

WESTERN SYDNEY
UNIVERSITY



AGEING WHITE PAPER

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EXECUTIVE SUMMARY

Ageing is a complex phenomenon resulting in a range of changes in mental, physical, and social functioning that not only significantly impacts individuals' lives, but their families and the wider community as a whole. Australia has a rapidly ageing population, which presents the following interrelated challenges:

1. The two-fold health challenge, where current age-related health complications are coupled with rising rates of lifestyle-related chronic diseases;
2. Changes in the social dynamics of the people moving into the 65 years and over age group including ageism, social exclusion, and caregiver burden; and
3. The health system is facing increased costs and demands, due to the changes in the health needs of the ageing population.

These challenges are drawn from the current literature, and a comprehensive discussion from an Ageing Research Think Tank held in September 2017, comprising over 60 key partners including Western Sydney University, government, health, research, industry, non-government organisations, not-for-profits, consumer advocacy agencies, policymakers, communities, and importantly, older adults and

their families. Strong vision and leadership is needed to develop a response to these complex challenges over the coming years.

This white paper outlines the sustainable, region-specific, and translatable research that is designed for maximum impact on the health and wellbeing of seniors that Western Sydney University has the capacity to conduct. The key research areas encompassing *cognition and mental health*, *independence and functioning*, and *the social and built environment* have been identified. This white paper highlights how our research will enable Western Sydney University and our partners to holistically appreciate, understand, formulate, and implement strategies that address the complex and diverse needs of older communities in Western Sydney and beyond, with community engagement and ongoing collaboration at the core of what we do.

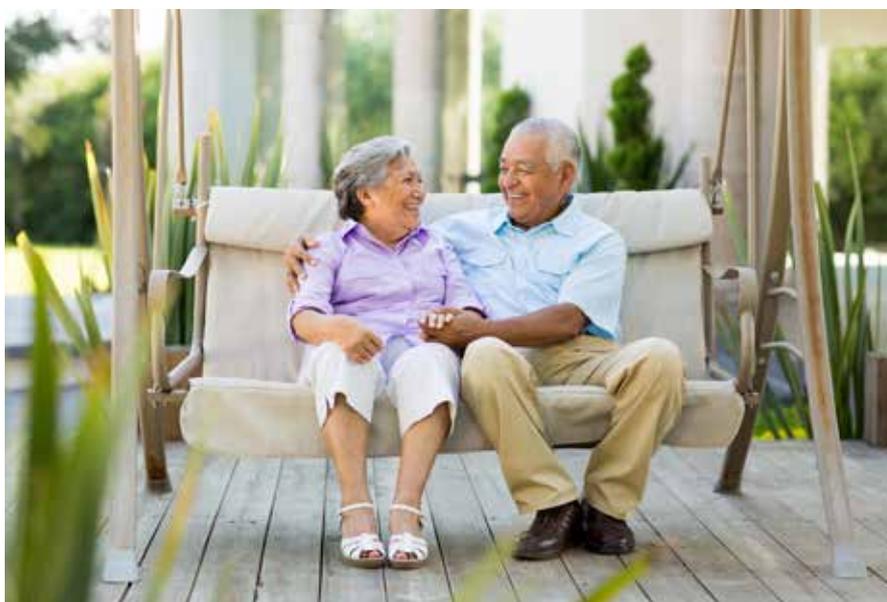
At Western Sydney University, we believe that with challenge comes significant potential for opportunity and innovation. Our vision is a world where seniors are valued, empowered, and engaged to live healthy lifestyles that are physically, mentally, and socially active. Our mission is to improve the health and wellbeing of seniors in Western Sydney and beyond through interdisciplinary collaboration, education and training, and innovation in healthcare and policy.

INTRODUCTION

Ageing is a complex phenomenon resulting in a range of changes in mental, physical, and social functioning that not only significantly impacts individuals' lives, but their families and the wider community as a whole. Australia's ageing population is increasing. From 1996 to 2016, people aged 65 years and over increased from 12.0% to 15.3%, reaching 3.4 million (Australian Bureau of Statistics 2015); this number is expected to double to 6.8 million by 2040 (Australian Bureau of Statistics 2013). Furthermore, the number of people aged 85 years and over is expected to triple by 2040 (Australian Bureau of Statistics 2013). Locally, there will be more people aged over 65 years than under 16 living in South Western Sydney by 2021, and in the same time frame, a further 48% increase in the over 65 years cohort is expected (South Western Sydney Local Health District Planning Unit 2017).

There is a widespread view that older Australians are 'being taken care of' by society, limiting its future prosperity. This view could not be further from the truth. Many older adults are healthy, independent, and active contributors in our local communities. This includes most older Australians living in their own homes; 24% provide financial support to their adult children or relatives, 48% of older adults aged 65–74 years donate their time to assist people within their community, 33% are active volunteers, and 29% are involved with community organisations (Australian Institute of Health and Welfare 2007).

Nevertheless, our ageing population brings significant social, health, and wellbeing challenges including increased risk of chronic disease together with mental and physical decline, all of which can result in a loss of independence and social isolation, leading to significant, and avoidable, economic burden. This white paper aims to highlight the major challenges associated with the region's ageing and diverse populations, including crucial points for intervention, and identify new and emerging research strategies that can be translated and scaled to enhance the health and wellbeing of seniors in Western Sydney and beyond.



1. THE CHALLENGE

There are several key interrelated challenges associated with the ageing population that can be divided into three main categories as shown in Figure 1 (Australian Institute of Health and Welfare 2014).

1. The two-fold health challenge:

Current age-related health complications (e.g., falls, loss of vision and hearing, cancer, osteoporosis) coupled with rising rates of lifestyle-related chronic illnesses in people transitioning into the over 65 years age group (e.g., type 2 diabetes, cardiovascular disease, dementia).

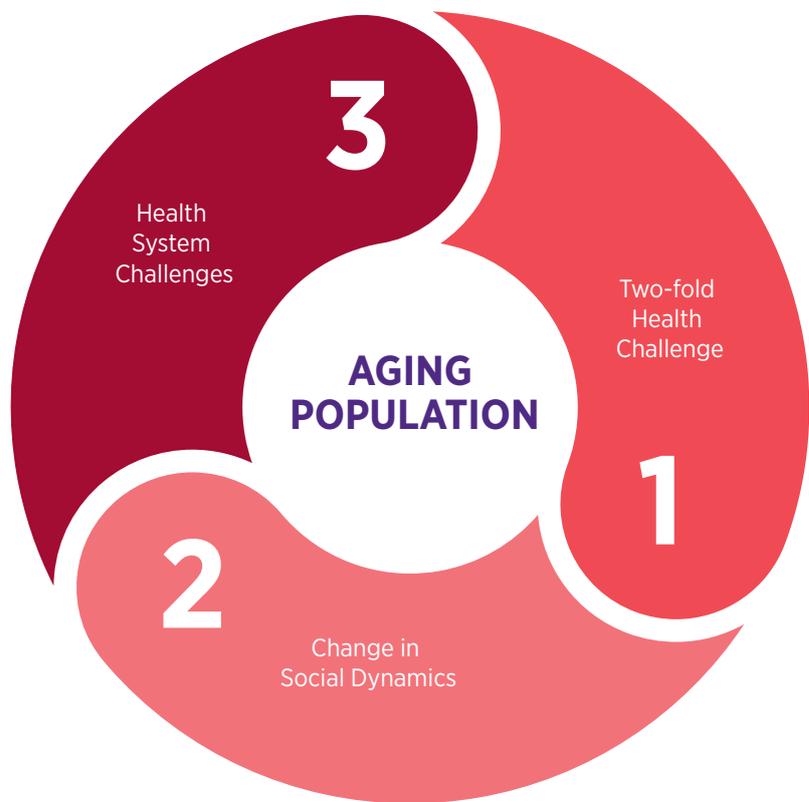
2. Changes in the social dynamics of the people moving into the 65 years and over age group:

Including elder abuse, ageism, social exclusion, loneliness, caregiver burden, and higher expectations of healthcare providers in comparison to the current community of older adults.

3. The health system:

Increased cost, demand, and changes in the health system needs of the ageing population.

Figure 1. Three major interrelated challenges due to Australia’s ageing population.

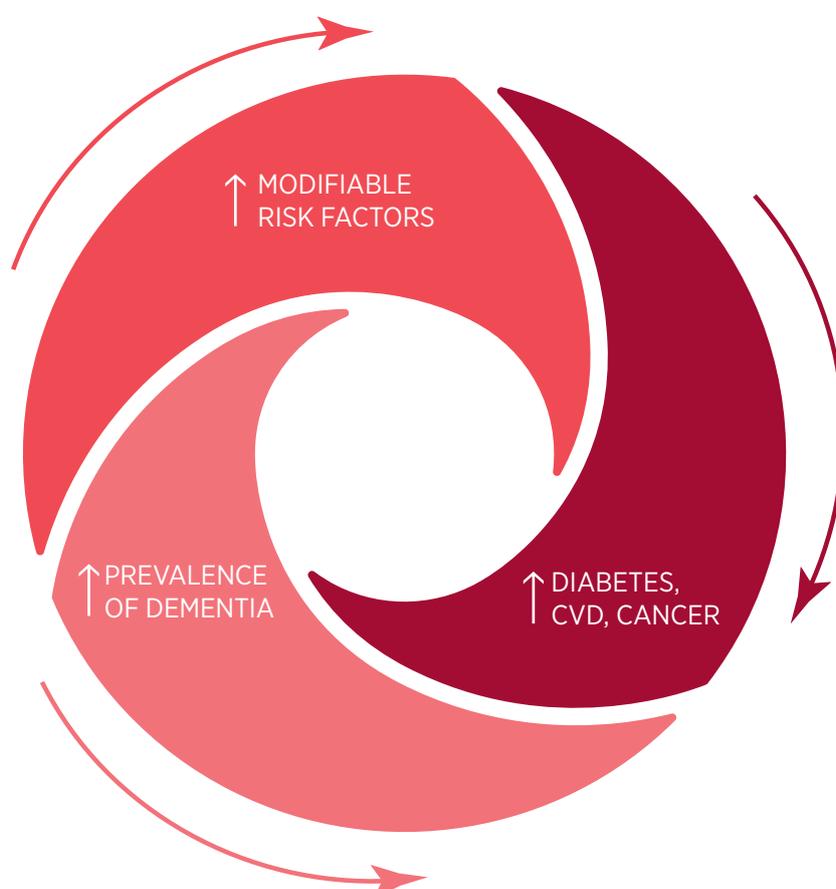


CHALLENGE 1: THE TWO-FOLD HEALTH CHALLENGE

In 2014–2015, those aged 65 years and over constituted 87% of the 11 million Australians experiencing chronic disease, and 55% of those with a chronic disease came from the lowest socioeconomic areas (Australian Institute of Health and Welfare 2016). Chronic diseases, such as osteoporosis, and age-related health complications, such as hearing and vision loss, are strongly associated with advancing age and already pose a significant challenge for the Australian health system. The next generation of older adults transitioning into the 65 years and over age group are also affected by a range of lifestyle-related illnesses (e.g., diabetes, cardiovascular disease) and pose a two-fold challenge to healthcare providers. As shown in Figure 2, this is a significant problem for Western Sydney, as in comparison to the NSW average, the region faces a range of poorer health outcomes (South Western Sydney Local Health District 2016) including:

- The highest expected increase in the prevalence of dementia in all of NSW by 2050 (Alzheimer's Australia NSW and Deloitte Access Economics 2014);
- Higher prevalence of thyroid, kidney, liver, gastro-intestinal and lung cancer (South Western Sydney Local Health District 2016);
- Higher rates of diabetes, with the National Diabetes Services Scheme implicating Blacktown, Mt Druitt, and Westmead amongst areas with the highest registered cases of diabetes in Australia (Essue et al. 2007);
- Higher standardised mortality rates from cardiovascular disease (CVD) (South Western Sydney Local Health District 2016); and
- Increased prevalence of health risk factors including smoking, obesity and overweight, and inadequate vegetable intake and physical activity (South Western Sydney Local Health District 2016).

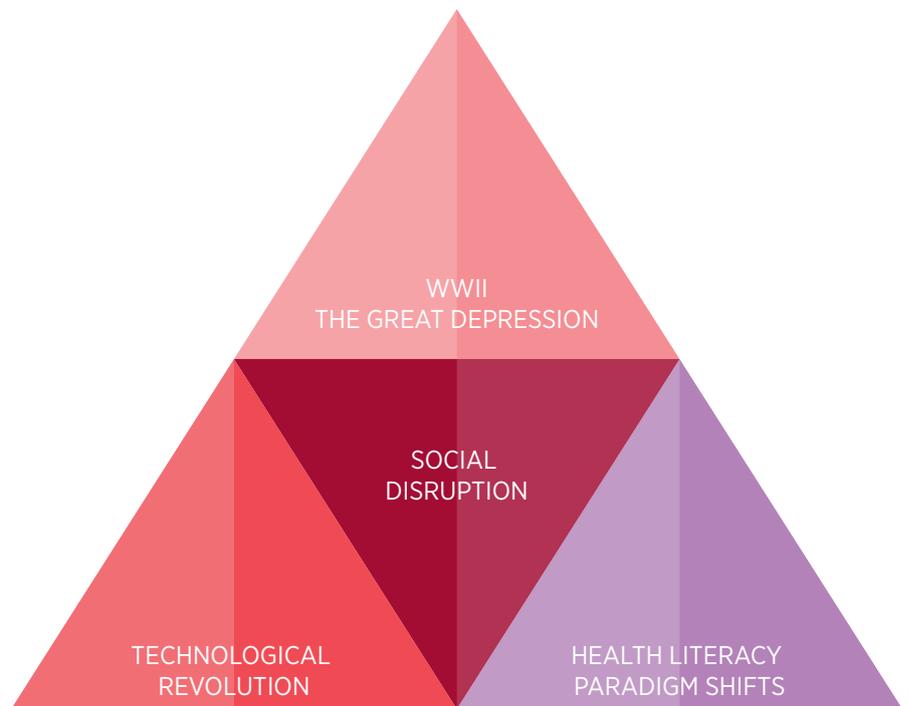
Figure 2. Increased lifestyle-related illnesses coupled with ageing-related health decline are creating a two-fold health challenge for the ageing population.



CHALLENGE 2: CHANGES IN SOCIAL DYNAMICS

The Australian health system must adapt as the next generation of adults transitioning into the 65 years and over age group has unique needs, varying levels of health literacy and life experiences, which all affect their health, wellbeing, and expectations from healthcare providers. Figure 3 highlights that our current older Australians have lived through a technological revolution, paradigm shifts in health literacy (e.g., the link between smoking and lung cancer), and that they are among the last cohorts of people who lived through World War II and the Great Depression (Australian Institute of Health and Welfare 2007). In addition to these social disruptions, older adults also face ageism, carer burden, social exclusion, and elder abuse (Australian Human Rights Commission 2016). This further highlights the differences between the current and next generation of older adults, who arguably have not had significant social disruption in their lifetimes, and the need to adapt to the varying needs of such distinct populations including unified healthcare delivery and engagement (Boult & Wieland 2010), and high rates of lifestyle related diseases.

Figure 3. Significant social disruptions experienced by the current generation of older Australians.



CHALLENGE 3: THE HEALTH SYSTEM

Australia's ageing population presents several challenges for the healthcare system due to an increased reliance on healthcare providers, increased rates of health-related complications, and greater diversity in the health needs of older adults. In the case of community-dwelling older adults living in households (as opposed to residential aged-care), the 2011–12 Australian Health Survey (AHS) reported arthritis (49%), high-blood pressure (i.e., hypertension, 38%) and hearing loss (35%, complete or partial) as the most prevalent long-term health issues (apart from short- and long-sightedness) amongst people aged 65 years and over (Australian Bureau of Statistics 2012). As illustrated in Figure 4, there are

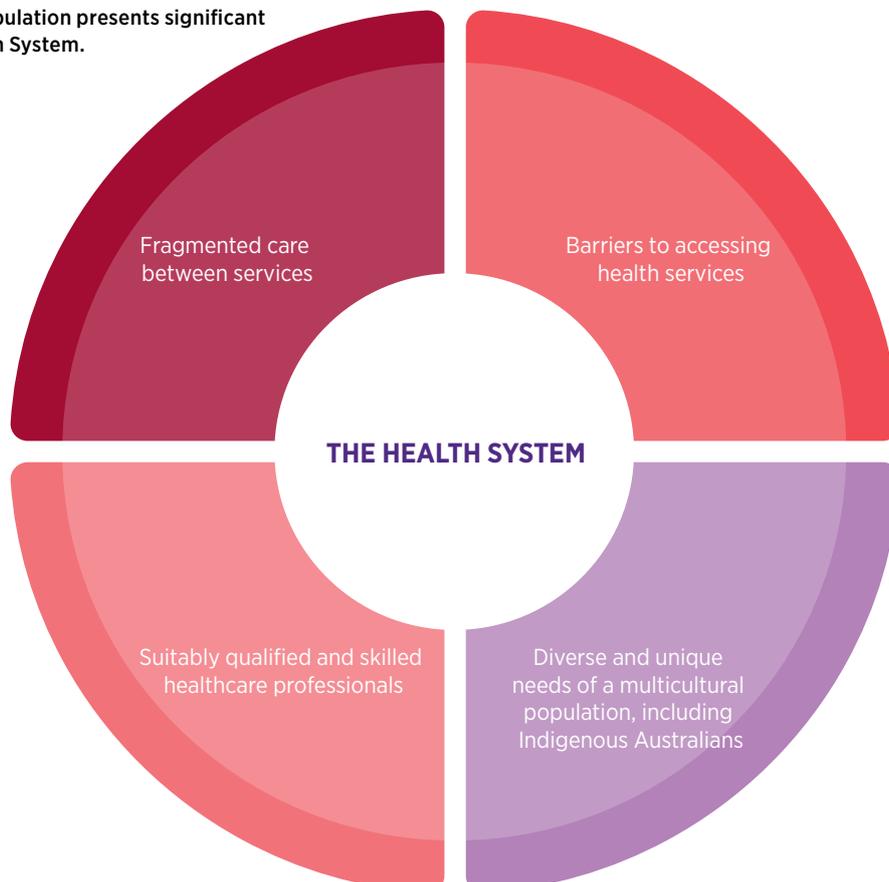
several challenges that the healthcare system must address:

- **Declining workforce of suitably qualified health professionals.** The decreasing workforce can be attributed to both reduced funding for healthcare providers and the ageing of its own workforce in some critical sectors, such as nursing (Health Workforce Australia 2012; O'Loughlin, Browning & Kendig 2016). Increased capacity for healthcare services is required to deal with the growing ageing population, and to combat the decreasing workforce.
- **Fragmented care** between varying levels of healthcare services such as primary and secondary care, hospitals, and community-based services. For example, different patient health record systems between GPs and hospitals and difficulties in effective

communication between healthcare workers in different settings (King et al. 2016).

- **Barriers to accessing health services.** For example, navigating a complex aged-care system, the introduction of MyAgedCare and the National Disability Insurance Scheme (NDIS), affordability, and delays, appropriate acknowledgement and sensitivity to the needs of Lesbian, Gay, Bisexual, Transgender, Queer, and Intersex (LGBTQI) people (King et al. 2016), and a lack of access to specialists or GPs with specialist interests in aged care in rural locales.
- **Diverse and unique needs of a multicultural population,** including Indigenous Australians and people with culturally and linguistically diverse (CALD) backgrounds.

Figure 4. The ageing population presents significant challenges for the Health System.



3. THE STRENGTHS AND LIMITATIONS OF EXISTING APPROACHES

Australia currently has several health-related services that are designed to cater for the diverse needs of the ageing population. MyAgedCare, established by the Federal government, is a prime example as it provides reliable information for older Australians (including carers, family members, or friends) on navigating the aged-care system. This system includes help at home (e.g., Commonwealth Home Support Programme), via residential aged-care facilities (e.g., Royal District Nursing Service (RDNS), HomeCare), transition care (e.g., NSW Health Transition Aged Care South Western Sydney LHD Zone), social support groups (e.g., KinCare), centre-based respite (e.g., Australian Unity), and many more. Despite the criticism MyAgedCare has received (e.g., access difficulties), it represents both the commitment and initiative taken to achieve the unifying goal of improving the health and wellbeing of the ageing population.

STRENGTHS OF EXISTING APPROACHES

One of the core strengths of existing approaches is that there are many initiatives that aim to tackle the complex challenges associated with the ageing population at multiple critical points, and this is exemplified in the recent NSW Ageing Strategy (Department of Family and Community Services 2016). However, there is no single holistic method to addressing the multifactorial challenges that current seniors face. While each organisation has its distinct areas of focus towards improving the health and wellbeing of older adults, most approaches are aimed towards three distinct goals that map on to the three challenges outlined above:

1. Reducing the impacts of disability and chronic disease;
2. Addressing the social impacts of ageing (i.e., retirement, mature workforce, and social expectations); and
3. Promoting healthy ageing.

The prevalence of disabilities and chronic conditions increases with age (Australian Institute of Health and Welfare 2014). Consequently, the most effective approach that can improve the health of ageing Australians is prevention and restoration/re-enablement (Browning et al. 2017). The importance of this has been recognised by virtually all institutions (World Health Organisation 2016), with some developing effective preventative methods including community-driven healthcare literacy programs (e.g., Primary Health Care Education and Research Unit (PERU), Western Sydney Local Health District (WLSLHD)) as well as community-based initiatives, with notable examples such as the Older Women's Network (OWN) NSW, and the Australian Men's Shed Association (AMSA). Such organisations have a long-standing commitment to supporting older women and men, and both support gender-focused research, prevent social isolation, promote inclusive events, and organise health literacy programs. Furthermore, healthcare driven to preventative medicine such as the Comprehensive Geriatric Assessment (Stuck et al. 1993) has been demonstrated to lead to a reduction in morbidity and mortality with a corresponding reduction of costs to the healthcare system (Melis 2008; Wieland 2003).

Along with research into the mental wellbeing of the ageing population (Burns et al. 2015), there has been a concerted effort to further understand ageism (Adair & Temple 2012), the decision-making process of those entering retirement (Byles et al. 2016; Ding et al. 2016), and the perceptions of entering older age (Luszcz, Anstey & Ghisletta 2015). This indicates that current approaches are appreciating the broad challenges associated with ageing and are aiming to improve both the health and wellbeing of the elderly rather than limiting the focus to reducing healthcare costs only.

LIMITATIONS OF EXISTING APPROACHES

There are several limitations to existing approaches relating to the unique challenges that Western Sydney communities face. The Greater Western Sydney region is made up of a diverse population, with Blacktown City Council and Campbelltown City Council local government areas containing the two highest populations of urban Aboriginal and Torres Strait Islanders in New South Wales (Australian Bureau of Statistics 2006). In addition, there is a high proportion of non-English speakers residing in the region. Western Sydney also faces varying levels of social disadvantage, increased rates of type 2 diabetes, hypertension, cardiovascular diseases, asthma, and a rapidly increasing prevalence of dementia (Alzheimer's Australia NSW and Deloitte Access Economics 2014; Colagiuri, Thomas & Buckley 2007; Essue et al. 2007; King et al. 2016). These problems are not adequately addressed by current approaches and are limited in:

1. Addressing the **challenges that primary healthcare providers face** in the Western Sydney region, such as burnout, time pressure, and communication barriers (King et al. 2016);
2. Catering towards the healthcare needs of a **diverse population** made up of indigenous, multicultural, and refugees that reside within Western Sydney;
3. Assessing the unique challenges faced by the **LGBTQI elderly community**;
4. Devising distinct approaches to tailor the needs between **gender** (e.g., the longer life expectancy of elderly women, in comparison to men, can result in additional psychological stress of being a widow (Zunzunegui et al. 2007));
5. Improving **access to healthcare services**; and
6. **Health literacy** amongst the diverse population of Western Sydney.

4. THE OPPORTUNITY: NEW APPROACHES



Figure 5. Challenges faced by the ageing population and limitations of existing approaches.

The great challenges and limitations of existing approaches for the health and wellbeing of older adults present opportunities for innovative new methods. Work conducted by Western Sydney University's ageing researchers spans a range of disciplines, partnerships, and research areas, making our team well-equipped to take the lead in facing the challenges of the Western Sydney region summarised in Figure 5.

As shown in Figure 6, there are three pillars that represent the University's key areas of expertise in ageing research:

1. Cognition and mental health;
2. Independence and functioning; and
3. Social and built environment.

And three themes and strengths that cut across the three pillars of research expertise:

1. Education and training;
2. Participatory research design; and
3. Healthcare and policy innovation.

WESTERN SYDNEY UNIVERSITY HEALTH AND WELLBEING AGEING RESEARCH CLUSTER

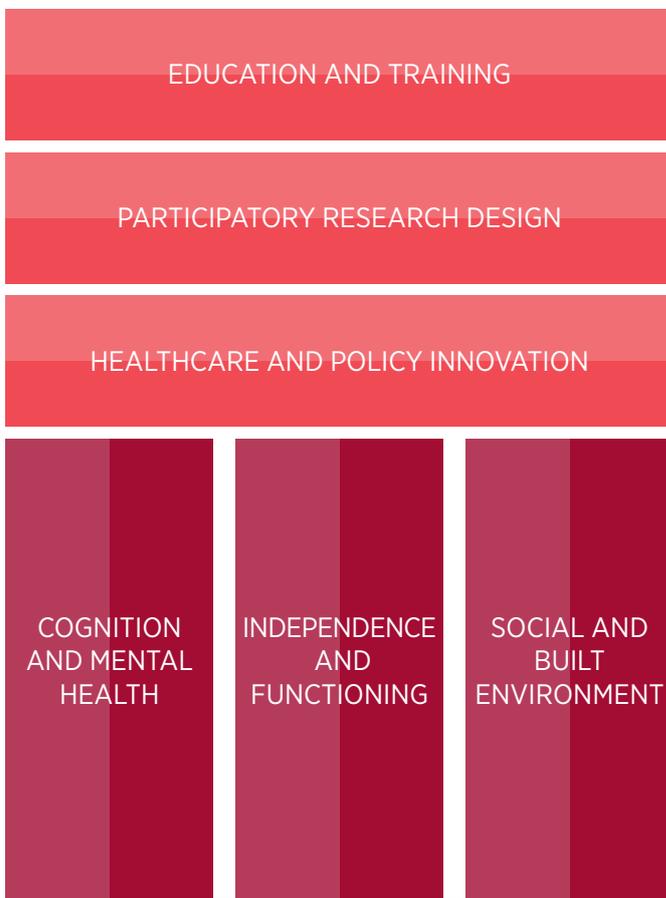


Figure 6. The key areas of expertise (pillars) and cross-cutting strengths (beams) of ageing research conducted at Western Sydney University.

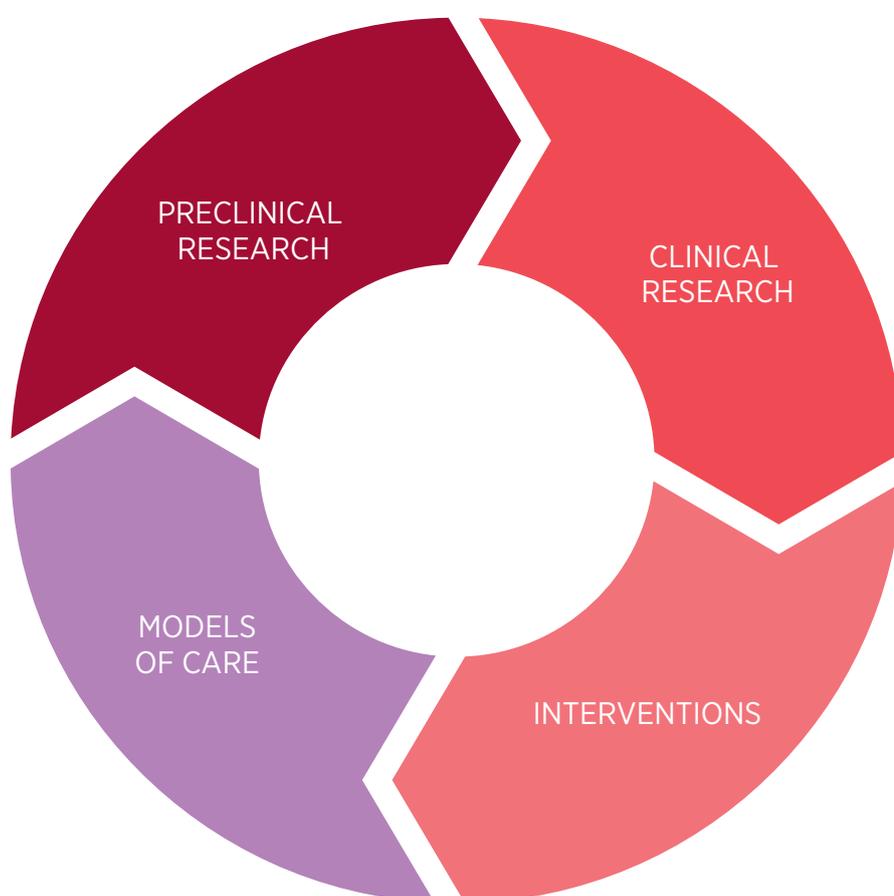
KEY AREA 1: COGNITION AND MENTAL HEALTH

In Australia, dementia is the leading cause of disability for Australians aged 65 years and over (Australian Institute of Health and Welfare 2012), and the leading cause of death in women (Australian Institute of Health and Welfare 2017). Western Sydney will be the most affected region in NSW, with an expected increase of 363–460% in the prevalence of dementia in Camden, Campbelltown, Macquarie Fields, and Liverpool by 2050 (Alzheimer’s Australia NSW and Deloitte Access Economics 2014). This poses substantial challenges to healthcare providers (e.g., aged-care facilities and home care providers), with increased demand for high care (as people with dementia are on average more likely to have additional health complications) and significant financial burden (Australian Institute of Health and Welfare 2012).

In addition to increased risk of cognitive decline, older adults are more likely to be less equipped with the tools needed to both identify and cope with depression and anxiety (Farrer et al. 2008). This is further complicated by the particularly low percentage (24%) of older adults seeking out treatment for mental health issues (Atkins et al. 2015), in conjunction with both carers and older adults themselves attributing their mental health issues to normal ageing (Forbes et al. 2017; Sarkisian, Lee-Henderson & Mangione 2003).

The collaborative cognition and mental health ageing research conducted at Western Sydney University together with our partners, involves a wide range of novel diagnostic, prevention, treatment, management, and enablement approaches that truly encompass benchtop to bedside research, as shown in Figure 7.

Figure 7. Our benchtop to bedside ageing research. Preclinical research informs clinical work, which in turn feeds into interventions and models of care, which then feeds back into our preclinical priority areas.



Western Sydney University's vibrant **preclinical** platform includes explorations of disease mechanisms including neuro-inflammation, post-synaptic tau (one of the toxic proteins implicated in Alzheimer's disease), and the molecular origins of fronto-temporal dementia and amyotrophic lateral sclerosis (ALS; more commonly known as Motor Neurone Disease). Novel therapeutic compounds for Alzheimer's disease, ALS, and neuro-inflammation are also being investigated including medicinal cannabis (e.g., cannabidiol), Australian Aboriginal bush medicine, *Curcuma longa* (turmeric), parsley, alpha lipoic acid, standardised herbal medicine formulas (e.g., Sailuotong, SLT) and cytokine suppressive anti-inflammatory drugs.

Western Sydney University also has a strong **clinical research** platform into brain ageing, mild cognitive impairment (MCI), and dementia, which includes mechanistic studies aimed at identifying new neuroimaging biomarkers for the early detection and diagnosis of preclinical and prodromal Alzheimer's disease. A range of clinical trials are also underway investigating standardised herbal medicine formulas for older adults with subjective cognitive complaints, MCI due to Alzheimer's disease, and vascular dementia.

In addition, research is underway that addresses complex cognition and mental health issues by co-creating a range of **interventions** designed to lower depression and anxiety, and improve cognition, memory, and health literacy in older adults. Some of these interventions include music (for depression and dementia), art, dance, creative writing (understanding of how creative writing can delay cognitive decline, promote an enhanced sense of wellbeing and contribute to community building), immerse Extended Reality technologies (e.g. Virtual Reality Head Mounted Displays or Google Liquid Galaxy) and future-thinking training to promote participation of older adults with MCI (Shelton & Uz 2015).

New **models of care** are being developed and evaluated in conjunction with partners. For example, a community geriatrics service that reduces Emergency Department admissions and supports residents to stay in residential

aged care facilities, rather than hospital, at the end of their lives. Other studies include the evaluation of a sensory room for dementia and delirium in hospital, strategies to support carers of people with dementia, a needs analysis of community-based health aged-care services across the entire 7 LGAs comprising South Western Sydney, and a region-first multidisciplinary memory clinic that will improve the diagnosis and management of cognitive impairment in people with the early signs of dementia.

KEY AREA 2: INDEPENDENCE AND FUNCTIONING

The most prominent health impacts on the independence and functioning of older adults are cerebrovascular diseases (e.g., stroke), musculoskeletal problems (e.g., arthritis, falls), vision and hearing problems (e.g., cataract, audiometric hearing loss), cancer, and as outlined above, degenerative disorders (e.g., dementia; Australian Bureau of Statistics 2015a; Bradley 2013; Gopinath et al. 2009; Hogan et al. 2009; Kiely et al. 2012; Morris et al. 2004; O'Loughlin, Browning & Kendig 2016; Tay et al. 2006). Improving independence and functioning can lead to further positive outcomes on mental wellbeing, social connectedness, general health, cognition, and social functioning, and alleviate the demand on healthcare services by the ageing population (Chihuri et al. 2016).

Western Sydney University is working on a wide range of research programs to improve the independence and functioning of older adults. This work spans biological mechanisms associated with declining independence and functioning with age, the creation of assistive technology, interventions, cancer research, prevention programmes, and new models of care.

A wide range of studies investigating **biological mechanisms** of independence and functioning are underway. Some of these projects include the relationship between cognition, neuromotor demand, and gait, the effects of multitasking on posture, mechanisms

of falls including vestibular function, brain changes associated with hearing loss, and mechanisms of how diabetes leads to foot ulcers, which are a common, costly and devastating consequence of diabetes, particularly in older age. Further ageing podiatric research is also being conducted to explore morphological changes to soft tissue related to age, diabetes and arthritis using ultrasound and examining the relationship between soft tissue deformation, gait, inflammation, and ulceration.

Multiple **intervention** studies are ongoing. These include clinical trials to investigate a standardised herbal medicine formula for the management of osteoarthritis, a home-based strength and balance program for community dwelling older people (Healthy Older Peoples Partnership), dance in the elderly as a method of reducing the incidence of falls, using Wii for balance training, testing the effects of shoe design on balance, transcranial direct current stimulation to quadriceps strengthening exercise in knee osteoarthritis, multisensory balance training to reduce falls risk, and movement awareness training in the management of pain, function and balance in people with osteoarthritis of the knee.

The **cancer** research conducted at Western Sydney University combines the strengths of discovery science and clinical research. Molecular biologists and active clinicians are working on drug discovery and phase I clinical trials, identification of biomarkers and diagnostics, understanding the molecular basis of cancer development, progression and emergence of drug resistance, and analysis of the effectiveness of new drug diagnostics on patient outcomes.

Prevention programs and research informing, establishing, and evaluating **models of care** includes work on the prevalence of vertigo in outpatient physiotherapy clinics, validation of a measurement of postural sway, and clinical trials on an integrated stroke self-management program. Other work examines the social aspects of functioning including driving, community mobility, and community participation in later life.

KEY AREA 3: SOCIAL AND BUILT ENVIRONMENT

Social issues, such as age discrimination (i.e., ageism), social isolation, elder abuse, and a lack of age-friendly services and communities restricts the meaningful and positive contributions of older people. This can affect health and wellbeing and extend into the work environment (e.g., employment prospective, undervaluing of skills and experience), and quality of aged-care services (e.g., dismissing health complaints) (O'Connell & Ostaszewicz 2005; Osborne et al. 2002; Wallace et al. 2013). Additionally, enhancing the home environment, particularly through assistive technology, and improving accessibility of the built environment is an important area of focus. Western Sydney University has a range of research programs exploring the effects of the social and built environment on older adults including assistive technology.

The University's ongoing **social mechanisms** of ageing research includes financial decision-making in older adults, ageism, identifying methods to reduce discrimination, examining media discourses and the politics of ageing in Australia, and epidemiological studies on the social determinants of health for ageing well. Further, research addressing social isolation involves enhancing interfaces and web design for older adults' varying access needs, to ensure that they stay connected. There is a focus on understanding communication changes in ageing including the barriers and facilitators of hearing aid use by older adults, how seniors adapt to learning different accents, factors that affect listening other than hearing, and changes in emotion perception in older adults. In addition, research on ageing libidos is exploring the history of medical ideas on sexual desire and activity in ageing, spanning from early modern Europe to current global scientific research.

Research on the **built environment** includes an evaluation of Sydney as an age friendly city, establishing a dementia friendly community in the Macarthur region in South Western Sydney, and an exploration of issues related

to housing and long-term care of older women. Understanding the effects of extreme weather events on older adults has important implications for both the social and built environment. To unpack this, our local projects have explored heatwave resilience in older people, the relationship between extreme heat and falls in the elderly, and resilience in older people after the Picton floods.

Western Sydney University's research has also led to innovation in **assistive devices**, such as the use of a portable stochastic electrical stimulator to improve vestibular function that improves balance and reduces falls in the home, and the development of assistive and non-invasive technology including Vitalcore, a wearable t-shirt-like device for measuring cardiac and respiratory function in older adults with sleep apnoea.

STRENGTH 1: EDUCATION AND TRAINING

Through integrated education and training, Western Sydney University designs ageing research projects aimed at engaging students leading to innovation in undergraduate and postgraduate curricula. Work is conducted alongside service providers to shed light on the challenges associated with an ageing population. This provides a genuine, holistic view of the realities of the older community and instils a workforce with positive attitudes towards older adults.

A number of research projects targeting education and training across the 3 key areas of ageing research at Western Sydney University are currently in place. These include educational handbooks for people with dementia, their carers, families, and friends, an educational intervention to improve decision-making and health literacy amongst older Australians, the promotion of research and education for older people requiring palliative care, an evaluation of the perspectives of geriatricians on vocational training, structured-based learning for undergraduate geriatric medical training, and a University-wide audit of dementia curricula for final year medical,

nursing, and allied health students. The audit is aimed at identifying student perceived gaps in dementia training and education to ensure that the future health workforce is appropriately equipped to deal with the local population's needs as dementia prevalence increases.

STRENGTH 2: PARTICIPATORY RESEARCH DESIGN

The ageing research conducted at Western Sydney University capitalises on the perspectives of the end-users: older adults. Participation and co-creation of research projects aimed at improving the health and wellbeing of seniors is essential. By addressing the broad challenges associated with an ageing population through a multi-disciplinary approach involving key stakeholders (including older adults, carers and families, government, non-government organisations, not-for-profits, industry, and community organisations) we are able to co-develop and co-create a robust agenda for region-specific ageing research that will have national and international impact. For example, we are working with Campbelltown City Council and multiple stakeholders to co-create the Dementia Friendly Campbelltown Project: Western Sydney's first dementia friendly community. The goal of our cumulative work in this space is to cultivate relationships with stakeholders and output evidence-based work that results in real impact and change for older adults in Western Sydney.

STRENGTH 3: HEALTHCARE AND POLICY INNOVATION

Western Sydney University is a leader in healthcare innovation and policy development creating impact tailored to the unique needs of the Western Sydney region. The University's ageing researchers work alongside healthcare providers to improve the quality of care and increase the accessibility of essential services to the elderly.

A number of projects to improve policy and practice are currently underway. Research has driven the development of guidelines for nutrition in older people, models of practice

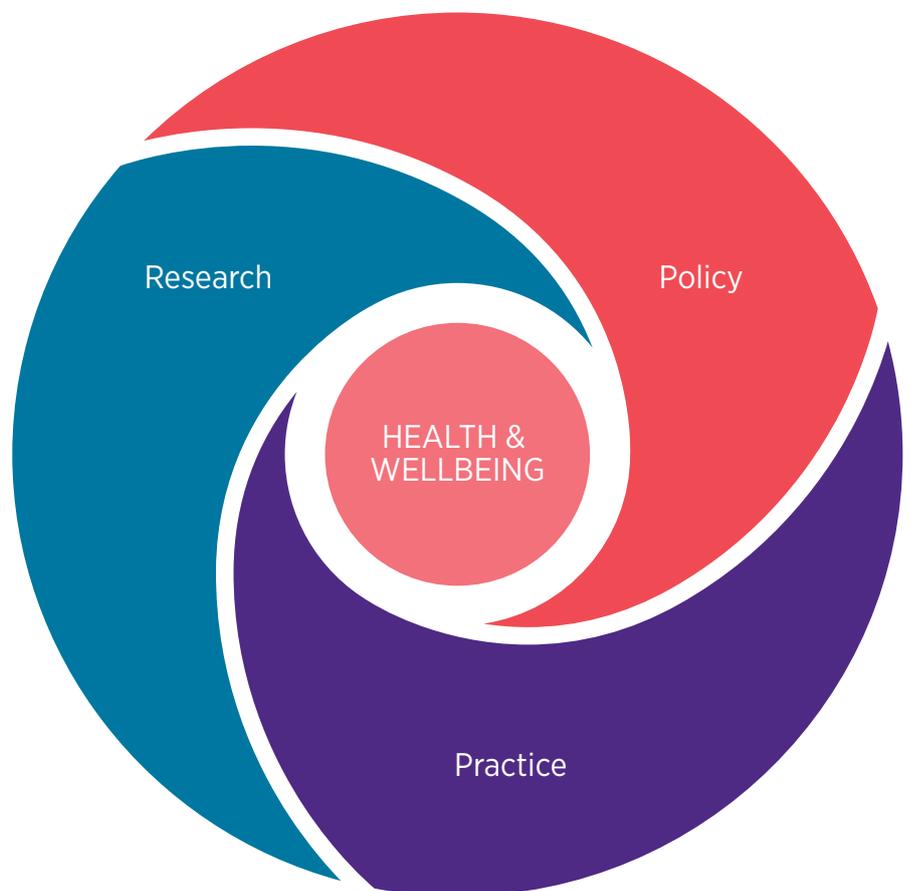
in aged and palliative care, the complete health improvement program (CHIP), effective interventions that focus on sustaining independence in older adults in both residential aged-care facilities and within the home, and four decision-making frameworks in advanced dementia: pain, constipation, weight loss, and agitation/confusion. As mentioned above, other work includes the development, pilot, feasibility assessment, and evaluation of a region-first multidisciplinary memory clinic, a district-wide needs analysis for primary care and community-based services for older adults in South Western Sydney, and exploration of cancer screening practices and decision-making around cancer care among older adults. Other projects set in an international context have explored the lived experience of older women, and the realities of older women's rural living, ageing experiences and wellness to inform health and social care policy and gerontological social work in Uganda.

5. WORKING TOGETHER FOR SYSTEMIC CHANGE: THE ROLE OF STAKEHOLDERS

Ageing researchers at Western Sydney University are working on basic science exploring fundamental mechanisms of ageing through to the translation of research into policy and practice. Our ageing researchers include clinicians, members in teaching and senior governance roles, a mix of senior and early- and mid-career researchers (EMCRs), all have strong and diverse ties to key stakeholders.

The aim of Western Sydney University's ageing researchers is to work with the broad range of existing partners, and bring on new partners, in local, state, and federal government, health, research, industry, non-government organisations, not-for-profits, consumer advocacy agencies, policymakers, and quintessentially older adults, their carers and families to develop a comprehensive plan for translatable ageing research in Western Sydney that will result in real impact and change for older adults. These networks, and strong ties to the newly established Sydney Partnership for Health, Education, Research, & Enterprise (SPHERE) will be used to successfully secure further funding, ensuring that work is both sustainable and has significant impact for end-users. By establishing partnerships with a broad range of health-related services for older adults, the University can holistically identify the unique issues faced by Greater Western Sydney and develop translational region-directed solutions.

Figure 8. Impacting the health and wellbeing of older adults in Western Sydney through policy, practice, and research.



POLICY

Given Western Sydney University's key strength in policy innovation, it is essential that we work together with stakeholders to create, refine, and evaluate existing and new policies affecting older adults. This work is fundamental, given that policy underpins the translation and scalability of research. The work highlighted above, such as clinical guidelines for nutrition in older adults, new models of practice in aged and palliative care, and decision-making frameworks that focus on sustaining independence in aged-care facilities and within the home is generating wide-scale impact for seniors across Western Sydney and beyond. Work will continue in this space to:

- Develop inclusive policies that cater towards the healthcare needs of Western Sydney's diverse population;
- Improve access to healthcare services through policy innovation, particularly for people with dementia; and
- Inform international gender-specific social care policy.

This is but the tip of the iceberg of the depth and breadth of issues that can be addressed by refining policy pertaining to aged-care service provision.

PRACTICE

Western Sydney University is a recognised leader for research-driven practice with demonstrable impact on the mental, physical, and social health and wellbeing of older adults. We will continue to work indefatigably with government, communities, NGOs, industry, the health system, policymakers, and importantly, seniors and families to support innovation in

models of care and practice. The research-led education provided at Western Sydney University is a key tenet in the development and training of the future workforce of health professionals who will care for our ageing population. As highlighted earlier, we are working with our partners to deliver innovation across primary, secondary, and tertiary care. A snapshot of this work includes a new integrated stroke self-management program, a region-first multidisciplinary memory clinic, a diabetes complications assessment clinic, a community geriatrics service, the evaluation of a sensory room for dementia and delirium in hospital, and a primary care needs analysis for South Western Sydney. Looking into the future, our priorities in this space include:

- Addressing the challenges that primary healthcare providers face in the Western Sydney region;
- Significant innovation in dementia prevention, diagnosis, and management in Western Sydney; and
- Support and education for carers.

RESEARCH

Solutions to the significant health and wellbeing challenges faced by the region's ageing population need to be pragmatic, region-specific, and sustainable. For this to happen, the research underpinning these solutions must be co-created with our partners and stakeholders. This work will continue to build knowledge, educate, and drive action and change in the community. Western Sydney University has significant ageing research capacity in the key areas of cognition and mental health, independence and functioning, and the social and built environment, and

this work is underscored by our strengths in education and training, participatory research design, and healthcare and policy innovation. This work will continue to focus on the key priorities relevant to the ageing population in Western Sydney and beyond by:

- Exploring prevention and lifestyle-based approaches to reduce the burden of the two-fold health challenge, promoting independence and functioning, slowing physical and mental decline;
- Working together with partners to address fundamental and complex social issues for older adults including social isolation, ageism, and caregiver burden;
- Improving access to age, gender and culturally appropriate healthcare services that cater for the changing needs of our diverse ageing population; and
- Education for carers and aged care providers

PRIORITY OUTCOMES

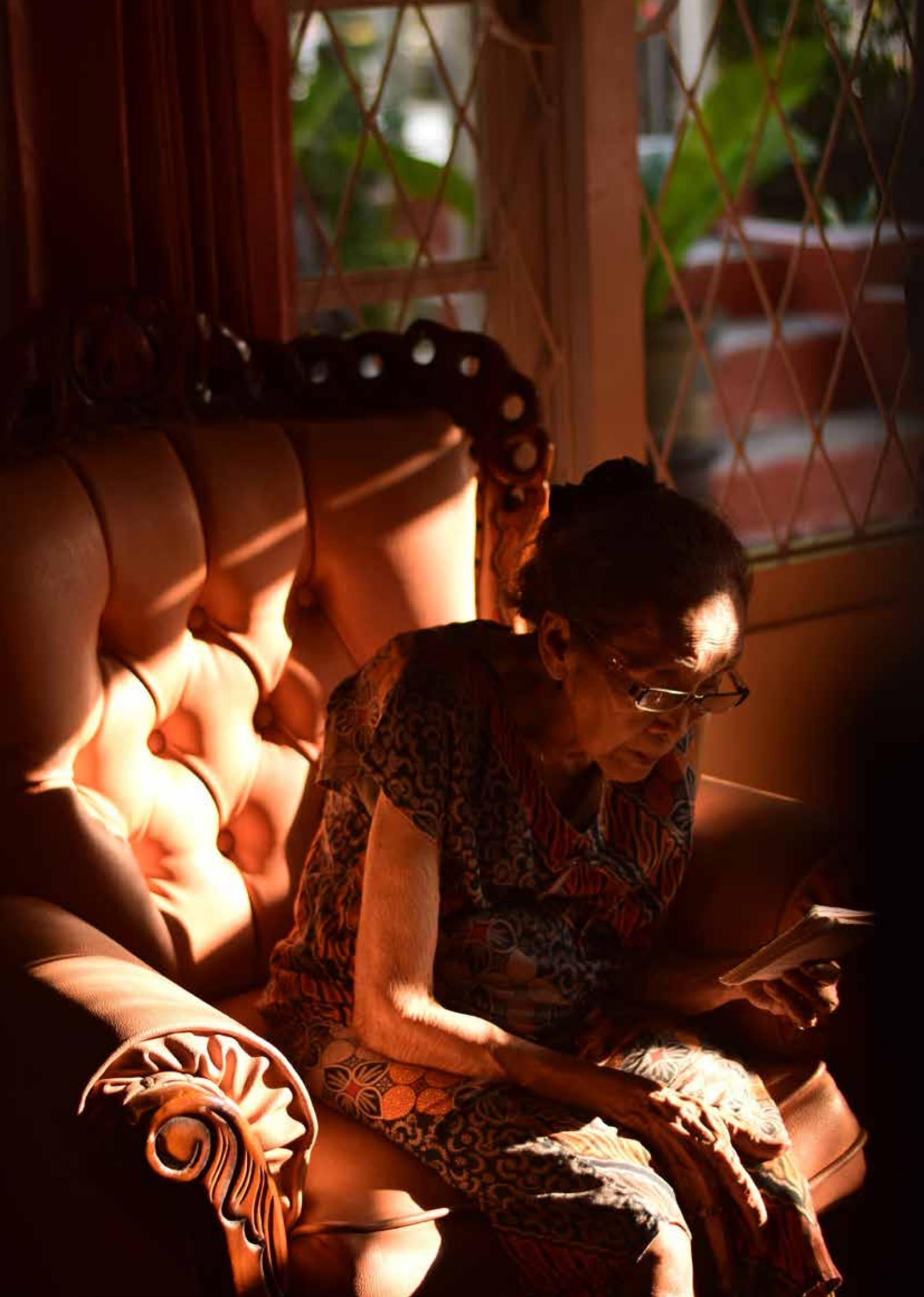
Many health and wellbeing priorities for our ageing population are being addressed by our diverse and wide-ranging collaborative research. Our flagship projects include the establishment of a region-first multidisciplinary memory clinic, a community geriatrics service, and the largest standardised Chinese herbal medicine Phase III trial conducted in Australia. The key outcomes expected from these flagship projects over the next 5 years include:

- Reduced presentation at hospital emergency departments;
- Reduced unnecessary crisis visits to GPs;
- Reduced healthcare system fragmentation; and
- Improved quality of life for people with cognitive impairment and their families.

6. FUTURE DIRECTIONS

This white paper has provided an overview of the magnitude of the health and wellbeing needs of seniors in Western Sydney and beyond. Our seniors already face a number of significant challenges relating to chronic illness (complicated by the two-fold challenge of additional lifestyle diseases) social change, and the increased burden on health system. This health, social, and economic burden will only continue to escalate with the ageing population. Existing approaches for seniors do not adequately address these challenges and are limited in the support provided for primary care practitioners, the declining workforce of suitably qualified health professionals, differing levels of health literacy, fragmented care, and barriers to healthcare service access for CALD, Indigenous, and LGBTIQI communities.

At Western Sydney University, we see that with these challenges and limitations comes an unmatched potential for opportunity and innovation. The work that we are conducting in this space is addressing the wide range of health and wellbeing issues faced by our seniors. Looking into the future, we will continue to engage with our stakeholders in education and training, participatory research design, and healthcare and policy innovation in the key areas of cognition and mental health, independence and functioning, and the social and built environment. This will enable us to holistically appreciate, understand and formulate strategies to address the complex and diverse needs of older communities in Western Sydney.



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