

- Technical Report - 2014 Health, Work and Retirement (HWR) Survey

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Report prepared by

Joanne Allen

Health and Ageing Research Team

Massey University

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The Health, Work and Retirement Survey

Cohort overview 2006-2014

The New Zealand Health, Work and Retirement study is the flagship initiative of Massey University's Health & Ageing Research Team (HART). At the study's centre is the Health, Work and Retirement (HWR) survey, a longitudinal cohort study of older persons in New Zealand which is designed to describe the nature and determinants of health and wellbeing in this population.

Since commencing in 2006, the HWR survey has been conducted biennially, with an additional pilot survey conducted in 2009 and an off-wave survey (known as the Inclusion, Contribution and Connection study) conducted in 2013 (Stevenson, Stephens, & Alpass, 2015). Over time, the longitudinal study has recruited additional cohorts to both maintain and increase its representation of the New Zealand population of interest. Table 1 provides an overview of the cohorts involved in each survey wave, as well as the initial and subsequent response rates for each cohort. Proportions in bold represent the initial baseline recruitment response rate for the cohort and italicised proportions represent response rates relative to the initial number of cohort respondents.

Table 1 Survey and response rate by cohort and survey wave 2006-2014¹

Supporting agency:	Health Research Council			Foundation for Research Science and Technology		Ministry of Business Innovation and Employment/EQC (2014)	
Cohort	2006	2008	2009	2010	2012	2013	2014
HWR	✓	✓		✓	✓	✓	✓
Response n	6662/12494*	2473	X	1985	1865	1345	1688
RR	(53.3%)	<i>(37.1%)</i>		<i>(27.8%)</i>	<i>(28.0%)</i>	<i>(20.2%)</i>	<i>(25.3%)</i>
RP study			✓	✓	✓		✓
Response n	-	-	1535/3002*	555	491	X	429
RR			(51.1%)	<i>(36.2%)</i>	<i>(32.0%)</i>		<i>(28.0%)</i>
NZSLA Pilot			✓	✓	✓		✓
Response n	-	-	445/1500	203	179	X	160
RR			(29.7%)	<i>(45.6%)</i>	<i>(40.2%)</i>		<i>(36.0%)</i>
NZSLA/FC				✓	✓		
Response n	-	-	-	568/3000	449	X	X
RR				(18.9%)	<i>(79.0%)</i>		
2014 refresh							✓
Response n	-	-	-	-	-	-	773/2900
RR							(26.7%)
Overall n	6662	2473	1980	3311	2984	1345	3050

The initial 2006 HWR cohort comprised persons aged 55-70 who were randomly sampled from the New Zealand electoral roll. An over-sample of persons indicated on the roll as being of Māori-descent was undertaken to ensure adequate representation of this important sub-group in the survey. N = 6,662 New Zealanders responded to the survey and around 46% of these initial survey respondents indicated that they were interested in participating in a longitudinal cohort and were re-approached for participation in subsequent survey waves. The full recruitment procedure and result for this initial survey has been reported by Towers et al. (2007).

¹ Table notes: HWR 'Health, Work and Retirement'; RP 'Retirement Planning'; NZSLA 'New Zealand Longitudinal Study of Ageing' FC 'Family Centre Social Policy Research Unit'; RR = response rate; ✓ = cohort was surveyed; X = cohort was not surveyed.

*n = 3127 of the n = 6662 baseline respondents indicated that they were interested in participating in the longitudinal cohort and were approached again for participation in subsequent phases. An additional N = 148 from the baseline sample opted-in to the longitudinal sample in 2010.

The retirement planning cohort completed a different survey in 2009 which included core measures of SF-12, ELSI, demographics, employment, and income. This cohort were invited to opt-in to the NZSLA cohort and n = 845 of the n = 1535 respondents indicated their interest and were approached again for participation in subsequent phases.

In 2009 a new sample aged 50-84 was drawn from the electoral role. These potential participants were recruited for the purposes of the Retirement Planning (RP) study (Noone, Stephens, & Alpass, 2010) and New Zealand Longitudinal Study of Ageing (NZSLA: Towers & Stevenson, 2014). The Retirement Planning study commenced in 2009 with an off-wave survey consisting of core measures from the HWR surveys and a detailed retirement planning module. This cohort was invited to opt-in to the NZSLA longitudinal cohort and those interested were re-surveyed in 2010, 2012 and 2014. A pilot sample for the NZSLA survey was also approached and surveyed in 2009 and was re-surveyed in 2010, 2012 and 2014.

In 2010 a final cohort for the NZSLA survey aged 50-84 was recruited in partnership with the Family Centre Social Policy Research Unit (FC), over-sampling for Māori descent as per the 2006 recruitment protocol. This cohort was re-surveyed in 2012, at which point the study of the NZSLA/FC cohort concluded. A summary profile of the 2010 cohorts participating in the 2010-2012 NZSLA surveys has been reported by Towers and Stevenson (2014).

Most recently, a 2014 'refresh' cohort aged 55-65 years was recruited as part of a move to a steady state design. The current report details the protocol and recruitment results for the 2014 wave of the Health, Work and Retirement Study. For a more detailed reporting of methods, mortality and attrition in the Health, Work and Retirement study 2006-2014, see Towers et al. (2015).

The 2014 Health, Work and Retirement Survey

Overview

In addition to the core Health, Work and Retirement survey measures of health, work, financial and social wellbeing, the 2014 HWR survey had a focus on experiences of persons across New Zealand following the 2010-2011 earthquakes in the Canterbury region and 2013 earthquake in the Wellington-Seddon region. This work was supported by the EQC and a final report on these findings is available (Stevenson & Keeling, 2015). In addition to surveying existing cohort members (i.e., active cohort members recruited prior to 2014, namely, the HWR, RP and NZSLA cohorts), the 2014 survey wave also commenced a move to a 'steady state' design for the Health, Work and Retirement study. In this design new cohorts will be regularly recruited to the survey to ensure adequate representation of the population of interest, particularly persons who are no longer represented as the cohort ages.

The 2014 survey was funded under the EQC Earthquake Commission Biennial Contestable Grants Programme (2010) awarded to Massey Health and Ageing Research Team (HART) researchers Mr Brendan Stevenson, Dr Sally Keeling, Prof Christine Stephens and Prof Fiona Alpass. The 2014 wave of the Health, Work and Retirement survey was conducted under a Low Risk Notification submitted to the Massey University Human Research Ethics Committee. Christine Stephens and Fiona Alpass oversaw the study. Mr Brendan Stevenson was the project Research Officer and Mrs Vicki Beagley the Junior Research Officer.

Survey and recruitment procedure

A summary of the survey procedure, as executed for the existing cohorts and the 2014 refresh sample, is presented in Table 3. All participants were sent a packet containing a survey questionnaire, an introductory letter and a reply paid envelope via standard post. Slightly different introductory letters were sent to existing cohort members and the 2014 Refresh sample introducing the study and 2014 questionnaire. A post card thanking participants who had returned the questionnaire, and reminding those who hadn't yet returned it to do so, was posted 2-3 months after the initial packet. Existing cohort participants who did not respond within three months of the final reminder were followed up by phone contact by the research team using telephone contact details provided previously.

Table 3. Dates and components of the 2014 Health Work and Retirement survey approach protocol

Cohorts	Survey	Reminder #1 postcard	Telephone reminder
Existing	Oct '14	Dec '14	Mar '15
2014 Refresh	Dec '14	Mar '15	x

Table notes: 'Refresh' refers to a new sample of persons aged 55-65 first approached in 2014. Participants recruited to the Health, Work and Retirement study cohorts prior to 2014 are referred to as 'existing'. Reminder postcards were sent to n = 1,188 participants who had not responded by 1 December, 2014.

Participants

Existing cohorts

The 2014 Health, Work and Retirement survey re-surveyed existing cohorts recruited in the 2006 HWR survey, the 2009 RP study, the 2009 NZSLA pilot, and the NZSLA. Existing participants were re-surveyed in 2014 if they: 1) had responded to at least one prior survey wave; 2) were not identified as lost to contact (i.e., post had been previously returned to sender and/or phone contact confirmed that no current postal address was available), and; 3) had not formally withdrawn from participation nor recorded as deceased (either via contact to the study or from the NZHI mortality register). For a more detailed reporting of methods, mortality and attrition in the HWR study 2006-2014, see Towers et al. (2015).

2014 Refresh cohort

In 2014 a 'refresh' cohort of persons aged 55-65 years was recruited to address the ageing and attrition of the HWR survey longitudinal cohort. This was a move toward a 'steady state' design, in which regular cohort recruitment is conducted to maintain representation of the original population of interest. In this case, the additional sampling was undertaken to ensure that the age range of primary interest (55-70) remained represented in the sample.

Target sample size calculation

The target sample size for the 2014 survey was calculated with reference to the size of the populations of interest as outlined in the New Zealand census, utilising the Dillman (2000)² sample size calculation for population surveys, employing a finite population correction. Using these methods it was determined that an overall respondent sample of $n = 1,066$ was needed to provide adequate representation of the target population of New Zealanders aged 55-65. It was intended that Māori would represent around 10% of this sample ($n = 107$), a value closer to the representation of this group in the New Zealand population aged 55-70 (approx. 9%) than that provided in the 2006 over-sampling method. This decision was made, in part, to simplify the calculation of longitudinal population weights for the sample.

Approach sample size calculation

Estimates of the required approach sample size for the 2014 survey were based on the observed response rates between the original 2006 survey and an off-wave 2013 survey of the HWR cohort, conducted as part of the Inclusion, Contribution and Connection study (Table 4). To account for the lower response rate from Māori respondents over time (roughly 6.3% lower over the 2006-2013 period), sample size for the Māori sample ($n = 107$) was multiplied by 1.63 to ensure that the representation of the Māori group did not fall below this value over time. The target non-Māori sample was revised down to $n = 891$ ($n = 175+891 = 1066$).

Table 4. Observed response rate (RR) drawn upon for estimation of 2014 refresh sample

	Baseline 2006	Longitudinal 2006	ICC 2013	RR: 2006-2013
Māori Descent RR	46%	53%	41%	30%
Non-Māori RR	60%	47%	59%	49%
Approx. RR ratio				6.3

It was estimated that persons of Māori descent would have a response rate of 46% and persons of non-Māori descent a response rate of 60%. Thus, the initial desired sample targets were calculated:

$$\text{Māori Descent} = (107 * 1.63) / 0.46 = 380$$

$$\text{Non-Māori} = 891 / 0.60 = 1485$$

$$\text{Total target for 2014 refresh sample} = 1865$$

These numbers were inflated by 65% prior to study commencement such that $N = 583$ Māori and $N = 2317$ non-Māori were sampled in the 2014 refresh cohort recruitment approach.

Sampling frame and sample selection

The refresh cohort sample was drawn from the New Zealand Electoral roll. All citizens who are eligible to vote in New Zealand (i.e., aged 18 years or over, have citizenship and have resided in New Zealand for at least one year) are required to be enrolled in this database. Sampling utilised information from this database including enrollee's name, postal addresses, year of birth and an indicator of whether an enrolled person is of Māori descent. Persons were randomly selected from a subsample of persons approximately 55-65 years of age, with

² Dillman, D.A, Smyth J.D., Christian, L.M. (2000). Internet, Mail, and Mixed-Mode Surveys: The Tailored Design Method. USA; John Wiley & Sonfs Inc.

selection of subsamples of persons indicated as being of Māori and non-Māori descent selected independently.

Response rate

A low response rate was observed for the 2014 refresh cohort. Of the 583 (52% Female) Māori and 2317 (53% female) Non Māori sampled, 147 Māori (25%: 51% female) and 626 non-Māori (27%: 58% Female) responded. Overall, the refresh sample was comprised of n = 773 respondents (27%: 19% Māori; 56% female). The low response rate may be attributable to the timing of the survey over the December period and the length of the period between the survey and reminder post card. Further, while telephone follow-up was available for existing cohort participants who had previously provided these contact details, no telephone follow-up was available for the 2014 refresh cohort.

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