgical margins were close in 5 (27.8%) patients. Median survival (Kaplan Meier, SPSS-20) was 3 months and 10 of the 18 (55.5%) patients have died.

Conclusions: In this small retrospective study metastatic disease appeared mostly in males below 50 years treated for advanced (T4 or N2) oral SCC.

Such patients may probably benefit from additional preoperative metastatic workup (CT Thorax, Bone scan or PET) before loco-regional treatment. Distant metastatic disease, not addressed by even the current very aggressive loco-regional treatment, remains a major threat to survival.

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PSYCHOLOGICAL ISSUES AND INTERVENTIONS IN ELDERLY CANCER PATIENTS REFERRED TO A PSYCHO-ONCOLOGY SERVICE IN A TERTIARY CARE CANCER CENTRE IN A DEVELOPING COUNTRY

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Publish consent withheld

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THE INFORMATION NEEDS OF EGYPTIAN NEWLY DIAGNOSED BREAST CANCER WOMEN UNDERGOING SURGERY AND THEIR LEVELS OF SATISFACTION WITH THE PROVISION OF INFORMATION

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Background: Breast cancer is a significant health problem worldwide and a complex disease both physically and psychologically. Understanding cancer patients' information needs is the crucial first step in designing interventions to meet the needs of cancer patients.

Aim: A descriptive prospective study was conducted to: 1-Identify the expectations and information needs of Egyptian newly diagnosed breast cancer women undergoing surgery.2-Explore why they believed this information was important, and 3- Identify the levels of satisfaction with the provision of information provided by healthcare professionals.

Methods: Forty four newly diagnosed breast cancer women undergoing surgery from surgical wards at Oncology Center; Mansoura University Hospitals during six months were recruited based on including and excluding criteria. Two tools were used for data collection: 1- Self administered information needs questionnaire. 2- Satisfaction with the provision of information provided by the health care professionals' questionnaire. Demographic data sheet was attached at the end page of the scale.

Results: The findings of this study indicated that patients rated highly the need for all types of information. They rated most highly the need for information about surgery -related information especially postoperative complications and when to seek medical help. Patients were not satisfied with the information they were provided

Conclusions:
1. The study concluded that women are often not given the information they need by health care professionals.
2. There was in congruence between the information that women want and the information that was given to them by health care professionals.
3. This study will aid health care professionals in planning care by providing a more thorough understanding of the challenges women face as the phenomenon of expressed information needs unfolds.

Key words: information needs, newly diagnosed, breast cancer, undergoing surgery, satisfaction

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TIME TRENDS OF CLINICOPATHOLOGICAL FEATURES AND SURGICAL TREATMENT FOR GASTRIC CANCER – RESULTS FROM TWO HIGH-VOLUME INSTITUTIONS IN SOUTHERN CHINA

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Background: During the past several decades, changing pattern of gastric cancer (GC) in western countries and the increasing rate of early detection and overall survival has been reported.

Aim: To evaluate the time-related trends of tumor characteristics and postoperative survival for patients with GC in two large-volume centers of high incidence areas of southern China.

Methods: Based on meticulously collected data of 5327 patients surgically treated in the Department of Gastric and Pancreatic Surgery, Sun Yat-sen University Cancer Center and the Department of Gastric Surgery, Fujian Medical University Union Hospital, we analyzed the differences in clinicopathological features and postoperative survival for four consecutive periods: period 1 (1991–1995); period 2 (1996–2000); period 3 (2001–2005) and period 4 (2006–2010).

Results: The proportion of tumors within the gastric cardia/fundus decreased from 51% to 32.1% ($P < 0.001$). Size of tumor was becoming smaller over the study of periods ($P = 0.001$), and the poorly differentiated tissue type increased from 47.8% to 68.9%($P = 0.008$). A diagnosis of early GC was made more prevalently gradually, from 7.2% to 15% ($P < 0.001$). The incidence of stage IA according to 7th edition AJCC/UICC classification significantly increased ($P < 0.001$). A surprisingly improvement was observed in the mean number of retrieved lymph nodes, ranging from 10.36 to 26.22 ($P < 0.001$). However, the radical resection rate increased from 87.9% to 92.7% without a statistical significance. The overall 5-year survival rate was seen to improve steadily over the four periods, from 37.4% to 59.5%($P < 0.001$). Multivariate analysis revealed that age, tumor location, histological type, tumor size, depth of invasion, lymphatic invasion, number of retrieved lymph nodes, radical resection and time periods were independent factors for determining the prognosis.

Conclusions: The patterns of GC location, histology and stage have changed during the observed period of time in our regions. The increasing early detection of patients with gastric cancer and more standardized surgical regimens, including routinely performed D2 lymphadenectomy, by experienced surgeons probably mainly result in the progress in overall survival.

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SOCIOECONOMIC AND GEOGRAPHIC DISPARITIES: CONCORDANCE WITH TREATMENT GUIDELINES AND TIME TO TREATMENT FOR PEOPLE WITH LUNG CANCER

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Background: Disparities in the treatment and outcome of cancer are of global concern. Lung cancer mortality rates have been shown to be higher in lower socioeconomic groups and for those who live regionally and remotely.

Disparities in outcome may be due to variations in stage at diagnosis or evidence-based treatment. However, the relationships between socioeconomic status (SES), geographic locality, and evidence-based treatment and time to evidence-based treatment, are yet to be fully understood.

Aim: To investigate associations between SES, geographic locality and evidence-based treatment and time from diagnosis to evidence-based treatment.

Methods: A retrospective cohort analysis of the NSW Lung Cancer Patterns of Care study dataset. This includes information on demographics, treatment and outcome for people with lung cancer, registered in the NSW Central Cancer Registry between November 01 2001 and December 31 2002. Nine guidelines from the 2004 Australian Clinical Practice Guidelines for the Prevention, Diagnosis and Management of Lung Cancer were used to determine numerators and denominators for evidence-based treatment analysis. Logistic regression was used to identify predictors of evidence-based treatment. Cox-proportional hazards regression was used to identify predictors in time to evidence-based treatment.

Results: For 1,214 eligible patients, evidence-based treatment ranged from 4% to 79%, depending upon the guideline. Remoteness was independently associated with lower rates of evidence-based treatment for surgical management of those with stage I and stage II NSCLC ($p = 0.00$), lobectomy for those with operable NSCLC ($p = 0.02$), and longer waiting times between diagnosis and treatment ($p = 0.01$). SES was associated with lower evidence-based chemotherapy for advantaged patients with stage IV NSCLC ($p = 0.02$).

Conclusions: These results suggest that geographic locality and SES play independent roles in evidence-based treatment uptake. Exploring ways in which people living outside of major cities can better receive timely diagnosis and evidence-based treatment is important in reducing disparity gaps.

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THE APPLYING OF NITI CRYOAPPLICATORS IN THE TREATMENT OF SKIN TUMORS

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Background and Context: Cryosurgical method took a firm place in the treatment of skin cancers, including malignant ones. It is important to note its special relevance of elderly and debilitated patients. In Russian Federation a group of doctors from Tomsk developed, patented and introduced porous NiTi-basedcryoapplicators into clinical practice. The distinctive features of the mentioned ones are the simplicity and ease of use.

Aim: Iinvestigating the clinical efficiency of **porous NiTi**-cryoapplicators.

Strategy/Tactics: To compare the effectiveness of cryosurgical treatment of skin tumors using modern cryosurgical devices versus porous NiTi-cryoapplicators.

Programme Process: Our study included 36 patients with tumors of the skin. Morphologically, 32 patients had basal cell skin cancer, 4 – squamous cell skin cancer. In 25 cases the tumors were located in the head and neck, in 6 cases – on the legs and in 5 cases – on the trunk.

Control group included 42 previously treated patients and was comparable to the main group according to clinical and social characteristics. There we used modern cryosurgical device. However, this device requires a long refueling and has limited mobility due to its size and the presence of large diameter hose connected to the applicator.

The observation period for the main group patients was 2 years. The number of complications, the size of necrosis area, duration of the postoperative period did not differ between the groups. During the observation the local recurrence of the disease appeared in 1 patient of the main group and in 2 patients of the control group.

Costs and returns:-

Outcomes/What was learned: Based on this study, we concluded that the clinical efficiency of NiTi porous cryoapplicators doesn't inferior to modern cryosurgical devices in the treatment of malignant skin tumors. However, their simplicity of sterilization, ease of use and portability far exceed those for cryosurgical devices.

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TREATMENT OUTCOMES OF INCIDENTALLY DETECTED CARCINOMA OF GALLBLADDER: EXPERIENCES FROM A TERTIARY CARE CANCER CENTRE IN INDIA

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Background: The incidence of carcinoma gall bladder detected after cholecystectomy for benign diseases varies from 0.3 % to 2.9 %. Because of incidental detection these patients are more likely to have early stage disease. This study describes the results of multimodality treatment of incidental CGB, who presented to our hospital for further therapy after simple cholecystectomy elsewhere.

Aim: To analyze the treatment outcomes of incidentally detected carcinoma of gall bladder.

Methods: A retrospective review of treatment results of all patients with incidentally detected gallbladder cancers undergoing multimodality management from 1999 to 2012 at the Department of Surgical Oncology, All India Institute of Medical Sciences (AIIMS, New Delhi) was performed.

Results: Sixty-two patients with incidental CGB were re-explored for completion radical cholecystectomy. Thirty (48.3%) and 32 (51.7%) patients had laparoscopic and open cholecystectomy respectively for gall stones. The median time of re-exploration after initial surgery was 65 days (Range 19 to 145 days). Twenty patients were found inoperable due to locally advanced unresectable or metastatic disease. Among 42 patients who underwent curative resection, 11 (26.1%) developed recurrence over a median follow-up of 16.1 months. Nineteen patients received adjuvant concurrent chemoradiotherapy after curative resection. The 3 year disease-free and overall-survival for curatively resected patients were stage I (94% & 96%), II (85% & 88%), III (53% & 57%), and IV (32% & 35%) respectively.

Conclusions: Incidentally detected carcinoma of gall bladder represents a comparatively favorable sub-group of population of gall bladder cancers where aggressive and timely surgical intervention along with multimodality adjuvant therapy can provide optimal outcomes. Although curative resection at the time of initial surgery itself is ideal, revision surgery should be offered to all patients wherever possible.

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PREDICTORS OF BREAST RADIOTHERAPY PLAN MODIFICATIONS: QUALITY ASSURANCE ROUNDS IN A LARGE CANCER CENTRE

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Background: Quality assurance (QA) in modern radiotherapy (RT) aims to detect inconsistencies that might adversely affect treatment outcome. Across communities, there are significant variations in the practice of QA reviews; here, we describe a single institutional experience on the breast QA process.

Aim: To report on the process and outcomes of our breast QA rounds, and identify factors that associate with plan modifications.

Methods: All curative breast RT plans were presented at weekly QA rounds prior to commencement of treatment. Comments regarding the plan were recorded in real-time, including type of modifications: no (A), minor (B), or major (C).

Results: From January 1, 2010 to December 31, 2012, 2223 breast cases were reviewed; only 47 (2.1%) underwent a minor change (B); 52 (2.3%) required a major modification (C). The most common changes involved volume coverage, seroma contouring, addition of a boost, or use of bolus. On univariate analysis, plans using more than 2 fields (OR 2.57, p = 0.0011), triple negative disease (OR 2.49, p = 0.017), axillary node dissection (OR 1.76, p = 0.045), and tumour size more than 2 cm (OR 2.01, p = 0.025) were significantly associated with category C. After multivariate analysis, only the number of fields (OR 2.09, p = 0.017), and triple negative disease (OR 2.34, p = 0.027) remained significant. For cases who were node negative, margin negative, and only 2 fields with no boosts (n = 561), modifications were required in only 0.89% of instances.

Conclusions: It is feasible to conduct weekly QA review for all radically treated breast cancer cases in a busy cancer centre. Techniques with more than 2 fields, and triple negative disease predicted for a higher likelihood of plan modifications. Conversely, less than 1% of node-negative cases with clear margins, treated with a 2-field technique and no boosts, required adjustment. These observations will contribute to streamlining future breast QA rounds.

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COMPARISON OF IMRT AND VMAT FOR STEREOTACTIC IRRADIATION OF PRIMARY PROSTATE CANCER

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Publish consent withheld

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ABRUPT ISOLATED CENTRAL NERVOUS SYSTEM RELAPSES AFTER COMPLETION OF PALLIATIVE PLATINUM BASED CHEMOTHERAPY

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Background: Experimental data suggest that triple-negative breast cancer (TNBC) may have increased sensitivity to platinum-based chemotherapy but there is lack of relevant clinical data. One of the characteristics of triple-negative breast cancer is their high chemo sensitivity with an early relapse and short progression free survival.

Aim: In this prospective study, Clinical outcomes in patients with metastatic TNBC treated with Platinum-based chemotherapy were evaluated.

Methods: 21 selected patients with metastatic TNBC presenting at GCRI during the study period from 1st August 2009 to 31st October 2011, formed the study group with median follow up period of 10 months. They were given palliative chemotherapy based upon prior adjuvant chemotherapy along with an additional platinum compound. Response rates, relapse pattern and toxicities of platinum-based chemotherapy were recorded and analyzed.

Results: In evaluable TNBC patients, overall response rate and complete clinical response were 72 % and 38% with median response duration of four months. Response could not be assessed in three patients due to patient refusal for evaluation, lost to follow up and toxicities. Haematological adverse effects were febrile neutropenia in 19% of patients, and grade 3–4 neutropenia (9%) thrombocytopenia and anaemia (7 %). The main non haematological adverse effects reported in the present study are peripheral neuropathy (14%) and severe emesis (9%). In three TNBC patients (14%) after completion of platinum based chemotherapy had early isolated CNS relapse with systemic disease in remission.

Conclusions: In our TNBC patients, platinum based chemotherapy had better overall response rates, higher complete clinical response rates, and acceptable safety profile. In patients on platinum based chemotherapy having complete response usually has isolated CNS failure which may be further studied for need for CNS consolidation like small cell carcinoma of lung.

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COMBINATION OF INTRAOPERATIVE RADIOTHERAPY (IORT) BY USING INTRABEAM SYSTEM AND ONCOPLASTIC BREAST SURGERY IN VIETNAM

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Background: Intraoprative radiation therapy (IORT} and oncoplastic surgery for breast cancer treatment was performed the first time in Vietnam. A total of 30 patients of breast cancer with stage I & II were collected from Hue Central Hospital from December 2012 to May 2014

Aim: To assess the effectiveness of the combination between this procedures in the field of oncology as well as aesthetics.

Methods: Intraoperative radiotherapy using the Intrabeam system was delivered to the tumor bed immediately after surgical excision during the anasthesia. The radiation dose received was between 12 Gy to 20 Gy at the surface of the applicator, 5–7 Gy at 1 cm into the surrounding tissues.

Oncoplastic breast surgery was performed after completion radiotherapy. Some patients received the planned external beam radiotherapy (typically 45–50 Gy in 5 weeks) to the whole breast.

Results: 30 cases selected for IORT, mean age 51, 25 (83.3%) symptomatic. Imaging abnormality in 27 (90%) nodule, 26 (86.6%) ductal carcinoma, Lobular cancers were actively excluded. Tumor size ranges from 10 to 30 mm, Receptor status in 25 (83.3%) ER +ve/PR +ve, 27 (90%) Her2 -ve

IORT in 22 (73.3%) single dose, 8 of 30 (26.6%) IORT cases required whole breast radiation therapy, applicator size from 3.5- 5.0 cm, time of intraoperative radiation for single dose is 42 min. For oncoplastic breast surgery, 16 (53.3%) lateral mammaplasty, 7 (23.3%) donut procedure. Short term complications are 4 cases of cellulitis, 1 case of skin erythema. Longest follow-up to date is 18 months, no patients occured local recurrence. The aesthetic result of research has shown over 85 % with excellent and good score.

Conclusions: IORT as a boost for breast conserving therapy and using single dose for selected patients. Combination between IORT and oncoplastic surgery is necessary for breast cancer patient to improve the qualify of life.

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NIPPLE SPARING MASTECTOMY AND IMMEDIATELY BREAST RECONSTRUCTION IN VIETNAM

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Background: Nipple sparing mastectomy (NSM) affords a better cosmetic result than modified radical mastectomy in the developed countries. This procedure becames a popular in 15 years ago and that was indication for early breast cancer. Vietnam physicans have been successfully for skin sparing mastectomy, however, nipple sparing mastectomy is still an innovated procedure

Aim: To asses the effectiveness of this procedure in the field of oncology as well as aesthetics

Methods: We carried out a study analysis of 25 breast cancer patients with stage I & II who underwent nipple sparing mastectomy and immediately breast reconstruction by implant or using a pedicled transverse rectus abdominis musculocutaneous (TRAM) flap between 2009 and 2013. Indications, incision selection, postoperative complications, recurrence, distant metastasis were recorded and cometic status by Garbay criteria were assessed.

Results: A total 18 of 25 case was performed by NSM + Implant and 7 of 25 by NSM + TRAM flap. The longest follow up to date is 60 months, there is no case with the nipple areola complex totally or partially necrosed, no local recurence in the skin and chest wall, no recurrence were observed in the nipple areola complex but 01 case recurrence in axilla and 01 case occurred lung metastasis. Only 5/25 of patients reported a partial sensitivity of the nipple areola complex. Evaluation the comestic status by Garbay shown that 100% cases were a scale ranging from 7 (good) to 9 (excellent). All patients in the study group were completely satisfied with the aesthetic results.

Conclusions: Nipple sparing mastectomy was beneficial and safe in the oncological and aesthetic results. The approach is suitable for early breast cancer patients as well as for patients with multiple lesions. This would be a promising surgery in prevention and treatment for breast cancer in Vietnam.

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PHASE I TRIAL OF A CANCER VACCINE CONSISTING OF 20 MIXED PEPTIDES IN PATIENTS WITH CASTRATION-RESISTANT PROSTATE CANCER: DOSE-RELATED IMMUNE BOOSTING AND SUPPRESSION

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Background: Although numerous clinical studies of peptide-based cancer vaccine were conducted in the past two decades, no sufficient outcome for drug approval was obtained at the present time.

Aim: To evaluate the safety and immune responses of a cancer vaccine consisting of 20 mixed peptides (KRM-20) in patients with castration-resistant prostate cancer (CRPC).

Methods: Patients received each of the randomly assigned three different doses of KRM-20 (6 mg/0.15 ml, 20 mg/0.5 ml or 60 mg/1.5 ml) once a week for 6 weeks. KRM-20 was applicable for patients with HLA-A2, A3, A11, A24, A26, A31, or A33 allele, covering the vast majority of population worldwide. Each group consisted of 5 patients. Peptide-specific cytotoxic T-lymphocyte (CTL) and immunoglobulin G (IgG) response, along with frequency of myeloid-derived suppressor cells (MDSC) and regulatory T cells were measured.

Results: No serious adverse drug reactions were encountered. CTL response after 3rd vaccination was boosted for 3 of 59, 12 of 46, and 11 of 59 peptides tested in patients receiving 6, 20, and 60 mg KRM-20, respectively. CTL response after 6th vaccination, however, largely decreased in patients receiving 60 mg, in concomitant with strong boosting of IgG response. Frequency of regulatory T cells after 3rd or 6th vaccination was increased in 3 of 5 patients receiving 60 mg or 6 mg KRM-20, respectively. Frequency of MDSC inversely correlated with CTL activity in patients receiving 20 mg KRM-20. Clinical responses determined by PSA levels were 2PR (from 20 mg group), 5SD, and 10 PD.

Conclusions: Twenty mg of KRM-20 could be recommended for a phase II study primarily because of lower levels of vaccine-induced suppression to CTL activity.

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EXPLORING THE EDUCATION AND INFORMATION NEEDS OF PATIENTS ON ORAL ANTICANCER MEDICATIONS

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Background: The use of oral anticancer medicines (OAM's) is increasing. A move away from chemotherapy infusions delivered in hospitals to patients having their oral medications dispensed by retail pharmacists and taken at home, has resulted in a shift in responsibility from health professionals to patients and caregivers. Use of OAM's will increase over the coming years, therefore safety is critical. In this regard identifying patient information and education needs is essential.

Aim: The study examined the information and education needs of patients taking OAM's from the perspectives of patients themselves, pharmacists and medicaloncology personnel.

Methods: This qualitative study was undertaken in a Dublin cancer centre using:

- Semi-structured interviews with twenty patients
- Telephone interviews with five community pharmacists
- Medical oncology personnel focus group, 5 team members present

Results:
A thematic analysis of the transcripts highlighted important safety factors including
For patients: being accompanied at consultations and establishing a routine in taking OAM's
For pharmacists: reiterating key safety messages to patients on taking OAM's, verification of clinical checks
For medical oncology personnel: interdisciplinary management of OAM's, dedicated clinics and an OAM checklist.
All participants: oral and written information; 24 hour oncology team contact details

Conclusions: A National Oncology Medication Safety Review showed that a diversity, and sometimes absence, of processes in managing OAM's. As they can be as toxic as IVs, patients need to know about potential side-effects and their management. Compliance with prescribed regimens is essential. This study will inform the development of national guidelines on the information and education needs of patients taking OAM's. It will contribute to patient safety through multidisciplinary engagement and education.

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DOES NEOADJUVANT CHEMORADIATION MAINTAIN A FUNCTIONAL ANAL SPHINCTER AND A GOOD QUALITY OF LIFE IN RECTAL CANCER PATIENTS?

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Background/Aim: To evaluate the effect of neoadjuvant chemoradiation followed by sphincter preserving surgery on anorectal function and its correlation with quality of life in rectal cancer patients.

Methods: Twenty-six rectal cancer patients were evaluated in this analysis. All patients had preoperative chemoradiotherapy and low anterior resection thereafter. Median radiotherapy dose was 50.4 Gy (range, 45 to 54 Gy) and patients received concurrent fluorouracil-based chemotherapy (400 mg/m2/IV/bolus). Fecal incontinence questionnaire (Wexner score), anorectal manometry test (AMT) and quality of life questionnaire (EORTC C30 and

CR38) were done to all patients. Mean anal resting pressure (MRP), mean anal squeeze pressure (MSP) and, recto anal inhibitory reflex volume (RAIR) and rectal sensory threshold (RST) were measured by anal manometer. Correlation between parameters of Wexner scores, quality of life scales, manometric scores and complaints (urgency or soiling) of patients were assessed with Pearson test. $P < 0.05$ were considered statistically significant.

Results: Median follow-up was 47 months (range, 8 to 98 months). Urgency or soiling and anorectal function results were correlated with Wexner scores. In quality of life scales, body image ($p = 0.03$), future perspective ($p = 0.02$), sexual functioning ($p = 0.001$) and defecation problems ($p = 0.003$) were correlated with urgency; physical functioning ($p = 0.02$) was correlated with soiling in patients.

Conclusions: Neoadjuvant chemoradiation may impair overall long-term sphincter function significantly. This effect reflects to patients' quality of life in during follow-up. Therefore, patients' selection should be done carefully in terms of sphincter preserving surgery.

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TRENDS IN BREAST CANCER CARE 2000–2010; SURGERY (INCLUDING BREAST RECONSTRUCTION), RADIATION THERAPY, AND CHEMOTHERAPY: A JOINT BREAST CANCER QUALITY PROJECT BETWEEN THE VICTORIAN CANCER REGISTRY AND THE VICTORIAN ADMITTED EPISODE DATASET

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Background: Several international publications report recent changes in the management of breast cancer (BC), in particular, an increase in the rate of mastectomy for early-stage disease.[1,2,3,4,5,6]

Aim: To identify any variation in BC management in Victoria utilising a linkage between the Victorian Admitted Episode Dataset (VAED) and the Victorian Cancer Registry (VCR).

Methods: A retrospective cohort study was performed on 29,422 female patients with a diagnosis of primary invasive BC (4 January 2000–31 December 2010).

Results: The number of women who underwent a definitive local procedure (DLP) was 26,296. The DLP was mastectomy in 8,203 women (7,542 unilateral and 661 bilateral) and wide local excision (WLE) in 16,761 women. Unilateral mastectomy was strongly correlated with rural/remote regions, increasing age, higher grade (II/III) and lobular histology. Bilateral mastectomy increased from 14 cases in 2000 to 139 cases in 2010. The median length of stay was 4.1 days for mastectomy and 3.2 days for WLE. Axillary clearance appeared to decline over the study timeframe (54.8% in 2010). As a proportion of all patients who underwent a DLP in 2010, 64.6% had a sentinel node biopsy.

With regard to reconstructive surgery (RS), 2,078 women had 3,574 admissions in the study timeframe. A higher proportion of patients who underwent RS were privately insured (33.0% public and 67.0% private). RS was negatively correlated with remote locations.

Adjuvant chemotherapy (ACT) was administered to 21.9% of patients. The rate of ACT increased substantially across the study timeframe (from 14.6% in 2000 to 32.0% in 2010), probably secondary to improved coding procedures. ACT was strongly associated with younger age, higher grade, lobular histology and private insurance.

Conclusions: While the rate of unilateral mastectomy remained fairly constant, we report an increase in the rate of bilateral mastectomy, RS, and ACT across the study timeframe.

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ANALYSIS OF THE DETERMINANTS THAT INFLUENCE DELAYS IN THE TIME TO INITIATION OF TREATMENT OF BREAST CANCER IN BRAZIL

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Background: Breast Cancer is the most common cancer and the one which causes more deaths in women in Brazil. Timely initiation of treatment of breast cancer may reduce morbidity and mortality.

Aim: This study aimed to analyze the time interval between diagnosis and initiation of treatment of breast cancer in woman treated between 2000 to 2011 in the Brazilian public health system and to identify factors associated with delay in initiation of treatment.

Methods: This retrospective cohort study was performed involving 137,593 women diagnosed in 239 hospitals in Brazil between 2000 and 2011.

Results: In 63.1 % of cases, the interval between diagnosis and the treatment was 60 days. Women more likely to delay were older (OR 1.06, 95% CI 1.01–1.12), nonwhite (0.92, 95% CI 0.87–0.93), with less than eight years of education (OR 1.08, 95% CI 1.03–1.13), alcoholics or former consumers of alcohol (OR1.10, 95% CI 1.04–1.17), derived from the public health system (OR, 1.07 95% CI 1.02–1.15), in initial staging disease (OR 0.81, 95% CI 0.78–0.85) and being treated in the period from 2006 to 2011 (OR 0.56, 95% CI 0.56–0.62).

Conclusions: The identification of factors associated with delay in initiation of treatment may enable the development of interventions aimed to specific population groups.

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THE AUSTRALIAN NATIONAL BLOOD CANCER REGISTRY

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Background: The Australasian Leukaemia and Lymphoma Group (ALLG) has conducted multi-centre collaborative clinical trials in haematological malignancies since 1973. The National Blood Cancer Registry (NBCR) constitutes a novel approach in integrating registry functions with clinical trials and was initially established in 2012 for patients with acute myeloid leukaemia (AML).

Aim: The collection of standardised baseline data, including molecular and cytogenetic testing, linked to patterns of therapy and outcome, with the goal of creating an Australia-wide dataset and to facilitate the management of overlapping and inter-related trials.

Methods: Currently, all known and suspected patients with AML at participating sites are registered and eligible patients subsequently offered trial participation. All consented patients, whether in a trial or not, are also followed at selected time-points via the Registry and their samples collected and stored at the ALLG Tissue Bank.

Results: As of April 2014 the Registry had 239 patients from 17 participating institutions, ages ranging from 18 to >75 and including approximately 20 AML sub-types. Registry data allows audits of practice and outcomes, toxicity and efficacy. It is also a vehicle for studying prognostic risk groups, for monitoring changes in practice, for quality improvement in AML and the development of new trials. Future plans include on-line data entry and extension to all 75 ALLG sites.

Conclusions: Following its initial success, the ALLG is currently developing plans to extend the Registry to all blood cancer diagnoses linked to a suite of ALLG trials. The data and samples in the Registry will provide a valuable resource for researchers, such as investigating areas of unmet need and particular populations, or issues such as relapse rates and outcomes for particular treatments. It will also act as a common pathway into trials, and consolidate the leading role of the ALLG in clinical research in haematological malignancies.

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MICROSATELLITE INSTABILITY STATUS OF GASTRIC CARCINOMA FROM PATIENTS IN THE UNIVERSITY COLLEGE HOSPITAL, IBADAN

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Background: Microsatellite instability (MSI) is a hallmark of DNA mismatch repair defect; and in some populations they have been found to have distinct clinicopathological features, prognostic implications and to be predictive of response to the chemotherapeutic drug cisplatin in gastric carcinoma.

Aim: The aims of this study are to (i) define the rate of MSI in patients with gastric carcinoma from the University College Hospital, Ibadan, (ii) compare the clinicopathological features of MSI and microsatellite stable (MSS) tumours.

Methods: The clinical and demographic data of 47 patients diagnosed between 2000 and 2011 were retrieved from the UCH Cancer Registry, the Pathology Department records and from the UCH Medical Records. Slides were made from archival samples of the same patients and reviewed to confirm the histological diagnoses, subtype the tumour and determine the presence/ absence of other clinicopathological parameters. MSI was assessed on the 47 formalin-fixed, paraffin-embedded gastric carcinoma tissue samples using High Resolution Melt Analysis on BAT 25 and BAT 26 microsatellite loci. Statistical analyses were done using SPSS version 19.

Results: A total of 12 of 47 cases (25.5%) were unstable at either the BAT 25 or BAT 26 loci (BAT 25 = 9/37 cases; BAT 26 = 3/28 cases). No association was found between the clinicopathological features of gastric carcinoma and the microsatellite status.

Conclusions: About a quarter of gastric carcinoma from our cohort is MSI-positive, although no association was found between the microsatellite status of the tumours and the clinicopathological features, probably due to the small sample size used in this study. The implication of this finding is that DNA mismatch repair defect is a pathogenetic mechanism of gastric carcinoma in a significant proportion of our patients. Lastly due the mismatch repair defect this proportion of our gastric carcinoma patients may show poor response to cisplatin-based chemotherapy.

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WHAT IS THE BEST WAY TO ORGANISE ONLINE COLORECTAL CANCER INFORMATION?

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Background: The colorectal cancer (CRC) information needs of the population are diverse. The challenge is to present information in a manner that encourages its use. The provision of Frequently Asked Questions (FAQs) may be an approach through which information most relevant to a person's needs can be delivered and made more salient when compared to generic information.

Aim: This pilot study aimed to test whether online information organisation (FAQs v. List) impacts attitudes and knowledge about CRC in groups discriminated by gender and age. The study also explored users' satisfaction with the web site and information provided.

Methods: CRC information needs based on gender and age group were identified earlier and utilised for this study. 240 males and females (120 each) from three age groups (40 each; 35 to 49, 50 to 59, and 60 to 64) were recruited utilising a recruitment agency and paid for participation. They were randomly allocated to 1 of 4 information presentation groups (60 each), stratified by age group and gender: FAQ only; generic list only; choice of FAQ or generic list; control. All groups completed an online survey to measure psychological and CRC prevention knowledge variables. Two weeks later, all groups except control accessed their allocated website, immediately following which they completed a second survey.

Results: The majority of those in the 'choice' group chose to view information as FAQs (44/60). Results were analysed using Generalised Linear Models testing the variables time and group. Groups did not differ significantly with respect to psychological variables.

Conclusions: Notwithstanding the lack of significant movement in psychological variables by group, participants preferred to view FAQs. This finding can serve as a basis for developing consumer information packages.

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HOME CARE AND PALLIATIVE CARE SERVICES IN TURKEY

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Background: Comprehensive cancer control programmes should include palliative care. Health authorities have to pay attention and make investments in not only for expensive chemotherapeutics and radiotherapy systems but also for palliative care systems for a better cancer control.

Aim: In this study we aimed to evaluate the progress in home care services in Turkey within last 4 years.

Methods: Demographic data of the 1.182.686 patients who received home care services between 2010–2014 was retrieved from Ministry of Health National Registry Database who have used home care services. The numbers have been validated also individually from specific hospitals.

Results: In 2010 there were 407 home care teams and the number of patients who were receiving these services were 16.651. After this pilot study, the numbers of patients has raised to 124.085, 244.961, 380.814 and the number of the home care teams has raised to 642, 715, 765 during the years 2011, 2012, 2013 respectively. There were no palliative care centers in 2008 but in the end of 2013 the number has raised to 18 across Turkey.

Table-1: Development of Turkish home care services

Home Care Services	2010	2011	2012	2013	2014
Patients	16.651	124.085	244.961	380.814	416.175
Teams	407	642	715	765	834
Employees	478	3512	4143	4224	4369

Awareness of the patients and health personnel by means of palliative care has also increased and this can be seen from the data ofmorphine equivalent consumption which has reached 600 S-DDD per million inhabitant per day in 2007 which is 5.4 times more than the consumption rate seen in 1997.

Conclusions: Palliative care is an easily acceptable and implementable health care system. Despite to many years in which palliative care was ignored in this experience we had shown that this is highly acceptable by patients and health politicians.

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"I'D DO ANYTHING. I'D TRY ANYTHING. WHEN YOU'RE IN THIS POSITION YOU JUST WANT TO GET WELL AGAIN" ACCEPTABILITY OF NUTRITIONAL AND PHYSICAL ACTIVITY INTERVENTIONS FOR MEN WITH LOCALISED PROSTATE CANCER

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Background: Prostate cancer is the second most common cause of cancer death in men in the Western world. Growing evidence suggests that aspects of diet and physical activity are associated with a lower risk of prostate cancer progression and mortality.

Aim: To explore the acceptability and feasibility of nutritional and physical activity interventions amongst men with prostate cancer undergoing radical treatment.

Methods: Interviews were conducted with 17 men with prostate cancer, an average of 6 months after radical prostatectomy (n = 13) or radiotherapy (n = 4), 7 partners and 10 health care professionals from one UK hospital. Interviews explored previous experiences of nutritional and physical activity interventions; lifestyle factors men would or would not be happy to change; views on the expected gain from any such interventions; and views on the costs, barriers and facilitators to making changes. We undertook thematic analysis, using a framework approach, to identify key issues.

Results: Although the men's responses to having prostate cancer varied, many highlighted the enormity of their diagnosis, and a willingness to make changes believed to improve cancer outcomes. Men highlighted incontinence, a common adverse effect of prostatectomy, as a barrier to undertaking physical activity, especially as part of a group; preferring individual physical activity interventions. In contrast, health care professionals did not identify incontinence as a barrier, and thought men would prefer group physical activity interventions. The perceived cost of changing diet was viewed as a prohibiting factor for some.

Conclusions: A prostate cancer diagnosis is a potential teachable moment during which men express a willingness to make changes that may improve outcomes. Clinicians are in a strong position to make evidence based recommendations that men will respect. The potential barriers to implementing dietary or physical activity interventions include the adverse effects of primary treatments, the intervention format and the perceived financial burdens.

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AWARENESS AND UNDERSTANDING OF DISEASE AMONG HOSPITALIZED CANCER PATIENTS IN PAKISTAN

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Background: Information needs and understanding of hospitalized cancer patients have remained unexplored.

Aim: The objective of this study was to assess the awareness of cancer patients regarding their disease and to evaluate their understanding of disease and information seeking behavior.

Methods: We enrolled 232 adult cancer patients for the study to collect data using semi structured interview regarding their awareness and understanding of illness.

Results: A majority of patients (87.8%) reported awareness of their diagnosis. Female patients, patients from urban areas, educated patients and those with longer duration of illness had significantly better knowledge of their disease as compared to the rest of the study group ($p < 0.05$). Presence of metastatic disease did not significantly alter the patients' understanding of disease or their information seeking behavior. Age was found to significantly influence the understanding of current disease status and request for more information regarding disease. Most of the patients (82.2%) wanted their family to know about their diagnosis while a few (4.8%) wished their friends to have knowledge about their illness. There was limited use of active information seeking strategy by patients (from medical books, internet, help lines etc) with more reliance on passive information seeking strategies (friends, other patients, newspaper, TV etc) which may have lead to the misconceptions patients had about their illness. Although the patients were more satisfied with care than the information they had received, awareness was not related to satisfaction ($p > 0.05$). Most of the patients (71.0%) were not satisfied with the quantity and quality of the information they had received from their health care provider.

Conclusions: Our findings suggest that although cancer patients want and need to have adequate information regarding their disease, the amount and quality of information they receive is not optimal leading to adoption of passive information seeking strategy causing misconceptions about disease.

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INFORMATION NEEDS AND PREFERENCES: PERSPECTIVE OF PAKISTANI CANCER PATIENTS

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Background: Due to insufficient data regarding patient needs and preferences, health professionals remain concerned about correct the amount, type and extent of information to be communicated to cancer patients.

Aim: The objective of this study was to assess the needs and preferences of cancer patients for information regarding their disease.

Methods: The study was carried out at a regional cancer centre and a tertiary care hospital in Multan. Patients were interviewed using a structured pretested questionnaire to determine their desire and preferences for information about their illness.

Results: Four hundred and sixty four patients having a mean age of 44.44 ± 17.24 years with male preponderance (60%) participated in the study. About two third of the patients (71.9%) wanted to know all the information about their condition regardless of its nature, good or unfavorable. Most of the patients (82.2%) wanted their family to know about their diagnosis while a few (4.8%) wished their friends to have knowledge about their illness. Information about prognosis of disease and chances of cure was desired by 94.3% of the respondents. Most of the patients wanted to know about all the possible treatments (68.7%), about the action of treatment in body (57.6%) and its side effects (68%). In addition, 88.7% of the patients wanted to know about cases in which the treatment they are receiving worked leading to recovery.

Conclusions: Majority of the patients with cancer want to know about their diagnosis, effect of illness on daily functioning, prognosis and examples of cases in which treatment they are receiving was effective.

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A CENTRAL CANCER REGISTRY AND A PHYSICIAN JOIN FORCES TO ACCELERATE PROGRESS IN UNDERSTANDING THYROID CANCER

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Background: For the period 2007–2011, central cancer registries (CCRs) that met or exceeded the North American Association of Central Cancer Registries' "fitness for use" standards covered 97% of the United States (U.S.) population and 38% of the Canadian population. Inspired by the 2012 World Cancer Congress theme – 'Connecting for Global Impact' – and the knowledge that one UICC priority area is the Global Initiative for Cancer Registries, Missouri Cancer Registry and Research Center (MCR-ARC) staff began "Thinking globally, acting locally" and entered into a series of collaborations with local physicians. Although mortality remains low, incidence of thyroid cancer is increasing in the U.S. and around the world. It is the most common endocrine cancer in the U.S., comprising 88.9% of all endocrine cancers among males and 96.6% among females, accounting for 1.3% and 4.2% of all cancers diagnosed in the U.S. among males and females, respectively.

Aim: Characterize thyroid cancer in Missouri.

Methods: We reviewed the MCR database for diagnosis years 1996–2011 to identify Missouri residents with thyroid as the primary site for cancer.

Results: A total of 8,655 cases met the inclusion criteria. For 2007–2011 cases, thyroid cases comprised 88.1% and 97.0% of endocrine cases and 1.2% and 3.8% of all cases among males and females, respectively.

Conclusions: Collaboration is benefitting both parties. Increases in both incidence and prevalence of patients with thyroid cancer pose unique challenges to clinicians including long-term follow-up plan, cost of care and maintenance of quality of life. It is also important to address reasons for the increase in thyroid cancer and evaluate diagnostic and therapeutic issues. Improved outcomes will require a multidisciplinary approach focused on not only acute treatment but also patient education and long-term surveillance. Next steps: Disseminate results, finalize plan and obtain funding. Encourage similar collaborations.

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2. Cancer MICA, 1996–2011 (http://health.mo.gov/data/mica/CancerMICA/index2014.html)

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THE PREDICTED INCREASE IN CANCER CASES IN AFRICA BY THE YEAR 2050: POSITIVE OR NEGATIVE NEWS?

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Background: Sub-Saharan Africa is predicted to bear the highest burden of cancer care in the forthcoming decades and is expected by 2050 to account for up to 70% of the newly diagnosed cancers.[1] The reasons for the increase cited by most researchers include the change of lifestyle, the effect of infectious agents, increased use of tobacco and population growth. However the impact of economic growth in Africa has not been properly characterised

Aim: To determine the effect of the state of the economy on the number of cancer cases diagnosed in a developing country

Methods: We did an analysis of the economic indicators (GDP, inflation and employment figures) and Zimbabwe Cancer Registry Annual Reports from 1998 to 2010. We also conducted a literature review of economic factors affecting cancer incidence rates in the developed world

Results: The peak number of cancer cases diagnosed in Zimbabwe was in 1999 when 7443 new cases were registered.[2] This number dropped by over 50% during the economic decline of Zimbabwe in 2008.[3] In the USA during the economic recession between 1973 and 2007 the cancer incidence rates were also noted to decline[4]. An American study has also shown that patients who travel longer to a diagnostic Centre were more likely to present with advanced cancer stage.[5]

Conclusions: The general growth in African economies that is forecast over the next decade[6] could mean an improvement in health service delivery systems in Africa, a decrease in the brain drain, an increase in the number of patients that can afford health care services and an increase in the ability of health systems to prevent, diagnose and treat cancer. The cancer epidemic in Sub-Saharan Africa is probably now, but could be documented better by 2050. The increase in cancer incidence rate predicted could be a positive message

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SEMI-QUANTITATIVE HPV VIRAL LOAD ESTIMATION BY HYBRID CAPTURE2 AS BIO-MARKER FOR DETECTION OF CERVICAL INTRA-EPITHELIAL NEOPLASIA3 AND CANCERS

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Background: Hybrid Capture2 (HC2) test provides semi-quantitative estimation of viral load of 13 high-risk Human Papilloma Virus (HPV) in cervical specimens. Viral load measurement may help to identify higher grades of cervical neoplasias more efficiently. A higher threshold of viral load may help in identifying the group at highest risk for development of high grade CIN.

Aim: Purpose of the study was to evaluate HPV viral load determined by HC2 as potential bio-marker for detection of CIN3+ disease.

Methods: In this population-based study cervical samples for HC2 were collected from 37,050 women aged 30–60 years. HC-2 test output was shown as relative light units/positive controls (RLU/PC), which was a surrogate for HPV viral load. RLU/PC value of 1.0 (equivalent to 1 pg/ml viral load) was considered positive. All HC2 positive women had Colposcopy and cervical biopsy. Strength of association of viral load of HC2+ve women with histologically diagnosed CIN3+ was measured. For this purpose RLU/PC values of positive women were grouped into three categories: 1–<10; 10–<100 and ≥100.

Results: Median viral load for HC2+ve CIN1, CIN2, CIN3 and invasive cancers were 40.5, 195.2, 682.0 and 705.8 respectively. Multiple logistic regression after adjusting confounding factors like age, parity and menopausal status showed odds ratio for CIN3+ disease to be 6.1 (95% C.I. 2.6–14.5) for RLU/PC of 1–<10; 18.0 (95% C.I. 8.2–39.6) for RLU/PC of 10–<100 and 41.0 (95% C.I. 20.8–81.1) for RLU/PC ≥100. ROC curve analysis to detect CIN3+ at various RLU/PC cut-offs showed optimal combination of sensitivity and specificity (92.3% and 81.4% respectively) at RLU/PC cut-off value of 1.1. However, in women above 49 years, higher cut-off of 14.9 gave optimal combination of sensitivity and specificity (97.7% and 85.8% respectively) to detect CIN3+.

Conclusions: Higher viral load on HC2 is associated with increasing grades of cervical neoplasias. Women with increased viral load need close follow-up

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CYTOKINE RECEPTOR EXPRESSION IN ADULT ACUTE MYELOID LEUKEMIA: HIGH EXPRESSION OF INTERLEUKIN-2 RECEPTOR A-CHAIN (CD25) PREDICTS A POOR PROGNOSIS

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Background: Numerous cytokine/cytokine receptor systems affect the biological behavior of acute leukemia cells. However, the prognostic value of measuring cytokine receptor expression levels in cells from acute myeloid leukemia (AML) patients is not well established.

Aim: We aimed to determine the prevalence and the clinical significance of cytokine receptor expression in adult patients with AML.

Methods: We quantitatively measured expression levels of interleukin-2 receptor α-chain (IL-2Rα, CD25), IL-2Rβ, IL-3Rα, IL-4Rα, IL-5Rα, IL-6Rα, IL-7Rα, common β-chain (βc), γc, granulocyte-macrophage colony-atimulating factor (GM-CSF) Rα, G-CSFR, c-fms, c-mpl, c-kit, FLT3, and GP130, in cells from 767 adult AML patients by flow cytometry, and then correlated these results with clinical and biological (phenotype and cytogenetics) features of adult AML.

Results: Variable expression levels were observed with all cytokine receptors studied, with the widest ranges observed (≥10,000 sites/cell) with IL-2Rα, IL-3Rα, γc, GM-CSFRα, G-CSFR, and c-kit. In patients ≤60 years old, high levels of IL-2Rα, IL-3Rα, and GM-CSFRα expression correlated with poor responses to intensive chemotherapy, but only IL-2Rα was associated with a shorter overall survival (OS). Multivariate analysis including other prognostic phenotype marker CD4, CD7, and CD11b revealed IL-2Rα as an independent adverse factor for OS, and its expression status improved AML prognostication independent of cytogenetic data which is currently recognized as the most powerful marker for risk classification of adult AML.

Conclusions: Among the various cytokine receptors studied, IL-2Rα expression alone was associated with poor outcomes in patients ≤60 years old, and its prognostic value was independent of other adverse factors. IL-2Rα assessment should be added to current risk evaluation systems as a phenotype marker to provide better prognostication of adult patients with AML

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CANSTAGING: THE ONLINE TOOL FACILITATING THE INTERNATIONAL AVAILABILITY, STANDARDISATION AND COMPARISON OF CANCER STAGING

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Background: Correct and consistent cancer staging is needed for treatment planning and review of outcomes, including screening, new diagnostic technologies and survival. The complexity of staging rules makes complete staging rarely achievable in some settings. An easily accessible, automated instrument to calculate TNM and stage groups would be of great value, especially where not all basic data of the patients' disease are available or where resources are limited.

Aim: To foster comparable staging, even where limited patient information is collected, by means of a piece of software calculating TNM, site-specific cancer staging classifications and fine or coarse-grained stage groups.

Methods: The Northern Ireland Cancer Registry, the Global Initiative for Cancer Registry Development of the International Agency for Research on Cancer and the TNM Core Group of the Union for International Cancer Control joined forces to develop an online staging tool. To assess usability and potential benefits to cancer registries, a pilot tool was made available via web browser for three months. Volunteer testers were asked to enter 50 cases (Breast, Prostate, Lung, Colorectal and Cervix) and feedback on consistency of output, issues encountered, potential benefits to their activities and desired improvements.

Results: 52 registries from 37 countries accessed the tool and 8 organisations provided formal feedback. 5 found the coarse-grained stage grouping functions of the tool useful; 2 did not respond on these points; 1 did not find these functions useful. The 'live' tool was released in May 2014 (http://go.qub.ac.uk/CanStaging). Identified errors were fixed and suggested improvements were implemented or planned for a later release.

Conclusions: Initial formal and informal feedback is encouraging. Later releases will include further features and enhancements, including additional cancer sites and translation in various languages. Thanks to the UICC, this tool is available at no cost for non-profit use.

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ANNEXIN V EXPRESSION AND IT'S RELATION WITH INFLAMMATORY MEDIATORS IN COLORECTAL CANCER PATIENTS

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Background: Colorectal cancer is one of the most common disease worldwide and has a great mortality potential. Chronic inflammation is induced by biological, chemical and physical factors and it's related with increased cancer risk in human. The studies have revealed that some proteins of Annexin family may play anti-inflammatory roles. Between these proteins, decreased Annexin V levels are known to inhibit the effects of inflammatory mediators such as secretory phospholipase A2 and Interleukine-1.

Aim: In the present study, we aimed to evaluate the relation between Annexin V protein and some inflammatory mediators in colorectal cancer.

Methods: Forty-five colorectal cancer patients were included in the study and 46 healthy volunteers formed our control group. The quantitative determination of plasma interleukin-6, interlekin-1B and arachidonic acid were performed by enzyme-linked immunosorbent assay. Annexin V mRNA expression analysis was performed by Real Time PCR.

Results: We found significantly increased IL-6 (1.87 ± 0.75 pg/ml), and arachidonic acid (735.55 ± 23.37 ng/ml) levels in patient group when compared to control group (0.56 ± 0.35 pg/ml, 706.27 ± 55.56 ng/ml, respectively, $p < 0.05$). We also observed a significant decrease of Annexin V mRNA expression in patient group with 27.42 ± 2.62 Ct values ($p < 0.05$). We found significant negative correlation between AnxV expression and arachidonic acid levels ($p = 0.029$). The IL-1B levels of patients were not different when compared to control.

Conclusions: The results indicate the inflammatory state in colorectal cancer patients. The reduced AnxV mRNA expression and the significant correlation between AnxV and inflammatory mediator strength the hypothesis that Annexin V protein may be an important marker on development of inflammation in colorectal cancer. The further studies will be more elucidative on evaluating the hypothesis.

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THE MALIGNANT PALM-PLANTAR MELANOMA AT THE UNIVERSITY HOSPITAL IN BRAZZAVILLE, CONGO

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The malignant palm-plantar melanoma is a malignant tumor developed at the expense of melanocytes. It is surgically curable when the diagnostic is done at an early stage.

Aim: Evaluate the clinical aspects and the results of malignant palm-plantar melanoma in Brazzaville.

Patients and methods: It is about a descriptive and transversal study realized on a period of 13 years (January 1998-December 2011). It included 121 patients having malignant palm-plantar melanoma on which we tried three different types of treatment: surgery, chemotherapy and the association of both surgery and chemotherapy.

The evaluation was done after the 3rd and the 6th cure. The data analysis was made with Stata 10.0 software. The survival rate was calculated by Kaplan Meier method.

Results: We noticed a female predominance (65 versus 56). The global average age was 61, 20 years old more or less 10, 78 years going from 27 years old to 90 years old. The melanoma was more hitting farmers and housewives. The pain was the major reason of a first consultation. The average delay to get a consultation was 16, 46 days more or less 30, 31 days. 81.7% reached a health center. The secondary localizations of tumors were dominated by the ganglionic incidences. The ulcer burgeoning and nodular forms predominated. 50% of the patients were classified T4 and 82 patients benefited from full treatment. The response was complete at 61 patients and the global survival after 49 months was 50%. Survival with no recurrence after 95 months was 50%.

Conclusion: The malignant palm-plantar melanoma is a rare, aggressive with a high metastatic potential malignant tumor. Large dermatological surgery at an early stage is the only potentially curative treatment, but hard to achieve because of the advanced stage to which patients see a doctor. To inform the patients about the risky behaviors and the screening of suspects lesions form the basis of prevention.

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HEALTH-SEEKING TRAJECTORY OF MEN WITH REGARDS TO SYMPTOMS OF COLORECTAL-CANCER: A QUALITATIVE STUDY

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Background: Lower bowel symptoms are common, may impact on the health related quality of life (HRQoL) and predispose to colorectal cancer. Men have a higher risk of colorectal cancer (CRC) than women but are more likely to delay seeking medical advice for lower bowel symptoms. The current study provides an understanding of the barriers to consult a General Practitioner (GP) and of the trajectory of men's health seeking between the onset of symptoms and diagnosis of CRC.

Aim: This study seeks to explore the health-seeking trajectory of men experiencing lower bowel symptoms.

Methods: In-depth semi-structured interviews were conducted among participants recruited via purposive sampling from three sub-groups: men experiencing lower bowel symptoms but never sought medical advice recruited from community ($n = 14$), and men diagnosed with benign bowel conditions ($n = 19$) and those with CRC ($n = 20$) from tertiary care hospital. Interview data was audiotaped and transcribed verbatim and subsequently analyzed thematically. Andersen's Model of Patient Delay was used as a theoretical framework.

Results: The attribution of symptoms to benign conditions or to the participants' occupations, and the fear of cancer diagnosis were common barriers to health seeking across all groups of participants. The time and money needed to consult a GP and participants' lack of trust in the medical system were other barriers among those who never sought advice. Some participants did not seek medical advice as the symptoms were intermittent or resolved spontaneously with changes in diet and lifestyle or with over the counter medication.

Conclusions: The data highlights various reasons for delay in seeking medical advice for potential CRC symptoms among men. Barriers to health-seeking in primary care identified in this study may provide insight into more focused health-education and health-promotion campaigns for men with regards to timely diagnosis and treatment resulting in improved prognisis and HRQoL and reduced burden on hospital care.

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A SOUTH AUSTRALIAN CANCER ATLAS SHOWS IMPORTANT VARIATIONS IN CANCER RISK AND OUTCOMES, BUT CAN BETTER USE BE MADE OF AUSTRALIAN DATA TO SUPPORT THE WORK OF CANCER COUNCILS?

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Background: A quarter of the South Australian population resides outside of metropolitan Adelaide. South Australia has a highly centralised distribution of cancer treatment facilities, with all radiotherapy services and most chemotherapy services provided in metropolitan Adelaide. To guide primary prevention and therapeutic initiatives, Cancer Council SA produced a Cancer Atlas to demonstrate inequalities between metropolitan and country residents of South Australia in cancer risk factors, cancer incidence and outcomes, with particular focus on high-risk groups.

Aim: (1) To outline key observations from the Cancer Atlas and demonstrate the benefit of using combination data from multiple data sources for population assessment; and (2) to report on the data retrieval process for the Cancer Atlas.

Methods: Cancer Council SA partnered with the Public Health Information Development Unit (University of Adelaide) to produce the Cancer Atlas. Multiple data sources were accessed to produce age-standardized rates.

Results: The final report, 'An Atlas of Cancer in South Australia', provided an overview of patterns of cancer and cancer risk factors, with a focus on rural and remote communities, residents of areas of socioeconomic disadvantage and Aboriginal and Torres Strait Islander people. Differences in survival were also presented, including ones requiring immediate attention. The Atlas illustrated the benefit of using data from multiple sources together to highlight inequalities in cancer and cancer risk. Data acquisition for the Atlas was a slow and difficult process. There was good support from many data custodians but also major barriers, including some that proved insurmountable within the two-year project period.

Conclusions: Recommendations were made regarding cancer-control initiatives needed to reduce inequalities, particularly among high risk populations. There is a need to improve data governance arrangements and resourcing to increase access to existing Australian data to guide cancer-control initiatives. When viewed together, data from different sources can provide a better overview of service needs.

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CORRELATION BETWEEN PARAMETERS OF DYNAMIC-CONTRAST ENHANCED MRI AND CLINICAL STAGE OF NASOPHARYNGEAL CARCINOMA

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Background: The value of Dynamic Contrast-Enhanced MRI (DCE-MRI) in Nasopharyngeal Carcinoma (NPC) has not been well understood so far

Aim: to evaluate the role of DCE-MRI parameters in assessing clinical characteristic of NPC

Methods: Quantitative parameters (Ktrans [volume transfer constant], Ve [volume fraction], fPV [fractional plasma volume] and kep [kep = Ktrans/Ve]) and semiquantitative parameters (TTP [time to peak], CER [contrast enhancement ratio], Maxslop [the maximum slope of the time-SI curve], WoutSl [Washout ratio of the time-SI curve], Area under the time-SI curve from initial time point of enhancement to 90 sec [AUC90] and 180 sec [AUC180]) were obtained from the DCE-MRI data of the primary lesions of 75 NPC patients who successfully underwent DCE-MRI on a 1.5T MR scanner. Pearson correlation coefficients between DCE-MRI parameters and clinical stage (TNM and UICC staging) were calculated.

Results: Ktrans, Ve, AUC90 and AUC180 showed positive correlation with UICC stage, T stage and M stage. Kep showed negative correlation with T stage. TTP showed positive correlation with UICC stage and T stage (shown in the following table).

DCE-MRI	UICC	stage	T	stage	N	stage	M	stage
parameters	*r*	*p*	*r*	*p*	*r*	*p*	*r*	*p*
Ktrans	0.240	0.038	0.257	0.026	−0.002	0.990	0.438	0.000
Kep	−0.191	0.101	−0.288	0.012	−0.108	0.355	0.125	0.285
Ve	0.418	0.000	0.466	0.000	0.123	0.293	0.269	0.020
fPV	0.024	0.836	−0.082	0.482	0.118	0.315	0.061	0.605
TTP	0.231	0.046	0.318	0.005	0.136	0.244	−0.062	0.598
Maxslop	0.040	0.736	0.048	0.680	−0.063	0.591	0.173	0.139
CER	0.079	0.502	−0.008	0.947	0.027	0.819	0.121	0.299
WoutSl	0.017	0.886	−0.075	0.525	−0.065	0.579	0.125	0.286
AUC90	0.362	0.001	0.380	0.001	0.100	0.391	0.446	0.000
AUC180	0.380	0.001	0.405	0.000	0.123	0.295	0.423	0.000

Conclusions: Being useful for characterising the neovasculature and permeability of primary NPC lesion, Some quantitative and semiquantitative parameters of DCE-MRI show correlation with clinical stage of NPC. These DCE-MRI parameters might be the potential noninvasive radiological prognostic indicators of NPC.

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CANCER COUNCIL HELPLINE 13 11 20 – HOW MANY PEOPLE USE THIS INFORMATION AND SUPPORT SERVICE AND WHY NOT?

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Background: Cancer Council 13 11 20 Helpline lies at the heart of Australian Cancer Council's information and support services and is a gateway to a myriad of programs providing informational, emotional and practical support. With the growing incidence of cancer in the Australian population, demand for information and support services should be increasing. However there has been a steady decline in the number of calls to 13 11 20.

Aim: Research was undertaken to understand the reasons for calling 13 11 20, satisfaction with the service, and barriers to using the Helpline.

Methods: A market research company was commissioned to undertake a community attitudes survey of people touched by cancer (n = 428) including patients (n = 128) and carers (n = 300) by phone (84% response rate of identified sample). Key questions included awareness of 13 11 20 Helpline; who referred, awareness of assistance that could be provided by Helpline, and reasons for calling (or not) Helpline.

Results: People affected by cancer reported seeking information mainly through internet (32% of respondents) and doctors (31%). Only 3% of respondents had contacted the Helpline and 11% had sought information on the Cancer Council website in the last 2 years. Most common reasons for not contacting the Helpline was not feeling the need to call, seeking information from doctor or other information sources usually online, and low awareness of the service.

Conclusions: The perception of not wanting or needing help is a barrier preventing calls and there is a need to widen understanding of the information and support that can be provided by the Helpline. Knowing more about what is actually on offer would provide people greater clarity about why to call the service. Strategies that engage medical professionals to recommend people call are required and should be an ongoing focus.

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TOBACCO RELATED CANCERS IN TURKEY

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Background: Lung cancer is the most significant preventable cancer in Turkey. With a successful fight against tobacco, the elimination of cancers of the lung, larynx, urinary bladder, cervix, pharynx and oral cavity will be possible to a great extent. Effective tobacco control means the prevention of approximately 40,000 lung cancers in Turkey, annually. From another perspective, one in every three cancers is related to tobacco use, indicating two out of three cancer patients may be saved from having cancer. In this regard Turkey has implemented national Tobacco control programme since 1996 with very strict preventive measures since 2007.

Aim: This study analysis the effect of this programme in national cancer incidences.

Methods: Cancer statistics has been collected from 9 active cancer registry centers which are distributed evenly all across Turkey. Total number of coverage of these 9 centers is approximately %27 of the whole population.

Results: Depending on the latest cancer statistics lung cancer is the leading cancer in males (66/100.000) and breast cancer is the leading cancer in females (40.6/100.000). Tobacco related cancers did show a plateau in incidence (Figure 1). Tobacco Related Cancers in Turkey

Conclusions: Depending on the latest national cancer statistics Turkey has firstly seen a stop in the raise of tobacco related cancer incidences which may be attributed to the success of our national tobacco control programme.

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CERVICAL CANCER EPIDEMIOLOGY IN GHANA

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Background: Cervical cancer is a very important public health issue in the world. About 528,000 new cases and 266,000 deaths occurred in 2010. Incidence and mortality have reduced in most develop countries mainly due to the introduction of cervical cancer screening. However, this is not the case in most less resourced countries where approximately 85% of the disease occurs. In Ghana, cervical cancer is the most common cancer among women. This disease affects women in their most reproductive years which affects the welfare of their families. Cervical cancer is a preventable disease through HPV vaccination and screening. Coverage of cervical cancer screening and HPV vaccination is very poor in Ghana. In addition, knowledge of HPV vaccination and screening is very low. It is important to study the epidemiology of cervical cancer in Ghana to identify factors associated with the disease.

Aim: To study the HPV prevalence and genotype distribution as well as other risk factors associated with cervical cancer in Ghana.

Methods: We proposed a case-control study to study the epidemiology of cervical cancer in Ghana. Incidence cases of CIN and cervical cancer will be identified in two large hospitals in Ghana. Controls will be recruited from the same hospitals. A structured questionnaire will be administered to the women after which a request for a cervical smear will be made for laboratory detection of HPV DNA and genotypes.

Results: Anticipated results include the evaluation of the HPV prevalence and genotype distribution, risk factors associated with cervical cancer as well as knowledge of the disease in Ghana.

Conclusions: It is intended that results will be used to inform policy decisions around the implementation of HPV DNA testing for screening and the development of HPV vaccination. This study will provide information for the control of cervical cancer in Ghana.

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FACILITATORS AND BARRIERS TO HELP SEEKING BEHAVIOUR AMONG GHANAIAN WOMEN WITH BREAST CANCER SYMPTOMS

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Background: Breast cancer is rapidly becoming a growing public health problem in sub-Saharan Africa. In Ghana, breast cancer is the leading cause of death among women and the most common cause of hospital admissions. Despite the lack of a national cancer registry, GLOBOCAN estimated that in 2012, there were 2,260 diagnosed breast cancer and 1,021 deaths with age-standardized incidence and mortality rates of 25.6 and 11.7 per 100,000 women respectively in Ghana as compared to USA with age-standardized incidence and mortality rates of 92.9 and 14.9 respectively. Ghanaian women are disproportionately diagnosed at earlier age of 40–49 years with high-grade tumours that are more aggressive than White American women who are usually diagnosed around 60 years. Since early ages at onset of breast cancer result in highly associated disability and years of life lost, the earlier cancer is detected and treated, the higher the chances for long-term survival. However, despite aggressive campaigns to improve early presentation of symptoms for medical evaluation, for reasons that are still unclear, sixty per cent of Ghanaian women delay for at least 10 months before seeking any medical help.

Aim: Given that a woman's decision to seek help is made within personal, sociocultural, and healthcare system contexts, this study aims at improving our understanding on factors that facilitate or impede help seeking behaviour among Ghanaian women with breast symptoms.

Methods: Semi structured interviews with 12 symptomatic women who self detected symptoms. Thematic analysis was used to identify themes.

Results: Themes such as symptom appraisal, social support, and competing priorities that impede or facilitate help seeking for breast cancer symptoms among Ghanaian women are discussed.

Conclusions: Understanding facilitators and barriers to help seeking is vital for the implementation of successful interventions that encourage early presentation, diagnosis, and treatment of breast cancer.

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COLPOSCOPY AS AN ADJUNCT TO CYTOLOGY IN THE DIAGNOSIS OF CERVICAL PRECANCER AND CANCER IN AN EXECUTIVE HEALTH CARE SET-UP: A RETROSPECTIVE STUDY IN MUMBAI, INDIA

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Background: Cervical cancer is one of the major public health problem in India. There is no organized screening in place. Cytology performed sporadically in various centres throughout the country, which has its own limitations. Colposcopy, of late has shown promise in the detection of cervical precancers and cancers.

Aim: To evaluate the performance of colposcopy in the detection of cervical precancers and cancers when used as an adjunct to cytology.

Methods: This is a hospital based retrospective study conducted in a corporate hospital in Mumbai, India. Women attending the Obstetrics and Gynecology department between August 2010 to July 2012 were included in the study based on history and clinical findings. The pap smear which was part of health care package was collected and processed by conventional method and reported by Bethesda system. The results of pap smear were given to women when they returned within a month of pap smear examination. Whatever the cytology report was, the women in the age group of 25–70 years with history of chronic leucorrhoea, post coital bleeding, post menopausal bleeding, irregular or inter menstrual bleeding and whose cervix appeared unhealthy on examination as well as those whose pap report was abnormal, colposcopy was performed. Histopathology was considered as reference standard to compare the results of cytology and colposcopy.

Results: A total of 143 women were attended the hospital. About 57% of women had come for routine examination. Comparison between pap smear and colposcopy showed fair agreement. Pap smear showed only 9.09% sensitivity and 88.57% specificity when compared with histopathology. Positive predictive value was 20% and negative predictive value was 75.61%. Colposcopy showed 100% sensitivity and 74.28% specificity when compared with histopathology. Positive predictive value was 55% and negative predictive value was 100%.

Conclusions: Colposcopy is an ideal method to diagnose cervical precancer and cancer when used as an adjunct to cytology.

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USING DATA VISUALIZATION AND MAPPING SOFTWARE TO ENHANCE UNDERSTANDING AND INCREASE USE OF HEALTH-RELATED DATA

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Background: Traditionally, health departments, government agencies and institutions presented incidence and mortality data in table form. However, presenting complex health-related data to the public and to health care professionals with varying degrees of statistical expertise or computer literacy can be challenging. Data presented in tables ("Age-adjusted incidence rates of colorectal cancer in Missouri, 1996–2011") must also include details ("rates are per 100,000, age adjustment uses the Year 2000 Standard Population, confidence interval (CI) for rates by the Inverse Gamma method"). Missouri Cancer Registry and Research Center (MCR-ARC) wanted a more easily understood alternative.

Aim: Identify user-friendly software capable of producing maps, charts and graphs while protecting patient confidentiality.

Methods: We searched for data visualization software that can produce maps, graphs and charts while maintaining patient confidentiality. We selected an interactive, Internet-based mapping and data visualization tool. We initially purchased a desktop version. When funds became available, we purchased a server version, training and technical support for a three-year period. We worked with software developers to identify meaningful groupings and visually-pleasing color schemes. Users can create interactive dynamic reports with pre-defined views and area-based profile reports with text, tables, graphs, maps and images by accessing our website.

Results: Users can create interactive dynamic reports with pre-defined views and area-based profile reports with text, tables, graphs, maps and images by accessing our website (http://mcr.umh.edu). Tutorials are available to walk users through the process of creating data tables showing cancer incidence and mortality rates for different sites for specific counties in Missouri and prevalence rates for cancer-related risk factors. Color-coding is used to show cancer incidence rates in quartiles by county for specific cancer sites by age group, race/ethnicity and stage at diagnosis.

Conclusions: Web-based interactive maps, charts and graphs offer user-friendly alternatives for communicating complex health-related data.

1. (http://dhss.mo.gov/data/mica)
2. (http://mcr.umh.edu)

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A PALLIATIVE PERFORMANCE SCALE BASED PREDICTION MODEL FOR SURVIVAL IN PATIENTS UNDERGOING PALLIATIVE RADIOTHERAPY

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Background: The palliative performance scale (PPS) is a well validated prognostic tool for survival in terminally ill patients. Previously Chow et al proposed a number of risk factors (NRF) prognostic model (primary cancer site, site of metastases and Karnofsky Performance Scale (KPS)) based on patients attending palliative radiotherapy clinic.

Aim: We aim to develop a PPS based prediction model as an alternative to the NRF model.

Methods: This is a prospective cohort study of patients scheduled to receive palliative radiotherapy at the National Cancer Centre Singapore between August and December 2013. Overall survival (OS) was measured from the date of starting radiotherapy till date of death. Cox proportional hazard regression models assessed factors associated with OS. A prognostic score based on number of risk factors present was developed and compared against the NRF using Harrell's concordance index (c-index), D statistic of Royston and Sauerbrei (D-stat) and likelihood ratio (LR) analysis.

Results: 288 patients were enrolled in the study. Significant factors of OS include serum albumin, haemoglobin, white cell count, inpatient status at start of radiotherapy and PPS. 5-factor (Model A) and 3-factor (Model B based on albumin, inpatient status and PPS) prediction models were developed with good discrimination (c-indices > 0.7) and calibration ability. When comparing Model A and B with NRF, Model B had the highest discrimination (NRF: c-index = 0.592, D-stat = 0.732, log-rank $p = 0.001$; Model A: c-index = 0.722, D-stat = 1.694, $p < 0.001$; Model B: c-index = 0.729, D-stat = 1.785, $p < 0.001$). Model A and B were superior in predicting OS than the NRF on pairwise comparison based on LR analysis.

Conclusions: A simple 3-factor PPS based prognostic model (Model B) may serve as a useful alternative to the NRF for guiding radiation oncologists in prognostication and deciding the appropriate length of palliative radiotherapy. However, further validation study of the model is required.

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SURVIVAL ANALYSIS OF 121 PATIENTS WITH SPINAL METASTASES FROM SINGLE CENTER

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Background: The prognosis in patients with spinal metastases is dismal, whether to undergo operative treatment still remains controversial.

Aim: In this study, our aim is to investigate the safety and efficacy of surgery in 121 patients with spinal metastases.

Methods: A retrospective analysis of clinical data from April 2009 to March 2013 was performed in 121 patients with spinal metastases. From 37 to 65 years, 69 males and 42 females with mean age of 55.6 years. Primary tumor origin: Lung 35 (28.9%), Breast 26 (21.4%), Renal 17 (14.0%), Prostate 20 (16.5%), Thyroid 14 (11.6%), Liver 2 (1.7%), Colon 1 (0.8%), other 6 (5.0%). All patients received surgery. Follow-up and survival time were analyzed. In preoperation and postoperative 3 month, pain levels were assessed by visual analogue scale (VAS), neurologic deficit was evaluated by Frankel Grade and functional impairment was classified by Karnofsky Score. The quality of the life was assessed by EORTC QLQ- C30 questionnaire.

Results: The period of follow-up ranged from 2 to 25 months with the average of 15.9 months. The mean survival was 14.5 months. 1-year survival was 53.5%. 2-year survival was 36.5%. In preoperation and postoperative 3 month, the VAS showed statistical significance ($t = 21.6$, $P < 0.01$); postoperatively, 80.3% of all patients had functionally useful Frankel Grade D or E compared with 43.5% pre-operatively. KPS score (80–100) percentage was 75.6% postoperatively compared with 33.4% preoperatively. In 1 month postoperatively, 35 of 75 patients who were sphincteric dysfunction preoperatively were improved. The EORTC QLQ-C30 score was 83.39 ± 7.23 in preoperation and 51.34 ± 14.27 in postoperaion. The quality of life was impoved significantly ($t = 12.6$, $P < 0.01$).

Conclusions: Surgical operation in spinal metastases can prolong survival based on multimodality treatment. Surgical treatment was effective in improving quality of life by providing better pain control, enabling patients to regain or maintain mobility, and offering improved sphincter control.

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REVIEW OF CANCER LITERACY ACROSS CULTURES

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Background: Many people across the world still believe that a cancer diagnosis means certain death. Unfortunately this can significantly impact upon patient compliance to treatment and their treatment decisions. In several countries such as Vietnam up to 60% of patients are never told of their diagnosis which is unthinkable to many but enables the clinician to treat the patient without the burden of managing the psychological burden or the need to spend time explaining terminology and details that are beyond the patient to understand. In essence however this exacerbates the ignorance and does not allow for community learning or the passage of knowledge through families and generations. It also contributes to ongoing poor outcomes.

Aim: To present a quantitative comparison of the current level of cancer literacy or understanding that exists within different cultures to enable development of health education programs to address the identified gaps in areas of potential greatest impact.

Methods: A literature review is used to compare cancer outcomes in different cultures. A survey is then utilised as a tool to assess the level of understanding of cancer terminology, causes, treatments and potential outcomes. This survey data is drawn from 500 people from up to 15 different cultural groups from around the world.

Results: There are a number of factors that influence cancer literacy including prior exposure, location of upbringing, age, education level, and rural or urban habitation. Whilst there are cultural differences these are less predictive of health literacy levels than the other listed factors.

Conclusions: Whilst there are significant health literacy gaps in some cultural groups this cannot be generalised to all persons identifying with that group and we should therefore avoid attributing racial stereotypes to patients. This is only relevant for a person of one culture that has only ever been exposed to that culture.

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EVALUATION OF QUALITY OF LIFE AND ANXIETY AND DEPRESISON LEVELS IN PATIENTS RECEIVING CHEMOTHERAPY FOR COLORECTAL CANCER: IMPACT OF PATIENT EDUCATION BEFORE TREATMENT INITIATION

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Background: improved survival due to the availability of several treatment optiona, cost-effectiveness and health-related quality of life (HRQoL) issues have gained increasing attention in colorectal cancer (CRC).

Aim: In the present study, we aimed to evaluate quality of life, level of anxiety and depression before and after a 6-month follow up period in chemotherapy receiving patients with CRC.

Methods: The study was conducted in 50 patients with colon or rectal cancer. All patients were informed and educated about their disease and treatment before getting the treatment and were followed for 6 months, during which they received chemotherapy. A “Questionnaire Form” to collect patient demographic characteristics; the “EORTC QLQ-C30 Scale” and “EQ-5D Scale” to evaluate patient’s quality of life; and the “Hospital Anxiety and Depression Scale” (HAD) to evaluate the level of anxiety and depression status of patients, were used as data collecting tools.

Results: Quality of life scores in all functional fields were high in the sixth course when compared to the first according to EORTC QLQ-C30 Scale, reaching to statistically significant level in emotional function score compared to the initial ones ($P < 0.05$). Moreover quality of life score measured in the sixth month with EQ-5D was statistically significantly higher than the initial.

Conclusions: these data, shows that with proper patient management, quality of life score, and the anxiety and depression levels improve during the course of treatment.

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SUSTAINABLE CANCER PREVENTION STARTS WITH SUSTAINABLE PREVENTION SUCCESS

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Background and Context: Campaigns of prevention are particularly difficult to develop and fund since it is difficult to show consequences that have been eliminated in such campaigns. Simple metrics can be used to show that projections based on past trends have been altered by campaigns and interventions. This is useful in showing long-term effects, but less convincing in the short term. Longitudinal monitoring of how tobacco control policies have affected smoker views and behaviors have only recently been used in low and middle income countries to monitor how prevention may be achieved and sustained. Thailand is a country where several metrics have been used to measure sustained prevention of tobacco use as a risk factor for cancer.

Aim: Using existing evaluations of policies, funding and research, we aim to show how sustained prevention of cancer through tobacco control has been possible in Thailand.

Strategy/Tactics: Unlike reactive processes, Thailand has attempted to put into place pro-active processes that keep Thailand in the game against an increasingly aggressive tobacco industry. We examine what strategies in core areas of tobacco control have worked best in Thailand.

Programme/Policy Process: Policies and programs that focus on gaps in coverage, funding and knowledge have been adopted including early recognition of legitimate players in building health promoting policies, early recognition that sustained funding is central to sustained action, and early recognition that informed and context-based knowledge is vital to actually implementing and sustaining programs.

Outcomes/What was learned: Despite many difficulties because of shifting political priorities in Thailand, Thai leaders have had to implement both instrumental and structural changes to keep the prevention and promotion focus in addressing cancer as a non-communicable disease. Deconstructing past efforts gives hints to effective strategies, but continually investing in innovative practices is the only way to sustain progress against shifting prevention objectives.

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PLEASE *LIKE* ME – A QUALITATIVE EVALUATION OF THE MAKE SMOKING HISTORY FACEBOOK PAGE

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2. *Curtin University, Bentley, Western Australia, Australia*

Background and Context: Facebook provides numerous metrics which can be used to evaluate interaction with a Facebook page, the most common including number of Likes, Engagement and Reach. These quantitative metrics are commonly used to report on estimates of growth and consumption, but the numbers do not necessarily indicate if a Facebook page is being used for its intended purposes.

The Make Smoking History (MSH) Facebook page, created in September 2012, was designed to engage people affected by, or interested in tobacco cessation between the ages of 18–54. Comments on Facebook posts have been identified as a valued element of interaction but Facebook does not provide a tool to analyse the depth of this data.

Aim: To provide a more thorough evaluation of interaction with the target audience on Facebook, by incorporating qualitative data analysis as well as quantitative data analysis.

Strategy/Tactics: Posts shared by MSH included motivation images, videos, statistics, news articles, negative effects of smoking, positive effects of quitting. Posts and comments on the MSH Facebook page were accumulated from September 2012- September 2013 for use in our analysis.

Programme/Policy Process: Quantitative data such as reach and consumption metrics were downloaded from Facebook's inbuilt analytics tool 'Facebook Insights'. Comments, Likes and Shares by Facebook users on MSH posts were captured directly from the MSH Facebook page, imported into NVivo software and coded to identify thematic trends.

Outcomes/What was learned: Analysis of the data indicates the timing, type of post (photo, link, video etc.) and content/theme of posts producing the greatest response from users. The themes generating the most interaction have then been compared to the objectives of the MSH Facebook page to provide direction for future posts. This presentation will discuss the key themes of this evaluation and will help inform other tobacco social media campaigns.

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SOCIAL MARKETING ON A SHOE STRING

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Background and Context: The consumption of sugar sweetened beverages is associated with increased energy intake and in turn, weight gain and obesity. It is well established that obesity is a leading risk factor for type 2 diabetes, cardiovascular disease and some cancers. Australians are among the biggest consumers of sugary drinks in the world, with consumption highest among young adult males.

Aim: By highlighting the amount of sugar in sweetened beverages such as soft drink, energy drinks and sports drinks, the Rethink campaign aims to encourage Australians to rethink their sugary drink consumption and switch to water, reduced-fat milk or other unsweetened options.

Strategy/Tactics: The campaign was launched with a position statement, website, online video, and PR/media event. With very limited budget, the video was taken from the New York City Department of Health and tailored to an Australian audience. The campaign has sustained momentum through continuous proactive public relations and social media activities, and partnerships with other leading Australian health organisations.

Programme/Policy Process: Rethink Sugary Drink is a partnership between Cancer Council, Diabetes Australia and the National Heart Foundation. Since launching the campaign in early 2013, other leading health organisations have come on board as official supporters.

Outcomes/What was learned: Despite an extremely minimal budget, the campaign has received a huge response from media and the public, with continuous support in the form of positive media stories, and requests for information from members of the public and health and community organisations around the country. Partnering with other like-minded agencies has enabled a united and uniform voice amongst key NGOs, and added weight to the Rethink brand.

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PROHIBITIONS/RESTRICTIONS ON FLAVOURED TOBACCO PRODUCTS: UPDATED OVERVIEW OF INTERNATIONAL DEVELOPMENTS

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Background and Context: The tobacco industry has increasingly been using flavours to make tobacco products more attractive. Flavours such as chocolate, sugar, licorice, cherry, vanilla, as well as other sweeteners, spices and herbs have been used, including menthol.

Flavours make it easier to smoke, can encourage youth initiation, and can discourage cessation. Flavoured products may also be perceived as less harmful. For water pipe tobacco, the extensive use of flavours has contributed to increased water pipe smoking in many countries.

International guidelines under the WHO Framework Convention on Tobacco Control recommend that governments "should regulate, by prohibiting or restricting, ingredients that may be used to increase palatability in tobacco products." The guidelines recognize that "masking tobacco smoke harshness with flavours contributes to promoting and sustaining tobacco use."

Aim: This presentation will provide an updated overview of international developments related to prohibitions/restrictions on flavoured tobacco products.

Strategy/Tactics: In recent years, a growing number of countries/jurisdictions have adopted legislation to curb flavours.

Programme/Policy Process: In April 2014, despite strong tobacco industry lobbying, the European Union adopted a new Directive that will ban menthol cigarettes in all 28 EU countries. Germany previously banned menthol capsules.

The US has prohibited "characterizing" flavours in cigarettes and roll-your-own tobacco (menthol excepted). In 2013, the US FDA has announced that it intends to regulate menthol. New York City and Providence (Rhode Island) have banned almost all characterizing flavours (menthol excepted) in all tobacco products.

Canadian national legislation prohibits all flavours (except menthol) in cigarettes, little cigars and blunt wraps. In 2013–2014, some Canadian provinces adopted laws applying to other tobacco products.

In Brazil, a national regulation bans flavours (including menthol) in all tobacco products, but this has not yet been implemented.

Outcomes/What was learned: Governments should ban flavours in all tobacco products, continuing the international trend.

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CANCER COUNCIL NSW HEALTHY LUNCH BOX STRATEGY: IMPROVING ACCEPTABILITY AND RELEVANCE FOR CULTURALLY AND LINGUISTICALLY DIVERSE (CALD) COMMUNITIES?

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Background and Context: Eat It To Beat It (EI2BI) is Cancer Council NSW (CCNSW) flagship nutrition program that aims to increase fruit and vegetable consumption in families with primary school aged children. Since January 2013, the program has reached 9,103 parents, through the network of CCNSW regional offices including the Greater Western Sydney (GWS) region, a culturally diverse community.

There is strong evidence for the role of fruit and vegetable consumption in preventing a range of cancers as well as cancer mortality. This is particularly relevant to CALD communities who experience significant health disparities, including increased risk of non-communicable chronic disease. CALD communities are also more likely to consume an inadequate amount of fruit and vegetables.

Aim: Determine the relevance and acceptability of the existing Healthy Lunch Box session and resources, a key strategy of EI2BI, for Arabic and Mandarin speaking communities living in GWS.

Strategy/Tactics: CCNSW sought consultation with key stakeholders and organisations from these community groups as an effective method to provide insight into the needs of Mandarin and Arabic speaking communities accessing information on healthy lunch boxes. A modified session was piloted with the Arabic community.

Programme/Policy Process: Stakeholders were asked 14 semi-structured questions examining the acceptability and relevance of the existing Healthy Lunch Box resources, peer-facilitated delivery method, dissemination strategy and evaluation method.

Outcomes/What was learned: To successfully reach CALD communities it is essential to consider culture, language and literacy. These factors significantly impact on the relevance and suitability of existing resources and hence appropriate modifications, such as greater use of visuals and props, translation of some complex word based handouts and a more interactive delivery.

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AN EXAMPLE OF A NON-GOVERNMENT AND GOVERNMENT PROGRAM WORKING IN PARTNERSHIP TO INCREASE FRUIT AND VEGETABLE CONSUMPTION

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Background and Context: Cancer Council NSW's (CCNSW) Eat It To Beat It (EI2BI) program aims to increase fruit and vegetable consumption in families with primary school aged children. The current consumption of fruit and vegetables amongst adults in NSW is alarmingly poor with 90% of adults not eating the recommended amount of vegetables and 50% not eating enough fruit.

EI2BI was developed and piloted in the Hunter NSW region where it has been successfully operating since 2008. In 2012 the program expanded to several areas across NSW.

In Greater Wester Sydney the program is supported by the Western Sydney and Nepean Blue Mountains Local Health Districts (LHDs) Live Life Well @ School (LLW@S) program.

The EI2BI and LLW@S programs complement one another with EI2BI able to provide nutrition information to the parent community of primary schools.

Aim: To increase family fruit and vegetable consumption through maximising parent participation in the CCNSW EI2BI workshops through a formal partnership between the CCNSW and the two LHDs.

Strategy/Tactics: The LHDs promote the EI2BI program to LLW@S schools and help CCNSW to establish relationships with those schools to engage parents in the program. In turn, CCNSW help LLW@S schools promote healthy eating to their wider school community, through EI2BI workshops, sessions and snippets.

Programme/Policy Process: Schools who are interested in EI2BI submit an Expression of Interest form which is followed up by the Regional Project Officer to implement the components of the EI2BI program.

Outcomes/What was learned: The partnership between CCNSW and the Local Health Districts has significantly increased recruitment of schools to the EI2BI program. 157 schools have expressed an interest in EI2BI which is significantly higher than other areas where a formal partnership with the LHD does not exist.

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PINK CHAIN CAMPAIGN: AWARENESS REGARDING RISK FACTORS, SYMPTOMS AND TREATMENT FACILITIES FOR CANCER IN DIFFERENT STATES OF INDIA

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Background and Context: Cancer is the leading type of cancer in women and has become a public health problem. Delay in diagnosis and treatment of cancer diminishes chance of survival. awareness regarding risk factors, symptoms and treatment facilities may be effective in better outcome.

Aim: To study the level of awareness and knowledge about cancers and associated risk factors among households in different states of India.

Strategy/Tactics: In the study 2000 households were interviewed from six states in india regarding level of knowledge about cacers.

Programme/Policy Process: Knowledge of cancers other than those related to tobacco was very low (prostate 18%, colon 9%) among the communities, with a poor awareness of common signs and symptoms. The knowledge varied from state to state. It is found that the major source of information related to cancers was television (38%) followed by friends and relatives (36%). Only about 15 % of respondents had knowledge about cancer awareness camps organized in their districts but they did not have knowledge about the organizers of the camp.

Outcomes/What was learned: It is important to create awareness among community through educational programs on cancer prevention, preventable cancer risk factors, benefits of early diagnosis, and availability of screening facilities.

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TO E OR NOT TO E: PATIENT SUPPORT IN THE DIGITAL ERA

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Background and Context: Current buzz words in (cancer) patient support are patient empowerment, shared decision making and self-management. Internet and other digital tools (e.g. use of mobile platforms; e-health applications; decision aids) provide new opportunities to facilitate these processes.

Since 2013, Dutch Cancer Society (DCS) hosts a new internet platform (www.kanker.nl) which aims to empower cancer patients by providing medical information, discussion groups, blogs, a referral guide for support services, information on clinical cancer trials, etc. Kanker.nl has been developed in a strategic alliance with the Dutch Federation of Cancer Patient Organisations (patients) and the Comprehensive Cancer Centre of The Netherlands (health professionals).

Aim: To give insight into the process of reorientation on DCS's role & position in patient support.

Strategy/Tactics: DCS's goals are: less cancer, more cure, and a better quality of life for cancer patients. Our main challenge now is to scrutinise our specific added value in the area of quality of life and patient empowerment and to redefine our patient support activities in the next policy period, revolving around kanker.nl.

Programme/Policy Process: Process steps:

- Formulate our potential new role regarding patient empowerment based on consultations with partners in the field, desk research, management information
- Check with our stakeholders:
  - ○ Patients and their relatives
  - ○ Cancer patients' organisations
  - ○ Health professionals
- Reorganisation of our communication mix:
  - ○ Next steps KankerNL (e-health; Personal Health Files; decision aids; etc.); promotion of KNL as 'preferred platform'
  - ○ Decisions regarding continuation of print information; DCS Helpline, etc.

Outcomes/What was learned:

- The logo of DCS on patient support services is perceived as a guarantee for quality
- Developing innovative patient support services is time consuming, expensive, risky – but necessary
- Important changes in support services need careful communication with all stakeholders
- It helps to have friends (allies / ambassadors) in time of change.

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KEY LEARNINGS FROM AN EVALUATION OF STATEWIDE MODELS OF POST-TREATMENT CARE

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9. *Barwon Health Andrew Love Cancer Centre, Barwon Health, Geelong, VIC, Australia*
10. *Barwon South Western Regional Integrated Cancer Services, Geelong, VIC, Australia*
11. *North Eastern Melbourne Integrated Cancer Service, Melbourne, VIC, Australia*
12. *Victorian Melanoma Service, The Alfred, Melbourne, VIC, Australia*

Background and Context: ASCO and the IOM have emphasised the need to trial novel models of post treatment care, and to disseminate information and education about these models. In Australia in 2011 the Victorian government established the Victorian Cancer Survivorship Program (VCSP), which funded six 2-year demonstration projects, targeting people at the end of initial cancer treatment.

Aim: To build evidence on how post treatment models can best be provided: an evaluation of the VCSP.

Strategy/Tactics: The projects provided regular written progress reports. Additionally, representatives met at formal *community of practice* meetings. Critical enablers and challenges to effective care delivery were determined and key learnings identified.

Programme/Policy Proces: The VCSP trialed six novel post treatment models of care, engaging various sectors of the health system and non-government organisations.

Outcomes/What was learned: Strong clinical leadership was identified as a critical factor for success. All projects recognised the need to tailor care according to individual needs and predicted risks, though acknowledged a lack of valid assessment and prediction tools. Similarly, all projects queried whether all survivors require the same level of information in treatment summaries and care plans. Projects focused on the survivor, with little focus on carers and family. Challenges include limited evidence to support different models of care, achieving effective engagement with community-based care and issues around terminology, including use of the word *survivorship*. An emphasis on self-management and wellness represents a reorientation of the healthcare system, with which many providers are unfamiliar. Many projects encountered delays in commencement awaiting approval from local IRB / ethics committees. Despite different health care systems, all countries face similar challenges in delivering improved survivorship care. Each of the VCSP projects has reported favourable outcomes, though almost all encountered challenges, many of which were not anticipated. Other projects should prospectively consider each of these issues.

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A VIDEO ADVOCACY CAMPAIGN PREPARED WITH TECHNOLOGY READILY AVAILABLE ON MOST COMPUTERS: PUT THIS DRUG ON THE PHARMACEUTICAL BENEFITS SCHEME (PBS) FOR MEN WITH ADVANCED PROSTATE CANCER

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Background and Context: In Australia drugs are subsidised through a national scheme – the Pharmaceutical Benefits Scheme (PBS).

An expert committee, the Pharmaceutical Benefits Advisory Committee (PBAC), advises the government which drugs should be listed on the PBS, based, usually, upon requests from drug companies.

The PBAC, as part of its consideration process, calls for public submissions.

This video prepared by the Advanced Prostate Cancer Support Group, an affiliate group of the Prostate Cancer Foundation of Australia (PCFA), calls for public support for a drug under consideration.

Aim: To educate people with an interest in prostate cancer about the benefits and limitations of a new drug and encourage them to prepare a public submission

Strategy/Tactics: The primary audience – men with advanced prostate cancer and their partners – has an average age of around 70 years. For a high proportion of this audience, health literacy and online competence limit comprehension of text and preparation of submissions. An online video was chosen as the appropriate communication medium.

Programme/Policy Process: The audience was emailed a link to an online video educating both about the drug and the submission process, and encouraging participation.

No video cameras, sound equipment, or advanced video software was used.

The video was made entirely with software that came free with the computer on which it was made.

Outcomes/What was learned/Measures: 61% of members watched the YouTube video urging participation in public comment on new drug. The PBAC received a total of 70 public submissions on the drug. How many of these were by our members is not known.

Appropriate technology: Almost all new computers come with software to prepare such a video.

Key message: Video presentations need not involve expensive equipment. Keen amateurs can get a message across no cost above existing computer equipment

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. THRIVE TO SURVIVE: ENABLING PATIENT SELF-MANAGEMENT IN THE ACUTE PHASE OF TREATMENT FOR HEAD AND NECK CANCER

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Background and Context: Patients with head and neck cancer (HNC) are at risk for poor outcomes due to the multimodal nature of treatment plans and high potential for treatment related toxicity. When toxicities are not well managed, symptoms can severely impact quality of life, leading to treatment delays and hospitalization

Aim: Whilst there is a myriad of information given to HNC patients along their trajectory of care, processing and embedding it in their daily routines can be a challenge. As acute toxicities develop, patients often are unable to self-manage and start to spiral downwards. Clinicians must partner with patients to manage toxicities to enable them to thrive during the treatment phase.

Strategy/Tactics: Our academic health sciences cancer center considers survivors to be "people affected by cancer at any time along their cancer journey". With a focus on the active treatment phase, an innovative approach to partnering with patients has been implemented in a collaborative nurse led and Nurse Practitioner managed drop-in symptom management clinic for patients receiving radiation or combined treatment regimes

Programme/Policy Process: The nursing team provides care, including focused assessments and treatment of symptoms, as well as education. The model of care that involves forming partnerships with patients and families to enable and empower them to engage in self-management, as they care for their treatment toxicities.

Outcomes/What was learned: The collaborative role of the Nurse Practitioner and Specialized Oncology Nurses empowers patients in the management of symptoms such as pain, nausea, vomiting, constipation, xerostomia, odynophagia, taste changes, lack of appetite, dehydration and skin reactions. Nurses are well positioned to provide the supportive care requirements during treatment delivery, to facilitate treatment completion so patients thrive to survive.

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USING DIGITAL TECHNOLOGY TO EMPOWER AND SUPPORT YOUNG ADULT (18–45 YEARS) CANCER SURVIVORS AND THEIR SIGNIFICANT OTHERS

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Background and Context: Barriers for young adult cancer survivors attending support programs include limited time, fatigue and lack of motivation (Rabin et al., 2011). A study by Meneses et al., (2010) found that young adult cancer survivors typically use the internet to seek information and network with other young adult cancer survivors. Following these findings, Cancer Council NSW (CCNSW) piloted a series of online webinars, to address some of the workplace and personal issues affecting young adult cancer survivors.

Aim: To deliver accessible, life stage appropriate information and support to young adult cancer survivors, and their significant others, regardless of location and time constraints. To work collaboratively and effectively with health, legal and human resource professionals to ensure that the latest research and information is disseminated.

Strategy/Tactics: To utilise a cost effective online webinar process working collaboratively and effectively with cancer survivors and allied health and business professionals to ensure the delivery and reach of evidence based information and support. Webinars are made available to be viewed later in an archive library.

Programme/Policy Process: CCNSW works with an online conferencing provider who manage and deliver the webinars as well as a social media agency who promote and recruit for webinar participants. CCNSW invites panellists, with relevant expertise to participate live, along with someone who has been affected by cancer to provide a lived experience.

Outcomes/What was learned: Using digital technology is an effective way to deliver programs to a wide audience. The first workplace webinar received 224 registrations and the second webinar, discussing the fear of cancer recurrence had 350 registrations. These numbers were in excess of what was anticipated. An exit survey reported that 100% of the people who watched the webinar live would register for future webinars and refer others to attend.

1. Rabin, C., Simpson, N., Morrow, K., & Pinto, B. (2011). Behavioral and psychosocial program needs of young adult cancer survivors. *Qualitative Health Research*, 21, 796–806.
2. Meneses, K., McNees, P., Azuero, A., & Jukkala, A. (2010). Development of the fertility and cancer project: An internet approach to help young cancer survivors. *Oncology Nursing Forum*, 37(2), 191–198.

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IRELAND'S APPROACH TO SURVIVORSHIP

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Background and Context: The number of cancer survivors in Ireland is predicted to double in the next 25 years. This is due to early detection and effective treatment combined with a growing incidence due to an ageing population. Our National Cancer Control Programme (NCCP) has identified survivor health and care needs as an urgent priority for development and established a National Survivorship Programme.

Aim: The aim of the Programme is to improve the quality of survivorship care in Ireland for cancer patients and their families.

Strategy/Tactics: Our strategic approach to meet this aim involves:
- Providing national leadership to drive developments
- Developing guidance for patients and healthcare professionals
- Empowering patients
- Integration between primary care, secondary care and the voluntary sector

Programme: We established a consultative forum to bring together patients, clinicians, policy makers and advocacy groups. The forum has developed an action plan which will be implemented using established structures and networks.

Components: A Patient Treatment Summary and Care Plan will be provided to all cancer survivors and their general practitioners after active treatment is complete. Information and guidance is being developed for patients and healthcare professionals. This includes guidance in recognising and addressing treatment side effects. Prevention and lifestyle advice will be delivered through established services and agencies. An integrated evidence-based system will be required to support the delivery of appropriate surveillance and follow up.

What was learned: The NCCP will facilitate national developments in survivorship care. This includes learning and adopting from good practice in Ireland and internationally. This is the beginning of a process in which collaboration within the health-service and with other agencies will increase communication, integration of services and alignment of strategic goals. A Patient Treatment Summary and Care Plan is now being implemented. This will empower patients and support primary care to provide lifelong survivorship care for any consequences of surviving cancer and its treatments.

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CHALLENGES IN THE DEVELOPMENT AND IMPLEMENTATION OF A NATIONAL FOLLOW UP POLICY FOR WOMEN WITH EARLY BREAST CANCER

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Background and Context: Policy makers internationally are seeking alternatives to follow-up care in an acute setting. In Ireland follow-up by oncologists has been the traditional approach. As breast cancer incidence grows and

Aim: The NCCP set out to develop and implement an evidence-based policy recommendation as to long-term clinical follow-up of women with early breast cancer in Ireland.

Strategy/Tactics: The policy development was overseen by a steering committee with representation from medical oncology, nursing, public health, general practice and patients. The approach was to
Critically examine evidence in the medical literature
Assess current utilisation of breast clinics for long-term follow up
Undertake focus group research with patients.

Evidence shows that long term hospital-based follow-up of women with non-metastatic breast cancer does not improve survival or quality of life when compared with follow-up in primary care[1]. In Ireland, 12% of women attending routine follow-up appointments were at least ten years post diagnosis. Discharge to primary care at five years could release 5% of total breast clinic appointments. Women highlighted issues such as attachment to specialist services, importance of communication and need for clarity as to where responsibility of care lies.

Programme/Policy Process: The agreed policy is that women with early breast cancer are discharged from hospital follow-up after five years, provided active treatment is complete. Critically, hospitals retain responsibility for coordinating annual follow-up mammography.

Outcomes/What was learned: Implementation of the policy has been supported by clearly outlining and communicating roles and responsibilities. Concerns in primary care related to general practitioner workloads rather than challenges to the appropriateness of the policy. A strategic approach to survivorship is required to meet the needs of the growing numbers of cancer survivors in Ireland and around the world.

974

EXTENDING ON ASSISTANT ACTIVITIES FOR BREAST CANCER PATIENTS IN HANOI – VIETNAM

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Background and Context: April 2009, Breast Cancer Club (BCC) established with assisted by National Cancer Hospital in Hanoi with volunteer of breast cancer survivors. 2012 website with the name Breast Cancer Network Vietnam (BCNV) & Pink Tie Club (PTC) continuously established for supply more extending information for other Breast Cancer Patient (BCP) in other provinces in Vietnam (VN)

Aim: To extend, support, update & more assistant activities for BCP in VN for fighting with cancer & improvement living quality.

Strategy/Tactics: To assist, inform, consult, encourage, and help for BCP in long-term to more understand on treatment, living & fighting with cancer not only in Hanoi, but also for other BCP and their relative people in VN.

Programme/Policy Process/Monthly meeting in BCC & PTC: Explain for BCP in their questions; Consulting by cancer doctors and oncologists; Experience discussion & sharing with new cancer comers; Free distribution cancer documents for BCP & their relative; Conduct exercises practice after surgery & during chemotherapy, radiotherapy; Using foods and drinking for BCP; Charity for poor BCP; Relax activities in cancer community.

Support, update in website BCNV: Sharing cancer histories; Introduction new medicines, supplement, consulting treatment, monitoring experiences, working; organize events, workshops, forums; Supply information activities & all other consideration for BCP & others people.

Outcomes/What was learned: BCP members are increasing monthly. All BCP are very happy to share all thinking in the clubs that they could not talk in living community. BCC, BCNV & PTC become very good forums for BCP & their relatives in update information, positive activities & optimists during cancer treatment as well as improvement living quality. We apply attending 2014 world conference in Australia to more learn, collect, receive knowledge, experience from oncologists, researchers & cancer survivors in the world for continuing communication to fight with cancer in community of VN.

1. Ms. Ha Thu Hoang -Breast Cancer Survivor – Textile Institute Add.: No. 478 Minh Khai Str. Hanoi- Vietnam Email: hoangthuha62@gmail.com Mobile phone: 00-84-98500446
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TRENDS IN CANCER INCIDENCE AND MORTALITY IN VENEZUELA BETWEEN 1990 AND 2010

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Background: Cancer is the second leading cause of death in Venezuela. Understanding trends in cancer incidence and mortality is important for assessing the current situation and evaluating progress, requirements to undertaking any cancer program and allocating resources to different control strategies.

Aim: To determine the changes in the temporal distribution of cancer in Venezuela between 1990 and 2010.

Methods: We conducted an observational, descriptive, cross-sectional and retrospective study on the trends of cancer incidence and mortality in Venezuela during the years 1990–2010. The data came from the National Cancer Registry and Mortality Yearbook of the Ministry of Health. A generalized linear model with Poisson regression was adjusted to set the trend of cases, standardized rates and mortality to incidence ratio.

Results: One in seven deaths in Venezuela corresponds to cancer. The incidence and mortality for females and males remained constant over the study period. Incidence rates and higher cancer mortality in men were prostate, lung, stomach, colon and rectum. For females were breast, cervix, lung, colon and rectum, and stomach. Overall, the average annual change in incidence and mortality rates for males and females has decreased. However, the average changes from breast, prostate and colorectal cancer has increased. Under 15 years, leukemia is the leading cause of death in both genders.

Conclusions: Existing data confirm the magnitude of the problem of cancer in Venezuela. The analysis derived from this statistical information will be an important component of cancer control programs. The impact of these data can be recognized by constantly analyzing how health system can provide successful intervention in reducing the burden of cancer in the country.

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INCIDENCE AND MORTALITY OF BREAST CANCER IN VENEZUELA: PAST AND CURRENT TRENDS

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Background: Breast cancer is currently a public health problem for developing countries, so setting priorities for control should be based on timely, accurate and comparable epidemiological information.

Aim: To determine the trend in the incidence and mortality of breast cancer in Venezuela for the period 1990–2010 and estimate the incidence and mortality in 2014.

Methods: We conducted an observational, descriptive, cross-sectional and retrospective study on the behavior of incidence and mortality from breast cancer. The data come from the National Register of Cancer and Mortality Yearbook Ministry of Health. A generalized linear model with Poisson regression was adjusted to determine the trend and to estimate the number of cases and deaths for the years 2011–2014.

Results: Breast cancer incidence increased from 1560 cases in 1990 to 4073 cases in 2010, an annual increase of almost two points (99% Confidence Interval). Breast Cancer killed 1697 women in 2010 of who almost half were below 50 years. In general, one in six cancer deaths in Venezuelan women correspond to breast cancer. We projected 4854 cases and 2068 deaths in 2014.

Conclusions: The incidence and mortality of breast cancer in Venezuela is increasing. More policy attention is required to strengthen established health-system responses to reduce breast cancer. However, further analytical epidemiological research is needed to identify the potential risk factors involved in the increase in the prevalence of breast cancer among Venezuelan women. These data will allow the correct design and implementation of a breast cancer control program in our country.

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NATIONAL BREAST CANCER CONTROL STRATEGY IN YEMEN

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Background: In Yemen, breast cancer is a leading cancer. Nevertheless, the current efforts in approaching its burden appear to be patchy and fragmented due to the lack of a comprehensive national breast cancer control strategy (NBCCS).

Aim: The present paper is aiming at describing the actions done to develop the NBCCS based on registry data and portraying the challenges for such strategy.

Methods: Breast cancer data from the population based Aden Cancer Registry for the years 2002–2006 were used to estimate the needed resources regarding raising awareness, early detection, diagnosis, treatment, rehabilitation and palliative care services. A qualitative participatory approach for the roles and responsibilities of the developing partners and the need for in the development process were critically analyzed.

Results: The paper details the context through which the strategy could be developed starting from the purpose of providing a framework for an integrated, comprehensive set of activities covering all aspects related to breast cancer, passing through the characteristics of the NBCCS, the guiding principles and steps of development, the process of development and the possible related challenges. Finally, the need for NBCCS to guide the existing and future actions with a set of evidence–based, cost–effective priority actions while being sensitive and realistic to resource opportunities and constraints was highly focused

Conclusions: NBCCS cannot be achieved by any single organization successfully and its development should be consortium–based. The necessary partnerships of many partners and their responsibilities were indicated within a comprehensive NBCCS.

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CREATING A RESEARCH RESOURCE FOR LESS COMMON CANCERS

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Background: In recent decades a considerable proportion of cancer research has focused on the five most common cancers – prostate, bowel, breast, lung and melanoma and as a result significant progress has been achieved in understanding these cancers, however less common cancers (other than those listed above) remain comparatively under researched.

Aim: The Forgotten Cancers Project aims to improve epidemiological understanding of less common cancers by examining associations between lifestyle exposures, common genetic variants and the risk of developing the disease. By recruiting 15,000 cases and 15,000 family controls, the project will act as a powerful research platform for use in validating future hypotheses as well as making a substantial contribution to international consortia to strengthening research into cancers where localised research is limited by small numbers of diagnosed cases and generally higher mortality.

Methods: Any Australian diagnosed as an adult, with a less common cancer, is eligible to participate. The project is a population-based, family-case-control study, collecting data on lifestyle and occupational exposers, family history, and sampling DNA from saliva for genotyping and future biomarker studies. Registration and participation relies on online voluntary self-registration which relies on effective media and marketing campaigns.

Results: Currently 842 cases and 492 controls are participating in the project. Increased participation in recent months correlates with more widespread marketing. Cases are primarily been Victorian residents reflecting the levels of publicity in Victoria compared to other states. It's anticipated with increased national awareness that interstate registration will improve.

Conclusions: By collecting lifestyle, occupational and family history data and DNA from around 30,000 participants, The Forgotten Cancers Project will offer a unique opportunity to further research into less common and under researched cancers with an aim to better inform prevention and improve survival and treatment for those diagnosed in the future.

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CANCER CONTROL IN MALI – LOCAL PERCEPTIONS OF CANCER TREATMENT AND PRIORITY SETTING AMONG HEALTH CARE PROVIDERS

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Background: Cancer is a global problem with a disproportionate burden in the developing world. The lack of infrastructure, skilled professionals and access to effective cancer treatments has led to a growing geographical disparity in cancer control. There have been concerted efforts to make cancer a priority agenda area in many developing countries' health sectors through collaborations with international partners. However, it is largely unknown whether this priority setting is congruent with the perspective of front-line oncology providers.

Aim: To examine cancer knowledge and perceptions among oncology physicians at a hospital in Mali, within the context of Mali's national cancer control policies.

Methods: A qualitative questionnaire was distributed among physicians that were involved in the care of cancer patients at Centre Hospitalier Universitaire du Point-G in Bamako Mali. Demographic data and clinical experience in oncology was also recorded. Descriptive statistics was used to describe the findings.

Results: Out of 22 surveys distributed, 16 were completed and returned (72%). Average age of respondents was 44 (range 29–61) with average length of clinical experience of 15 years. Tobacco (63%) was identified as the most preventable cause of cancer, followed by infectious diseases. 100% agree or strongly agree that cultural factors impedes diagnosis and treatment of cancer. 62.5% disagree or strongly disagree that the current health financing system allows access to cancer care. A lack of radiotherapy machines, trained oncology personnel, lack of essential medications and palliative care were seen as significant barriers to treating cancer patients. 70% of respondents identified establishing a cancer registry as an important national priority.

Conclusions: Cancer remains a significant priority among oncology physicians in Mali, though differing levels of awareness, political factors and infrastructure deficiencies act as barriers for improved cancer control. Soliciting of perspectives from front-line providers can guide international partnerships and agenda setting in the future.

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AS TIME GOES BY: EXPLORING CANCER SURVIVAL DIFFERENCES ACROSS SMALL AREAS AND TIME PERIOD

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Background: Survival is a key measure of the effectiveness of cancer patient care. Survival has been improving for many cancers, and Australia has among the highest cancer survival in the world. However, there are known disparities in cancer survival across small areas in Australia, with remote areas commonly having lower survival than urban areas. It was unclear how these disparities differed across time.

Aim: To understand how small area patterns changed over time for two commonly diagnosed cancers in Queensland, Australia: breast and colorectal cancer.

Methods: Using routinely collected data from the Queensland Cancer Registry, we examined breast and colorectal cancer cause-specific survival using flexible parametric models for cancers diagnosed during 1996–2010 and followed up to the end of 2011. The risk of death within five years was examined across three different time periods (1996–2000, 2001–2005 and 2006–2010) and 478 statistical local areas in Queensland. Models were adjusted for age, tumour stage at diagnosis, and for colorectal cancer, sex. Modelling was conducted within a Bayesian framework to enable robust and reliable estimates to be obtained.

Results: Consistent improvement in survival was seen across all small areas, for both breast and colorectal cancer. After adjusting for tumour stage, colorectal cancer survival continued to show improvement in both time periods, while breast cancer survival only improved in the most recent time period. Despite the state-wide improvements in survival, patients residing in more remote areas had poorer survival than those residing in urban areas for both breast and colorectal cancer.

Conclusions: Improvements in survival are being shared equally across Queensland for breast and colorectal cancer patients. However, important survival disparities remain for cancer patients living outside of urban areas.

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ROUTES TO DIAGNOSIS, A NEW MEASURE FOR AWARENESS AND EARLY DIAGNOSIS INITIATIVES

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Background: Cancer survival in England is lower than the European average, which has been partly attributed to later stage at diagnosis. Understanding the impact of different routes to diagnosis on patient survival informs targeted implementation of awareness & early diagnosis initiatives and enables assessment of their success.

Aim: This innovative study defines a methodology by which the route the patient follows to the point of diagnosis can be categorised to examine demographic, organisational, service & personal reasons for delayed diagnosis. Initial results have influenced the direction and focus of the national cancer agenda with the routine monitoring of Emergency Presentations (EPs) now a high priority.

Methods: Administrative hospital patient episodes data are combined with Cancer Waiting Times, cancer screening and cancer registration data. The method uses the diagnosis date as an end-point and then works backwards to identify the likely referral route. Every case of cancer diagnosed in England in 2006–2010 (1,272,584 cases) is categorised into one of 8 Routes to Diagnosis.

Results: Most cancers were diagnosed through one of EP (23%), Two Week Wait (27%) or GP Referral (27%) with the other five routes making up 23%. These proportions vary considerably by cancer, with a high percentage of EPs in cancers of the brain (63%), pancreatic (48%) & lung cancer (38%), compared to melanoma (3%) & breast cancer (5%). The proportion of EPs also increases with increasing age. The substantially lower relative survival in the EP Route compared to other routes indicates that this distinction is of high clinical significance.

Conclusions: Routes to Diagnosis can be used to explore reasons for delayed diagnosis and identify areas for further research. Understanding the reasons behind the difference in EP rates will help commissioners to raise awareness of early detection & treatment of cancer in high risk patient groups including the elderly.

1. Elliss-Brookes L et al. (2012) Routes to Diagnosis for cancer – Determining the patient journey using multiple routine datasets. *BJC* 107: 1220–1226

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TACKLING INEQUALITIES THROUGH CANCER INTELLIGENCE: KEY METRICS TO ENABLE CHANGE

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Background: Improving Outcomes: a strategy for Cancer makes clear that it is impossible to tackle inequalities without data to inform activity and scrutinise progress. In 2012 we defined key cancer metrics to summarise and present information that was publicly accessible for England. The baseline report "Cancer and Equality: key metrics" was published in June 2013.

Aim: An annual report will be published in June 2014 with updated results.

Methods: Data included in the report have been taken from a variety of national data sources. Basic epidemiology data (incidence, mortality and survival) are included to provide context. Some of the metrics highlight where differences within equality groups exist, whilst others show similarities between groups. Other metrics highlight current data gaps and progress in filling them.

Results: The results are presented to give an overview of inequalities and to examine changes, for example:

The proportion of older people being diagnosed through the Two Week wait route has increased significantly across many cancer sites between 2006 and 2010; this route is associated with a higher survival rate compared to the Emergency Presentation Route. Many older people are still diagnosed as an emergency.

Overall, in 2011/12, women were more likely to report a poorer experience of care, as were younger people (aged 16–25).

For cancers registered between 2004 and 2006 an ethnic group was assigned to 76% of patients, the latest data show an improvement to around 95%.

Conclusions: The equality metrics provide an overview of national trends, providing insight for commissioners, providers and policy makers alike. Cancer intelligence is enabling a better understanding of the reasons for differences between equality groups and will therefore help us to address these and improve outcomes for all patients. This report holds all of us to account for cancer care and treatment which is equitable.

1. http://www.ncin.org.uk/cancer_type_and_topic_specific_work/topic_specific_work/equality

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KNOWLEDGE, ATTITUDE AND PRACTICES OF CERVICAL CANCER PREVENTION AMONG WOMEN ATTENDING HIV TREATMENT CENTRE IN LAUTECH TEACHING HOSPITAL, NIGERIA: A QUALITATIVE STUDY

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Background: Certain types of Human Papilloma Virus (HPV) have a strong link with cervical cancer. HIV-infected women have a higher risk of oncogenic HPV infection and cervical cancer.

Aim: The aim of this study was to assess the knowledge, attitude and practices of women attending HIV treatment centre in Ladoke Akintola University of Technology (LAUTECH) Teaching Hospital, Osogbo, Osun State, Nigeria.

Methods: A purposive sampling technique was used to select 38 participants in 4 focus groups discussion. Respondents were in homogenous groups based on their age and marital status. A pretested focus group guide was used to facilitate the discussion. Responses were tape-recorded, transcribed and analysed thematically.

Results: Over half of the respondents were married. Four themes emerged: Poor knowledge ofcervical cancer and its causes, poor knowledge about HPV infection and its prevention, fear and disbelief about their perceived risk of cervical cancer, poor screening practices for cervical cancer. Most the respondents had heard of cervical cancer and considered it a major health problem in the general population causing morbidity and mortality. Some participants had fair knowledge about pap smear and signs and symptoms of cervical cancer but majority lack knowledge about it causes especially about HPV infections and its prevention. Participant expressed fear and disbelief about their increased risk of HPV infection and cervical cancer. Reasons for not undergoing screening for cervical cancer include; lack of information about the screening, absence of symptoms and fear of being diagnosed with cervical cancer. Majority want to be screened if the services are affordable. Participants were willing to vaccinate their children against HPV and desired more information about cervical cancer and HPV infection.

Conclusions: Routine consultation in HIV treatment centres should integrate educating client about their risk for cancers most especially cervical cancer among women into their care and provision of screening services for them.

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THE EFFECT OF SCALP COOLING ON CHEMOTHERAPY-INDUCED HAIR LOSS ON BREAST CANCER PATIENTS

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Aim: This study has been carried out empirically on the patients who have taken chemotherapy treatment because of breast cancer with the purpose of determining the effect of the scalp cooling method on hair loss due to the chemotherapy at the Department of Chemotherapy Unit in a university hospital.

Methods: Totally 50 individuals, 25 of them are in study group and the rest 25 are in control group, who are administered chemotherapy treatment for breast cancer. All the patients within the research have been informed about the applications and their informed consent have been obtained. Also ethics committee approval has been received. “Introductory Information Form Researcher and Patient Hair Loss Evaluation Scale” has been used in the acquisition of the data.

Results: In this study the patients in both groups have similar demographic features. After the scalp cooling method which has been carried out in accordance with Researcher and Patient Evaluation Scale, the study group has kept present score at the rate of 72 % when the score has increased in 100 % of the individuals in the control group. When the hair loss score of the patients before and after the treatment is compared a significant hair loss hasn’t been observed on the patients who are in the study group before the chemotherapy. Although a significant change in hair loss hasn’t been seen at the next cure, it is thought that the difference between the scores is significant statistically ($p < 0.05$). Before the chemotherapy a significant hair loss hasn’t been seen on the patients in the control group but after the chemotherapy it has been identified that hair loss is at a more serious level statistically when compared to the study group ($p < 0.05$).

Conclusions: In accordance with these results the findings are discussed and some suggestions are put forward.

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NEED FOR ACTION: PREVENTIVE CARE FOR CHRONIC DISEASE RISK FACTORS WITHIN COMMUNITY MENTAL HEALTH SERVICES

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Background: People with a mental illness experience a significant burden as a result of cancer and other chronic diseases, contributed to by an increased prevalence of health risk behaviours such as smoking, nutrition, alcohol over-consumption, and physical inactivity (SNAP). Despite evident need for preventive care within health services to address such risk behaviours among this group, little research internationally has investigated its provision.

Aim: This study investigated the prevalence of SNAP risks, the receipt of preventive care for these risks, and acceptability towards receiving such care among a sample of Australian community mental health clients.

Methods: A cross-sectional telephone interview study was conducted within one local health district in Australia. Clients (n = 558) of community mental health services were asked about their engagement in SNAP health risk behaviours, their receipt of preventive care (assessment, advice, and referral) for SNAP risks, and their acceptability towards receiving such care. Associations between receipt of care and client and service characteristics were explored.

Results: Alcohol consumption was most commonly assessed (76%), followed by smoking (73%), physical activity (57%), and nutrition (26%). Smokers were most commonly offered referral for treatment (42%), compared to alcohol overconsumption (32%), inadequate physical activity

(35%), and inadequate nutrition (19%). Preventive care was more likely provided to clients who reported a greater number of appointments in the previous 12 months.

Conclusions: The findings demonstrate the sub-optimal provision of preventive care within community mental health services, and highlight the need for such services to improve preventive delivery. Intervention research is required to determine effective strategies to increase such care in community mental health settings.

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MINDFUL WEIGHT LOSS: A SYSTEMATIC REVIEW OF THE EFFICACY OF MINDFULNESS INTERVENTIONS IN TERMS OF WEIGHT-RELATED OUTCOMES

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Background: Overweight and obesity increase risk for chronic disease including cancer, cardiovascular disease, and diabetes. Therefore, weight loss is an important component of cancer and chronic disease prevention efforts [1]. Mindfulness has received a lot of attention in recent years as a strategy for managing thoughts, feelings and achieving behaviour change [2].

Aim: The current review aims to determine the efficacy of mindfulness-based interventions in terms of reductions in and maintenance of weight.

Methods: A comprehensive search of the PubMed, PsycInfo, Medline and CINAHL databases was conducted in order to identify studies examining weight related outcomes of mindfulness interventions. Records had to contain a mindfulness term, an intervention term and a weight-related term in order to be identified by the search. Studies were also required to be published in English and involving adult participants to meet criteria for inclusion. Of 1578 records, 17 studies met the inclusion criteria for the current review and two articles were sourced from reference lists of included studies.

Results: Interventions reviewed included mindfulness-based stress reduction, acceptance and commitment therapy, and mindful eating strategies. Approximately half of the interventions reviewed included a control group. Results indicate promise of mindfulness-based interventions for weight loss in adults. However, the amount of weight loss was modest in most cases.

Conclusions: Small reductions in weight are likely to be associated with substantial reductions in cancer risk [3]. Although weight loss is complex and often difficult to achieve mindfulness interventions provide a useful strategy for adults wanting to lose small amounts of weight or prevent weight gain. Further research is needed to compare different mindfulness approaches to weight loss such as mindfulness-based stress reduction, mindfulness-based cognitive therapy and acceptance and commitment therapy interventions to determine which approaches are likely to be most effective.

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DISEASE PRONE BEHAVIOR PATTERN AND THEIR INTERACTION WITH SMOKING

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1. *CANCER CONTROL AND PREVENTION, PRO ARS, LODZ, WA, POLAND*

Background: Tobacco use is a large scale problem in the world. It is argued that there is now sufficient evidence to regard behavioral pattern, in particular the relationship between physical variables, like smoking, stress and coping strategies are synergistic (1, 2, 3).

Aim: The present study tests the hypothesis that diseases prone behavior pattern and smoking habit interact in a synergistic fashion in healthy probands.

Methods: From the global healthy probands sample (n = 1 087 both gender aged 40–60 we were selected daily smoking group (n = 117) and (n = 128) non-smoking control group (men and women). The persons were administered The Eysenck Personality/stress Inventory and smoking questions. In the potentially healthy probands we are classified people into one of four behavior pattern. ANOVA and MANOVA were used for statistical analysis.

Results: The potentially healthy, daily smoking probands was characterized by Type 2 (overarousal) and this type showed the best synergistic interaction with smoking. The interaction was significant at $p < .0001$, $R = 0.3772$. The Type 1 cancer prone (understimulation) took the second place at $p < .0023$, $R = 0.2637$. The non-smoking group was statistically significant in the Type 3 (ambiwalence) at $p < 0.0076$, $R = 0.2323$, and Type 4 (personal autonomy) at $p < 0.0044$, $R = 0.2471$.

In questions about knowledge and attitudes towards smoking: 67% of adults smoking and 78% adults' non-smoking believe that smoking causes lung cancer, 56% smoking and 69% non-smoking believe that smoking causes heart attacks.

Conclusions: In Polish sample from which we are selected smoking probands, we had found synergistic correlation between smoking, behavior pattern and coping strategies. In future could like be tested a longitudinal study in healthy probands in predicting cancer-prone and comparable our research in peoples from other countries.

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CANCER PRONE BEHAVIOR PATTERN AND THEIR INTERACTION WITH SMOKING HABIT

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Tobacco use is a large scale problem in the world. It is argued that there is now sufficient evidence to regard behavioral pattern, in particular the relationship between physical variables, like smoking, stress and coping strategies are synergistic (Eysenck H J, Grossarth-Maticek R, Everitt B, 1991; Carver Ch S, Antoni M H, 2005).

Aim: The present study tests the hypothesis that diseases prone behavior pattern and smoking habit interact in a synergistic fashion in healthy probands.

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Conclusions: In Polish sample from which we are selected smoking probands, we had found synergistic correlation between smoking, behavior pattern and coping startegies. In future could like be tested a longitudinal study in healthy probands in predicting cancer-prone and comparable our research in peoples from other countries.

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LIFETIME PHYSICAL ACTIVITY AND BREAST CANCER RISK, A CASE-CONTROL STUDY IN KELANTAN, MALAYSIA

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Background: Many risk factors have been identified for breast cancer, some are non modifiable (such as age) or particularly challenging to modify (such as reproductive factors). Studies have shown that the risk of getting breast cancer is lowered by physical activity which is also a modifiable risk factor for many other non communicable diseases, however the risk reduction (if any) has never been assessed in the Malaysian population and there is a perception that the younger generation is becoming less physically active. Identifying any risk reduction could help in health policy formulation with regards physical activity especially in primary and secondary education in Malaysia

Aim: To examine the association between breast cancer and lifetime histories of physical activity

Methods: This is a case control study with 120 women aged 35–75 receiving treatment for breast cancer in Universiti Sains Hospital, Kelantan and 120 matched (age group and ethnicity) controls.

Data was collected by trained enumerators through interviews using a guided questionnaire. Data on physical activity from household/outdoor chores, occupation, sports/recreation for four age periods (onset of menstruation to age 21 years; age 22–34 years; 35–50 years and above 50 years) were collected using a modified version of the questionnaire developed by Friedenreich et al.

Results: The study is currently on-going and data is being actively collected from controls. Preliminary analyses on 120 cancer cases and 50 controls have shown that family history of cancer was strongly associated with breast cancer risk (odds ratio predicted by the model: 2.16). There was a reduced risk of breast cancer with an increase in metabolic equivalent (MET) value by one point among women aged 30–50 in the occupation category

Conclusions: Based on preliminary analyses on a sample of Malaysian women, family history is a predictor of breast cancer and physical activity may reduce the risk.

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ALCOHOL CONSUMPTION AND MORTALITY IN THE KOREAN MULTI-CENTER CANCER COHORT (KMCC) STUDY

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Background/Aim: To examine the association between alcohol consumption and total mortality among Korean adults.

Methods: Patients included 19,828 subjects of the Korean Multi-center Cancer Cohort who were cancer-free at baseline enrollment reported their lifestyle factors between 1993 and 2008, including the status of alcohol consumption primarily from the national death certificate. Alcohol consumption (ie, soju, beer, wine, sake, gin, takju) was assessed at cohort entry using a questionnaire. Two thousand six hundred seventy-six were excluded on the grounds that they were founded out as having no data about amount of alcohol consumption. Final study populations are 17,152. Cox proportional hazard regression model was used to estimate the hazard ratio (HR) of alcohol consumption for total mortality as adjusted for age, gender, the geographic area and the smoking status, the education level and the body mass index (BMI).

Results: During the follow-up period, including 499 cancer mortality cases with a total of 151,150 person-years, 7,044 subjects (41.1%) were considered as drinkers and the majority drank soju (70.4%). Alcohol consumption was significantly associated with an increased risk of total mortality (p-trend < 0.05). Past and current drinkers compared with no drinking was associated with an increased risk of total mortality (past drinker: HR, 1.40; 95% CI, 1.12 to 1.75, current drinker: HR, 1.20; 95% CI, 1.03 to 1.39). The increased risk of mortality appeared to be greater among current smoking (HR, 1.51; 95% CI, 1.27 to 1.79) and old (HR, 1.08; 95% CI, 1.07 to 1.09) and lived women in some specific areas. The amount of alcohol intake was possibly associated with total mortality (>504 g/wk: HR, 1.08; 95% CI, 0.90 to 1.29).

Conclusions: Consuming alcohol may increase the risk of total mortality, particularly among smoking and old women in Korea, yet the effects of alcohol amount on mortality were suggested.

3. doi:10.1111/j.1463-1326.2011.01464.x.

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PATTERNS OF CHILDHOOD CANCER INCIDENCE IN SAUDI ARABIA (1999- 2008)

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Background: Childhood cancer is a rare disease. Each year nearly 100,000 children younger than 15 years of age die from cancer; the majority of them residing in developing countries with low resources

Aim: This study aims to describe the patterns of childhood cancers in Saudi Arabia over a period of ten years (1999–2008)

Methods: This is a descriptive retrospective study based on secondary data from the Saudi Cancer Registry from 1999 to 2008. All Saudi cases (males and females), under the age of 15 years, who were diagnosed with cancer during the study period, were included in this study

Results: Childhood cancer in Saudi Arabia, in the period between 1999 and 2008, accounted for about 8% of total cancer cases. The most common encountered cancers were leukemia (34.1%), followed by lymphoma (15.2%), brain (12.4%), and kidney cancers (5.3%). Leukemia rates were found to be similar in both genders. Lymphoma and brain cancer rates were higher among males. Kidney cancer rates were higher among females. The overall incidence of childhood cancers increased from 8.8 per 100,000 in 1999 to 9.8 per 100,000 in 2008. The incidence rates of cancers per 100,000 in the years 1999 and 2008 were generally higher among males, (9.4 and

11.5 in males vs. 8.3 and 8.1 in females). The highest incidence rate, in the surveyed years, was apparent in the birth to age 4 group

Conclusions: Cancer is an important public health problem in Saudi Arabia and a major ascending contributor to mortality and morbidity in children. More studies are required to describe the patterns of childhood cancers, related etiology, and risk factors in Saudi Arabia

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OVERDIAGNOSIS DUE TO MAMMOGRAPHY SCREENING PROGRAMS: EVIDENCE FROM SOUTH AUSTRALIA

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Background: Mammography screening is effective in reducing breast cancer (BC) mortality, however concerns have been raised that it may also lead to over-diagnosis, i.e. the detection of cancers that would never have emerged clinically in a woman's lifetime had she not participated in screening. The extent of over-diagnosis due to mammography is contested, with estimates varying from 0 to 54%.

Aim: To estimate the extent of overdiagnosis due to mammography screening in South Australia using two different methodologies.

Methods: Method 1 used a case-control design to compare screening histories for women with and without BC. Odds ratios were determined across different time intervals after screening to allow for lead-time effects. Cumulative incidence (CI) was calculated by applying odds ratios to background reference rates, derived from projection of pre-screening incidence trends. Over-diagnosis estimates were obtained by comparing CI with and without screening for women aged 45–85 yrs.

Method 2 used a lead-time modelling approach that applied estimates of lead-time duration and screening sensitivity, and screening participation data to adjust the expected background incidence, by iteratively adding the number of cancers expected to be brought forward by screening each year, then subtracting this number from the pool of cancers in future years. Over-diagnosis was calculated by comparing lead-time-adjusted and observed CI for women aged 40–84 yrs.

Results: Estimates of over-diagnosis from the case-control study were 7.6% for invasive BC and 13.8% for all BC. These estimates are likely to be inflated due to higher breast cancer risk in screening participants compared with non-participants. Estimates from the lead-time modelling approach were 8.7% and 12.3% respectively, but these estimates assume no other influences on background rates.

Conclusions: Our findings suggest a modest level of over-diagnosis due to mammography screening, which is consistent with findings from screening trials and the recent UK review of mammography screening.

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COLPOSCOPY ACCURACY IN A NON-CYTOLOGY BASED CERVICAL CANCER SCREENING PROGRAM

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Background/Aim: To evaluate the test characteristics of colposcopy performed on women with positive visual inspection with acetic acid (VIA) and/or human papillomavirus (HPV) tests using histology as gold standard.

Methods: A total of 30,773 women were screened by VIA and high-risk HPV test. Hybrid Capture 2 (HC2) technique was used for HPV detection. All women positive on VIA had colposcopy immediately and the HC2 positive women were recalled later for colposcopy. Among the test negative women 8.7% had colposcopy. The International Federation of Cervical Pathology & Colposcopy (IFCPC) 2011 nomenclature was used for classification of abnormalities. All women with Grade-1 or worse lesions had biopsies. Biopsies were also obtained from HC2 positive women with normal colposcopy.

Results: Colposcopy and satisfactory biopsy reports were available from 2466 women. Overall strength of agreement between colposcopy and histologic classification of cervical neoplasias was poor (kappa = 0.17). Previous studies evaluating colposcopy in cytology-based programs also observed such poor agreement. Agreement was better when colposcopy was done in HC2-positive than in VIA-positive women. Sensitivity of colposcopy to detect high-grade squamous intraepithelial lesions (HSIL) was 84.8% after correction of verification bias, again comparable to sensitivities of colposcopy on cytology-positive women. Positive predictive value of colposcopy was significantly higher in VIA-positive than in HC2-positive women. Random punch biopsies detected 13.6% of the HSILs in absence of colposcopic abnormalities and all of them were HC2 positive.

Conclusions: Sensitivity of colposcopy and agreement between colposcopic and histologic diagnosis are comparable between cytology based and non-cytology based cervical cancer screening programs.

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MORTALITY PROFILE OF WOMEN RECRUITED IN A 10-YEARS BREAST CANCER SCREENING COHORT

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Background: Low socio-economic status is associated with high mortality rates and some specific cause of death.

Aim: Evaluate the mortality profile of a low income breast cancer screening cohort.

Methods: Women aged over 15 years were recruited between 2004 and 2006 to participate in a breast cancer screening cohort and answer a risk factor inventory. Women 40–69 years old were invited annually to do a clinical breast examination and a mammography. Death causes were obtained from the Information Mortality System of Brazil (ICD-10).

Results: From 9.176 women recruited, 360 died (3.9%). The main causes of mortality were related to circulatory system (33.1%), neoplasms (25%), infectious and parasitic diseases (12.2%), respiratory (9.7%) and endocrine, nutritional and metabolic diseases (6.9%), and external causes (3.6%). Lung was the main neoplasms (17.8%), followed by breast, colon and cervical cancer, each one with 7.8%.

Half of women died between 50 and 69 years, but 10% died with less than 40 years. The main cause of mortality varies by age: infectious and parasitic diseases are the cause in women less than 40; circulatory system is the main cause in older one. The youngest has higher incidence of mortality by external causes (53.8%).

Fifteen women with breast cancer diagnoses died. Eight were due to breast cancer. The mean age of death was higher (p = 0.003) in women diagnosed with breast cancer (69.7; SD 12.7) than the total cohort population (57.6; SD 14.5).

Conclusions: The mortality pattern reflects the social vulnerability of the cohort, that have low educational level and high prevalence of smoking (32%). Unlike the general population, women in the cohort died at younger ages, have higher rates of mortality by lung cancer and external causes. The low mortality of breast cancer can be due to the short interval between diagnosis and treatment in the cohort.

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ASSOCIATION OF HISTORY OF DENTAL EXTRACTION IN PATIENTS WITH CARCINOMA OF THE ALVEOLUS OF THE MAXILLA AND MANDIBLE- AN AUDIT

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Background: The need for clinical awareness following dental extraction if there is no rapid resolution of the symptoms should be emphasized. Strategies to undertake oral health programs for the prevention, early diagnosis, and management as well as follow up of oral cancer are essential.

Aim: To assess the prevalence of dental extraction in patients with carcinoma of alveolus and gingiva in maxilla and mandible.

Secondary objective:
1) To assess oral hygiene status and duration of unhealed extraction wound for early detection of malignancy.
2) To find association of habits with oral cancer.
3) To identify the need for clinical awareness following dental extraction.

Methods: All patients diagnosed with oral cancer will be screened. The records will be reviewed for age, gender, occupation, medical history, reasons for dental extraction, nature of extraction, time interval between tooth extraction & doubt of any major problem, Post extraction signs & symptoms, habits, investigations prior to extraction, treatment done for post extraction problem, biopsy report, oral hygiene status, tumor site, TNM classification, and tumor stage will be recorded. Tumor sites, TNM classification in accordance with the UICC and treatment details will also be recorded.

Each patient will be evaluated for history of tooth extraction and later occurrence of tumor at the extraction site with variation in the histology of the tumor.

Results: After statistical analysis results will be presented.

Conclusions: If there is no resolution of symptoms within four weeks, biopsy of the tooth socket should be performed. It will help to decrease the morbidity by early diagnosis and prevention of oral cancer

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NEW CONSOLIDATED DECISION PRINCIPLES FOR SCREENING: A SYSTEMATIC REVIEW AND SYNTHESIS OF 45 YEARS OF EVOLVING GUIDANCE

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Background: In 1968, Wilson and Jungner published a seminal work entitled "Principles and practice of screening for disease". More than 40 years on, these principles are still widely cited, however, a number of subsequent modifications/new formulations have been proposed over the ensuing decades. There hasn't been a systematic/comprehensive study of how/why the principles are changing and what implications this has for types of evidence sought/used to support screening decisions.

Aim: To identify published work that presents principles for guiding population-based screening decisions, synthesize and compare them to Wilson and Jungner principles, and produce a new consolidated list of screening principles.

Methods: Systematic review. Multiple databases searched. Inclusion criteria: published in English; 1968 or later; described development of key principles/criteria/questions/frameworks; clearly presented as set/list; intended to guide population-based screening decisions. Analytic approach: identified sets of principles compared for basic characteristics (number, categorization, format); citation analysis to document formal linkages/cross-citations; all individual principles iteratively synthesized/consolidated into separate thematic categories.

Results: Thirty-six sets of decision principles identified. They varied widely in terms of number of individual principles, categorization and format. These 36 sets represented 312 unique principles. Each unique principle was allocated to 12 new consolidated decision principles that were categorized as: (1) disease/condition, (2) test/intervention and (3) program/system principles. Program/system issues were the focus of only three of Wilson and Jungner's ten principles, but six of our 12 consolidated principles and almost half of all unique principles identified in our review (154 of 312).

Conclusions: Our findings document a shift in screening principles from focus on disease/condition and test/intervention to program/system principles. This shift requires consideration of broader and more diverse evidence base, necessitating inclusion/translation of different sets of knowledge, expertise and perspectives. Our new consolidated decision principles for screening represent a useful contemporary resource for those tasked with making population-based screening decisions.

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THE OUTCOME OF CERVICAL CANCER SCREENING SERVICES INTEGRATED WITH PRIMARY HEALTH CARE: DOWN STAGING CERVICAL CANCER IN A RESOURCE POOR SETTING

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2. *Sydney Medical School, University Of Sydney, NSW, Australia*
3. *Cancer Council Australia, Sydney, NSW, Australia*
4. *Weil Cornell Medical College, New York, NY, USA*

Background: Due to lack of infrastructure and expertise to process the cytology-based screening tests, the incidence of cervical cancer is continuing to be high in India. There is evidence to show that if women have access to screening, the incidence can be brought down.

Aim: To evaluate the integration of a low-tech screening test using Visual Inspection with Acetic acid (VIA) and treating with cryotherapy services with the existing primary health care programme could potentially improve access to screening and contribute to reduction of incidence of advanced cervical cancer disease.

Methods: The Rural Unit of Health and Social Affairs (RUHSA), an outreach health care division of Christian Medical College, Vellore, Tamilnadu, India has been providing cervical cancer screening facility using Visual Inspection with Acetic acid (VIA) application by the trained outreach nurses in 18 of the sub-centers in the block (administrative unit of a district with 100,000 population) and treating with colposcopy guided cryotherapy at secondary care hospital since 2008.

Results: During the period, 5001 women were screened and of them 60 were VIA positive, 20 were treated with cryotherapy; 116 women had invasive cancer and of them 1, 5, 1, 24 were diagnosed to have stage IA, IB, IIA, IIB disease respectively and the remaining had IIIA and more advanced stage disease. Many of the women who had early disease were asymptomatic and identified while they visited the outreach health post for screening.

Conclusions: Providing VIA based cervical cancer screening, integrating with the existing primary health care programme by trained health care workers and then a single visit approach for colposcopy and management at secondary care hospital can prevent and down-stage cervical cancer in resource poor settings.

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TRENDS IN EPITHELIAL CELL ABNORMALITIES OBSERVED ON CERVICAL SMEARS (1992–2012) IN MUBARAK AL-KABEER HOSPITAL, KUWAIT

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Background: Cancer of the cervix uteri is the fifth most common cancer in Kuwaiti females (4.6%) with age standardized incidence rate of 6.8/

100,000. The relatively lower prevalence of cervical lesions and cancer may be related to sexual behaviour under the religious roles and the practice of circumcision.

Aim: The aim of this study was to document the changing trends in epithelial cell abnormalities (ECA) in cervical cytology in Mubarak Al-Kabeer Hospital (MAKH) Kuwait.

Methods: During a 21-year period (1992–2012) 140,404 cervical smears were studied in MAKH of which 135,766 were found satisfactory for reporting. Comparison of the ECA was done between three periods of seven years each. In the third period (2006–2012) Thinprep smears were examined.

Results: Satisfactory rates were better in the third period. Atypical squamous cells (ASCUS) were seen in 3212 cases (2.37%), atypical glandular cells (AGC) in 1092 cases (0.80%), low grade squamous intraepithelial lesions including human papilloma virus changes (LSIL) in 294 cases (0.22%) cases, and carcinoma in 118 cases (0.09%). Significant increase ($p < 0.001$) in the proportion of satisfactory smears, ASCUS and AGUS cases was noticed in the second and third period, compared to first. No major significant increase was observed among LSIL and HSIL cases during these years ($p > 0.05$). In carcinoma cases, an increase was observed between first and second period but again showed a significant decline ($p < 0.014$) in the later years.

Conclusions: The data shows that there was an increase in ASCUS and AGUS but no significant change in LSIL, HSIL and carcinoma over the years. LSIL seemed to be occurring at an early age, thereby making it essential to institute a screening program with high participation from young women.

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FUNCTIONAL POLYMORPHISMS IN CANCER STEM CELL MARKER GENE CD133 PREDICT LOCAL RECURRENCE AND DISTANT METASTASIS IN NON-SMALL CELL LUNG CANCER PATIENTS TREATED WITH DEFINITIVE RADIOTHERAPY

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Background: Cancer stem cells (CSCs) are believed to cause local recurrence, distant metastasis, radiotherapy and chemotherapy resistance.

Aim: We hypothesized that genetic variation in CD133 (the official name is PROM1), one of the most important marker genes of CSCs, may affect clinical outcomes among non-small cell lung cancer (NSCLC) patients treated with definitive radiotherapy.

Methods: We identified 393 patients with primary NSCLC between March 1998 and Feb 2009, who were treated with definitive radiotherapy at our institution. We genotyped four potential functional single nucleotide polymorphisms (SNPs) of PROM1 (rs2240688A > C; rs10022537A > T; rs7686732G > C; and rs3130T > C.) and estimated their associations with local recurrence-free survival (LRFS), distant metastasis-free survival (DMFS), and overall survival (OS) by Cox proportional hazards model.

Results: Only genotypes of rs2240688 were significant associated with LRFS, DMFS, and OS. Patients with the rs2240688AC genotype were associated with longer LRFS, DMFS, and OS than patients with the AA genotype ($P = 0.022$, 0.019, 0.039, respectively, by Cox model with adjustment for clinical characters). Patients with AC/CC genotypes of rs2240688 had longer LRFS, DMFS, and OS than patients with AA genotypes ($P = 0.016$, 0.018, 0.044, respectively, by Cox model with adjustment for clinical characters). In the stratification analysis, LRFS, DMFS, and OS associated with rs2240688 had contrary predictive trends in early disease stage [HR = 2.79, 95% CI (1.08–7.22); HR = 2.66, 95% CI (1.03–6.87); and HR = 3.26, 95% CI (1.23–8.61), respectively] and advanced disease stage [HR = 0.63, 95% CI (0.48–0.83); HR = 0.67, 95% CI (0.51–0.88); and HR = 0.64, 95% CI (0.48–0.85), respectively] by Cox model with adjustment for patients' characteristics. Furthermore, the results remained significant multiplicative interactions in multivariate Cox models, P value were 0.025, 0.039, and 0.021, respectively.

Conclusions: Our data suggest that functional SNPs rs2240688 in cancer stem cell marker gene PROM1 could predict radiotherapy and chemotherapy resistance among NSCLC patients, might be a promising biomarker of CSCs to predict prognosis and optimize treatment strategies.

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CYBERKNIFE RADIOSURGERY FOR SPINAL LESIONS: EXPERIENCE IN 21 CASES

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Background: The role of stereotactic radiosurgery for treatment of intracranial lesions is well established. Its use for the treatment of spinal lesions has been limited by the availability of effective target-immobilizing devices. Conventional external beam radiotherapy lacks the precsion to allow delivery of large doses of radiation near radiosensitive structures such as spinal cord

Aim: The Cyberknife is an image-guided frameless stereotactic radiosurgery system that allows for the radiosurgical treatment of spinal lesions. This study evaulted the feasibility and effectiveness of spinal lesions with Cyberknife.

Methods: In this prospective cohort evaluation of a spine radiosurgery technique, 24 spinal lesions in 21 consecutive patients were treated with radiosurgery technique (7 cervical, 11 thoracic, 4 lumber, and 2 sacral). There were 6 benign tumors and 18 malignant lesions. All does plans were calculated on the basis of computed tomographic images acquired from 1.25-mm slices with inverse treatment planning technique. Radiosurgical circular cones ranging in diameter from 5 to 40 mm were used.

Results: Tumor dose was maintained at 12 to 39 Gy to 80% isdose line (mean, 24 Gy) and 1 to 5 fractioned. Canal volume receiving more than 8 Gy ranged from 0.0~1.23 cm^3 (mean, 0.2 cm^3). No acute radiation toxicity or new neurological deficits occurred during the follow-up period (range, 3~6 mo; mean, 4.3 mo.). Axial and radical pain fully improved in 11 of 13 patient and 2 partial improved than before treatment.

Conclusions: The major potential benefits of radiosurgical ablation of spinal lesions are short treatment time in an outpatient setting with rapid recovery and symptomatic response. This technique offers a successful therapeutic modality for the treatment of a variety of spinal lesions as a primary treatment or for lesions not amenable to open surgical techniques, in medically inoperable patients, in lesions located in previously irradiated sites, or as an adjunct to surgery.

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OUTCOME OF SUPPORTIVE MANAGEMENT IN THE PREVENTION OF CHEMOTHERAPY INDUCED NAUSEA AND VOMITING IN A RESOURCE LIMITED SET UP –NURSE EXPERIENCE

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Background: Chemotherapy administration to patients with confirmed malignancies and are scheduled to receive different regimes of chemotherapeutic agents and regimes. Supportive management in the prevention of Nausea and vomiting by use of 5-HT_3 receptor antagonistic, cortico steroid, hydration and health education.

Objectives:

i) To describe the nurse experience in supportive care of patients undergoing chemotherapy.
ii) Highlight the challenges encountered.

Method: A total of 1,500 patients have received chemotherapy in the set up between 2009 and 2013. These include both males and females. Patients who are prescribed for chemotherapy are counseled about the chemotherapy and vascular access is done by nurses, branulars are fixed on arm veins and sometimes the limps. The nurse administers a 5-HT_3 receptor antagonist (ondansetron) 8 mgs I.V bolus and a corticosteroid Dexamethasone 12 mgs which are only available options in the set up infusion 30 to 1 hour before chemotherapy. The nurse collect the already prepared chemotherapeutic agent in the lamina flow hood by the pharmacy person. The administration, observation, monitoring and counseling are done by the nurse and this takes place in a tent.

Results: Of the 1500 patients who received chemotherapy both male and female had the same experience –

- 112 (7.5%) reported nausea during and after chemotherapy.
- 16 (1.1%) vomited during chemotherapy
- 8 (0.5%) reported delayed vomiting
- 2 (0.1%) reported continued nausea and vomiting requiring admission for hydration
- 362 (91.8%) patients reported no nausea nor vomiting.

Conclusions: Administration of ondansetron and Dexamethasone with good hydration prevents chemotherapy induced nausea and vomiting. He nurse plays a very vital role in the care of patients receiving chemotherapy by ensuring that the patient are well educated about the chemotherapy, well hydrated and given the preventive medications.

1002

PREDICTING FEAR OF CANCER RECURRENCE IN GYNAECOLOGICAL CANCER SURVIVORS

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Background: Despite high 5-year survival for some gynaecological cancers (≤ 82%), little research addresses survivorship concerns in this group. Fear of cancer recurrence (FCR) has been ranked the largest concern/unmet need for gynaecological cancer survivors, evidencing associations with poor quality-of-life and increased psychological morbidity.

Aim: To investigate predictors of FCR in early-to-mid stage gynaecological cancer survivors including the under-researched impact of psychological flexibility, coping styles, and single-item interpretations of illness.

Methods: Using a cross-sectional postal-questionnaire, 145 women completed demographics and standardised measures of FCR (FCRI), cancer coping styles (MAC), interpretation of illness (IIQ), psychological flexibility (AAQ-II), and mood (DASS21).

Results: A majority of participants ($M = 61$ years) were married (53.3%) with children, had a tertiary education (31.1%), and were not currently working (60.0%). Diagnoses were mixed, time since diagnosis ranged from 1–32 years ($M = 5$ years) with 15.9% acute survivors (<1 year post-diagnosis). A linear regression, including eight predictors with moderate-to-large univariate associations ($r \geq .40$), evidenced a significant model ($p = .000$) accounting for 63% of the variance on FCR (adjusted R^2). Significant individual predictors included greater anxiously preoccupied coping style ($\beta = .51$), 'threat/enemy' interpretations of cancer ($\beta = .17$), poorer quality-of-life ($\beta = -.18$), and greater fatalistic coping ($\beta = .14$). Other predictors (depression, helpless/hopeless coping, 'punishment' interpretations, and psychological flexibility) were not significant.

Conclusions: Compared to FCRI norms, participants appeared less concerned about cancer recurrence despite most being extended/permanent survivors (1+ years post-diagnosis), perhaps reflecting accurate expectations of good survival among gynaecological cancer survivors compared with other cancer types. Respondents' anxiously preoccupied coping style best predicted FCR, potentially highlighting a focus for intervention. Although single-item 'threat/enemy' interpretations of cancer appeared predictive of FCR and could act as a quick screening item, prediction was small-to-moderate in size, thus research into the previously proposed screening ability of the 9-item FCRI Severity subscale is warranted to determine the better tool.

1003

QUALITY OF LIFE (QOL) IN PATIENTS WITH MALIGNANT DYSPHAGIA RECEIVING RADIOTHERAPY ALONE VERSUS CHEMORADIOTHERAPY: AN INTERNATIONAL RANDOMIZED TRIAL: TROG (03.01) NCIC CTG (ES2)

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Aim: To describe the effect on QoL when CT was added to palliative RT in patients (pts) with incurable esophageal cancer.

Methods: 220 pts with malignant dysphagia were randomized to receive RT (30–35 Gy in 10–15 fr) ($n = 109$) ± concomitant 5 FU and cisplatin x1 cycle. The primary outcome was dysphagia relief. QoL was evaluated using EORTC QLQ30/OES18 at baseline, wk 9, 13 and mthly × 1 yr. Group mean scores were compared between arms using Wilcoxon Rank-Sum test. Proportion of pts with improved, stable or worsened QoL (≥10 point change at any time compared with baseline) using chi square and MH chi-square test (for trend) while time to dysphagia improvement was compared using K-M estimates.

Results: QoL compliance ranged from 77% (169/220) at baseline to 62% (36/58) at mth12 and was similar between groups. Baseline mean scores were equivalent between arms with the exception of physical [79 (SD19) CRT vs. 83.84 (SD19) RT; $p = 0.016$] and role domains [61 (SD34) CRT vs. 72 (SD32) RT; $p = 0.01$].

There was no significant difference in QoL between arms. The proportion of pts with improvement in the dysphagia domain was 50% CRT vs 64% RT (ns) while the time to improvement was 2.6 m CRT vs 2.3 m RT (ns). Similarly, eating domain was improved in 68% CRT and 74% RT (ns). Global QoL was 64% in both arms.

Other symptom domains/items that were improved in >50% of pts include pain (62%), and appetite (52%). Functional domain improvements ranged from 41% Emotional, 39% Role, 38% Social, 28% Cognitive to 18% Physical (average of scores in both arms).

Conclusion: QoL data showed improvement in domains associated with nutritional intake for 50–70% of pts depending on the symptom measured. This was accompanied by moderate improvement in functional domains. No significant benefit was observed when CT was added to RT alone.

1004

RISK FACTORS PREDICTING RESIDUAL DISEASE IN SUBSEQUENT HYSTERECTOMY FOLLOWING CONIZATION FOR CERVICAL INTRA-EPITHELIAL NEOPLASIA (CIN) III

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Background: Conization of cervix has been regarded as an appropriate procedure in the management of high-grade

CIN for both diagnostic and therapeutic purposes. Most high-grade CIN can be treated with conization as long as it can be ensured that the entire lesion has been removed. On the other hand, if high-grade CIN is present in the cone margins, there is the possibility that more advanced disease remains in the uterus. Among the demographic and clinic-pathologic factors that may predict residual disease after conization are age, menopause status, parity, severity of disease, surgical margin and endocervical gland involvement. It is unclear if all of these are actually risk factors and if the results of pre-cone high-risk HPV tests are predictive of residual disease. We therefore attempted to determine the factors predictive of post-cone residual disease in subsequent hysterectomy for CIN III.

Aim: To determine factors predicting post-cone residual disease in subsequent hysterectomy in CINIII.

Methods: Of 674 patients who underwent conization due to CIN III between Janury 2008 and December 2012, 142 underwent hysterectomy within a week of conization. We analyzed their demographic features, pathologic parameters, pre-cone high-risk HPV load and methods of conization.

Results: Age > 40 years and conization method (LEEP vs. CKC) were not significant factors associated with residual disease. The incidence of residual disease was 64.1% and 39.06% in patients >40 and <40 years, and 54.76% and 37.5% in patients who received LEEP and CKC respectively. Positive pre-cone HR-HPV, positive margin and high-grade CIN in resection margin were significant factors associated with residual disease.

Conclusions: Positive pre-cone HR-HPV status and positive margin were significant factors predicting post-cone residual disease. Appropriate application of these predictive factors may lower the risk of residual disease. For patients with positive margin, especially high-grade CIN in resection margin, hysterectomy and follow-up examinations are appropriate options for this select group of women.

1005

ASSOCIATION OF GSTP1 AND RRM1 POLYMORPHISMS WITH RESPONSE AND TOXICITY TO GEMCITABINE-CISPLATIN COMBINATION CHEMOTHERAPY IN CHINESE NSCLC PATIENTS

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Background: Considerable inter-individual differences in therapeutic and adverse effects still exist among NSCLC patients even with the same pathological type and stage, receiving the same chemotherapy.

λ The polymorphic Ile105Val of GSTP1 is linked to the platinum metabolism, and that RRM1 expression, related with the efficacy of gemcitabine, is affected by RRM1 C37A-T524C polymorphism.

λ The association of GSTP1 Ile105Val and RRM1 C37A-T524C polymorphisms with response and toxicity to gemcitabine-cisplatin combination chemotherapy is not known.

Aim: Previous studies showed that genetic polymorphisms of glutathione S-transferase P1 (GSTP1) were involved in glutathione metabolism and genetic polymorphisms of ribonucleotide reductase (RRM1) were correlated with DNA synthesis. Here we explored the effects of these polymorphisms on the chemosensitivity and clinical outcome in Chinese non-small cell lung cancer (NSCLC) patients treated with gemcitabine-cisplatin regimens.

Methods: DNA sequencing was used to evaluate genetic polymorphisms of GSTP1 Ile105Val and RRM1 C37A-T524C in 47 NSCLC patients treated with gemcitabine-cisplatin regimens. Clinical response was evaluated according to RECIST criteria after 2 cycles of chemotherapy and toxicity was assessed by the 1979 WHO criteria (Acute and subacute toxicity graduation criteria in chemotherapeutic agents).

Results: The result showed that there was no significant difference in genotype frequency distribution of GSTP1 Ile105Val polymorphism between sensitive group and non-sensitive group ($P > 0.05$). But for RRM1 C37A-T524C genotype, sensitive group had higher proportion of high efficiency genotype than non-sensitive group ($P = 0.0087$). And according to the joint detection of GSTP1 Ile105Val and RRM1 C37A-T524C polymorphisms, the proportion of type A (A/A+high efficiency genotype) was significantly higher in sensitive group than that in non-sensitive group ($P = 0.0088$). Toxicity showed no correlation with genotypes between the groups ($P > 0.05$).

Conclusions: In conclusion, compared with single detection of genetic polymorphisms of GSTP1 Ile105Val or RRM1 C37A-T524C, the joint detection of both may be more helpful for NSCLC patients to accept gemcitabine-cisplatin regimens as first-line chemotherapy. Especially, genetic polymorphism of RRM1 is more likely to be used as an important biomarker to predict response and toxicity to gemcitabine-cisplatin combination chemotherapy in NSCLC.

1006

AMPLIFICATION OF EGFR OR FGFR1 WAS PREDOMINANTLY FOUND IN HPV NEGATIVE OROPHARYNGEAL CARCINOMA

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Background: Oropharyngeal squamous cell carcinoma (OPSCC) comprises one of the main cancers of the head and neck area and displays distinct clinicopathologic features such as high frequency of human papillomavirus (HPV). Despite many efforts, molecular pathogenesis of OSCC has not been fully elucidated, therefore, therapeutic strategies based on molecular tumor profiling leaves much to be desired.

Aim: The aim of this study was to explore a potential molecular therapeutic target of OPSCC.

Methods: Formalin-fixed paraffin- embedded tumor samples from ninety-seven cases of OPSCC were included in this study. Association of HPV was tested by immunohistochemistry for P16, in situ hybridization (ISH), and HPV DNA chip based microarray. Gene copy number status for EGFR and FGFR1 was examined by fluorescence in situ hybridization (FISH). Clinicopathologic correlation and prognostication was statistically analyzed.

Results: HPV was detected in 47 of 97 patients (48.5%), most of them carried high risk HPV, especially HPV 16. Amplification of EGFR or FGFR1 gene was found in 6.3% (5/79) and 11.4% (9/79), respectively. Amplification of EGFR or FGFR1 was found to be mutually exclusive, and most of them were HPV-negative / P16-negative cases (no EGFR amplification in HPV+ tumor, and 2 FGFR1 of 9 in HPV+ cases) ($p < 0.05$) In univariate analysis, HPV association or P16 positivity ($p = 0.001$) was associated with better overall survival (OS) and progression free survival (PFS) (all $p < 0.05$). Amplification of EGFR was related to better PFS ($p < 0.01$) and FGFR1 amplification showed better PFS with borderline significance ($p = 0.068$). In multivariate analysis, only P16 indicated to be an independent prognostic factor of OS and PFS, whereas EGFR amplification to be another independent predictor of prolonged PFS with borderline significance ($p = 0.084$).

Conclusions: These findings suggest that EGFR or FGFR1 may be used as a potential molecular therapeutic target in a subset of HPV negative patients with OPSCC.

1007

CORRECTION OF ANATOMIC CHANGES AFTER SURGERY FOR BREAST CANCER BY EVALUATING MULTIDISCIPLINARY TEAM AND INDIVIDUALIZED PREPARATION OF EXTERNAL PROSTHESIS

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The Brazilian Institute of Cancer Control (IBCC), increasingly thinks of the welfare of their patients providing an excellence treatment. Thinking about this, a project was implemented together with volunteers from Sewing Workshop in 2012, where all patients who underwent breast surgery with a esthetic effect and for some reason did not surgical repair, were referred for assessment of the group that has the following actions:

1 Rate esthetic change;
2 Propose alternative way to adapt adequately to fix the change model;
3 Execution of custom material model used by the bra;
4 Supply and replacement of the external prosthesis every six months;
5 Evaluation of patient satisfaction and staff.

The IBCC got a serie of 908 external prostheses made with materials adaptable to the individual patient's bra.

Alternative ways to fix this offer individualized external adaptation and comfort for patients who did not perform surgical repair of the anatomical deformity resulting from breast cancer.

Keyword: alternative oncology, rehabilitation, no surgical correction, humanization in oncology.

1008

CERVICAL CANCER CONTROL PROGRAM IN BOTSWANA: CURRENT STATE AND FUTURE DIRECTIONS

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Background and Context: In Sub-Saharan, due to high prevalence of HIV and lack of cancer screening program, there is rising incidence of cancer. In Botswana, for example, there are close to 300 new cases of locally advanced cervical cancer presenting a year in a radiation oncology clinic. Over 80% of these patients are HIV positive. There are no definitive data to guide treatment of these patients. Other major issues include lack of human resources and access to training.

Aim: To address these issues, Botswana-UPENN partnership (BUP) and Department of Radiation Oncology at University of Pennsylvania (UPENN) are working together with the Ministry of Health and University of Botswana (UB) to address needs in cancer care in Botswana. BUP is a collaborative clinical and research program in Gaborone, where UPENN faculty members have been providing HIV care for patients in Botswana for over a decade.

Strategy/Tactics: With guidance from the MOH and UB following initiatives are underway:

Programme Process:
Clinical care: One UPENN oncology faculty member will be based in Botswana to help standardize treatments, streamline clinical care, developing a cancer follow-up program and integrating oncology clinic with the cervical cancer screening program at BUP to limit delay of treatment.

Clinical education: Help develop oncology curriculum for medical students and medical officers

Nursing education: Develop nursing education modules

Patient education: Develop patient education modules focusing on importance of screening, treatment and toxicities

Low cost technologies: Develop technologies for the following areas: low cost screening tools, patient navigation tools, radiation treatment design, medical records and patient education.

Research: Develop research with collaborators from Botswana studying epidemiology, treatment access, outcome, tolerability and role of immunity and cancer.

Cross-institutional collaboration: We will work with other institutions interested in similar efforts and encourage communication and coordination of efforts to have highest impact on the ground.

1009

PROSTATE CANCER EDUCATION DAY

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Background and Context: Prostate Cancer Conferences are normally held in Melbourne or capital cities and for the majority of health professionals in regional and remote Queensland, they do have the opportunity to attend these conferences. The Prostate Cancer Specialist Nursing Service commenced at The Townsville Hospital in April 2012 and it was identified that there was a need for a Prostate Cancer Education Day for health professionals that addressed the continuum of care from diagnosis to palliation for prostate cancer patients.

Aim: To provide up to date information on the management of men diagnosed with prostate cancer for health professionals in regional and remote Queensland.

Strategy/Tactics: Following development of the program, speakers were invited to present and it also identified specialised services that were available in North Queensland men diagnosed with prostate cancer.

Programme/Policy Process: The program included presentations from Prostate Cancer Physician, Urologist, Continence Physiotherapist, Radiation Oncologist, Radiation Therapist, Medical Oncologist, Hyperbaric Medical Specialist, Sexual Health Consultant, Psychologist, Dietitian, Palliative Care Nurse and Prostate Cancer Specialist Nurse.

Outcomes/What was learned: Evaluation of the Prostate Cancer Education Day indicated that the program addressed the learning needs of the participants and that following attendance they had a better understanding of prostate cancer, treatment options and the management of patients with prostate cancer. 61 health professionals from Queensland attended the education day and they included Nursing, Radiation Therapists, Psychologists and other Allied Health professionals. It has been decided that a Prostate Cancer Education Day will be held at The Townsville Hospital on a regular basis.

1010

USE OF CANADIAN ASSOCIATION OF NURSES IN ONCOLOGY STANDARDS AND COMPETENCIES TO ENHANCE THE ONCOLOGY NURSING CURRICULUM FOR THE COMMUNITY CANCER PROGRAMS IN MANITOBA

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Background and Context: The Community Cancer Programs Network (CCPN) is a provincial program of CancerCare Manitoba (CCMB) that works to enable patients living outside of Winnipeg to receive their cancer care closer to home. There are 16 Community Cancer Programs (CCPs).

CCP sites are outpatient units located in rural hospitals and are staffed by a multi-disciplinary team that has received specialized education in Oncology. This education is developed and provided by CCMB.

This presentation will outline the CCPN program and how it has saved thousands of miles for patients. It will also focus on the oncology nursing curriculum provided through a standardized provincial education program.

Aim: The enhanced CCP nursing curriculum was created to reflect the Canadian Association of Nurses in Oncology (CANO) Standards and Competencies published 2011. The need for enhancement was based on the fact that: (1) Cancer specific nursing education is required to transform the general nurse caring for cancer patients into a specialized cancer nurse as oncology nurses remain at the forefront of the cancer patient journey. (2) Systemic therapy can be highly toxic and present risks for patients, health care providers and care givers. As such the care of patients receiving systemic therapy requires specific knowledge, skill and judgment-CANO (2010)

Strategy/Tactics: The curriculum is broken down into four parts:

- Home study using case studies, recommended readings, videos and web links.
- Five shifts spent in home CCP prior to formal training.
- Three weeks at Cancer Care Manitoba where a variety of teaching / learning strategies are incorporated.
- Return to the home CCP with continued professional development.

Outcomes/What was learned: A standardized educational program provided by the Provincial Cancer Agency / CCMB ensures that there is equal care provided to all Manitobans. This allows patients and families to receive their cancer care whilst remaining close to home.

1011

PSYCHOSOCIAL ISSUES IN GENETIC COUNSELING REFERRALS IN A CANCER HOSPITAL IN NEW DELHI, INDIA

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Background and Context: Genetic Counseling is still in its infancy in India. With only a few cancer genetic clinics in the country, counseling aimed at evaluating a cancer-affected individual for familial cancers is known to help in better clinical management of the disease, psychosocial adjustment and coping skills to the diagnosis of cancer, for both the patient and family members.

Aim: To counsel Indian patients and family members who are at risk of hereditary cancers and to address the psychosocial issues surrounding familial cancers.

Strategy/Tactics: Five cancer patients and their families, who were identified to be at risk of hereditary cancers, were selected to assess the psychosocial issues faced by them after a diagnosis of cancer. An attempt was made to refer them to the genetic clinics for a work up and genetic counseling.

Programme/Policy Process: Out of the five patients counseled only two agreed to contact the genetic clinic for a "work up". An evaluation of reasons raised in the course of psychological counseling reveals underlying family dynamics, psychosocial underpinnings and financial pressures that may prevent families from seeking genetic counseling.

Outcomes/What was learned: Issues unique to the Indian population could help devise a better understanding of the acceptance or rejection of the new cancer genetics facilities at this early stage in the field.

1012

A MULTI-SITE EVALUATION OF SUMMER CAMPS FOR CHILDREN WITH CANCER AND THEIR FAMILIES

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Background and Context: Children with cancer and their families often attend specialized summer camps (therapeutic recreation) through their cancer treatment journey. Evaluations of these programs are emerging over the recent decade. Previous evaluations have infrequently used standardized measures, and typically enrol small sample sizes drawn from single summer camps.

Aim: To address these gaps, this study sought to use a standardized outcome measure, and to enrol a large sample size from multiple centres to enable stratification of outcomes by sub-groups.

Strategy/Tactics: A cross-sectional study at 19 camps in North America was used to evaluate summer camps for children with cancer and their siblings.

Programme/Policy Process: Outcomes were measured using the 29-item Paediatric Camp Outcomes Scale (PCOS) which uses a Likert Scaling to score.

Outcomes/What was learned: A total of 2,286 campers (N = 1215 females) were enrolled in this study. Of these campers, 1,332 were patients and 951 were siblings. Participants (patient or sibling): "on" treatment were 444 (20%), relapsed 294 (14%) and 1st year at camp 535 (24%). The mean score on the PCOS emotional subscale was 29.8 (SD = 4.5); social subscale was 39.8 (SD = 5.3); physical subscale was 20.6 (SD = 3.2) and self-esteem was 22.3 (SD = 2.8). The PCOS total mean score was 112 (SD = 12.6).

Conclusions: This study uses the standardized PCOS tool to measure outcomes for children attending camp. This allows for comparison of data across camps and across specialty camp types (eg cancer, diabetes etc). The findings provide a reference point regarding the role of camp for children's emotional, social, physical functioning, and self-esteem. Strongest scores were observed for the emotional and social functioning subscales. Ultimately it is hoped that increased skills gained at camp will help build coping and resiliency for children who have been diagnosed with cancer.

1013

TOGETHER WE'RE BETTER: ESTABLISHING A COMMUNITY ONCOLOGY NURSING PROGRAMME TO IMPROVE CANCER CARE THROUGH SHARED WORKING

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Background: Ireland's cancer incidence will double in the next 25 years. This, together with advances in oncology drugs and patient treatment options will increase cancer prevalence and survival. Though welcome, medical advances exert pressure on hospital capacity, where traditionally all such patient care is delivered. Alternative ways to safely manage these patients need to address demand.

Aim: The aim of the six month **Community Oncology Nursing Programme** (See Abstract 7) is to enable community nurses to provide shared nursing care to acute oncology patients at home. Community nurses currently provide care to patients in their areas from 'cradle to grave' but not traditionally cancer care. Community nurses received training that equipped them with knowledge and skills to safely and competently provide care at home to patients undergoing systemic cancer therapy. Theoretical and skills based training was delivered over six months. It met an identified service need, highlighted by the hospital oncology team. A resource book was developed to support nurses caring for theses patients.

Methods: A mixed method approach using qualitative and quantitative components included

- Patient telephone interviews
- Focus groups
- An analysis of community and hospital data

Results: This study found patient experiences were positive, an expansion of community nurses scope of practice, hospital capacity was freed-up and most importantly no adverse patient events occurred. Weak information technology structures for data collection made the evaluation of this programme challenging.

Conclusion: This integrated care model was successfully delivered because of the safety features built into the programme, commitment from all stakeholders, strong national and local leadership and a resource book which supported nursing practice.

1014

RESEARCH PROJECT INVOLVED PATIENT ADVOCATES IN THREE REGIONS: BARRIERS ACCESSING PCR TESTING AMONG PEOPLE LIVING WITH CML

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Background and Context: In the diagnosis and treatment of Chronic Myeloid Leukemia (CML), there is a significant need to increase awareness among patients and physicians of the importance of disease monitoring, increase understanding of PCR test results and improve access to testing. PCR testing is generally one of the most sensitive ways to diagnose CML, and it is one of the most reliable tools for monitoring the disease. Because CML usually requires lifelong treatment, regular monitoring for disease progression is critical to achieving positive outcomes. Many people living with CML around the world do not have access to this technology.

Aim: In an effort to better understand barriers to accessing PCR testing, The Max Foundation embarked on a research project involving advocates in Africa, Asia-Pacific & Latin America. 35 advocates from 29 different low- and middle-income countries participated in this research.

Strategy/Tactics: A survey was implemented to collect demographic and PCR testing information in advocates' countries. A focus group followed to collect detailed information as well as a range of opinions regarding barriers to PCR.

Outcomes/What was learned: Most participants became patient advocates through a desire to give back and change the system. Participants were motivated to fight for a world where people living with CML have access to treatment, education, and diagnostics.

Patients lack knowledge or information about PCR testing. Education and patient friendly information is important to improve patient understanding and long-term treatment compliance.

PCR testing is expensive and may pose considerable financial hardship for patients.

Access to testing must be achieved through partnerships with physicians, laboratories and national health authorities. Pressure on policy makers may be a more sustainable method for increasing availability and decreasing the cost sometimes.

Patient advocates should identify "up and coming" key opinion leading physicians and seek their partnership and guidance regarding strategy for advocacy.

1015

BEST BANG FOR YOUR BUCK – A QUASI-EXPERIMENTAL APPROACH TO INVESTING PUBLIC MONEY IN AN ANTI-TOBACCO CAMPAIGN

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Background and Context: Online advertising, including that within social media is forecast to experience enormous growth over the next few years, encroaching on social marketing budgets typically allocated for traditional media. To date few studies have examined the cost-effectiveness of online compared to traditional mass media.

After 10 years of effective anti-tobacco mass-media activity focussed primarily on TV and other traditional media, the Make Smoking History campaign commenced trialling online media. Now-published results of the first phase of action research trialling non-TV media, showed that online media has proven more cost-effective in prompting smokers to seek further information than traditional non-TV media.

Aim: To assess the relative cost-effectiveness of online media compared to traditional media, in producing a response to smoking cessation advertisements.

Strategy/Tactics: All campaign advertisements feature the same call to actions: 1) visit the campaign website for further information and/or 2) call the Quitline counselling service.

Programme/Policy Process: Website and call monitoring commences the week prior to any media activity commencing and continues throughout each wave of campaign activity.

Outcomes/What was learned: Ongoing measurement of online and traditional media relative cost-effectiveness will provide information to assist those seeking to optimise media allocation with limited social marketing advertising budgets. Current research provides evidence to warrant continued investment in online advertising when marketing smoking cessation messages. Continued trials in 2014 will include television to provide further insight into the relative cost-effectiveness of online media.

1016

SUCCESSFUL ADVOCACY STRATEGIES THAT BROUGHT ABOUT A SOLARIUM BAN IN VICTORIA

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Background and Context: In the decade up to 2006, there was a 500% increase in the number of solariums in Melbourne. 281 cases of melanoma and 43 deaths are caused by solariums in Australia every year.

Aim: To advocate to the State Government of Victoria to enable an outright ban of all commercial sunbeds in Victoria.

Strategy/Tactics: A range of advocacy and communication techniques were implemented including partnership development, media relations, grassroots campaigning, as well as digital media tactics to secure public and government support for a solarium ban.

After the announcement of a ban in New South Wales, a media event provided an opportunity to send the Minister for Health a letter signed by 161 clinicians from the Cancer Council Victoria's Clinical Network (a representative oncology forum in Victoria) calling on the Victorian government to ban solariums.

A new coalition, 'Switch off Solariums' (SOS), was also formed comprising of five health groups including Cancer Council Victoria, the Australian Medical Association Victorian Branch, Skin & Cancer Foundation Inc. and the Victorian Faculty of the Australasian College of Dermatologists. The SOS coalition co-signed a petition letter that was published on the change.org website calling on members of the public to show their support for a ban in Victoria. The coalition also sent letters to all Victorian Members of Parliament, urging them to support the introduction of a ban.

The Greens, an Australian political party, agreed to support the campaign and put forward a motion in parliament calling on the legislation to ban solariums. Both major parties supported the motion.

Programme/Policy Process: On 13 December 2012, the Premier announced a solarium ban for Victoria.

Outcomes/What was learned: The key to success was utilising a long-term, comprehensive advocacy strategy, incorporating research and powerful personal stories, and working in partnership with other organisations to form a united front.

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KEEP FRESH AIR FRESH: MOBILISING SUPPORTERS THROUGH DIGITAL ADVOCACY

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Background and Context: Quit Victoria, Cancer Council Victoria, Heart Foundation and AMA Victoria have been advocating for several years for the introduction of a statewide ban on smoking in outdoor dining and drinking areas in Victoria. Victoria is the only state that has not already introduced or committed to introducing such a ban.

Aim: To mobilize donors and supporters of our organisations to demonstrate the widespread public support for smokefree outdoor dining and drinking areas by providing a platform for them to send a submission to an existing government consultation on plans to ban smoking in other outdoor areas and ask the Government to extend the proposed legislation to include outdoor dining and drinking areas.

Strategy/Tactics: A website and tagline were developed as well as images to share on social media. The website allowed users to send a pro-forma email to their local MP, the Minister for Health and the Premier about the issue as well as to the government consultation. Several EDMs were sent to Cancer Council donor lists as well as partner lists. Responses were also boosted through social media and unpaid media stories as well as enlisting more than 200 cancer clinicians to participate in the campaign and call on the Government to introduce a ban.

Programme/Policy Process: The campaign far exceeded its target of 5000 submissions with almost 7000 Victorians taking part.

Outcomes/What was learned: Email by far the most powerful way to solicit supporters to take an online action compared to social media, unpaid media and other awareness-raising tools. Donors can be approached to take part in advocacy without harmful effects.

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THE CASE FOR BANNING VISIBLE DISPLAYS OF TOBACCO PRODUCTS IN RETAIL STORES

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Background and Context: While many countries have banned tobacco advertising, a smaller number of banned visible retail displays. However, this is changing, with an increasing number of countries/jurisdictions banning retail tobacco displays. Governments are responding to extensive tobacco industry marketing practices and expenditures that result in “power walls” and other product displays at retail.

International guidelines under Article 11 of the WHO Framework Convention on Tobacco Control recognize that a ban on visible displays of tobacco products at retail is an essential element of a comprehensive ban on tobacco advertising and promotion.

Aim: This presentation will make the case for banning visible displays of tobacco products at retail, and will discuss international developments in this area.

Strategy/Tactics: Retail displays of tobacco products encourage youth experimentation and initiation, discourage cessation, and encourage ex-smokers to relapse. Retail displays portray tobacco products as innocuous everyday products. The adage “out of sight, out of mind” applies in support of display bans.

The tobacco industry typically claims that its promotion only targets adult smokers, but this is impossible in the case of retail display bans. Youth and ex-smokers are routinely exposed to retail displays.

Programme/Policy Process: Worldwide, tobacco display bans have been implemented in a growing number of countries including Australia (all states/territories), British Virgin Islands, Canada (all provinces/territories), Finland, Iceland, Ireland, Mauritius (awaiting proclamation), New Zealand, Norway, Panama, Palau, Russia, Thailand, and United Kingdom.

Outcomes/What was learned: Governments should ban visible displays of tobacco products as part of a comprehensive ban on tobacco advertising and promotion.

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QUEST – MAKING THE HEALTHY CHOICE THE EASY CHOICE

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Background and Context: The World Health Organization has long advocated for a settings based approach to achieve sustainable and effective health promotion outcomes[1]. A settings based approach forms a critical part of contributing to a reduction in the one third of cancers that are preventable through a healthy lifestyle[2,3].

Aim: Cancer Council Queensland has developed a sustainable cancer prevention program, QUEST, aimed at strengthening community action where Queenslanders live, work, play and learn[1]. Through these actions, we will contribute to making healthy choices easy choices for 4.7 million Queenslanders.

Strategy/Tactics: QUEST is an innovative, web-based, interactive program. It equips settings with resources to build healthy public policy, create supportive environments and develop personal skills within their organisations[4]. Development was informed by the available evidence and consultation with peak industry bodies. The on-line tool allows for extensive data collection to inform continual program improvement, identification of future needs and measurement of public health activity across the state.

Programme/Policy Process: In May 2014, QUEST was launched. QUEST allows Queensland workplaces, schools, childcare centres, sports clubs and local councils to register for free, select from a range of health strategies supported by over 300 resources, and track their progress. QUEST is also an acronym – **Q**uit smoking, **U**nderstand your body and get checked, **E**at healthily and drink less alcohol, **S**tay SunSmart every day and **T**ake time to be active; these form the key health areas for groups to action.

Outcomes/What was learned: This presentation will provide an overview of the development phase, participation in and early learnings from an innovative, on-line cancer prevention program. We believe findings will provide opportunities for translation in a variety of contexts.

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1020

HOMELESS CLIENTS BENEFIT FROM SMOKING CESSATION TREATMENT DELIVERED BY A HOMELESS PERSONS' PROGRAM

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Background and Context: The prevalence of smoking amongst homeless populations is extraordinarily high and may not be declining, unlike general population rates. Despite emerging evidence that homeless smokers are as interested in quitting as non-homeless smokers, few homeless programs offer smoking cessation treatment.

Aim: To examine the feasibility, acceptability and effectiveness of a financially-sustainable smoking cessation treatment model that was delivered by staff of a homeless persons' program.

Methods: Fourteen nurses from Melbourne's Royal District Nursing Service Homeless Persons' Program recruited 49 clients into a 12-week program offering weekly nurse-delivered smoking cessation appointments with intermittent carbon monoxide (CO) measurements, GP-prescribed free nicotine patch, bupropion or varenicline, and Quitline phone support. Surveys were completed at program enrolment, end of program (EoP, 3 months) and six months post-enrolment.

Results: Clients attended on average 6.7 nurse-delivered appointments. Most used pharmacotherapy (69%, n = 34) and Quitline (61%, n = 30, average 8.4 calls among users). Using all-cases analyses 29% had made a quit attempt by EoP; 24-hour point prevalence abstinence rates were 6% at EoP and 4% at 6 months (no participants achieved sustained cessation), and 29% reported 50% consumption reduction at 6 months, the latter positively associated with increased Quitline use. Tobacco consumption and money spent on tobacco halved by EoP with similar levels maintained at 6 months. Butt smoking reduced. Using within-subjects analyses, all participants reported either the same or less symptoms of anxiety at EoP compared to baseline and 92% reported the same or less depressive symptoms.

Conclusions: Integrating nurse support with low-cost cessation interventions (government subsidised pharmacotherapy plus Quitline) was feasible and acceptable. While quit rates were low, treatment benefits included harm-reduction (reduced consumption and butt smoking), significant financial savings, and psychological benefits (improved or stable mood).

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LESSONS LEARNED: A PARTNERSHIP APPROACH FOR ‘SMOKING CARE’ IN A HOUSING CRISIS AND HOMELESSNESS SERVICES ORGANISATION

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Background and Context: For people experiencing homelessness, the rate of smoking is estimated at 77% (ANPHA, 2013). Quit, Cancer Council Victoria, and Hanover Welfare Services (HWS), have addressed this issue by working together to support men and women aged 18+ using crisis accommodation facilities at the HWS Southbank site who are interested in stopping or cutting down their smoking.

Aim: This report on practice seeks to contribute lessons on how the management of organizational relationships can assist in the delivery of a smoking cessation intervention with a hard-to-reach group.

Strategy/Tactics: An iterative, agile approach (Bolles and Hubbard, 2006) was used to operationalize and determine the effectiveness of the partnership between Quit and HWS. It was characterized by: initiation; planning; collaborative action; reviewing; and, refining practice.

Programme/Policy Process: The partnership identified the use of a brief intervention model to enhance client access to existing services including Quitline and subsidized pharmacotherapy, and for addressing individual barriers to quitting through brief advice as part of usual care (Bryant, Bonevski, Paul, O’Brien and Oakes, 2011). A steering committee, working group, communication and evaluation were techniques used to apply the partnership approach, and guide, learn from and improve project delivery – including addressing significant challenges in the provision of scripts, pharmacotherapy and client/staff engagement.

Outcomes/What was learned: The project is currently underway. A partnership review tool (VicHealth, 2011) and partnership feedback processes have identified that: a partnership based on genuine collaboration has been established, and the challenge is to maintain its impetus. Project evaluation indicates relatively high rates of smoking with clients, significant client interest in help to stop smoking and broad support for the brief intervention model.

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1022

THE LEGAL BARRIERS TO PLAIN PACKAGING: A JURIDICAL ANALYSIS FROM INDIA AND AUSTRALIA TO ASSIST INDIA PROGRESS WITH PLAIN PAX

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Background and Context: Nearly 35% adults use tobacco in India and more than one million deaths annually are attributed to smoking alone. Tobacco use also contributes to approximately 60% of all CVD deaths and 42% and 18% of cancer deaths among men and women respectively while an estimated loss of US $ 22.4 billion was incurred in 2011 on the treatment of diseases attributable to tobacco use.

Tobacco control measures have been the subject of litigation in Indian courts over the last decade. In this context, unlike Australia, the existence of legal barriers have been perceived as a threat to the realization of the aspirational goal of plain packaging of tobacco products in India. As the existing literature on the subject is limited to Australian experience and its impact, it is important to understand the extent to which the Australian experience may be replicated in India.

Aim: This study examines the existing legislative, judicial and administrative frameworks in India for its feasibility to withstand introduction of plain packaging of tobacco products in the country.

Strategy/Tactics: a) A review of the existing constitutional and legal framework have been undertaken and b) deliberations with the expert groups held in the first phase of the project will be carried forward to get multi-stakeholder buy-in.

Programme/Policy Process: A comprehensive literature review was conducted using online legal database and grey literatures on plain packaging. International experiences including challenges and progress are also being captured. A preliminary analysis from the study have been presented in the form of a policy brief to the key stakeholders including, parliamentarians, policy makers to sensitise them on the issue.

Outcomes/What was learned: Given the industry response in Australia, the Indian Parliament must amend the Indian tobacco control law within the given constitutional framework to introduce plain packaging.

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RELATIONSHIP BETWEEN OBESE WOMEN WITH BREAST CANCER, THEIR SOCIOECONOMIC STATUS AND COMORBIDITIES

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Background: Obese women with breast cancer have poorer breast cancer specific survival compared with non-obese women, after adjustment for common prognostic factors.[1]

Aim: To compare socioeconomic status (SES) and comorbidities in obese and non-obese women undergoing adjuvant chemotherapy for breast cancer.

Methods: We conducted a retrospective chart audit of 550 women treated between 2000–2011 with adjuvant chemotherapy for breast cancer at a large Brisbane tertiary hospital. Cases were sequentially selected from the hospital's oncology management and chemotherapy databases. Demographics and comorbidities were extracted from patient charts. SES was determined using the 2011 Socio-Economic Indexes for Areas tabulation. Comorbidities were categorised using the Charlson Comorbidity Index. Univariate analyses were performed to determine the relationship between obesity and SES or presence of comorbidities in the breast cancer population.

Results: 358 women were eligible for inclusion. Obese women (Body Mass Index > 30 kg/m^2) accounted for 30.5% of the population and were more likely to be socially disadvantaged (OR = 1.74; 95% CI 1.06–2.89; $p = 0.040$) and have comorbid disease (OR = 3.63; 95% CI 2.20–6.00; $p < 0.001$) compared to non-obese women. Obese women were at greater risk of having diabetes (OR = 2.89; 95% CI 1.36–6.15, $p = 0.008$).

Conclusions: Obese women with breast cancer are more likely to be socially disadvantaged and have comorbid disease compared to non-obese women. As social disadvantage can affect education and access to resources, and comorbidity can affect treatment options, these factors are important to include in study design to improve cancer outcomes.

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QUITTING EXPERIENCES AND PREFERENCES OF SMOKERS ADMITTED TO AUSTRALIAN PUBLIC HOSPITALS PARTICIPATING IN A RANDOMISED CONTROLLED TRIAL

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Background: Most quit attempts end in relapse, even when motivation is high.[1] To improve quit rates, it is necessary to understand quitting experiences and preferences for a future quit attempt.

Aim: To review: tobacco use behaviour including previous quit attempts and outcomes; methods used in the last 12 months to assist quitting; self-reported difficulties faced during previous quit attempts and side-effects of pharmacotherapies; and the preferred methods to assist any future quit attempts.

Methods: Baseline data were obtained from current smokers enrolled in a randomised controlled trial evaluating a smoking cessation intervention for hospitalised patients. Tobacco use, quitting methods, difficulties faced and preferred methods to assist quitting were self-reported by participants and analysed using descriptive statistics.

Results: Of 600 enrolled patients (42.8% participation rate), 64.3% (386) had attempted quitting in the previous 12 months, 43.2% (259) had multiple attempts. On a scale of 1 (low)–10 (high), current motivation to quit smoking was high (median 9; Interquartile Range [IQR] 6.5, 10), but confidence was lower (median 5; IQR 3, 8). Among 386 participants who reported past quit attempts, 69.9% had used at least one method to assist quitting. Nicotine replacement therapy (NRT) was most commonly stated (50.8%), although the majority (81.3%) used NRT for <4 weeks. Hypnotherapy was most cited (17.6%) among non-pharmacological treatments. Over 80% experienced withdrawal symptoms; craving and irritability were commonly reported. Among the users of NRT or prescription medications (249), more than half (56.6%) experienced side effects. Most participants (58.7%) believed that medications, especially NRT (53.8%), would assist them to quit. This included past users of NRT and prescription medications.

Conclusions: These findings suggest the need for greater support for hospitalised smokers interested in quitting. More assistance is warranted in the selection of cessation aids and their optimal use, especially for NRT.

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CANCER INCIDENCE ATTRIBUTABLE TO ALCOHOL DRINKING IN BRAZIL

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Background: Alcohol consumption is one of the most important known causes of human cancer after tobacco smoking.

Aim: This study aims to estimate cancer incidence attributable to alcohol use in Brazil. The proportion of cancer cases that could be attributable to alcohol exposure was estimated for lip; oral cavity; nasopharynx and other pharynx; larynx; esophagus; colorectum; female breast; and liver and intrahepatic bile ducts.

Methods: The proportion of exposed cases and the association between alcohol and cancer was based on data made available by the Cancer Hospital Registries. The cancer incidence was obtained from the estimates produced by GLOBOCAN. We multiplied population aetiologic fraction (PAF) by the number of cases for each type of cancer by sex group and summed them. This study was approved by the Brazilian National Cancer Institute Ethics Committee.

Results: In 2012 there were 437,592 new cancer cases in Brazil. Of these, alcohol drinking was responsible for 5.2% of all new cases. Among males, if exposure to alcohol were eliminated, 50.9% of esophageal, 47.4% of lip and oral cavity, 40.4% of larynx, 32.6% of pharynx, 31.3% of liver and 3.7% of colorectal cancer could be avoided. For women, eliminating exposure to alcohol could prevent 23.2% of esophagus, 19.3% of larynx, 16.5% of lip and oral cavity, 12.8% of pharynx, 6.7% of liver, 5.5% of breast and 1.5% of colorectal cancer

Conclusions: In conclusion, in Brazil a significant fraction of cancer cases can be attributable to alcohol consumption, especially head and neck and gastrointestinal cancers.

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PROACTIVE RECRUITMENT INTO EFFECTIVE INTERVENTIONS TARGETING CANCER RISK BEHAVIOURS

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Background: Effective interventions targeting cancer risk behaviours are underutilised by smokers, and individuals who are overweight or obese or drink alcohol excessively. Proactive telephone recruitment has been shown to increase the use of telephone interventions for smoking cessation and weight management respectively. However, cancer risk behaviours often co-occur and there is a need to explore the extent to which at-risk individuals will accept proactively offered interventions for single and multiple cancer risk behaviours.

Aim: This study examined whether smokers, individuals who were overweight or obese or drank alcohol at risky levels would accept proactively offered assistance for cancer risk behaviours and the types of interventions they would be willing to use.

Methods: Smokers and ex-smokers were sent an information letter and an interviewer telephoned and invited them to complete a cross-sectional computer-assisted telephone interview (CATI). The CATI examined if individuals with cancer risk behaviours would accept a proactive telephone offer of assistance for these behaviours and the types of interventions they would be likely to use.

Results: Of 321 respondents, 199 (62%) were current smokers, 206 (67%) were overweight or obese and 115 (36%) drank alcohol at risky levels. Of those with one or more cancer risk behaviours (n = 288), 59% were willing to accept proactively offered assistance for at least one behaviour. The intervention most likely to be used for smoking, weight management and alcohol intake was seeing a general practitioner (>66%). The majority of those willing to accept assistance for multiple cancer risks preferred to receive support for these behaviours at the same time.

Conclusions: Current and ex-smokers appear willing to accept proactively offered assistance for at least one cancer risk behaviour, particularly under the guidance of a general practitioner. Proactive telephone recruitment has the potential to increase the use of effective interventions targeting cancer risk behaviours.

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HEALTH SERVICE UTILISATION AND INVESTIGATIONS BEFORE DIAGNOSIS OF CANCER OF UNKNOWN PRIMARY (CUP): A POPULATION-BASED NESTED CASE-CONTROL STUDY

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3. *National Centre for Epidemiology and Population Health, Australian National University, Canberra, ACT, Australia*
4. *CUP Action, Sydney, NSW, Australia*

Background: There are no population-based data on the whole-of-system health care prior to CUP diagnosis.

Aim: To compare the pre-diagnosis use of health services and diagnostic investigations for patients with CUP and metastatic malignancy of known primary.

Methods: Population-based nested matched case-control study using linked routinely collected health records for Australian Government Department of Veterans' Affairs (DVA) clients, 2004–2007. 281 DVA clients registered with a diagnosis of CUP (C809) and 1102 controls randomly selected from clients registered with a diagnosis of metastatic malignancy of known primary. Controls were matched by month/year of diagnosis, health care entitlement, and follow-up prior to diagnosis. Consultations/visits and diagnostic procedures in the three months prior and the month of diagnosis were analysed using logistic regression adjusting for socio-demographic characteristics and comorbid conditions.

Results: There were no differences in GP or allied health consultations and hospitalisations, but CUP patients were less likely to have a specialist consultation (odds ratio 0.50, 95% confidence interval 0.33–0.76), and more likely to have an emergency department visit (1.60, 1.18–2.17). CUP patients were less likely to have non-surgical resection (0.65, 0.48–0.87), surgical resection (0.40, 0.28–0.58), exploratory surgery (0.21, 0.08–0.60), or endoscopy (0.31, 0.22–0.44), and more likely to have a CT scan (2.16, 1.47–3.19), ultrasound (1.82, 1.33–2.49), and MRI (3.02, 1.61–5.68). Cytology (1.60, 1.10–2.32) and immunohistochemistry (2.51, 1.60–3.93) were more common and histopathology less common (0.41, 0.27–0.63) for CUP patients.

Conclusions: Compared to known primary, CUP is more likely after an emergency department visit, less specialist input, and fewer invasive diagnostic procedures. This pathway might suggest delayed recognition of cancer and thus scope for improvement in the medical management of high-risk individuals presenting to GPs. There is under-investigation in some CUP patients but this may reflect recognition of limited treatment options and poor prognosis and is consistent with clinical guidelines for CUP.

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STUDY PROTOCOL: PROSPECTIVE EVALUATION OF PERSONALISED MELANOMA RISK INFORMATION IN AUSTRALIAN GENERAL PRACTICE

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Background: Melanoma incidence rates have been increasing among predominantly fair-skinned populations, with Australia having the world's highest melanoma incidence rates. Risk prediction tools have been proposed as a more accurate method for clinicians to communicate overall risk to patients.

Aim: We aim to assess the effect of personalised melanoma risk information on risk perceptions, intention to adopt risk reducing behaviour and early detection behaviours in Australian general practice.

Methods: Participants will be recruited from metropolitan general practices located in New South Wales, Australia. We will use a parallel group, open randomised design with allocation of 262 participants to one of two groups. Participants in both groups will receive general information on melanoma. In addition, participants in the intervention group will complete a melanoma risk prediction tool and receive personalised assessments of melanoma risk in combination with prevention advice by their usual general practitioner. Measures of melanoma risk perceptions, prevention intentions and early detection will be obtained immediately before the intervention and at 8 weeks follow up. Differences between randomised groups will be compared at follow up after adjusting for baseline values.

Results/Conclusions: The study will provide evidence-based data on the effect of personalised melanoma risk information on risk reducing behaviours. There is potential for wider distribution and use of the melanoma risk prediction tool if better health outcomes are demonstrated.

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TRIALLING A COLORECTAL CANCER RISK TOOL WITHIN GENERAL PRACTICE; NHMRC "CENTRE FOR RESEARCH EXCELLENCE FOR REDUCING THE BURDEN OF COLORECTAL CANCER BY OPTIMISING SCREENING"

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5. *Cancer Council Victoria, Melbourne, VIC, Australia*

Background: In Australia, a large proportion of people are unnecessarily screened for colorectal cancer (CRC) with colonoscopies and many at higher risk of CRC are not being screened with colonoscopies. Providing general practitioners (GPs) with a tool to determine their patient's individual risk of CRC will assist in providing accurate screening advice, making colonoscopic screening more efficient and effective.

Aim: Our vision is to implement a personalised approach to screening to reduce CRC by optimising evidence-based screening. The CRE team aim: (a) to develop the first personalised CRC risk tool that incorporates genetic, pathology, family history, lifestyle factors and personal characteristics, and (b) to develop proven methods for implementing these tools in general practice.

Methods: Beginning with a prediction tool prototype (while the statistical development of the prediction tool is underway using the data from the Colon Cancer Family Registry), we will 'unpack' the many components involved in implementing an intervention in primary care, following a stepwise approach based on the Medical Research Council framework for the development and evaluation of complex interventions (UK). The initial phase of the study has begun with an analysis of the theoretical underpinning of the intervention with a systematic review (phase 0) and a pilot of the tool (phase 1). The pilot involved testing the tool with GPs in a simulated consultation in their own clinic with an actor playing the role of patient. This method aims to capture data that represents the 'real' clinical use of the tool.

Results: Phase 0 and Phase 1 are anticipated to be completed in May 2014. Using the tool *in situ* with GPs is providing rich qualitative data which will inform the next phases of the study.

Conclusions: The results are essential for the design of a randomised controlled trial to test the prediction tool and implementation methods in GPs.

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RELATIONSHIP BETWEEN THREE MAJOR DIETARY PATTERNS AND RISK OF COLORECTAL CANCER: RESULTS FROM GENERAL NEWFOUNDLAND AND LABRADOR POPULATION RECRUITED FROM 1999–2003

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Background: Colorectal cancer (CRC) is the third most commonly diagnosed cancer and its age-standardized incidence rate in the province of Newfoundland and Labrador (NL) is the highest in Canada. The relationships between major dietary patterns and CRC in other populations largely remain consistent across studies, but due to limited external validity, there is a great need to determine the major dietary patterns and their relationship to CRC in the NL population.

Aim: To elucidate the relationship between dietary habits and the health profile of the general NL population from 1999–2003, and to support information translation from the etiologic perspective into public health guidance.

Methods: A total of 506 CRC patients (306 men and 200 women, aged 20–74 years) and 673 controls (400 men and 273 women, aged 20–74 years) entered into this case-control study. Dietary habits were assessed by a 169-item food frequency questionnaire (FFQ). Two logistic regression models were fitted to investigate the associations between dietary patterns and the CRC risk.

Results: Three major dietary patterns were derived using common factor analysis, namely the Meat pattern, the Healthy pattern and the High-sugar pattern, which explained a total of 74% of the variance in food intake. After adjusting for potential confounding factors, the Meat and High-sugar patterns were significantly associated with an increased risk of CRC, while a significantly reduced risk of CRC was observed with the Healthy pattern. After stratification by cancer of the rectum, the proximal colon and the distal colon, similar relationships were found.

Conclusions: Similar to in other populations, particular dietary patterns (i.e., the Meat, Healthy, and High-sugar patterns) are associated with the risk of CRC in the NL population. This specific diet-disease relationship could be used for guiding the promotion of healthy eating for primary prevention of CRC in this population.

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NUTRITIONAL AND PHYSICAL ACTIVITY INTERVENTIONS FOR MEN WITH PROSTATE CANCER: A SYSTEMATIC REVIEW

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Background: There is growing interest in the role of nutritional/dietary and physical activity interventions in the tertiary prevention of prostate cancer progression and mortality, but findings have been conflicting.

Aim: To update previous systematic reviews of randomised controlled trials (RCTs) of nutritional/dietary interventions in men with prostate cancer, and extend the interventions considered to include physical activity.

Methods: AMED, Cinahl, the Cochrane library, Embase, MEDLINE and Web of Science bibliographic databases were searched from inception to January 2014. Our search included RCTs of men with prostate cancer undergoing nutritional/dietary and/or physical activity interventions, which reported on measures of prostate cancer progression or mortality. There were no language restrictions. Papers were screened for eligibility by two independent reviewers. Data from included papers were extracted, analysed and synthesised.

Results: A total of 11,659 papers were retrieved, of which 51 (0.4%) met the inclusion criteria. The median sample size was 54 (range 19–383) and the target populations varied, including men awaiting radical prostatectomy (n = 13.26%) and active surveillance (n = 10.20%). All papers had high (n = 40.79%) or medium (n = 11.21%) risk of bias. Dietary/nutritional interventions were reported in 30 papers, most commonly being lycopene (n = 7) supplementation. One paper reported a physical activity intervention of resistance and aerobic training. There were 16 complex nutritional/dietary interventions and 4 combined nutritional/dietary and physical activity interventions, including vegan diet and aerobic activity (n = 2). Median adherence to the interventions was 90%(range 58–100%). The main adverse events were diarrhoea and nausea. Reported outcomes were heterogeneous and involved: changes in prostate specific antigen (n = 43); changes in insulin-like growth factor (n = 11) and cell proliferation (n = 8). Due to the heterogeneity, formal meta-analysis was not possible.

Conclusions: Studies to date have mostly been small and low quality. Future RCTs need to be adequately powered, well designed (low risk of bias), with carefully chosen interventions and clinically meaningful outcomes.

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CANNABINOID BOTANICALS IN CANCER TREATMENT

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Background: India has a rich heritage on traditional medicines (TM), also used in many other countries. Indian Ayurveda has vast resources of medicinal plants and huge repositories of knowledge. India fully supports the implementation of traditional medicine resolution and will help other countries to implement. The Delhi declaration on traditional medicine Feb, 2013 among the Health ministers of all the South Asian nations is widely adopted and supported. India made a strong intervention for benefit of TM at the World Health Assembly in May 2014.

Cannabis use for medicinal purposes dates back at least 3,000 years[1–5]. The earliest known reports regarding the sacred status of cannabis in India and Nepal come from the Atharva Veda estimated to have been written sometime around 2000–1400 BC[6–7]. There is ample evidence of its use in Hebrew Bible, China and Africa.[8–9]

Though the South African National Cannabis Working Group prepared a very nice Position paper in 2013, it's a pity that very few human trials have been done in use of Cannabinoids in oncology.

The 24th *Annual International Cannabinoid Research Society Symposium at Lago Maggiore, Italy*, starting on June 28, 2014 has variety of sessions demonstrating cannabis' usefulness.

Aim: To collect anecdotal records about medical use of cannabinoid and lay foundation for more clinical trials.

Methods: 40 anecdotal records about cannabinoid use in various cancers were collected from different sources around the world.

Results: All the records involving cancers of Oral, Breast, Lung, Gliomas, Liver, Pancreas and Prostate had promising results.

Conclusions: Cannabinoids have many beneficial effects.[10–12]

Urgent awareness is needed amongst oncologists to have more clinical trials in this area.[13–14] This will pave the way for inclusion of this very useful phytochemical-rich whole plant botanical extract into the oncological pharmacy. More effective treatment and palliative support to the patient can be made available with much lesser cost.

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QUALITY OF BREAST CANCER CARE FOLLOWING CENTRALISATION IN IRELAND

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Background: The National Cancer Control Programme (NCCP) was established in Ireland in 2007. The NCCP centralised breast cancer surgery for public patients into 8 cancer centres in 2009, which encompassed referral guidelines and electronic referral to designated cancer centres, with rapid access breast clinics and multidisciplinary teams. The NCCP does not have responsibility for provision of private hospital services.

Aim: The aim of this study was to explore Family Doctor (GP) views on the quality of the breast service in specialist cancer centres following centralisation of cancer surgery in Ireland.

Methods: 28 randomly selected GPs were interviewed using in-depth semi-structured interviews. Primary selection criteria were geographic location and GP gender. Secondary criteria were type of GP practice (urban/rural), practice population (public/private), number of years practicing as a GP and structure of GP practice (single handed/group practice).

Results: The majority of GPs stated a preference to refer their patients with suspected breast cancer to the specialist cancer centres in the public hospitals, regardless of private health insurance status.

GPs further than 25 miles from a cancer centre and those with more than 10 years experience were more likely to cite their preference for a cancer centre.

There were no differences according to GP gender or between urban and rural practices. However, GPs reported that some of their patients opted for care in private hospitals, which are not designated cancer centres "to get value from their health insurance".

The overall preference for public hospital care was replicated for some other cancers but not for other diseases. GPs recommended breast cancer services in specialist cancer centres as an example for other health services in Ireland to adopt.

Conclusions: GPs have confidence in public hospital care for their breast cancer patients since the establishment of specialist cancer centres in Ireland.

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EFFICACY OF CENTRALISATION OF BREAST CANCER SURGERY IN IRELAND

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Background: The National Cancer Control Programme (NCCP) was established in Ireland in 2007. Breast cancer surgery was centralised into 8 cancer centres for public patients in 2009, with referral guidelines, electronic referral and rapid access multidisciplinary teams, compared to 35 centres historically. The NCCP does not have responsibility for provision of private hospital services.

Aim: This study aimed to assess the efficacy and acceptability of the policy of centralisation of breast cancer surgery in Ireland.

Methods: Sequential explanatory mixed methods were chosen for this study
– Qualitative interviews with 28 randomly selected Family Doctors (GPs). Thematic analysis was carried out using Nvivo software matrices, according to attributes.
– Analysis of National Cancer Registry data for all patients diagnosed with breast cancer in Ireland pre (2008) and post (2010) centralisation (n = 4.633).

Results: The majority of GPs referred their patients with suspected breast cancer to the specialist cancer centres in the public hospitals, regardless of private health insurance status. This preference for public hospital care was replicated for some other cancers but not for other diseases. GPs recommended breast cancer services in specialist cancer centres as an example for other health services in Ireland to adopt.

In 2010, following the centralisation of breast cancer surgery, 80.5% of patients had their breast cancer surgery carried out in a specialist cancer centre with multidisciplinary cancer services, compared to 51% in 2008 ($p < 0.001$). The remaining surgery was carried out in private hospitals (19%), other acute hospitals (0.3%) or in another country (0.2%).

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Conclusions: The policy of centralisation of breast cancer surgery in Ireland is endorsed by GPs and is providing multidisciplinary specialist care to the majority of patients diagnosed with breast cancer in Ireland.

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MULTI-CENTRE PRE-POST TEST TRIAL OF A COMPLEX QSTREAM© PAIN ASSESSMENT INTERVENTION ON CANCER NURSES' PAIN SCREENING AND ASSESSMENT PRACTICES

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Background: Despite, international and national cancer pain guidelines recommending routine screening and comprehensive assessment as crucial components of better pain management, people living with cancer often experience undetected and undertreated pain. This project utilised a novel online performance feedback intervention to address this clinical gap.

Aim: To measure the impact of a tailored Qstream© cancer pain assessment performance feedback intervention on inpatient cancer nurses': i) pain assessment capabilities; and ii) adherence to cancer pain screening and assessment guideline recommendations.

Methods: Setting: Specialist inpatient cancer nurses in five acute care settings within one translational cancer research network in NSW, Australia.

Study design: Pre-post test prospective follow-up study.

Methods: Survey and chart audit data collected: pre (T1) and post (T2-T3) intervention, and final chart audit 4 weeks (T4) post audit and feedback.

Intervention: Participants completed 11 case based pain assessment scenarios delivered to their nominated email via Qstream before the T1-T2 pain assessment chart audit data was feedback to them at T3.

Results: Intervention participants ($n = 44$) increased their pain assessment knowledge, pain assessment tool knowledge and confidence to undertake a pain assessment ($p < 0.001$), which was maintained at 10 weeks post-intervention. The positive changes in nurses' pain assessment capabilities' translated into a significant increasing linear trend in the proportion of documented pain assessments in patients' charts at three time points ($\chi 2$ trend = 18.28, df = 1, $p < 0.001$). The median pain assessment documentation quality scores also increased during the study period (Kruskal- Wallis test $\chi 21 = 7.17$, $p = 0.007$).

Conclusions: Integrating specialised on-line clinical content and audit and feedback into a QStream© module improves nurses' pain assessment practices. The next step is to confirm these results in an adequately powered randomised controlled trial.

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IMAGE GUIDED RADIOTHERAPY IN PROSTATE CANCER: EARLY RESULTS WITH SAFETY AND EFFICACY

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Background: Incidence of prostate cancer is increasing due to increasing awareness and active PSA screening. High biochemical control (bNED) is achieved with dose escalation by intensity modulated radiotherapy (IMRT) with image guidance, done either by gold marker or pelvic bone matching by KV on-board imaging (OBI) daily before radiation delivery

Aim: Outcomes of prostate cancer treated by IMRT with image guidance

Methods: From 2009–2013, 49 non-metastatic adenocarcinoma of prostate of KPS >80, Stage T2b-T4, N0-1 of intermediate and high risk disease were treated by IMRT with image guidance. Three gold markers placed in prostate by transrectal ultrasound. After rectal emptying and bladder filling, a contrast enhanced CT scan of pelvis with 3 mm slice was done. Prostate, seminal vesicles, rectum and bladder were delineated as per EORTC guidelines. The patients were treated with 5–7 beams of 6-MV photon either to whole pelvis RT (50.4 Gy/28 fr.) followed by prostate boost (26 Gy/13 fr.) or prostate only radiotherapy (PORT) to a dose of 76 Gy/38 Fr. Total androgen blockage was used in all

Results: The median age and PSA was 68 years and 21.6 ng/ml, gleason scores <7–59%, >7–41%, stage T2a-2c- 39%, T3-T4- 61%, intermediate risk-25% and high risk-75%, whole pelvis RT+ prostate boost-33%, PORT-67%, gold marker matching-64%, bone matching-36%. The median follow up was 29 months. Patients were assessed by DRE and serum PSA. Planning tumour volume received the prescribed doses of 76 Gy in 92% cases. Daily image guidance with OBI was mandatory, its compliance was recorded in 50%. Acute and late toxicities recorded as per RTOG criteria. Grade II-III rectal toxicity-10% and grade II bladder toxicity-2% and stricture urethra-4% was observed. Eight patients died (bone/liver metastasis-4, other causes-4). The 4-year bNED was 66%(high risk- 56%) and overall survival was 76%(high risk- 69%)

Conclusions: The dose escalation in prostate cancer is safe and feasible by IMRT with image guidance

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HYPERTHERMIA AS ADJUNCTIVE THERAPY IN INTEGRATIVE CANCER THERAPY

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Background: Hyperthermia, the artificial elevation of body temperature to 39–43°C, has been used as adjunctive cancer therapy for decades, particularly in Europe and North America, with promising results. A 2008 review reported an increase of complete response rates of up to 40–50%, improved quality of life and survival rates in patients receiving hyperthermia in addition to chemotherapy or radiotherapy compared to an average of 15% complete in response rates without hyperthermia.

Aim: To evaluate responsiveness to regional hyperthermia therapy in a cohort of cancer patients at an integrative medical clinic in Melbourne.

Methods: We followed a cohort of cancer patients, who had been treated with radiofrequency regional hyperthermia, receiving at least 8 sessions (1 cycle) of regional hyperthermia at 39–41°C for 60–85 min over 1–2 months (2–3 treatments/week), in conjunction with other therapies, including chemotherapy, radiotherapy, and intravenous-high-dose-Vitamin-C, as overseen by their treating doctors.

Results: From June 2012 until May 2014, 52 cancer patients received 8–64 (mean = 13.5) hyperthermia treatments in conjunction with other therapies. Patients presented with advanced stage primary pancreatic ($n = 5$), prostate ($n = 8$), breast ($n = 8$), colorectal ($n = 5$), lung ($n = 5$), and other cancer types, as confirmed by histo-pathological reports. At time of abstract submission, 45 patients (87%) had provided follow-up reports, 62% ($n = 28$) of these patients were with stable disease or in remission. All patients tolerated the hyperthermia treatment well. Combination therapy of regional hyperthermia in conjunction with chemotherapy appeared particularly promising for pancreatic cancer treatment, whereby four of our five patients were stable ($n = 2$) or in partial remission ($n = 2$), after receiving multiple hyperthermia cycles (24–64 treatments) in conjunction with chemotherapy over a 10–18 month period.

Conclusions: Hyperthermia as adjunctive cancer therapy is generally tolerated well, and seems to have the potential to improve response rates and quality of life. Adjunctive regional hyperthermia appears particularly promising for pancreatic cancer therapy.

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WHAT ARE THE SUPPORTIVE CARE ISSUES AFFECTING THE VICTORIAN CANCER POPULATION: HOW DO WE KNOW, WHAT DOES IT MEAN AND WHAT CAN WE DO?

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Background: Systematic supportive care screening using the NCCN Distress Thermometer and Problem Checklist (DT) commenced in Victoria in 2010 to identify and manage the supportive care needs of cancer patients. In 2013 a standardised state-wide review of the screened population was agreed.

Aim: Monitor the distress, needs and outcomes from supportive care screens in Victoria and compare nationally and internationally.

Use the findings at a local and state level to address service gaps and plan services to address identified needs.

Methods: A state-wide retrospective audit was undertaken on a sample of the 2013 screened cancer population. All items on the screening tool were collected and additional information about the patient, their cancer, treatment and action taken. Distress scores were categorised into low (<4), medium (4–8) and high (8–10). Analysis by region, tumour type, screening location, and treatment stage were compared to various scales to explore themes and service gaps to guide future service improvement programs.

Results: Over 2000 individual supportive care screens were audited. The breakdown of distress scores by category was consistent across the state and with international findings. Tumour types most commonly screened include: Breast, colorectal, haematological, lung and upper gastro-intestinal. Of these, distress scores recorded demonstrated that 14% of the breast and lung tumour streams scored 8 or above. The median number of problems identified per person was 5. The domains of emotional; worry (50%), nervousness (45%), sadness (36%), fears (34%), depression (20%), and physical; fatigue (45%), sleep (39%), pain (29%), eating (22%), memory (21%) were most commonly identified. Further data analysis into relationships between disease, treatment, problems and distress is underway.

Conclusions: Standardised detailed data collection of supportive care screening does provide valuable information about supportive care needs of the cancer population and can be used to guide service improvement to address identified need.

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FACTORS INFLUENCING PATIENT DELAY IN SEEKING MEDICAL CARE AMONG EGYPTIAN WOMEN PRESENTING WITH ADVANCED BREAST CANCER AT ONCOLOGY CENTRE –MANSOURA UNIVERSITY

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Background: Breast cancer patients in developing countries usually seek treatment at a more advanced-stage of disease. Delayed presentation is an important obstacle to improving cancer treatment outcomes.

Aim: A descriptive research study was conducted to explore factors influencing patient delay in seeking medical care among Egyptian women presenting with advanced breast cancer. Sixty one adult advanced breast cancer female patients were selected.

Methods: Two tools were used: Tool I: Structured interview questionnaire: It consists of 76 items and included six main parts; Part I: Sociodemographic characteristics of advanced breast cancer women (ABCW). Part II: Knowledge of patients about breast cancer, risk factors, and signs and symptoms, methods of breast cancer early detection, diagnosis, and treatment of breast cancer. Part III: Psychosocial and cultural beliefs about breast cancer. Part IV: Availability and accessibility to BC services. Part V: Symptoms related factors, and Part VI: Cancer stages among advanced breast cancer women. Tool II: Perception towards breast cancer prevention, diagnosis and treatment.

Results: Revealed that, 32 of women (54.5%) of the study participants delayed for more than three months, 29 (47.5%) delayed for more than four months, the total delay was 57.4% among cancer stage III and 42.6% were among cancer stage IV.

Conclusions: Lack of knowledge about breast cancer, increase cost of BC screening and treatment, lack of health insurance system, psychosocial and cultural beliefs about breast cancer financial problems, and time constraints, and the availability and accessibility of breast cancer service are the main factors. Educational program is essential to increase females' awareness towards breast cancer, and early detection. 2- Mass media should have a role in raising the awareness of the community. 3- Establishing strategies to able breast cancer patients to present early for treatment after being diagnosed.

Keywords: Factors Influencing, Delay, Medical Care, Advanced Breast Cancer – Mansoura University Egypt

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ANALYSIS OF MORTALITY FROM ACUTE LYMPHOBLASTIC LEUKEMIA IN CHILDREN AND ADOLESCENTS IN MEXICO, 2003–2012

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Background: In the last decades mortality from cancer in children and adolescents has not decreased homogeneously in countries. The childhood cancer represents between 0.5 to 5.7% of all malignancies reported. Acute lymphoblastic leukemia (ALL) is the most common malignancy in childhood. The impact of chemotherapy has improved survival in children.

Aim: To determine the epidemiological behavior and mortality trend from acute lymphoblastic leukemia in less than 20 years old in Mexico from 2003 to 2012.

Methods: Data was obtained from the National Institute of Statistics, Geography and Informatics (INEGI) from deaths 2003–2012. Age-standardized mortality rates (ASMR) and mortality trends from acute lymphoblastic leukemia were estimated in less than 20 years old.

Results: From a total of 702,909 deaths by cancer, 26,394 (3.8%) deaths were in less than 20 years old. The mortality rate from acute lymphoblastic leukemia was 29.8 %; the male/female sex ratio was 1.4 and the predominant age group ranged from 15 to 19 years old.

Conclusions: In Mexico the mortality from acute lymphoblastic leukemia at children and adolescents remains a major public health problem, although it has a falling trend. On the other hand, it is important to remember that mortality rate for childhood acute leukemia is an indicator of access to and efficacy of health services, so it's necessary to establish population-based cancer registries and studies will be needed.

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DEMOGRAPHIC CHARACTERISTICS, INFORMATION AND PSYCHOSOCIAL SUPPORT NEEDS OF CARERS WHO ACCESSED AUSTRALIAN CANCER COUNCIL HELPLINES FROM JANUARY 2010 – DECEMBER 2012

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Background: In January 2010, the Cancer Council Helpline Network established a minimum national database (MND) to collect data on people who contacted helplines from each state and Territory.

Aim: This analysis sought to determine carer (family members/close friends) use of cancer helplines as well as demographic characteristics and information and support needs of this caller group.

Methods: MND data from January 2010 to December 2012 were analyzed. State-wide and national proportion of calls to the helplines for the period of evaluation were computed by means of national population data. The estimated total number of new cancers diagnosed within each state for years' 2010 -2012 were calculated using national cancer incidence data extrapolated from the Australian Institute of Health and Welfare (AIHW) from years' 2006 to 2008. Descriptive analysis such as percentages were determined; chi-square and logistic regression were used for comparing the demographic characteristics of callers.

Results: Across Australia, 42,892 carers contacted cancer helplines; 83% were first contacts. The majority of calls received were from women (81%), middle (40%) and high (41%) socio-economic backgrounds, and from carers aged 40–59 years (46%). Half the carers (52%) sought general information (e.g. cancer diagnosis, symptoms, practical issues), 26% requested psychological/emotional support, and 22% discussed treatment and disease management. A decrease in the proportion of calls from carers to the Helpline within each state (except Western Australia) was observed over time. No significant age and gender differences or age by gender interaction effects were found regarding information and support needs.

Conclusions: These results provide service providers with important information on the specific information and support needs of carers of people diagnosed with cancer who call Australian helplines. This analysis identifies potential gaps in service delivery and whom promotion of cancer support services could be targeted.

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RELAY FOR LIFEOR A FEW YEARS, IN QUEENSLAND: EPISODIC VOLUNTEER RETENTION IN THE CANCER CONTROL CONTEXT

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Background: Non-profit organisations involved in cancer control mobilise thousands of episodic volunteers (EV) to participate in community events such as Relay For Life, a global movement founded by the American Cancer Society, to raise vital funds for research, prevention, education and support services. Problematically, although EVs are crucial for cancer control, theory-based research on EV is scant and the determinants of EV not well understood.

Aim: Accordingly, this study draws on two traditional volunteer retention theories (volunteer process model and three stage model of volunteers' duration of service) to explore the determinants of EV retention in Queensland Relay For Life events.

Methods: A cross sectional survey of 340 Team Captains registered for a Queensland Relay in 2013 (24% response) assessed volunteering antecedents (demographics, motives, social norm, sense of community), experiences (satisfaction, organisational commitment) and intention to continue volunteering (retention).

Results: Based on their duration of service, EVs were classified in Novice (first experience; 24%), Transition (volunteered 2–4 years sporadically; 46%), or Sustained (volunteered 5–6 years consecutively; 30%) phases. There were no significant differences in demographics across phases except Sustained EVs were older; owned their own home/paid a mortgage; and reported more familial connections (parent/s, partner, sibling/s) diagnosed with cancer, than EVs in other phases. Social/enjoyment ($\beta = .17$) and benefit ($\beta = -.15$) motives, social norm ($\beta = .20$), and satisfaction ($\beta = .56$) predicted Novice EV retention; satisfaction ($\beta = .47$) and commitment ($\beta = .38$) predicted transition EV retention; and supporting the organisation financially ($\beta = .31$), social norm ($\beta = .18$), satisfaction ($\beta = .41$) and commitment ($\beta = .19$) predicted sustained EV retention. Demographics did not predict retention.

Conclusions: Three phases of volunteering were confirmed each with a specific pattern of antecedents and experiences predicting intention to continue volunteering in future. A dynamic model of volunteering behaviour that allows for the evolution and development over time of different volunteer typologies with distinct characteristics was supported.

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CANCER INCIDENCE IN SOUTH-EASTERN NIGERIA- FIRST RESULTS FROM THE ENUGU CANCER REGISTRY

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Background: The Enugu Cancer Registry (ECR) was established in 1988 as a hospital-based cancer registry in one of the oldest tertiary hospitals in Nigeria – the University of Nigeria Teaching Hospital (UNTH), Enugu. The registry became a member of the Nigerian National System of Cancer Registries (NSCR) in 2009 and became population-based in 2012. ECR covers a population of 1,103,153 people.

Aim: To describe the pattern of cancers in South Eastern Nigeria reported by the ECR in 2012–2013.

Methods: Data was collected and entered into CanReg5, checked for any errors including duplicates, which were excluded. All pending cases were rechecked and confirmed. CanReg5 was used to generate age standardized incidence rates by sex and by age group.

Results: There were a total of 1738 cases of cancer over the 2 year period 2012–2013. Of these, 1072 (62%) were in females and 666 (38%) was seen in males. The age standardized incidence rate (ASR) for all cancers in females was 141.9 per 100,000 and in males the ASR was 86.1 per 100,000. The most common cancers reported in women were cancers of the breast (466 cases, ASR = 60.3 per 100,000), cervix (146 cases, ASR = 22.6 per 100,000) and ovary (43 cases, ASR = 5.5 per 100,000). In men the commonest cancers were those of the prostate (232 cases, ASR = 33.9 per 100,000), colorectum, (55 cases, ASR = 7.1 per 100,000) and liver (27 cases, ASR = 3.3 per 100,000).

Conclusions: Breast and cervical cancer are the most common cancers in women reported in south-eastern Nigeria, similar to reports from other parts of Nigeria. Prostate and colorectal cancers are the most frequent among men in the region. The most common cancers and ASRs are similar to our previous published findings from older population based cancer registries in Nigeria.

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A NOVEL IGF1 SIGNALLING PATHWAY REGULATED BY EPHA4 DELAYS CANCER DEVELOPMENT INDUCED BY 4T1 MURINE BREAST CANCER ISOGRAFTS

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Background: EphA4 belongs to a large family of receptor tyrosine kinases that play critical roles in cancer progression. We have previously reported that the absence of EphA4 expression decreased the amount of IGF1 in the circulation and tissues, which contributed to the short stature. 4T1 breast cancer are known to produce a large amount of granulocyte colony-stimulating Factor which can cause splenomegaly and leukemoid reaction associated with a poor prognosis.

Aim: To investigate whether EphA4 deletion microenvironment affects tumor progression and leukemoid reaction in a novel IGF1 production pathway.

Methods: We isografted mouse breast cancer cells (4T1) into the mammary fatpad of both EphA4-knockout (KO) and control female mice. Recombinant human IGF1 was subcutaneously injected into the EphA4-KO mice for 9 weeks starting 4 weeks before grafting 4T1 cells. The control mice were treated with saline alone for the same period. The parameters evaluated in vivo were tumor growth, metastasis, peripheral blood leukocyte number and splenomegaly.

Results: Both the size of primary tumors and the distribution of metastatic tumors were markedly reduced in EphA4-KO mice without IGF1 injection than those in control EphA4 wild type (WT) littermate mice. Furthermore, splenomegaly and leukemoid reaction were markedly severer in control WT mice. The EphA4-KO mice treated with IGF1 gained a significant amount of tumor weight as well as increased metastatic tumor numbers and showed an enhanced leukemoid reaction to almost the level of the control mice without significant difference. However, IGF1 injection could not enhance splenomegaly.

Conclusions: EphA4-deleted microenvironment displays an impaired tumor-supporting condition. The absence of EphA4 delays tumor development and reduces leukemoid reaction by decreasing IGF1 in the circulation and tissues. EphA4 appears to be involved in the augmentation of both leukemoid reaction and splenomegaly, but the latter might not directly be mediated by an IGF1 signal. Our findings may prove a new therapeutic target..

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CHANGES IN CANCER CARE BY 2020

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Context: With 350,000 new cases each year, cancer is the leading cause of death in France. In the midst of today's revolution in oncology, UNICANCER has conducted the study: "UNICANCER: What kind of cancer care in 2020?"

Goal: To know about the main developments in oncology to better anticipate and orient healthcare service.

Methodology: 40 experts from the FCCCs, University hospitals, private clinics and the pharmaceutical industry, in France and abroad, were interviewed. The study was carried out under the supervision of an expert scientific committee in 3 stages:
1. Identifying trends in oncology by 2020
2. Qualifying and quantifying them: the study includes changes in FCCCs' activities by 2020, in light of demographic and epidemiological trends on a national scale*
3. Assessing the impact of changes in terms of number of beds, equipment and medical time frames

Results: Ambulatory care will represent 50% of breast cancer surgeries, 15% of ovarian cancers (*versus* 3%), 15% of thyroid cancer surgeries (*versus* 1%). This will require reorganisation of surgical units: a 20% decrease of traditional hospital beds and a 40% increase of ambulatory beds
Technological progress will reduce the number of radiotherapy sessions per treatment and increase time spent in sessions by 60% to 200%
Tumour characterisation will reduce intravenous chemotherapy treatments for breast cancer by 25%.
Homecare chemotherapy is expected to increase up to 14% versus the current 3%
Oral chemotherapy treatments will require more follow-up consultations: the number of medical oncologists in FCCCs is to increase by 9%
FCCC patients benefiting from tumour characterisation will increase sevenfold, which will require a 50% increase in the biopathology and genetic-oncology staff
Due to technological advances, interventional radiology therapies will increase: 4x more interventional radiology treatments, 6x more interventional radiology consultations, 16% more scanner time and 36% more MRI time

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THE ROLE OF INFORMAL CAREGIVERS IN CANCER CARE: TASKS, TIME SPENT AND RELATIONSHIP WITH PERCEIVED BURDEN

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6. *Cancer Council Queensland, Queensland, Australia*
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Background: Informal caregivers of people with advanced cancer take on a vital role in the care of the patient. The tasks they take on and the relationship between caregiving tasks and perceived burden is not well understood.

Aim: To describe the caregiver tasks and examine the relationship between perceived burden, care tasks, time spent providing care and patient quality of life in caregivers of advanced cancer patients.

Methods: A cross-sectional survey design was used, collecting data from both caregivers and patients with a diagnosis of lung or gastrointestinal cancer. Caregivers completed measures on Care tasks (Clinical Care Tasks Measure) and caregiver burden (Caregiver Reaction Assessment). Data from patients on their quality of life were also collected (EORTC QLQ-C30).

Results: Data will be reported on 66 dyads. Caregivers were mostly female (70%) aged between 29–78 years (mean 57). Patients were mostly male (62%), aged between 39–87 (mean 62 years). Eighty per cent reported providing care provision for the patient seven days a week. Caregivers an average of 6.8 hours of care provided daily. Care tasks carried out were diverse across the sample, and the most common tasks was accompanying the patient to appointments (84%), assisting with driving (70%) and monitoring side effects (68%). More care tasks was associated with more of an impact on the caregivers schedule ($r = 0.47$, $p < 0.01$), but not for other domains of burden (impact on family, health, finances or caregiver esteem). Hours spent caring per week was not associated with burden. Patient quality of life was not associated with time spent providing care, tasks or caregiver burden.

Conclusions: Caregivers conduct a range of tasks in supporting the person with cancer. More care tasks were associated with negative impacts to the caregiver's schedule. Findings suggest that caregiving burden is not solely associated with care tasks or time spent in this role.

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LYMPH NODE DENSITY IS A PROGNOSTIC FACTOR IN PATIENTS WITH MAJOR SALIVARY GLAND CARCINOMA

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Objectives: Lymph node density (LND) has been reported to be a significant predictor of survival in oral squamous cell carcinoma and other carcinomas with positive lymph nodes. We investigated whether LND is correlated with overall survival in major salivary gland carcinoma.

Methods: Seventy-eight patients newly diagnosed to have major salivary gland carcinoma underwent both primary tumor resection and neck dissection without preoperative treatment. Of these 78 patients, 32 patients with pathologically positive lymph nodes were enrolled in this study. The LND was calculated as the ratio of the number of positive lymph nodes to the number of total lymph nodes. The survival rate was analyzed by the Kaplan-

Meier method. A univariate survival analysis was performed using the log-rank test, and a multivariate survival analysis was performed using the Cox proportional hazards model.

Results: A $\mathrm{LND} \geqq 0.38$ was significantly correlated with a shorter overall survival in univariate analysis ($p < 0.02$). In a multivariate survival analysis with adjustment for the anatomical location (parotid gland/others), $\mathrm{LND} \geqq 0.38$ was associated a significantly shorter overall survival.

Conclusion: These results suggest that the LND is able to provide a prognostic factor for major salivary gland carcinoma.

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THE ROLE OF HISTONE METHYLTRANSFERASE G9A AND CHEMOTHERAPEUTIC SUSCEPTIBILITY IN HEAD AND NECK CANCER

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Publish consent withheld

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A NOVEL LITERATURE-BASED APPROACH TO IDENTIFY GENETIC AND MOLECULAR PREDICTORS OF SURVIVAL IN GBM: ANALYSIS OF 14678 PATIENTS USING SYSTEMATIC REVIEW AND META-ANALYTICAL TOOLS

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Background: Glioblastoma multiforme (GBM) has a poor prognosis despite maximal multimodal therapy. Biological markers relevant to prognosis could be potential treatment targets. A few hundred genetic and molecular factors have been implicated in the literature, however apart from two factors (IDH-1 and O6-MGMT), their clinical significance has been unknown.

Aim: To identify which genetic and molecular factors are associated with overall survival in adults with GBM using established systematic review and meta-analytical methods.

Methods: A systematic search of MEDLINE (1998-July 2010) was performed. Eligible papers studied the effect of any genetic or molecular marker on univariate overall survival in adult patients with histologically diagnosed GBM. Primary outcomes were median survival difference in months and univariate hazard ratios. Analyses included converting 126 Kaplan Meier curves and 27 raw data sets into primary outcomes. 74 random effects meta-analyses were performed on 39 unique genetic or molecular factors. Objective criteria were designed to classify factors into the categories of clearly prognostic, weakly prognostic, non-prognostic and promising.

Results: Included were 304 publications and 174 studies involving 14678 unique patients from 33 countries. 422 genetic and molecular factors were identified, of which 52 had ≥ 2 studies. IDH-1 mutation ($n = 1114$) and O6-MGMT ($n = 1232$) were classified as clearly prognostic. High Ki-67/MIB-1 ($n = 1099$) and loss of heterozygosity (LOH) of chromosome 10/10q ($n = 1300$) were classified as weakly prognostic. Four factors were classified as non-prognostic (EGFR, p53, PTEN, CDKN2A) and 13 factors (BAX, 1p19q, EphA2, p-p70s6k, PI3K, Survivin, p-Akt, Cathepsin, hTERT, Rb, Ras, MAPK and PCNA) were classified as promising. Funnel plot analysis did not identify any publication bias.

Conclusions: This large study demonstrates a novel and statistically powerful literature and meta-analytical based methodology that with proper refinement by the oncology community could guide very effective and efficient basic sciences research.

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DEVELOPMENT AND EVALUATION OF A POTENTIAL TREATMENT AGAINST CASTRATION RESISTANT PROSTATE CANCER

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Background: With an increasing morbidity and mortality, the prostate cancer has threatened the survival and life quality of males in both developed and developing countries, such US and China. Castration or androgen disruption was the common treatment for prostate cancer patients. However, the disease usually processed to the late stage when diagnosed, the Castrated Resistant Prostate Cancer (CRPC), which was AR (androgen receptor) dependent. Therefore, drugs targeting the AR signaling pathway might be of great clinical significance.

Aim: In order to develop treatment against CRPC based on Enzalutamide proved by FDA in 2012, yet with less drug resistance, we have developed and evaluated the drug efficacy of our novel drug HC1119.

Methods: Influence of HC1119 on survival and apoptosis of AR-expressing cells, on AR trans-localization, and affinity to AR were tested. Effect of HC1119 on tumor growth and dose responses was evaluated in the SCID murine xenograft model.

Results: Our studies indicated that HC1119 exhibited similar or better potential as Enzalutamide *in vitro*. HC1119 inhibited proliferation of LNCaP-AR cells (LNCaP cells with AR overexpression) with an IC_{50} of 85 nM. Incubation of HC1119 with VCaP cells induced cell apoptosis to the similar level as Enzalutamide. Besides, it also promoted nucleus trans-localization of AR.

As the first and probably only organization which was able to develop the CRPC SCID xenograft model in China, we have evaluated the efficacy of HC1119 *in vivo*. Our studies indicated that low, medium and high dosages of HC1119 prohibited tumor growth in the CRPC murine models, and the T/C ratio of mice treated with high dose of HC1119 was nearly 10%. Lastly, our PK studies indicated that the bioactivity of HC1119 was better than Enzalutamide in rats and dogs.

Conclusions: We have provided strong evidence for the anti-CRPC potential of HC1119 both *in vitro* and *in vivo*.

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THE COMBINATION OF PAX1 METHYLATION GENE WITH ONCOGENIC HPV TYPING IS A NEW MOLECULAR PAP SMEAR FOR CERVICAL CANCER DETECTION IN CHINA

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Background: The correct Pap smear result remains challenging for Chinese doctors because of the cytologist experience and quality of the infrastructure.

Aim: To evaluate the efficacy of HPV typing combining with specific PAX1 methylation genes for cervical cancer screening in Xiangya Hospital, China.

Method: Following the GCP guidance, the subjects were recruited in Xiangya Hospital in China. The inclusion criteria were female with age ≥ 20 and sexual experience. The exclusion criteria included: women had history of cancer related to reproductive tract, had therapy for cervical lesions, had received HPV vaccination or at pregnancy.

The results of Pap and PAX1 methylation biomarkers were determined by using Q-PCR. HPV typing tests were determined by semi-nested PCR and reverse hybridization. Sensitivity, specificity, and accuracy for HPV and the DNA methylated level were analyzed.

Results: Total 432 case control subjects were recruited and 296 HPV-HR subjects were analyzed in the study. The final diagnosis was confirmed by histological reports. The results showed that the PAX1^m was significantly higher in HPV-HR patients with CIN3 and worse lesions than those with CIN1, CIN2, and normal cervix ($P < 0.0001$). The sensitivity, specificity and accuracy of PAX1^m were >75%, >80% and >78%. As for HPV high risk, the sensitivity and specificity were >97% and >47%. Compared to the efficacy of HPV-HR for triage of the first screening, PAX1^m tests could reduce over 40% of referrals for colposcopy/biopsy.

Conclusions: The current results indicated that the real time PCR-based testing for DNA methylation of PAX1^m is promising for cervical cancer detection and screening in Chinese population. Combining with the HPV 16 & 18 typing provide greater sensitivity and specificity for the detection of cervical cancer as first screening.

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THE PRELIMINARY ANALYSIS OF THE FACTORS RELATED TO THE SURVIVAL OF PANCREATIC CANCER IN ELDERLY PATIENTS WITH MINIMALLY INVASIVE THERAPY

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Background: As the population ages, the tumor has become a high incidence of disease in the elderly, this situation will become one of the social concern. Pancreatic cancer is a common malignant tumor of the digestive system, nearly 30 years incidence has increased.

Aim: To discussion the risk factors related to survival of patients with pancreatic cancer in elderly patients aged over 60 years

Methods: The clinical data of pancreatic cancer patients over 60 years old was analysis, such as gender, age, TMN staging, and different minimally invasive therapy

Results: Totally, the average median survival time of 135 cases of eldly patients with pancreatic cancer was 7.7 months, and half-year survival rate was 60%, and 1-year survival rate for 24%, 2-year survival rate for 6%, 3-year survival rate of 4%. The results of multivariate regression model of COX mode showed that only radical resection of pancreatic cancer are independent risk factors affecting prognosis of patients. The survival analysis of patients with different treatment methods found that, No TAI/TACE group compared with the TAI/TACE group the median survival period were 6.8 months and 8.8 months ($p = 0.\ 362$), No HIFU group compared with HIFU group, the median survival period was 7.5 months and 7.9 months ($P = 0.456$), TAI/TACE group compared TAI/TACE combined with radiotherapy group, the median survival time was 6.5 months and 11.6 months ($p = 0.\ 035$); TAI/TACE group compared TAI/TACE combined with HIFU group, the median survival time was 5.6 months and10.2 months ($P = 0.024$).

Conclusions: It suggested that radical resection of pancreatic carcinoma related to the prognosis of elderly patients over 60 with pancreatic cancer. Radical Resection of pancreatic carcinoma in the elderly patients with early stage could get long-term survival, The elderly patients with advanced pancreatic carcinoma could benefit from the combination treatment, such as the treatment of TAI/TACE combined with radiotherapy, TAI/TACE combined with HIFU.

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PIM-1 ACTS AS AN ONCOGENE IN HUMAN SALIVARY ADENOID CYSTIC CARCINOMA

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Background: Pim-1 (Provirus integration site for Moloney murine leukemia virus 1) belongs to the Ser/Thr kinase family and plays a pivotal role in occurrence and development of oncogenesis. Recent studies have demonstrated that Pim-1 phosphorylates RUNX3 and alters its subcellular localization. As a highly malignant tumor, salivary adenoid cystic carcinoma (ACC) accounts for approximately 10% of all epithelial salivary tumors and the 5-year survival rate of patients with highly metastatic ACC is less than 20%. However, few studies have concerned the implications of Pim-1 in the salivary ACC.

Aim: In this study, we aimed to clarify the function of Pim-1 in ACC cell lines in vitro. Meanwhile, we measure the levels of Pim-1 and RUNX3 in the ACC tissues. The correlations between Pim-1/RUNX3 levels and clinical parameters were also analyzed.

Methods: SACC-83 and SACC-LM cells were transfected with the Pim-1 siRNA. Pim-1 mRNA and protein expression were measured using real-time PCR and immnuoblot, respectively. Cell proliferation was analyzed by CCK-8 assay. Cell cycle, apoptosis, and mitochondrial membrane potential were detected by flow cytometry. Effects of Pim-1 on cells' invasion were evaluated by transwell migration assay. Pim-1 and RUNX3 levels in ACC tissues were examined by immunohistochemistry.

Results: Pim-1 siRNA reduces cell proliferation, induces apoptosis, causes cell cycle arrest, mitochondrial depolarization, and decreases invasive ability in SACC-83 and SACC-LM cells. Pim-1 and RUNX3 levels are negative relevant and significantly associated with T-stage and nerve invasion in the ACC tissues.

Conclusions: This study demonstrates the oncogenic role of Pim-1 in ACC. The findings also suggest that Pim-1 may serve as a neoteric therapeutic target and potential prognostic marker for ACC cancer.

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A NOVEL BLOOD TEST FOR TUMOUR RESECTION AND RECURRENCE MONITORING

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Background: Non-invasive methods to monitor for colorectal cancer (CRC) recurrence suffer from lack of sensitivity (e.g. CEA) or radiation exposure (e.g. CT). We have previously described a blood test for CRC based on detection of two methylated genes that may indicate invasive tumour DNA shedding into the blood (1).

Aim: To present initial findings correlating methylated biomarkers with CEA and recurrence uncovered by radiological follow up.

Methods: Methylated *BCAT1* and *IKZF1* DNA and CEA were measured in patients previously diagnosed with CRC. Blood was collected before or after intervention including surgery or chemo/radiotherapy. Records for those patients positive for either test were reviewed to determine if a recurrence had occurred.

Results: Following treatment, patients who were methylation test positive prior to treatment showed no methylation (22/30, 73%) or significantly reduced methylation (6/30, 20%) a median 3.8 months after treatment. Records for 89 post-intervention patients who had both tests a median 10.6 months after treatment were reviewed. One patient positive for both tests was shown to have liver metastasis. 65 (73%) were negative for both assays and 23 (26%) patients were positive for the 2-gene blood test but negative for CEA. Records for the latter patients identified 6 (26%) with local or distant recurrence, 6 (26%) at high recurrence risk, 5 (22%) with pending possible distant recurrence, and 2 with other cancers (skin and breast). The remaining four two-gene blood positive cases showed no sign of recurrence.

Conclusions: Following cancer treatment most (93%) patients show either no detectable methylated *BCAT1* or *IKZF1* or significantly reduced levels in blood plasma. Methylated *IKZF1* and *BCAT1* DNA in the blood correlated with local or distant recurrence or high risk of recurrence (83%) even if CEA was negative. The clinical utility of the 2-gene blood test for CRC recurrence monitoring should be further investigated.

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STRENGTHENING NATIONAL TOBACCO CONTROL IN JORDAN: STIRRING UP MOMENTUM AND ENGAGEMENT THROUGH CREATING FORUMS FOR COLLABORATION, COMMUNICATION, AND SHARING OF INFORMATION

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Background and Context: Jordan ratified FCTC in 2004. Progress has been lagging with no comprehensive review of advances in tobacco control (TC). With better understanding of size of problem, national achievements, and barriers; and with collaboration forums in place; stakeholders -including civil society- are set to change the scene.

Aim: King Hussein Cancer Foundation and Center undertook a national project aiming to strengthen political commitment, stakeholder engagement, and TC planning, eventually leading to prioritizing TC in national policies.

Strategy/Tactics: Stakeholder roster was expanded beyond conventional entities. A core team of TC experts, TC activists, and legal experts undertook a status quo assessment covering policies, legislation, activities, and opinions. A comprehensive report – in layman language- was developed. Several national stakeholder workshops were held to plan and sustain momentum.

Programme/Policy Process: Building on FCTC, a framework was developed to guide the review. Methods included desk review of plans and policies, a comprehensive review of legislation, interviewing stakeholders, and surveying the public on attitudes and opinions. Workshops were held to educate stakeholders on evidence-based TC policies, share report, identify priorities, and initiate plans. The report was shared with media and made publicly available.

Outcomes/What was learned: TC, perceived exclusively as a health concern, is not a national priority and is thought to compete with short-term economic interests. TC plans are disconnected from national goals, activities are unsystematic, funding is minimal, legislation is fragmented and ambiguous, and the supply side is under-regulated. There is public support for TC and belief that the government should do more. Engaged in process and equipped with knowledge, stakeholders demonstrate stronger ownership, civil society advocacy has gained momentum, and networks conducive to stronger TC efforts are in place. Examples of increased momentum include growing stakeholder interest, increasing media coverage of TC, and rising demands for protection from SHS.

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TEACHING DOCTORS REGARDING VARIOUS ASPECTS OF BREAST CANCER AT PRIMARY HEALTH CENTER IN RURAL PART OF INDIA: CAN DRIVE FUTURE IN BREAST CANCER OUTCOME IN INDIA BY PREVENTION AND EARLY DETECTION.

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Background and Context: Breast Cancer is most common cancer among women and also most common causes of cancer mortality in India but they are largely preventable. In India, late presentation is responsible for high mortality and morbidity, which is attributed to many factors and one of the important factor is lack of knowledge of breast cancer among doctors at primary health center in rural India.

Aim: Project aimed at teaching doctors regarding various aspects of Breast Cancer at Primary Health Center in Rural India will be most important to drive future in breast cancer outcome in India by prevention, early detection and referral at right time.

Strategy/Tactics: Official permission will be taken after discussion about burden of disease, related problems, delay in diagnosis and survival and doctors competence in cancer care. Doctors in rural area will be included in teaching cum sensitization program regarding various aspects of breast cancer. Every participant will be provided a booklet consisting of all the information related to breast cancer for reference in future. Teaching program will be followed by interactive session. Each doctors will be updated at regular intervals. For new participants, doctors who have attended this teaching program will have the responsibility to share these knowledge. Training at higher center will be arranged for those who wishes to learn more.

Programme/Policy Process: One day sensitization cum contact program aimed at teaching breast cancer to doctors, will help thousand of doctors to understand breast cancer in a better way and after campaign they would be able to screen, diagnose and patients referral to right place at the right time then only morbidity and mortality of breast cancer can be reduced.

Outcomes/What was learned: Every month, impact in every district will be measured by knowing number of people screened for breast cancer, number of diagnosed breast cancer cases, stage at diagnosis, whether referred to right place at right time, referral hospital and compliance of treatment.

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ENTERING THE VIRTUAL HEALTH LIBRARY PREVENTION AND CANCER CONTROL IN SOCIAL NETWORKS – THE EXPERIENCE ON FACEBOOK

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Background and Context: Social networks became an important media strategy for disseminating information with interactivity in real time and dynamically. The focus of the VHL page on Facebook is to promote issues related to cancer control in order to attract the audience interested in the theme and make them aware of the VHL.

Aim: To increase the visibility of VHL Prevention and Control of Cancer, to encourage participation in the construction and dissemination of knowledge.

Strategy/Tactics: The posts were selected by a search of news on Facebook and other websites, especially those of the institutions that make up the Executive and Advisory Committees of the VHL network.

Programme/Policy Process: The aim is to facilitate the migration of users of Facebook for VHL website.

Outcomes/What was learned: The Facebook page became public in July 2013 and until the end of May 2014 702 people had liked it and consequently became fans. Of this total, 80% are women and 20% men. By sex and age group, 27% are women between 25 and 34 years old, 2% between 35 and 44 years and 12% are between 45 and 54 years. Among males, 5% of the fans of the page are between 25 and 34 years and 6% between 45 and 54 years. Most fans are Brazilians (668) and from Rio de Janeiro (228). The post which received more views was the disclosure of an event that INCA promoted in support of Pink October, which was viewed by 2741 people. Second it was is the post reporting the opening of entries for the selection process of residency programs of INCA which was viewed by 2499 people.

It is necessary to create own contents for the VHL page on Facebook. Such posts should include tips for searching the databases, highlights for new publications cataloged, plus weekly publication of registered events.

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REACH AND REACTION – PROMOTING WORLD NO TOBACCO DAY TO THE MASSES THROUGH FACEBOOK

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Background and Context: The Make Smoking History (MSH) Facebook page, created in September 2012, was designed to engage people affected by, or interested in tobacco cessation between the ages of 18–54. For World No Tobacco Day (WNTD) 2014, MSH and advertising agency Gatecrasher created a post for Facebook which was then promoted in consumers' newsfeeds throughout WA.

Aim: To promote the WNTD theme for 2014 of raising tobacco tax, as set by the World Health Organisation.

Strategy/Tactics: To create an engaging image and encourage consumers to share the post in the lead up to WNTD. The tobacco tax theme was mentioned in the promoted post (with an emphasis on saving money) along with an image of a piggybank and the tagline 'Save money and your life'.

Programme/Policy Process: The post was uploaded to Facebook and promoted from 26th–30th May 2014. Consumer metrics were provided by Facebook's inbuilt analytics tool 'Facebook Insights' and Gatecrasher. The media spend was $3,312.50.

Outcomes/What was learned: The promoted post reached over 430,000 people (393,600 due to paid reach) and gained a total of 4,314 likes, 613 comments and 1,528 shares. The number of comments were split evenly between males and females. A further 2,506 likes, comments and shares were achieved through people sharing the post with their friends.

Males made more comments about NRT, other drugs, the government and positive remarks about the campaign than females. Females made more comments on prohibition, loved ones and the health benefits of quitting than males. In addition there were 72 comments hidden or deleted due to expletives (78% male, 22% female).

The 'tagging' function of Facebook became an extremely useful targeting tool. 415 people were tagged by their friends and family in the post comments, creating a very direct path to the intended audience.

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MAKING THE MOST OF THE TOBACCO EXCISE

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Background and Context: From 1st December 2013 the Australian Commonwealth Government introduced a staged 12.5% increase in tobacco excise over the four years to 2016. Evidence shows that the increase in excise in 2010 (25% increase) resulted in an 11% fall in tobacco consumption. With these prices increases to tobacco, it is estimated that 210,000 Australians will be prompted to quit smoking, 100,000 Australians will avoid premature death and 40,000 fewer kids aged 12 to 17 years will be deterred from taking up smoking.

Aim: To develop a media campaign highlighting the increase in tobacco excise to encourage smokers that 'now' has never been a better time to quit.

Strategy/Tactics: With limited budget, the focus for the media campaign was on radio, online and ATM machines that were geotargeted to areas with high smoking prevalence and high population levels of the target audience. The target audience is significantly more likely than the average to be heavy radio consumers, and online platforms and ATM machines allowed strong contextual relevance for the messages. The creative for ATM machines included the visual of a $20 note coming through machine's slot with a written key message underneath. Twenty dollars was the amount a packet of cigarettes was going to be with the introduction of the first tax.

Programme/Policy Process: The campaign was reinforced by proactive public relations activities and supported by the policy program within Quit Victoria.

Outcomes/What was learned: The choice of media enabled high reach and frequency in a contextually relevant environment for a reasonably small budget. The radio activity reached 72% of the target audience, equating to 1,595,000 people. The online activity achieved 4,046,918 impressions, 21,768 clicks and a click-through-rate of 0.54%.

1060

NO MORE HIDING: CAPITALISING ON THE CONVERSATION AROUND PLAIN PACKAGING THROUGH VIRAL VIDEO

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Background and Context: Following the introduction of plain packaging in Australia on December 1st 2012, Quit Victoria set out to produce an online video that capitalized on the high level of interest and conversation around plain packaging and the larger graphic health warnings and encourage smokers to make a quit attempt.

Aim: To motivate smokers who were using avoidance strategies to dodge the new and larger graphic health warnings to make a quit attempt

Strategy/Tactics: The 'No More Hiding' digital campaign was aimed at smokers who were attempting to dodge the new and bigger graphic health warnings on their plain packaged cigarettes. Smokers who were attempting to avoid the warnings by picking and choosing different packets at the shop or otherwise covering them up were asked to think about what they were really hiding from in the digital campaign.

Programme/Policy Process: With only a $20,000 budget for production and promotion, an online video that could be shared through a social media and YouTube campaign was the best way to achieve the campaign objectives. A simple one page site nomorehiding.com.au was built to house the video, facilitate sharing and offer direct links to quitting advice on the Quit Victoria website.

Outcomes/What was learned: Despite a very small budget and a very tight timeline, Quit Victoria was able to achieve more than 60,000 views through a carefully targeted social media and unpaid media strategy. The campaign was shared by several high-profile people on social media including Australia's Health Minister Tanya Plibersek. We learnt that digital video can be a very quick and efficient way of spreading a message but that it has a much greater chance of flourishing if it is supported by even a small advertising spend as well as targeted social media and PR promotion.

1061

DEVELOPMENT AND EVALUATION OF THE FIND CANCER EARLY COMMUNITY EDUCATION CAMPAIGN IN REGIONAL WESTERN AUSTRALIA

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5. *Institute of Health and Rehabilitation Research, Notre Dame University, Fremantle, WA, Australia*
6. *School of Population Health, University of Western Australia, Crawley, WA, Australia*

Background: In Australia, non-metropolitan cancer patients have 20–30% higher mortality than those in metropolitan areas and this may be partly due to later presentation and diagnosis. Find Cancer Early is part of the Improving Rural Cancer Outcomes Project: a randomized controlled trial to test interventions aimed at raising community awareness of cancer symptoms and improving GPs' assessment of symptoms to reduce time to cancer diagnosis.

Aim: To develop, deliver and evaluate a community education campaign to (a) increase cancer symptom awareness and (b) reduce delays in help-seeking behavior in people from rural Western Australia.

Strategy: Formative research was undertaken with breast, bowel, lung and prostate cancer patients from regional WA. Regional community forums and concept testing helped develop and refine campaign messages that appealed to our target audience and addressed the importance of earlier detection through symptom recognition and de-mystifying excuses and barriers around seeking help. The two-year campaign was delivered using a community engagement approach supported by a modest media buy (excluding TV). At 18 months, impact was measured by telephone survey of people aged over 40 in the intervention (n = 725) and control regions (n = 725).

Programme Results: At 18 months there were: 130,000+ symptom checklists distributed; 230 presentations; 560 partnerships; and unpaid articles in 63 major and 566 minor newspapers (circulation 630,000+). There were significant differences between campaign and control regions in recall (8.8% vs 2.1%; p = 0.000) and recognition (8.3% vs 42.2%; p = 0.000). Awareness compared favorably against other campaigns with much greater investment of resources.

Conclusions: Regional communities have embraced the Find Cancer Early campaign; the presence of a local Find Cancer Early Campaign Officer was a key strategy in delivery of the messages. The impact of the campaign on time to cancer diagnosis will be reported as part of the Improving Rural Cancer Outcomes Trial.

1062

VOICE OF VICTIMS TO DENORMALIZE TOBACCO INDUSTRY AS A TOBACCO CONTROL ADVOCACY IN INDONESIA

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Background and Context: Global Adult Tobacco Survey (GATS) 2011 reported Indonesia is the country with the highest prevalence of active smokers (67.4% of men and 4.5% women). In addition, the prevalence of beginners aged 5–9 increased significantly from 2001–2004 (National Survey, 2001, 2004). On the other hand, the presence of tobacco industry in Indonesia is regarded as the savior of the country through the cigarette tax revenue. While the tobacco products are addictive and contained 7000 chemical and carcinogens substances, it is still advertised and freely do their Corporate Social Responsibility (CSR) in almost all fields.

Aim: The aim of this programm is to denormalizing tobacco indsutry activities through a voice of victims in Indonesia so that the governement and the people can see the tobacco industry is actually a bad industry selling a deadly product.

Strategy/Tactics: Strategy used to denormalizing tobacco industry are:
1. Loby to the decision makers
2. Mobilize young communities and public figures
3. Media advocacy and communications strategy

Programme/Policy Process: Victims Alliance is the only alliance ever formed in Indonesia, which consists of patient survival and the family members. The alliance had lobbied MoH to support the government regulation in 2013, lobying parliament members to object the "Tobacco" bill that has interferred by the tobacco industry. In collaboration with other agencies and NGOs, the alliance also produce the book of victims that used as an advocacy tools, production of public service ads on billboards in Jakarta and national printed media. The alliance also actively participate in various opportunities in radio, television talk shows, and social media campaign through the twitter account @kitakorban.

Outcomes/What was learned: This strategy was successful due to the increasing number of news on tobacco industry accountability appeared in various media at least 1 time every month in local and national scale.

1063

WORLD OVARIAN CANCER DAY – MEXICO

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1. *Asoc. Mex. Lucha contra Cancer, Deleg. Cuauhtemoc, D.F., Mexico*

Background and Context: In 2011, ovarian cancer ranked number three in mortality rate of gynecological cancer in Mexico. About 4,000 cases, i.e., 11 new cases each day or every two hours and a half were diagnosed every year. The National Commission of Social Health Protection is in charge of protecting the most vulnerable population by giving them access to comprehensive health services, "with homogeneous quality standards to meet the health needs of the insured population on a timely and inclusive basis."

Aim:
1. Incorporating epithelial ovarian cancer in the Fund for Protection against Catastrophic Expenditures of the Popular Insurance
2. Eliminating the Silent Enemy

Strategy/Tactics: Two Shades of Turquoise

In 2014, on the World Ovarian Cancer Day, the Asociación Mexicana de Lucha Contra el Cáncer (Mexican Cancer Association) and the Grupo de Investigación en Cáncer Ginecológico de México (Mexican Gynecological Cancer Research Group) ran a national campaign that was an echo of other international campaigns.

In order to inform the general population about the types of germinal (5%) and epithelial (95%) ovarian cancer, as well as to make federal and local authorities aware of the need to include the treatment of ovarian cancer patients under the Popular Insurance, the campaign Dos Matices del Turquesa (Two Shades of Turquoise) was launched.

Programme/Policy Process: People, journalists, celebrities and legislative authorities joined the request with four nails painted in a shade of turquoise and the rest in another *shade*.

Outcomes/What was learned: Two videos were made, a total of four hundred photos were received in Facebook, Twitter and Instagram with nails painted in two shades of turquoise and nails of 600 women were painted at different locations

1065

CAN THE VOLUNTARY SERVICES OF CANCER CLINICIANS BE AN ALTERNATIVE STRATEGY TO EXTEND THE OUTREACH OF CANCER CONTROL STRATEGIES: EXPERIENCE FROM A RURAL CANCER INITIATIVE IN EASTERN INDIA

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2. *Chandrakanti Devi Cancer Foundation, Dehri-on-Sone (Rohtas), Bihar, India*

Background and Context: Cancer care services have very limited availability in rural and remote areas of India as majority of cancer programs related to treatment, screening and preventive awareness aspects are located in urban centers. The role of voluntary services in rural and semiurban areas provided by cancer care specialists working in tertiary cancer centers is under-explored.

Aim: To describe the role of voluntary services provided by clinical specialists with the help of non-governmental organization in collaboration with local health care providers.

Strategy/Tactics: A non-governmental organization for cancer care in rural areas was registered. A free cancer clinic providing consultations, screening and counseling for cancer patients was started in collaboration with local community hospitals using the local infrastructure. The specialists working in New Delhi visit once a month on weekend and provide the services on voluntary basis. In every visit one public education activity to increase the awareness about cancer is organized particularly targeting the schools, colleges and health care workers associated with government primary health centers. To minimize the cost, collaborations were made with diagnostic and pharmaceutical agencies to provide services at local level and at lower cost. Since this service was once a month, a telephone helpline working 24 hours and managed by specialists was used to provide consultation and emails were encouraged.

Programme/Policy Process: This service was started targeting the population of single district having a population of two millions. The number of volunteers working as intermediaries increased from one to twenty and included school teachers, health care workers and students. Many of the patients have been acting as volunteers and are instrumental in providing awareness education.

Outcomes/What was learned: Clinical screening, consultation, counseling and public education can be provided in rural areas through voluntary services of cancer specialists if they make small groups and target small populations

1066

HARNESSING COALITIONS TO COUNTER FOOD INDUSTRY SOLUTIONS – THE COCA COLA JOURNEY

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2. *Prevention Division, Cancer Council Victoria, Melbourne, Victoria, Australia*

Background and Context: Sugary drinks have been recognised by major public health organisations worldwide as contributing to overweight and obesity. As a result of this the beverage industry has responded in a range of ways. For example: engaging in research to deflect the focus, funding public health and community organisations; participating in nutrition organisations and sponsoring their conferences, and embarking on campaigns to address community concerns around obesity.

Aim: This campaign aimed to expose and challenge the industry's initiative acknowledging that they have a role to play in the obesity problem and placing themselves as 'part of the solution'.

Public health and consumer groups have the potential to band together to reduce consumption of sugar sweetened drinks, as well as to counter the type of campaigns run by Coca Cola placing the companies as part of the solution.

Strategy/Tactics: In Australia a number of organisations collaborated on a Rethink Sugary Drink campaign using reworked ads from New York City campaign, Pouring on the Pounds. The aim was to highlight the publich heath issues with sugary drinks, reduce consumption and encourage the adoption of policies in a range of settings including workplaces, schools and homes. This was undertaken on a shoestring budget and with a strong social media component. It also led to collaboration to counter Coca Cola's actions as part of their journey to address obesity.

Programme/Policy Process: This presentation will outline how public health groups worked in a coalition to undertake a low budget public education campaign around sugary drinks and then leveraged this partnership to counter Coca Cola's Journey campaign. This included the development of counteradvertising to challenge Coke's suite of solutions.

Outcomes/What was learned: This advocacy, including in the media, enabled critical examination of the motives of the companies behind the campaigns as well as the efficacy of the initiatives proposed.

1067

BUILDING CAPACITY FOR CERVICAL CANCER PREVENTION IN FIJI

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Background and Context: Screening using visual inspection with acetic acid (VIA) and treatment with cryotherapy is recommended by WHO as a method for the prevention of cervical cancer in low resource settings. Pap tests have not been successful in lowering the incidence of cervical cancer in Fiji, which remains high at 38/100,000 women and although the HPV vaccine is now available, the impact on incidence or mortality will not be seen for many years.

Aim: To build the capacity for cervical cancer prevention in Fiji.

Strategy/Tactics: We utilised a participatory approach to developing a sustainable cervical cancer screening project. From 2011–2014, an Australian government funded project featured a three stage strategy with Fijian partners and project staff integral to the success of each stage.

Programme/Policy Process: Firstly the feasibility of using VIA and cryotherapy in rural and urban Fiji was determined, with equipment and consumables sourced locally where possible. Fijian nurses and doctors were trained in VIA screening and treating women with non-referable cervical lesions with cryotherapy. Awareness and recruitment activities were provided by a local NGO partner. 2000 women aged 30–50 years were screened in the first year.

In the second stage the results of the feasibility study were presented to stakeholders in Fiji and a consensus statement made supporting inclusion of VIA in the National Cervical Screening Program. A customised VIA and Cryotherapy training package was developed and piloted in a National training course in 2013, co-facilitated by Fijian and Australian project nurses.

In the project's final stage VIA training was provided by Fijian nurses to all health divisions with plans to extend VIA screening coverage across all the Fiji Islands.

Outcomes/What was learned: Nurses can provide effective VIA screening and cryotherapy treatment in a low-resource Pacific Island setting and therefore build the capacity for cervical cancer prevention.

1068

NEW TECHNOLOGIES AND NEW INDUSTRY TACTICS: RECENT DEVELOPMENTS IN INDUSTRY SELF-REGULATION OF FOOD ADVERTISING TO CHILDREN IN AUSTRALIA

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Background and Context: Despite growing evidence and impetus from the WHO in relation to the need for governments to protect children from unhealthy food and beverage advertising, Australia retains a self-regulatory system whereby rules around advertising are governed almost exclusively by the food industry itself. The self-regulatory system continues to evolve, as do techniques and platforms to target children and adolescents. Changes to the codes in 2014 have purportedly sought to address these changes in the advertising landscape with increasing uptake of technology such as Apps, advergames and websites.

Aim: A series of ten complaints in ten months, bridging 2014 changes to the industry self-regulatory codes and addressing a range of integrated marketing campaigns covering websites, Apps and free to air TV explored the current operation of self-regulation in Australia.

Strategy/Tactics: This paper explores the changing face of self-regulation of food advertising in Australia by considering a snapshot of advertising in 2014 through the lens of complaints brought to the Advertising Standards Board. It is argued that the outcomes of these complaints show that industry self-regulation is becoming less protective of children over time rather than more so, particularly in the context of changing advertising landscapes where online, social media and App-based ads appear increasingly prevalent.

Programme/Policy Process: It is argued that the experience of the self-regulatory complaints system in 2014 shows that self-regulation as the dominant form of controlling advertising to children is inadequate, particularly in the context of increasingly popular new advertising techniques and technologies.

Outcomes/What was learned: The findings add to the impetus for the Australian government to take steps to implement the WHO Set of Recommendations on the marketing of foods and non-alcoholic beverages to children 2010, including through the introduction of strengthened provisions, independent oversight, enforcement and monitoring.

1069

AWARENESS ON TESTICULAR CANCER: SAVING LIVES THROUGH SELF EXAMINATION

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Background and Context: Testicular cancer is the most common solid tumor in young men between the age of 15 through 39. Its incidence has doubled in the last 40 years. Detected in early stages and with the right treatment, prognosis is good with a cure of up to 99%. According to the 2010 National Population Census in Mexico, 50% of the 112 million are 26 years old and under.

Aim: General public

Strategy/Tactics: Conferences and information posts in social media Fundacion Rebecca de Alba (FRA) developed an attention model with testicular cancer patients at the National Cancer Institute (InCan) Mexico. Common denominator of the 155 males treated, was the lack of information regarding testicular cancer as well as the embarrassment, due to cultural beliefs, associated to masculinity, in being medically evaluated when having any symptoms in one or both testicles. FRA considered the urgency to inform the general public through an awareness campaign, of the importance of prevention and early detection through periodical self examination. With an ordinary and informal language accessible in social media and in conferences in universities, organizations and companies in the private sector. A questionnaire is handed out to the attendees to evaluate the conference and their previous knowledge on the topic.

Programme/Policy Process: Ongoing Outcomes/What was learned: 151 conferences given to 20,608 attendees from March 2011 through September 2014. 41% completed the questionnaire stating they had some information on the existence of testicular cancer but little information on self examination. 34% considered the conference dynamic. 84 used the section under “observations” asking to be referred to specialized evaluation because of present symptomatology. FRA’s navigation center follows up these requests to medical evaluation.

Addressing a serious topic through simple and ordinary language is more powerful. Giving direct and personal follow up helps overthrow cultural barriers.

1. http://www.inegi.org.mx/inegi/default.aspx?pred=1&c=2793 http://www.cancer.org/cancer/testicularcancer/detailedguide/testicular-cancer-survival-rates
2. http://www.inegi.org.mx/inegi/default.aspx?pred=1&c=2793 http://www.cancer.org/cancer/testicularcancer/detailedguide/testicular-cancer-survival-rates

1070

THE ADDED VALUE OF PRIMARY PREVENTION TO THE BATTLE AGAINST CANCER

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Background and Context: The Dutch Cancer Society (DCS) spends traditionally about 80% of her budget on cancer research, the other 20% is spent on prevention and patient support. Over the last years, several big movements took place within the organization. Among others, the organization was restructured, which led to a separate dedicated ‘prevention team’. Also, the 80–20 budget is more and more shifting from research towards implementation. The prevention team was forced to evaluate her activities and focus on the activities that (most efficiently) add value to the battle against cancer.

Aim: Team prevention: ‘less cancer’ (emphasis on: ‘less cancer mortality’)

Strategy/Tactics: Involving experts from the field and underpin any action taken

Programme/Policy Process: Over 30 actors and experts in the field (researchers, policy advisors, etc) were interviewed (qualitative research). The question asked: Within the field of (primary) prevention, what should DCS focus on, taking into account their goal and other actors in the field?’

The experts advice: be in the lead for ‘smoking’, be an expert on ‘obesity, alcohol, nutrition, physical inactivity and sun exposure’, and collaborate with others actors in the field. Focus on the first steps in the prevention chain (environment measures and awareness).

Subsequently, (among other things) the following activities were performed:

- PAF-study: The fraction of cancer attributable to lifestyle in The Netherlands.
- Desk-research: effectiveness of interventions.

Outcomes/What was learned: Above-mentioned pre-work led to an answer to the questions: what do the individual risk factors add to the total burden of cancer? Where would DCS’s added value be in decreasing the prevalence of the risk factors?

Risk factors DCS should focus on:	
Smoking:	awareness (++) Environment measures (++)
Obesity[1]:	environment measures (+)
Sun exposure:	awareness (+)
Within the different risk factors the activities should focus on:	
Smoking:	MPOWER-model (FCTC)
Obesity:	Ban on Kids marketing (agenda-setting)
Sun exposure:	Awareness campaign

“[1]: Obesity also covers nutrition, alcohol and physical inactivity

1072

BREAST CANCER AWARENESS AND NAVIGATION PROGRAMME

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1. *Cancer Associaiton of South Africa (CANSA), Johannesburg, South Africa*

Background and Context: In South Africa public health system focus on cancer control is not on a priority on the public health care systems' agenda. Late diagnoses, poor access to treatment and poor condition of public treatment facilities lead to unnecessary cancer deaths.

Aim: CANSA took hands with Phakamisa – a special breast cancer initiative of AstraZeneca. This programmes was uniquely developed to address the challenges of breast cancer in SA and to make a difference at a grass roots level where the need for practical support and intervention is greatest.

Strategy/Tactics: To enhance CANSA's community driven prevention and early detection women's health programmes CANSA's Phakamisa programme, which in Zulu means to uplift, aims to ease the burden of Breast Cancer on women in the public sector by supporting these patients who rely on public health care for treatment.

Monitoring activities is streamlined and outcome reliable.

A new management strategy i.e using a specially developed *mobisite* accessible via mobile phones, a Phakamisa Hot Line and information through social media differentiate this prevention programme from all previous mind liked ones. This cellphone programme is utilized by navigators to communicate with patients, reminding them to take their medication and to go for follow up medical examinations.

Programme/Policy Process: Phakamisa programme goals are achieved by means of a three pillar model: Support to breast cancer patients, Training of Health Care Practitioners, Ensuring hormonal treatments available in public treatment facilities

Outcomes/What was learned: In three year 600 000 women have been exposed to the programme via 400 trained navigators 40 000+ public meetings were held 5 000 women raised concerns about their own breast health 2000 malignant lumps detected and referred for early diagnosis and treatment. This South African model has been launched in Kenya and Ghana

1073

PINK CHAIN CAMPAIGN IN DELHI UNIVERSITY: AN INITIATIVE TO TEACH DELHI UNIVERSITY YOUTH ABOUT CANCER PREVENTION AND EARLY DETECTION.

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2. *Radiation Oncology, All India Institute of Medical Sciences, New Delhi, Delhi, India*
3. *Pediatrics, VMMC & Safdarjung Hospital, New Delhi, Delhi, India*

Background and Context: Cancer has become a vital concern in society; the mortality rate due to cancer is astonishing in India, which mounts the need of raising the alarm. More than 80% of cases are presenting in stage 3 and 4 with a survival of only 20%. To make people present early to hospital generating awareness is the only way out to that can bring revolutionary change.

Aim: Promoting cancer prevention by educating youth regarding various clinical features of different types of cancers and by motivating them to spread this message to large number of people.

Strategy/Tactics: Screening of movie on breast cancer followed by lectures and heath check up by experts will take place to teach people regarding different cancers, prevention and early detection. Special focus is to make youth aware of their responsibilities and join this campaign to teach others.

Programme/Policy Process: Pink Chain Campaign, a cancer awareness drive has been educating youth and officials to bring the change. The campaign, which started from a small school students' education about cancer, marked its footprints from Gandhi Ashram, Maharashtra to Jaipur for sensitizing youth followed by awareness drive in six states of India. From 5 Aug to 4 Sep, 2013 the campaign worked for the students of the University of Delhi. The campaign was attended by many prominent personalities from different areas like politics, arts, sports, film and theatre.

Outcomes/What was learned: The campaign at the University of Delhi educated 20,000 students of 27 colleges. Approximately there is more than 50% change in level of knowledge and attitude and 30–40% increase in change of safe practices and 20–30% decrease in addiction habits. Considering this as a reference we will be able to improve knowledge and attitude for cancer in 5 million people, 3–4 million people will start adopting screening modalities and approx 1 million people will change their addiction habits.

1074

WHOSE RIGHTS? ENABLING COMMUNITY ACTION TO IMPLEMENT SMOKING BANS IN MULTI-UNIT HOUSING COMPLEXES.

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Background and Context: Cancer Council NSW receives many enquiries about exposure to secondhand smoke (SHS) in multiunit housing complexes (MUH). This issue is gaining prevalence internationally with changing social norms and demographic trends. In NSW state laws do not specifically address the issue, but MUH complexes have the authority to ban smoking throughout the complex by introducing a smoke-free by-law. However, anecdotal evidence suggests that few MUH complexes have successfully introduced such a by-law.

Aim: To reduce exposure to SHS in MUH by creating a more supportive environment for MUH complexes to introduce smoke-free by-laws.

Strategy/Tactics: Our strategy is two-pronged. First, we build community capacity to introduce smoke-free by-laws in MUH complexes. Second, we advocate state government to address SHS exposure through legislative and regulatory reform.

Programme/Policy Process: We have developed a toolkit to assist change champions in MUH complexes to advocate for a smoke-free by-law. The toolkit summarises the health, financial and legal benefits of smoke-free MUH, the steps that can be taken to achieve smoke-free MUH, and examples of effective smoke-free by-laws. Evaluation of the reach and impact of this toolkit is underway. A NSW Government review of strata laws has provided an advocacy opportunity. Our submission to the review recommended that the laws explicitly define tobacco smoke as a nuisance and a hazard, and that a model by-law be introduced to address SHS.

Outcomes/What was learned: Proposed changes to state law, including confirmation that SHS may constitute a nuisance or hazard and the inclusion of a model by-law, should help facilitate adoption of smoke-free by-laws. However, there is little evidence that these changes alone will adequately address public concern as current complexes will still require 75% owner support to introduce a by-law. On-going support to local advocates will be essential to accomplish increased uptake of smoke-free by-laws in individual MUH complexes.

1075

WHAT HAVE BEEN THE CONSEQUENCES OF THE INTRODUCTION OF MENU LABELLING IN FAST FOOD OUTLETS?

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Background and Context: Fast foods in Australia are generally unhealthy, and can contribute to weight gain. Nutrition information at fast food outlets assists customers in making healthier choices. Fast food menu labelling is legislated in several Australian states. Previous research in Australia showed that prior to menu labelling there was insufficient in-store information provided for customers to make informed purchase decisions.

Aim: To monitor and report on effects and consequences of the introduction of menu labelling. This would be used to advocate for improvements in the fast food environment, reducing the impact of fast foods on the population's diet and weight.

Strategy/Tactics: Five-year monitoring of fast food nutrient composition was conducted to determine whether menus changed post-menu labelling implementation. In-store observations of the amount and accessibility of nutrition information available, including menu labelling, were conducted.

Programme/Policy Process: Menu labelling legislation was first introduced in New South Wales in January 2012, after a 12-month phase-in period. Research was conducted during and after implementation to inform advocacy positions. Feedback was tabled to relevant authorities responsible for the legislation, and used to inform other states implementing menu labelling.

Outcomes/What was learned: The introduction of menu labelling coincided with improvements in nutrient composition; however this has not been sustained. The amount of detailed nutrition information in-store has dropped post-legislation. Fast food chains exploit a range of loopholes in the legislation to continue to provide incomplete nutrition information in-store. As with any new legislation, unintended loopholes become evident post-implementation. Research on the nutrient composition and availability of nutrition information in-store has allowed the identification of such loopholes. Improvements to the legislation should be made to ensure the impact of unintended consequences is minimised.

1076

CHALLENGING THE STATUS QUO OF SETTINGS-BASED HEALTH PROMOTION PROGRAM DELIVERY

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Background and Context: Primary schools are a key setting for reducing student's skin cancer risk. The SunSmart Program supports schools to implement a best-practice sun protection policy that minimises students' overexposure to ultraviolet radiation.

Communication campaigns are effective in influencing awareness and attitudes, while environmental 'on-the-ground' strategies are effective in influencing behaviours. Public health campaigns in primary schools in New South Wales (NSW), Australia have traditionally relied on mass communication to promote healthy behaviours. Adopting this approach for the NSW SunSmart Program resulted in only 20% of schools joining the program in two years.

Aim: To increase membership of the NSW SunSmart Program by implementing 'on-the-ground' strategies.

Strategy/Tactics: A review of the school setting identified sun protection as a low priority issue due to the perception that it's already adequately addressed. To reposition the SunSmart Program, a strategy was developed to enable one-on-one communication with schools about their potential to improve their existing sun protection practices.

Programme/Policy Process: Redefining program delivery required reinvesting resources into a long-term community engagement strategy. Critical to the strategy's success and sustainability was building capacity and empowerment of community-based staff and volunteers to extend program reach and develop localised strategies; tailored communication plans for school segments (e.g. disadvantaged schools); and providing adequate support mechanisms including an efficient campaign management database. Evaluating the strategy and seeking stakeholder feedback on an ongoing basis was integral to continually improving engagement with schools.

Outcomes/What was learned: The SunSmart Program grew from 20% membership to 75% in three years, resulting in 1,384 more primary schools implementing best-practice sun protection measures and reducing their students' future skin cancer risk. Challenging the reliance on traditional communication to delivering on-the-ground strategies was a logical but significant shift that enabled effective program implementation within the audience's contextual environment.

1077

TITLE: HEALTH EMPOWERMENT FOR YOU (HEY)

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2. *Federation of Saskatchewan Indian Nations, Saskatoon, SK, Canada*

Background and Context: Canada's Indigenous people experience an increasing burden of cancer and chronic diseases (1,2,3). Awareness of risk factors and prevention interventions remains low within this sub-population. Lack of culturally relevant educational materials and capacity at the community level further contributes to this knowledge gap (4)

Aim: To strengthen collaborative partnerships in the development of a cancer and chronic disease prevention curriculum for First Nations youth. To meet the needs of First Nations communities by ensuring the program approach, content and supporting materials contain culturally appropriate and consistent prevention messaging.

Strategy/Tactics: Federation of Saskatchewan Indian Nations led a partnership of diverse stakeholders, across two provinces (Manitoba and Saskatchewan), including First Nations leaders and youth, federal and provincial governments, cancer and chronic disease agencies, and post-secondary institutions. Diverse organizational policies and protocols across jurisdictions were respected and adapted to develop and implement a train-the-trainer curriculum to extend reach and support knowledge translation in communities.

Programme/Policy Process: Health Empowerment for You (HEY) is an innovative, culturally relevant, evidence-based cancer and chronic disease prevention curriculum developed with and for First Nations to address common and modifiable risk factors that integrates First Nations perspectives, history, and culture with primary prevention strategies to promote healthy living.

Outcomes/What was learned:164 individuals received HEY training in Saskatchewan and Manitoba; 14 Saskatchewan communities have delivered community-based workshops, included about 900 children, teens, adults, and Elders. This partnership and First Nations owned health curriculum is unique to cancer and chronic disease prevention. HEY has strengthened partnerships and determined processes and ways of working together across provinces and jurisdictions that support health behavior change at the community level. An evaluation indicated that train-the-trainer sessions were positive, useful, and information was applicable within First Nations communities. Self-reported data showed behavioral changes in respondents. Physical activity levels and efforts to eat healthy increased and substance use decreased after the training.

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ADDRESSING DELAYED BREAST CANCER PRESENTATION IN GHANA THROUGH COMMUNITY OUTREACH PROGRAMS

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3. *Peace and Love Hospital, Kumasi, Ghana*
4. *Krebsallianz, Berlin, Germany*

Background and Context: Breast cancer is a serious public health problem in Ghana. It is the leading malignancy accounting for nearly 17% of all cancers and the incidence appears to be on the rise. Late presentation has been considered as the hallmark of the disease in G where the majority (an average of 60%) of women reports either stage 3 or 4 and stay with it for at least ten months before seeking any medical consultation. Ghanaian women are disproportionately diagnosed at earlier age (40–49 years) with high-grade tumors that are a more aggressive than white women. While biological differences have been noted as a major risk factor, sociocultural, personal, economic, and other behavioral risk factors may influence help seeking and stage at diagnosis especially among women in low and middle income countries (LMICs).

Aim: To decrease the number of breast cancer patients presenting with advanced stages of the disease

Strategy/Tactics: While supporting the recommendation by the Breast Health Global Initiative (BHGI) panel on implementation of strategies to optimize breast cancer management in LMICs, Breast Care International (BCI) is leading an effort to promote breast health for women affected by breast cancer in Ghana.

Programme/Policy Process: Various strategies including the use of media, breast cancer survivor stories, opinion leaders influence, community outreach, and faith-based organizations used by BCI in demystifying the disease to increase early detection.

Outcomes/What was learned: Increased awareness and knowledge of breast cancer could promote early presentation

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BUILDING CAPACITIES, ADVOCATING POLICY COMPLIANCE AND ENGAGING MEDIA FOR EFFECTIVE IMPLEMENTATION OF FCTC – EXPERIENCE FROM PROJECT ‘STEPS’ IN TWO STATES OF INDIA.

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1. *PHFI, New Delhi, DELHI, India*

Background and Context: High prevalence of tobacco use in India is a challenge to health and wellbeing of its citizens. The habit contributes to rising deaths due to cancer. About USD 300 million is lost due to tobacco-related cancers in India with 38% of this burden shared by women. The FCTC recommends evidence based measures, also reflected in India’s tobacco control law (COTPA). However, effective implementation is a roadblock. The project, ‘Strengthening of Tobacco control Efforts through innovative Partnerships and Strategies’ (STEPS) envisioned strengthening implementation of evidence based tobacco control (TC) measures in two Indian states of Andhra Pradesh and Gujarat.

Aim: To generate research evidence supporting TC policies and build capacity of law enforcers, media, NGOs and other stakeholders ensuring compliance with FCTC and COTPA for strengthening the National Tobacco Control Programme.

Strategy/Tactics: Observational research was undertaken in intervention districts to monitor compliance with smokefree-law, prohibition on sale of tobacco products to and by minors and within 100 yards of educational institutions and pictorial health warnings on all tobacco products. Key stakeholders at the state, district and sub-district levels were sensitized to TC policies. Parallel efforts were made to build capacity of implementers. Media and NGOs were engaged to actively demand and monitor compliance.

Programme/Policy Process: Overall, 24 District Tobacco Control Advisory Committee meetings and 51 sub-district level Community against Tobacco (CAT) group meetings held. Over 1500 law enforcers trained and 34 senior journalists sensitized. Sensitization of kiosk owners resulted in significant reduction in tobacco vending within 100 yards of schools. Monitoring by youth volunteers resulted in significant increase in compliance with smokefree-laws by restaurants.

Outcomes/What was learned: Enforcement strategies supported by research, media engagement, community-level advocacy and sustained capacity building efforts ensure effective implementation of TC laws. Along with administrative will, building community-level implementation and monitoring bodies are critical to compliance.

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USING PHOTOVOICE TO COLLECT EVIDENCE-BASED MATERIAL FOR CANCER ADVOCACY IN SOUTH AFRICA.

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1. *People Living With Cancer, Welgemoed, SA, South Africa*

Background and Context: Despite the absence of reliable cancer statistics in South Africa it is widely recognised that cancer is a critical issue on the African continent. There is a need for cancer to seen as a health care priority, and therefor it is important to collect authentic advocacy material will reflect the challenges that face so many cancer patients in the country

Aim:
1. To use photovoice to create evidence-based material for cancer advocacy planning and implementation.
2. To use the content in the photovoice narratives to develop cancer advocacy strategies. 3. To gather advocacy material with beneficence in mind by offering support and respect to cancer patients as part of the photovoice gathering process.

Strategy/Tactics: Photovoice is used as an advocacy tool in a qualitative action-research method. Strategic convenience sampling. 3 data collection methods used nl; a) online photovoice submissions via the PLWC website, b) facilitated photovoice workshops c) individual photovoice interviews. A pilot was launched in 2013 and 112 photovoice contributions were collected, analysed and the results prepared for use in advocacy workshops to be held in 2014 in South Africa.

Programme/Policy Process: Results: Through the thematic content analysis process 8 broad themes of cancer challenges were identified (i.e. Emotional theme; Information theme; Physical and treatment challenges theme; Powerlessness theme; Medical services theme; Financial challenges theme; Logistical, travel/transport theme; Stigma theme). To expose more detail and substance to the challenges, broad themes were further analysed into contextual themes and into further sub-themes.

Outcomes: The results of the photovoice pilot analysis yielded information about challenges of cancer in South Africa. With more than half of the photovoice contributors in the pilot sample being cancer patients from disadvantaged rural settings, it was satisfying that the convenience sampling yielded photovoice contributions from a wide geographical distribution of cancer patients.

1081

A COMPARISON OF THE CALLER PROFILES OF CARERS/FAMILY MEMBERS AND PEOPLE DIAGNOSED WITH CANCER WHO CALLED A SOUTH AUSTRALIAN CANCER HELPLINE: IMPLICATIONS FOR PRACTICE

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Background and Context: Cancer helplines play an important role in the provision of information and support to people affected by cancer. Understanding the specific needs of carers/family members and people diagnosed with cancer is important if support is continued to be efficiently and effectively provided by helplines in the future.

Aim: This is a descriptive, retrospective audit of people who contacted the Cancer Council Helpline in South Australia who had been diagnosed with cancer (n = 5,766) or were the carers or family members (n = 5,144) of a person with cancer, between 16 April 2009 and 16 April 2013.

Strategy/Tactics: Non-parametric (chi-squared tests for independence) were performed to identify significant differences on both continuous and categorical variables. Where necessary, non-parametric Mann Whitney-U Tests were used for continuous variables, as the assumption of normality was not met.

Programme/Policy Process: Carers/family were more likely to be female ($p = <.001$), younger in age ($p = <.001$), call regarding advanced cancer ($p = <.001$) and request general information or emotional support ($p = <.001$). They were more distressed ($p = <.001$) but less likely ($p = 0.02$) to be referred to counselling (7.2% versus 8.4%). 52.8% of carers/family and 63.9% of people with cancer required follow-up care according to distress guidelines but only 8.5% and 15.3% respectively were referred to internal services.

People with cancer were more likely to be male ($p = <.001$), older ($p = <.001$), discuss cancer in the early, treatment, remission or survivorship stages and seek advice on detection, practical issues or treatment.

Outcomes/What was learned: Callers to cancer helplines who have been diagnosed with cancer differ from the carers/family members who call. Carers/family members represent different demographic groups, phone regarding different issues, at different stages of disease progression and display higher levels distress but are less likely to be referred to internal counselling services (for which both groups are eligible).

1082

DELIVERING THE RIGHT INFORMATION TO THE MOST IN NEED

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Background and Context: The Living with Cancer Forum is a Cancer Council Northern Territory (CCNT) bi-annual event. CCNT identified that there was a lack of knowledge from the NT cancer population in regard to what cancer services were available in the community. The forum is a new initiative that has been implemented in the NT by CCNT to address this gap in service.

Aim: The aim of the forum is to deliver information to attendees and provide them with an opportunity to network with other people in similar situations. It also provides the chance for attendees to learn about relevant services available in the Northern Territory.

Strategy/Tactics: The format of the forum includes two key note speakers followed by a range of community stakeholder roundtables which provide more detailed information about different support/health services and specific programs available in the community.

Programme/Policy Process: The forum is attended by anyone affected by cancer, including people with a cancer diagnosis, people who have finished active cancer treatment and those people under surveillance, along with carers, family, friends and health professionals.

Outcomes/What was learned: The Living with Cancer Forum has been well attended and feedback indicates that the forum is very well received and that attendees have found the presentations to be relevant and informative.

One participant from the forum said, "I thought the forum was an excellent and informed way to deliver cancer information and it allowed people to connect on a personal level with presenters and other participants who are going through similar experiences"

The attendees were provided with an opportunity to make suggestions for topics for future forums. Some of the suggestions included; the cycle of cancer, music and art therapy, mindfulness, relationship therapies, lymphatic massage and the impact of a cancer diagnosis on carers, family and friends..

1083

IMPLEMENTING BEST PRACTICE APPROACHES FOR THE MANAGEMENT OF LUNG CANCER: A NATIONAL APPROACH

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Background: Lung cancer is the leading cause of cancer death in Australia. Survival rates are poor for both men and women and there are differences in survival by sociodemographic characteristics and Indigenous status.3 Factors contributing to differences in survival and outcomes are varied.

Cancer Australia, as the Government's national cancer control agency, works to improve outcomes for Australian's diagnosed with cancer, where lung cancer is an identified priority.

Aim: Develop and implement best practice approaches to the management of lung cancer care, to support the delivery of consistent, evidence-based care for people affected by lung cancer.

Strategy: A national multi-phased evidence-gathering approach supported by collaboration with key stakeholders has informed the development of a set of 'Principles for best practice management of lung cancer' to guide the implementation of best practice care across different service delivery settings in Australia.

Programme: A systematic review of the literature informed key themes that were explored through qualitative and quantitative research. Lung cancer services were profiled nationally, consumer consultation undertaken through a national survey and targeted interviews, and health service consultation completed through interviews and site visits.

Outcomes: Variations in the delivery of lung cancer care including time to diagnosis, access to active treatment, re-treatment and palliative care were identified. Consumer consultation identified the need for improvements in communicating lung cancer information across the care pathway. Health service consultation highlighted a range of systemic issues that influence how care is delivered.

These results provided the foundational evidence base to inform the implementation of best practice lung cancer care, supported by Principles that provide a national framework to support cancer services. Implementation of the framework aligned to the Principles will demonstrate the delivery of best practice care in different service settings, focusing on essential elements of care which will deliver specific best practice outcomes.

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1084

ESTABLISHING A NATIONAL MODEL FOR THE DETECTION AND MANAGEMENT OF CANCER TREATMENT RELATED CONSEQUENCES (COT): A CASE STUDY BASED ON THE COLLABORATION BETWEEN A BRITISH NATIONAL CHARITY AND DEPARTMENT OF HEALTH IN RELATION TO CONSEQUENCES OF TREATMENT OF PELVIC CANCERS.

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Background and Context: The English National Cancer Survivorship Initiative (NCSI) identified the needs of people with CoTs as a priority. Reviews suggested at least 500,000 are alive with CoTs affecting quality of life (QoL).

Aim: An expert group, including lay representatives, commissioned multifaceted work to improve awareness and identification of CoTs, and improve outcomes for patients through self-management and better services (1). Macmillan's work with pelvic cancer CoTs illustrates the approach.

Strategy/Tactics: The NCSI/Macmillan CoT programme used a range of data to estimate unmet need and identify timing for review of CoTs and interventions. A small number of questions relevant to pelvic cancer CoT symptoms were included in the Department of Health cancer survivorship surveys (2) to test their value in identifying symptoms that impact on QoL and therefore could be used to prompt professional/patient discussion of CoTs during follow up.

New care models, including patient information materials, screening through PROMs and algorithm-based management of bowel CoT symptoms were evaluated (3, 4).

Research to estimate the prevalence of CoTs (5) was used in focused media activities (6).

Surveys of health professionals attitudes to CoTs were carried out (7, 8, 9, 10), and partnerships were established with professional bodies and other pelvic cancer charities.

Programme/Policy Process: Four questions will identify bowel CoTs.

Algorithm-based management of bowel problems by gastroenterologists or nurses can significantly improve disabling symptoms but specialist services are needed for severe/complex cases.

Outcomes/What was learned: Charity-led media activities have improved public and professional awareness of CoTs.

Collaborations have been fruitful between charities (e.g. Macmillan) and professional organisations, including:
- Royal College of Radiologists
- British Society of Gastroenterology
- Royal College of Nursing
- UK Oncology Nursing Society
- National Federation of Gynaecological Oncology Nurses
- Society of Radiographers.

A collaboration between charities, statutory bodies and researchers using a multifaceted approach can take forward a national CoT agenda.

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1085

DIETITIANS AND NURSES WORKING TOGETHER TO ASSESS MALNUTRITION IN ONCOLOGY PATIENTS

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2. *Kuwait Cancer Control Center, Kuwait*

Background and Context: Weight loss is an indicator of poor prognosis in cancer patients. Up to fifty percent of cancer patients are at risk for malnutrition. (Current Oncology (2012). 19(5), 305–7). Early intervention of malnutrition may also decelerate or prevent progression to cachexia. (J Cachexia Sarcopenia Muscle (2011). 2, 27–35

Aim: To implement a valid and reliable screening tool that oncology health professionals could use to assess a patient's risk for malnutrition thereby improving patient outcomes. To establish roles and responsibilities for dietitians and nurses in the screening and assessment of malnutrition in oncology patients

Strategy/Tactics: A valid screening tool, the Malnutrition Screening Tool (MST) was identified from the research literature. Once identified, a small team from the Nursing and Nutrition departments at the Kuwait Cancer Control Center (KCCC) was formed to design a two month trial using the MST to assess and determine the malnutrition risk for patients admitted to KCCC's medical wards.

Programme/Policy Process: The interprofessional team developed a project charter, screening procedure, forms, educational materials and evaluation tools to support the trial. The nurses and dietitians on the pilot wards received education about the tool and the trial process. The pilot was evaluated through a chart audit, focus groups and survey of trial participants.

Outcomes/What was learned: Evaluation data demonstrated that 47% of patients screened had an MST score identifying them as at risk for malnutrition. This finding coincides with the literature stating that up to 50% of cancer patients are at risk for malnutrition. The implementation of the MST was therefore effective in early identification of a previously under-reported problem. The data further demonstrated that routine screening promotes: earlier detection of a patient's malnutrition risk; improved communication and collaboration between dietitians and nurses; and prioritization of patients requiring further nutritional assessment.

1086

DEVELOPING AGE FRIENDLY CARE

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Background and Context: Many older people in the UK often experience a loss in choice and control, finding it harder to participate and access services. Macmillan has identified that this is acutely felt during a cancer diagnosis and treatment. Our Age Friendly Cancer Care programme addresses the large-scale disparities in access to good quality and appropriate services for older people living with cancer.

Aim: Peer advocacy programmes have proved to be effective in supporting and enabling people to access their rights, express their views, explore and make informed choices about their care. Macmillan Cancer Support wanted to explore whether having an advocate would help older people cope with the effects cancer has on their lives, and also raise awareness about this model of care.

Strategy/Tactics: Partnering with the Older People's Advocacy Alliance (OPAAL), we piloted a programme for older people with a cancer experience to support those seeking advocacy services for their cancer journey. OPAAL's advocacy skills were aligned with Macmillan's expertise in cancer care.

Programme/Policy Process: The partnership uses existing advocacy services to develop a mix of independent and peer advocates to reach older people, and has been running since 2011. It operates across ten pilot sites in England and Wales. By November 2013, 61 advocates had been trained and 168 older people were provided support. We have reinvested for another three year partnership, extending to more sites with the expectation of adding over 300 new volunteers.

Outcomes/What was learned: Advocates related that some issues were easily resolved, such as access to benefits or transport; others were complex and had several components, and required much more time and resource than the programme can provide. Further work is planned, in collaboration with health professionals to understand how the service can best complement the NHS, and increase referrals to the service.

1087

BREAST CANCER SUPPORT FOR VIETNAMESE WOMEN; IN VIETNAM AND IN AUSTRALIA

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2. *Breast Cancer Network Vietnam, Hanoi, Vietnam*

Background and Context: Breast Cancer Network Australia (BCNA) is the peak national organisation for people affected by breast cancer, representing more than 90,000 individual members across Australia. BCNA supports, informs, represents and connects people whose lives have been affected by breast cancer. Following research and consultation in 2012, BCNA has developed a strategy that will provide accessible and appropriate information and support to women with breast cancer from diverse cultural backgrounds.

In November 2012, Thuong Sobey was diagnosed with secondary breast cancer. Concerned about the lack of resources for women diagnosed with breast cancer in Vietnam and inspired by the resources of BCNA, Thuong established Breast Cancer Network Vietnam (BCNV).

Aim: BCNV aims to provide education, information and social support to Vietnamese people affected by breast cancer and to raise awareness of breast cancer in Vietnam. As a part of the BCNA Cultural Diversity strategy, BCNA aims to provide breast cancer information and support to women with breast cancer from diverse cultural backgrounds, including Vietnamese women.

Strategy/Tactics: Together, BCNV and BCNA collaborate to strengthen the capacity of BCNV and the Cultural Diversity Program of BCNA to provide support to Vietnamese women affected by breast cancer in both Australia and Vietnam. *Joining forces and accelerating progress*.

Programme/Policy Process: BCNV and BCNA work together strategically to share and adapt relevant information and programs and to translate relevant resources.

Outcomes/What was learned: Information and support provided to women diagnosed with breast cancer in Vietnam through establishment of BCNV BCNA resources made available to BCNV for translation and use in Vietnam BCNV founder, Thuong Sobey, participates in BCNA Community Liaison training in Melbourne BCNA's support for Vietnamese women in Australia is culturally strengthened Establishment of Vietnamese breast cancer support group in Brisbane underway Ongoing commitment to support and strengthen the work of each organisation

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MAKING THE LAW WORK BETTER FOR PEOPLE AFFECTED BY CANCER

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2. *McCabe Centre for Law & Cancer, Melbourne, VIC, Australia*

Background and Context: Many patients have to travel significant distances for appointments or treatment. This often results in substantial financial and emotional strain. In Australia, state and territory Patient Transport Assistance Schemes provide partial reimbursement of travel and accommodation costs. Clinicians from Cancer Council Victoria's Clinical Network identified the need for reform of the Victorian Patient Transport and Assistance Scheme (VPTAS).

In 2013, Clinical Network joined with the McCabe Centre for Law and Cancer, who, with support from the Legal Services Board of Victoria's major grants program, undertook to review the policy underpinning patient transport support schemes.

Aim: The aim of this multidisciplinary cross-sectoral collaboration was to progress advocacy efforts to improve the Victorian scheme (VPTAS).

Strategy/Tactics: Following stakeholder consultations with Clinical Network members, an analysis of patient transport and accommodation schemes in Australia and internationally was undertaken by the McCabe Centre. The CCV's Strategy and Support Division then worked to develop a broad-based advocacy alliance, to lobby the Victorian Government to improve the VPTAS

Programme/Policy Process: We hosted two roundtable events with representatives from various chronic disease and social services agencies to canvas views relating to: the need for improvement to the VPTAS in Victoria; options for how the VPTAS could be improved At the roundtable event, attendees agreed to the formation of an advocacy alliance, with a goal of agreeing on a broad advocacy strategy to improve the VPTAS.

Outcomes/What was learned: Through a mix of behind the scenes, and media activism, the Alliance successfully lobbied the Victorian government to commit to a long-term strategy to improve the VPTAS, including a promised 13.8 million dollars in the 2014 Victorian state budget.

The success of the VPTAS collaboration provides a real-world example of how the Clinical Network progresses its goal of a shared advocacy agenda with CCV to improve outcomes for Victorians affected by cancer.

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AN INTERNATIONAL CURRICULUM IN ONCOLOGY NURSING FOR CANCER CENTRES

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2. *Kuwait Cancer Control Center, Kuwait*

Background and Context: The Kuwait Cancer Control Center's (KCCC), Kuwait City, Kuwait, Vision is to "Achieve the best cancer care regionally and internationally". In working toward this Vision, the KCCC Nursing department in collaboration with the UHN Princess Margaret Cancer Centre (PM), Toronto, Canada, Nursing department committed to making a significant contribution to cancer care in Kuwait by establishing an innovative education framework that develops specialized nursing knowledge, builds expertise in oncology care and provides leadership in evidence informed practice.

Aim: To provide an oncology nursing education curriculum that builds a culture of inquiry, professional development and learner accountability.

Strategy/Tactics: The UHN PM pathway is grounded in the Canadian Association of Nurses in Oncology (CANO) Core Competency Standards and embeds a novice to expert progression. Working in collaboration, KCCC and UHN PM nursing departments adapted this model to meet the needs of the local context and delivered an oncology nursing education program meeting international standards and integrated core components of cultural competence into its delivery.

Programme/Policy Process: The specialized oncology nursing education pathway consists of twelve (12) workshops, 10 Oncologic Emergencies eLearning modules and 4 Specialized Skill certifications. The pathway provides nurses with a solid understanding of the multi-professional management of cancer patients and prepares them to be active participants in the inter-professional approach to patient care.

Outcomes/What was learned: The specialized oncology nursing pathway provides a framework for delivering consistent and high quality nursing orientation and continuing education programs. It uses a learner centered approach and competency assessment method to meet the various learning outcomes required to develop KCCC oncology nursing into a specialized practice and also uses a systematic approach for ongoing education needs analysis, program planning and evaluation.

1090

WHAT CAN THE DATA TELL US ABOUT THE SUPPORTIVE CARE NEEDS OF THE VICTORIAN CANCER POPULATION?

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Background and Context: Establishing supportive care screening to identify and manage supportive care needs has been a focus for cancer reform in Victoria. Screening has been underway since 2010. The NCCN Distress Thermometer and Problem Checklist (DT) was selected and approval obtained. State-wide monitoring currently comprises retrospective record audits noting the presence of a documented supportive care screen. Local monitoring varies across the state. In 2013 it was determined that a standardised state-wide review of the identification and management of supportive care needs was required.

Aim: Pilot a state-wide process for capturing supportive care activity using the DT.

Increase understanding of the distress, needs and management of cancer patients' supportive care needs across Victoria.

Investigate how this information can be used by health services and practitioners to understand and improve the management of supportive care needs in the cancer population.

Strategy/Tactics: A state-wide retrospective audit of over 2000 screens on a sample of the 2013 screened population was undertaken. All items on the DT were collected and additional information about the patient, their cancer, treatment, discussion about problems identified and referrals.

Programme/Policy Process: Providing optimal cancer care: Supportive care policy for Victoria

Outcomes/What was learned: The application of a state-wide process for capturing supportive care activity is achievable. For the first time there is a clear picture of the screened cancer population across the state. Findings included tumour types most commonly screened (breast, colorectal, lung) and those that are less likely to be screened (skin, gynaecological, genitourinary); cancer units where patients are most likely to be screened (day oncology); ratio of distress scores and problems identified; and the action taken following completion of the screen. It is anticipated that these audit results will be used to develop state-wide approaches to address identified gaps in service.

1091

QUANTIFYING WORKFORCE RATIOS FOR PAEDIATRIC ONCOLOGY SERVICES. HOW DO WE PLAN FOR OUR FUTURE?

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2. *Sheila Hirst Consulting, Melbourne, VIC, Australia*

Background and Context: Management of paediatric oncology requires extensive multidisciplinary staffing. A recent audit of activity in Victorian primary treating centres, for the period 2006–07 to 2009–10, revealed significant increases in usage for inpatient activity (^26%), chemotherapy (^38%) and radiation therapy (^50%).

Aim: Within the context of this increasing service usage, together with increasing birth rates, treatment complexity and survival, a project was undertaken to estimate patient to staff ratios for medical, non-ward based nursing and allied health workforce for Victorian paediatric oncology primary treating centres.

Strategy/Tactics: Workforce ratios were estimated for 19 medical, nursing and allied health groups. Where available, ratios were informed by industrial awards, guidelines and/or models of care. Professional disciplines identified tasks required for newly diagnosed children at key pathway points. Time was allocated to each task, for each level of care, using a risk stratified approach (low, moderate and high risk/need).

Programme/Policy Process: The methodology used in this project allowed for the calculation of ratios of newly diagnosed children per annum to 1 full-time equivalent (FTE). The formula developed to calculate FTE requirements is; number of newly diagnosed patients divided by recommended ratio, equals recommended EFT required. For example, if 217 children are newly diagnosed in 1 year, with a ratio of 82 newly diagnosed children to 1 FTE Radiation Oncologist, 2.6 FTE Radiation Oncologist is recommended.

Outcomes/What was learned: Limited national and international models are available to estimate paediatric oncology medical, nursing and allied health workforce ratios. These ratios will assist the primary treating centres to plan future workforce requirements. In addition, the methodology used may assist other states in Australia, as well as overseas health services, to plan for oncology medical, nursing and allied health workforce in the future.

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THE NEW ZEALAND CANCER NURSE COORDINATOR INITIATIVE

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Background and Context: Cancer care is complex; despite the universal availability of publicly funded cancer treatment some people in New Zealand experience difficulty accessing care. This is a particular issue for some ethnic groups and for people from socioeconomically deprived areas. Ministry of Health statistics show these groups are more likely to have their cancer detected later and experience poorer outcomes. The New Zealand government provided additional funding in 2012 for cancer care coordination.

Aim: Develop a national cancer nurse coordination initiative that improves timeliness and quality of care, and outcomes for people with cancer.

Strategy/Tactics: The Ministry of Health worked with consumers, nurses and a range of national and international experts in cancer care to establish the cancer nurse coordinator initiative.

Programme/Policy Process: A National Nurse Lead was appointed to ensure a strategic and consistent national approach to implementation, and develop tools and processes to support the new workforce. With national support, 20 district health boards developed cancer nurse coordinator roles to address the unique set of issues impacting on care coordination for patients in their communities. Cancer nurse coordinators improve patient care through timely diagnosis and initiation of treatment, providing quality care, promoting equity and empowering patients and families. Nurses identify barriers or gaps in and work with existing cancer services to make improvements.

Outcomes/What was learned: The cancer nurse coordinator initiative is evaluated nationally, with early data available in June 2014. The evaluation will inform the ongoing nature of the roles. Case studies show nurses are positively impacting on patient experience, especially when care is complex or a patient is required to travel. Data is also reported on using faster cancer treatment pathway indicators. The National Nurse Lead plays a key role in facilitating regional and national communication to share learnings and support a process of continuous improvement.

1. Dr Diana Sarfati. 2012. The Uneven Playing Field: ethnic inequalities in cancer outcomes. Presentation to the Māori Cancer Leadership Group.

2. Ministry of Health. 2013. Cancer: New Registrations and Deaths 2010. Wellington: Ministry of Health.

1093

IMPLEMENTING A 62 DAY CANCER HEALTH TARGET

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Background and Context: The New Zealand Government measures the performance of the health sector through six nationally set health targets that reflect significant public and government priorities.

The current cancer target is that all patients ready for treatment wait less than four weeks for radiotherapy or chemotherapy. This target is now consistently achieved.

Before the cancer health target was introduced in 2008, patients could wait over 8 weeks to receive radiation treatment.

Aim: To implement a new 62-day target that will further drive service improvement so that people with cancer receive timely access to quality cancer care across the cancer diagnosis and treatment pathway and improve overall cancer outcomes.

Strategy/Tactics: A new cancer target will be introduced in October 2014 based on a 62-day faster cancer treatment indicator measuring the number of patients receiving their first treatment within 62 days of urgent referral with a high suspicion of cancer. The target covers the wider cancer pathway and includes surgery as well as radiotherapy, chemotherapy and other treatment modalities.

Achieving the health target will improve quality of care, identify and support populations with poorer outcomes, make efficiency gains and lead to improved treatment outcomes.

The 62-day target is based on similar indicators used in the UK and those being established in Manitoba, Canada.

Programme/Policy Process: In introducing the 62-day target, consideration was given to: ensuring sufficient implementation lead-in time; ensuring high quality, consistent and accurate data could be collected and reported on; putting in place a target achievement of 85 percent; and clearly defining the patient cohort.

Outcomes/What was learned: Transparency and accountability drives significant service improvement. Utilising sector expertise to develop consistent data definitions and business rules, as well as enabling quality information systems is also important for successful implementation.

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DEVELOPMENT OF NEW ZEALAND TUMOUR STANDARDS

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Background and Context: Tumour standards describe the services that people with cancer should be able to access, including timeliness and quality parameters. In New Zealand (NZ) Lung cancer standards were published 2011. These have led to service improvement and provided an exemplar to develop standards for further tumour streams.

Aim: Standards for further tumour types were developed to promote nationally coordinated and consistent levels of service provision across NZ.

Strategy/Tactics: The standards were developed by national tumour stream groups (TSG) including surgeons, physicians, nurses and allied health professionals from across the cancer pathway plus consumer representatives. The TSGs also had access to further expert advisors including Maori.

Programme/Policy Process: The standards are grouped into clusters: prevention and early identification; timely access to services; communication and referral; data collection; investigation, diagnosis and staging; multidisciplinary care; supportive care; care co-ordination; treatment; follow-up and surveillance; clinical performance monitoring and research.

Individual standards within a cluster describe the level of care or service required. They are not intended to be at the level of detail found in guidelines. The supporting rationale section provides reasons why they are considered important supported by international literature or expert opinion. Monitoring requirements were included.

The draft standards underwent wider consultation. They were published as ‘provisional’ December 2013. District Health Boards (DHBs) are expected to use the tumour standards to review services.

Outcomes/What was learned: There is variation in the number and detail of the standards (breast 40, bowel 23, and lung 13). The standards have provisional status so they can be updated once DHBs have completed their reviews. The reviews will inform whether the standards are measureable, are focused where quality can be improved, and will improve patient experience.

This has been an iterative process and the standards will be evolving documents informed by regular review.

1095

INTEGRATIVE ONCOLOGY IN AUSTRALIA

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1. *Swinburne University, Sth Hobart, TASMA, Australia*

Background and Context: One in every four cancer patients in Australia uses at least one complementary therapy. One in ten Australians see a naturopath – rising to nearly one in six in complex conditions like cancer.

Naturopaths are the largest unregulated ‘primary care’ health workforce in Australia – estimates range anywhere between 3,000 and 6,000 practitioners. Unregistered health practitioners must not make any claims in regards to the ability to cure cancer. Claims to treat or alleviate the symptoms of cancer or other terminal illnesses should only be made if that claim can be substantiated.

Aim: Many naturopaths advertise that they specialise in cancer care or support. But what does that exactly mean? What do naturopaths actually recommend or prescribe?

Strategy/Tactics: A survey was distributed to integrative medicine practitioners and naturopaths in Australia examining the attitudes and practices of integrative medical practitioners and naturopaths, their beliefs about the causes of cancer and conventional treatments, awareness of drug interactions, as well as the diets, medicines and other therapies they recommend to their cancer patients.

Programme/Policy Process: There are over 28 government-recognised associations representing naturopaths. Each State health department regulates unregistered health practitioners.

The educational standard for Western Herbal Medicine and Naturopathy will be a Bachelor Degree.(Community Services & Health Industry Skills Council). It is impossible to control unregistered practitioners. Naturopaths should be reregistered as allied health professionals under APHRA.

Outcomes/What was learned: Integrative medical practitioners is a small but very active group in cancer support. There is an interest in circulating tumour cells, hyperthermia and nutritional medicine including IV vitamin C and oral vitamin D.

The naturopaths present a much larger and also very active group in cancer support. They do not attempt to treat the cancer directly but seek to support the patient's general health during conventional cancer therapy.

1096

THE 'RADIATION ONCOLOGY: TARGETING CANCER' CAMPAIGN

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2. *Royal Australian and New Zealand College of Radiologists, Faculty of Radiation Oncology, Sydney, NSW, Australia*
3. *CanSpeak, Australia*

Background: One in 2 cancer patients would benefit from radiation therapy (RT). Less than 1 in 3 receive it[1]. A major reason is the low profile that RT has as an effective cancer treatment. The Faculty of Radiation Oncology, RANZCR initiated a campaign to raise awareness of RT and increase utilization. This campaign is unique in being modality-centric.

Aim: Targeting Cancer aims to raise the profile of RT. Its messages are simple: RT is a safe, targeted, sophisticated and highly effective treatment for cancer cure and palliation. Challenging myths, ignorance and fear about RT is key. Ultimately the goal is to increase awareness of RT, ensuring referral and access to treatment are universal.

Strategy: The campaign involves engaging and educating consumers during decision-making by providing clear, up-to-date information about RT. GPs are targeted as referrers and patient advocates. Cancer research/advocacy group partners are being recruited to support media and government engagement.

Programme: Phase 1 involved the creation of a friendly, strong campaign message and brand, Targeting Cancer. An attractive, information-rich website targetingcancer.com.au/co.nz was built around content aimed at consumers (patients, carers, public). The site contains numerous videos featuring real patient and team stories. It also contains specific content for GPs. This site was developed in parallel with traffic/brand-driving activities based on social and traditional media. Phase 2 projects include community service announcements, GP education programs, translation into multiple languages and employment of an Advocacy Officer at RANZCR.

Outcomes: The campaign is meeting objectives. It has reached over 4.6 million readers and watchers via on-line/traditional media including 3 TV features. Over 2,500 unique visitors have spent an average of 7.5 minutes each on the website. Targeting Cancer is mushrooming on social media platforms: Twitter, Facebook and Linked In. The Targeting Cancer campaign is an initiative of major relevance in global cancer control.

1. Delaney GP, Jacob S, Featherstone C, Barton MB. Radiotherapy in cancer care: estimating optimal utilisation from a review of evidence-based clinical guidelines, 2003. Available at www.canceraustralia.gov.au/sites/default/files/publications/radiotherapyreport[1].pdf

1097

PROSPECTIVE EVALUATION OF IMPLEMENTATION OF 3 CONSECUTIVE ICRETT PROGRAMS AT A LOW RESOURCE HIGH VOLUME TERTIARY CARE CANCER CENTRE.

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1. *Regional Cancer Centre, Trivandrum, India*

Background and Context: Surgical management of head and neck malignancies in a low resource setting has become increasingly challenging with the advancement in the scope of surgical resections, reconstructive techniques and advent of nonsurgical organ preservation strategies. Thanks to the UICC's ICRETT programme the author and colleagues have been able to systematically update the surgical expertise at Regional Cancer Centre (RCC) Trivandrum, India

Aim: To prospectively study the service delivery of 4 distinct expertise acquired by the author with 3 ICRETT programs over a decade at the RCC.

Strategy/Tactics: Consecutive cases of head and neck ablative surgery and microvascular reconstructions at the RCC from October 2004 onwards were prospectively studied for the flap viability, cosmesis, function (speech and swallowing) and locoregional recurrence (Group 1). Patients who had laryngectomy or laryngopharyngectomy from January, 2006 onwards were prospectively studied for morbidity, tumor recurrence, voice preservation and rehabilitation and survival. (group 2). A prospective audit of CO2 laser ablation (group 3) and endonasal approaches to skull base (group 4) was also under taken from August 2006 and March 2011 respectively.

Programme/Policy Process: Judicious case selection, liberal use of conventional reconstructive techniques and optimal use of reconstructive microsurgery has enhanced our outcomes of Head and Neck surgeries over the past decade.

Outcomes/What was learned: Fifty accrued patients in group 1 and one fifty four patients in group 2, 35 in group 3 and 10 in group 4 were studied. With the current recruitment strategy a flap success rate of 80% was observed in group 1 and survival figures matched the international standards in group1, 2,3 &4 with an overall improvement in voice preservation and voice rehabilitation in group 2. There is a trend towards superior overall laryngeal preservation rate in early glottic cancers and better cosmetic outcomes in early oral cancers when co_2 laser is used judiciously.

1098

BUILDING CAPACITY TO IMPROVE CANCER OUTCOMES FOR ABORIGINAL AND TORRES STRAIT ISLANDER PEOPLE

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1. *Cancer Australia, Strawberry Hills, NSW, Australia*

Background and Context: Indigenous Australians have a higher rate of cancer diagnosis and 50% more likely to die from cancer than non-Indigenous Australians. Aboriginal and Torres-Strait Islander Health-Workers provide culturally appropriate support and information for people with cancer, their families and communities. The need to conduct a national forum for researchers and Health-Workers to identify barriers and facilitators for successful program implementation and incorporation of appropriate engagement models has been identified as a priority area of need.

Aim: To increase the capacity of the Aboriginal and Torres-Strait Islander health-workforce to provide information and support to people with cancer, their families and community.

Strategy/Tactics: Cancer Australia has developed a culturally appropriate model to engaging key stakeholders in Indigenous communities. The model comprises five key components: evidence translation; community engagement; collaboration and capacity building; message repetition; and sustainability.

Programme/Policy Process: Utilising the engagement model Cancer Australia convened a National Aboriginal and Torres-Strait Islander Cancer Forum to: increase the capacity of the health workforce to provide evidence-based breast and lung cancer information, facilitate collaboration across networks, share learnings and identify priorities for improving cancer outcomes in this population group.

Outcomes/What was learned: The need for a national approach to increase capacity of Indigenous Health-Workers was demonstrated through strong support from key stakeholders and high level of participation at the forum. Opportunities for sharing knowledge and learnings, and networking was also provided. Evaluation assessed its impact in providing evidence-based information to improve support for Indigenous people with cancer, and to identify key strategies and priorities for improving cancer outcomes in this population group.

1. AIHW & Cancer Australia. Cancer in Aboriginal and Torres Strait Islander peoples of Australia: an overview 2013. Cancer series no. 78. Cat. no. CAN 75. Canberra: AIHW.

2. Miller J et al. Aboriginal and Torres Strait Islander Cancer Control Report. 2012. Surry Hills.

1099

ENABLING CONSUMERS TO HAVE A SEAT AT THE TABLE

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1. *Breast Cancer Network Australia, Camberwell, VIC, Australia*

Background: Breast Cancer Network Australia (BCNA) is the peak national organisation for Australians personally affected by breast cancer, representing more than 90,000 individual members across Australia. We support, inform, represent and connect people whose lives have been affected by breast cancer.

Aim: BCNA's Seat at the Table (SATT) program aims to ensure the voices of Australians affected by breast cancer are heard wherever decisions about breast cancer treatment, services and care are taken.

Strategy: Established in 2000, the SATT program recruits, trains, appoints and supports women affected by breast cancer to work as consumer representatives. Women attend a three day training program which discusses the latest in breast cancer science and research, clinical trials, genetics, survivorship issues and how to work as a consumer representative.

Program: More than 65 women across Australia participate in the SATT program. They sit on international, national, state and local research projects and advisory committees, working collaboratively with researchers, clinicians, policy makers and health service providers to improve the provision of treatment and services for those affected.

Examples of projects BCNA Consumer Representatives have participated in include:

- Cancer Australia *Management of central nervous system (CNS) metastases in secondary breast cancer* Working Group
- The Poche Centre's study, *Quality of life following immediate, delayed or no breast reconstruction*
- kConFab Executive Committee
- Queensland University of Technology *Women's Wellness after Cancer Program*

Outcomes: SATT helps ensure the voices and needs of Australians affected by breast cancer are taken into account in decisions about treatment, services and care.

BCNA Consumer Representatives contribute in many ways:

- providing input on funding applications
- advising on project methodologies and results
- assisting with information statements and consent documentation
- disseminating research findings
- assisting with clinical trial recruitment.

Seat at the Table provides a model for consumer involvement in health policy, research and service delivery.

1100

STRATEGIES FOR INCREASING EARLY DETECTION OF BREAST CANCER

Beatrice Wiafe Addai[1]
1. *Breast Care International, Kumasi, Ghana*

Background and Context: Worldwide cancer rates including breast cancer are on the rise. Late presentation of breast cancer is a major problem in Ghana. Early detection and treatment has been our focus at Breast Care International (BCI).

1. Aim: Strengthen breast cancer awareness through outreach educational programs and conduct free breast screening campaigns in local community groups, faith based organizations, educational institutions, and civic organizations.
2. To maximize personal and community wellness through community participation, excellence in public health education and practice, and empowering people to save lives and end late stage breast cancer presentation in Ghana.

Strategy/Tactics: Talks aimed at demystifying Breast and Cervical Cancers as incurable diseases
2. Testimonies by survivors
3. Clinical Breast examination of attendees
4. Teaching of Breast Self Examination
5. The use of pictures and flyers
6. That Breast and Cervical Cancers, in spite of their life-threatening potential are curable and can be overcome if detected at an early stage
8. That Mastectomy is not the only available solution for breast cancer. Breast Conservation is another possibility
9. That most cases are referred to specialist TOO LATE when the cancers have reached advanced stages, thus rendering the patients inoperable and beyond recovery

Programme/Policy Process: Breast Care International (BCI) has been actively engaged in organizing outreach programmes to bring hope, health, and empowerment to communities in Ghana through the provision and dissemination of quality breast cancer education, screening, counseling, advocacy, research, treatment, and support to intensify breast cancer awareness and improve the quality of life of women at risk with breast cancer. Our activities are concentrated in remote areas of the countr

Outcomes/What was learned: Certainly, the number of patients presenting with late stage cancer is on the decline on account of education and the screening exercise mounted by Breast Care International.

1101

JOINING FORCES WITH HEALTH PROFESSIONALS TO ENERGISE THE SMOKING CONVERSATION

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1. *Health & Wellbeing Training Consultants, Richmond, VIC, Australia*

Background and Context: Smoking is one of the leading causes of preventable death and disease.

Research shows the important role of health professionals in encouraging and supporting patients to make positive lifestyle changes. Health professionals have access to the majority of the community in a health focused environment and as a respected and trusted source of information, patients are receptive to their health messages.

Strong evidence shows that smokers are more likely to quit with their health professional's help. Even brief advice makes a difference – it increases quit rates. Brief advice can be provided without adding significant time to the consultation.

Despite this, not every health professional asks patients about smoking. Engaging in the conversation has challenges. Concerns include jeopardising rapport and relationships, lack of confidence and lack of time.

Aim: This presentation highlights the important role of health professionals and how participation in smoking cessation training increases confidence, knowledge and skills to enable them to motivate, encourage and support their smoking patients to quit.

Strategy/Tactics: With a focus on nurses, the presentation highlights engaging in the 'behaviour change' conversation in as little as three to five minutes within routine practice. When addressed appropriately, health professionals will feel empowered and energised to provide patients with evidence-based and practical information.

Programme/Policy Process: Research shows that health professionals who participate in smoking cessation training more readily carry out smoking cessation interventions with their patients.

Training encourages increased efforts to routinely identify, advise and assist patients to change behaviour. Patients make more attempts to quit when their health professional has raised smoking with them, and have increased success. Such intervention makes a difference.

Outcomes/What was learned: Quitting has immediate and long term benefits for individuals and the community. Smoking cessation training for health professionals is a worthwhile, cost-effective health investment.

1102

EFFICACY AND SAFETY OF NITROGLYCERIN COMBINED WITH CHEMOTHERAPY IN THE ELDERLY PATIENTS WITH ADVANCED NON-SMALL CELL LUNG CANCER COMPLICATED WITH CORONARY HEART DISEASE

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3. *Thoracic hospital in henan province, zhengzhou, HENAN, China*

Background and Context: Since many elder patients with NSCLC are usually complicated with coronary heart disease or angina pectoris, whether they can stand for the chemotherapy and how to carry out the chemotherapy have become serious concerns and issues for clinicians. Some patients would suffer from myocardial infarction or angina attack after the chemotherapy and have to delay or even give up their chemotherapy

Aim: To investigate the efficacy and safety of the treatment of nitroglycerin combined with docetaxel/carboplatin chemotherapy for the elderly patients with advanced non-small cell lung cancer (NSCLC) complicated with Coronary Heart Disease (CHD).

Strategy/Tactics: 70 elderly patients with **NSCLC complicated with CHD** were randomly divided into two groups: treatment group (n = 38), in which patients received **nitroglycerin** combined with docetaxel/carboplatin, and control group (n = 32), in which patients were given docetaxel/carboplatin only and the treatment should stop immediately if any unbearable symptom occur.

Programme/Policy Process: There was difference in efficiency rate and the disease control rate between the treatment group and the control group (52.63% *vs.* 25% and 65.8% *vs.* 40.6%, $P < 0.05$). The median overall survival (OS) in the treatment group was 10.8 months, which were obviously longer than that of the control group (8.3 months) ($P < 0.05$). The incidence rate of angina pectoris and myocardial infarction in the treatment group was significantly lower than that in the control group ($P < 0.05$).

Outcomes/What was learned: Treatment with docetaxel/carboplatin **combined with nitroglycerin in the elderly patients with NSCLC complicated with CHD** could improve the therapeutic effect, prolong the OS and reduce the risk of CHD. Thus, this treatment program is safer and more effective so that it can be used in clinical practice.

1103

PALLIATIVE CARE IN ENUGU, NIGERIA: A SUCCESS STORY

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1. *Breast Without Spot, Enugu, ENUGU, Nigeria*

Background and Context: Hospice movement/Modern-day palliative care is credited to Dame Cicely Saunders. A few models of palliative care approaches exist in Africa today. Palliative care was formally introduced to Nigeria in 2003. The Palliative care needs of Nigeria are enormous, compounded by rising cancer incidence, irregular analgesic supplies, opiophobia and lack of trained personnel.

Aim: To establish a Pain and Palliative Care Unit, in the University of Nigeria Teaching Hospital (UNTH) Enugu, South-East Nigeria, home to approximately 17 million people.

Strategy/Tactics: Collaborations with institutions abroad to ensure physicians, pharmacists, nurses and social workers receive regular training in Palliative care medicine.

Installation of linear accelerator in the new Radiotherapy department, the only one of its kind in South-East Nigeria.

Training of selected staff on Cancer Registry by Institute of Human Virology in Nigeria (IHVN), thus enabling revival of the moribund hospital cancer registry.

Affiliation of Pain & Palliative Care Unit UNTH with Hospice and Palliative Care Association of Nigeria and networking with other Palliative Care providers.

Programme/Policy Process: Creation of awareness among physicians for early referral of patients, through presentations at monthly Multidisciplinary Oncology meetings.

Change misconception of physicians to opioid-prescribing through lectures at departmental meetings

Nurse-led referral: Encouragement of ward nurses to send consults directly to Palliative care team, on identification of in-patients needing palliative care and pain treatment.

Rotation of residents in Anesthesiology, Internal Medicine and Psychiatry through the unit to circumvent absence of postgraduate palliative care curriculum.

Institution of lectures in Palliative Care for medical students.

Home visits and family meetings with family caregivers, patients.

Outcomes/What was learned: Poor knowledge of Palliative Care amongst physicians contributes to low referrals.

Most patients have untreated pain from reluctance of physicians to prescribe opioids (opiophobia).

Nurse-led referrals have positively contributed to volume of patient referral to palliative care.

1104

MULTI PERSPECTIVE EVALUATION: QUALITATIVE AND QUANTITATIVE, ACADEMICS AND MANAGEMENT CONSULTANTS – A COLLABORATIVE APPROACH TO EVALUATING A COMPLEX PALLIATIVE CARE SERVICE

Elizabeth Jane Maher[1], Julie Flynn[1]
1. *Macmillan Cancer Support, London, United Kingdom*

Background and Context: The Midhurst Macmillan Specialist Palliative Care Service is a UK, medical consultant-led, multidisciplinary team aiming to provide round-the-clock advice and care, including specialist interventions, in the home, community hospitals and care. Key features include early referral, flexible work practices and lack of designated beds.

Aim: Macmillan wanted to commission evaluation in order to: determine whether the service was meeting its original aims; gather financial evidence for commissioning; assess the extent to which the service could serve as a model for palliative care elsewhere.

Strategy/Tactics: Submitted evaluation tenders approached the project from very different perspectives exhibiting different strengths and weaknesses. All proposals had positive features but none addressed all 8 aspects of the brief adequately. Instead of appointing 1 organisation Macmillan decided to use the strongest points from 3, and appointed 2 academic partners together with a management consultancy stipulating a clear brief that all must work collaboratively together.

Programme/Policy Process: The academic teams and the consultancy team were initially sceptical that collaboration could work and a number of workshops were convened to align approaches.

The academic teams brought qualitative research experience, tools to measure organisational receptivity, working practices, relationships and culture, together with clinical insight; the management consultant team was able to quickly deploy resources to access local and national patient data as well as innovative analytical techniques.

Outcomes/What was learned: It was possible for a charity to broker a productive partnership between 2 academic teams and a management consultancy team. The consultancy approach allowed financial data to be reported quickly, giving the academic teams the necessary time to explore the impact on organisations and professional relationships, where ethical permissions and data collection took longer. This staged approach was helpful in a rapidly changing policy environment and enabled financial, organisational and relational elements to be effectively evaluated.

1. Noble, B., King, N., Woolmore, A., Hughes, P., Wimslow, M., Melvin, J., Brooks, J., Bravington, A., Ingleton, C., Bath, P., (2013) Can comprehensive specialised end of life care be provided at home? Lessons from a study of an innovative consultant-led community service in the UK'. In press.

1133

OBESITY A RISK FACTOR FOR CHEMOTHERAPY DOSE REDUCTION IN BREAST CANCER: A MULTI-CENTERED APPROACH

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2. *Princess Alexandra Hospital, Brisbane, QLD, Australia*
3. *Royal Brisbane and Women's Hospital, Brisbane, QLD, Australia*
4. *University of Newcastle, Newcastle, QLD, Australia*
5. *Monash University, Melbourne, QLD, Australia*

Background: Obese women with breast cancer have 30% worse survival than non-obese women. The cause of this survival disadvantage is currently not well understood. We postulated that this was due to relative underdosing for body size in obese compared to non-obese women.

Aim: To compare body size-adjusted chemotherapy dose between obese and non-obese women undergoing adjuvant treatment of breast cancer.

Methods: We conducted a multi-centered retrospective audit of 712 women treated since 2000 with adjuvant chemotherapy for breast cancer. Cases were identified from the hospitals' chemotherapy database. Subject, tumour and chemotherapy data was extracted from patient charts. Dosing was analysed by comparing expected dose based on patient body surface area to actual dose received. A multivariate analysis was performed examining dose reductions across patient and tumour characteristics.

Results: 482 women had complete data available and were eligible for inclusion. In this population 30.9% (n = 149) were obese with a body mass index greater than 30 kg/m^2. An initial dose reduction was independently associated with obesity (OR = 5.08; 95% CI 1.96 to 13.14; $p = 0.001$) Overall in the first cycle, obese women were dosed significantly less for their body size with a median 97.9% of expected dose based on actual body size, compared to 99.6% in non-obese women ($p < 0.001$).

Conclusions: Obese women now account for a large proportion of breast cancer patients. These women are relatively under-dosed for body size compared to non-obese woman. The results confirm altered treatment of obese women with doses being reduced from the initiation of treatment. This may be a contributing factor to the survival disadvantage observed in obese women, compared to non-obese women with breast cancer. Further work needs to be undertaken to ascertain the relationship between individualised dose for particular body size using concentration-outcome data.

1134

EVIDENCE-BASED MODELLING OF OPTIMAL CT SIMULATION APPOINTMENT LENGTH

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1. *Princess Margaret Cancer Centre, Toronto, ON, Canada*

Background: The length of CT Simulation appointments impacts access to radiotherapy services; longer appointment lengths can result in decreased capacity for patient simulation.

Aim: To develop evidence-based guidelines for CT simulation appointment length to increase capacity and improve access to radiotherapy clinical resources.

Methods: **Phase 1** was a retrospective chart review of 60 patients selected in reverse chronological order from the CT simulation schedule for the following radiotherapy techniques: Breast tangent, CNS (brain and spine) IMRT and SBRT, Lung (including mesothelioma) IMRT and SBRT, Liver IMRT, Upper GI IMRT, Lymphoma mantle and Total Body Irradiation (TBI), and Head and Neck (H&N) IMRT. The duration of the CT simulation procedure was measured for each patient as the difference between the first and last time stamps in the radiation therapy electronic medical record. In **Phase 2** an additional 5 minutes was added to each appointment length in Phase 1 to account for routine patient care activities (e.g. patient education) extending beyond the documented time stamps. Evidence-based appointment lengths for each technique were averaged, peer reviewed, and validated by CT simulation radiation therapist specialists. Current appointment lengths were matched to the evidence-based appointment lengths.

Results: Liver, Lymphoma TBI, CNS spine SBRT, Lung SBRT and Mesothelioma evidence-based appointment lengths (45 min) were 25% less than current appointment lengths (60 min). Breast, CNS brain, Lung, Upper GI and H&N evidence-based appointment lengths (20 min) were 33% less than current appointment lengths (30 min). Implementation of the evidence-based appointment lengths at an academic cancer centre with 4 CT simulators resulted in an overall net gain of 2880 minutes (equivalent to 96 30 minute appointments) of CT simulation time per month.

Conclusions: This retrospective evaluation and peer review of CT simulation appointment lengths identified opportunities to increase clinical capacity and improve access to service.

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LONG-TERM OUTCOMES AND RISK FACTORS OF LYMPH NODE METASTASES IN SUBMUCOSAL COLORECTAL CANCER.

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1. *Surgery, Osaka Medical Center for Cancer and Cardiovascular Disease, Osaka, Japan*
2. *Gastrointestinal Oncology, Osaka Medical Center for Cancer and Cardiovascular Disease, Osaka, Japan*

Background: Several factors such as submucosal invasion more than 1000 μm, lymphovascular invasion, positive resected margin, poorly differentiated histological grade are reported as risk factors of lymph node (LN) metastases of invasive submucosal CRC in the Japanese Society for Cancer of Colon and Rectum (JSCCR) guidelines. According to the guidelines, we re-evaluated the risk factors of lymph node metastases and examined patients' long-term outcomes.

Patients and methods: We retrospectively analyzed 400 patients with submucosal CRC treated by endoscopically and/or surgically at Osaka Medical Center for Cancer and Cardiovascular Disease, Japan from 1984 to 2008. We classified patients to two groups, high-risk group that had any of these risk factors, and low-risk group that did not have any of them. We could follow 327 patients more than 3 years. We assessed lymph node metastases, distant metastases and 5-year survival.

Results: The rates of 5-year disease-free and overall survival were 98% and 100% in low-risk group, and 94% and 96% in high-risk group. The risk factors of LN metastases were histologic grade (muc/sig/por, $P < 0.001$) and lymphatic invasion ($P = 0.001$). The risk factors of distant metastases were histologic grade (muc/sig/por, $P = 0.001$), lymphatic invasion ($P = 0.003$), venous invasion ($P < 0.001$), the tumour location (rectum/proctos, $P = 0.037$) and LN metastases examined after surgical resection ($P = 0.003$). There were no significant differences in submucosal invasion and positive margin.

Conclusion: According to the treatment guideline for invasive submucosal CRC disease-free and overall survival did not differ between two groups. However, histologic grade and lymphatic invasion are only significant factors of LN metastases in our retrospective study. From the results of long-term outcomes, the tumor location (rectum/proctos) is a new risk factor of distant metastases in addition to other factors relating LN metastases. It suggests re-evaluation of risk factors regarding LN metastases and prognosis is necessary, confirmed by prospective study.

1136

MORBIDITY IN SELECTIVE NECK DISSECTION A RANDOMIZED CONTROL TRIAL

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Background: Selective neck dissection is done in stage I and II squamous cell carcinoma of tongue as it has less morbidity compared to comprehensive neck dissection. Even selective neck dissection has its associated morbidity due to accessory nerve neuropraxia as a result of dissection around the accessory nerve to clear the Level 2B group of lymph nodes.

Aim: The aim of the study was to compare the accessory nerve dysfunction in patients who undewent extended supraomohyoid neck dissection with or without level 2B dissection

Methods: 60 patients with stage I and stage II oral tongue cancers were selected, they were randomized into two groups; Patients in the study group had removal of neck nodes from levels 1 to 4 avoiding level 2B group of neck nodes. Patients in the control group had an extended supraomohyoid neck dissection. At three weeks and at nine months postoperatively the function of the accessory nerve is evaluated clinically and by EMG.

Results: On final histopathological examination 9 patients had positive neck nodes. 5\9 (55%) patients had metastasis in level 1B alone. 2 \9 (22%) patients had metastasis in level 2A alone. Two patients had metastasis in multiple levels, 1B and 2 A levels in one patient and 2 A and 3 levels in the other. None of the 30 patients in the control group had level 2B positivity. 6\30 (20%) patients in the control group and 4\30 (13%) in the study group had accessory nerve dysfunction on first post operative EMG. 3\30 (10%) patients of the control group had EMG changes even at 9 months; all the patients in the study group had a normal EMG at the end of 9 months

Conclusions:
1 In stage 1 and II oral tongue cancers level 2B nodal involvement is rare.
2 Permanent accessory nerve damage can be avoided by avoiding level 2 B dissections.

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PROSPECTIVE COHORT OF CERVICAL CANCER PATIENTS IN BOTSWANA TREATED WITH DEFINITIVE (CHEMO) RADIOTHERAPY

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Aim: Until 2011, there were no high dose rate brachytherapy (HDR) services available in Botswana. The objective of our study was to characterize the treatment course and tolerability in women with cervical cancer treated with curative intent (chemo) radiotherapy.

Methods: Patients with carcinoma of the cervix receiving radiotherapy between 8/7/13 and 4/24/14 in Botswana were enrolled. Patients were treated with pelvic radiotherapy using a linear accelerator and brachytherapy using a HDR Iridium-192 afterloader +/– weekly cisplatin.

Results: Sixty consecutively treated patients are available for analysis. Median age of the cohort is 50 years. 60% of women had FIGO stage II and 36% had stage III disease. Mean hemoglobin was 11.0 g/dL (range 6.5–14). Median time from diagnosis to treatment was four months (range 0.5–36 months). 60.0% of all patients were (n = 35) were HIV+ with median CD4 count 534. 60% presented with stage II and 26% presented with stage III disease. 83% of women were treated with chemoradiation. Median dose of EBRT was 50 Gy. 90% of patients were able to receive brachytherapy (most common fractionation 7 Gy × 3). Median total treatment time was 49 days (range 24–76). Most common toxicities were radiation dermatitis (75% with grade ≥2), diarrhea and nausea (both 42% with grade ≥2).

Conclusions: Since 2011, the majority of women receive brachytherapy and chemotherapy as part of their treatment, and complete therapy within 8 weeks. A significant proportion of women with cervical cancer in Botswana are HIV+. Future studies will focus on the outcomes and optimal treatment for this population.

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ADDITION OF OXALIPLATIN TO NEOADJUVANT RADIOCHEMOTHERAPY IN MRI DEFINED T3, T4 OR N+ RECTAL CANCER: A RANDOMIZED CLINICAL TRIAL

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Background: Clinical trials investigating the effects of addition of oxaliplatin to neoadjuvant radiochemotherapy in locally advanced rectal cancers (LARC) have brought controversial results for pathologic complete response as an endpoint.

Aim: This phase III randomized study investigated downstaging as a short term surrogate for progression free survival (PFS).

Methods: Patients with MRI defined T3, T4 or N+ histologically proven adenocarcinoma of rectum within 15 cm from anal verge were randomly assigned to receive 50–50.4 Gy external beam radiation in 25–28 fractions and concurrent capecitabine 825 mg/m2 twice daily 5 days a week with or without oxaliplatin 60 mg/m2 weekly as neoadjuvant radiochemotherapy (capox and cap group respectively). T and N downstage were defined as at least one stage regression in pathologic report after surgery comparing to MRI image before the pre-operative treatment. Adverse effects of treatment were recorded on a weekly basis according to National Cancer Institute Common Toxicity Criteria, version 4.

Results: 63 patients were randomly assigned to cap (n = 31) and capox (n = 32) groups. There was no grade 4 toxicity. The only grade 3 toxicity which occurred more in capox group was diarrhea (21.87% vs 0%; p = 0.006). Histopathologic stage of 52 patients (27 patients in cap and 25 patients in capox groups) were compared to their preoperative stage defined by MRI. There was a greater rate of T downstage in capox group (59.37% vs 41.93%; p = 0.037). The N downstage occurred non-significantly more in capox group (62.5% vs 51.6%; p = 0.424). 11 patients in capox group (34.37%) achieved pathologic complete response, comparing to 4 in cap group (12.9%); p = 0.072.

Conclusions: The addition of oxalipatin to neoadjuvant radiochemotherapy in LARC led to higher rate of tumor downstaging. Longer follow up is needed to evaluate PFS.

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CARER BURDEN, DEPRESSION AND UNMET NEEDS AMONG CARERS OF PEOPLE NEWLY DIAGNOSED WITH CANCER

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Background: Receiving a cancer diagnosis and undergoing treatment often imposes a significant psychological burden on both the individual and carer. High carer burden has been observed across three specific phases; the trauma associated with the diagnosis, the physiological impact of treatment, and the challenges of survivorship.

Aim: To examine carer burden, depression and unmet needs among carers of people newly diagnosed with cancer and identify associations between carer/people with cancer characteristics.

Methods: Seventy-one dyads of people newly diagnosed with cancer and their carers, aged 18 years and older, were recruited from four Australian hospitals. These health services included both private/public and urban/rural settings, representing a socially diverse population. People with cancer attending cycles' 2–5 of adjuvant chemotherapy or fraction 2–10 for radiotherapy and receiving treatment with curative intent, were eligible to participate in the study. Carers completed the Zarit Burden Interview (ZBI), Caregiver Reaction Assessment (CRA, self-esteem subscale), Supportive Care Needs Survey-Partners & Carers (SCNS-P&C45), and both groups completed the Centre of Epidemiology-Depression Scale (CES-D).

Results: Overall, 65% of carers reported at least one, 45% at least three, 39% at least five, and 23% at least 10 unmet needs; 42% of carers reported significant burden and 34% of carers and 38% of patients were at risk for clinical depression. A moderate association was observed between burden and unmet needs ($r = 0.41$, $p < 0.01$), burden and carer depression ($r = 0.48$, $p < 0.01$), and between unmet needs and carer depression ($r = 0.44$, $p < 0.01$). Regression analysis showed that large household size was significantly associated with increased burden, carer's young age and small household size with moderate/high unmet needs, patient depression with carer's level of self-esteem.

Conclusions: These findings highlight the need for tailored intervention strategies to systematically support the practical and psychological needs of carers of people with cancer at the early stages of treatment.

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HPV INFECTION AND ANEMIA STATUS STRATIFY THE SURVIVAL OF EARLY LARYNGEAL SQUAMOUS CELL CARCINOMA

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Background: HPV has a causative role in a small subgroup of laryngeal squamous cell carcinoma (LSCC).

Aim: This study investigated the potentially prognostic indicators of early LSCCs, including HPV status, to provide basis for individual management.

Methods: A total of 336 patients with T2N0-1M0 LSCC were included in this study. All patients received primarily radical surgery. Patients with adverse features were eliminated. HPV infection and $p16^{INK4A}$ expression were detected.

Results: A total of 32/318 cases of high-risk HPV infection and 12/336 cases of $p16^{INK4A}$ overexpression were found in the cohort. Among HPV DNA positive LSCCs, 6 out of 32 (18.8%) cases showed high $p16^{INK4A}$ expression. HPV-positive cases or non-anemia cases had a significantly longer OS ($p = 0.038$; $p < 0.001$), DSS ($p = 0.047$; $p < 0.001$), and RFS ($p = 0.006$; $p = 0.033$). N1 stage had a significantly reduced RFS ($p = 0.002$), but had no impact on OS ($p = 0.323$) and DSS ($p = 0.611$). In multivariate analysis, HPV-positive (RR, 0.18; 95%CI, 0.04 to 0.77; $p = 0.020$), non-anemia (RR, 1.86; 95%CI, 1.15 to 3.01; 0.011), and N0 stage (RR, 2.89; 95%CI, 1.37 to 6.12; $p = 0.005$) are significantly independent predictors for high RFS. But only HPV-positive (RR, 0.35; 95%CI, 0.13 to 0.99; $p = 0.047$) and non-anemia (RR, 2.38; 95%CI, 1.56 to 3.61; $p < 0.001$) are significant predictor for superior OS.

Conclusions: HPV infection and anemia status are independent predictors for survival even in early LSCCs that were treated with primarily radical surgery.

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INFORMATION DISCLOSURE AND DECISION MAKING PREFERENCES IN METASTATIC CANCER PATIENT: A STUDY IN TEACHING HOSPITAL IN PAKISTAN

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Background: It has been suggested that patients frequently don't understand the information they are conveyed overestimating their prognosis which leads to unfavourable decisions. This study was therefore conducted to explore the preferences of metastatic cancer patients regarding prognostic information and its predictors

Aim: The objective of this study was to identify communication preferences regarding disclosure of prognostic information among cancer patients with metastasis.

Methods: Two hundred and ten with metastatic cancer visiting outpatient departments of Multan Institute of Nuclear Medicine and Radiotherapy and Nishtar Medical College Hospital, Multan participated in the study. A survey was administered to patients to assess their attitude towards disclosure of prognostic information comprising questions about preferences including type, setting, timing of presentation and related questions.

Results: Majority of the patients (77%) wanted to discuss information about disease on diagnosis. Regarding initiation of discussion about their illness, 69.1% wanted the specialist to tell the information with 18.3% preferring to be told only if asked while 9.1% wanted to be asked first if they want the information. A minority of the patients (3.5%) did not want any information about their disease. Patients reported ease of understanding with pictogram while expressed preference for graphs for receiving information about their disease and survival. Most of the patients (62.8%) were desirous of getting information from oncologist with 24.2%, 11.7%, and 1.3% opting to get the same from hospital physician, family physician and nurse respectively. Patients wanted to get information about symptoms, treatment options, side effects, chances of cure and survival time.

Conclusions: Although most of the patients with metastatic cancer in this study want to have detailed prognostic information regarding their illness, their preference with regard to quantity and quality of information and its timing differ demonstrating that they will benefit most from individualized information sessions after assessment of their needs and preferences.

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KRAS MUTATION DOES NOT INFLUENCE ANTI-PROLIFERATION EFFECTS BUT INHIBITS APOPTOSIS OF CETUXIMAB IN GASTRIC XENOGRAFTS

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Background: Kirsten rat sarcoma viral oncogene homolog (KRAS) status influences the efficacy of cetuximab in treating metastatic colorectal cancer. Yet, its role in gastric cancer is uncertain.

Aim: The aim of this study is to evaluate the impacts of KRAS status on the efficacy of cetuximab in treating gastric cancer cells both in vitro and in vivo.

Methods: KRAS wild-type (WT) gastric cancer cells SGC-7901 and mutant-type (MT) gastric cancer cells YCC-2 were identified, both cells express epithelial growth factor receptor (EGFR) protein.

Results: No significant in vitro growth inhibitory (2.4% ± 3.2% and 1.4% ± 1.7%) and apoptosis induction (0.38% ± 0.16% and 3.28% ± 1.23%) of cetuximab were observed in both cell lines. Compared with control group, cetuximab obviously inhibited the growth of both SGC-7901 ($p = 0.0028$) and YCC-2 ($p = 0.014$) xenografts, but more significant in SGC-7901 xenografts. The results of immunohistochemistry staining of Ki-67 demonstrated that cell proliferation was significantly decreased both in SGC-7901(80% vs 30%) and YCC-2 (50% vs 10%) xenografts. Apoptic index (AI) in SGC-7901 xenografts of cetuximab treatment group was significantly increased (17.4% ± 2.6% vs 5.4% ± 1.4%, $p = 0.002$) than that in control group. However, AI in YCC-2 xenografts, which was KRAS mutant, was not significantly changed (4.6% ± 1.1% vs 6.0% ± 1.4%, $p = 0.123$) after cetuximab treatment. Phosphorylated ERK (p-ERK), which was involved in apoptosis resistance, was up-regulated in cetuximab treatment group of YCC-2 xenografts, but not obviously in SGC-7901 xenografts.

Conclusions: KRAS mutation does not influence the anti-proliferation efficacy of cetuximab in vivo, but may involve the apoptic resistance via up-regulation of p-ERK. These results may enrich the mechanism exploration of cetuximab resistance in gastric cancer.

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NURSING STUDIES ON THE SYMPTOM CONTROL OF PATIENTS WHO HAVE RECEIVED CHEMOTHERAPY FOR A CANCER DIAGNOSIS IN TURKEY IN THE LAST 10 YEARS: A SYSTEMATIC REVIEW

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Aim: The aim of this study was to systematically review the nursing studies, published in Turkey between January 2003 and December 2013, on the control of symptoms seen in patients receiving chemotherapy for cancer.

Methods: A computer-assisted screening of the international (PubMed, Ovid, Ebscohost and Blackwell-Synergy) and national (Turkish Medical Directory and National Thesis Center) databases was performed in January 2014. We searched for the cancer, chemotherapy symptom, symptom control/management, nursing, 19 studies that met the study inclusion criteria.

Results: There were 4 semi-experimental, 11 experimental and 4 randomized, controlled, and experimental studies among those within the scope of our study. The sample consisted of patients with breast cancers and other cancers in 13, AML and ALL in 3, lung cancer in 1, and GIS cancer in 2 studies. Various scales and follow-up forms were used as the data collection tool in all the studies. The effects of the use of massage, scent therapy, aromatherapy massage, ginger, music therapy, nursing interventions/training on symptom control, relaxation training, acupressure use, standard oral care, and oral cryotherapy on the control of unwanted chemotherapy effects were evaluated. According to the results, massage, music therapy, training of the patient/relatives, nursing interventions, relaxation training, scent therapy and aromatherapy massage had positive effects on fatigue, anxiety, weakness, sadness and pessimism, difficulty sleeping, and quality of life. Standard oral care practices, training of the patient/relatives regarding oral care, and oral cryotherapy practices were found to prevent the development of oral mucositis. Study results also showed that the use of ginger, acupressure and music therapy had positive effects on the control of nausea and vomiting.

Conclusions: Various nonpharmacological procedures were found to have a positive effect in studies on symptom control. Health care personnel should therefore continue to conduct randomized and controlled experimental studies and use the results in patient care.

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DEVELOPMENT OF A CELL BASED ASSAY FOR IDENTIFICATION OF BAX ACTIVATING COMPOUNDS AS ANTI-TUMOR AGENTS

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Background: Most of the successful anticancer drugs trigger apoptotic cell death in target cells primarily through mitochondrial permeabilization followed by cytochrome c release. Hence mitochondrial permeabilization or upstream signaling that contributes to mitochondrial permeabilization could be a sensitive readout for anticancer activity. One such early change that contributes for the mitochondrial permeabilization is Bax conformational activation and its translocation to mitochondria.

Aim: To engineer, several cancer cell lines expressing Bax EGFP and mitochondrial with DsRed to identify compounds that induce Bax conformational activation and its translocation to Mitochondria as a read-out of anticancer activity.

Methods: Different cell lines like HeLa, Si Ha, MEF, HCT-116 were maintained and transfected with expression vectors as per our standard protocol. Transgene expressing cells were sorted by FACS based on EGFP fluorescence to enrich probe expressing cells. Several clones were selected, expanded and studied for functional competence live cell imaging after treating with standard anticancer drugs.

Results: Automated well plate imaging followed by segmentation and granularity index calculation in drug treated cells reliably identified positive hits in a compound library-screening test. Additionally automated co-localization index within cytoplasm in the segmented cells confirmed the Bax activation status. Using this assay we could systematically analyze the dependence of trans-membrane potential loss during Bax activation in selected anticancer drugs. Since Bax overexpression sensitized few cancer cell lines because of its inherent pro-apoptotic activity, we have also utilized a Bax knock out colon cancer cell line HCT116 for stable expression of Bax EGFP that served as a best cell based assay system to screen Bax activating compounds.

Conclusions: This user friendly, sensitive assay system developed can be used for monitoring apoptosis in live cells and for preliminary screening of plant derived bioactive compounds.

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THE COMBINED APPROACH TO THE TREATMENT OF LIMB SOFT TISSUE SARCOMA RECURRENCES

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Background: Nowadays the active search of prophylaxis and treatment methods of local recurrence of soft tissue sarcomas is being held. The frequency of primary recurrences reaches 20–30% of all patients who underwent surgery.

At the same time, the frequency of repeated relapse reaches 50%. Herewith today there is stable tendency for the functionally-sparing and organ-preserving intervention to be carried out.

Aim: The improvement of treatment results in patients with soft tissue sarcoma recurrence.

Methods: We used the combination of surgical treatment with preoperative x-ray endovascular vessels embolisation, feeding the tumor, and cryosurgical effect on deleted tumor bed.

Our basic research group was made up of 64 patients with repeated recurrent soft tissue sarcoma of the limbs, to whom we carried out preoperative selective x-ray endovascular embolisation of feeding vessels with following intraoperative cryo- effect on deleted tumor bed.

On the first stage these patients got partial and full reduction of blood flow in the tumor with the help of x-ray endovascular method.

The next stage included surgical deletion of recurrence with preservation of the limb and its functions. Then we carried out cryo-effect on deleted tumor bed.

The control group included 81 patients. This group was comparable with the basic group according to clinical social indicator. These patients underwent surgery from 1995 to 2005, long before we could apply technical capabilities of using x-ray endovascular methods and cryolysis.

Results and Conclusions: The observation period in the basic group was from 2 to 7 years. In the result of the work that had been carried out we managed to reduce intraoperative blood loss volume 1,4 times in the patients of the main group. Besides, the using of combined approach lets reduce the number of repeated local recurrence of soft tissue sarcomas 1,8 times during organ-preserving surgical interventions.

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SURGICAL OUTCOMES OF THE HEAD AND CANCER PATIENTS: 20 YEARS SINGLE SURGEON EXPERIENCE IN SINGLE INSTITUTION

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Background: Between March 1994 and February 2014, we have experienced a total of 1009 cases of the head and neck malignancy.

Aim: Of total 1009 head and neck cancer patients were treated by the single head and neck surgeon. We analyze the result of surgical treatment in a single institution by a single surgeon.

Methods: Retrospective analysis of surgery-based treatment of head and neck cancer last 20 years.

Results: There were 829 men and 180 women ranging in age from 10 to 89 years. The laryngeal cancer patients were 340 cases, followed by the tongue cancers in 216, the tonsil cancers in 112, the hypopharyngeal cancers in 98, the naso-maxillary cancers in 71, the salivary cancers in 45, the unknown primary lesion in 31, and the miscellaneous cases in 96 cases. Total of 362 reconstructions with flaps from various donor sites were performed.

In the laryngeal cancer, according to the subsite, glottic, supraglottic and subglottic cancer is 260, 78, and 2 cases, respectively. 119 patients were performed laser cordectomy, 23 in hemilaryngectomy, suparglottic partial laryngectomy in 35, Supracricoid partial laryngectomy (SCPL) in 98, total laryngectomy in 62, Vertical hemipharyngo-laryngectomy (VHPL) in 3 cases. In the tongue cancer, according to the subsite, 160 in mobile tongue, 20 in floor of mourh (FOM), and 36 in base of tongue (BOT). In the hypopharyngeal cancer, pyriform sinus is 74 cases, postpharyngeal wall 27, and postscricoid 1 case. Five year disease specific survival rate according to the primary site is 91.1% in the laryngeal cancer, 92.8% in the tongue cancer, 80.1% in the tonsil cancer, 62.4% in the hypopharynx cancer, 73.8% in the naso-maxillary cancer, and 81.2% in the salivary cancers.

Conclusions: We reported our result of the surgical treatmen of head and neck cancer that have experienced last 20 years.

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LOCAL ADVANCED LUNG CANCER: PRECISE PREDICTION OF 5-YEAR SURVIVAL AFTER COMBINED LOBECTOMIES/ PNEUMONECTOMIES

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Background: We examined factors in terms of precise prediction of 5-year survival (5YS) of local advanced non-small cell lung cancer (LC) patients (LCP) (T3-4N0-2M0) after complete (R0) combined lobectomies/ pneumonectomies (LP).

Aim: precise prediction of 5-year survival of local advanced non-small cell lung cancer patients (T3-4N0-2M0).

Methods: We analyzed data of 167 consecutive LCP (age = 58 ± 8.1 years; tumor size = 6.8 ± 2.6 cm) radically operated and monitored in 1987–2014 (m = 150, f = 17; lobectomies = 70, pneumonectomies = 97, combined LP with resection of trachea, carina, atrium, aorta, VCS, vena azygos, pericardium, liver, diaphragm, ribs, esophagus = 167; only surgery-S = 105, adjuvant chemoimmunoradiotherapy-AT = 62: CAV/ gemzar + cisplatin + thymalin/taktivin + radiotherapy 45–50 Gy; T3 = 117, T4 = 50; N0 = 79, N1 = 38, N2 = 50, M0 = 167; G1 = 36, G2 = 44, G3 = 87; squamous = 113, adenocarcinoma = 41, large cell = 13. Multivariate Cox modeling, clustering, SEPATH, Monte Carlo, bootstrap and neural networks computing were used to determine any significant dependence.

Results: Overall life span (LS) was 1483.1 ± 1412.6 days and cumulative 5YS reached 60.3%, 10 years – 45.9%, 20 years – 30.1%. 77 LCP lived more than 5 years without cancer (LS = 2616.2 ± 1341. days). 61 LCP died because of LC (LS = 466.1 ± 360.0 days). AT significantly improved 5YS (77.2% vs. 51.4%) (P = 0.0004 by log-rank test). Cox modeling displayed (Chi2 = 68.5, df = 10, P = 0.000) that 5YS of LCP significantly depended on: T3-4, N0-2, tumor size, cell ratio factors (ratio between cancer cells and blood cells subpopulations), prothrombin index, heparin tolerance, fibrinogen B, AT (P = 0.000–0.033). Neural networks, genetic algorithm selection and bootstrap simulation revealed relationships between 5YS and AT (rank = 1), N0-2 (rank = 2), T3-4 (3), prothrombin index (4), thrombocytes/ cancer cells (5), lymphocytes/cancer cells (6), tumor size (7). Correct prediction of 5YS was 100% by neural networks computing (error = 0.000; area under ROC curve = 1.0).

Conclusions: 5YS of local advanced non-small cell lung cancer patients after radical procedures significantly depended on: tumor characteristics, cell ratio factors, hemostasis system and adjuvant treatment.

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SKIN REACTIONS AND TREATMENT INTERRUPTIONS WITH CONCURRENT WEEKLY PACLITAXEL – A PROSPECTIVE STUDY IN CA BREAST PATIENTS

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Background: Taxanes are widely used in adjuvant treatment of node positive breast cancer. Studies have shown that weekly Paclitaxel has better tumor response than 3 weekly regimens. Our study focussed on the feasibility of concurrent weekly paclitaxel and radiotherapy in adjuvant treatment of node positive ca breast patients.

Aim: To study the toxicity of concurrent weekly Paclitaxel and radiation

Methods: A prospective non randomised study was done on 22 female breast cancer patients undergoing adjuvant treatment after surgery by taking informed consent. External beam RT was given for a dose of 50 Gy–50.4 Gy in 25–28 fractions. A boost dose of 16 Gy in 8 fractions was given for patients with breast conservative surgery. All patients received Inj. Paclitaxel 60 mg/m^2 once a week for 5 weeks during RT. After completion of RT, Paclitaxel dose was increased to 80 mg/m^2 for 7 cycles. This was followed by 3 cycles of AC. Weekly clinical examination was done to assess the toxicity and graded as per RTOG criteria. All patients were followed up to 2 months after the completion of the concurrent chemoradiation. Chi square test and Fisher exact test were used for analyses

Results: 8 (36%) patients developed grade I, 7(32%) developed grade II, 6(28%) developed grade III and 1 developed grade IV skin reaction. There was an increased frequency of higher skin reactions in patients treated with electrons ($p = 0.145$). Diabetic patients had more severe skin reaction and longer healing time ($p = 0.03$). With available literature on grade III and higher skin reaction with radiation alone is only 3% but in our study it is 28%. 5/22 (23%) patients had interruption of RT+CT which ranged from 5 days to 30 days

Conclusions: Concurrent chemoradiation with weekly paclitaxel and radiotherapy in adjuvant treatment of ca breast causes high skin reactions resulting in significant treatment interruptions.

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SELF-REPORTED CANCER PATIENT EXPERIENCE IN AUSTRALIA AND ENGLAND

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Background: Self-reported patient experience data is vital to the design of responsive and relevant health services. Annual cancer patient experience surveys in England (NHS-CPES) have been used to guide improvements in patient experience.

Aim: Measure baseline cancer patient experience in member hospitals of the Victorian Comprehensive Cancer Centre and benchmark with cancer patients in England.

Methods: The NHS-CPES instrument and methodology was used. A paper-based questionnaire was mailed to 5,722 admitted patients aged >18 years with an eligible ICD-10 code. Australian results were compared to 71,793 patients in England from the 2011/12 NHS-CPES.

Results: 37% (2,101) patients responded. In 65 questions on experience, Australian patients had a significantly better experience in 16 questions (25%) and significantly worse in 23 (35%), but were more likely to report very good/excellent overall experience compared to patients in England (91% vs 88%, $p < 0.001$). Patients in Australia were less likely to receive understandable written information specific to their care than patients in England (65% vs 77%, $p < 0.001$). Patients with a nurse specialist were significantly more positive in 50 questions in Australia (77%) and 64 questions in England (98%). Fewer patients were assigned a named nurse specialist in Australia than England (69% vs 87%, $p < 0.001$). Australian patients with brain/central nervous system cancer and sarcoma gave the lowest score on 46 questions (71%), and patients with a disability, not born in Australia, and who did not speak English at home were also less positive.

Conclusions: Cancer patient experience using the NHS-CPES has been successfully compared across two health systems. Key areas for clinical service improvement for both countries have been identified and include the provision of tailored written patient information and the importance of providing named nurse specialists as part of the model of care.

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CYTOREDUCTIVE SURGERY PLUS HYPERTHERMIC INTRAPERITONEAL CHEMOTHERAPY IMPROVES SURVIVAL IN PATIENTS WITH STAGE IIIC OVARIAN CANCER

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Background: Ovarian cancer is the main cause of death from gynecological cancer in the world. Nearly 70–80% of patients are diagnosed in advanced stages, eg. FIGO stage III–IV. Based on current standard frontline therapies, recurrences during follow-up are very common, which determines a poor overall survival rates in the long term. The new therapeutic approach should be developed. Aim: To evaluate the clinical efficacy and perioperative safety of cytoreductive surgery (CRS) in conjunction with hyperthermic intraperitonealchemotherapy (HIPEC) for treating patients with stage IIIc ovarian cancer.

Methods: A total of 48 stage IIIc ovarian cancer patients were divided into the CRS group, namely, Group One ($n = 24$, CRS and systemic adjuvant chemotherapy) and the CRS + HIPEC group, namely, Group Two ($n = 24$, CRS+HIPEC and systemic adjuvant chemotherapy). Completeness of cytoreduction (CCR) was evaluated and recorded during the interventions. The primary end point was overall survival (OS) and the second end points were serious adverse events (SAE).

Results: Patients' clinicopathologic characteristics, peritoneal carcinomatosis index, and completeness of cytoreduction therapy were well balanced and comparable between the two groups. The median follow-up was 32.0 months (10.5 to 95.9 months) in Group One and 41.9 months (6.5 to 110.0 months) in Group Two. The median OS was 18.27 months (95%CI, 10.15–26.40 months) in Group One and 39.29 months (95%CI, 29.96–48.61 months) in Group Two ($P = 0.007$). Within 30 days after the surgery, SAE occurred in 3 of the 24 patients in Group One, and 7 of the 24 patients in Group Two ($P = 0.155$). Multivariate analysis revealed that HIPEC, CC0-1 score, and chemotherapy over six cycles were the independent factors for OS improvement.

Conclusions: The CRS+HIPEC method improves the OS of stage IIIc ovarian cancer patients, suggesting an acceptable safety.

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THE CLINICAL OUTCOMES AND PROGNOSTIC FACTORS ON SURGICAL TREATMENT OF ADVANCED MEDULLARY THYROID CARCINOMA PATIENTS

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Background: Total thyroidectomy and central neck dissection are the procedures of choice in patients affected with medullary thyroid carcinoma (MTC). The clinical courses and prognostic factors have been studied, but the significance of some factors remains controversial especially among those patients with advanced MDC.

Aim: We reviewed our advanced MDC patients with greater tumor and underwent the surgical treatment to discuss the clinical outcomes and the prognostic factors.

Methods: 132 MTC patients underwent total/subtotal thyroidectomy and central neck dissections with either ipsilateral (n = 96) or bilateral (n = 36) modified radical neck dissections based on the evidence of suspicious lymph nodes. Follow-up time ranged from 5 to 125 months. Patients were considered 'cured' when stimulated Calcitonins were undetectable. Age, gender, tumor size, neck lymph node metastasis, TNM stage, extent of surgical resection, postoperative external beam radiation and postoperative chemotherapy were analyzed in all patients.

Results: Of 132 MTC patients underwent locally curative surgery, there were 68 cases (51.5%) with tumors larger than 4 cm and 72 cases (54.5%) with stage IV. Ninety two cases (69.7%) were biochemically cured and 76 cases (57.6%) were involved with lymph node metastasis. The biochemical cure rate was significantly correlated with the extrathyroid extension ($p < 0.005$), tumor size ($p < 0.005$), and lymph node metastases ($p < 0.0001$). The 5-year and 10-year cancer specific cumulative survival rates were 73.4% and 19.6% respectively. In univariate analysis, both age and the presence of node metastases were significant prognostic factors. Only age remained to be an independent prognostic factor in multivariate analysis.

Conclusions: Clinical outcomes of MTC patients who aged <45 years were significantly better than older patients regardless of tumor size and lymph node metastases. Age is the independent prognostic factor for MTC survival.

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MALIGNANT PERFORATION PERITONITIS: CHALLENGE TO A GENERAL SURGEON

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Background: Perforations are most common surgical emergencies seen worldwide, often managed by general surgeons. Situation worsens when the cause of perforation turns out to be malignant. It is an open challenge for the surgeon to proceed the case without adequate investigations. The management and outcome in such cases varies from that of perforation peritonitis caused by other aetiologies.

Aim: This study was done to know the spectrum of etiopathology, clinical presentation, management and treatment outcomes of patients admitted with malignant perforation peritonitis in our hospital.

Methods: A prospective study was done over a period of 3 years from January 2011 to December 2013 in a tertiary centre which included 1400 patients diagnosed with perforation peritonitis. 78 cases were found to have malignant perforations. We collected data on age, sex, tumour stage, histological finding, surgical treatment, morbidity and mortality.

Results: Majority (62.8%) were males. Mean age of presentation was 59.1 years. The time taken for resuscitation and preparation of patient for surgery was less than 12 hours in 83.4% patients. Most common symptom with which patient presented was abdominal pain (99%) followed by nausea and vomiting (85%), abdominal distension (71%) and altered bowel habit (62%). 86% cases had colorectal perforation followed by gastric (11.5%) and small intestinal (2.5%) perforations. 82.3% had advanced tumour stage. Majority of colorectal perforation patients underwent Hartmann's procedure (88.1%). 55.5% of gastric perforations underwent gastrectomy. Intestinal perforation cases underwent resection and anastomosis. 52.5% patients received chemotherapy. Complications included wound infection (31%), electrolyte imbalance (19.5%), pneumonia (23%), septicaemia (9%), renal failure (8%), intraabdominal abscess (6%). Mortality rate within one month was 30.7%.

Conclusions: In developing countries with limited resources, ignorance, financial constraints and lack of specialist medical knowledge, perforations associated with malignancies are quite common and lead to increased morbidity and mortality.

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STUDY ASSESSING FEASIBILITY OF ELECTROCHEMOTHERAPY USING BLEOMYCIN FOLLOWED BY PRE-OPERATIVE RADIOTHERAPY IN LOCALLY ADVANCED LIP AND BUCCAL MUCOSA CANCER

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Background: Lip and Buccal mucosa cancers are one of the most common malignancies in our practice. Some advanced cases can be technically difficult to operate upfront and are usually taken up for pre-operative chemo/radiotherapy. Tumouricidal doses of chemotherapy has its own systemic toxic effects. Electro-chemotherapy is a local treatment. Bleomycin (15 IU/m2) administered intravenously gets distributed in circulation over 8–10 minutes. Electrodes deliver impulses to the tumour, open up the cell membrane channels temporarily resulting in drug concentration and improved cell kill. Added to this, radiotherapy results in good cytoreduction which in-turn improves the likelihood of negative margins and improved locoregional control.

Aim: To assess the feasibility of treating locally advanced lip and buccal mucosa cancer with electro- chemotherapy using bleomycin followed by pre-operative radiotherapy.

Methods: We selected 26 cases of squamous histology of oral cavity, stage IV, surgeon deemed inoperable. All patients were treated with **electro-chemotherapy using intravenous bleomycin at a dose of 15 IU/m^2.** Patients were assessed for toxicities and clinical response from electro chemotherapy two weeks after the procedure and were then proceeded to radiotherapy up to 50 Gy (2 Gy/#). Toxicities were re-assessed weekly during radiotherapy and at the end of treatment.

Results: Males comprised 57.6% and age group 51–70 were 59%. Stage IVA cases were 88.4%. 53.8% had well differentiated histology. No procedure related complications were observed. No patient developed systemic toxicity to bleomycin. Two weeks post procedure, electrode site skin scarring was observed in 76.9% cases, which reduced by end of radiotherapy to 19.2% cases. Toxicities like radiation mucositis-grade III (23%), post-RT hyperpigmentation (26.9%) and ulceration over treated site (15%) were observed. Partial response was noted in all cases, 2 weeks post electro-chemotherapy.

Conclusions: Electro-chemotherapy with bleomycin followed by radiotherapy is feasible in carefully selected advanced cases of oral cavity. No cases reported any form of systemic toxicity. Local toxicity was manageable.

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1154

CAN N-ACETYLCYSTEINE OR VITAMIN C PROTECT HUMAN BLADDER UROTHELIAL CELLS FROM ACROLEIN TOXICITY?

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Background: Cyclophosphamide and ifosfamide are commonly used anti-cancer agents. A major limiting factor in their use is the resulting bladder toxicity which can lead to ongoing bladder pain, urgency and dysuria. A major metabolite of these drugs, acrolein, is toxic to human urothelial cells, reducing cell survival and increasing damaging reactive oxygen species (ROS) formation.

Aim: To investigate whether N-acetylcysteine or Vitamin C can protect human bladder urothelial cells from damage due to acrolein.

Methods: Human bladder urothelial cells (RT4 and T24) were treated with acrolein (100 µM) alone or in combination with N-acetylcysteine or Vitamin C (0–3 mM) for 24 hours. A matched untreated control was also included for each group. Following treatment, cell survival and ROS formation were measured.

Results: Acrolein (100 µM) reduced cell survival by 65 ± 6% in RT4 cells ($p < 0.05$) and 93 ± 1% in T24 cells ($p < 0.01$). The reduction in cell survival due to acrolein was completely abolished in the presence of N-acetylcysteine (1 mM) ($p < 0.001$). Basal ROS levels were increased by 10 ± 5% in acrolein (100 µM) treated RT4 cells. N-acetylcysteine (1 mM) not only prevented the increase in ROS production induced by acrolein but inhibited basal ROS production by 69 ± 1% ($p < 0.01$). Cell survival in acrolein treated T24 cells was too low to allow accurate measurement of ROS production. Vitamin C had no protective effects but at a concentration of 3 mM had a pro-oxidant effect leading to increase ROS formation and decreased cell viability ($p < 0.05$).

Conclusions: N-acetylcysteine appears to protect human bladder urothelial cells from damage caused by the cyclophosphamide and ifosfamide toxic metabolite acrolein. Vitamin C has antioxidant properties but does not protect the urothelial cells. N-acetylcysteine can be given as an oral supplement and may have benefits for patients receiving cyclophosphamide and ifosfamide, potentially reducing bladder urothelial cell damage and urotoxic side effects.

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SKIN CANCER'S BURDEN AND COST TO THE PUBLIC HOSPITAL SYSTEM IN VICTORIA, AUSTRALIA

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Background: Skin cancer, including melanoma and non-melanoma skin cancer (NMSC), is the most expensive cancer in Australia, accounting for $511 million in 2010 for NMSC alone[1]. Unfortunately, there is a paucity of accurate information on the cost impact of skin cancer at the State level.

Aim: The study aims to estimate the cost burden to the Victorian State Government; in particular the cost of treating skin cancers in the public hospital system.

Methods: The study undertook a prevalence-based approach to estimate the cost of skin cancer management within the public hospitals. Costs were estimated separately for'inpatient admissions' and 'outpatient clinic services'. Quantity of service was combined with national unit cost to develop the cost estimates. More specifically, inpatient costs were calculated by the number of admissions in Victorian public hospitals for 2012–2013, with service statistics sourced from Victorian Integrated Care Services (ICS). Outpatient costs were determined by the number of outpatient attendance at three public hospitals, where data were available for the study.

Results: In 2012–2013, there were 12,700 admissions to Victorian public hospitals, representing $42 million healthcare costs. Outpatient costs were estimated $3.3 million by approximate 14,000 clinic attendance in three Victorian public hospitals. When extrapolating from the cost estimate in each of the three hospitals to a state-wide estimate, the range varied from $6 to $13 million. Total costs, combining the inpatient and outpatient costs, incurred by the Victorian public hospitals were estimated to be $48 to $56 million in 2012–2013.

Conclusions: While these estimates are still indicative rather than comprehensive, they do provide a much clearer picture of the substantial cost impact of skin cancer in Victoria than we have had before. Proven prevention programs like SunSmart offer excellent potential to re-direct the $56 million impact on our hospitals each year to other non-preventable diseases[2].

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STUDY ON THE ROLE OF PRIMARY SYSTEMIC CHEMOTHERAPY WITH ANTHRACYCLINE COMBINATION SCHEDULE IN LOCALLY ADVANCED BREAST CANCER IN INDIAN PATIENTS

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Background: Locally advanced breast cancer (LABC) refers to a heterogeneous group of locally advanced non metastatic group of breast cancer. Primary systemic chemotherapy which forms the prime modality in LABC management has several advantages.

Aim: To assess the response and survival of locally advanced breast cancer patients receiving Primary Systemic Chemotherapy (PST) with Anthracycline based combination chemotherapy in Indian setting.

Methods: From January 2004 to December 2005 seventy-five patients who satisfied the inclusion criteria were included in this study. Prospectively observed locally advanced breast cancer patients who were primarily inoperable and who received Anthracycline based neoadjuvant chemotherapy. Chemotherapy schedules used were FAC (5-Fluorouracil 500 mg/m^2, Doxorubicin 50 mg/m^2 and Cyclophosphamide 500 mg/m^2) and FEC (5-Fluorouracil 500 mg/m^{2,} Epirubicin 100 mg/m^2 and Cyclophosphamide 500 mg/m^2). Tumour response was assessed both clinically and pathologically. Clinical complete response (cCR), partial response (PR), stable disease (SD) and pathological complete response (pCR) were assessed. 5 year overall survival (O.S) & disease free survival (DFS) were analyzed using Kaplan Meier survival analysis.

Results: 94% patients who were initially inoperable became operable after PST and only 6% remained inoperable. A radical MRM with axillary clearance was achieved in 70.4% while simple mastectomy with axillary dissection in 22.5%. Microscopic surgical clearance achieved in 85.9% of cases. The objective clinical tumour response rate in our study was 78.9% with cCR of 11.3%, PR of 67.6%. The pCR is 7.5% in our study. 5 yr O.S and DFS were 67.92% and 62.21% respectively.

Conclusions: Anthracycline based chemotherapy is an excellent schedule in Neoadjuvant setting in LABC in Indian patients. But to improve the O.S, DFS and pCR addition of agents like Taxanes and their sequencing must be explored. RCTs addressing these issues are warranted especially in countries like India were percentage of LABC is high and tumour biology is aggressive.

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EVOLUTION OF COLLABORATIVE GROUP AML STUDIES IN AUSTRALIA

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Background: The Australasian Leukaemia and Lymphoma Group (ALLG) has conducted multi-centre investigator-initiated trials since 1974.

Aim: To review the history of ALLG acute myeloid leukaemia (AML) trials and their contribution to current standards of care.

Methods: Between 1982 and 2014, the ALLG conducted three single arm and three randomised studies investigating new chemotherapeutic agents and optimisation of dosing.

Results: The phase III AMLM2 trial recruited 264 patients from 20 sites 1984–1987. The addition of etoposide to the standard cytarabine and daunorubicin combination established a new Australian standard of care. AMLM4 (1987–1991) examined the benefit of cytarabine intensification during induction, with improved remission offset by induction deaths. Substituting idarubicin for daunorubicin, AMLM7 (1995–2000) accrued 298 patients across 26 centres and defined the limits of conventional chemotherapy. The first cycle remission rate of 77% remains a benchmark for AML induction approaches. Subsequently, AMLM12 recruited 442 patients 2003–2010 and focussed on consolidation dosing. Results are pending. Advances in supportive care practices also led to substantial reductions in induction deaths (AMLM2 20–26% to AMLM12 ~5%), critical for delivering improvements in clinical outcomes.

Conclusions: Over more than 30 years the ALLG has carried out sequential scientifically valid multi-centre studies to answer key questions in management of AML. Outcomes have improved incrementally rather than as dramatic breakthroughs. Remarkably, current regimens still represent ongoing refinement of core AML drugs discovered 50 years ago. Trial design however, has changed from an all-comers approach to a modular design with studies increasingly tailored to the molecular biology of the disease.

Future directions include collection of quality of life and cost effectiveness outcomes. The ALLG's achievements in AML reflect the skill, intellect and dedication of members and collaborators. The 1200+ patients who have dedicated their lives to the pursuit of improved clinical outcomes remain the ultimate heroes in this ongoing quest.

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MPV AS A PROGNOSTIC MARKER IN METASTATIC COLORECTAL CANCER PATIENTS TREATED WITH BEVACIZUMAB

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Background: Recent study revealed that the prognostic impact of the MPV (Mean platelet volume) /platelet count ratio in terms of survival in advanced non-small cell lung cancer. However, there has been no direct analysis of the survival impact of MPV in patients with mCRC.

Aim: The aim of the study is to evaluate the pretreatment MPV of patients with metastatic and non-metastatic colorectal cancer (non-mCRC) and also the prognostic significance of pretreatment MPV to progression in mCRC patients who have been treated with bevacizumab-combined chemotherapy.

Methods: Fifty-three metastatic and nighty-five non-metastatic colorectal cancer patients included into the study. Data on sex, age, lymph node status, MPV, platelet and platecrit (PCT) levels were obtained retrospectively from the patient's medical records.

Results: The MPV was found to be significantly higher in the patients with mCRC compared patients with non-mCRC (7.895 ± 1.060 versus 7.322 ± 1.136, p = 0.013). The benefit of bevacizumab on PFS was significantly greater among the patients with low MPV than patients with high MPV. The hazard ratio (HR) of disease progression was 0.41 (95% CI, 0.174–0.986; p = 0.04).

Conclusions: In conclusion, despite the retrospective design and small sample size, MPV can be considered a prognostic factor for mCRC patients treated with bevacizumab-combined chemotherapy.

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REDUCING CANCER HEALTH DISPARITIES IN THE WESTERN PACIFIC THROUGH A PARTNERSHIP BETWEEN THE UNIVERSITY OF GUAM AND THE UNIVERSITY OF HAWAII CANCER CENTER

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Background: Pacific Islanders (PIs) are a highly underserved minority with a significant burden of cancer health disparities (CHD). PIs are also highly underrepresented among cancer researchers and cancer healthcare professionals.

Aim: To reduce CHD among PIs in Guam, Hawaii and the US-Associated Pacific Islands through cancer research, training and education, and outreach.

Methods: Since 2003, the University of Guam (UOG)/University of Hawaii Cancer Center (UHCC) Partnership has provided graduate training and education in CHD research, mentorship to early stage investigators (ESI), and funding to support cancer research unique to the Western Pacific. Outreach strategies employ community-based participatory methods to reduce cancer risk and strengthen cancer control policy.

Results: Sixteen master's and two doctoral students have received fellowship support and training. Three UOG graduates are in doctoral programs and one UHCC doctoral fellow is now a tenure-track faculty at UOG. CHD curriculum has been institutionalized at UOG. Ten UOG ESI were mentored. Four faculty received summer fellowships at UHCC; two subsequently secured seed grant awards. Research of regional relevance and global importance is jointly conducted by UOG/UHCC investigators, including six betel nut pilot studies and four cancer risk related studies. Outreach built community capacity in tobacco cessation and influenced legislation to reduce tobacco use and increase tobacco taxes on Guam, providing support for patient services and Guam's Cancer Registry. Almost 50 scientific papers have been published.

Conclusions: The UOG/UHCC Partnership has significantly increased research capacity at UOG, expanded participation in CHD research at UHCC, and prepared future cancer researchers and cancer healthcare professionals to, together with the community, address the growing cancer burden in the Western Pacific region.

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CONQUERING CANCER THROUGH UNDERGRADUATE MEDICAL EDUCATION IN A WAR-TORN COUNTRY: INITIATIVE EXPERIENCE FROM IRAQ

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Background: Undergraduate Medical Education is a vital step to create good physicians. It is important that students learn oncology in an ideal approach. In Iraq, a war-torn country, there is no consensus on what and how much oncology should be learned at this level.

Aim: This abstract tries to explore the initiative experience that was accomplished in May 2014 at **Tikrit University – College Of Medicine**.

Methods: 10 lectures (50 minutes each) given in a condensed course along two days during the last month of 4th grade students. Topics as follows: 1. Oncology: Introductions; 2. Cancer awareness, prevention & early detection; 3. Patients' rights, ethics & communication skills in oncology; 4. Cancer patients' care: global and local perspectives; 5. Surgical oncology: at glance; 6. Radiation oncology: at glance; 7. Adult & Pediatric Medical oncology: at glance; 8. Nursing oncology: at glance; 9. Palliative and supportive oncology: at glance; 10. Integrated oncology and comprehensive cancer care: at glance. Pre-Course Survey (*Pre*) "composed of 14 questions" and Post-course survey (*Post*) "composed of 9 questions" were spread, collected and analyzed.

Results: Students were 39 & Male/Female ratio was 1.4/1. From *Pre*, 17% chosen oncology as a career in the future and 54% did not agree that their current oncology hours are ideal. From *Post*, 51% mentioned that the curriculum hours ideally should be ranged from 8–25 hours/annum and 84% agreed that setting a standard of oncology objectives, curriculum, and reference resources will be useful and 49% agreed to attend a voluntary summer oncology school course.

Conclusions: As a career, oncology seems to be the choice in a minority of students. There is a trend that under-graduate oncology education is not ideal and this needs to be addressed in further studies in order to improve the status of this field and its involvement in conquering cancer.

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THE GSTP1 313G AND MTHFR 677T ALLELES INCREASE BREAST CANCER RISK BUT ENHANCE RESPONSE TO CEF CHEMOTHERAPY IN WOMEN OF NORTH CHINA

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Publish consent withheld

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PRE-ANALYTIC TIME AND TEMPERATURE VARIATION IN DETECTION OF ANTIBODIES TO CANCER RELATED INFECTIONS.

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Background: Many epidemiological studies often face practical limitations in terms of acquiring biospecimens under identical conditions. Study design can require lengthy transportation of blood samples from regional locations to a central processing facility. Anecdotally, antibodies to infection are believed to be robust to variations in pre-analytic conditions. There is little information in the literature to support this statement.

Aim: To determine the stability of antibodies to cancer related infectious agents when a) subjected to prolonged storage at 4°C or room temperature (RT) prior to fractionation and, b) collected in different vacutainers.

Methods: 34 Cancer Council NSW employees provided blood samples in SST, EDTA, ACD and lithium heparin vacutainers. Samples were stored at RT or 4°C until centrifugation and fractionation within one hour of collection (day 0) and at daily intervals to day 6 and stored at –80°C prior to analysis. Median fluorescent intensity (MFI) values for antibodies to 42 recombinant fusion proteins of human papillomaviruses, polyomaviruses, Epstein Barr virus and *Helicobacter pylori* were quantified by bead-based multiplex serology.

Results: Mean MFI values for antibodies in lithium heparin plasma were the most stable (mean % change in MFI per day = 0.0% (95%CI[-1.1,1.2]). Mean MFI values for antibodies in EDTA plasma and serum (SST) decreased by 1.1% (95%CI[0.1,2.2]) and 0.7% (95%CI[-0.5,1.8]) per day, respectively. In contrast, mean MFI values for antibodies in ACD plasma increased by 1.5% (95%CI[0.4,2.5]) per day on average. Storage at RT led to an increase in mean MFI values, averaged across all antibodies, in all vacutainers. Mean MFI values increased the most for ACD plasma (4.6%(95%CI[0.3,9.1]) stored at RT.

Conclusions: Mean MFI values, averaged across all antibodies, for delays in processing vary according to vacutainer type and increase with pre-fractionation storage at RT. Vacutainer choice, processing delays and pre-fractionation storage temperature impacts on cancer risk factor analysis.

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CLINICAL VALIDATION OF THE ANYPLEX^{TM} II HPV HR DETECTION FOR PRIMARY CERVICAL CANCER SCREENING

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Background: Persistent cervical infection with high-risk human papillomavirus (hrHPV) is the causal agent of cervical cancer, preventable by an effective cervical screening test.

Aim: The purpose of this study is to evaluate the clinical performance of the Anyplex^{TM} II HPV HR Detection (Seegene, Korea), a new multiplex real-time PCR assay, relative to Hybrid Capture 2 (HC2, Qiagen, USA) for a primary screening tool in cervical screening.

Methods: A total of 1,143 specimens in a Huro Path solution (CelltraZone, Korea) were included into the study. Upon cytological examination, most cases were diagnosed as normal: 870 normal, 85 atypical squamous cells of undetermined significance [ASCUS], 44 low-grade squamous intraepithelial lesion [LSIL], 80 atypical squamous cells, cannot rule out a high a high grade lesion [ASC-H], and 64 high-grade squamous intraepithelial lesion [HSIL]. All residual specimens was divided into two aliquots and then submitted for two methods according to manufacturer's instruction. Clinical sensitivity and specificity, intra- and inter-laboratory reproducibility were evaluated using the Meijer et al. international guidelines.

Results: There was a overall concordance rate of 91.3% between the results of the Anyplex^{TM} II HPV HR Detection and HC 2 (TM II HPV HR Detection and HC 2 were 92.2% vs. 95.3% and 82.0%, vs. 80.6%, respectively, when HSIL was regarded as abnormal cytologies. In addition, the Anyplex^{TM} II HPV HR Detection was found to have excellent intra- and inter-laboratory reproducibility (97.8% (kappa = 0.952) and 97.4% (kappa = 0.937), respectively). Our results thus met the criteria set Meijer et al. international guidelines.

Conclusions: Our data show that the Anyplex II^{TM} HPV HR Detection is clinically comparable to the clinically validated HC2 assay and can be considered clinically validated valuable tool for cervical cancer screening purposes.

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CERVICAL CANCER PREVENTION IN EASTERN EUROPE-BARRIERS AND CHALLENGES

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Background: Although cancer screening rates in the United States and Canada have improved over the past decade, the problem of morbidity and mortality from this type of cancer is still an unsolved problem in the countries of Central and Eastern Europe, where the incidence and mortality rates for this cancer among women is much higher.

Aim: What are the common barriers that are perceived as a big impediment to participate in regular screening studies of this kind in Central and Eastern Europe?

Methods: To systematically review the literature on perceived individual barriers and benefits associated with participation in screening studies aimed at preventing cervical cancer, the methodology Cochrane Group, from the period between 1979 and January 2011. Revision of the database: Medline, Academic Search Premiere, Psych-info, Psych = Lit, Health Source Nursing: Academic Edition.

Results: Obtained 655 publications, with abstract in English. Pre-101 publications were selected that meet the criteria for inclusion. Then evaluated 4 quality publications using the indications TREND which led to the emergence of 66 publications, of at least average methodological quality.

Most scientific papers selected for analysis in our systematic review of 54 studies are correlational, including 52 cross-sectional and longitudinal 2 correlational studies (39) conducted in the U.S. (72% of all work), 2 in Canada, 1 in Mexico, 3 in Australia, 2 in the UK, 1 Denmark, 1 in Sweden and 1 in the Netherlands. There are also data from Eastern European countries one from Bulgaria and Romania, Serbia 1 and 2 of the Polish. The participants were between 66 and 66426 women; in 13 studies (24%) participated at least 1,000 women.

Summary: There have been no systematic cross-national research in this area, but so far collected data suggest no significant differences between populations living in different regions of North America and Middle-Eastern Europe.

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SOME FEATURES OF CANCER PREVALENCE IN KYRGYZSTAN

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Background: Kyrgyzstan is a small mountainous country in Central Asia. Climatic zones ranging from the desert to eternal snow and glaciers on the relatively small territory. This is a multiethnic country – with more than 80 different ethnic groups. Main group are Kyrgyz-71%, smaller groups are Uzbeks- 14%, Russinas-7, 8%. Most population aggregates are located at elevation from 400 to 4000 meters above sea level.

Aim: To determine the priorities of providing the cancer care in different regions.

Methods: We used statistical methods using standards adopted in the country.

Results: Cancer incidence in Kyrgyzstan was 81.5 per 100,000 in 2010. Most frequent localizations are: gastric cancer-11.9 per 100,000, breast cancer –8.5, lung cancer and cervix cancer- 7.0. The highest incidence is registered in the capital Bishkek 126.1 per 100,000 (2007) and the lowest in Batken region (48.8). We would like to point out the relatively high cancer incidence in Naryn region (91.0 per 100,000), most of the population of the region live at medium and high elevation. At the other high elevation regions of Kyrgyzstan and Gorno-Badakshan region of Tajikistan the cancer incidence is much lower. This might be related to the nuclear tests conducted in Lob-Nor (China) in eighties of the last century, which significantly affected the level of the radioactivity in the neighboring Naryn region of the Kyrgyzstan. In 1997 cancer incidence in the same region was 48,7 per 100,000. Figures of the incidence among different ethnic groups show the higher prevalence of the cancer among Russians, Ukrainians and Caucasians compared to Kyrgyz and other ethnicities.

Conclusions: Thus, although cancer prevalence in Kyrgyzstan is not very high, but there are plenty of problems related to research of the morbidity and mortality. However the lack of funding for research does not warrant provision of the accurate data and therefore limits the possibilities of providing adequate care for cancer patients.

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PROSTATE DISEASE, CANCER EPIDEMIC: ETHNIC ADVANTAGE IN A HIGH RISK COUNTRY OF DOMINICA

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Background: Dominica a Caribbean island. Dominicans are Afro Caribbean and Carib/Kalinago Indians. The origin of Carib/Kalinago Indians is disputed. Disease pattern of migrants equates with natives after 3–4 generation (3) Difference in Prostate disease have been studied.

Aim: Is there any ethnic advantage in high risk area for prostate cancer.

Methods: A national campaign carried out for normal prostate, benign prostatic hyperplasia (BPH), prostatitis and cancer of prostate. 940 people were examined, 55 were Carib Indians and 855 were Afro-Caribbean. Analysis was carried out by habitat.

Results: Of the 940, 885 Afro-Caribbean and 55 Caribe; of 885 Afro-Caribbean, 2.1% had prostatic cancer; 22.68% BPH and 10.83%, Prostatitis. Of 55 Caribs, 0% had cancer, 4% had BPH and 0% had prostatitis.

Conclusions: Caribs may have migrated to the West Indies as much as 5000 to 9000 years ago either from Siberia or South East Asia. Dominica's Caribs appears to have retained resistance to cancer of prostate. Migrants from other east and south East Asian countries living in USA, loose their ethnicity associated resistance, (3)

Our finding appears to be unique. Further detailed research is needed to exploit the advantage.

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IN THE WAKE OF PROSTATE CANCER EPIDEMIC: DOMINICA A RESOURCE-SCARCE AND HIGH RISK COUNTRY, ITS EFFORT TO MINIMIZE THE RISK: LOW COST, HIGH CLINICAL PROFECIENCY SCREENING EFFORT: A REVELATION

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Background: Prostatic cancer is epidemic[1] amongst African-American and Afro Caribbeans[2]. Dominica has, 73,000 compliant populations; big advantages for screening. Prostate screening[3] should account for demography, general health, specific urinary symptoms, clinical examination and digital rectal examination (DRE) of the prostate and pelvis. Age of onset in African-Americans and Afro-Caribbean is low as 40. Minimum age for screening needs to be 40.

Aim: To study the pattern and relative frequency of prostate disease including cancer in Dominica.

Methods: This study collected demographic data; 9 point health questionnaire; Digital Rectal Examination (DRE). A protocol has been developed for DRE to reduce observer variance. A fast and patient – friendly technique developed for DRE. Population aged between 40–100+ were screened. 940 people have been screened, classified as Urban, Sub-urban and rural. Ethnically divided into Afro- Caribbean and Carib Indians.

Results:940 persons were screened, classified as Urban (163), Sub-Urban (401), Rural (321) and the Caribe territory (55). Urban group, 5.52% had cancer, 20.85% had BPH & 25.15% had prostatitis; Suburban group, –1.74% cancer, 30.4% had BPH and 12.96% had prostatitis; Rural Gr, 0.93% cancer, 14.64% BPH, 0.93% prostatitis; Caribe territory, 0% cancer, 4% BPH, 0% prostatitis.

Conclusions: Studies area evolving: prostatitis and cancer, urban/non-urban variation, standardized DRE technique, indicative of substantial impact on understanding. Revealed positive association of chronic prostatitis and prostate cancer.

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HIGH-GRADE CERVICAL ABNORMALITY FOLLOWING THE CYTOLOGIC DIAGNOSIS OF ATYPICAL ENDOCERVICAL CELLS OF UNDETERMINED SIGNIFICANCE: A RETROSPECTIVE STUDY OF 1736 CASES.

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Background: Atypical endocervical cells (AEC) or glandular cells (AGC) of undetermined significance is a rare cytology finding (less than 1% of Australian cervical cytology test results). Previous studies have reported patients with this test result to be at high-risk (17%-59%) for premalignant and malignant cervical disease.

Aim: To determine the incidence of histologically confirmed high-grade cervical abnormalities and to investigate clinical practice in patients presenting with atypical endocervical cells of undetermined significance (AEC) on cervical cytology.

Methods: This is a 12 year population-based retrospective study examining the prevalence, clinical management and outcomes of patients with AEC on a screening cervical smear. Time to event analysis was used to predict the odds of having or developing in situ and invasive cervical neoplasia.

Results: AEC were reported in index smears from 0.2% patients (1736/795421) during the study period. One hundred thirty nine patients (8.0%) had, or subsequently developed, a high grade cervical lesion. The relative hazard rate of biopsy confirmed high-grade cervical abnormality was five times greater in patients aged 25 to 34 years compared to patients aged 45–54 years (odds ratio 5.3; 95% CI 2.9–9.6). Overall, 55.1% of patients underwent evaluation by a specialist obstetrician/ gynecologist with a positive trend in compliance following the implementation of revised management guidelines. The positive predictive value of a high-grade cervical abnormality in patients with AEC increased during the review period.

Conclusions: Cytologic demonstration of AEC requires careful gynaecologic evaluation particularly in younger patients with no cervical screening history and/or having a previously detected low-grade cervical dysplasia.

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CERVICAL CANCER KNOWLEDGE AND SCREENING UPTAKE AMONG WOMEN IN EMBU COUNTY, KENYA

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Background: Cervical cancer is the leading cause of cancer-related death among women in developing countries. Population-based screening and early treatment reduces morbidity and mortality associated with cervical cancer.

Aim: The main aim of this study was to determine the factors influencing cervical cancer screening knowledge and uptake of screening among women in Embu County.

Methods: A cross-sectional study design was adopted. A multi-stage cluster sampling technique was used to obtain the required sample size of 269 respondents. Data was collected using a structured questionnaire. The study was approved by the Kenyatta National Hospital-University of Nairobi Ethics Review Committee (KNH-UoN ERC). The study was conducted between January 2014 and February 2014. Data analysis was conducted using SPSS Version 17.0.

Results: The study findings revealed that 82.2% of the women were aware about cervical cancer, while 73.2% knew about cervical cancer screening. Among all the women interviewed, only 25% had ever been screened. There was a statistically significant association between awareness of cervical cancer and the age of respondents $p = 0.031$. A significant association between screening uptake and employment status was observed $p = 0.027$.

Conclusions: The study shows that the uptake of cervical cancer screening was low among the women in Embu, county. This was despite the fact that most of the women have heard about cervical cancer and cervical cancer screening. Lack of understanding and lack of clear information on the disease was a barrier to screening uptake. There is need therefore to study the underlying reasons as to why women do not go for screening in a purely qualitative study.

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DEVELOPMENT AND ASSESSMENT OF AN EVIDENCE-BASED PROSTATE CANCER INTERVENTION PROGRAM FOR BLACK MEN: THE W.O.R.D. ON PROSTATE CANCER VIDEO

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Background: Prostate cancer (CaP) is the most common male cancer in Africa, the Caribbean, Europe, and North America. Black men, especially, are disproportionately affected by CaP. In spite of the numerous CaP intervention programs that have been implemented to address the CaP disparities experienced by Black men, CaP prevention, risk reduction and early detection behaviors remain low among Black men.

Aim: The primary objectives of this study were: (1) Develop a culturally relevant CaP education intervention, the WORD video, for Black men; (2) Evaluate participants' general assessment of the WORD video; and (3) Establish the efficacy of the WORD video in improving users' CaP knowledge and CaP screening intention as well as reducing decisional conflict about CaP screening.

Methods: The study was a pre-post test research design, exploring the impact of the WORD video on the following variables: CaP knowledge, CaP screening intention, and decisional conflict. Participants were Black men from age 35 and above. Participants were recruited at health forums and community outreach events. Data were collected prospectively from 143 participants before and after viewing the WORD video.

Results: Exposure to the WORD video statistically improved CaP knowledge, increased intention to screen for CaP within the next year and decreased participants' perception of the number of factors contributing to uncertainty about CaP screening. Participants were highly satisfied with the video content and rated the quality of the video to be very good. Participants also rated the video as credible, informative, useful, relevant, understandable, not too time consuming, clear, and interesting.

Conclusions: The WORD video message is thus credible, relevant and culturally-responsive to Black men. The WORD video is also highly accessible nation-wide through You Tube, fostering widespread dissemination, at minimal cost. In addition, the WORD video DVD and accompany brochures are available at no charge to Black men.

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HIGH RATES OF PELVIC ULTRASONOGRAPHY AND TUMOR MARKER USE SUGGEST PHYSICIAN NON-ADHERENCE TO OVARIAN CANCER SCREENING GUIDELINES

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Background: Indicators used to assess cancer prevention efforts include screening rates for breast, cervical and colon cancer in a population. Empiric data reveal actual screening practices diverge from guidelines.

Aim: Investigate whether physicians still screen for ovarian cancer employing pelvic ultrasonography and the CA-125 tumor marker despite the absence of guidelines endorsing ovarian cancer screening in average risk women and several (USPSFT, ACOG) that explicitly recommend against screening.

Methods: Data source: Health plan utilization database, 2009–2012. Tests performed and the percentage of beneficiaries tested were determined. Billing data did not permit us to distinguish tests ordered for screening from those ordered for investigation of symptoms or to accompany patients already diagnosed. A single billing code used for four different tumor markers complicated the analysis.*

Results: Among 62,531 women age 30–59, 57.7% underwent non-obstetrical pelvic ultrasonography at least once in 24 months (Jan 2011-Dec 2012). Among 17,714 women age 40–49, the rate was 63.1%. Among 17,884 women age 60–69, the rate was 47.5%.

Among 74,324 women age 40–79, the number and percentages who had the tumor marker tests done at least once:

	# of women	% of women
CA-125	1339	1.8%
*CA-125/CA-19.9/CA-15.3, or CA-72.4	7204	9.7%
Carcinoembryonic antigen (CEA)	5201	7.0%

Conclusions: Testing rates found are so high, certainly most pelvic US and CA-125 testing constitutes inappropriate screening of asymptomatic normal risk individuals. False positive results (not quantified) expose beneficiaries to further diagnostic investigation and associated morbidity. Physicians are ordering pelvic ultrasound and CA-125 as if an affirmative rather than a negative recommendation to screen for ovarian cancer existed. This empiric data suggests ordering physicians, especially gynecologists, are ignorant of or consciously ignore guidelines that discourage ovarian cancer screening. Expenses incurred by health plans for tests that contravene guidelines constitute a logical target for re-allocation to beneficial services.

1. U.S. Preventive Services Task Force (USPSTF) Recommendations http://www.uspreventiveservicestaskforce.org/uspstf12/ovarian/ovarcancerrs.htm

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DEMOGRAPHIC SURVEY OF FOUR THOUSAND PATIENTS WITH 10 COMMON CANCERS IN NORTH EASTERN IRAN OVER THE PAST THREE DECADES

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Background: Cancer is the Fourth cause of mortality in developing countries the correct and valid information about the epidemiology of this disease is the first step in the planning of health care in each region

Aim: The aim of this study was to determine the relative frequency, mean age and sex ratio of 10 common non-skin cancers in the world and Iran among patients referred to the Clinic of Oncology

Methods: This descriptive study was conducted in Mashhad, north east of Iran data obtained from the records of patients referred to the private oncology center between the years 1985–2012. According to the latest report of GLOBOCAN study malignancies included lung, breast, colorectal, prostate, stomach, liver, cervix, esophageal, bladder cancers and Non-Hodgkin lymphoma

Results: A total of 4606 cases were analyzed. The mean age was 55.56 ± 13.80 years (male: 59.54 ± 13.94, female: 52.64 ± 12.93). Overall, breast cancer (1264 cases, relative frequency of 27.4%) was the most prevalent cancer; however the mean ages of diagnosis were not significantly different between 5-year time period divisions ($p = 0.290$). The most common cancer in men was esophageal cancer (26.3%). The lowest mean age was related to women diagnosed with breast cancer (48.51 ± 11.81) and men with Non-Hodgkin lymphoma (48.46 ± 17.88). There were statistically significant differences between the mean age of men and women with gastric ($p = 0.003$) and esophageal cancer ($p < 0.0001$). Male to female sex ratio in our study for bladder, lung and stomach cancers were 6.57, 2.6 and 2.5 respectively

Conclusions: The results showed that breast cancer tends to be found in younger patients and bladder cancer appears more often in men. Screening in target population and early diagnosis may reduce death or disabilities

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VARIATION IN THE COST OF PROMOTING CANCER SCREENING: REAL WORLD EXPERIENCE FROM CDC'S COLORECTAL CANCER CONTROL PROGRAM IN THE USA

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Background: Colorectal cancer is one of the most common types of cancer and cancer-related deaths in the United States. To improve colorectal cancer rates, the Centers for Disease Control and Prevention (CDC) initiated the Colorectal Cancer Program (CRCCP) across 29 grantees in the United States. The goal of the CRCCP is to increase CRC screening rates to 80% among the population aged 50 and older.

Aim: To assess costs of screening promotion activities across CRCCP grantees.

Methods: Each year all grantees complete a cost assessment tool that collects information on program funding and expenditures, including screening promotion, screening provision, and overarching activities, such as program management, data collection and administration. Within screening promotion activities, costs for 11 activities are captured. Descriptive analysis is conducted using data from the first three years of the CRCCP to examine how grantees' costs vary across screening promotion activities.

Results: Overall, in years 1–3, over $40 million CDC and other dollars were spent on screening promotion activities. The largest cost category of screening promotion was mass media followed by outreach/incentives/education, patient navigation and support, and small media. These four categories comprised slightly more than 70% of grantees' screening promotion budgets.

When grantees were separated into three categories based on their screening promotion expenditures (<34th, 34th–66th, >66th percentiles), the picture changed. While mass media remained the largest spending category, grantees with the highest screening promotion budgets spent more on patient navigation, while grantees with the mid-range and lowest screening promotion budgets spent more on outreach/incentives/education.

Conclusions: In the first three years of the CRCCP, nearly half of total dollars allocated to the CRCCP were spent on screening promotion activities. These findings reflect the cost needed to educate the population about colorectal cancer screening and public health program resources.

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EVALUATION OF CERVICAL CANCER SCREENING PROGRAM USING VIA TESTING IN MOROCCO

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Background: The cervical cancer is the second most common cancer in women after the breast cancer in Morocco. Recorded 14,3/100 000 P-Yrs, it's diagnosed generally in very late stages, therefore delaying and complicating their therapeutic care. To cope this problem, Morocco undertook progressively a screening program using visual inspection of the cervix with acetic acid as a screening tool in primary health centers, by trained doctors, midwifes, and nurses. Colposcopy and/or directed biopsy were performed on VIA positive Women in specialized centers named reference center for reproductive health. Treatment by loop electrosurgical excision procedure was offered to those with cervical intraepithelial neoplasia. This program initiated towards the end of 2010-early 2011 in only one region in the country and scaled up to 6 regions by 2014.

Aim: The aim of this paper is to document the process and the result of a VIA screening program in the province of Meknes, Morocco from 2011 to 2013.

Methods: A retrospective study was carry out in 43 health centers and the reference center for reproductive health of the province, based in the following of VIA positive women detected in primary health centers. The data were extracted from the women records and the registry of the program.

Results: During this period, 18 586 women underwent VIA screening, which represents 6% of participation rate. Among them, 1743 (9,3%) women were positive, of whom 539 (31%) received colposcopy. 64 women were diagnosed with TAG1-2 and one woman with invasive cancer. 23% the women with TAG1/2 lesions had treatment.

Conclusions: This result highlights VIA screening program is useful alternative in low-resource setting, but requires careful and continuous monitoring and implementation of quality assurance. We need also to develop a strategy of community awareness, to increase access to the test and/or treatment.

Cervical cancer, screening program, visual inspection with acetic acid, Morocco

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PHYSICIAN ADVOCACY AND HERD SIGNALING IN BRIDGING KNOWLEDGE-BEHAVIOR GAP IN CERVICAL CANCER SCREENING

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Background: Cervical cancer is preventable through screening and eradication of pre-malignant neoplasia. The gap between knowledge and behavior of screening seriously undermines optimal participation rate of screening and compromises the success rate of screening programs.

Aim: This study investigated knowledge and self-perceived risk of cervical cancer, and factors that influenced cervical cancer screening participation rate among women of similar middle-class socio-economic status.

Methods: All female nurses in Singapore General Hospital were studied by an anonymous questionnaire survey. The influence of age, knowledge score and perceived-risk of cervical cancer on cervical cancer screening was analyzed using SPSS version- 22 statistics package and X2-statistics. Reasons for their decision on screening behavior were also determined.

Results: Of 2000 nurses surveyed, 1622 (81.1%) responded. Out of a maximum score of 10, the mean knowledge score was 4.70 (SD 1.76). Self-perceived risk of cervical cancer was high in 97/1622 (6.0%), low in 675(41.6%) and uncertain in 821 (50.6%) cases.

Of 834 nurses eligible for screening, 351 (42.1%) had regular screening, 110 (13.2%) had irregular screening and 373 (44.7%) were never-screened. Respondents with high knowledge score and self-perceived risk of cervical cancer did not show a higher screening rate compared to the rest of responders. Doctor's recommendation (34%), husband's encouragement (20%), "people talked about it" (24%) and "people close to me have done it" (4.9%) were common reasons for regular screening. "People I know do not do it" were cited in 20% of responders doing screening irregularly and in 5.9% of those never screened. Compared to those in the irregular-screening and never-screened groups, more responders in the regular screening group had visited specialists ($p < 0.001$) and gynecologists ($p < 0.001$).

Conclusions: Knowledge-behavior gap in cervical screening existed among women of similar socio-economic status. Physician advocacy and herd signaling played an important role in women's decision in participating screening.

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WHAT DO PEOPLE WANT TO KNOW ABOUT COLORECTAL CANCER AND WHAT IS THE BEST WAY TO ORGANISE THE INFORMATION THEY WANT?

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Background: The cancer information needs of the population are diverse and everyone is constantly bombarded with information that is "potentially" relevant to them. Information overload can lead people to overlook personally relevant information. Finding ways to overcome this problem is critical to the prevention of cancer and support of those with cancer.

Aim: The study aimed to identify the colorectal cancer (CRC) information needs of targeted sub-populations in Australia. Groups were distinguished by age and gender. The study also explored whether information identified as important differed depending upon the approach to identification.

Methods: 600 males and females (300 each) from three age groups (100 each; 35 to 49, 50 to 59, and 60 to 64 years) were recruited utilising a recruitment agency and paid for participation. They completed an online survey that asked them to (1) identify up to 5 questions they had about colorectal cancer and (2) to indicate how important each item from a list of 11 pre-determined categories of CRC information was to them personally.

Results: Results were analysed using Chi-square and 2-way ANOVA. : (1) $N = 2549$ questions were provided and coded into 13 information categories. Results varied by gender and age. (2) Women, regardless of age, rated nearly all types of information about cancer as more important than men.

Conclusions: Information needs do vary between different sub-populations. The finding that men tend to rate specific information about cancer as less important than women, regardless of age, is consistent with previous reports of gender differences.

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PUBLIC SUPPORT FOR THE SOLARIUM BAN IN AUSTRALIA

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Background: Australia has the highest incidence of skin cancer in the world. Solarium use in particular is associated with a significant increase in melanoma risk. Recently, state governments across Australia announced plans to ban commercial solarium use from December 31st 2014.

Aim: The present study aimed to examine the perceptions of Australians to the impending ban on commercial solaria.

Methods: Participants ($N = 488$; 388 females, 100 males; mean age = 26.02, $SD = 9.95$, range = 17–68 years) were recruited through online Facebook advertisements across Australia, South Australian university websites and solarium businesses in South Australia to complete a questionnaire on tanning behaviour and solarium usage. The majority of participants came from South Australia (81% SA; 14% Victoria; 5% from other states/territories).

Results: Among participants, 17% had used a solarium at some point in their life; 4% at least once in the last 4 weeks (range = 1–15 times) and 6% had used one in the last 12 months (range = 1–180 times). Overall, 53% of participants were aware of the impending ban. 414 participants responded to an open-ended question regarding whether they supported the solarium ban. The response to the ban was overwhelmingly positive (77% in support, 11.5% were not in support, 11.5% had no opinion). In relation to post-ban intentions, of participants who had used solaria in the past ($n = 82$), 35% were not in support of the ban, 12% intended to use privately owned sunbeds and 17% intended to spend a greater amount of time sun tanning.

Conclusions: These findings provide a high level of public support for the solarium ban, which will remove a risky source of ultraviolet radiation in Australia. Further steps may be needed to monitor the tanning behaviours of current solarium users post ban and their access to private sunbed use.

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IMPACT OF SCHOOL POLICIES ON NCD RISK FACTORS – A SYSTEMATIC REVIEW

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Background: A set of modifiable lifestyle behaviours (unhealthy diet, physical inactivity, tobacco and alcohol use) are common risk factors for major non-communicable diseases (NCDs), including several types of cancer. These behaviours are largely adopted from a young age. The school setting has been recognized as having great potential for inculcating healthy lifestyle habits among children and adolescents.

Aim: To identify, systematically analyze and collate the existing literature on the impact of school policies on health related behaviours (unhealthy diet, physical inactivity, tobacco and alcohol use).

Methods: A systematic review of peer-reviewed literature from 1990 to 2014 (January) was undertaken using Medline (Ovid), EMBASE and Web of Science search engines. Inclusion criteria included school children or adolescents between the age-group of 6–18 years, experimental or observational study design. Data were double extracted using a pre-piloted form. The outcomes (health related behaviours) and effect measures were assessed for different school policies. Due to variations in the effect measures used and the different assessments of behavioural outcomes, a narrative synthesis of the data was considered appropriate.

Results: Overall, 28 studies were included in the review; 18 were intervention studies and 10 were observational studies. In total, 7 studies assessed the effect of combined nutrition and physical activity policy interventions, 1 focused on school alcohol policies, 1 focused on comprehensive legislation to combat obesity and others focused individually on nutrition (8), physical activity (4) and tobacco control policies (7). The policy interventions varied greatly in the identified studies. Irrespective of the non-uniformity of the outcome measures and the effect estimates, results consistently showed effectiveness of policy interventions in reduction of NCD risk factors.

Conclusions: This review suggests that school policy interventions targeting behavioural risk factors at a young age could play a role in the effective prevention and control of NCDs.

1179

STRATEGIES TO COMBAT ARSENIC CALAMITY IN WEST BENGAL, INDIA BY TEA

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Background: Arsenic(As) in ground water has been found above the maximum permissible limit in several districts of West Bengal, India. Chronic exposure to inorganic arsenic leads to cancer as result of DNA damage. DNA damage, if not repaired culminates to initiation of carcinogenesis. This carcinogenic pathway is due to generation of reactive oxygen species (ROS) by As. Therefore, antioxidants may play a crucial role in prevention of arsenic induced carcinogenesis. Tea is a popular beverage all over the world, which is rich in antioxidants.

Aim: The present study aimed to bio-monitor the extent of DNA damage in asymptomatic individuals who are exposed to arsenic chronically. Individuals were given tea (10 cups) a day and this intervention study was carried out to assess the protective role against arsenic induced health hazards.

Methods: Total population was randomized into two groups, first group was given 10 cups of black tea per day, while the other group was placebo control group. ROS was measured spectrofluorimetrically, DNA damage was assessed by single cell gel electrophoresis. Antioxidant enzymes were measured following standard protocol. DNA repair enzyme status was observed by western blot analysis and by RT PCR. Expression of hypoxia inducible factor 1α (HIF1α) was determined by western blot analysis.

Results: Black tea reduces the extent of DNA damage in individuals exposed to arsenic and that was achieved by quenching of ROS. Antioxidant enzymes have been elevated by tea. Arsenic inhibits DNA repair capacity in individuals, which was counteracted by tea. Important repair enzymes were induced. Expression of HIF1α was also decreased by tea

Conclusions: The most popular drink, tea may act as a rescue to prevent onset of arsenic induced carcinogenesis by blocking the initiation stage in a population exposed to arsenic in West Bengal, INDIA.

1180

LEVEL OF AWARENESS OF LUNG CANCER RISK FACTORS, SIGNS, SYMPTOMS AND SAFE PRACTICES AMONG COLLEGE TEACHERS IN INDIA: DO AWARENESS HAVE A ROLE IN PREVENTION AND EARLY DETECTION ALONG WITH CHANGE IN PRACTICE?

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Background: Lung cancer is a serious public health issue because of high mortality and increaing incidence in India, but actually they are largely preventable diseases and there is limited data from India on this issues.

Aim: To know the impact of awareness program on change in adoption of safe practices in prevention and early detection.

Methods: This assessment was part of pink chain campaign. During the events in 2011 at various women colleges in India, Pre test was conducted by questionnaire. It was followed by awareness program consisting of lectures with special note of tobacco and smoking and an interactive session followed by post test. Literature related to cancer awareness was sent regularly. After completion of 6 months and 1 year, same questionnaires were mailed to the participants to see the change in practice. Data was collected and analysed.

Results: A total of 156 out of 182 teachers participated in the study (85.71%).109 and 95 teachers responded at the end of 6 months and 1 year respectively. For lung cancer, the correct risk factors indicated by teachers were smoking (89%), Secondhand smoke (37%), Family history (5%), and tuberculosis (36%). Symptoms of lung cancer were not well known in teachers. Symptoms of lung cancer known to teachers were Persistent cough (24%), Sputum streaked with blood (36%), Chest pain (12%), Voice change (12%), Recurrent bronchitis (5%). Magazines and newspapers were source for knowledge in 60% of teachers and 30% were educated by doctors regarding. At 6 months and 1 year, significant change in alcohol and smoking habits was noted. There was a significant increase in knowledge at 6 months and this was sustained at 1 year. For not doing regular checkup, major reasons came out to be ignorance (50%), lethargic attitude (44.87%) and lack of time (34.61%)

Conclusions: Knowledge of lung cancer was not well known to teachers. Though there was significant change in addiction habits, there was not much improvement in people undergoing regular check ups.

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KNOWLEDGE, ATTITUDES AND PRACTICES ON CERVICAL CANCER, THE HUMAN PAPILLOMAVIRUS (HPV) AND PREVENTION PROCEDURES IN THE DEPARTMENTS OF SANTA ANA AND SONSONATE, REPUBLIC OF EL SALVADOR.

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Background: The research was developed within the framework of the project “Initiative against Cervical Cancer in El Salvador”, which takes place through a tripartite alliance between the Ministry of Public Health (MINSAL), the Salvadorian Association for the Prevention of Cancer (ASAPRECAN) and the Salvadorian Demographic Association (ADS). This research was sponsored by the Union for International Cancer Control (UICC).

Aim: To count with objectively verifiable indicators about the knowledge, attitudes and practices on cervical cancer, the Human Papillomavirus and the prevention procedures in women between 25 and 64 years of age of the departments of Santa Ana and Sonsonate, Republic of El Salvador, Central America.

Methods: The approach of the research was quantitative. It was a descriptive cross-sectional study through the follow up of a population survey of a representative and probability sample of 838 women under those ages, in urban and rural areas of both departments.

Results: The results of the study show that a few women of Santa Ana or Sonsonate have an appropriate knowledge about cervical cancer. More than 90% of the women reported they have heard about **Papanicolaou test; however the information they were given is not really good. 80% of the women reported they have gone through the Pap test in the last three years. 34% of women reported they have had the information about the Human Papillomavirus. The vaccine against the HPV is hardly known.**

Conclusions: In general, the results of this research show the necessary contents to be included in the components of information, education and communication of the project "Initiative Against Cervical Cancer in El Salvador", being this the main measure for a higher impact in the diminishment of the incidence of cases reported with cervical cancer, as well as women deaths by this cause in El Salvador.

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MENOPAUSAL HORMONE THERAPY (MHT) USE AND BREAST CANCER RISK IN AUSTRALIA: INITIAL FINDINGS FROM THE NSW CLEAR STUDY

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Background: The American Women's Health Initiative trial[1] and large scale observational studies[2] found that current use of menopausal hormone therapy (MHT) is associated with an increased risk of breast cancer, and that this risk is higher for combined oestrogen-progestagen therapy than for oestrogen-only therapy.

Aim: To obtain local and contemporary estimates for MHT associated breast cancer risk and to further quantify the risk by the type of hormonal preparation and duration of use.

Methods: We analysed data on 1106 self-reported incident breast cancer cases and 810 female self-reported cancer free controls from NSW CLEAR study, recruited between 2006 and 2013. Past and current MHT use was collected from all participants along with other lifestyle and demographic factors using a self-administered questionnaire. An unmatched multivariable logistic regression was performed, adjusting for socio-demographic, reproductive and lifestyle variables, BMI and breast screening.

Results: The fully adjusted odds ratio (OR) for current users of any type of MHT compared to never users was 2.2(95% CI:1.6–3.0); whereas in past compared to never users it was 1.0(95%CI: 0.8–1.3) with no effect of time since last use. For current users of oestrogen-only and combined therapy the OR was 1.9(1.2–2.9) and 3.0(1.6–5.7) respectively. For both preparation types, adjusted ORs for breast cancer were generally higher in women who had used MHT for ≥10 years, compared to shorter duration users.

Conclusions: The findings from this Australian study are consistent with the findings from international studies that current, but not past, use of MHT is associated with increased risk of breast cancer and that this risk is higher in users of combined therapy.

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SYSTEMATIC REVIEW OF SCHOOL ENVIRONMENT ASSESSMENT TOOLS (SEA)

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Background: Non-communicable diseases (NCDs) including several major cancers are associated with modifiable behaviors (unhealthy diet, physical inactivity, tobacco, and alcohol use) that establish during school years and track into adulthood. School environments are critical to model, promote and reinforce healthy behaviors among children/adolescents. The use of structured SEA tools could help in building and maintaining healthy school environments.

Aim: To systematically review the research tools, assessing school environments that influence NCD risk behaviors among children/adolescents, and analyze the content of identified tools.

Methods: We searchedMEDLINE and Web of Science for articles published between 1946-Jan 2014, references of included studies, institutional websites, google engine and contacted authors. All studies that reported development or quality assessment of SEA tools (assessing built environment and/or school policies) specific to NCD risk factors among children/adolescents were included. Characteristics, measurement properties, content, and quality assessment results of the identified tools were extracted by two reviewers independently. Items in each tool were thematically coded for the four modifiable behaviors.

Results: 20 SEA tools were included in this review, mostly from developed countries, including 8 observation checklists and 12 questionnaires administered to different stakeholders. 16 tools assessed school environment/policies related to availability, quality and accessibility of healthy and unhealthy food (recess, school meals, lunch, canteen, outside school vendors/stores). 13 tools assessed provision of regular physical activity, sports equipment, safe play grounds, active and safe routes to school. Tobacco and alcohol control were addressed sparingly across tools. Quality assessment was reported for 9 tools. Based on the review we propose a comprehensive framework for SEA that integrates key components identified across all four modifiable behaviors.

Conclusions: This review has identified key components that are commonly assessed in SEA and presents a generic framework to evaluate school environments relevant for NCD prevention and control in varied geographical and socio-cultural settings.

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TELEVISION VIEWING AND TIME SPENT SEDENTARY IN RELATION TO CANCER RISK: A META-ANALYSIS

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Background: Sedentary behavior has been suggested to represent a risk factor for chronic morbidity and mortality. The relation of television (TV) viewing to cancer risk has not been quantitatively summarized using meta-analysis.

Aim: We aimed to quantify the relations of TV viewing time, recreational sitting time, occupational sitting time, and total sitting time to the incidence of any type of cancer.

Methods: We searched Cochrane, EMBASE, Medline, and SciSearch databases through February 2014 for published articles exploring TV viewing and other sedentary behaviors in relation to cancer incidence. The meta-analysis was conducted according to the Preferred Reporting Items for

Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Relevant studies were summarized using random-effects meta-analysis and meta-regression.

Results: We included information from 43 observational studies and 68 936 cancer cases in our meta-analysis. High versus low levels of TV viewing time were related to a significant increased risk of colon cancer (Relative risk [RR] = 1.54; 95% confidence interval [CI] = 1.19 to 1.98) and endometrial cancer (RR = 1.66; 95% CI = 1.21 to 2.28). Further, increased occupational sitting time was associated with an elevated risk of colon cancer (RR = 1.24; 95% CI = 1.09 to 1.41). For total sitting time, the RRs were 1.24 (95% CI = 1.03 to 1.50) for colon cancer, 1.32 (95% CI = 1.08 to 1.61) for endometrial cancer, and 1.21 (95% CI = 1.03 to 1.43) for lung cancer. By comparison, sedentary behavior was unrelated to cancers of the breast, rectum, ovaries, prostate, stomach, esophagus, testes, renal cell, and non-Hodgkin lymphoma.

Conclusions: According to our meta-analysis of observational epidemiologic studies, prolonged TV viewing and time spent in other sedentary behaviors represents a risk factor for the development of certain types of cancer.

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LEVEL OF AWARENESS OF CERVICAL AND BREAST CANCER AMONG COLLEGE TEACHERS OF DIFFERENT STATES IN INDIA: DO AWARENESS CAMPAIGNS HAVE AN IMPACT ON PREVENTION AND EARLY DETECTION BY ADOPTING SAFE PRACTICES?

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Background: Breast and cervical cancers are the most common causes of cancer mortality among women in India, but actually they are largely preventable diseases. In India, late presentation which is responsible for high mortality and morbidity and there is limited data from India on this issues.

Aim: To know the impact of awareness program on change in adoption of safe practices in prevention and early detection.

Methods: This assessment was part of pink chain campaign on cancer awareness during 2011–2013 at various women colleges in India, Pre and post test were conducted before and after cancer awareness program. Literature related to cancer awareness was sent on email ids provided. After completion of 6 months and 1 year, data was collected and analysed from participants to see the change in practice.

Results: A total of 1560 out of 1820 teachers participated in the study (85.71%) and responded by 1090 and 950 teachers at 6 and 12 months respectively. Mean age of the study population was 42.46 years (28–59 yrs). Cervical cancer risk factors indicated by teachers were smoking (53%), family history (45%) and genital hygiene (36%). Risk factors symptoms and screening of breast cancer were known in 50% of teachers but pap's test was known to 35%. Magazines and newspapers were major source for knowledge for breast cancer screening where 75% teachers were educated by doctors regarding pap's test. At 6 and 12 months, there was a significant change in alcohol and smoking habits along with knowledge for cervical and breast cancer. There was a significant increase in adoption of screening modalities over time.

Conclusions: Level of knowledge of breast cancer was high as compared to cervical cancer. Though there was significant change in practices of BSE, CBE, mammography and pap's test along with smoking and alcohol habits over time. To inculcate safe practices in life style of people, cancer awareness campaign should be conducted more widely and frequently.

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EFFECT OF LIFESTYLE FACTORS ON RISK OF EARLY-ONSET COLORECTAL CANCER

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Background: In the regions of the world with the highest occurrence of colorectal cancer (North America, Europe, and Australia and New Zealand), the overall incidence remained stable and mortality declined in recent decades. In contrast, colorectal cancer incidence and mortality in individuals younger than 50 years (early-onset) has increased during the past three decades.

Aim: Several studies have identified lifestyle factors associated with risk of colorectal cancer overall; however, apart from genetic predisposition, there is almost nothing known of the risk factors for early-onset colorectal cancer.

Methods: A case-control study was performed using 3007 incident colorectal cancer cases diagnosed age before 50 years who were recruited into the Colon Cancer Family Registry through population cancer registries in Australia, Canada and the USA, compared with 3611 controls randomly selected from the general population (population-controls) and 2964 of the cases' siblings without diagnosis of any cancer (sibling-controls). Using multivariable logistic regressions, we estimated odds ratios (ORs) and 95% confidence intervals (CIs) for associations of early-onset colorectal cancer with potential environmental risk factors.

Results: An increased risk of early-onset colorectal cancer was associated with increased body mass index (BMI) at age 20 years (OR per 5-kg/m^2 1.23, 95%CI 1.10–1.36), increased recent BMI (OR per 5-kg/m^2 1.16, 95%CI 1.08–1.24), increased BMI from age 20 years to recent age (OR per 5-kg/m^2 1.09, 95%CI 1.00–1.19), diabetes (OR 1.52, 95%CI 1.00–2.31), and red meat consumption (OR per serving 1.20, 95%CI 1.06–1.36) while a decreased risk was associated with aspirin and NSAIDs intake (OR ever vs never 0.39, 95%CI 0.33–0.47) when compared with population-controls after adjusting for potential confounders. Similar associations were observed when compared with sibling-controls.

Conclusions: Similar to colorectal cancers overall, we observed that increased body mass, diabetes and read meat consumption increase risk of early-onset colorectal cancer while aspirin intake reduces their risk.

1187

THE SPIRITUAL DIMENSIONS OF ISLAMIC HEALING: PATIENTS' PERSPECTIVES

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Background: The Islamic religious perspective views illness and healing not only physically, but considers the importance of treating the mind and soul as well. For Muslim patients, Islamic healing begins with the Quran as a core mode of healing. Despite much anecdotal and traditional reporting on the importance of spirituality in coping with cancer, it is still unclear how Islamic healing helps cancer patients from a spiritual perspective.

Aim: The purpose of this study was to understand how Islamic healing is used to spiritually support and strengthen Muslim cancer patients, beyond the physical benefits that such healing modes provide.

Methods: This qualitative study utilized in depth interviews with 15 Malay Muslim women cancer patients who had accessed both conventional medicine and Islamic healers during their treatment. A purposive sampling and snowballing technique was used to identify samples. Interview guide for in-depth interviews was designed based on previous literature and researchers' personal experiences. Interviews were tape-recorded and transcribed verbatim for themes. Data analysis was conducted using constant comparative method.

Results: Participants reported that they recite Qur'an, supplicate and perform *sunnah* (voluntary) prayer as the main modes of treatment in Islamic healing. These practices facilitated a sense of calm, the feeling of being closer to God and greater sense of gratitude for having been given a second chance to become a better Muslim. Combined, these help the patients feel strong faithfully; they reinforce the Islamic belief that God is the ultimate healer

Conclusions: Thus, it is clear that spirituality significantly helps cancer patients cope with their cancer and improve their quality of life. Healthcare practitioners and medical education should emphasize on spiritual resources and the need of integration between conventional system and Islamic healing

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THE CANCER PATIENT'S ECONOMIC BURDEN AND THE FEELING OF BURDEN

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Background: In connection with technical progress, the cost of cancer care is increasing and the patient's economic burden becomes heavier.

Aim: The actual situation of the economic burden and the change of the feeling of burden are clarified, and measures for the reduction of the burden are examined.

Methods: The patient survey was conducted in 42 hospitals in Japan.

Results: The reply was obtained from 3,277 cancer patients (response rate:47.3%). The average age was 61.7 years old. The annual out-of-pocket expense was $8,740 on average, and the payout of private insurance and the refund were $5,350. The substantial burden was $3,390. It is assumed that 30.6% of respondents felt economic burden very heavy and 42.2% felt slightly heavy. The percentage of patients whose treatment was influenced by the economic situation was 5.5%. The ratio of patients who quitted their work was 24.7%. In gastric cancer, the feeling of economic burden went up on the occasion of examinations and went down by the payout of private insurance. It went up again on surgical treatment and got stuck at high levels. In colorectal cancer, it went up by surgical treatment and chemotherapy but it followed a downswing subsequently. In lung cancer, the feeling of burden went up at its maximum by the molecule-targeted therapy, and remained high after that. In case of breast cancer, the feeling of burden showed full of ups and downs. 34.5% of patients replied that the explanation about the economic burden of the treatment was sufficient, while 42.6% replied that there was no explanation at all.

Conclusions: It is important to explain the economic burden to patients timely and adequately in response to the changes of the feeling of burden, in order to reduce the number of patients who might give up the treatment by the economic reasons.

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ANTHRACYCLINE INDUCED CARDIOTOXICITY IN CHILDHOOD CANCER SURVIVORS

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Background: Anthracycline-induced cardiotoxicity (AIC) limits anthracycline use and causes substantial morbidity and mortality. The prevention of AIC is important in children who can be for decades after being cured of their malignancy

Aim: To determine the incidence and study the risk factors for development of late anthracycline induced cardiotoxicity in childhood cancer survivors.

Methods: This is an analysis of prospectively collected data from 2004–14. Childhood cancer survivors registered at the After Completion of Treatment clinic (ACT) at the hospital who have received anthracyclines are included in the study. Demographic and treatment details were recorded. We studied the relation of gender, age at diagnosis of cancer, cumulative dose of anthracycline, other chemotherapeutic drugs, mediastinal radiotherapy and length of follow-up with development of left ventricular systolic function. Cardiac function was assessed by 2D Echocardiography. Multivariate logistic regression analysis of predictor variables was done.

Results: 459 patients were included in the study, Males were predominant,350 (76.3%). The median dose of anthracyclines was 300 mg/m2 (range 37–827 mg/m2). The median duration of follow up was 9.8 years (range 1.7–28 years). 6.8%(31/459) patients developed cardiotoxicity. The median duration from completion of therapy to development of cardiotoxicity was 8.23 years (1.73–21 years). Doxorubicin dose more than 300 mg/m2, longer duration of follow-up and vincristine based chemotherapy significantly increases CMP risk ($p < 0.01$). Most patients had grade I cardiotoxicity (82%) and were asymptomatic.

Conclusions: Doxorubicin dose more than 300 mg/m2 and combination treatment with vincristine showed an increase in the risk of cardiotoxicity. As the risk of cardiotoxicity increases with longer duration of follow up, regular cardiac monitoring is advocated in all childhood cancer survivors who have received anthracyclines. Most patients have subclinical cardiotoxicity. The long term implications of subclinical cardiotoxicity needs to be studied.

1190

DIMENSIONS AND PREDICTORS OF MULTIPLE SYMPTOMS IN PATIENTS WITH ADVANCED CANCER IN SAUDI ARABIA

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Background: Multiple symptoms are common in patients with advanced cancer. However, little is known about specific dimensions of the symptom experience.

Aim: An evaluation was done to determine: the occurrence rates for and average frequency, severity, and distress ratings for 32 common symptoms, and predictors of total number of symptoms in patients with advanced cancer.

Methods: Patients with advanced cancer ($N = 100$) completed the Memorial Symptom Assessment Scale. A multiple regression analysis was used to determine the predictors of the total number of symptoms.

Results: Differences in the rankings of specific symptoms were found across the symptom dimensions. Seven symptoms (i.e., pain, sleep disturbance, problems with sexual interest or activity, lack of energy, constipation, numbness/tingling in arms or legs, changes in the way food tastes) were in the top ten symptoms across all dimensions except occurrence. Over 14% of the variance in total number of symptoms was explained by age, gender, race, performance status, and comorbidities. Comorbidity score uniquely explained 4.5% of the variance in total number of symptoms ($p = .036$).

Conclusions: Multiple symptoms are highly prevalent in patients with advanced cancer. Differences exist in the rankings of symptoms across specific symptom dimensions. Pain, sleep disturbance, problems with sexual interest or activity, lack of energy, constipation, numbness/tingling in arms or legs, and changes in the way food tastes were found to be highly prevalent symptoms across the various dimensions. Worse comorbidity was significantly associated with higher total number of symptoms and when taken together with demographic and other clinical characteristics.

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CYTOGENETIC EFFECTS OF METHIDATHION PESTICIDE ON RAT BONE MARROW CELLS

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Background: Methidathion is a non-systemic organophosphorus insecticide. Genotoxicity potential of methidathion was evaluated in rat bone marrow cells (*in vivo*) using different doses based on LD_{50} by means of micronucleus test. MNNCE (Micronucleated Normocromatic Erythrocytes) and MNPCE (Micronucleated Polychromatic Erythrocytes), NDI (Nuclear Division Index) and NDCI (Nuclear Division Cytotoxicity Index), necrotic and apoptotic cells were recorded in rat's bone marrow samples Aim: our experiment is designed to assess the toxicity impact of Methidathion on rat'sbone marrow

Methods: In order to test the effect of Methidathion toxicity, three treatment conditions were evaluated. In the first experimental group, 0.1 of LD50 of Methidathion was injected. In the second experimental group, 0.25 of LD50 of Methidathion was injected. and the last experimental group was injected with high dose 0.5 of LD50 and the exposure time to Methidathion was 30 days.

Micronucleus assay: At the end of the experimental period, animals (Rats from each of the treatment groups, were sacrificed by cervical dislocation at the noon of the next day after the last injection. Both the femora were removed andcleaned with gauze by removing all the adhering muscle andtissue and subjected to micronucleus assay. The bone marrowwas flushed out from both femurs using 1 mL of RPMI 1640 medium (bone marrow cells were pooled from both femurs of each animal) and centrifuged at 1000 rpm for 10 min. the cell were washed twice with phosphate buffered saline followed by centrifugation at 1000 rpm for 10 min.

Results: This study of the clastogenic effect of Methidathionusing micronucleus test revealed that there was no significant induction of micronucleus in rat bone marrow cells. Comparing results showed that control group and the experimental group have almost same value of MNE. Whereas the positive control showed more significant comparing with experimental and negative group. The microscopic investigation of micronuclei also not showed a variation in their shapes.

Conclusions: 1192

CANCER SCREENING IPHONE APPLICATION

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Background: In recent years, patients' use of health information technology has increased and has been a catalyst for patient empowerment.

Aim: The purpose of this project was to develop a user-friendly iPhone application targeted to the general population with the objective to enhance patient's responsibility towards their own health and adherence to official cancer screening guidelines.

Methods: International, national and provincial official cancer screening recommendations were reviewed and combined to develop a comprehensive province-adapted screening program. Guidelines from the NCCN for detection, prevention and risk reduction of breast, cervical, colorectal, lung, prostate and genetic familial high-risk assessment for breast and ovarian cancer were collected. Other cancer agency screening programs for breast, cervical, colon, hereditary cancer were also collected.

Results: An iPhone application consisting of a short interactive questionnaire was developed in an application format for the iPhone. The questionnaire includes assessment of patients risks factors such as gender, age as well as personal and family medical history. An automatic computation of patients' individual risks allows for instantaneous formulation of an individualized cancer screening recommendations

Conclusions: An iPhone application consisting of a short interactive questionnaire was developed in an application format for the iPhone. The questionnaire includes assessment of patients risks factors such as gender, age as well as personal and family medical history. An automatic computation of patients' individual risks allows for instantaneous formulation of an individualized cancer screening recommendations. The second phase of this project w involved assessment of hospital users' satisfaction with this application and adherence to screening programs using a short multiple choice survey. The survey aimed at evaluating user friendliness of the application, self assessment impact on empowerment, anxiety induction as as as conformity to recommandations. The results of the survey are currently being analyzed and will be presented.

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PSYCHOLOGICAL RESPONSES OF BREAST CANCER PATIENTS AFTER RECEIVING REPORTS OF BRCA1 MUTATION TESTING: PRELIMINARY/PILOT STUDY IN EASTERN INDIA

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Background: Mutations in BRCA1 and BRCA2 genes confer a high risk for breast and ovarian cancers in women. We have been working on molecular detection for BRCA1 gene mutations among Eastern Indian breast cancer (BC) patients attending to our institute. So, it's very important to understand the fruitfulness of short-term and long-term psychological therapy of the patients after receiving BRCA1 mutation test results.

Aim: To exploreshort-term and long-term psychological consequences of carrying a BRCA1 mutation and to identify possible psychological distress

Methods: During the period of October 2012 to till date, out of 306 BC patients, 231 (75.49%) participated in this study and underwent education/genetic counseling before and after genetic testing. The genetic testing was done with the participant's blood samples after taking written consent from them and following the established protocol i.e., AS-PCR and direct DNA sequencing. Participants completed in-person and computer-assisted psychological interviews. At baseline (before genetic testing) and after the receipt of test results (1 month, 6 months, and 12 months), general psychological distress (i.e., anxiety, depression and stress) and cancer-specific distress were measured. Statistical analyses were performed using linear mixed-model approaches for longitudinal data.

Results: Among the studied patients 15 (6.5%) were detected positive for BRCA1 mutations. Out of 15 patients 9 patients had family history and 6 had no such history. The carriers with positive family history (expected to have better outcome with chemotherapy) showed significantly less psychological distress than the carriers without family history. The mutation carriers, particularly patients who had no family history of breast carcinoma, were reported greater distress than non-carriers. Non carriers were reported significant declines in the distress measures (depression, anxiety and stress symptoms).

Conclusions: The current findings suggested that among the individuals knowing BRCA1 test results, who came to know that they are not carriers of a mutation, experienced positive

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USING DATA TO INFORM AND SUPPORT SYSTEM IMPROVEMENT – OVERCOMING CHALLENGES IN A LOW-VOLUME ENVIRONMENT

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Background: New South Wales, Australia, has a large number of hospitals performing oesophagectomies and pancreatectomies for cancer with curative intent for a small number of cases. A programme that aims to foster expert multidisciplinary care for people with oesophageal and pancreatic cancers has recently been implemented. This will result in fewer hospitals performing oesophagectomies and pancreatectomies, and increase the volumes in the remaining hospitals.

Aim: The aim of this project was to provide data to inform the programme and to plan for the provision of data to monitor the effect of the programme.

Methods: Linked population-based hospital data were used to identify people with an incident case of cancer up to the 2013 calendar year. The percentage of people receiving surgery with curative intent was estimated. Linked hospital and death registration data enabled measurement of service delivery and mortality outcomes.

Results: The number of people diagnosed in health districts per year ranged from 25 to 110 for oesophageal and cardia cancers and from 35 to 180 for pancreatic, ampullary and periampullary cancers. The percentage of people diagnosed who received oesophagectomies or pancreatectomies was 17% across the state for both oesophagogastric and pancreatic, ampullary and periampullary cancers, with variations between health districts in the percentage of people who underwent a procedure. Around 210 pancreatectomies and 130 oesophagectomies were performed for cancer in 2013 with 30-day mortality of 3.1% and 3.5% respectively for the 2009–2013 period.

Conclusions: Measuring the percentage of people diagnosed who receive surgical resection and post-operative mortality is important for monitoring the effect of the programme. However, small sample sizes and a low event rate make estimates of resection percentages and 30-day mortality unstable and vulnerable to random variation. Novel statistical techniques are required to provide meaningful information on hospital and health district performance. Use of Bayesian methods will provide more reliable estimates of performance.

1195

FAMILIAL APPENDICEAL TUMOURS: A RARE PREDISPOSITION?

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Background: Epithelial neoplams of the appendix are rare. Pseudomyxoma peritonei (PMP) is the clinical entity whereby abdominal symptoms are produced from seeding of appendiceal tumors into the abdominal cavity or local organs. The low incidence of primary appendix tumors subsequently permits very few published reports of familial occurance. We report two cases of primary appendiceal tumors in two sets of relatives from a single centre, and discuss surveillance of these patients and whether screening of other family members may be beneficial.

Aim: To review the literature for familial cases of appendiceal tumours and discuss optimal treatment, surveillance regimes and screening guidelines for other family members.

Results: We report two cases of primary appendiceal tumors in two sets of relatives 3 familial cases of primary appendiceal tumours exist in the current literature (1–3). Inheritance patterns have not previously been identified. No risk factors are known and surveillance routines for PMP have recently been described (4). These surveillance regimes rely on accurate diagnosis and prompt initial chemosurgical treatment. Surveillance regimes for patients with familial recurrence of these tumours may need to be more rigorous that those with a single-family member affected.

Conclusions: Screening the family members of patients with epithelial appendix tumors is not routinely performed. Surveillance regimes for patients with both DPAM and PMCA have been described but rely on accurate initial diagnosis and treatment. There may be uncertainty regarding the degree of initial surgical resection for ruptured appendix tumors with little or no evidence of intra-peritoneal spread. Families experiencing appendix cancer in more than 1 family member should not have a rare hereditary predisposition ruled out and screening of other family members with a combination of imaging and serum tumour markers seems most likely to identify similar disease in other family members.

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1196

TRENDS IN RESIDUAL NMSC TREATMENT

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Background: Trends regarding treatment providers for residual skin cancer treatments has been relatively poorly addressed in current literature. Identification of such information will allow for targeted federal resource allocation.

Aim: The aim of this study was to investigate whether the treatment of residual NMSC was carried out primarily by specialists or by general practitioners.

Methodology: Medicare item numbers used for the billing of treatment of NMSC between 2004 and 2007 were identified. The item numbers for treatment of residual disease were isolated and stratified based on type of service provider (specialists vs. general practitioners). The number of residual NMSC treatments was subsequently compared to the type service providers for the initial NMSC treatment.

Results: There were a total of 31,980 residual NMSC services billed in almost equal proportions by specialists (52%) and general practitioners (48%), with specialists treating only 1,284 more lesions. In total, 69% of residual NMSC treatments were administered by the practitioner who excised the initial lesion. Additionally, 9,879 of residual excisions were performed by a practitioner other than the original practitioner. A closer look at the residual excisions provided by another practitioner revealed that initial provider was usually a general practitioner (GP) in 64.8% of cases

Discussion: The results of the above study suggest that the treatment of NMSC was carried out equally by general practitioners and specialists. Interestingly, in a proportion of cases the residual treatment was carried out by a practitioner other than the initial provider, suggesting a referral to specialist services in the treatment of residual NMSC.

1197

SUPPRESSION OF ESOPHAGEAL TUMOR GROWTH AND CHEMORESISTANCE BY DIRECTLY TARGETING THE PI3K/AKT PATHWAY

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Background: Esophageal cancer is the sixth most common cause of cancer-related deaths worldwide, with a very low survival rate due to metastasis and resistance of tumor to chemoradiotherapy, therefore novel therapeutic intervention is urgently needed. The functional role of PI3K/AKT pathway in esophageal cancer is little known and its potential as therapeutic target remains to be elucidated.

Aim: We aim to examine the clinical significance of the PI3K/AKT pathway in human esophageal cancer and to determine whether direct targeting of PI3K/AKT has therapeutic value.

Methods: Expression levels of phosphorylated-AKT (p-AKT) and total AKT were determined in 49 pairs of human esophageal tumor and adjacent normal tissues. Two specific inhibitors, wortmannin and LY294002, were used to block PI3K/AKT pathway in esophageal cancer cells, and their effects on apoptosis-associated proteins, cell proliferation, colony formation and tumor growth were determined. Whether PI3K/AKT pathway is activated in fluorouracil (5-FU)-resistant esophageal cancer (FR) cells, and whether blockade of this pathway could overcome intrinsic and acquired chemoresistance were studied in vitro and in vivo.

Results: AKT was constitutively active in 75.5% of esophageal tumors compared with corresponding normal tissues. Inhibition of the PI3K/AKT pathway with wortmannin and LY294002 significantly reduced Bcl-xL expression, induced caspase-3-dependent apoptosis, and repressed cell proliferation and tumor growth. Moreover, significantly higher expression level of p-AKT was observed in FR cells. Inactivation of PI3K/AKT pathway markedly increased the sensitivity and even reversed acquired resistance of esophageal cancer cells to chemotherapeutic drugs in vitro, as indicated by inhibited cell proliferation and increased apoptosis. More importantly, the resistance of tumor xenografts derived from esophageal cancer cells with acquired resistance to chemotherapeutic drugs was significantly abrogated by wortmannin treatment in animals.

Conclusions: PI3K/AKT inhibitors used alone or in combination with conventional chemotherapeutic drugs may be a potentially useful therapeutic strategy in treating esophageal cancer patients.

1198

CPEB4: A PROMISING MAKER FOR THE HIGH GRADE GLIOMAS AND ITS OVEREXPRESSION PREDICTS POOR PROGNOSIS IN PATIENTS WITH GLIOMA

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Background: Cytoplasmic polyadenylation element binding protein 4 (CPEB4) plays an important role in cancer progression. However, it is unknown about clinicopathologic significance of its expression and the expression intensity in gliomas tissues and cell lines.

Aim: The aim of the present study was to investigate the potential diagnostic and prognostic utility of CPEB4 in human gliomas.

Methods: Immunohistochemistry was performed to examine the expression dynamics of CPEB4 in gliomas and nonneoplastic brain tissues, while the expression of CPEB4 in the cell lines and fresh tissue samples were measured by Western Blot and real-time PCR.

Results: CPEB4 was remarkably expressed and related with WHO classification at mRNA and protein levels in 4 glioma cell lines and 4 fresh glioma tissues. Immunohistochemistry analysis demonstrated that CPEB4 expressions in glioma tissues were higher than those in corresponding nonneoplastic brain tissues ($P < 0.01$), and the high expression intensity was remarkbly increased in high-grade gliomas. Moreover, the overall survival of patients with high CPEB4 protein expression ($P < 0.01$) was obviously lower than those with low expressions. Additionally, using the ROC curve, we found the sensitivity, specificity and AUC values of CPEB4 expression levels for high grade gliomas and normal brain tissues were 92.4%, 95.1% and 0.977($p < 0.01$).

Conclusions: Our study suggests that CPEB4 was significantly expressed in human gliomas, and the upregulation of CPEB4 proteins were significantly associated with advanced WHO grades. CPEB4 may be a highly sensitive marker for the prognosis in glioma patients and may serve as a promising diagnostic biomarker of gliomas, especially high grade gliomas.

1199

BARD1, AN ONCOGENIC DRIVER AND BIOMARKER OF LUNG CANCER

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Background: Recently, overexpression of BRCA1 mRNA was strongly associated with poor survival in NSCLC patients. Furthermore, BRCA1 deficiency was PREDICTOR OF RESPONSE, BUT ALSO correlated with resistance to poly (ADP-ribose) polymerase (PARP) inhibitors. However, the rationale for this correlation is poorly understood.

Aim: We were interested in whether BARD1, a BRCA1 interacting and stabilizing protein and tumor suppressor in its own right, was also overexpressed in NSCLC and a marker of progression. We found that full length (FL) BARD1 was down-regulated in more than 100 samples tested, but deletion-bearing isoforms lacking the BRCA1 interaction domain were overexpressed. We had reported previously that such isoforms are antagonists of the tumor suppressor functions of BARD1 and BRCA1 and that BARD1 isoforms are oncogenic drivers in various cancers including NSCLC.

Results: In a study performed on more than 100 NSCLC cases all expressed BARD1 isoforms, but not FL BARD1, on the protein level. Cancer-associated isoforms of BARD1 are immunogenic and antibodies against could be detected in NSCLC patients. Analysis of more than 200 patients and controls permitted to define a highly sensitive (95%) and specific (93%) test for the detection of lung cancer based on autoimmune antibodies against isoforms of BARD1.

Conclusions: Our studies show that BARD1 isoforms are tumor drivers, thus biomarkers of cancer. Detection of autoimmune antibodies in NSCLC patients presents an early, highly sensitive, least invasive test for individuals at high risk for lung cancer and would permit early detection and better treatment chances.

1200

EVALUATION OF QUALITY OF LIFE OF THE PATIENTS UNDER AYURVEDIC CANCER MANAGEMENT PRACTICES

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Background: Cancer is one of the most dreaded diseases of the 21st century. Prevalence of cancers is alarmingly increasing despite various cancer prevention and early detection methods are available. Although many intensive researches are conducted throughout the world, no perfect treatment is available up to date. And in many cases the treatment itself is quite unfavourable for the patient in terms of quality of life. Ayurvedic system of medicine contributes in the palliative treatment for cancer by using immune-enhancing drugs, detoxification methods in combination with yoga and meditation. Ayurveda is supposed to add a step to the curative and palliative aspects of cancers that have resemblance with granthi and arbuda.

Aim: Therefore the current study has been carried out to assess the quality of life of the patients under Ayurvedic cancer management.

Methods: 90 respondents were introduced for questionnaire and data was collected and analyzed according to the WHOQOL BREF instrument. Patients were assessed using the domains; physical, psychological, social and environmental well-being. Graphs were plotted according to the figures transformed by the BREF instrument equation.

Results: The noted improvement of each domain during the period of 8 weeks considered were; physical 43.30% to 45.52%, psychological 45.42% to 47.15%, social 66.22 to 68.10%, while figures in 4th domain which is environmental remained unchanged at 52.17%.

Conclusions: Standing on the above results it can be concluded that Ayurvedic cancer management considerably improves the quality of life of patients. Also it was found that the Physical, Social and Psychological domains were the most improved and the best preserved was the environment domain. Thus, it is suggested that if an integrated approach is carried out for the management of cancer, better results could be achieved in terms of palliative and curative aspects as well, while enhancing the quality of life of cancer patients.

1201

'CANCER DIAGNOSIS AND CULTURE': EXPLORING PATIENT AND HEALTH SYSTEM FACTORS IN TIMELY DIAGNOSIS OF CANCER IN CALD COMMUNITIES

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Background: Later diagnosis, and associated advanced stage of cancer at diagnosis, has been associated with poor survival in breast, lung and colorectal cancers. Culturally diverse people diagnosed with cancer in Australia often have poorer outcomes and tend to present with more advanced disease. Although the impact of cancer beliefs of culturally diverse communities on the uptake of cancer screening in Australia has been explored, there is a paucity of research exploring how these beliefs affect symptom appraisal, help-seeking and diagnostic pathways

Aim: The aim of this study is to identify factors impacting timely diagnosis of cancer in people of culturally and linguistically diverse (CALD) backgrounds with a recent diagnosis of colorectal, breast or lung cancer.

Methods: A purposive sample of 45 participants, including 15 Italian, 15 Vietnamese and 15 Non-CALD (as a comparator group) are being recruited. Data are being gathered by bi-lingual researchers or interpreters via individual in-depth interviews and validated symptom questionnaires. Medical records audits are confirm key dates along the participant's diagnostic pathways. Data is being analysed using thematically identify factors that may contribute to longer symptom appraisal and later help-seeking. The Total Diagnostic Interval (i.e. time from first symptom to diagnosis) and its subcomponents (symptom appraisal, help-seeking, primary care, referral and specialist intervals) are also being calculated. A mixed methods matrix analysis will then be used to identify factors contributing to longer and shorter diagnostic intervals in CALD and non-CALD cancer patients.

Results: Factors contributing to delays in help-seeking for cancer symptoms are related to low health literacy, cancer taboos and stoicism.

Conclusions: The findings from the study will inform the development of interventions that will be implemented in a community campaign aiming to facilitate timely diagnosis of cancer in these populations.

1202

BRAIN METASTATIC TUMOR TREATED WITH KOREAN MEDICINE DURING CHEMOTHERAPY: A CASE REPORT

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Background: A 44 years old female was diagnosed with metastatic brain cancer in February 2014. She had been diagnosed with left breast cancer in 2010 and had been treated with surgery, chemotherapy and radiotherapy at that time. In February 2014, her MRI showed brain cancer with multiple metastatic nodules and peritumoral edema. After the diagnosis, she had craniotomy for cerebral tumor removal, palliative radiotherapy and chemotherapy.

Aim: Drug delivery across the blood-brain barrier (BBB) is a major limitation in the treatment of brain tumor. So radiotherapy have been commonly used in brain tumor area. She presented to our hospital with complaints of severe side effects associated with radiotherapy and chemotherapy such as fatigue, nausea, headache and dizziness. To control side effects and improve tumor response, Korean medicine was used concurrently.

Methods: Her chemotherapy was planned to give CMF (Methotrexate, Fluorouracil and Cyclophosphamide) regimen, but she didn't take cyclophosphamide. Intravenous herbal pharmacounture (HP)-three times per week- was given alongside chemotherapy from April 14th till to July 16th. Several other tools of Korean medicine, including moxibustion, and oral herbal medicines, were also applied as symptomatic therapies. The effectiveness of the combined therapy was evaluated by MRI.

Results: The size of two metastatic tumors in right frontal lobe of brain decreased (8.37 mm to 3.39 mm, 6.71 mm to 4.80) respectively. Furthermore, right cerebellar metastasis with peritumoral edema was remarkably reduced and the chemotherapy induced side effects were mitigated.

Conclusions: Based on these results, this case report suggests that Korean medicine treatment including HP therapy may be a complementary therapy for brain metastatic tumor.

1203

HUMAN IMMUNODEFICIENCY VIRUS-NEGATIVE PLASMABLASTIC LYMPHOMA: A FULL-SCALE ANALYSIS OF 114 CASES

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Background: Human immunodeficiency virus-negative plasmablastic lymphoma is an extremely rare entity. Its clinicopathological features, optimal treatment strategy and prognostic factors are still obsure.

Aim: To investigate the clinicopathological characteristics and prognostic factors of HIV negative PBL by retrospective analysis.

Methods: An extensive search was performed in English literature within Pubmed database using the keywords: plasmablastic lymphoma and human immunodeficiency virus negative or immunocompetent. 114 patients' data from 52 articles between 1997 and 2014 were analyzed.

Results: The mean age at diagnosis was 58.90 years (range, 2–86). HIV negative PBL showed a predilection of elderly individuals (patients elder than 60 years: 56.14%) and affected more male than female (M : F = 2.29:1). Ann arbor stage IV patients accounted for 39.22% while bone marrow involvement was less frequent (12.79%). Ki-67 index was high with a mean expression of 83%. EBV infection was common, positive in 58.70% patients while HHV-8 infection was rare, positive in only 7.55% patients. 28.16% of patients had immunosuppression. The median overall survival was 8 months. The 1-year, 2-year, 3-year, 4-year and 5-year survival rates were 42.5%, 18.75%, 11.25%, 5% and 2.5% respectively. Age, gender, primary sites, EBV infection and Ann arbor stage showed no strong relation with OS while immunosuppression could predict a poorer OS. Either CR or PR was superior to refractory group in OS ($p < 0.0001$ and $p = 0.004$ respectively). For stage I patients, the application of radiotherapy didn't improve the OS.

Conclusions: HIV negative PBL is a distinct entity likely occurring in elderly and immunosuppressed individuals. Immunosuppression status and refractory to treatment are poor prognostic factors of OS.

1204

A RETROSPECTIVE STUDY OF PATTERN AND OUTCOME OF METASTATIC BREAST CARCINOMA IN RURAL POPULATION

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Background: In developing countries like India, advanced metastatic disease is not an uncommon initial presentation of carcinoma breast. Understanding the heterogeneity and regional variation of breast cancer in Indian population, we intend to study the pattern of metastatic breast carcinoma in our rural population. We also emphasized and advocated the idea of its early diagnosis and palliation, so as to reduce its associated morbidity and mortality.

Aim: We studied the common metastatic sites of carcinoma breast and its association with recurrences. We also assessed the axillary lymph node involvement and its relation to lung metastasis (locoregional spread).

Methods: A retrospective study was done from 1992–2014. Records of 1265 rural patients of carcinoma breast admitted over a period of 23 years were used for data analysis. Only patients with complete records were included in the analysis.

Results: Unfortunately 13.2% patients had metastatic disease with mean age group of 41–50 years (35.9%). 61.07% of them were in their postmenopausal period. 40.11% patients with metastasis had their lump in upper outer quadrant and in 24.55% had multiquadrant involvement. Size of breast lump was more than 5 cm in 58.08%. More than 5 lymph nodes were positive in 32.33% cases. 15.58% patients had loco regional recurrence. Metastasis was seen in liver (31.6%), lung (20.95%), bone (11%) and other organs. ER, PR was negative in 66% cases with patients having a median survival of 24.70 months. Patients with triple negativity of receptors had a survival of 25.54 months. Lymph node positive patients had a survival of 3.13 years. Post metastatic survival was less than 6 months in 45.45% cases.

Conclusions: The high velocity with which this metastatic breast carcinoma is affecting our rural population, it is our responsibility to encourage the government to implement breast cancer screening programme with stress on public health education in rural areas.

1205

CLINICOPATHOLOGICAL CHARACTERISTICS AND PROGNOSIS OF STAGE IV COLORECTAL CANCER

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Background: Approximately one in five patients with colorectal cancer (CRC) have distant metastatic disease at the time of presentation. The distant metastases, such as to the liver or lung, are the major cause of death.

Aim: We intended to determine the role of curative resection in synchronous metastatic CRC and evaluate which patients would benefit from concurrent curative resection for both primary and metastatic lesions.

Methods: Between 1983 and 2010, a total of 103 patients diagnosed with synchronous liver and/or lung metastatic CRC at Osaka Medical Center for Cancer and Cardiovascular Diseases were retrospectively studied.

Results: All patients underwent curative resection for both primary and metastatic lesions. Median follow up time was 5.69 years. Of the 103 patients, 83 or 13 patients had only synchronous liver or lung metastasis, respectively. Seven patients had both liver and lung metastases synchronously. Twenty-five patients (24.2%) had no recurrence after curative resection. Fourteen patients (13.5%) received more than once re-resections for the recurrences and survived without any recurrences. Five-year survivals of synchronous liver or lung metastatic CRC was 43.7% or 90.0%. However, median overall survival (OS) of synchronous both liver and lung metastases was 20.7 months. In univariate and multivariate analyses, tumour invasion, synchronous liver and lung metastases, and recurrence interval after first curative resection were significantly related to OS and disease-free survival.

Conclusions: Curative resection confers a longer-term survival outcome in synchronous liver or lung metastatic CRC patients.

1206

PREDICTORS OF SELF-REPORTED ANXIETY AND DEPRESSION IN SAUDI MEN WHO UNDERGO SURGERY FOR COLORECTAL CANCER

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Background: Depression and anxiety are common emotional symptoms in patients with colorectal cancer and are frequently grouped under the term psychological distress.

Aim: This study aim was to identify how anxiety and depression in Saudi men with colorectal cancer changed from the time before surgery and for up to six months after, and to investigate whether specific variables predict initial levels and trajectories of anxiety and depression during the same period.

Methods: This descriptive, longitudinal study enrolled patients from Cancer Centers located in a six public hospitals. A total of 200 Saudi men with colorectal cancer agreed to participate and completed questionnaires prior to surgery, and at 1, 2, 3, 4, 5, and 6 months after surgery. Descriptive statistics and hierarchical linear modeling were used for data analyses

Results: Findings from this study suggest that more than a quarter of the patients (28%) reported pain in their abdomen prior to surgery. In addition, a significant percentage of men, regardless of pain status, experienced anxiety and depressive symptoms prior to surgery for colorectal cancer. However, both state anxiety and depression declined over the six month period following surgery. Despite the overall decline in state anxiety and depression, variance components suggested substantial interindividual variability in the patterns of adjustment. In contrast, characteristics with independent contributions were symptom characteristics and psychosocial adjustment characteristics.

Conclusions: Nurses may use this information to identify and educate high-risk patients about how anxiety and depression may change following surgery for colorectal cancer.

1207

EXPLORING PATIENTS' PERSPECTIVE AND EXPECTATIONS REGARDING INVOLVEMENT IN TREATMENT DECISION MAKING

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Background: In societies where physician and patient's family plays an important role in decision making and is often informed of the diagnosis before the patient, the degree of patient involvement in decision making regarding is largely controlled by family members. The study intended to explore whether and to what extent patients want to participate in treatment decision making if provided with complete diagnostic and treatment information and clearly defined goals.

Aim: The aim of this study was to determine the preferences for involvement in treatment decision making among patients with cancer.

Methods: Information about patients' views regarding involvement in treatment decision making was collected using a questionnaire from a heterogeneous sample of 232 individuals visiting Multan Institute of Niuclear Medicine and Radiotherapy and Nishtar Medical College Hospital, Multan.

Results: Majority of the patients interviewed were likely to let the physician make decisions regarding their disease management. The overall proportion of patients preferring active, collaborative and passive roles were 35.4%, 2.6% and 62% respectively. Majority of the patients thought that cancer patients should be involved in decisions regarding their treatment, although paradoxically 75% were of the view that all the cancer patients do not have the ability to get involved in deciding about their treatment. Half of the patients (50.4%) opined that if a patient does not want to be involved in deciding about treatment, the physicians should nevertheless try to involve him in deciding about his treatment.

Conclusions: The results of the study suggest that oncologists should individually assess each patient to determine the type of role they prefer in making decisions about their treatment.

1208

RE-ADMISSION FREQUENCY AND REASONS IN CANCER PATIENTS OVER 65 YEARS: PRELIMINARY RESULTS

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Background: Aim: This study has been carried out descriptive and retrospective on the patients who have cancer diagnosis with the purpose of determining the readmission rate and reasons.

Methods: Descriptive and retrospective nature of this study sample Hacettepe University Oncology Hospital inpatient clinics in Turkey has composed of 45 elderly individuals. Datas was collected by the "Personal Information Form" that is contained of sociodemographic characteristics and medical properties of elderly individuals. Descriptive statistics were used in the statistical analysis of the datas.

Results: In this study, the average age of individuals is 69.84 ± 5.56 and 57.8% were male. 86.7% of individuals are married and 95.6% have children. Individuals 42.2% are primary school graduates and 66.7% are retired. 95.6% of individuals live in their home and 62.2% are living with their partners. 15.6% of individuals have lung cancer, 13.3% of non-Hodgkin's lymphoma, 11.1% of acute myeloid leukemia, 8.9% of breast cancer and gastric cancer. Individuals have some of chronic diseases without cancer; 80.0% of have at least one chronic disease; of these 24.4% hypertension, 17.8% hypertension and diabetes, 8.9% coronary artery disease. Within one year 66.6% of individuals were hospitalized at least 2 or 3 times, because of 37.8% of fatigue-weakness, 33.3% of nausea-vomiting, 31,1% of dyspnea, 28.9% of anorexia, 26.7% of severe pain, 20% of neutropenic fever.

Conclusions: In this study, within one year the majority of the elderly hospitalization is at least 2 or 3 times related to fatigue-weakness, nausea-vomiting, dyspnea is determined that these complaints are thought to be due to nature of the disease and side effects of chemotherapy. Therefore, to prevent these patients readmissions when they go back to their homes to cope with the treatments of side effects, patient education and follow-up in their homes fort he symptom control is recommended.

1209

THERAPEUTIC TOUCH TM IN A GERIATRIC PALLIATIVE CARE UNIT – A RETROSPECTIVE REVIEW

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Background: Complementary therapies are increasingly used in palliative care as an adjunct to the standard management of symptoms to achieve an overall well-being for patients with malignant and non-malignant terminal illnesses. A Therapeutic Touch Program was introduced to a geriatric Palliative Care Unit in October 2010. Two volunteer Therapeutic Touch Practitioners offer the therapy to patients who have given verbal consent.

Aim: To conduct a retrospective review of Therapeutic Touch services provided to patients in an in-patient geriatric palliative care unit to better understand the impact of the Therapeutic Touch Program on patient care.

Methods: A retrospective medical chart review was conducted on both patients who received Therapeutic Touch as well as a random selection of patients who did not receive Therapeutic Touch.

Client characteristics and the Therapeutic Touch Practitioners' observations of the patient's response were collected. Descriptive analyses were conducted on all variables.

Results: Patients who did not receive Therapeutic Touch tended to have lower admitting Palliative Performance Scale scores, shorter length of stay and were older.

Based on the responses provided by patients and observed by Therapeutic Touch practitioner the majority of patients receiving treatment achieved a state of relaxation or sleep.

Conclusions: The results of our chart review suggest beneficial effects for significant numbers of participants and deserve a more robust comparison study in future. Recommendations also include revising the program procedures to improve processes and documentation, and ensure all or most patients are offered the therapy.

1210

ECONOMIC ASSESSMENT ON A TRIAL INTERVENTION OF CANCER SURVIVORSHIP SERVICE

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Background: A new model of care was trialed across two Victorian regional settings. The intervention was delivered by the Survivorship Nurse Clinic, integrating GP and specialists' care to ensure patients received care according to their needs to reduce the physiological and psychological impact of a cancer diagnosis.

Aim: To evaluate the cost and health outcomes associated with the pilot intervention.

Methods: A cost-outcome analysis was undertaken, whereby the intervention costs were compared to the patient outcomes. The economic assessment was conducted from the health sector perspective and participants completed the Assessment of Quality of Life – 8 Dimensions (AQoL-8D)[1] and healthcare resource use questionnaires at baseline and 3 month follow-up.

Results: Findings from the AQoL-8D instrument (n = 78) at baseline showed the participants reported poorer quality of life, compared to population norms (0.68 versus pop norm 0.8)[2]. At follow-up there was a slight improvement in the overall utility score from 0.68 to 0.70. Inspection of the two super-dimensions of the scale indicated small improvements in mental health (from 0.40 to 0.43) and physical health (from 0.62 to 0.64). However, these differences were not statistically significant. The annual cost of the intervention was approximately $145,000. Forty-seven participants received referrals for allied health and community services from the first survivorship consultation. At the 3 month follow-up, 75 referrals had been attended or were still to be attended. Total cost of these referrals was $5,029 with $3,166 reimbursed by the Government or private health insurance and $1,863 paid by patients' out-of-pocket. For each patient who received referrals, the average cost was $186 per person and $67 per referral.

Conclusions: The evaluation demonstrated the intervention did not incur high cost. It is expected the next level of evaluation for this intervention will include a comparison group so that a full economic appraisal will be possible.

1. Richardson, J, Iezzi, A, Khan, MA, & Maxwell, A. (2014). Validity and Reliability of the Assessment of Quality of Life (AQoL)-8D Multi-Attribute Utility Instrument. *The Patient – Patient Centered Outcomes Research*, 7, pp 85–96. DOI 10.1007/s40271-013-0036-x
2. Richardson, Iezzi, Khan, Chen G. (2013) Population norms for the AQoL-6D and AQoL-8D multi attribute instruments. Research paper 72, Centre for Health Economics, Monash University

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1211

IDENTIFICATION OF RESILIENCE AND BURNOUT STATUS AMONG NURSES WORKING IN THE FILED OF ONCOLOGY

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Background: Burnout syndrome is a physiologically, emotionally, and intellectually felt status as a result of the incapacity to cope with the stress experienced. Resilience is a personal characteristic that decreases the negative effects of stress and supports compatibility

Aim: This study was conducted with the aim of identifying the resilience and burnout status of nurses working in the field of oncology

Methods: Thisdescriptive study was conducted among 140 nurses working actively in the Inpatient and Outpatient Clinics of Hematology and Oncology. University Ethics Board approval was obtained. The data were collected using a questionnaire form, Resilience Scale for Adults, and the Maslach Burnout Inventory. The questionnaire and scale forms were completed by the researchers in approximately 25 minutes. Percentage rates, mean values, Kruskal-Wallis Test and Mann-Whitney U-Test were used to evaluate the obtained data. The correlation analysis was performed to identify the correlations between the two sub-dimensions of the scales

Results: Mean emotional exhaustion score of the nurses was interpreted to be in the intermediate range (25.31 ± 7.02) and mean depersonalization score (9.20 ± 3.4) and mean personal accomplishment scores (16.58 ± 5.97) were interpreted to be in the low ranges. Average scores of sub-dimensions of resilience score such as structural style, perception of future, family cohesion, perception of self, social competence, and social resources were (15.72 ± 3.15) (intermediate), (16.23 ± 5.64) (high), (23.56 ± 4.53) (intermediate), (25.19 ± 7.6) (high), (23.11 ± 4.59) (intermediate), and (30.41 ± 4.07) (high), respectively. There were significant negative correlations between perception of the future and personal accomplishment and emotional exhaustion, between structural style and depersonalization and personal accomplishment, and between social resources and depersonalization sub dimensions ($p < 0.01$).

Conclusions: In this study, nurses working in the field of oncology were identified to experience emotional exhaustion and to have low personal success. Strategies to develop the individual and organizational talents of nurses to cope with those problems should be developed.

1212

CARING FOR AN OLDER PERSON WITH AMBULATORY CHEMOTHERAPY: AN INFORMAL CAREGIVERS' PERSPECTIVE

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Background: An increasing number of cancer patients over the age of 70 years receive ambulatory chemotherapy as part of their treatment plan. These patients rely for much of their support needs related to their disease and treatment on informal caregivers. While these informal caregivers are crucial, there is limited evidence on their experiences and needs.

Aim: Inverstigate the experiences and needs of informal caregivers of older cancer patients with chemotherapy

Methods: As part of a larger mixed-methods study, semi-structured interviews with caregivers ($n = 19$) of older cancer patients receiving chemotherapy at three clinics in Northeastern Switzerland were carried out. Data analyses was carried out using the Framework approach (Ritchie; 2007).

Results: Twelve women ($n = 8$ spouse/partners & $n = 4$ daughters) and seven male spouse/partners were interviewed. "Facing the illness" was the main theme identified. Caregivers' experiences were situated in a context broader than the immediate phase of chemotherapy treatment, with many caregivers recounting important experiences that shape their situation and needs from the time when the older person was first diagnosed. Three sub-themes emerged, i.e. "Keeping an eye on therapy and symptom management"; "Experiencing changes in own and communal life"; and "Engaging with death and dying" in which caregivers revealed a complex picture of experiences and needs emerging due to the caregiver role.

Conclusions: Informal caregivers of older cancer patients undergoing chemotherapy treatment experience manifold psycho-emotional, spiritual, social and treatment/disease related challenges and have diverse needs. In order to support caregivers' crucial role in providing support for the older person it is critical that the health care team treating the older person also addresses caregivers' issues.

1213

INTEGRATIVE LITERATURE REVIEW OF INSTRUMENTS USED TO ASSESS INFORMATIONAL AND PRACTICAL NEEDS OF ACUTE LEUKAEMIA AND LYMPHOMA SURVIVORS

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Background: Haematology cancer nurses have the potential to lead the way in providing excellent post treatment survivorship care for increasing numbers of haematology survivors. An important element of care is the assessment of haematology survivors' perceived needs for the provision of appropriate resources and support. Unlike other cancers, haematological cancers are highly variable in disease type and treatment.

Aim: To identify validated measurement instruments, to assess the informational and practical concerns of leukaemia and lymphoma survivors.

Methods: This Integrative literature review utilised a search of electronic databases (CINAHL, Medline, PsychInfo, PubMed, EMBASE, PsychArticles, the Cochrane Library) for eligible articles published between 1970 and 2014. Articles were included if they described an instrument to assess informational and practical concerns of leukaemia and/or lymphoma survivors.

Results: Ten full text articles were identified that described cancer-specific instruments used to assess informational and/or practical needs of the haematology cancer survivor. There was variation in the use of cancer survivor-specific instruments and generic cancer health related quality of life instruments. Most studies reported instruments to measure ongoing concerns around cancer recurrence and screening, and the necessity to identify patients at higher risk of unmet needs along the cancer survivor continuum.

Conclusions: No identified instrument was haematology-survivor specific. It is difficult to determine the best instrument to use with haematology survivors. The development of a reliable and validated haematology survivor instrument that assesses supportive care needs and the survivors' desire for support and resources is warranted. This could be used in conjunction with nurse-led survivorship clinics.

1214

DIETARY OUTCOMES FOLLOWING A SIX-MONTH WEIGHT LOSS INTERVENTION FOR BREAST CANCER SURVIVORS: LIVING WELL AFTER BREAST CANCER

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Background: Breast cancer survivors are at increased risk for cancer recurrence, co-morbid disease development and mortality. Healthy dietary practices may decrease these risks and improve health and well-being of survivors.

Aim: To evaluate dietary changes made by breast cancer survivors participating in a weight loss intervention, using quantitative and qualitative methods.

Methods: Ninety women recruited from an Australian state-based cancer registry (mean ± SD age: 55.3 ± 8.7 years; body mass index: 31.0 ± 4.3 kg/m2) participated in a randomized controlled trial evaluating a weight loss (diet and physical activity) intervention (n = 45) versus usual care (n = 45). Objectively measured weight and self-reported dietary intake (2 × 24-hour dietary recall telephone interviews) were assessed at baseline and six-months. Linear regression analyses were used to examine intervention effects in the 74 women who completed the 6-month assessment, adjusted for baseline values and confounders. A sub-sample (n = 14) of intervention participants completed a semi-structured interview after intervention-completion.

Results: Compared to usual care, the intervention group had significantly greater weight loss (–3.0 kg [95% CI: –5.0, –1.0]; $p < 0.001$) and vegetable intake (0.66 serves [95% CI: 0.12, 1.19]; $p = 0.016$) at six-months. Significant improvements within both groups (and no significant intervention effects) were observed for multiple dietary outcomes targeted in the intervention (i.e., energy, energy density, carbohydrate, and total and saturated fat intake). Qualitatively, women identified portion control, dietary self-monitoring and reducing fat intake as most commonly initiated dietary strategies. Program-related accountability and social support (provided by the program delivery agent or family/friends) greatly facilitated initial dietary changes.

Conclusions: Despite observing a significant intervention effect on body weight, there was minimal evidence of intervention effects on dietary outcomes, with both groups improving. The role of diet in weight changes within this sample of breast cancer survivors is difficult to ascertain. Qualitative findings helped to better understand the complexity of the dietary changes made by intervention participants.

1215

CAN LOW COST LOW TECH NEUROSURGERY HELP NEUROLOGICAL TUMOR PATIENTS? AN EXPERIENCE WITH MORE THAN THOUSAND NEUROLOGICAL TUMOR SURGERY AT BPKMCH, NEPAL

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Background: BPKMCH, a dedicated national center for comprehensive cancer care, started a subspecialty of Neurooncology (NO) way back in 2002 AD. This center provides comprehensive service including Surgery, Radiotherapy, Chemotherapy and Palliative care. NO is rather a new and less known branch of Neurosurgery in Nepal. It is difficult to set up NO at the periphery of Nepal. Still more difficult is to develop sub specialty like NO.

Aim: to advocate the need and possibility of low tech low cost neurosurgery for neurological tumors in resource poor countries like Nepal

Methods: This is a retrospective analysis of thousand cases from Aug 2002 to Feb 2012. 2008 data base, records from the OPD, Indoor, OT, Medical records, and Annual reports of BPKMCH were collected and the database is prepared on MS excel and analyzed.

Results: Of 1000 surgically managed neurological tumor cases, 984 qualified for detail analysis. 74% (n = 718) Brain Tumors. Overall hospital mortality, was less than 4% and operative mortality, was 2.3%. Major infection rate was less than 2%. Of the brain tumors 36% were located in frontal lobe, 18% posterior fossa, 14% parietal, 13% temporal, 6% in parasellar region and 5% occipital lobes. Glial cell lines predominated list (52%) followed by (14%) meningeal tumors. 11% brain met and 6% medulloblatomas, 3% adenoma and Schwannoma. 2% each craniopharyngioma + germinoma and skull base tumor unspecified.1% were Neuroblastomas.

Conclusions: It is very hard to set up neurosurgery more so for subspecialty like Neurooncology at the periphery. Enormous effort, continued patience, honesty in expression, hardness on work are all essential to march towards the success. The results are encouraging and promising but 1000 cases may not be enough to wait for complications to occur. Neurosurgery is a great need of the periphery but unaffordability and inaccessibility are limiting factors.

1216

PERIOPERATIVE SMOKING AND ALCOHOL INTERVENTION IN RELATION TO RADICAL CYSTECTOMY: EFFECT ON POSTOPERATIVE COMPLICATIONS AND QUALITY OF LIFE

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Background: Daily smoking and alcohol consumption exceeding 2 units per day increase the risk of postoperative complications, lifestyle-related morbidity and recurrence of cancer disease. Evidence indicates that smoking and alcohol cessation intervention lasting 4 weeks and more reduces the frequency of postoperative complications and increases long-term lifestyle change. Patients suffering from cancer are however scheduled for surgery within maximum 2 weeks of diagnosis. Preoperative intervention lasting 4 weeks or more is therefore not possible for these patients. Intervention initiated immediately before and continued at least 5 weeks postoperatively may hypothetically be equally effective.

Aim: To examine the effect of an intensive smoking and/or alcohol intervention initiated immediately before and continued 5 weeks after radical cystectomy versus standard preoperative care on postoperative complications, lifestyle change and quality of life up to 12 months postoperatively.

Methods: A single-blinded randomized controlled trial. Primary outcome: postoperative complications up to 90 days postoperatively assessed according to the Clavien-Dindo classification. Secondary outcomes: smoking and/or alcohol cessation, length of hospital stay, time to return to work, quality of life. Inclusion criteria: Patients scheduled for radical cystectomy, aged 18 years and above, who are daily smokers and/or drink more than 3 units of alcohol daily. The intervention includes behavioral counseling with trained cessation counselors and pharmacological support to stop smoking and/or drinking perioperatively. Patients are invited to attend 5 individual meetings over 6 weeks. The first meeting occurs shortly before surgery and the remaining meetings are scheduled postoperatively. Data analysis using non-parametric statistics and intention to treat analysis.

Results: The study is ongoing. We plan to present preliminary feasibility results (inclusion rate, patient compliance, lifestyle changes short-term) at the World Cancer Congress.

Conclusions: If effective for preventing postoperative complications and increasing smoking and alcohol cessation, the intervention may impact on quality of life in cancer survivors.

1217

DEVELOPMENT AND PSYCHOMETRIC EVALUATION OF THE QUALITY OF PATIENT-CENTERED CANCER CARE MEASURE WITH HAEMATOLOGICAL CANCER SURVIVORS

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Background: The Institute of Medicine (IOM) recommended six objectives for achieving patient-centered care which stated that care must be: 1) respectful to patients' values, preferences, and expressed needs; 2) coordinated and integrated; 3) provide information, communication, and education; 4) ensure physical comfort; 5) provide emotional support; and 6) involve family and friends. However, most patient-reported outcome measures developed with cancer populations fail to address all six dimensions of patient-centered care.

Aim: To develop the Quality of Patient-Centered Cancer Care (QPCCC) measure based on the IOM recommendations and to examine the measure's validity, reliability, floor and ceiling effects.

Methods: Haematological cancer survivors aged 18–80 years were recruited from two Australian state cancer registries and were mailed the QPCCC measure. To examine test-retest reliability a second QPCCC measure was mailed to survivors who returned a completed QPCCC measure and agreed to future research 7 days after the return of their initial completed QPCCC measure.

Results: QPCCC items were developed based on an extensive literature review, input provided from behavioural scientists, haematologists and a cancer specialist and in-depth individual interviews undertaken with seventeen haematological cancer survivors. Overall 545 haematological cancer survivors completed the QPCCC measure. Exploratory factor analysis revealed a 10-factor structure with factor loadings >0.40. The QPCCC measure demonstrated acceptable internal consistency for all subscales. When assessing test-retest reliability, Cohen's kappa revealed most items showed moderate agreement. The area of cancer care most frequently nominated as needing improvement was hospital staff not helping family and friends to find other people with similar experiences to talk to (34%).

Conclusions: The QPCCC measure showed evidence of face and content validity, construct validity and internal consistency. However, the measure's test-retest reliability could be improved. Psychometrically robust patient-reported outcome measures that assess the quality of patient-centered cancer care are essential to quality improvement efforts.

1218

BEING AN ONCOLOGY NURSE FROM THE PERSPECTIVE OF SECOND GRADE NURSING STUDENTS

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Background: Oncology nurses are medical professionals who increase the effectiveness of cancer treatment by means of a holistic approach, manage care, and ensure symptom control.

Aim: This study was conducted for the purpose of determining the opinions of sophomore nursing students on oncology patients, oncology nurses, oncology nursing practices, and the characteristics that an oncology nurse should have

Methods: The study was conducted with 42 students who have received training on the roles and responsibilities of oncology nursing, engaging in clinical practices at the oncology clinic, and accepting to participate in the study. The data of the study were collected utilizing the questionnaire covering the demographic characteristics of students and their opinions concerning oncology nursing. The questionnaires were applied following the practices of students at the Oncology Clinic. Institutional written consent was obtained for the study.

Results: The mean age of students included in the study was 20.33 ± 2.48. A proportion of 97.6% of students attended practice for the first time at the oncology clinic. Opinions of students on oncology patients and oncology nurses;26.1% of the students defined the oncology patient as "the patient group with a lot of physical and psychosocial problems". Their opinions on oncology nurses: 14.2% of students defined the oncology nurse asquick, self-confident, calm, and careful. Their opinions on oncology nursing; 35.7% of students reported that nurses had inadequate communication skills, and 38% reported that they spared less time for care. Furthermore, 21.4% stated that they acted more carefully in practice and 14.2% stated that they ensured symptom control.

Conclusions: It can be observed that students are aware ofthe physical and psychosocial needs of oncology patients. In line with this, it is recommended that the topics of care practice for oncology nursing, symptom management, and palliative care are included in postgraduate education

1219

MEETING THE NEEDS OF MEN WITH PROSTATE CANCER – PROSTATE CANCER SPECIALIST NURSE SERVICE ACTIVITY – THE CANBERRA HOSPITAL, AUSTRALIAN CAPITAL TERRITORY.

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Background: The Prostate Cancer Specialist Nursing Service is part of a national framework providing care to those affected by prostate cancer in various locations throughout Australia. The role of the nurse is to provide an expert point of contact for the patient, providing both psychosocial and clinical support to men with prostate cancer.

In the Australian Capital Territory (ACT), the Prostate Cancer Specialist Nurse works solely from the Canberra Hospital and provides services to public patients from the ACT and Southern region of New South Wales (NSW) where prostate cancer is the most common male cancer and has a combined population of 540,000 residents.

The group of patients serviced by this role includes men with a new diagnosis of localised or advanced prostate cancer, and those with disease recurrence.

Aim: To raise awareness of this important role in the ACT context, discuss the range of clinical activities recorded by the nurse in this role, and to reflect on the value of this data to the local context.

Methods: 12 months of service activity data was analysed to understand the clinical activity patterns of the prostate cancer specialist nurse in this setting.

Results: Data described includes total number of patient contacts, contacts provided to new patients, rural versus metropolitan status, stage in pathway at referral, nursing activities performed over the reporting period and levels of intervention as a measure of time spent and complexity per episode of care.

Conclusions: This data helps us to understand the local context of service provision, numbers of referrals, and encourages reflection on needs of future data collection to provide further specific clinical profiles of the care provided to this patient group.

1220

INFLUENCE OF PREDIAGNOSTIC CIGARETTE SMOKING ON COLORECTAL CANCER SURVIVAL: OVERALL AND BY TUMOR MOLECULAR PHENOTYPE

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Background: Smoking is a risk factor for incident colorectal cancer (CRC); however, it is unclear about its influence on survival after CRC diagnosis.

Aim: We aimed to examine the association of smoking with all-cause (overall survival; OS) and disease-free survival (DFS) among CRC patients and to assess potential interactions of smoking with sex, age at diagnosis, and tumor molecular phenotype on cancer mortality.

Methods: A cohort of 706 CRC patients diagnosed from 1999 to 2003 in Newfoundland and Labrador, Canada, was followed for mortality and recurrence until April 2010. Smoking and relevant co-variable data were collected by questionnaire after cancer diagnosis. Molecular analyses of MSI status and BRAF mutation status were performed in tumor tissue using standard techniques. Multivariate hazard ratios (HRs) and 95% confidence intervals (CIs) were calculated with Cox proportional hazards regression, controlling for major known prognostic factors.

Results: Comparing to never smokers, overall survival was significantly poorer for current (HR: 1.78; 95% CI: 1.04–3.06), but not former (HR: 1.06; 95% CI: 0.71–1.59) smokers, although this association was limited to tumors in the colon. The associations of cigarette smoking with the study outcomes were higher among patients with >40 pack years of smoking (OS: HR: 1.72; 95% CI: 1.03–2.85; DFS: HR: 1.99, 95% CI: 1.25–3.19), those who smoked ≥30 cigarettes per day (DFS: HR: 1.80, 95% CI: 1.22–2.67), and those with MSS/MSI-L tumor (OS: HR: 1.38, 95% CI: 1.04–1.82; DFS: HR: 1.32, 95% CI: 1.01–1.72). Potential heterogeneity was noted for sex (DFS: p for heterogeneity = 0.04, HR: 1.68 for men and 1.01 for women) and age at diagnosis (OS: p for heterogeneity = 0.03, HR: 1.11 for patients aged <60 and 1.69 for patients aged ≥60), while the stratified results for tumor molecular phenotype were more equivocal.

Conclusions: Pre-diagnosis cigarette smoking is associated with worsened prognosis among patients with colorectal cancer.

1221

CAN PEER SUPPORT PROGRAM FOR FEMALE BRCA1 OR BRCA2 MUTATION CARRIERS REDUCE DISTRESS? FINDINGS FROM A RANDOMIZED CONTROLLED TRIAL

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Background: Women with a BRCA1/2 genetic mutation (mutation carriers) have a high risk for developing breast and ovarian cancer. Upon testing positive for a BRCA1/2 mutation, women face complex risk management and communication decisions, with many reporting increased distress levels. Peer support, may reduce this distress.

Aim: To test the effectiveness of telephone-based peer support in reducing distress among female BRCA1/2 mutation carriers using a randomised control trial (RCT).

Methods: 337 women (response rate 42%) completed baseline surveys, with those interested in talking to other mutation carriers randomised to usual care (UCG) (n = 102) or the intervention (n = 105) (IG). IG women were matched to trained volunteers who contacted them multiple times over four-months to provide peer support. All volunteers were mutation carriers. Study participants completed follow-up questionnaires four months (Time 2) and six months (Time 3) after randomisation. Outcomes included breast cancer distress (primary outcome), unmet needs, BRCA1/2 related cognitive appraisals-stress and feelings of isolation. Multilevel linear regression models tested the effect of the intervention.

Results: On average IG women received 3.7 peer calls (SD = 2.1). Average call length decreased from 34 minutes (call 1) to 24 minutes (calls 3–6). There was a greater decrease in distress among IG than UCG at Time 2 (mean difference: −5.96, p = 0.002) and Time 3 (mean difference: −3.94, p = 0.04). There was a greater reduction in unmet needs among the IG than UCG (p < 0.01) with IG unmet needs significantly lower than UCG needs at Time 2. The IG had a greater reduction in cognitive appraisals-stress than the UCG (p < 0.01).

Conclusions: This is the first RCT to investigate the effect of peer support for BRCA1/2 mutation carriers. Our findings suggest that for mutation carriers interested in talking to similar women, peer support can reduce distress and unmet information needs. Further development of peer support programs for this group is warranted.

1222

THE CLINICAL AND RESEARCH IMPLICATIONS OF PEACE AS PART OF SPIRITUAL WELLBEING ASSESSMENT IN QUALITY OF LIFE IN CANCER

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Background: Assessment of spiritual wellbeing contributes unique variance to quality-of-life (QOL) assessment often with clinical utility. The domain 'peace' appears the most important contributor, to date.

Aim: Using the Functional Assessment of Chronic Illness Therapy-Spiritual Well-being-Expanded, we further investigated the stability/reliability of the Peace subscale; its unique contribution to QOL; clinical utility; and convergent validity.

Methods: As part of an Australian, online survey, 1,045 cancer survivors completed the 23-item FACIT-Sp-Ex; the Functional Assessment of Cancer Therapy-General (FACT-G); the Depression Anxiety Stress Scale (DASS21); the Purpose-in-Life Test (PIL-Form A); the Brief Serenity Scale; Integrative Hope Scale (IHS); the Self-Compassion Scale; and the Gratitude Questionnaire-Six Item Form (GQ-6).

Results: A principal components analysis of the FACIT-Sp-Ex, using oblique rotation, explained 65.9% of the variance, revealing four domains; Meaning, Faith, Peace, and Positive Interaction (eigenvalues >1). Like analyses of the 12-item FACIT-Sp, the original 4-item Peace subscale structure was retained, showing good reliability ($\alpha = .84$). A hierarchical multiple regression revealed Peace uniquely contributed 1.9% (R^2 Change) to QOL assessment, after controlling the additional three FACIT-Sp-Ex domains ($p < .001$). Survivors reporting high life enjoyment ($n = 481$) reported elevated Peace despite high fatigue ($\phi = .91$), nausea, ($\phi = .50$), and pain ($\phi = .37$), all $p < .001$. These findings were only evident for the high Peace/high symptom groups, supporting clinical usefulness of assessing and enhancing peace. Using an arbitrary cut-off ($r = .60$), Peace evidenced convergent validity with hope ($r = .72$), serenity ($r = .68$), purpose-in-life ($r = .66$), QOL ($r = .65$), depression ($r = -.65$), self-compassion ($r = .62$), and five correlations $r > .60$ with associated subscales; more associations than any other domain.

Conclusions: This 4-item Peace subscale appears unique, reliable, stable across FACIT-Sp versions, and its convergent validity improves our understanding of peace's resilience against psychological morbidity and chronic physical manifestations of cancer, replicating and extending previous work. Current third-wave psychological therapies emphasise existential growth but may be improved through greater focus on peace enhancement.

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AGING AND THE EXISTENTIAL: SPIRITUAL WELLBEING, QUALITY OF LIFE, AND PSYCHOLOGICAL MORBIDITY IN OLDER ADULT CANCER SURVIVORS

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Background: Despite 60% of cancer diagnoses occurring in elderly adults, in many studies, geriatric survivors appear more resilient to psychological morbidity than younger cohorts, despite other unique burdens. In support of the bio-psycho-social-spiritual model of quality-of-life (QOL), some research suggests this resilience may reflect elevated spiritual wellbeing with age.

Aim: Using the 23-item expanded Functional Assessment of Chronic Illness Therapy-Spiritual Well-being (FACIT-Sp-Ex), we investigated extended subscales to the original FACIT-Sp-12 in geriatric oncology survivors, derived through principal components analysis: Peace, Meaning, Faith, Positive Interaction.

Methods: One-hundred-and-thirty-two cancer survivors aged ≥70 years completed a cross-sectional questionnaire including the FACIT-Sp-Ex; the Functional Assessment of Cancer Therapy-General (FACT-G) including Physical, Social/Family, Emotional, and Functional Wellbeing subscales; and the Depression Anxiety Stress Scale (DASS21).

Results: Compared to a younger, normative sample of 867 Australian cancer survivors aged 19–69 years ($M = 54.4$), the geriatric group ($M = 77.3$ years) showed higher levels of Peace ($p = .001$, $\phi = .11$) and Positive Interaction ($p = .000$, $\phi = .10$), and lower levels of Stress ($p = .001$, $\phi = .11$). For the geriatric group, using an arbitrary cut-off ($r \geq .40$), Peace evidenced positive correlations with Functional ($r = .63$), Emotional ($r = .55$), and Physical Wellbeing ($r = .43$), and negative associations with Depression and Stress (both $r = -.45$). Meaning was positively correlated with Social/Family ($r = .66$) and Functional Wellbeing ($r = .62$), and negatively associated with Depression ($r = -.47$). Positive Interaction was associated with Social/Family ($r = .48$) and Functional Wellbeing ($r = .41$). Faith showed no associations $r \geq .40$.

Conclusions: Relationships between spiritual wellbeing domains and QOL subscales generally mirrored previous findings in oncology. The newly derived Positive Interaction subscale (assessing forgiveness, gratitude, compassion, etc.) mirrored Meaning's associations with QOL, likely due to their interactional/social underpinnings. Peace and meaning again appeared highly important, demonstrating associations with decreased depression and/or stress, and given being elderly appeared to slightly elevate peace, positive interaction, and decrease stress, future investigations using mediation models may improve/extend interpretations.

1224

AVAILABILITY OF INFORMATION ABOUT LIFESTYLE FOR CANCER SURVIVORS IN ENGLAND: A REVIEW OF STATUTORY AND VOLUNTARY SECTOR ORGANISATIONS

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Background: Lifestyle change following a cancer diagnosis can improve long-term outcomes. Many patients do not receive professional advice about lifestyle and are increasingly using the internet for further information. Both statutory and voluntary sectors play an important role in provision of information and are favoured by cancer survivors. Little is known about what lifestyle information these organisations provide online for cancer survivors.

Aim: To identify lifestyle information provided by the statutory and voluntary sectors in England on tobacco, physical activity, diet, weight, and alcohol for people diagnosed with breast, prostate or colorectal cancer.

Methods: The National Health Service (NHS) website was the focus of the search for statutory sector information. The Charity Commission database was searched to identify the three largest voluntary organisations for cancer in general and breast, prostate and colorectal cancers. The organisations were searched systematically to identify lifestyle information for cancer survivors. If no online information was available, they were contacted to ask for further information.

Results: The NHS did not provide any lifestyle information for cancer survivors but linked to Cancer Research UK's (largest cancer charity in England) information about diet. 7/12 voluntary organisations had lifestyle information for cancer survivors on their websites. Macmillan and the WCRF had the most comprehensive guides, covering physical activity, diet, weight management, smoking and alcohol, whereas the others had briefer information. Five organisations provided no lifestyle information online but when contacted said they would direct people to other sources. Eight organisations suggested talking to a health professional before making changes.

Conclusions: Few organisations in England have comprehensive lifestyle information for cancer survivors. Most recommended that cancer survivors should talk to a health professional before making lifestyle changes. Health professionals might benefit from training to deal with questions about lifestyle and have the confidence to advise cancer survivors in this area.

1225

AWARENESS OF LIFESTYLE GUIDELINES FOR CANCER PATIENTS AND THE PROVISION OF LIFESTYLE ADVICE AMONG ONCOLOGY HEALTH PROFESSIONALS IN THE UK

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Background: Lifestyle change following a cancer diagnosis is associated with improved outcomes, raising the question of how best to provide cancer patients with lifestyle advice. A doctor's recommendation can have a motivational effect, but little is known about the knowledge and practices of oncology health professionals.

Aim: To examine awareness of lifestyle guidelines for cancer patients, and current practices with regard to lifestyle advice, among oncology health professionals in the UK.

Methods: The online survey included questions on knowledge ("Are you familiar with any guidelines specifically for cancer patients for any of the following lifestyle topics?" and advice "Do you give your patients advice on any of the following lifestyle topics?" with responses physical activity/diet/weight management/smoking/drinking alcohol. Analyses examined whether 1) awareness of lifestyle guidelines predicted the provision of lifestyle, 2) profession, age, gender and region were associated with the provision of advice.

Results: 361 respondents completed the relevant questions. Almost two thirds (63%) were aware of any lifestyle guidelines for cancer patients. Awareness was highest for physical activity guidelines (51%) and lowest for weight management guidelines (33%). Provision of lifestyle advice was highest for diet (72%) and lowest for alcohol (39%). Over one in 10 (13%) did not give advice on any lifestyle topic. Awareness of lifestyle guidelines did not predict the provision of lifestyle advice. Surgeons were less likely to provide advice (OR:0.21(0.05–0.91), $p < .05$) but there were no other differences.

Conclusions: Most health professionals reported giving lifestyle advice, higher than in previous studies, and in contrast to patient reports. Provision of advice was lower among surgeons, who may benefit from improved education on the importance of lifestyle for cancer patients and the impact that their recommendation may have. Although lack of awareness of guidelines was not a barrier to providing advice, this indicates an opportunity for professional education.

1226

CANCER SURVIVORS' VIEWS ON DIET AND CANCER: A QUALITATIVE STUDY

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Background: A healthy diet can contribute not only to development of cancer but also to longer-term outcomes, including risk of recurrence. However, little is known about cancer survivors' beliefs about diet. Given the abundance of misreporting about diet and cancer in the media and online, cancer survivors are at risk of misinformation.

Aim: To explore cancer survivors' beliefs about diet, the impact on their behaviour, and sources of information.

Methods: Semi-structured interviews (n = 19) were conducted with adult cancer survivors in the UK who had been diagnosed with any cancer in adulthood and were not currently receiving treatment. Participants were recruited from an online forum and posters at a cancer centre. Interviews were analysed using Thematic Analysis.

Results: Most participants were aware that diet affects risk of developing cancer, but were less clear about its role in recurrence. Nonetheless, their diagnosis appeared to be a strong motivator for dietary change; but predominantly to promote general health. Dietary changes were generally consistent with recommendations, although dietary supplements were mentioned by several participants. Few participants had received professional advice about diet, and some had received conflicting recommendations. All participants were keen to know more. Several had sought other sources, with charities seen as helpful and trustworthy. Many had obtained information from internet and media sources, although they were cautious about its value.

Conclusions: Cancer survivors tended to hold beliefs about diet that were in line with recommendations except for some misconceptions about the role of dietary supplements. They felt unclear of the role of diet in disease recurrence and wanted more advice. When dietary information is not provided by health professionals, cancer survivors may turn to less reliable sources. There is scope for health professionals to provide consistent guidance and to direct patients to reputable sources of information on diet and survivorship.

1227

DOUBLE MODALITY TREATMENT WITH NEOADJUVANT INTRA-ARTERIAL INFUSION CHEMOTHERAPY IN PATIENTS WITH STAGE IB2–IIB2 CERVICAL CANCER: A RANDOMIZED CONTROLLED STUDY

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Background: Patients with LACC have worse prognosis than early stage patients. FIGO guidelines recommend 3 options for the treatment of LACC: concurrent chemoradiation; NACT+RS +/– postoperative radiotherapy; or RS followed by adjuvant radiation or chemoradiation. For some patients with LACC, intravenous NACT has not been successful because the response rate decreases as tumor size increase. To increase the efficacy of NACT, pelvic intraarterial administration and embolization has been proposed as it offers increased drug concentration at the tumor level, decreased drug delivery to systemic tissue and reduction of tumor vascular supply.

Aim: The aim of this study was to compare the efficacy of a double modality treatment of NACT to intravenous NACT in LACC.

Methods: From January 1st 2008 to June 30th 2013,158 women with cervical cancer stage IB2–IIB2 were included in the study. A regimen of double modality NACT using a combination of paclitaxel 135–175 mg/m2 given intravenously and 100 mg/m2 of cisplatin via the bilateral internal iliac artery plus uterine trans-arterial embolization was administered to 80 patients; an intravenously given NACT was administered to 78 patients.

Results: The response rate was 87.5% in double modality NACT group and 73.1% in the intravenous NACT group ($p = 0.022$). As to surgical complications, the incidence of blood loss >400 ml was significantly lower in the double modality group (16%vs43.8%, $p = 0.003$). The incidence of deep stromal invasion, lymph node metastasis and vascular space involvement was significantly lower in the double modality group (44, 24, and 8% vs 75, 50, and 29.2%). The 3-year survival rate was higher for patients of double modality NACT group than that of the intravenous groups (87% vs 67%).

Conclusions: Double modality treatment with intra-arterial infusion as a means of NACT is useful in the treatment of LACC. Compared to intravenous NACT, this mode of NACT is more effective in reducing tumor volume, diminishing pathologic risk factors and improving the prognosis of responding patients.

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THE 1000 SURVIVOR STUDY

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Background: While current estimates indicate thatmore people are surviving cancer than ever before, not all are surviving well.

Aim: This presentation will describe preliminary results of the 1000 Survivor Study, a large online survey that aimed to comprehensively assess the concerns and support use behaviour of people who have experienced a cancer diagnosis and subsequent treatment.

Methods: Eligible participants were adults 18 years or older who had been diagnosed with cancer and who had completed treatment or were receiving maintenance therapy. Over 1,000 cancer survivors, recruited through a multi-faceted community network and media campaign, completed an online survey asking about physical, emotional and practical concerns associated with their diagnosis and treatment.

Results: Participants had an average age of 57.6 years ($SD = 12.9$, range 18–87) with 54.9% being female. Seventy-four per cent were married or living with a partner and the highest level of education achieved was predominantly university, college, a trade or a technical certificate (64.7%). The majority (62.2%) had full private health insurance although 22.7% reported that they had no private health cover. Mixed cancer types were represented with the three most common treatments being surgery (68.2%), chemotherapy (45.5%), and radiation (44.9%). Nineteen percent reported they had finished treatment <1 year ago, 39.1% of participants reported that had finished treatment between 1 and 5 years ago, and 31.8% finished treatment >5 years ago. Detailed information will be reported on survivors' concerns within the 3 domains of physical, emotional and practical problems, according to demographic characteristics and place of residence (regional/remote versus urban).

Conclusions: This important study quantifies an extensive range of concerns and accessed services for all cancer types. The findings will help to further identify, develop and inform support mechanisms urgently needed to improve the quality of life of the growing number of cancer survivors.

1229

COST-EFFECTIVENESS OF AN INTERVENTION TO PERSISTENT URINARY INCONTINENCE IN PROSTATE CANCER PATIENTS: A CALL FOR SYSTEM CHANGE

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Background: Persistent urinary continence affects over 30% of prostate cancer survivors. "STAY DRY" is an effective new patient-centered intervention, entailing pelvic floor muscle exercise and symptom self-management.

Aim: Evaluate the cost-effectiveness of "STAY DRY" intervention in the real world by comparing participating patients in a clinical trial testing this intervention and eligible but nonparticipating patients.

Methods: 223 participating subjects from two intervention groups ("support group" and "telephone") and a usual care control group, and 69 nonparticipating subjects were assessed at baseline and 6 months on urinary continence, quality of life and costs. Intervention effectiveness was assessed on US-based EQ-5D index score and incontinence-specific quality-of-life measure (UCLA-UF). The costs included direct health care cost from medical billing data; patient out-of-pocket expense, expense for caregiver, and cost for loss-of-work from self-reported survey; and intervention cost. We calculated incremental cost-effectiveness ratios (ICERs) from societal, provider, and patients' perspectives.

Results: The two intervention groups had significantly higher EQ-5D index scores (0.054, $P = 0.033$ and 0.057, $P = 0.027$, respectively) than the nonparticipating group at month 6. Intervention cost per subject was \$252 and \$484 more for providers and \$564 and \$203 more for the intervention subjects per group within 6 months. Other costs were not significantly different, but the numerical differences were applied for ICER calculations. The final ICERs are \$16,759 and \$12,561 per quality-adjusted-life-year (QALY) for the two intervention groups compared to the nonparticipating group. These ICERs are much smaller than the \$50,000/QALY threshold used as the consensus to determine cost-effectiveness.

Conclusions: "STAY DRY" intervention is cost-effectiverelative to the nonparticipating group mainly because urinary function worsened over time in the nonparticipating group. This finding calls for a change of standard care to provide behavioral treatment of urinary continence to all incontinent prostate cancer patients for improving their quality of life at a low cost.

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DEPRESSIVE SYMPTOMS AND ITS ASSESSMENT IN AFRICAN AMERICAN CANCER PATIENTS

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Background: Depression significantly predicts cancer death, but is often under recognized among cancer patients due to similarities of physical symptoms observed in cancer and depression. Accurately assessing depression in African American cancer patients is particularly difficult, because African Americans, when feeling depressed, mainly complain about physical symptoms.

Aim: To compare experiences of depressed African American cancer patients with other cancer patient groups to identify both universal and distinctive symptoms for improving assessment of depression among this population.

Methods: Seventy-four cancer patients (34 depressed and 23 nondepressed African Americans, and 17 depressed Whites) that had completed cancer treatment for six to 36 months were interviewed face to face. The interviews were audiotaped and transcribed. Qualitative and quantitative analyses were conducted.

Results: Compared to their nondepressed African American counterparts, depressed African American cancer patients reported irritability, social isolation, insomnia, fatigue, and crying ($p \le .05$) more frequently over time. Compared to depressed White cancer patients, they reported sadness, frustration, and intrusive thoughts less frequently ($p \le .05$), but insomnia and fatigue more frequently ($p \le .05$) during cancer treatment. The depressed African American patients also reported irritability, social isolation, and feeling "down" at a higher frequency than the White patient groups, which did not approach statistical significance.

Conclusions: Depressed African American cancer patients exhibited a greater tendency of irritability, social isolation and altered expression of depressive mood. They may benefit from new assessment measures that are culturally and linguistically appropriate for improving the early detection and treatment of depression. Clinicians need to be aware of such symptoms as irritability, social withdraw or isolation, as they may be associated with depression in this minority group of cancer patients.

1231

ENZALUTAMIDE IN MEN WITH CHEMOTHERAPY-NAÏVE METASTATIC CASTRATION RESISTANT PROSTATE CANCER (MCRPC): PRIMARY AND AUSTRALIAN/ASIAN REGIONAL RESULTS OF THE PHASE 3 PREVAIL STUDY

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8. *Oregon Health and Science University, Portland, OR, USA*
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Background: The PREVAIL study examined the impact of enzalutamide on overall survival (OS) and radiographic progression-free survival (rPFS) in asymptomatic or mildly symptomatic chemotherapy-naïve mCRPC patients progressing despite androgen deprivation therapy.

Aim: Here we report primary outcomes from the full PREVAIL population and from the Australian/Asian cohort.

Methods: This, double-blind, placebo-controlled, multinational, Phase 3 study randomized patients 1:1 to enzalutamide 160 mg/day or placebo. OS and rPFS were co-primary endpoints. Planned sample size was 1680 (765 deaths) to achieve 80% power to detect a target OS hazard ratio (HR) of 0.815 with a 2-sided type I error rate of 0.049 and a single interim analysis at 516 (67%) deaths. The co-primary endpoint of rPFS had >99% power to detect a target HR of 0.57 and a 2-sided type I error rate of 0.001 with a minimum of 410 events. Pre-specified analyses of patients enrolled from Australia and Asia followed the same methodologies.

Results: The PREVAIL study randomized 1717 men (1715 treated) between September 2010 and September 2012. Australia, Japan, Singapore and South Korea enrolled 380/22.1% patients (Australia, 232/13.5%; Asia 148/8.6%). Statistically significant benefits of enzalutamide over placebo were shown for both co-primary endpoints [(OS interim analysis at 540 deaths: 29% reduction in risk of death; OS: HR 0.71; 95% CI: 0.59–0.83; $P < 0.0001$); (the concurrent rPFS final analysis: 81% reduction in risk of radiographic progression or death; rPFS: HR 0.19; 95% CI: 0.15–0.23; $P < 0.0001$)] in the overall intent-to-treat population of PREVAIL. Among Australian/Asian patients, enzalutamide demonstrated a benefit in both co-primary endpoints (OS: HR 0.62; 95% CI: 0.42–0.92; rPFS: HR 0.14; 95% CI: 0.08–0.25).

Conclusions: Enzalutamide significantly improved OS and rPFS in men with chemotherapy-naïve mCRPC progressing despite androgen deprivation therapy. Efficacy outcomes in the Australia/Asia subgroup were consistent with those in the overall population.

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ESTROGEN AND PROGESTERONE RECEPTORS IN GALLBLADDER DISEASE: ON THE CUSP OF A DISCOVERY?

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Background: Carcinoma Gallbladder is one of the most common malignancies of the gastrointestinal tract having a very poor prognosis with a high incidence in North India. Untreated chronic symptomatic cholelithiasis is one of the main risk factors with a female predilection. Impaired gallbladder emptying during menses & pregnancy & higher incidence of gallbladder diseases in females with high parity & prolonged fertility have all indicated the gallbladder to be female sex hormone responsive. This has been supported by some studies & refuted by others. Therefore a consensus is largely lacking, forming which, can further help in studying the therapeutic implications of hormone modulators in gallbladder pathology and its progression to malignancy

Aim:
1. To detect estrogen & progesterone receptors in gallbladder diseases
2. Clinicopathologic significance of receptor expression with gender, menopausal status, association with gallstones, gallbladder malignancy & characteristics of gallbladder pathology

Methods: Hospital-based descriptive type of observational study including all cases of gallbladder disease undergoing surgical management in the Sawai Man Singh Medical College, Jaipur, India during the study period. Resected specimen were evaluated for presence of the receptors by Immunohistochemistry and clinical significance was evaluated.

Results: 92 cases of gallbladder disease were included. Age interval of the cases was from 18 yrs (youngest) to 80 yrs (oldest) with most of the cases clustered in the 4th decade of life. 72 cases had gallstone disease. 11 cases were malignant. Statistical significance for Estrogen receptor was not achieved but Progesterone receptor expression was statistically significant.

Conclusions: We conclude that significant progesterone receptor expression was noted and confirm that gallbladder is a female sex hormone responsive organ. A multicentric trial involving larger number of cases of gallbladder malignancies would go a long way in potentiating therapeutic applications of hormone modulators in their prevention, treatment or palliation.

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RELATIONSHIP BETWEEN ENTERIC FEVER AND GALLBLADDER CANCER: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Background: Carcinoma of the gallbladder is the fifth commonest gastrointestinal tract cancer and is endemic in several countries. An association of chronic typhoid carriage and carcinoma of the gallbladder has been reported.

Aim: To clarify whether chronic Salmonella typhi carrier state is associated with carcinoma of the gallbladder.

Methods: A systematic search was conducted using MEDLINE, PubMed, EMBASE, Current Contents Connect, Cochrane library, Google Scholar, Science Direct, and Web of Science. Original data were abstracted from each study and used to calculate a pooled event rate (ER), odd ratio (OR) and 95% confidence interval (95% CI).

Results: Most of the studies were from South Asia. When a subgroup analysis was performed according to region, a significant association was observed in South East Asia (OR: 4.13, 95% CI: 2.87–5.94). Based on study design we performed a subgroup analysis. The summary OR for cohort studies was 19.48 (95% CI: 0.27–1418.18) on the other hand for the case control studies the OR was 3.08 (95% CI: 1.67–5.71). However, the overall OR was 4.28(95% CI: 1.84–9.96).

Chronic Salmonella typhi carrier state was associated with carcinoma of the gallbladder based on detection methods of Salmonella typhi by antibody levels (OR: 3.52, 95% CI: 2.48–5.00) and even more so on culture (OR: 4.14, 95% CI: 2.41–7.12). On the other hand, a past medical history of typhoid was not related with carcinoma of the gallbladder (OR: 3.33, 95% CI: 0.77–14.38). The association was prominent in healthy controls (OR: 5.86, 95% CI: 3.84–8.95) when compared to controls with gallstones (OR: 2.71, 95% CI: 1.92–3.83).

Conclusions: Chronic typhoid carrier state is an important risk factor among patients with carcinoma of the gallbladder.

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RETROSPECTIVE SINGLE INSTITUTION STUDY OF PRE-DIAGNOSTIC MEDICAL RADIATION EXPOSURE IN CHILDREN WITH BLOOD CANCERS, 1998–2013

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Background: Pre-natal or early childhood exposure to medical radiation used in diagnosis or treatment is an identified risk for childhood cancers but can be difficult to document. The author developed a family questionnaire/interview form to identify possible exposures.

Aim: This retrospective study examines pre-natal and early childhood medical radiation exposure in a cohort of children diagnosed with a lymphoma or leukemia from 1998–2013 at the Children's Hospital of Pittsburgh (CHP). The hospital is a tri-state regional referral center which treats about 150–180 new cases of cancer in children per year. About 50% are diagnosed with a blood cancer.

Methods: Each consented family so far (approximately 50% of the cohort) has been interviewed in person or by phone call. Medical staff and psychosocial staff referred patient families for interview with the author.

Results: Among the families interviewed to date at least one medical radiation exposure has been identified (pre-conception, pre-natal or early childhood) in over 70% of diagnosed children. These exposures have included pre-conception sinus or chest CT or x-ray in either parent, sinus CT or x-ray in mother or diagnostic radiation of chest or abdomen in children.

Conclusions: Exposures to medical radiation for a child later diagnosed with cancer may occur at several critical junctures. These exposures may well contribute to a "perfect storm" in the still elusive causes of childhood cancer. The author plans to expand the study from 1970 to present to hopefully further document these junctures.

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CONSUMPTION OF DEEP FRIED FOODS INTAKE AND BREAST CANCER RISK AMONG WOMEN IN KARACHI, PAKISTAN – A MATCHED CASE CONTROL STUDY

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Background: Diet could be a major modifiable risk factor for breast cancer prevention.

Aim: To assess the association between different food items and breast cancer risk among women in two tertiary care hospitals in Karachi, Pakistan.

Methods: Between January 2009 and December 2010, 297 cases of histologically confirmed breast cancer and 584 controls matched according to age (+5 yrs) and hospital were interviewed for the case control study. A detailed quantitative food-frequency questionnaire was used to assess the usual intake of 36 food items comprising 90% of commonly used foods in Karachi.

Results: We estimated the mean daily intake of food items among both cases and controls. Conditional logistic regression analysis assessed the association between tertiles of intake of each food item and BC, adjusting for age at menopause, family history of breast cancer and parity. Consumption of deep fried sweet and fattyfood item of **halwa poori** was positively associated with breast cancer risk [adjusted odds ratio (OR) comparing the highest to the lowest tertile: 1.71, 95% confidence interval (CI): 1.16–2.52]. We also observed a positive and graded association between the intake of each of the following food items and BC; **fish** (OR = 1.66, CI: 1.11, 2.49), **fried potatoes** (OR = 1.85, 1.21,2.81). Conversely we observed an **inverse** association between breast cancer and the intake of **green tea** with higher levels being protective (highest compared to lowest tertile OR = 0.17, CI 0.03–0.88). **Milk dessert** (OR = 0.54;CI 0.35,0.82) was also protective against breast cancer.

Conclusions: Our study indicates that frequent consumption of deep fried food items increse the risk of breast cancer. The unexpected association of breast cancer with fish may also be explained by its deep frying. Promoting a 'healthy' diet of a reduced consumption of fried food items is recommended. Green tea and milk desserts seem important protective factors from public health perspective.

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PROMOTING PHYSICAL ACTIVITY AMONG BREAST CANCER SURVIVORS USING COMPUTER-TAILORED ONLINE INTERVENTIONS: IMOVE MORE FOR LIFE RCT

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Background: Engaging in regular physical activity significantly improves the health and quality of life outcomes of breast cancer survivors. Unfortunately, most breast cancer survivors are insufficiently active to obtain health benefits. Cost-effective and sustainable approaches to physical activity promotion targeted at this group are needed.

Aim: This study investigates the effects of three online computer-tailored interventions (differing in delivery schedule) designed to promote physical activity among breast cancer survivors. The interventions were adapted from a previously evaluated print-based intervention (consisting of 3 tailored newsletters delivered monthly) to allow for delivery online, and/or different delivery schedules.

Methods: Study invitations were sent to breast cancer-related review and survey groups (n = >10,000) in Australia. Of those invited, 725 logged on to the website and completed the screening survey; 549 were eligible and randomised to receive either a single module intervention, a three-module intervention delivered weekly, or a three-module intervention delivered monthly. Physical activity participation (mins/week of moderate-vigorous aerobic activity and resistance-training sessions) is assessed using a previously validated tool. Usability and acceptability is assessed using purpose-built items based on theory related to engagement in online interventions. Assessments occur via the study website at baseline, 3 and 6 months post-baseline.

Results: Of those randomised, 503 (91%) completed baseline. Participants were generally middle-aged (mean age = 55, SD = 9.72) and married (74%), but heterogeneous in terms of income, education and location type. The 3-month follow-up data are currently being collected (complete in November 2014). Preliminary analyses using available data (n = 40) show that the website is rated positively by all participants but physical activity is greatest (p = 0.08) in the three module intervention delivered monthly.

Conclusions: Online interventions are promising low-cost approach for promoting physical activity among breast cancer survivors. This study provides important insights useful for informing future breast cancer recovery initiatives delivered online.

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HAPLOINSUFFICIENCY OF MIIP DISABLES APC/CCDC20-SECURIN/TOPOISOMERASE IIA RHEOSTAT AND INDUCES CHROMOSOMAL INSTABILITY IN COLORECTAL CANCER

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Background: Chromosomal instability (CIN) is associated with cancer development and progression, but the driving molecular events underlying CIN remain unclear.

Aim: We report that the Migration and Invasion Inhibitory Protein (MIIP) gene on chromosome 1p36 is key in producing CIN and a tumor-suppressor gene.

Methods: We performed a genomic analysis for MIIP deletion in 188 colorectal cancer (CRC) patients in The Cancer Genome Atlas cohort and validated in an independent cohort of 518 cases in China. MIIP gene was deleted using zinc finger nuclease technology and its functions in CIN and colony formation, cell migration and invasion were examined in CRC cells. An orthotopic mouse model was used to verify the role of MIIP deletion in CRC development and progression. In addition, a series of experiments, such as ubiquitination, chromosome decatenation and segregation and co-immunoprecipitation assays, were performed to explain the mechanism of MIIP deletion inducing CIN.

Results: MIIP deletion is significantly associated with CIN and metastasis of 188 CRC patients in The Cancer Genome Atlas cohort. Attenuated MIIP protein expression is associated with CRC progression in an independent cohort of 518 patients. Deletion of a single copy of the MIIP gene by zinc finger nuclease technology resulted in CIN phenotype and liver metastasis. Mechanistically, MIIP deletion caused augmented APC/CCdc20 ubiqutination ligase activity and over-degradation of Topoisomerase IIα (TopoIIα), cyclinB1 and securin, resulting in deregulation of the decatenation checkpoint at mitosis, aberrant sister chromatid segregation, and development of CIN.

Conclusions: We identified MIIP on 1p36 as a key CIN-suppressor gene and proposed that haploinsufficiency of MIIP disables APC/Ccdc20-Securin/TopoIIα Rheostat, resulting in deregulation of the mitotic decatenation checkpoint and CIN. In addition, we demonstrated that MIIP directly regulates TopoIIα activity and further affects TopoI activity, which will help us identify colorectal cancer patients who will benefit from Topo inhibitors.

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IDENTIFICATION OF MICRORNA-MRNA REGULATORY NETWORK IN GEMCITABINE RESISTANT CELLS DERIVED FROM HUMAN PANCREATIC CANCER CELLS

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Background: Pancreatic cancer is unresectable in over 80% patients owing to difficulty in early diagnosis. Chemotherapy is the most frequently adopted therapy for advanced pancreatic cancer. The development of drug resistance to gemcitabine, which is always used in standard chemotherapy, often results in therapeutic failure. However, the molecular mechanisms underlying the gemcitabine resistance remain unclear.

Aim: This study sought to explore the microRNA-mRNA network that is associated with the development of gemcitabine resistance and to identify molecular targets for overcoming the gemcitabine resistance.

Method: A gemcitabine-resistant cell line (SW1990/GEM) was established by exposing SW1990 pancreatic cancer cells to long-term gemcitabine with increasing concentrations. The mRNA and microRNA expression profiles of SW1990 cells and SW1990/GEM cells were determined using RNA-seq analysis. The expression profiles of selected genes and microRNAs were confirmed by using Q-PCR assays. The differential mRNAs and microRNAs were identified, the microRNA -target regulation information was integrated, and a microRNA–mRNA regulatory network associated with gemcitabine resistance development in pancreatic cancer cells was constructed.

Results: SW1990/GEM was established with a high IC50 (the concentration needed for 50% growth inhibition, 847.23 μM). By comparing the results in control SW1990 cells, 507 upregulated genes and 550 downregulated genes in SW1990/GEM cells were identified as differentially expressed genes correlated with gemcitabine sensitivity. The upregulated genes were mainly associated with drug response and apoptosis, and the downregulated genes were correlated with cell cycle progression and RNA splicing. Furthermore, combining the differentially expressed microRNAs and mRNAs as well as the predicted targets for these microRNAs, a core microRNA-mRNA regulatory network was constructed.

Conclusions: A differential gene and microRNA expression pattern was constructed in gemcitabine resistant pancreatic cancer cells, which may be useful for the detection and treatment of drug resistance in pancreatic cancer patients.

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HELICOBACTER PYLORI CAG-A POSITIVITY – AN IMPORTANT DETERMINANT FOR ESOPHAGEAL SQUAMOUS CELL CARCINOMA RISK: A META-ANALYSIS

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Background: There are conflicting data as to the role of *Helicobacter pylori* in the development of esophageal squamous cell carcinoma. We aimed to conduct a systematic review and quantitative meta-analysis to determine the relationship between *H. pylori* infection and squamous cell carcinoma of the esophagus.

Methods: Four electronic databases (Medline, PubMed, Embase, and Current Contents) were searched to 2014, with no language restrictions for observational studies. Additional manual searches were made of reference lists of relevant articles. From 3428 citations identified in this search, a total of 40 studies were identified meeting our inclusion criteria. Pooled odds ratios and 95% confidence intervals were calculated using a random effects model.

Results: The overall observation included 3806 cases and 15897 controls from 40 studies, of which 1749 cases and 5824 controls were *H. pylori* positive. Overall there was no statistically significant protective effect of *H. pylori* infection on esophageal squamous cell carcinoma (OR = 0.82; 95% CI: 0.63–1.06). There was no evidence of publication bias (p = 0.53)., but there was significant heterogeneity ($I^2 = 74\%$). Those with *H. pylori* cagA positive strains were associated with an increased risk of developing esophageal squamous cell carcinoma (OR = 1.39; 95% CI: 1.14–1.71). There was no heterogeneity among these studies ($I^2 = 0\%$). This finding was further enforced by the strong relationship demonstrated in developing countries (OR = 1.7; 95% CI: 1.25–2.32).

Conclusions: We have shown an association between *H. pylori* cagA positivity and esophageal squamous cell carcinoma.

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ILL-FITTING DENTURES INCREASE THE RISK OF DEVELOPING ORAL CANCER: A META-ANALYSIS

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Objectives: Many studies have investigated the relationship between the use of dentures and cancer development. Of particular interest is whether ill-fitting dentures increase the likelihood of the development of cancer. Several studies have also examined the length of time of denture use and whether this is related to cancer risk.

Materials and Methods: In this study, a number of databases were searched (PubMed, Medline, EMBASE, Web of Science, and the Cochrane Database of Systematic Reviews) in an attempt to investigate any relationship between denture use and oral cancer development. In particular, length of time of denture use and the comfort and fit of the dentures were investigated.

Results: The findings suggest that there is no significant association between the presence of cancer and the length of time of denture use, however, this might be due to the arbitrary nature of what we defined as short and long term and may have been affected by the inconsistency in time categorization between different studies. It was expected that the use of dentures is, in itself, associated with the development of cancer, however this meta-analysis did not yield a statistically significant result for this (OR: 1.42, CI: 0.01–1.99). However, interestingly, it was found that the use of ill-fitting dentures appears to significantly increase the risk of developing cancer (OR: 3.90, CI: 2.48–6.13).

Conclusion: Ill-fitting dentures are a risk factor for the development of oral cancer, greater patient education and regular checking of dentures by dentist's should be undertaken as a prevention measure.

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THE RELATIONSHIP BETWEEN AGENT ORANGE AND CANCER: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Introduction: It has been demonstrated that Agent Orange exposure increases the risk of developing several soft tissue malignancies. Nearly 10% of former South Vietnam was sprayed with phenoxy-herbacides as part of the United States campaign in Vietnam. Approximately 19 million gallons of Agent Orange were sprayed beginning in 1962, spraying intensified in 1967, and it was continued until 1971.

Methods: A systematic search was conducted using MEDLINE, PubMed, EMBASE, Current Contents Connect, Cochrane library, Google Scholar, Science Direct, and Web of Science. Original data were abstracted from each study and used to calculate a pooled event rate (ER), odd ratio (OR) and 95% confidence interval (95% CI).

Results: We identified 300 potentially eligible articles of which 17 studies proved eligible The search recognized; this included 6 studies that assessed the relationship between Agent Orange and Prostate cancer. The pooled odds ratio for prostate cancer was 1.92 (95% CI 1.74–2.13, $p = 0.001$). It was also observed that these patients developed the cancer earlier compared to their peers (58.37 years vs 61.23 years). However, this did not attain statistical significance.

Conclusions: Individuals who were exposed to Agent Orange had an increased incidence of cancer and evidence is strongest for Prostate cancer. Consideration should be made to classify this group of individuals as 'high risk,' just like patients with a family history of cancer. These observations are particularly important given the maturing of the Vietnam era veterans and their changing healthcare needs.