

# The OSH Occupational Cancer Project

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# Occupational cancer

- 8% of all cancers are occupational
- 9% of lung cancers
- 20% of bladder cancers (men)
- 10% of bladder cancers (women)

# Occupational cancer in NZ

- incidence not known
- OSH data for 1992-1997
  - 11 total
  - 2.2 per year
  - not including asbestos cancers
    - Mesothelioma 94 cases 1992-97
    - Lung cancer 49 cases 1992-97

# OSH Cancer Project – method 1

- OSH notified by NZ Cancer Registry for all new cases of:
  - Bladder cancer (from January 2001)
  - Non-Hodgkin's lymphoma (from June 2001)
  - Leukemia (from November 2001)
- Aged 25 – 70 years
- Both genders
- Excluded if never worked in NZ

# OSH Cancer project – method 2

- Letter to clinician
- Letter to general practitioner
- Letter to subject
- Interview by OSH nurse
- File assessment by OSH Cancer Panel

# OSH Cancer Panel assessment

- Identification of occupational exposures (type, length, intensity)
- Reference to internationally published research literature
- Calculation of probability
  - Etiological fraction (EF) =  $RR-1/RR$ 
    - for a probability of >50%, RR must be 2 or greater
- Classification (probable, possible, no)

# NZ Cancer Registry

- 343 cases of bladder cancer reported to OSH Jan 2001 – Jan 2002
- 325 cases non-Hodgkin's lymphoma July 2001 – May 2002
- 135 cases leukemia Oct 2001 – May 2002  
– (excluding those >70 years)

# Interim results: Bladder cancer

- 150 cases of bladder cancer so far assessed (36 female, 114 male)
  - 3 female cases considered to be likely to be occupational = 8%
  - 35 male cases considered to be likely to be occupational = 31%

# Male bladder cases n = 35

# Truck/heavy machinery driver

- Diesel fumes
  - PAHs
- General traffic fumes
- Urinary retention
- Burning coal (locomotive drivers)

# Engineering/metal workers

- Cutting and lubricating oils
  - Aromatic amines
  - N-nitrosamines
    - Possible endogenous formation in the body, ? Role of bladder infections

# Farmer/orchardist/horticulture

- Herbicides

# Painters/furniture finishers

- Benzidine
- Polychlorinated biphenyls
- Formaldehyde
- Benzene
- Dioxane
- Methylene chloride

# Hairdresser

- Hair dyes

# Textile worker

- Dyes

# Female bladder cancer N = 3

- Telephonist = 1
  - Environmental tobacco smoke
  - Air pollutants
  - Sedentary work
  - Frequency of urination
- Textile workers = 2
  - Textile dust containing dyes
  - Environmental tobacco smoke, air pollutants, sedentary work and frequency of urination

# Interim results: non-Hodgkin's lymphoma

- 58 so far assessed (26 F, 32 M)
- 3 (1F, 2M) considered likely to be occupational = 5%
  - Meatworker (M)
    - viruses
- Farm worker/orchardist (1F, 1M)
  - herbicides

# Interim results: leukemia

- 13 so far assessed (7F, 6M)
- 3 (all M) considered likely to be occupational = 23%
  - Farmer (2)
    - herbicides
  - Electric furnace operator
    - electromagnetic fields

# Summary

- Raise awareness of magnitude of the problem
- Basis for research project to
  - Quantify importance of known carcinogens
  - Investigate other possible carcinogens
- Baseline data for prevention and control