Data Article

Dataset comprising indices of healthy ageing among older New Zealand adults from the 2016-2018 waves of the Health, Work and Retirement longitudinal survey

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ABSTRACT

This article describes data utilised in article C. Stephens, J. Allen, N. Keating, A. Szabó, F. Alpass, *Neighborhood environments and intrinsic capacity interact to affect health related quality of life of older people in New Zealand*, Maturitas 139 (2020) 1-5. Data represent self-report responses to a longitudinal postal survey of health and ageing in Aotearoa New Zealand, conducted as part of the Health, Work and Retirement study. Respondents were derived from a large random sample of older adults drawn from a nationally representative sampling frame. Data were collected in 2016 ($n = 4029$ respondents) and with follow-up conducted in 2018 ($n = 3207$ respondents from 2016 wave; 79.6% response rate). The dataset comprises responses from all participants in the 2016 survey wave, including those that did not meet criteria for inclusion in the research article. Additional data on sensory impairments, depression, health behaviours, material resources, survey design and response weights are included to facilitate future research. The data article presents tables charting the longitudinal indicators related to the WHO definition of Healthy Ageing collected in the 2016 and 2018 omnibus surveys and made available in the dataset, as well as indicating those to be assessed in the 2020 survey wave. As work is ongoing to identify key domains and indices of Healthy Ageing, provision of these data with relevant

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materials, metadata and analyses scripts support current research findings, and enable use of these data in future research.

Specifications table

Subject	Ageing
Specific subject area	Health and Social Sciences
Type of data	Tables
How data were acquired	Data were collected by postal survey.
	Direct URL to survey forms: https://osf.io/mqsaf/
Data format	Raw data
	Scored data
	Analysis scripts and output (Mplus output files)
Parameters for data collection	Data were collected by postal surveys returned by participants in the 2016 wave of the Health, Work and Retirement longitudinal study. Surveyed persons were adults aged over 55 who had either previously participated in the longitudinal study or who were recruited from a new random sample of adults aged 55-65 drawn from the New Zealand electoral roll. Respondants who remained active in the longitudinal study were sent a follow-up survey in 2018.
Description of data collection	Survey packs including an introductory letter, questionnaire and information sheet and reply-paid return-addressed envelope were posted to the sample. Sampled adults were sent up to two reminders to complete the survey, including an initial 'thank you' postcard, and a second survey pack sent to those who had not returned the survey.
Data source location	Massey University
	Palmerston North, Manawatū
	Aotearoa New Zealand
Data accessibility	Open Science Framework
	OSF Storage (Australia - Sydney)
	Direct URL to data: https://osf.io/mqsaf/
Related research article	C. Stephens, J. Allen, N. Keating, A. Szabó, F. Alpass, *Neighborhood environments and intrinsic capacity interact to affect health related quality of life of older people in New Zealand*, Maturitas 139 (2020) 1-5 https://doi.org/10.1016/j.maturitas.2020.05.008

Value of the data

- Dataset provides longitudinal self-report data on key concepts associated with the WHO definition of Healthy Ageing, including functional ability, intrinsic capacities, and environments obtained from large random samples of older adults in Aotearoa New Zealand.
- Data benefit researchers wanting to understand the extent of longitudinal data related to constructs of Healthy Ageing collected in the 2016-2018 waves of the Health, Work and Retirement surveys, and who may wish to explore questions related to construct stability with age, and interactions in determining outcomes over time.
- Datasets include hereto unpublished case and indicator data which may be used by those wishing to evaluate useful indicators and domains of the Healthy Ageing constructs, replicate published works, and expand upon published works utilising broader indices of individual's capacities including sensory capacities and depression symptoms, and environments including housing quality, health behaviours and health service use.
- Reported tables facilitate understanding of longitudinal indices of Healthy Ageing available in the datasets and facilitate harmonization of data collection with studies of ageing globally.
- Understanding the optimal measurement and interaction of domains of intrinsic capacities and environments in determining functional abilities in later life are key both to assessing

Table 1

Longitudinal indicators of health-related functional ability administered (*) by survey wave.

	2016	2018	2020
SF-12 Physical Component Score	*	*	*
SF-12 Mental Component Score	*	*	*

Note: Short Form Health Survey (SF-12v2), Australian and New Zealand form, scored using New Zealand population normative scores and factor weights; total scores provided in addition to raw data; * administered in survey wave.

Table 2

Longitudinal indices of respondent intrinsic capacity administered (*) by survey wave.

	2016	2018	2020
Health conditions			
Arthritis or rheumatism	*	*	*
Disorder of the neck or back. (e.g. lumbago, sciatica, chronic back or neck pain, vertebrae or disc problems)	*	*	*
Diabetes	*	*	*
A disability	*	*	*
Heart trouble (e.g., angina or heart attack)	*	*	*
High blood pressure or hypertension	*	*	*
Depression	*	*	*
Other mental illness	*	*	*
Respiratory condition (e.g., bronchitis, asthma)	*	*	*
Sleep disorder	*	*	*
Stroke	*	*	*
Active or chronic gout	*	*	*
Active/chronic hepatitis, cirrhosis or other liver condition	*	*	*
Cancer	*	*	*
Sensory impairments			
Can you hear a conversation with one other person? (even when wearing hearing aids)	*	*	*
Can you see ordinary newsprint?	*	*	*
Depression symptoms			
Center for Epidemiologic Studies Depression Scale (CESD-10)^	*	*	*

Note: ^ Total scores provided in addition to raw data; *administered in survey wave.

Healthy Ageing and to informing targeted responses to challenges faced by health professionals supporting ageing populations.

1. Data Description

Dataset contains raw and scored data obtained by postal survey of participants in the 2016 survey wave of the Health, Work and Retirement study and follow-up of these participants in the 2018 survey wave. Data are provided in a tab delimited format with rows representing cases and columns indicating variables. Codebooks provided identify variables by position in the dataset, variable names, variable labels, value labels, and missing values and describe the number of valid case observations.

Tables in this brief report chart the longitudinal indicators included in the dataset as potential indicators of concepts related to Healthy Ageing as defined by the WHO [1], namely, functional ability (Table 1), intrinsic capacity (Table 2), home and neighbourhood environments (Table 3), and associated health behaviours (Table 4). Demographic indices, administrative variables, design weights and survey weights are also charted and provided (Table 5). These indicators expand upon those detailed in recent publications to include both biennial follow-up data and indices

Table 3
Longitudinal indices of home and neighbourhood environment administered (*) by survey wave.

	2016	2018	2020
Neighbourhood satisfaction			
I am satisfied with my neighbourhood	*	*	*
*Housing satisfaction^*			
I am satisfied with my house	*	*	*
I am happy with the living conditions of my house	*	*	*
My house enables me to see friends and family as often as I like	*	*	*
My house enables me to participate in community activities as often as I like	*	*	*
My house supports all my daily activities	*	*	*
My home meets all my needs	*	*[R]	*[R]
I am able to keep my house warm	*	*	*
My house is easy for me to clean	*	*[R]	*[R]
Sense of safety			
I feel safe at home	*	*	*
I feel safe in my neighbourhood	*	*	*
The neighbourhood is peaceful	*	*	*
I have peace of mind at home	*	*	*
*Neighbourhood accessibility^*			
I can get to shops easily	*	*	*
I am close enough to any help I need	*	*	*
I am close enough to important facilities	*	*	*
How long does it take you to get to your nearest health facility?	*	–	–
*Neighbourhood trust^*			
People in this area would do something if a house was being broken into	*	*	*
In this area people would stop children if they saw them vandalising things	*	*	*
People would be afraid to walk alone after dark [R]	*	*	*
People in this area will take advantage of you [R]	*	*	*
If you were in trouble, there are lots of people in this area who would help you	*	*	*
Most people in this area can be trusted	*	*	*
Housing quality			
How would you describe the condition of your current residence?	–	*	*
Does your residence have a problem with dampness or mould?	–	*	*
In winter, is your current residence colder than you would like?	–	*	*

Note: ^ Total scores provided in addition to raw data; * administered in survey wave; [R] indicates item was reverse worded or coded in wave.

Table 4
Longitudinal indices of health behaviours administered (*) by survey wave.

	2016	2018	2020
Frequency of sport and exercise			
...vigorous (e.g., running or jogging, swimming, aerobics)	*	*	*
...moderately energetic (e.g., gardening, brisk walking)	*	*	*
...mildly energetic (e.g., vacuuming, laundry/washing)	*	*	*
Smoking			
Have you, at any stage of your life, <u>ever</u> been a regular smoker?	*	*	*
If you <u>currently</u> consider yourself a regular smoker, how many do you think you would smoke on an average day?	*	*	*
Alcohol use			
Alcohol Use Disorders Identification Test (AUDIT-C)^	*	*	*
Health care (past 12 months)			
How many times have you seen a doctor or been visited by a doctor about your own health?	*	*	*
Been admitted to hospital for one night or longer	*	*	*
Used a service at, or been admitted to, a hospital	*	*	*
Gone to a hospital emergency department as a patient	*	*	*
Consulted another health professional other than the above	*	*	*
Sought medical treatment for an accident or injury	–	*	*

Note: ^ Total scores provided in addition to raw data; * administered in survey wave.

Table 5

Longitudinal demographic indices and administrative variables administered/available (∗) by survey wave.

	2016	2018	2020
Age (5 year bands)	∗	∗	∗
Sex	∗	∗	∗
Economic living standard index SHOR (ELSI-SF)^	∗	∗	∗
Household income	∗	∗	∗
Indicator of whether case responded in survey wave	∗	∗	∗
Design and survey weights	∗	∗	∗

Note: ^ Total scores provided in addition to raw data; ∗ administered/available for survey wave.

of sensory capacities, symptoms of depression, quality of housing, physical activity, alcohol use, smoking, and health service use. To facilities understanding of future planned longitudinal collection, tables also indicate indices included in the 2020 survey form. Survey forms administered in the 2016 and 2018 waves of the Health, Work and Retirement survey are available in the online repository specified. Datafiles and analysis scripts and output files for analyses of data in Mplus, as reported in Stephens et al. [2], are also provided.

2. Experimental Design, Materials and Methods

2.1. Questionnaire development

The Health, Work and Retirement longitudinal survey is a biennial postal survey of older adults in Aotearoa New Zealand which began in 2006. This omnibus health survey focuses on health and wellbeing among adults as they age. Core indices are administered in common with other major surveys of ageing globally and nationally, including health related quality of life [3], health conditions, depression symptoms [4], alcohol consumption [5], health behaviours, household income, and non-income based measures of material wealth [6,7]. Surveys include supplementary modules on topics of interest to ageing in New Zealand. The 2016 survey supplementary module included assessments of neighbourhood and home environments. These indicators were identified from exiting literature [8-11] and reviewed by the study's international and Māori advisory groups. To understand changes in these environmental factors with ageing, a subset of indices were retained for longitudinal follow-up in the 2018 and 2020 survey waves. Further information on the Health, Work and Retirement study can be found in study technical reports [12,13], living reference guides [14] and public metadata repositories [15].

2.2. Sampling

Respondents were participants recruited to the Health, Work and Retirement longitudinal study between 2006-2016. Cohorts surveyed in 2016 were recruited from random samples of older adults drawn in 2006, 2009, 2014, and 2016 from the New Zealand electoral roll, on which approximately 97.6% of eligible voters aged 50+ are enrolled [16]. Oversampling of persons of Māori descent was conducted to ensure adequate representation of this group of older adults in Aotearoa New Zealand.

2.3. Data collection and response rates

Data were collected via postal surveys June-December 2016 and August-February 2018/19. Participants were sent information packs including introductory letters, information sheets, questionnaire forms and a return-addressed reply-paid envelope. Consent to participate in the

survey component of the study was implied by return of a full or partially completed survey form. Of the 4029 respondents to the 2016 survey wave, 3207 (79.6%) returned a follow-up survey in 2018.

2.4. Survey weights

Design and sample weights are calcuated for each cohort for each survey wave. Design weights were calculated to account for over-sampling of person of Māori descent within the sampling frame and scaled to sample size. Response weights for each survey wave were calcuated to weight data with reference to respondant age, gender, Māori descent, and area-level deprivation [17], relative to samples drawn from the sampling frame, and scaled to number of survey respondents.

Ethics Statement

The 2016 wave of the Health, Work and Retirement study was conducted with approval from the Massey University Human Ethics Committee Southern A Application – 15/7. The 2018 wave of the Health, Work and Retirement study was conducted with approval from the Massey University Human Ethics Committee Southern B Application 09/70.

Declaration of Competing Interest

Acknowledgments

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