



Improving health later in life

The health and wellbeing of Australians in later life is a pressing national priority. The Sax Institute has made a substantial contribution to improving the health outcomes of older people through the 45 and Up Study – one of the biggest longitudinal health studies in the world.

With a cohort of over a quarter of a million people, the 45 and Up Study is continually revealing important new discoveries about later life – evidence that is helping decision makers to improve health outcomes and helping Australians to live longer, healthier lives.

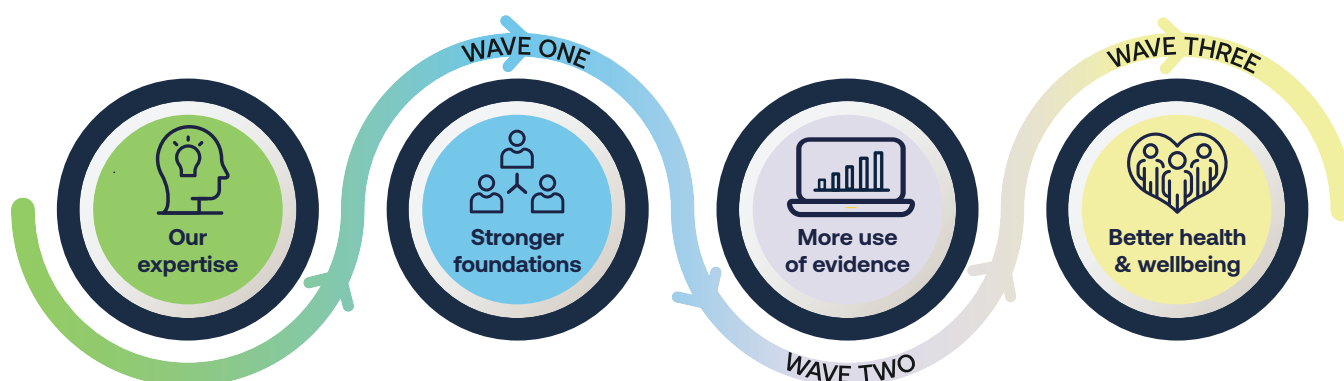
Our impact

The Sax Institute is an independent Evidence Specialist – we help decision makers find and make the best use of evidence from research to solve real-world challenges.

Better health and ageing outcomes is a strategic priority for the Australian Government, and the Study makes a considerable contribution to realising this goal by generating robust and population-specific insights into addressing real-world health challenges.

The impact of the Institute's work is evident across three distinct phases:

- The creation of stronger foundations (including the development of increased capacity and more relevant research)
- More use of evidence in policy, programs and services
- Improved health and wellbeing.



The challenge

Australia's population is ageing rapidly. At 30 June 2020, approximately 1 in 6 people were aged 65 and over and this is projected to further increase by mid-century.



Australians want to remain as healthy, active and engaged with their communities as possible as they age. This will improve the wellbeing of older people, reduce aged care costs and enable people to continue to contribute to society.

The rising number of older people has increased public expenditure on aged care. In 2020–21, Australian national, state and territory governments collectively spent over \$23.6 billion on aged care, 26% more than in 2016–17.

New policies, programs and services will be needed to help keep older Australians in good health. These should be based on high-quality, relevant evidence that identifies opportunities for early intervention. Use of resources can be improved by basing decisions on an understanding of what works to improve the long-term health of people as they age.

At the beginning of this century, Australia had no long-term large data resources to enable evidence about the trajectories of ageing. The data sources that did exist were small and did not enable the investigation of health issues impacting sub-populations within the wider Australian community, such as those living in remote areas, and people from different cultural backgrounds.

The 45 and Up Study is a research resource that has generated or supported more than:



10,000

citations in
academic journals



800

researchers
involved



500

journal articles
published



150

projects



30

policy agencies



IMPACT WAVE 1

Stronger foundations

Partnerships and capacity development

The Sax Institute built and maintains the 45 and Up Study as a collaborative resource to answer questions about healthy ageing.

The Study's more than 260,000 participants have been contributing information through the Study's surveys for over 15 years, and this data can be linked through the Study with information about their use of hospital services, Medicare-funded services including general practice, and medication use under the Pharmaceutical Benefits Scheme, among other datasets. The Study includes 8,000 aged care residents, making it the largest Australian cohort of this population, and the ability to link their survey responses with utilisation data offers unparalleled opportunities to unpack the 'black box' of aged care and learn more about when and why people enter residential aged care facilities, how their health and health service utilisation changes when they do, and which models of care are most effective for aged care residents.

Central to the effectiveness of the Study has been the broad and diverse partnerships involved in its development and that have used evidence generated from the Study. Key partnerships include those with the Heart Foundation, Daffodil Centre and key government agencies.

The wealth of available data has also supported partnerships with the research community, where over 800 researchers from across Australia and nationally have used the Study to address key research questions. Researchers at all stages of their careers have accessed data to support their projects and their development as future leaders.





IMPACT WAVE 1

Facilitating research to inform health decisions

The long term investment in the 45 and Up Study meant that the Sax Institute could move quickly to provide critical information to inform responses to the COVID pandemic.

We developed rapid response surveys that allow data to be collected and made available to support policy decisions in as little as eight weeks. The collaboration involved over 150 policy makers across many policy domains, from vaccination to clinical care to social and emotional well-being. These data constitute Australia's largest community survey about the pandemic and have informed discussions about vaccination, mental health, healthcare and public messaging.

The 45 and Up Study is widely cited by governments in Australia and internationally. Examples of policy agencies' use of the Study to inform their decisions include:

- Revisions to front-line smoking cessation advice as well as clinical practice resulting from new insights from the Study on the relationship between smoking and cancer
- A Ministerial Brief by the NSW Department of Communities and Justice on an upcoming social isolation grants program which reflected Study data
- The Australian Red Cross Lifeblood's donor program and associated policies, which were informed by information sourced through 45 and Up about plasma donation and blood transfusion behaviours of people aged 55.

Using the 45 and Up Study, the Study team prepared a report on social housing, foster care and life satisfaction to inform housing policy at the Department of Communities and Justice.





IMPACT WAVE 2 and 3

More use of evidence, and better health

The 45 and Up Study has provided new evidence that has been used in policy, programs and services to improve health in later life.

Risk factors for chronic disease

The 45 and Up Study has been used to understand risk factors for chronic disease and has been influential in contributing to policy program and service development. Data from the 45 and Up Study:

- Changed tobacco control approaches by showing that up to 2 in 3 current smokers were likely to die from their habit unless they quit – a big jump from the previous estimates of 1 in 2. This immediately led to a major consumer awareness campaign by tobacco control organisations to warn smokers of the heightened risks.
- Contributed to better understanding internationally of the role of BMI in the health and mortality risk among older people. The Study data have been used by the World Health Organization in its guidelines on integrated care for older people and by the United Nations' Food and Agriculture Organization in its report *The State of Food Security and Nutrition in the World 2020*.
- Led to a new NSW Policy Directive on the link between smoking and dental problems, based on a 45 and Up Study analysis demonstrating current smokers were more than twice as likely to experience complete tooth loss, compared with people who had never smoked
- Demonstrated a lasting reduction in the risk of developing diabetes in women who breastfeed, including a 14% decrease in the risk of type 2 diabetes with each year of breastfeeding compared with women who had given birth but not breastfed.
- Showed rises in mortality with increases in total time spent sitting that resulted in an Occupational Health and Safety Alert issued by Workplace Safety Australia as well as more widespread messages about the value of reducing sitting time through for example standing desks
- Demonstrated that erectile dysfunction increases the risk of cardiovascular disease, which was used as the basis for a Cancer Council 'Healthier men last longer' campaign to encourage young men to adopt healthier lifestyles. They are also being used to inform development in New Zealand of an electronic decision support tool for use in primary care

The Study is an invaluable resource for understanding health ageing. Its data have been used by 800 researchers and it has formed the basis of 500 published papers.



IMPACT WAVE 2 and 3

Social and emotional wellbeing

The 45 and Up Study provides rich information about social and emotional well-being through self report as well as service and pharmaceutical use. Data from the 45 and Up Study have been used by many organisations including:

- The Productivity Commission in its inquiry into the role of improving mental health to support economic participation and enhance productivity and economic growth.
- The Australian Institute of Health and Welfare in its examination of service use by people with dementia in their last year of life. The findings have important implications for Australia's health and aged care systems.
- Beyond Blue used data to inform resources and materials for practitioners, consumers and their families in relation to depression and anxiety in people with cancer.



Diagnosis and treatment of disease

- Cancer of an unknown primary site (CUP) is often diagnosed late and is difficult to treat. Data from the 45 and Up Study showed that the health service and diagnostic pathway differs markedly for people notified with CUP compared with those with metastatic cancer of known primary. The data indicated that low self-rated health may be a flag for undiagnosed cancer, and there was a consistent association with educational attainment suggesting low health literacy may play a role in CUP diagnosis. This work is heavily cited in the national clinical guideline endorsed by the Australian Government (Cancer Australia) and the Cancer Council (Optimal care pathway for people with cancer of unknown primary).
- Researchers used 45 and Up data to develop and evaluate a lung cancer screening tool. The screening tool has performed well in validation studies and was recommended by Cancer Australia for use in the proposed national lung cancer screening program by Cancer Australia. The tool is widely referenced in international screening guidelines and program protocols. In May 2021, the Australian Government announced it would invest \$6.9 million to commence the early scoping of a potential national lung cancer screening program from 1 July 2021, to increase early diagnosis and improve survivorship and lung cancer outcomes.



IMPACT WAVE 2 and 3

Service planning

The 45 and Up Study includes a large number of participants and links together administrative data and self-report information, making it an especially valuable resource for improving health services. The 45 and Up data has been used to improve many health services including:

- Health Direct Australia used data from the 45 and Up Study to evaluate its telephone triage service. It was feared that the service may result in patients delaying seeking other care and result in a higher presentation to emergency departments. However, the evaluation showed that the triage service did not lead to a higher proportion of emergency department presentations, demonstrating the value of the service to patients and to providers.
- Family Planning used the 45 and Up to understand the current gaps in health service provision for men and women in the midlife period of 45 to 64 years. The findings were used to develop an integrated multidisciplinary midlife clinic model offering specialist care and personalised health and wellbeing programs for men and women in the midlife age group.
- The 45 and Up Study was used to understand the value of managing individuals at high risk of melanoma in a specialised setting. The findings have been used to develop guidelines for skin cancer prevention in Australia, the Netherlands and Germany.



The 45 and Up Study is so important when we need to understand risk factors for cancer, the costs of cancer and cancer outcomes. It's just been an incredible resource for cancer researchers.

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