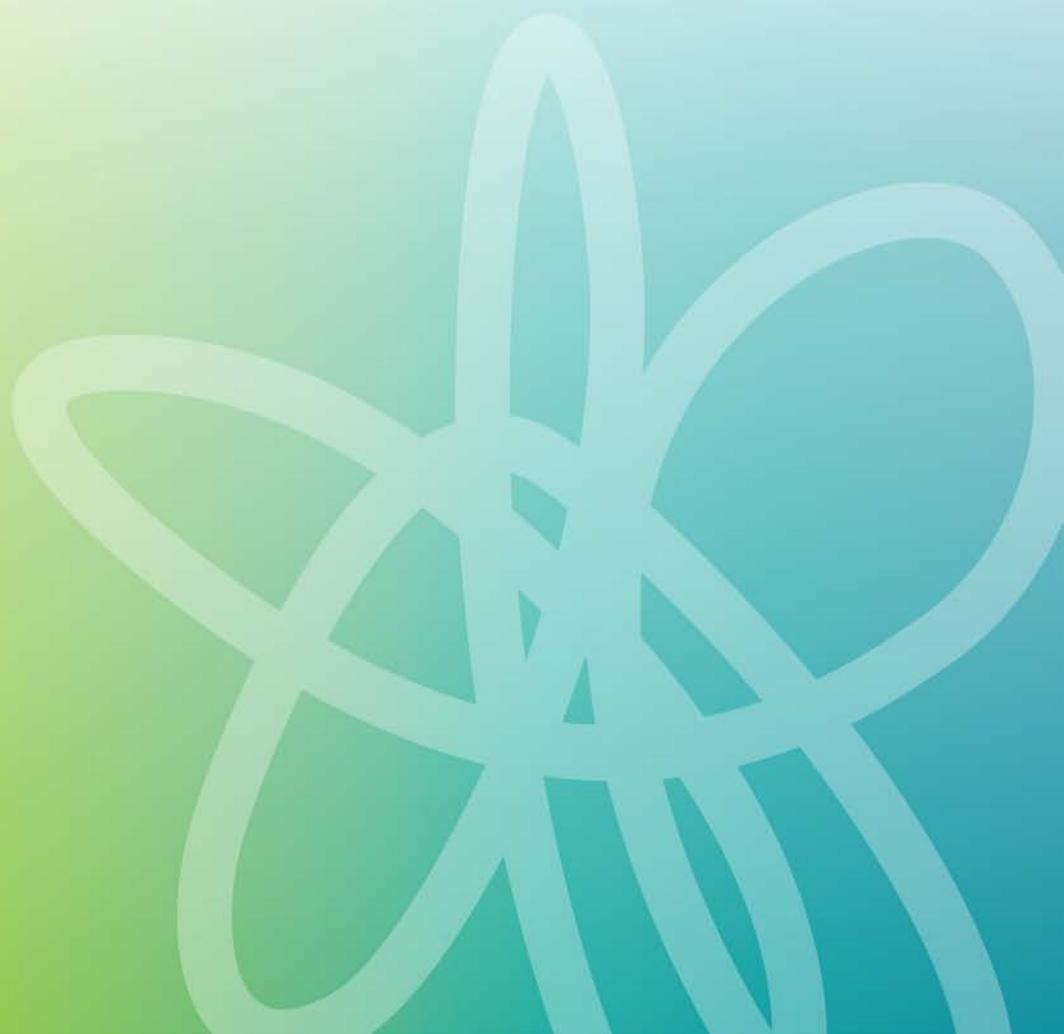


The Australian Prevention
Partnership Centre
Systems and solutions for better health

Australian health cohorts

July 2017



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Key messages

- Population cohort studies have the potential to be a valuable resource for population health researchers. They enable the study of:
 - Changes in living circumstances over time
 - Complex interrelationships, sequencing and cumulative effects of factors affecting health
 - Long-term effects of population-level programs and policies in a real-world setting
- However, cohort studies have not traditionally been used to test the effects of policy and practice in population health outcomes in Australia. The time between waves of data collection does not always allow definitive answers on the effect of policy change
- Researchers may not be aware of the availability of cohort study data. This report is intended as a resource for researchers and policy makers that summarises Australian longitudinal datasets
- There are 25 adult cohorts in Australia that are relevant to primary prevention of chronic disease
- There were 18 studies that tested the impact of policy on chronic disease health outcomes. The majority did this through data linkage to administrative datasets
- While policy impact studies are in the minority in Australia, cohort studies have the potential to make important contributions to informing policy implementation in the real world in ways that would be difficult to replicate in experimental conditions.

Introduction

Population cohort studies are conducted in many countries, with some running up to 70 years.¹ Australia is no exception, with some cohorts now decades old. Cohort studies were originally used for aetiological research, to define and develop new risk factors and exposures that were related to the development of disease and other health outcomes. Cohort studies may potentially facilitate some population health research through reducing the need for primary data collection, for example by profiling at-risk groups, or identifying sub-groups suitable for recruitment to specific sub-studies. Further, repeat-measure data offers insights into persistence and variation in behaviour and circumstances and the underlying processes which give rise to certain health outcomes not apparent in cross-sectional datasets.²

One use of cohort studies seen less often in the peer review literature is assessment of the impact of policies and service provision, including on outcomes such as morbidity and mortality through linkage to routinely collected health data.³ For example, cohort linkage to administrative data such as hospital admission information can be used to explore the costs of admissions or health care utilisation attributable to certain care pathways or risk factors such as obesity.^{4,5}

With the increasing burden of non-communicable chronic disease,⁶ sophisticated and timely assessment of the impact of policy levers aimed at reducing risk factors is an important concern for researchers. Typically, policy impact can be measured through implementation indicators measured at the supra-individual level, or through individual level indicators, often assessed through repeat cross sectional representative population surveys.

One question of interest is whether policy impact in the long term may be efficiently evaluated through cohorts, particularly in cases where it is not feasible or ethical to carry out experimental studies. Various methods, including the use of propensity analyses, may be included in this approach. The challenge or limitation to this use of cohorts is the natural attrition in cohort participation over time, which may cause selection effects to evolve and limit the interpretation of policy-impact studies that use cohort data.

Cohort study data are often made available to researchers beyond the original investigators, thereby allowing for a wider range of research skills and questions being brought to bear on a dataset. Many researchers however may not be aware of the availability of these data and the current report aims to provide a resource for researchers and policymakers that:

1. Summarises Australian longitudinal datasets (as at July 2017)
2. Demonstrates the potential for cohorts to be used in research relevant to the prevention of lifestyle-related chronic disease.

Methods

Cohort selection

In order to identify Australian adult cohorts with relevance to primary prevention of non-communicable chronic disease, an initial search of the literature for studies arising from cohorts was conducted in Medline, initially in August 2015 with an update in July 2017. Search terms were 'non-communicable disease*' or 'NCD*' or 'chronic disease*' combined with 'incidence' or 'prevalence' or 'surveillance' or 'monitoring' keywords, 'Australia' (MESH heading) combined with 'cohort studies' or 'cohort*' or 'cohort study' keywords. Reference lists from publications were also scanned for additional studies. Studies included in the review met the following criteria: (1) involved adults aged 18 or over (but could include participants <18 years); (2) had published in the peer review literature in the past five years (back to May 2010); (3) assessed at least one non-communicable chronic disease [list: stroke, cancer, heart disease, hypertension, diabetes] or the risk factors for non-communicable disease [list: diet, smoking, physical activity, sedentary behaviour]; (4) were population cohort studies (that is, disease status was not a criteria for entry into the cohort); (5) were not disease registries (as they are not relevant to primary prevention). Studies were eliminated that were primarily pre- post-design to examine the impact of an intervention.

Data extraction for summary of cohort studies

Study details regarding sample size, study population, commencement date, data custodian and study foci were extracted from publications study websites by one researcher (DB). Extracted data elements were confirmed by a second researcher (BMcG) and any inconsistencies were resolved by discussion.

Classification of study publications

The studies published in the past five years of the two largest cohorts (in terms of publications) were obtained from the study websites and classified on the basis of five study types: aetiological; correlates/prevalence and trends; within cohort intervention analyses; methodological papers (including identification of sub-groups for further chronic disease prevention research); and policy relevant studies (including health economics analyses and health service utilisation). Two researchers (AG and DI) conducted the classification independently and compared results. Conflicts were resolved by discussion and study classification descriptions were further refined in light of those discussions.

Results

Cohorts

A total of 25 cohorts were identified which met the criteria. Table 3 in the Appendix summarises the design and coverage details of the studies.

The baseline samples sizes ranged between 1000 (Melbourne Longitudinal Study on Healthy Aging (MELSHA))⁷ and 267,153 (45 and Up),⁸ although the Australian Longitudinal Study of Women's Health (ALSWH) added a sizable 17,069 women in 2012/13 to replenish the more than 41,000 enrolled at baseline.⁹ Most cohorts had a clear academic institution as, or affiliated with, their data custodian. Over half drew their sample from discrete geographic areas (n=16), six were national,^{10–15} including a number of studies of Defence Force veterans,^{16–20} and three others were state wide^{8, 21, 22}. Most included both men and women, with three female^{10, 23, 24} and four male-only cohorts^{14, 25–27}. Two cohort studies of women were pregnancy-based^{23, 24}, but others focused on particular sub-populations defined by age^{7, 8, 13, 14, 22, 26, 28–32}, indigenous populations³³ or occupation^{12, 16–20}.

Study classification

The studies listed on the websites of two of the most research-generative recent cohorts* (the ALSW¹⁰ and 45 and Up²) to August 2015 were classified in terms of the study type. The classification definitions are provided in the Appendix.[§]

As at August 2015, the ALSWH and the 45 and Up study had 274 and 141 publications listed on their websites respectively. Of those studies, 42% and 80.1% respectively were classified as being associated with chronic disease prevention as defined in Table 3 in the Appendix. Table 1 shows the breakdown of study types for the two studies.

Table 1: Classification of studies published to August 2015 from two cohorts

Study type*	ALSWH (N=115) [†]	45 and Up (N=113) [†]
Aetiological	51.3%	13.3%
Correlates/prevalence/trends	15.6%	50.4%
Methods	24.3%	24.8%
Policy	7.0%	8.8%
Intervention	1.7%	2.7%
Not NCD prevention	N=159	N=28

* See the Appendix for definitions.

† Studies not focusing on non-communicable disease prevention are excluded from denominator of distribution of study types.

It appears that across both studies, the majority of published analyses of cohort data describe longitudinal disease development or cross-sectional relationships between demographic, behavioural or environmental factors and outcomes. The greater predominance of aetiological studies in the ALSWH is likely because there have been up to seven surveys (for the older cohort), whereas 45 and Up data are currently available only for one large sub-sample survey (SEEF study - Social, Environmental and Economic Factors³⁵) and one five-year follow-up, for which data have only recently been released. One-quarter of the eligible studies in both cohorts were classified as 'methods' focused where tools, measures or data collection approaches were validated or tested, or the cohort was used to identify a defined population for selection into a sub-study. Only 7–9% of the studies tested policy. These studies tended to analyse the impact of screening policy (for example,^{36, 37}), influence of care practices (for example^{4, 38}) or costing studies (for example,^{5, 39}) and often involved the use of linked data. The smallest category across both cohorts comprised intervention studies where the cohort was used to test a pharmacological intervention.

§ Note: Of the cohorts identified, the Melbourne Collaborative Cohort Study had the most publications with over 560 as at June 2017.

Cohort study and health policy research

A total of 18 studies were identified which tested the impact of policy on chronic disease health outcomes (Table 2). There did not appear to be a systematic bias towards publishing this type of study with year of publication. The majority (eight out of 10) used data linkage to administrative datasets such as the Pharmaceutical Benefits Scheme (PBS), Medical Benefits Scheme (MBS), and hospitalisation records to test the impact of a range of policy mechanisms including care processes^{3, 39, 40}, health care cost subsidies³⁷, guidelines⁴¹ and screening⁴². Other studies used data linkage to examine the impact of demographic or risk factor profiles on health care costs^{4, 38} and health outcomes^{43, 44}. The cohort study data facilitated the identification of relevant sub-populations for analysis as well as provided detailed and (in some cases) prospectively collected risk factor information (such as weight status or physical activity level) which would otherwise not be available in administrative datasets. The value of the cohort information for these linkage studies lies in part in the availability of risk factor information that otherwise goes undocumented or is inconsistently collected. For example, Buchmueller et al (2015) were not able only to assess the prospective effect of body mass index (BMI) on health expenditure, but also the added burden of a high BMI on acute health events unrelated to chronic disease⁴. The synergistic effects between the detailed time series data afforded by administrative datasets and the detail contained in cohort datasets provide a powerful means by which health planning may be grounded in, and respond to, trends in health indices.

There were eight studies which did not link to administrative datasets to examine policy impact, five of which described the demographic and risk factor profiles in relation to the uptake of (self-reported) cancer screening^{35, 36, 45-47}. Such studies allow policy-makers to examine reach and equity in the provision of preventive medical services, especially among vulnerable populations such as the socioeconomically disadvantaged³⁶ and migrants³⁵. For example, although Byles et al (2014) found that there were no apparent large inequities in screening for a range of health conditions among women across educational levels or employment status,³⁶ the authors were however able to identify interaction between area of residence and type of screening (for example, pap smear, cholesterol testing), giving nuanced and policy-relevant feedback to the prevention system. Another study combined the outcomes of a series of mortality analyses across two cohorts to examine whether universal guidelines for lifestyle risk factors (BMI, physical activity, alcohol consumption and smoking) were appropriate to both men and women and older Australians⁴⁸. The study identified instances where the cohort-based mortality studies demonstrated differences in sub-populations' risks (for example, alcohol consumption) as well as where they converged (for example, smoking). Again, such analyses can directly inform guideline evaluation and generation at the population level.

Table 2: Policy studies from 45 and Up and Australian Longitudinal Study of Women

45 and Up			
Reference	Chronic disease /condition*	Policy lever/factor†	Outcome
Comino et al (2015) ³	Diabetes	Primary care processes	Hospitalisation [§]
Buchmueller & Johar (2015) ⁴	Obesity	Overweight/obese	Health expenditure [§]
Steffen et al (2014) ⁴²	Colorectal cancer	Screening	Cancer incidence [§]
Weber et al (2014) ³⁵	Bowel, breast, prostate cancer	Migrant status	Cancer screening
Kemp et al (2014) ⁴³	Breast cancer	Co-morbidities, demographics, clinical characteristics	Discontinuation of pharmacotherapy [§]
Goldsby et al (2013) ⁴⁰	Colorectal cancer	GP consultation	Time to, and nature of, surgery [§]
Weber et al (2013) ⁴⁵	Bowel, breast, prostate cancer	Demographics, clinical characteristics	Cancer screening
Goldsby et al (2012) ⁴⁴	Colorectal cancer	Demographics, clinical characteristics	Time to, and nature of, surgery [§]
Weber et al (2009) ⁴⁶	Bowel, breast, prostate cancer	Migrant status	Cancer screening
Weber et al (2008) ⁴⁷	Colorectal cancer	Demographic and lifestyle risk factors for chronic disease	Cancer screening
Australian Longitudinal Study of Women			
Rowlands et al (2015) ⁴⁹	Diabetes, heart disease, cancer	Chronic health conditions	Searching for health information on the internet
Byles et al (2014) ³⁶	Breast and cervical cancer; high cholesterol	Demographic and lifestyle risk factors for chronic disease	Cancer and cholesterol screening
Peeters et al (2014) ³⁸	Physical inactivity	Physical inactivity	Health care costs
Peeters et al (2014) ⁵⁰	Physical activity	Physical activity guidelines	Incidence diabetes, heart disease, hypertension, cancer [§]
Tooth et al (2012) ³⁷	All conditions	Health care cost subsidies	Medical and pharmaceutical benefit claims [§]
Collins et al (2011) ⁴¹	Diet quality	Dietary guidelines	Medical claims [§]
McLaughlin et al (2011) ⁴⁸ ^	Lifestyle risk factors	BMI, physical activity, smoking, alcohol guidelines	Mortality
Lowe et al (2010) ³⁹	Diabetes	Systematic care	Care costs, physical and social functioning [§]

* Study may include other (non-chronic conditions).

† Policy lever – policy mechanism tested against the outcome; Factor – where the policy lever is being tested for distribution across another factor (for example, cancer screening across migrant status).

§ Data linkage used.

^ LSW plus HIMS.

Discussion

Cohort studies form part of the health monitoring system that is used to describe chronic disease prevalence and incidence as well as evaluate and plan health promotion. They provide the opportunity to identify early intervention points that contribute to avoiding health problems - which clearly has health expenditure implications. The case for their value to population health has been described previously, especially the advantages that they hold over cross-sectional studies and their potential to contribute to informing and testing the impact of policy and programs to benefit population wellbeing⁵¹. By tracking individuals, cohorts allow for the policy-relevant examination of:

- The effect of, and change in, living circumstances over time
- The complex interrelationships, sequencing, and cumulative effect of factors affecting health
- Long-term effects of population-level programs and policies in the real-world setting.

Often, additional linkage with administrative datasets allows sufficient granularity for policy evaluation, as data collection may be otherwise too infrequent⁵². Townsend et al 2016 in their review of Australian and New Zealand birth cohorts note that a broad range of data collected at baseline allows for analysis of emerging uses for cohort data and expansion of the original purpose, capitalising on the significant investment they represent.⁵² An evaluation of the Nurses' Health Study⁵³ concluded that the cohort had been successful in terms of generating evidence for aetiology of a range of conditions, prevention and development of health guidelines and informing policy decisions. The review did not comment, however, on the study's output in terms of assessment of the impact of policy decisions. Evaluation of the Millennium Cohort Study⁵⁴, a birth cohort study commencing in 2000/2001, notes that "there does not seem to be a clear linear process by which the MCS has influenced policy and practice" (p2, 2011) despite the majority of the research being deemed as 'policy-relevant'. The report does describe a small number of studies which evaluate specific programs (for example, *Sure Start*), however the discussion in the main pertains to the use of cohort data in policy development rather than policy-impact testing.

In the current review, only a small proportion of the publications arising from two of the largest cohorts in Australia relating to chronic disease tested the impact of policy measures such as guidelines, care pathways or screening for disease. Amongst these studies, the examinations of program reach and equity and the health impacts of policy change show how cohort studies can make important contributions to informing policy implementation in the real-world setting in ways that would be difficult – if not impossible – to replicate in experimental conditions. They can also demonstrate the economic value of policy intervention or health promotion efforts, as well as the costs to the individual and health system of changes in health care delivery. Yet the current and the other analyses discussed above show that most studies describe the policy implications of the research rather than assess how policy has affected health outcomes or populations and sub-populations. Thus, while the potential of cohorts to influence, and document the influence of, policy, policy impact studies seem to be in the minority in cohort research.

Appendix

Table 3: Australian cohorts

ID	Name*	Size	Place	Period of follow-up	Characteristics	Publications 2010: 4 June, 2015	Data Custodian	Associations studied/study interests	Policy relevant areas	Weblink
1	Australian Longitudinal Study on Women's Health ^{9,10}	Began in 1996 with 3 cohorts: 18–23 yrs (n=14 247), 45–50 yrs (n= 13 716), 70–75 yrs (n= 12 432), new cohort added in 2012/13 of 17069	Australia	29 years	Women in 3 cohorts (born 1973–1978, born 1946–1951, born 1921–1926) followed-up and now born 1989–1995 to be followed-up	256	University of Queensland and University of Newcastle	Women's health and wellbeing across the life course	Chronic disease; health services and systems; social factors in health and wellbeing. Cross-cutting themes include rural and remote women's health; intergenerational issues; tobacco; alcohol, and other drugs; weight, nutrition, and physical activity; and mental health.	http://www.alswh.org.au/
2	Australian Diabetes, Obesity and Lifestyle Study (AusDiab) ¹¹	Baseline 1999–2000, n=11,247	Australia	Baseline n=11 247, ≈6 000 followed-up after 5 years. 12 year follow-up completed in 2012	Non-institutionalised adults with a minimum age of 25 years living in the six states and the NT	1970 journal articles, 4 books, 33 book chapters	Baker IDI Heart and Diabetes Institute	National prevalence of diabetes and other selected non-communicable diseases and their risk factors	Investigating how diabetes and the associated risk factors influence populations as a whole, and across ethnic and social strata to inform strategies for reducing the impact of diabetes, obesity, heart and kidney disease.	https://www.bakeridi.edu.au/ausdiab/
3	Australian Army	Various	Australia		Men who had served in the Gulf War or	5	Department of Veterans Affairs		Prevention of psychological	No

	reservists and Defence Force veterans				Vietnam War or as peacekeepers				distress post deployment and other health effects of deployment	
4	Australian Longitudinal Study of Ageing (ALSA) ³⁰	n= 2087	Adelaide, South Australia	Commenced in 1992 until 2014	People living in the community or in residential care (ranging in age from 65 – 103 years), includes 565 couples in the Adelaide Statistical Division (the wider City of Adelaide).	52	Flinders University, SA	How social, biomedical and environmental factors are associated with age-related changes in health and wellbeing of persons aged 70 years and over.	Emphasis is on healthy, active ageing, particularly in South Australian context.	http://www.flinders.edu.au/sabs/fcas/alsa/
5	Blue Mountains Eye Study and the Blue Mountains Hearing Study ²⁸	n= 3654 at baseline	Within 2 postcodes in the Blue Mountains region, NSW	Began 1992, 15 years follow-up	Permanent, non-institutionalised residents with birthdates before 1 Jan 1943 during 1992–94.	52	Westmead Millennium Institute for Medical Research	Eye health, hearing and other sensory impairments, as well as general health and nutrition	Estimating the level and correlates of functional hearing and sight loss in a general population sample.	https://researchdata.ands.org.au/blue-mountains-cohort-health-outcomes/95733
6	The Busselton Health Study ⁵⁵	~20 000	Busselton, WA	Commenced in 1966, 48-year engagement	Busselton population	94	Busselton Population Medical Research Institute, The University of Western Australia	CVD, respiratory disease, diabetes and endocrine disorders, gastrointestinal kidney and liver diseases, cancer, obesity, sleep disorders, cognition and genetic epidemiology. Information collected on demography, lifestyle and behaviour along with blood samples for biochemical	Examining health outcomes in a population in a discrete geographic area	http://bpmri.org.au/research/key-projects-studies/busselton-health-study-2.html

								and genetic studies.		
7	Childhood Determinants of Adult Health (CDAH) Study ¹³	n= 8498	Australia	1985, 2004–2006; 2009–2011	Follow-up of those who participated in the 1985 Australian Schools Health and Fitness Survey (age 7–15 years) at age 30s–40s.	4	Menzies Institute of Medical Research, University of Tasmania	Contribution of childhood factors to the risk of developing CVD and type 2 diabetes in later life	Childhood predictors of CVD and diabetes in middle adulthood	http://www.menzies.utas.edu.au/research/diseases-and-health-issues/research-projects/childhood-determinants-of-adult-health-cdah-study
8	DRUID Study ³³	n=1004 Indigenous men and women	Australian Urban Indigenous population - living in and around Darwin, NT	Began Sept 2003 to March 2005, follow-up Jan., 2012 to Dec., 2013	Indigenous men and women aged >=15 years	5	Menzies School of Health Research Baker IDI Heart and Diabetes Institute	Incidence of diabetes, heart disease, stroke, kidney disease and related conditions.	This study will inform both diabetes and heart disease risk factor assessment for a high risk population which bears a disproportionate burden of disease.	http://www.menzies.edu.au/page/Research/Projects/Diabetes/The DRUID Study Diabetes and Related disorders in Urban Indigenous people in the Darwin region/
9	Dubbo Study of the Elderly ⁵⁶	n= 2805 (n=1233 men and n= 1572 women)	Dubbo, NSW	16 years	Men and women aged 60 years and older living in the community and initially free of cognitive impairment, born before 1930, mean age 69 years	20	School of Medicine, UNSW	Investigating patterns and predictors of mortality, hospitalisation and the need for residential care	Healthy ageing	None identified
10	The Florey Adelaide Male Ageing Study (FAMAS) ²⁶	n=1195	North and West regions of Adelaide, SA	Commenced in 2002	Men aged between 35 and 80 years and living in the North West regions of Adelaide	19	University of Adelaide	Biomedical and socio-demographic factors measured. Clinic data collected every five years, follow-up questionnaires completed annually.	See MAILES and NWAHS	https://www.adelaide.edu.au/mailes/publications/famas/
11	45 and Up Study ⁸	Baseline collected between 2006 and	New South Wales	Began in 2004 and first major follow-up completed	1946–51 cohort	135	Sax Institute	Looks at healthy ageing. Set up to answer health and quality-of-life		https://www.saxinstitute.org.au/our-work/45-up-study/

		2009, n=267,153 aged over 45 at baseline		December., 2014				questions and help manage and prevent illness through improved knowledge of conditions such as cancer, heart disease, depression, obesity and diabetes.		
12	Geelong Osteoporosis Study ⁵⁷	n=1494 women at baseline n=1540 men at baseline	Barwon Statistical Division, VIC	10 years	Baseline 1993-97, Women: 86% retention at 10-year follow-up; men:81% retention at 5-year follow-up	57	Barwon Epidemiology and Biostatistics Unit	Epidemiology of osteoporosis	Biochemical, genetic, clinical, lifestyle and socio- demographic data useful to identify risk factors for the development of future disease and health disorders in addition to osteoporosis.	http://www.barwonhealth.org.au/epidemiology-unit-for-musculoskeletal-and-metabolic-disorders-epi-ummd
13	Health in Men Study (HIMS) ²⁵	n=12,203 at baseline	Perth, WA	Baseline in 1996–1999, follow-up 2001–2004	Men aged 65–83 years living in Perth	32 listed on website 2014/2015	University of Western Australia	The original study began in 1996 and was originally set up to investigate viability of a screening program for potentially fatal abdominal aortic aneurysms. Since then other data, such as height, weight, diet, physical activity, alcohol and tobacco use were collected	Lifestyle risk factors in older men	https://www.perkins.org.au/wacha/our-research/mens/mens-health-1/
14	Household, Income and Labour	n=19,914 (baseline - wave 1	Australia	Began in 2001	Adult members of each household are interviewed annually	423	Melbourne Institute of Applied Economic and Social Research	Collects information on a wide range of	Provides household longitudinal data (panel data)-	https://www.melbourneinstitute.com/hilda/

	Dynamics in Australia (HILDA) Survey ¹⁵	panel), topped up with additional n= 5477 (at wave 11)					(University of Melbourne)	aspects of life in Australia, including household and family relationships, child care, employment, education, income, expenditure, health and wellbeing, attitudes and values on a variety of subjects, and various life events and experiences. At less frequent intervals collects information on topics such as eating habits, and health care utilisation.	provides information about dynamics - antecedents and consequences over the life-course of each household member. Brings together information on a variety of life domains in one dataset which allows understanding of the linkages between life domains.	
15	Hunter Community Study ³¹	n=3253	Newcastle, NSW	10-year follow-up intended	Participants contacted between 2004 and 2007, community-dwelling men and women aged 55–85 years	1	School of Medicine and Public Health, University of Newcastle	Factors important in the health, wellbeing, social functioning and economic consequences of ageing	Healthy ageing	Number information may be found at: https://researchdata.ands.org.au/health-ageing-hunter-nsw-australia/11563
16	Mater-University of Queensland Study of Pregnancy (MUSP) ^{23, 58}	n=8556 pregnant women	South Brisbane, QLD	27 years follow-up of mothers	Commenced in 1981	110	Collaboration of the Mater Misericordiae Hospital, South Brisbane and The University of Queensland	Whether maternal pregnancy, early childhood and puberty are critical periods for the development of obesity, metabolic syndrome and diabetes in young adults at 30 years. Physical, social, emotional and	Maternal health over the life course, health and behaviour at critical points across the life course	https://social-science.uq.edu.au/mater-university-queensland-study-pregnancy

								behavioural predictors and correlates of mental and physical health experienced by women as they progress through menopause and beyond.		
17	Melbourne Collaborative Cohort Study (MCCS) ³²	n=41,528	Melbourne, Victoria	17 years (Wave 2 1995–1998; Wave 3: 2003–2007)	Women and men aged 27–75 years recruited 1990–1994 from electoral role	561	Cancer Council of Victoria	Study the role of diet and other lifestyle factors in causing common chronic diseases – especially prostate, breast and bowel cancer and cardiovascular disease	The study includes 30% southern European immigrants to comparatively examine lifestyle risk exposures	http://www.cancervic.org.au/research/epidemiology/health_2020/health2020-overview
18	Melbourne Longitudinal Studies on Healthy Ageing (MELSHA) ⁷	n=1000	Melbourne, VIC	Began in 1994, follow-up every 2 years	1000 people, aged over 65 years, living in non-institutionalised settings in Melbourne	2 reports, 2 book chapters, 24 journal articles	Monash University and The University of Sydney	Prevalence of health conditions	Health-related actions, perceptions and health histories, functional health, quality of life, social support and interaction, service use, transport and neighbourhood	http://www.impactnsw.com/longitudinal-studies/105-melbourne-longitudinal-studies-on-healthy-ageing-program-melsha
19	Men Androgen Inflammation Lifestyle Environment and Stress (MAILES) Study ²⁷	n=2569 men	Adelaide, SA	FAMAS and NWAHS harmonised into MAILES in 2009; clinical data (MAILES1=2002-2006; MAILES2=2007-2010)	All FAMAS participants (i.e. men aged 35–80 years at baseline) plus subset of NWAHS men aged 35– 80 years	5	University of Adelaide	Physical, psychosocial and demographic issues relating to a number of chronic conditions (including cardiovascular disease, diabetes, arthritis and mental	Provides data to examine the effect of sex steroids, inflammation, environmental and bio psychosocial factors on cardio-metabolic disease risk in men including	https://www.adelaide.edu.au/mailes/

					and MAILES3 survey data (2010)			health) and health-related risk factors (including obesity, blood pressure, smoking, diet, alcohol intake and inflammatory markers) as well as current and past health status and medication.	mediation of traditional (e.g., stress, mood, race, age) and novel (e.g., neighbourhoods, health service usage, shift work, social dominance) effect modifiers	
20	North West Adelaide Health Study (NWAHS) ²⁹	n=4060	Northern and Western suburbs of Adelaide, SA	Commenced in 1999	Commenced in 1999, adults aged 18 years and over	79	University of Adelaide	Asthma, diabetes, chronic obstructive pulmonary disease, arthritis, osteoporosis, and cardiovascular disease. Risk factors that are common to many chronic conditions including obesity, smoking, alcohol consumption, physical inactivity, high blood pressure and high cholesterol, are also investigated.	The baseline data to enable measurement of the effectiveness of strategies in preventing and managing chronic disease. The aim is to help develop sustainable strategies to reduce the chronic disease burden in the population through research examining incidence, changes in patterns of severity, management costs and utilisation of resources; and the impact of existing and future guidelines.	https://health.adelaide.edu.au/pros/data/nwahs/
21	Nurses and Midwives e-Cohort ¹²	n=8247 (n=6222 Australia)	Australia and New Zealand	Began in 2006	Registered nurses, enrolled nurses, eligible midwives and nursing	24	University of Queensland, Data to be stored in the	Factors associated with workforce and health outcomes	Examine both workforce and health factors and	http://nurses.e-cohort.net/

					students in Australia, New Zealand		Australian Social Data Archive		their interrelationships.	
22	Personality and Total Health (PATH) Through Life ²¹	20-year longitudinal cohort study of 7,485 young, midlife and older adults	Australian Capital Territory (ACT) and the neighbouring town of Queanbeyan	Currently ~15 years	Began in 1999. Based on three cohorts (birth years 1975–79, 1956–60 and 1937–41) aged 20–24 years, 40–44 years and 60–64 years. By the end of 2010, three waves of data were collected for all three cohorts at 4-year intervals.	374	Australian National University	Prevalence statistics of key health determinants - smoking, cholesterol, sedentary, hypertension, alcohol, weight	Surveillance of chronic disease risk factors	http://crahw.anu.edu.au/research/projects/personality-total-health-path-through-life
23	Ten to Men ¹⁴	n=15,988 males, including n= 2104 (10–17 year olds)	Australia	First data collection 2013/14, will be followed up every 2–3 years	Males aged 10–55 years, males from regional areas oversampled	2 (2016)	University of Melbourne	To identify factors that contribute to poorer health outcomes in Australian males and in particular sub-groups of men and boys	Male health and wellbeing	http://www.tentomen.org.au/
24	Victorian Adolescent Health Cohort Study ^{22, 59}	n=2000	Victoria	Began in 1992, 6 interviews at school age (Year 9–12), 3 interviews in young adulthood (aged 21, 24 & 29). Tenth round of interviews when participants aged 35 years	Year 9 school students in 1992	23	Murdoch Children's Research Institute	How teenage experiences, health and lifestyles affect physical and emotional health in adulthood	Mental health, drug and alcohol policy	https://www.mcri.edu.au/research/projects/2000-stories

25	Western Australian Pregnancy Cohort (Raine) Study ²⁴	Between 1989 and 1991 2900 pregnant women recruited, n=2868 babies	Perth, Western Australia	23 years at 2012–2014	Pregnant women who were recruited at King Edward Memorial Hospital in Perth and their children.	245	University of Western Australia - Telethon Kids Institute	To determine how events during pregnancy and childhood influence health in later life.	Research areas: asthma and atopy, cardiovascular and metabolic health, childhood developmental growth, dental health, diabetes, genetic epidemiology, gastroenterology, infection and immunity, mental health, musculoskeletal development, nutrition, physical activity, ophthalmology, pregnancy and birth, reproductive health, sleep and risk-taking behaviour.	http://www.rainestudy.org.au/
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* Where possible, a study cohort profile publication has been referenced, or where unavailable, a seminal study/report describing the cohort; note, these were not available for all cohorts.

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