

Healthy ageing literature review

Final report to the Department of Health and Human Services

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Services

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Authorised and published by the Victorian Government, 1 Treasury Place, Melbourne.

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Where the term 'Aboriginal' is used it refers to both Aboriginal and Torres Strait Islander people. Indigenous is retained when it is part of the title of a report, program or quotation.

Available at <https://www2.health.vic.gov.au/ageing-and-aged-care>

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Summary

This review provides an overview of the research evidence for various determinants of healthy ageing. It highlights various approaches, programs and strategies that target healthy ageing across a range of domains and settings. It does not claim to be a comprehensive review but rather aims to provide an overview of the existing evidence base.

Multifactorial and multidisciplinary programs that used a combination of strategies to target healthy ageing seem to be more effective than singular approaches (such as using awareness-raising campaigns or education programs as stand-alone interventions). This review also highlights the need for programs to have a theoretical base that aims to address the known protective and risk factors in healthy ageing. It is suggested that an evidence-based approach should be used to underpin the aims, objectives and goals of any healthy ageing program and to guide its development and implementation.

Other important factors in healthy ageing strategies and programs are cost and accessibility. Both these factors also play a role in the sustainability of the programs. Sustainability of healthy ageing projects is important so that benefits for communities and populations can be maintained beyond the initial stages of program implementation.

The factors identified above are in line with the policies outlined in section 1, 'Background', in particular the *Victorian public health and wellbeing plan 2015–2019*. The *Victorian public health and wellbeing plan* focuses on a platform that emphasises healthy and sustainable environments, place-based approaches, and person-centred approaches. Such approaches, along with more evidence-based programs, and programs that are evaluated, sustainable and accessible, would respond to the gaps identified.

Management of health

Getting older can affect a person's health and wellbeing, and older people are more likely than younger people to have multiple long-term health conditions. All people are encouraged to take an active role in managing their health and wellbeing and, supported by their health professionals, individuals can help manage the impact that illness and disease has on their daily life and behaviours.

Health literacy – or the ability of a person to understand and use information related to their health – is an important aspect of health management, and can be affected by many factors including education, socioeconomic status and cognitive decline. Low health literacy can result in poorer health outcomes, poorer use of health services and less adherence to correct medication usage. Older people with multiple illnesses are more likely to have multiple medications, which puts them at higher risk of adverse effects.

Strategies that can support good management of health include providing multidisciplinary and person-centred care; coordinating care for multiple chronic diseases; comprehensive health assessments; medication reviews; age-appropriate self-management programs, including education, goal setting and ongoing support; and clear spoken and written communication by health professionals, including checking the older person has understood.

Healthier eating

Healthy eating is important for all stages of life in including older age. There are significant public health problems associated with the rates of overweight and obesity across the population, including among older people, and these are expected to worsen. However, balanced against this is that for those aged 65 and over, being overweight has been shown to decrease the risk of premature morbidity and mortality. Because of this, older adults are encouraged to focus on healthy eating rather than on weight loss. Malnutrition affects many older adults and there are resources available that provide information about managing this.

The use of dietary guidelines, education resources, nutrition and exercise programs, an awareness of food safety, and fortification and supplementation of foods have all been shown to be effective strategies for enabling healthier eating.

Active living

Physical activity is essential for maintaining abilities and independence as people age. It can also maintain or improve brain health. Being active can provide health benefits, even for those who become physically active later in life. However, those aged 65 and over are the least active age group and spend the most time sitting.

Physical activity recommendations for older adults include engaging in at least 150 minutes of moderate-intensity aerobic activity per week; doing a range of activities that incorporate fitness, strength, flexibility and balance; minimising the amount of time spent in prolonged sitting; and breaking up long periods of sitting as often as possible.

Physical activity interventions result in improved physical function, reduced mobility disability, improved quality of life, improved mental health, high satisfaction with programs, increased caloric expenditure, high exercise adherence rates, and increased social connections. Evaluation of group-based programs has also shown that the social components of programs are and important for older people in joining and continuing to attend the physical activity programs.

Other effective interventions include using technology to deliver programs; advice delivered by health professionals; evidence-based healthy living programs and interventions to reduce sedentary behaviour.

Tobacco-free living

Tobacco smoking remains one of the most prominent risk factors for ill health in Australia. Significant policy effort has gone into reducing smoking prevalence, and rates of daily smoking within the total population have dropped over the last decades. However, the rate for older adults in Australia has stayed steady, although from a smaller proportional base. In Victoria, the smoking rate of those aged 65 and over has decreased, but not as much as for younger adults.

Smoking rates are also influenced by socioeconomic factors, with people living in the most disadvantaged areas more than twice as likely to smoke as people from the least disadvantaged areas.

Quitting at any time of life is associated with lowered risk for ill health. However risk reduction is time-dependent: the longer the time since quitting, the lower the risk.

Reducing harmful alcohol and drug use

Alcohol is the most common drug used by older people and the age group of Australians most likely to drink daily is those aged 70 and older. In recent years, older people have been consuming more alcohol, and this trend is projected to be particularly evident in the baby boomer cohort.

The current Australian alcohol guidelines state that light-to-moderate alcohol consumption (one to two drinks per day) in older adults may lower the risk of several chronic conditions and convey health benefits. However, for older people, alcohol consumption can increase the risk of cognitive decline, falls, injuries and some chronic conditions, including liver disease.

People are less able to process alcohol as they age. This is because total body water decreases with age, meaning that one drink can result in a higher blood alcohol concentration, and intoxication, than it would in a younger body. Older people are often on multiple long-term medications, in which case alcohol consumption can increase the risk of negative outcomes.

In recent years, hospital admission rates relating to illicit drug use are have been rising, and prescription drug misuse by people aged 50 and over and the rate of illicit drug use among older Australians has also increased in the last decade.

Effective strategies to address harmful alcohol and drug use in older Australians include treatment programs that are person centred and specifically targeted at older people. Online self-help programs, early intervention programs targeting risky behaviours and brief education programs have also been shown to be effective.

Improving mental health

A significant proportion of older people experience one or more mental health problems. The most prevalent of these are depression and anxiety. There are a number of risk factors for depression and anxiety in older people, and particular groups are considered to be at higher risk of developing these issues, however advancing age is not a risk factor in itself.

It is estimated that approximately 10 per cent of senior Victorians experience chronic loneliness and social isolation, although this may be under-reported. It is important to note that loneliness is subjective and is almost always involuntary and unwelcome, whereas social isolation is objective and can be either voluntary or involuntary.

Based on the evaluations of the literature, a number of key strategies have been suggested for successful programs to improve mental health among older people. These include building collaborative partnerships with stakeholders; using an integrated and multidisciplinary approach; taking a holistic view of active ageing; using an evidence-based approach; involving older people in the whole process; addressing the needs of specific target groups and providing training and support for staff and volunteers.

Preventing violence and injury

Family violence and elder abuse

Elder abuse is a form of family violence that involves any act occurring within a relationship where there is an implication of trust, which results in harm to an older person. Abuse can involve financial, psychological, physical, social and sexual abuse, as well as neglect. A lack of recognition and under-reporting means that the extent of elder abuse is difficult to estimate and no prevalence data is available for the Australian population.

Elder abuse prevention strategies include raising community awareness of the issue, addressing risk factors involving the older person, the perpetrator, their relationship and the environment, and educating health professionals about the issue and appropriate responses.

Multidisciplinary interventions are the most effective ways of stopping elder abuse, giving older people legal services and support to deal with the elder abuse and make decisions about their situation. These interventions also have potential for conflict resolution that maintains family relationships and avoids the difficulties of legal interventions.

Transport-related injury

Older people are over-represented in the fatalities and injuries on Australian (and Victorian) roads. This is particularly evident in those over 75 years of age. There are many services, programs and resources available for older people, their families and carers and health professionals regarding transport safety, in particular for older drivers.

The cessation of driving can have a dramatic effect on an older person's health and quality of life. The transition to using other forms of transport (for example, public transport) may be a difficult time for older people and needs to be supported.

Public transport can have risks for older people and these risks need to be considered by transport professionals, health professionals, families and older people themselves. Of great concern is the risks

for older people as pedestrians and much work needs to be undertaken to make walking a safer form of transport for older people.

Strategies to reduce transport-related injury among older people include providing information targeted towards older people to help increase awareness of and encourage them to self-manage risk, for both public transport use and driving. Strategies to improve pedestrian safety include making roads and paths safer, improving street lighting, increasing time allowed for crossing at pedestrian lights and pedestrian focused driver education.

Falls prevention

Falls are common in older people and increase with age. While many falls are minor, falls can have serious impacts including injury and at worst, death. Falls result from the interplay between intrinsic (person-specific) and extrinsic (environmental) factors. Although falls are a common occurrence, they are not an inevitable part of ageing and there are many things that can be done to prevent falls.

Evidence supports the effectiveness of both single and multifactorial interventions, including strategies such as strength and balance exercise, reducing medications and addressing vision impairment, among others. Despite the evidence of effective interventions, the translation of this evidence into practice remains a challenge at both individual and population levels.

Improving sexual health

The issues of older adult sexuality and sexual health are becoming more prominent. This is partly in response to the growing recognition of older adults as ongoing sexual beings, and recognition that older men and women continue to engage in sexual activity into very late life.

The increasing prominence of these issues is also due to rising rates of sexually transmitted infections (STIs) and human immunodeficiency virus (HIV/AIDS) in older people. A primary reason for this is that many older adults do not practice safe sex (do not use condoms). Additionally, many of the symptoms of these diseases mimic other health issues associated with ageing and could be missed by healthcare providers and older people themselves.

Structural ageing of the population indicates that sexual health issues in older people could become an increasing public health issue. Currently there is a lack of government sexual healthcare policies specifically targeting older adults. Additionally, sexual health promotion strategies for heterosexual older adults have been extremely limited.

Groups within the population that are particularly neglected when it comes to recognition of needs and responses to them include aged care residents, lesbian, gay, bisexual, transgender and intersex (LGBTI) older people and victims of sexual violence and assault. There have been some recent strategies targeting service providers, particularly promoting supportive and inclusive practice for aged care residents and for LGBTI older people accessing health and aged care services.

Age-friendly environments

Environments encompass physical environments (such as streets and buildings), social environments (such as attitudes and relationships with others), as well as services and political systems and policies.

Physical environments contribute significantly to an individual's physical, mental, and social health across the life course, and may actually play a more important role for older people than for younger people due to age-related declines in functioning, such as declines in vision, hearing, and balance.

Recent developments in age-friendly environments emphasise the critical role of the social environment in healthy ageing. The World Health Organization (WHO) has identified three key domains in age-friendly social environments, which include social participation, respect and social inclusion, and civic participation and employment.

Commonly held ageist stereotypes are harmful to older people's psychological wellbeing and physical and cognitive functioning, and negatively affect the social environment.

Key strategies for building age-friendly environments include collaborative approaches that engage multiple stakeholders, empowering older people and engaging them throughout the whole process, addressing local needs and using multiple interventions, and embedding theory and evidence-based interventions.

Participation

Older people participate in society in many different ways. These include social participation, community participation and workforce participation. These forms of participation tend to overlap with each other.

Social participation promotes feelings of connectedness, improves mental and physical health and is linked to social connectedness. There is strong evidence of a direct link between social connectedness and mental and physical health outcomes.

Being a carer can be associated with positive outcomes, such as feelings of satisfaction and being valued. However, it can also be associated with negative outcomes, such as poorer physical health and quality of life, and higher levels of emotional distress and depression.

Volunteering has been shown to have positive health and wellbeing impacts on older people with improvements in physical functioning, self-reported health, social integration, life satisfaction and quality of life, as well as decreased depression and mortality.

There are benefits to individuals and society from continued workforce participation of older people. Working may also be beneficial for an individual's health.

Key strategies for successful participation programs for older adults include using collaborative partnership approaches; involving older adults in planning, implementation and evaluation of programs; using evidence-based approaches; addressing local needs; using existing resources; and utilising volunteers.

1 Background

Definitions

For the purpose of this review, WHO definitions of health, healthy ageing and active ageing have been used.

Age

Unless otherwise specified, in this review the term 'older people' refers to those aged 65 years and older. Although chronological age is often used in definitions of ageing and as an eligibility requirement for government and non-government programs and policies, it is recognised that there is great diversity within the older population. Recognition of this diversity, and of the need to use a person-centred approach, is essential when considering the literature and evidence base and when designing and implementing policies, programs and services.

Health

WHO defines health as 'a state of complete physical, mental, and social wellbeing and not merely the absence of disease or infirmity' (World Health Organization 2016).

Healthy ageing

There are many definitions of healthy ageing, a term which is often used interchangeably with terms such as active ageing (World Health Organization 2002, Bowling 2008), successful ageing (Bowling and Dieppe 2005, Bowling and Iliffe 2006, Rowe and Khan 1997), positive ageing (Kendig and Browning 1997) and productive ageing (Kerschner and Pegues 1998). Although there is no universal definition of healthy ageing, there is general acceptance that it involves more than just physical or functional health.

In its *World report on ageing and health*, WHO defines healthy ageing as 'the process of developing and maintaining the functional ability that enables wellbeing in older age,' where 'functional ability comprises the health-related attributes that enable people to be and to do what they have reason to value' (World Health Organization 2015c). This builds on its earlier definition of active ageing as 'the process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age' allowing people to 'realize their potential for physical, social and mental wellbeing throughout the life course' (World Health Organization 2002).

Healthy ageing depends on genetic, environmental and behavioural factors, as well as broader environmental and socioeconomic determinants. Some of these factors are within the control of the individual, usually referred to as lifestyle factors, and others are outside the individual's control. Social determinants of health, such as income and education, influence the choices that individuals can make and create life circumstances which limit opportunities for healthy lifestyle and create health inequalities. The WHO's *Active ageing framework* provides a useful model for understanding how social, personal and behavioural determinants interact with the physical environment and access to health services to enable or prevent active ageing.

A key component of WHO's *Active ageing framework* is the consideration of how the broad determinants of health affect the process of ageing. Gender and culture are listed as two 'cross-cutting' determinants which shape the way we age and influence all the other determinants of active ageing. Other determinants of health identified in this framework include (World Health Organization 2002):

- health and social service system determinants (for example, health promotion and disease prevention, curative services, long-term care, mental health services)

- behavioural determinants (for example, tobacco use, physical activity, nutrition, alcohol, oral health, medications)
- physical environment determinants (for example, housing, falls, clean water/air, safe foods)
- social environment determinants (for example, social support, violence and abuse, education)
- personal determinants (for example, biology, genetics, psychological factors)
- economic determinants (for example, income, social protection, work).



Figure 1: The determinants of active ageing (World Health Organization 2002)

At all stages of the life course the adoption of healthy lifestyles and actively participating in one's own care are of great importance. The WHO's *Active ageing framework* states that 'engaging in appropriate physical activity, healthy eating, not smoking and using alcohol and medications wisely in old age can prevent disease and functional decline, extend longevity and enhance one's quality of life'. There is evidence to suggest that the determinants of health are good predictors of how well both individuals and populations age.

Commonwealth and Victorian government health policy

One of the key elements in enabling healthy ageing is the development of strong public policy. The Commonwealth Government's package of aged care reforms has a strong influence on the context for healthy ageing. In Victoria, the *Victorian public health and wellbeing plan, Improving care for older people: a policy for health services*, the Healthy Ageing Program, the Victorian Active Ageing Partnership and the Age-Friendly Victoria initiative all provide agendas for the Victorian health system. These policies and initiatives are described below.

Aged care reform

In April 2012, the Commonwealth Government launched a package of reforms to the aged care system to be implemented over the following 10 years. The reform package is based on creating a more flexible model of care and introducing consumer directed care. The reforms aimed to deliver important benefits to older Australians including: more support and care to remain at home; better access to residential care if needed; increased recognition of carers and those from culturally diverse backgrounds; strengthened aged care workforce; more support for those with dementia; and better access to information (Commonwealth of Australia 2012a).

The reforms with the most relevance to healthy ageing are the introduction of My Aged Care, and the changes to support and care provided to people at home.

The reform process is ongoing, and the *Aged care roadmap* outlines the process over the next five years to move to 'a consumer-driven, market-based, sustainable aged care system' (Aged Care Sector Committee 2016).

My Aged Care

My Aged Care is a centralised service providing information and services to older people, their families and carers via a website and phone service. It was introduced in July 2013 to simplify and streamline the process of accessing aged care for consumers, providing a single entry point. In July 2015, My Aged Care commenced centralised client records, nationally consistent eligibility screening and assessment, and electronic referrals to assessors and service providers.

Commonwealth Home Support Programme

The Commonwealth Home Support Programme commenced in July 2015. It provides a single Commonwealth-run program providing low-level home support for people needing assistance to remain in their own homes, replacing a number of different previously operating programs including Home and Community Care (HACC) Programs (see Victorian HACC transition below).

Home Care Packages

The Home Care Packages Programme replaced the Community Aged Care Package Programme and provides higher-level support to assist people to remain in their own homes. All Home Care Packages that were commenced from August 2013 were based on consumer-directed care (CDC), and this was extended to all existing packages from July 2015. CDC allows consumers to decide what types of care and services they access, and how and by whom they are delivered. The reforms also expanded the number of Home Care Packages available.

Victorian public health and wellbeing plan 2015–2019

The *Victorian public health and wellbeing plan 2015–2019* takes a life-course approach to population health and focuses on prevention, health promotion and health protection (Department of Health and Human Services 2015b). The plan's vision is for 'a Victoria free of the avoidable burden of disease and injury, so that all Victorians can enjoy the highest attainable standards of health, wellbeing and participation at every age.' It aims to do this by reducing inequalities in health and wellbeing.

The plan is the second made under the requirements of the *Public Health and Wellbeing Act 2008*, and builds on the 2011–2015 plan.

Improving care for older people: a policy for health services

Improving care for older people: a policy for health services has been in place since 2003 and provides Victorian health services with a platform to improve and integrate care for older people by:

- adopting a strong person-centred approach
- better understanding the complexity of older people's healthcare needs
- improving integration between health services and community care (Victorian Government 2003).

In February 2016 the new online resource *Older people in hospital* was launched, furthering the work of implementing the principles outlined in the policy (Victorian Department of Health 2015). The resource provides clinicians with simple evidence-based strategies to minimise the risk of functional decline for older people in hospital.

Healthy Ageing Program

The Department of Health and Human Services has moved towards a broad healthy ageing framework rather than focusing on discrete programs. This approach is based on funding a number of Healthy Ageing Advisers across Victoria from mid-2016. These advisers will promote, build and support the health and wellbeing of older people, particularly those Victorians who are experiencing disadvantage and social isolation.

The Healthy Ageing Program also provides support and education for organisations and individual staff. The Healthy Ageing Online Network (HANet) is a platform for sharing information, resources and best practice strategies. *Well for life* is a resource toolkit that promotes healthy ageing for older people in community and residential aged care settings (Department of Health and Human Services 2015). It provides management and staff with information on physical activity, nutrition and emotional wellbeing. *Well for life* is being redeveloped in 2016. Another resource, also developed by the Victorian Department of Health and Human Services, is *Well for life: a healthy approach to ageing* (Department of Health and Human Services 2016c). This is a resource for older people about how to follow a healthy approach to ageing in everyday life.

Victorian Active Ageing Partnership

The Victorian Active Ageing Partnership (VAAP) aims to increase opportunities for participation in physical activity for older Victorians, especially in areas of socioeconomic disadvantage and among isolated, lonely older people not currently involved in physical activity. It will develop partnerships between organisations providing older people with opportunities for physical activity, develop a best practice framework for engaging older people and raise awareness of opportunities among service providers and older people. The VAAP runs for three years from October 2015.

Age-Friendly Victoria initiative

In April 2016, the Victorian Government announced its response to the Commissioner for Senior Victorians' report, *Ageing is everyone's business: a report on isolation and loneliness among senior Victorians*, that found that at least 10 per cent of older Victorians were experiencing loneliness at any one time (Commissioner for Senior Victorians 2016).

The Age-Friendly Victoria initiative formed part of its response, with the aim of building age-friendly communities that 'encourage active ageing and optimise opportunities for good health, social and economic participation and personal security' (Commissioner for Senior Victorians 2016). The initiative includes Age-Friendly Community grants; the Age-Friendly Victoria Declaration signed with the Municipal Association Victoria, peak bodies and business supporters; Age-Friendly Victoria Award and a Seniors Card Age-Friendly Partners Program.

Other components of the response relevant to healthy ageing include the information service Life Planning for Seniors, providing courses on information technology to older people, and including a focus on older pedestrians in the Active Transport Victoria initiative.

Home and Community Care transition

As part of the National Disability Insurance Scheme agreement, the Victorian and Commonwealth governments agreed that management of the HACC program would be split from 1 July 2016. Services for older people (people aged 65 and over and 50 and over for Aboriginal people) will be directly funded and managed by the Commonwealth Government. The Commonwealth Home Support Programme (CHSP) will largely replace the HACC Program in Victoria from 1 July 2016 and will fund a similar range of services currently provided under HACC.

Services for younger people (people aged under 65 and under 50 for Aboriginal people) will be funded and managed solely by the Victorian Government, with some services and clients transferring to the National Disability Insurance Scheme (NDIS) as it is rolled out in Victoria.

Funded organisations will continue to provide the same level and type of services under their CHSP funding agreement for older people and the Department of Health and Human Services' HACC Program for Younger People service agreement. The Commonwealth and Victorian governments have agreed that the level of funding organisations received on 30 June 2016 will remain the same (plus indexation) for a three-year period – noting that a proportion of funding for younger people will transfer to the NDIS as it rolls out across Victoria.

Home and Community Care active service model

The HACC active service model is a quality improvement initiative that focuses on restorative care and on promoting capacity building in community care service delivery. The active service model is located in the broad policy context set out in *A fairer Victoria* (2005) which emphasised early intervention and prevention in all services and for older people, helping them to 'stay involved in everyday activities to maintain or rebuild their confidence and stay active and healthy'. The goal of the active service model is to assist people in the HACC target group to live in the community as independently and autonomously as possible. As part of the *HACC transition agreement*, both the Victorian and Commonwealth governments have agreed to retain the benefits of the Victorian HACC program, including the components of the active service model.

An ageing population – Australia and the world

The population worldwide is ageing. Due to falling fertility rates, increased life expectancy and falling mortality rates the number and proportion of older people in the population is increasing faster than any other age group (World Health Organization 2002). In 1950, the world median age was 24 and by 2050 it is projected to be 38 years (Australian Institute of Health and Welfare 2011a). Globally, by 2020 there will be more people aged over 60 than under five years (World Health Organization 2015a). Concurrently, the world is experiencing rapid urbanisation, with more than half the world's population now living in cities (World Health Organization 2015c).

Like most countries, Australia has an ageing population. There were 3.5 million older people (those aged 65 years and over) in 2014, or 15 per cent of the population (Australian Institute of Health and Welfare 2015a). Compared with 8.3 per cent in 1971, it is estimated that the proportion of older people will increase to 26 per cent in 2051 and to 27 per cent in 2101 (Australian Bureau of Statistics 2011d, Australian Bureau of Statistics 2006a, Australian Institute of Health and Welfare 2010). Over the next two decades, Australia's population is expected to rise by 29 per cent, with the number of people aged 65 and over rising by 90 per cent (Australian Institute of Health and Welfare 2011a).

Due to their longer life expectancy, women currently make up a greater proportion of older people in Australia. Of those aged 85 years and over, 65 per cent are female (Australian Institute of Health and Welfare 2015b).

Victoria

Victoria's population mimics many of the trends seen in the wider Australian population. As of September 2015, Victoria's estimated resident population was 5,966,700 (Australian Bureau of Statistics 2016a). This is an increase of almost 20 per cent since June 2005 (Australian Bureau of Statistics 2006b). People aged 55 and above comprise more than a quarter of the population (26.3 per cent) and those aged 65 years and over comprise 15 per cent of Victoria's population (Australian Bureau of Statistics 2016a). The proportion of the population aged 65 years and over is projected to increase to 16.4 per cent in 2021, 18.8 per cent in 2031, 20.4 per cent in 2041 and 21.8 per cent in 2051 (Victorian Government 2015c). The greatest proportional change for any age group is projected to be in the oldest age group:

the number of Victorians aged 85 years and over is expected to increase from around 2 per cent of the population currently to 4.6 per cent in 2051.

Table 1: Population of people aged 55 years and over in Victoria (ABS, 2016)

Age	Men (% of total)	Women	Total
55+	737,630 (25.1%)	824,301 (27.5%)	1,561,931 (26.3%)
65+	410,848 (14.0%)	481,512 (16.0%)	892,360 (15.0%)
75+	171,947 (5.9%)	228,036 (7.6%)	399,983 (6.7%)
85+	45,357 (1.5%)	77,434 (2.6%)	122,791 (2.1%)
All ages	2,935,946	3,001,535	5,937,481

Metropolitan and regional population trends for older Victorians

In Australia, capital cities generally have younger populations than the rest of the country, with older people making up 12 per cent of the population in capital cities and 15 per cent outside of the capital cities (Australian Institute of Health and Welfare 2011a).

In June 2014, 76 per cent of Victoria's population was in Greater Melbourne (Australian Bureau of Statistics 2015f). There was a smaller proportion of older people living in Greater Melbourne (14 per cent of Melbourne's population) than in the rest of Victoria (19 per cent) (Australian Bureau of Statistics 2015f). The areas of Victoria with the highest proportions of the population aged 65 years and over were all in regional, coastal areas: Paynesville (37 per cent); Queenscliff (35 per cent); Portarlington (32 per cent) and Rosebud-McCrae (32 per cent) (Australian Bureau of Statistics 2015f).

These statistics reflect the demographic pattern seen over recent years of older Australians making the move to rural and seaside locations for a number of factors, including the increasing cost of living in major cities and to improve their quality of life. These people are known colloquially as tree-changers or sea-changers (Bartlett and Carroll 2011). In addition, there is an increasing number of 'amenity migrants', older people who move from large metropolitan locations to regional centres due to the need to access services that are more easily accessible in smaller centres. Data released from the Australian Bureau of Statistics showed that in 2004 the rate of growth in coastal local government authorities was 60 per cent higher than the national average growth rate for Australia (2 per cent compared with 1.2 per cent respectively) (Australian Bureau of Statistics 2006a).

Cultural diversity in Victoria

One in three Australians aged 65 and over was born outside Australia, compared with one in seven aged less than 25 (Australian Institute of Health and Welfare 2011a). In 2010, 35 per cent of older Australians (1,075,461 people) were born overseas, with 38 per cent of these coming from non-English speaking countries (Australian Institute of Health and Welfare 2012). In Melbourne, almost half (47 per cent) of people aged 65 and over were born overseas (Australian Bureau of Statistics 2011e). In June 2009, Aboriginal people made up 0.7 per cent of Victoria's population (Australian Bureau of Statistics 2011c).

Consequently, Victoria is culturally and linguistically diverse, with 27 per cent of all those aged 65 and over born in a non-English speaking country, compared with 20 per cent for Australia as a whole (Federation of Ethnic Communities' Councils of Australia 2015). While 93 per cent of the population from culturally and linguistically diverse backgrounds lives in Melbourne, 3 per cent live in Geelong and 3 per cent live in regional areas (Howe 2006). According to the 2001 census, approximately 21 per cent of older people in Victoria speak a language other than English at home, and 43 per cent of this group are not proficient in English (Howe 2006). Table 2 shows the main languages other than English spoken in

Victoria and the number and percentage of each language's speakers aged 65 years and over with low English proficiency.

Table 2: Victoria – language other than English speakers with low English proficiency by age (2011 census) 65 years and over (Department of Immigration and Border Protection, 2014)

Language group	Victorians aged 65 years and over with low English proficiency	Proportion of language speakers aged 65 years and over with low English proficiency
Italian	16,288	35%
Greek	15,484	47%
Cantonese	4,524	63%
Mandarin	3,613	76%
Vietnamese	3,500	82%

Aboriginal and Torres Strait Islander population

Due to generations of disadvantage, Aboriginal and Torres Strait Islander (Aboriginal) people are generally less healthy than other Australians, die at much younger ages, and have more disability and a lower quality of life (Australian Institute of Health and Welfare 2010). Only 3 per cent of Aboriginal Australians are aged 65 years and over (Tovell et al. 2014). This is the result of a much lower life expectancy – approximately 10 years lower than for the total population (Tovell et al. 2014). Aboriginal Australians also access aged care services and dementia services at younger ages than non-Aboriginal Australians (Australian Institute of Health and Welfare 2011b). For these reasons, Aboriginal people aged 50 and over are included in the term 'older Australians'.

LGBTI population

Findings from the second wave of the Australian Study of Health and Relationships found that 9 per cent of men and 19 per cent of women reported a previous same-sex attraction and/or experience (Richters 2014). While it is difficult to determine how many people are LGBTI, it is estimated that up to 11 per cent of Australians identify as gender or sexually diverse (Commonwealth Government 2012). Aged care service providers have traditionally assumed that their clients are heterosexual, which has led to an absence of appropriate services for LGBTI people (Commonwealth Government 2012). Additionally, older LGBTI Australians have historically experienced discrimination and stigma, leading to a fear of disclosure and/or failure to access health and aged care services (Barrett 2008a, Tinney et al. 2015).

Australian population trends

Baby boomers

Significant contributors to Australia's ageing population trend are the 'baby boomers', defined by the ABS as people born between 1946 and 1964, who comprise 25 per cent of Australia's population (Australian Bureau of Statistics 2009). In 2011 the oldest members of the baby boomer generation turned 65, nearing retirement age. The impact of this group moving beyond the traditional working age and into retirement in the coming years could be reflected by an overall decrease in the labour force participation rate (Australian Bureau of Statistics 2009). However, the number of older workers with jobs in Australia has almost doubled in a decade, with 1.93 million workers aged 55 and over employed in 2011 compared to 1.01 million in 2001 (Australian Bureau of Statistics 2010b). The impact of workforce participation is discussed further below.

Workforce participation

Participation in work, social and community life promotes wellbeing by improving mental and physical health, increasing self-esteem and building a sense of belonging (Australian Institute of Health and Welfare 2007a, Australian Institute of Health and Welfare 2011a, Savage and Bailey 2004b). The workforce participation rate (people working or looking for work) of people aged 55 and over has increased from 23 per cent in 1984 to 35 per cent in 2014 (Australian Institute of Health and Welfare 2015a). While the participation rate increased from 41 per cent to 64 per cent for 55 to 64 year olds in this period, for those aged 65 and over it more than doubled, from 5 per cent to 12 per cent (Australian Institute of Health and Welfare 2015a). The same trend has also been observed in Victoria (Temple 2014).

This increase in workforce participation rates has been driven largely by the increased participation of women in the labour force, reflecting a range of social changes including greater acceptance of, and opportunities for women in the workforce (Australian Bureau of Statistics 2005). For example, in 2003–04 the participation rate for women aged 45 to 64 years was 60 per cent, well above the 36 per cent participation rate in 1983–84 (Australian Bureau of Statistics 2005).

In 2010, 31 per cent of older people had undertaken volunteering work in the previous 12 months (Australian Bureau of Statistics 2010b). Although this rate is slightly lower than the Australian population as a whole (36 per cent), older volunteers generally spend more time volunteering than younger volunteers (Australian Bureau of Statistics 2010b). Older people are more likely to volunteer for community and welfare organisations (33 per cent) than sporting or recreational organisations (13 per cent) (Australian Institute of Health and Welfare 2011a). Motivation for older people to volunteer includes a desire to help others (62 per cent) and personal satisfaction (50 per cent) (Australian Institute of Health and Welfare 2007a).

In 2012, 25 per cent of primary carers were aged 65 years and over (Australian Bureau of Statistics 2012b). A primary carer is a person who takes most responsibility for providing care for a person requiring support (Carers Australia 2009). In total, 19 per cent of older people are carers, with many of them caring for a spouse, and 6.5 per cent of older people were a primary carer, compared to 3.8 per cent of those aged 15 to 64 years (Australian Bureau of Statistics 2012b). Many older people also provide care to their grandchildren. In 2014, grandparents were the most common source of informal care of children aged 0 to 12 years, with 22 per cent usually cared for by their grandparents (Australian Bureau of Statistics 2015b). An informal carer includes any person, such as a family member, friend or neighbour, who is giving regular, ongoing assistance to another person without payment for the care given (Australian Institute of Health and Welfare 2007a).

Increasing the labour force participation rate of older people is seen as one way to help soften the economic impacts of an ageing population (Australian Bureau of Statistics 2010b). If the participation rate of 50 to 69 year olds in Australia was increased by 10 per cent by 2050 this would increase gross domestic product (GDP) by an estimated 2.4 per cent by 2050, considerably reducing the 2.75 per cent fiscal gap that Treasury estimates will come from the ageing population (Chomik and Piggott 2012). In addition, expenditure would decrease by approximately 0.5 per cent of GDP, due to reduced pension and health costs (Chomik and Piggott 2012). Raising the eligibility age for the aged pension and encouraging people to delay retirement are two ways older people's participation rates are being increased. The decrease in retirement rates, from 93 per cent of people aged 65 and over in 1997 to 77 per cent in 2013 reflects the impact of these policies (Australian Institute of Health and Welfare 2015a).

Aged care workforce

Another one of the challenges facing Australia is that while the ageing population increases demand for aged care, the aged care workforce itself is also ageing. According to recent statistics, 60 per cent of Australia's aged care nursing workforce is over 45 years of age, and nearly 30 per cent are aged over the age of 55 (Australian Bureau of Statistics 2011a). The proportion of workers in the residential care

services industry aged 55 years and over more than doubled from 11 per cent in 2000–2001 to 27 per cent in 2010–2011 (Australian Bureau of Statistics 2011a). During this same period, there was also a substantial decline in the proportion of workers aged 25 to 34 years and 35 to 44 years (Australian Bureau of Statistics 2011a). Therefore, healthy ageing strategies targeting the aged care workforce will be of great importance in the coming years.

Health and older people

For older Australians, the main causes of death are heart disease, stroke and cancer. Dementia is the main contributor to burden of disease for people over 85 years (the gap between the population's current health status and the ideal where everyone lives free of disability until the life expectancy age) (Australian Institute of Health and Welfare 2010). For more information on health and older people, see section 2, 'Management of health: healthy ageing'.

Emerging issues

The number of older people with HIV is growing rapidly, which is largely due to the advances in HIV treatments that enable people with HIV to live into old age (Lyons 2010). In 1985, only 2.7 per cent of people with HIV were aged 55 and over; by 2010 this had increased to 25.7 per cent and is projected to rise to 44.3 per cent by 2020 (Jansson et al. 2011). Recently published Australian figures from the University of New England have also revealed that the number of chlamydia cases in people over the age of 50 doubled between 2004 and 2010, and similar trends have also been shown in the incidence of a range of sexually transmissible infections in older people (Australian Ageing Agenda 2012).

Ageing drug users and long-term pharmacotherapy clients are also becoming increasing priorities within Australia's ageing population (Australian Injecting and Illicit Drug Users League 2011b, Australian Injecting and Illicit Drug Users League 2011a). There has been little research into this area but the limited data along with clinical experiences indicate that the range of issues for older drug users and long-term pharmacotherapy clients are multifaceted, including health issues related to chronic hepatitis C infection, disease progression and ageing (Australian Injecting and Illicit Drug Users League 2011b). The proportion of Australians aged 60 and over reporting recent illicit drug use has also been increasing, from 2.9 per cent in 1995 to 5.2 per cent in 2010 (National Centre for Education and Training on Addiction 2014). While the ageing of long-term drug users accounts for some of this rise, it has also been attributed to rising rates of misuse of prescription medications (National Centre for Education and Training on Addiction 2014). See section 6, 'Reducing harmful alcohol and drug use' for more information.

Summary

Victoria, like the rest of Australia and the world, has an ageing population. However, the Victorian older population is very diverse, with the largest proportion of any age group of people from culturally and linguistically diverse backgrounds in Australia. The aged care service system in Victoria has historically been different to that seen in the rest of Australia with significant state government involvement in provision of residential aged care. Historically, it has also been very involved in providing HACC services, and has developed a framework for providing person-centred services through the active service model. With the transition of responsibilities for HACC services to the Commonwealth Government it is uncertain how these services will look in the future, although there has been a commitment by both governments to retain the benefits of the Victorian HACC system. This context, and the broader context of ongoing aged care reforms nationally, presents both challenges and opportunities for the government in enabling healthy ageing in Victoria.

2 Management of health

At a glance

- While most older people will remain healthy and live independently at home (sometimes with formal and informal supports), many will experience an increase in age-related illnesses as they get older.
- All people should take an active role in the management of their health and wellbeing, and, supported by their health professionals, they can manage the impact that illness and disease has on their daily life and behaviours.
- When providing care, health professionals should take a holistic, person-centred approach that considers an older person's needs and wellbeing, as well as their health.
- Health literacy – or the ability of a person to understand and use information related to their health – is an important aspect of health management, and can be affected by many factors including education and socioeconomic status.
- Strategies that support good health management include multidisciplinary care, coordinated care, comprehensive health assessments, medication review and age-appropriate self-management programs.

What older people can do

- Engage in activities that promote health and wellbeing.
- Ask questions of healthcare providers to understand the treatment and to help with adherence to their directions.
- Be aware of the effects of illness on ability to function well. Illness can have an effect on emotions, self-esteem and relationships with others. Talk to health professionals if noticing something out of the ordinary.

What those supporting older people can do

- The health, wellbeing and medication use of older people should be reviewed regularly by health professionals, taking into account the likelihood and existence of multiple illnesses.
- Health professionals should use plain language and avoid jargon when giving health information, and should check for understanding by asking the older person to repeat information back in their own words.
- Older people should be encouraged to be as active and engaged in their own healthcare as possible, and be supported by those around them to make decisions regarding treatment and behaviours affecting health.

Background

An important part of enabling people to age well is the management of health and disease as people get older. This involves the way health professionals approach their care of older people, and the way older people and their family and carers manage their own health and illnesses. While the majority of older people remain healthy and manage to remain living independently at home (sometimes with formal and informal supports), many people will experience an increase in age-related illnesses as they get older. This chapter considers effective and evidence-based ways that health professionals can provide care for older people with multiple comorbidities, and how older people can self-manage age-related conditions and the effect of these conditions on their wellbeing and quality of life.

Older people are more likely than younger people to have multiple long-term health conditions (or chronic comorbidities). The most common health conditions are arthritis; hypertensive disease; hearing loss; heart, stroke and vascular disease; diabetes and cancer (Australian Bureau of Statistics 2011d). Age-related vision problems that can be disabling include cataracts, glaucoma, macular degeneration and blindness (Australian Bureau of Statistics 2011d). Dementia is a health problem that is thought to affect approximately 1 in 10 Australians over the age of 65, and research suggests that dementia is more common in Aboriginal and Torres Strait Islander Australians than in the wider population (Tovell et al. 2014). The key to minimising disability caused by these illnesses is the early detection of any functional impairment, which can then lead to treatment. Illness and disease can be affected by many risk factors, some of which are modifiable by the individual. The top five lifestyle risk factors that contribute to the burden of disease in Australia are tobacco smoking (9.0 per cent), being overweight or obese (5.5 per cent), alcohol use (5.1 per cent), physical inactivity (5.0 per cent) and high blood pressure (4.9 per cent) (Australian Institute of Health and Welfare 2016).

Many age-related conditions are preventable and reversible, and with treatment and support older people can maintain their independence (Lang et al. 2009). However, focus groups with health practitioners in Australia found there was a lack of evidence-based guidelines or training for them to manage older people presenting with multiple chronic health problems (Gilbert et al. 2011).

Self-management and health literacy

An important part of addressing health problems, and mitigating their effect on daily life, is self-management. Self-management is when a person takes a proactive role in contributing to their health and wellbeing, in partnership with their healthcare providers.

A person's ability to self-manage will be affected by a number of factors including their level of health literacy, their motivation and self-confidence. An individual's ability to monitor and respond to changes in their symptoms, emotions, wellbeing and function will improve their adaptation to illness. Their social environment – including their family, workplace and the healthcare system – can also support or impede self-care (Von Korff et al. 1997).

Health literacy is a person's ability to access, read and understand information relating to their health, and to make informed and appropriate decisions relating to treatment, behaviour and wellbeing. A low level of health literacy can result in poorer health outcomes and poorer use of healthcare services, and can also mean individuals have difficulty communicating with health professionals (Lê et al. 2013). Health literacy is not just affected by a person's level of education, but also their cognition, motivation and ability to use information in way that benefits their health (Recercaixa and Equip Atencio Primaria 2016). Health literacy has been shown to decline with age, particularly for men and those from minority backgrounds (Kobayashi et al. 2015).

A person's socioeconomic circumstance, level of education and literacy can have an effect on health outcomes, with worse health status experienced by those living in socioeconomically disadvantaged conditions (Recercaixa and Equip Atencio Primaria 2016). Older people are at high risk of low health literacy (Cutilli 2007), and approximately 80 per cent of older Australians have reported having poor health literacy (Australian Bureau of Statistics 2008b). The reason for the relatively low levels of health literacy among older adults may be to do with differing expectations of the level of participation in healthcare by older generations; cognitive decline; length of time since leaving formal education and lower levels of formal education received by older generations (Australian Commission on Safety and Quality in Health Care 2014a).

There is very little research on whether the health literacy of older adults affects their adherence to treatment or interventions (Geboers et al. 2015). Some research suggests that inadequate health literacy is associated with less likelihood of meeting guidelines for suggested levels of physical activity (Al Sayah et al. 2016, Geboers et al. 2014), whereas other research has shown that health literacy does not affect compliance with guidelines for fruit and vegetable consumption (Geboers et al. 2014).

Medication management

Older people with multiple medical conditions may be on a number of medications, which puts them at higher risk of falls, delirium, hospital admissions, declining nutritional status, decreased physical and social functioning, and death (Department of Health and Human Services 2015a). Health literacy is a strong predictor of medication adherence in older people (Lee et al. 2015).

Many older people with multiple conditions successfully manage their medication at home as prescribed by a general practitioner and dispensed by a pharmacist, however, research suggests that some older people may lack the skills and knowledge needed to manage their medication, including being unable to state the names of their medications (even with the help of a medication list) and having difficulties opening medication packages (Sino et al. 2014). This is more likely to occur if a person is taking five medications or more.

Some of the problems associated with medication use that affect older people are (Elliott 2006):

- inappropriate prescribing
- polypharmacy
- non-adherence
- suboptimal monitoring of drugs
- poor medication management at home (for example, storing medicines in unsuitable places)
- under-prescribing (that is, not prescribing medications that are indicated, for example analgesics for pain)
- poor communication between health professionals.

Polypharmacy is generally defined as the prescription of four or more medications and is estimated to occur in at least 40 per cent of older Australians (Goldney and Fisher 2005)

Reduced assistance from professional caregivers is also associated with medical errors. Recent research suggests that older people who take their medication with little oversight by health professionals may experience uncertainty about medication side effects, and concern that the medication might be harmful. This feeling of uncertainty was less likely if the older person had regular visits with health professionals, because supportive and caring relationships, continuity in care and access to appropriate information made the older person feel more secure and better able to assist with managing their own health needs (Meranius and Hammar 2016).

Evidence for strategies to manage health

This section will detail strategies for health professionals and for older people that are effective in management of health. These strategies include ways of supporting health literacy and medication management, as well as managing multiple age-related conditions.

Person-centred care

Health professionals can support older people's health and wellbeing by providing person-centred and evidence-based care. Person-centred care is a collaborative and respectful partnership between the older person and the care provider. Person-centred care acknowledges the values, goals and past experience of the older person, and considers their whole self and individuality when providing care (Dow et al. 2006).

The main things contributing to person-centred care are: (Dow et al. 2006):

- having skilled, knowledgeable and enthusiastic staff, especially with good communication skills
- opportunities for involving the service user, their carers, family and community (for example, volunteers) in healthcare
- providing the opportunity for staff to reflect on their own values and beliefs and express their concerns

- opportunities for staff training and education, including feedback from service users
- organisational support for this approach in practice
- working in an environment of mutual respect and trust
- physically and emotionally enriched care environments
- being in the client's home.

The main barriers to person-centred care are:

- time (various studies stated that person-centred approaches to care take more time)
- dissolution of professional power; that is, staff experiencing loss of professional status and decision-making power
- staff lacking the autonomy to practice in this way
- the lack of clarity about what constitutes person-centred care, making it more difficult to practice and to explain to clients
- clients with communication difficulties
- the constraining nature of institutions, including physically or spiritually impoverished environments of care.

For further detail on how health professionals can support older people's health and wellbeing, see the Victorian Government online resource *Older people in hospital* (Victorian Department of Health 2015). While focused on hospitals, this resource provides useful tips that are transferrable to older people in various settings.

The HACC active service model aims to help people live in the community as independently and autonomously as possible. The approach focuses on people's strengths and assumes everyone has some capacity to improve their own health and wellbeing. For further information see the Victorian Department of Health and Human Services' health.vic website (Victorian Government 2015b).

Multidisciplinary care

Given the complexities of age-related conditions, recent studies suggest that a coordinated multidisciplinary effort is required by health professionals to provide the best care for older people (Lang et al. 2009, Pacala and Yueh 2012). For example, one of the most effective interventions regarding medicine management for older people appeared to be multidisciplinary case conferences involving a geriatrician, which have resulted in a number of examples of reduced inappropriate prescribing in both community and hospital settings (Kaur et al. 2009).

Most preventive healthcare and early disease screenings are ideally undertaken by GPs in a primary care setting (Harris 2008, The Royal Australian College of General Practitioners 2006). The Chronic Disease Management Medicare items on the Medicare Benefits Schedule enable GPs to plan and coordinate care of patients with multiple chronic conditions who require multidisciplinary, team-based care.

Assessments and reviews

Geriatric assessments

One way of ensuring early detection of functional impairment or the symptoms of age-related illness is through a general health assessment that collects information about a person's medical, physical, social and psychological situation and concerns. The Commonwealth Government provides a Medicare-funded annual health assessment for people aged 75 years and over (and Indigenous and Torres Strait Islander people aged 55 years and over). Evaluation of this assessment program revealed those who were assessed showed improvements in their self-rated health, their geriatric depression score and the number of falls they experienced. However, those who had a health assessment were no more or less

likely to have health problems than those who weren't assessed, and there was no significant difference in mortality between the two groups (Newbury et al. 2001).

Research has also shown that a hospital-based comprehensive geriatric assessment, using a multidimensional, interdisciplinary diagnostic process to determine the medical, psychological and functional capabilities of a frail older person, reduces mortality and increases the likelihood that an older person will still be living in their own home at least one year after an emergency hospital visit (Ellis et al. 2011).

Medication review

Medications need to be reviewed regularly. The Commonwealth Government introduced Home Medicines Review (Commonwealth Government Department of Health 2015) to be undertaken by a community pharmacist and GPs to assist individuals living at home to:

- achieve safe, effective, and appropriate use of medicines by detecting and addressing medicine-related problems that interfere with desired patient outcomes
- improve the patient's quality of life and health outcomes using a best practice approach that involves cooperation between the GPs, pharmacist, other relevant health professionals and the patient (and where appropriate, their carer)
- improve the patient's, and health professional's knowledge and understanding about medicines
- facilitate cooperative working relationships between members of the healthcare team in the interests of patient health and wellbeing.

An evaluation of the Home Medicines Review found it is effective in preventing, detecting and resolving medication-related problems, and that it can improve the appropriateness of prescribing, which improves health outcomes (Castelino et al. 2010).

Online health management strategies used by health professionals

There is not yet significant research to support the use by health professionals of online health management strategies when working with older populations. However, a review to reduce inappropriate prescribing in older people found that computerised support system interventions produced significantly improved prescribing and dispensing practices (Kaur et al. 2009).

A newly developed web-based tool, Monitor-Rx, can identify older people at high risk of drug-related geriatric syndromes. However, this tool was found to be less superior in identifying inappropriate use of medicines than a well-trained geriatric pharmacist and the professional judgment that comes with that experience (Lukazewski et al. 2012).

Self-management programs

Improved patient outcomes have been demonstrated by self-management programs that incorporate behavioural and psychosocial strategies, and are culturally and age-appropriate (Funnell et al. 2007). Ongoing support (as opposed to short-term intervention) is necessary to sustain the progress of patients. Some research suggests that health professionals can wrongly assume older people will not wish to partake and adhere to exercise-based self-management programs, and that health professionals should move from being 'experts' to 'enablers' to allow people to self-manage (Robinson et al. 2014).

There are many education and intervention programs that aim to help people manage their own health and chronic illnesses by introducing and educating participants in the core elements of self-management, such as problem solving, decision making, resource utilisation, forming partnerships with healthcare providers and taking action (Lorig and Holman 2003). Programs can be led by lay people, health professionals or peers, and can require individual or group involvement. Most self-management programs have a single disease focus due to the different nature and progression of each disease, and

while they do not specifically target older people, many chronic disease self-management programs would be aimed at older people if the illness is age-related.

There is little evidence about the effectiveness of self-management programs for older people though this may be because of a range of approaches and the difficulties of standardising them for the purpose of evaluation (Hadjistavropoulos 2012). A review of self-care programs available for older people with long-term conditions showed that the majority of the programs were patient education delivered in a group setting by health professionals (Berzins et al. 2009), and while there are different ways of delivering effective programs, research evidence predominantly comes from face-to-face group setting delivery (Chodosh et al. 2005).

Some programs reported positive outcomes, including changes in physical functioning, increased illness knowledge and increased self-efficacy (Berzins et al. 2009). A Cochrane systematic review on lay-led self-management education programs showed small and short-term improvements in participants' self-efficacy, self-rated health, cognitive symptom management, and frequency of aerobic exercise (Foster et al. 2007). Self-management programs can reduce stress, illness intrusiveness and depression, as shown by a recent program that focused on goal setting and achieved better outcomes in exercise behaviours, cognitive symptom management, mental stress management, self-rated health and social activities limitations (Park and Chang 2014).

A systematic review of nine self-management studies on physical activity, weight loss, nutrition, and diabetes conducted among older people found an average small to moderate effect size (Aalbers et al. 2011). This review showed that positive lifestyle changes were feasible among older people. Furthermore, they found that complex interventions were more effective than single component interventions regardless of the way the interventions were being delivered (tailored vs. generic; online vs. offline).

The Healthy Changes program took place in a community setting in the United States and its innovative approach of a peer-leader group format resulted in improvements in health behaviours, supportive resources and self-efficacy for older adults with type 2 diabetes. The program included goal setting, problem solving, group support and interactive lectures from experts to improve diet and physical activity among older people who were either overweight or obese and suffered from multiple chronic conditions (Klug et al. 2008).

An evaluation of the MOVE! Weight Management Program for Veterans implemented in the United States showed that sustained intervention was needed in order for weight loss to occur in older adults (Kahwati et al. 2011). The program included assessment, the promotion of healthy eating and increased physical activity, and referral to weight-management services and treatments most appropriate for the individual.

Online self-management tools

Online self-management interventions are perceived as a cost-effective method to deliver lifestyle programs to a wider audience (Aalbers et al. 2011). A recent study, however, showed that less than 10 per cent of older adults with low health literacy used the internet to obtain health information, compared with over 30 per cent of those with adequate health literacy (Levy et al. 2015). Women are nearly three times more likely than men to use the internet for health information (Tennant et al. 2015).

A review of seven computer-based interventions showed that screening questions on the assistance required to navigate health information gives a good indication of health literacy (Collins et al. 2012). The use of basic screening questions on health and technology literacy allows online health programs to be tailored to meet the consumers' needs (Collins et al. 2012).

A recent trial of the Stanford online chronic disease self-management program in South Australia found reduction in symptoms, improvement in health behaviours, self-efficacy, and reduction in healthcare utilisation at the 12-month follow-up (Lorin et al. 2013). A study of older people with bladder problems

who used an online self-management tool found improvements in knowledge, symptoms, self-efficacy and health-related quality of life scores (Ruiz et al. 2011).

The *Wellness guide for older carers* was an Australian web-based publication for older carers to increase knowledge and skills about caring, and provide information about local services. An evaluation of the guide showed that it produced change of behaviour and improved health, with carers feeling more prepared for their role, and having an enhanced sense of personal control, though changes in physical and mental health were not statistically significant (O'Connell et al. 2010).

In the United Kingdom, there are several online self-management resource centres for consumers, carers and health professionals. The Self Management website <www.selfmanagement.co.uk> contains the National Register of Self-Management, a searchable database of tutors, assessors, trainers and lead trainers who are trained and accredited to deliver the Expert Patients Programme (Self Management UK). An evaluation of the Expert Patients Programme showed sufficient evidence of effectiveness with positive results regarding healthcare usage (decrease in GPs and accident and emergency unscheduled visits), reduction in medication usage and improvements in self-efficacy and self-care behaviour in patients with chronic disease.

While some older people may be familiar with computers and internet use, older cohorts may have less experience and access, so may avoid self-management tools that are only available online. Recent research into web design for older people made the following recommendations (Taylor et al. 2014):

- Avoid the use of plug-ins (such as the Flash player) as they can be difficult to download and install.
- Avoid the use of scroll bars, drop-down menus and expanding menus as some individuals may have fine motor skill difficulties.
- Use clear and unambiguous instruction.

Telephone support and counselling

There is evidence that peer telephone support may be effective for certain health conditions (Dale et al. 2008). An evaluation of a structured telephone support and telemonitoring intervention found that this intervention was effective in reducing the risk of all-cause mortality and chronic heart failure-related hospitalisations (Inglis et al. 2010). Moreover, this intervention was found to improve quality of life, improve prescribing of evidence-based pharmacotherapies and reduce costs (Inglis et al. 2010). The Department of Veterans' Affairs has been trialling the use of in-home telemonitoring and results will be available in late 2016.

Evaluations of the Living with Memory Loss Program and the Dementia Education and Support Program, which both target people with dementia and their carers, showed some evidence of effectiveness in terms of older adults' satisfaction with the programs (Bird et al. 2005, Rosewarne and de Man 2000). Even with the differing approaches of telephone support and counselling versus small group discussions, carers of people with dementia in both programs reported feeling less burdened.

Medication self-management

The National Prescribing Service (NPS) provides a telephone support service for consumers called Medicines Line (1300 MEDICINE). Through this telephone support, older people can access information on:

- how a medicine works
- how to take medicines
- side effects
- interactions with other medicines
- storage of medicines
- how to obtain consumer medicine information leaflets for your prescription medicines

- referrals to reliable services and support organisations, for example, support organisations for people with your health condition
- promotion of quality use of medicines and provision of information that is independent, evidence-based, appropriate and safe
- encouraging responsible use of medicines by increasing public awareness about medicines.

In addition, NPS in collaboration with Council on the Ageing (COTA) offers a national Quality Use of Medicine peer education program. These NPS programs have not been evaluated for effectiveness.

Strategies that are effective in improving medication adherence include having reminder packaging (Mahtani et al. 2011) or calendar packaging combined with education and reminder strategies (Zedler et al. 2011).

Communication

An important part of self-management is ensuring that health information is clearly communicated to and understood by the older person concerned. Older people with health conditions may find their capacity to communicate is impaired (for example, through stroke, dementia, chronic obstructive pulmonary disease and hearing impairments), which will have an influence on their health literacy (Department of Health 2015). Older people who are prevented from being able to properly participate in communication with healthcare providers may feel abandoned to self-care, which can lead to risk-taking and a lack of adherence to treatment (Meranius and Hammar 2016).

Spoken communication

It is important for health professionals to make sure they are understood when talking to older people. Only 40 per cent of adults can understand health messages in the form they are usually presented (Australian Commission on Safety and Quality in Health Care 2014b). Strategies health professionals can use to ensure better communication include checking for understanding by asking the older person (or, if the older person does not have capacity to be involved, asking their family member or carer) to explain their illness or treatment in their own words, and whether they have an understanding of each medication they are taking and why (Pearce and Clark 2013).

Written communication

All written communication should be in plain language, using concise and familiar words, short sentences and the active voice (Pearce and Clark 2013). Define technical terms, avoid acronyms and repeat important information (Aldridge 2004). The use of clear headings and short, bullet-pointed lists can be useful, with the focus on the desired behaviour of the individual, rather than on medical facts (Pearce and Clark 2013).

Some research suggests that two ways of increasing the likelihood that older adults with different levels of health literacy will comprehend information are to use narrative formats (information structured as a story, in text or video), and a combination of textual and visual features to repeat the necessary information (Koops van 't Jagt et al. 2016). However, a recent study using pictograms to depict precautions and warnings against medication side effects showed that pictograms were not well understood by older people (Berthenet et al. 2016).

A systematic review of 38 interventions addressing low health literacy found evidence around the use of multiple discrete design features that include (Sheridan et al. 2011):

- presenting essential information by itself or first
- presenting information so that the higher number is better
- adding icon arrays to numerical information
- adding video to verbal narratives.

Many factors may affect the English proficiency and health literacy of people from CALD backgrounds, and should be taken into account when communicating. The level of literacy attained in a person's own language, and the similarity of one's own language to English can affect how well an individual can communicate in English. Older people's use of English can also be affected by how and when they learned the language (through work and day-to-day use, or more formally), while people who experience cognitive decline may lose proficiency in their second language (Multicultural Communities of SA Inc and Multicultural Aged Care Inc 2005).

There are a number of things health professionals can do when providing care for older people from CALD backgrounds, including (National Ageing Research Institute 2011):

- consulting with the older person and their family as to whether an interpreter should be used, to ensure complex information can be discussed
- providing written information in the older person's main language
- being aware of issues that may be culturally sensitive
- checking that the older person has understood what you have said.

Gaps and issues

In general, a low level of health literacy can mean poorer health outcomes and poorer use of health services, however there is little specific research on health literacy and older people. The baby boomer cohort is more likely to use the internet and technology for their health needs than earlier generations, so further research needs to take this into account, while acknowledging that older people with low health literacy are less likely than others to use the internet.

While there is evidence supporting the use of age-appropriate self-management programs for older people, the research usually relates to a specific illness, such as arthritis. There is a need for more research into self-management programs that support older people with multiple, long-term illnesses.

There is not yet significant research to support the use by health professionals of online health management strategies when working with older populations, though computerised support systems have been shown to improve medication prescribing and dispensing practices.

Summary

Getting older can affect a person's health and wellbeing, and older people are more likely than younger people to have multiple long-term health conditions. All people are encouraged to take an active role in managing their health and wellbeing and, supported by their health professionals, individuals can help manage the impact that illness and disease has on their daily life and behaviours.

Health literacy – or the ability of a person to understand and use information related to their health – is an important aspect of health management, and can be affected by many factors including education and socioeconomic status. Low health literacy can result in poorer health outcomes, poorer use of health services and less adherence to correct medication usage. Older people with multiple illnesses are more likely to have multiple medications, which puts them at higher risk of adverse effects.

Strategies that can support good management of health include multidisciplinary and person-centred care; coordinating care for multiple chronic diseases; comprehensive health assessments; medication reviews; age-appropriate self-management programs, including education, goal setting and ongoing support; and clear spoken and written communication by health professionals, including checking the older person has understood.

3 Healthier eating

At a glance

- Healthy eating enables healthy ageing throughout life. As people get older, their nutritional needs change, and may require different behaviours.
- While it is generally better not to be overweight, recent research suggests that people over the age of 65 should not focus on losing weight, as a higher body mass index (BMI) at this age may serve as a protective factor against illness and premature mortality.
- Eating nutritious foods and keeping physically active can help maintain muscle strength and healthy weight.
- The use of dietary guidelines, education resources, nutrition and exercise programs, an awareness of food safety, and fortification and supplementation of foods have all been shown to be effective strategies for enabling healthier eating.

What older people can do

- Eat a range of healthy foods – for information specific to older people see the Australian Dietary Guidelines.
- Focus on eating a wide variety of healthy food instead of focusing on weight loss.
- Speak to a doctor about nutritional needs and how these might change as a person gets older.
- Try and make eating a social occasion as eating alone can result in a poorer diet.

What those supporting older people can do

- Be aware that recommendations regarding healthy eating for older adults are different than those for young people and middle-aged adults.
- Encourage older adults to eat a range of nutritious foods and encourage them to eat frequent small meals if they are struggling with appetite.
- Encourage older adults to join group-based nutrition activities that promote social interaction.

Background

Healthy eating is important for older adults as it enables healthy ageing. Nutrition research indicates that an adequate and safe supply of food is required throughout the different life stages to maintain health. As people age, physiological changes occur that may make it more difficult to meet optimal nutrition needs. These may include changes in appetite, hormone levels, disease and injury reduced mobility, medication and difficulty chewing and swallowing.

Body weight

The major nutrition-related threat for adults in Australia and in the more developed world is the increasing percentage of the population who are overweight (World Health Organization 2015b) as increased weight links with the chronic conditions of cardiovascular disease, metabolic syndrome and cognitive decline (World Health Organization 2003a, Gillette Guyonnet et al. 2007, Komulainen et al. 2007a, Komulainen et al. 2007b, Inzitari et al. 2011, Solfrizzi et al. 2011). In contrast, in developing countries, malnutrition is a significant issue, however focusing on developing countries is beyond the scope of this review.

According to the *National health survey*, in 2014–2015, 63.4 per cent of the Australian population (18 years and over) was either overweight or obese; in 55 to 64-year-old men, 81.8 per cent were classified as overweight or obese (BMI greater than 25); while for women of the same age this was 68.2 per cent. In Victorian adults aged 65 years and older the rates of being overweight or obese are approximately 59 per cent and 52 per cent for men and women respectively (Department of Health and Human Services 2016). If the current trend continues, 6.9 million Australians are likely to be obese by 2025 (Access Economics 2008). In addition, overweight and obesity account for 54.7 per cent of the disease burden for type 2 diabetes and 19.5 per cent for cardiovascular disease. The healthcare costs imposed by these would be additional to the costs from obesity-related morbidity alone, which was estimated at \$58 billion in 2008 (Access Economics 2008). The number of people who are overweight and obese now is likely to be a problem in the future as these people become older people with risk of chronic disease, metabolic syndrome, cardiovascular disease and cognitive decline in later life.

Diets that are high in vegetables, fruit, whole grains, poultry, fish, and reduced-fat dairy are associated with increased quality of life and survival in older adults (Anderson et al. 2011). Australian nutrition research has shown that the overall dietary quality is better among older rather than younger Australians, based upon the latest available national survey (Australian Bureau of Statistics 2015d). There is an association between income and measures of area-level socioeconomic disadvantage, smoking, physical activity and waist-to-hip ratio (McNaughton et al. 2008). An association has also been shown between being overweight or obese and the indices of socioeconomic status (Australian Bureau of Statistics 2015d). Additionally, a 15-year longitudinal study of older Australians (Arabshahi et al. 2011), and a survey of Indigenous Western Australians (Burke et al. 2007) indicated that health behaviours, including dietary habits, tend to cluster in population subgroups – this predicts more chronic illness in future ageing generations, especially among disadvantaged groups.

While weight loss may be desirable for many younger and middle-aged people, it is not necessarily so for the older population as weight is disproportionately lost from lean body tissue in older people. Loss of muscle mass can lead to increased falls and a risk of protein-energy malnutrition, which in turn is associated with impaired muscle function, decreased bone mass, immune dysfunction, anaemia, reduced cognitive function, poor wound healing, delayed recovery from surgery, and ultimately increased morbidity and mortality (MacIntosh et al. 2000, Moss et al. 2012). Higher BMI in people aged over 65 also reduces the relative risk of disease as it gives older people excess energy stores in times of injury or illness (Winter et al. 2014).

Malnutrition

Due to the normal physiological effects of ageing and some common medical conditions in this age group, older people can be less hungry and become more rapidly satiated after eating a standard meal than younger people. Malnutrition or malnourishment occurs when food and nutrient intake is not sufficient to maintain body function. Usually this occurs in the context of undernutrition, but can occur in cases of over-nutrition. Malnourishment is prevalent in older Australians with an estimated 25–40 per cent of adults aged 65 years and older assessed as malnourished or at risk of malnourishment (Rist et al. 2012). Of community-dwelling adults receiving care from home nursing services in Victoria, 34.5 per cent were at risk of malnourishment, while 8.1 per cent were malnourished (Rist et al. 2012). Research shows that approximately 5–11 per cent of people receiving Home and Community Care services are malnourished (Leggo et al. 2008).

Other specific food and nutrition-related impacts on bone health are due to lack of calcium and vitamin D (Palacios 2006, Bonjour 2009, Caudarella et al. 2009), and some cancers due to nutrient and fibre deficiencies (Gonzalez and Riboli 2010). Problems with oral health (MacIntosh et al. 2000, Mioche et al. 2004) and anorexia (MacIntosh et al. 2000, Moss et al. 2012) can also affect dietary intake and lead to malnutrition in older people. Older people affected by malnutrition are also more susceptible to food-borne illness (Lund and O'Brien 2011, Food Standards Australia New Zealand 2013).

Failure to detect early signs of malnutrition at every stage of the life course will jeopardise healthy ageing. This effect can be seen, for example, in relation to intake of vitamin B12, and the 'bone nutrients' (calcium, magnesium, potassium, phosphorus and zinc, plus vitamins K, C and D) (Palacios 2006). Foetal stores of vitamin B12 will last for several years after birth, but with insufficient daily intake from diet, or due to malabsorption, these stores will become depleted (Malouf and Grimley Evans 2008). Sufficient intakes of calcium and other bone nutrients during growth are needed to secure optimal bone mass accumulation which, along with sufficient weight-bearing exercise and continued good nutrition, will prevent osteoporosis later in life (Bonjour 2009).

National cross-sectional studies worldwide indicate that significant improvement in dietary patterns and nutritional intake is possible, leading to changes that affect chronic disease in the older adult population (Pietinen et al. 2008), a conclusion corroborated by longitudinal studies on dietary habits and cardiovascular disease risk in middle-aged and older populations (Tourlouki et al. 2009).

Food security

Excessive consumption of high-fat foods, foods containing saturated-fat, sugar, salt and alcohol, accompanied by total consumption in excess of energy requirements, are the main threats to health in Australia and the more developed world (World Health Organization 2015b). Despite availability of food, the current Australian food system can be considered unsustainable in meeting its population's nutritional needs, as measured by the current epidemic of obesity and overweight (Australian Chronic Disease Prevention Alliance 2011), and therefore not meeting the Food and Agriculture Organization's (FAO and WHO 1992) definition of food security which is: 'Food security exists when all people, at all times, have physical and economic access to enough safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life'. A review of food security and local government action undertaken for the Victorian Department of Health in 2011 provided insights into the ways in which governments and local communities have acted, but due to a dearth of research findings into the effectiveness of such strategies, no clear recommendations could be made (Montague 2011). Currently, disparity in access exists between rural and urban communities and between socioeconomic groupings (Australian Bureau of Statistics 2015d, Arabshahi et al. 2011), with higher rates of obesity in lower socioeconomic groups. More Australian research is needed at the local level to find out the best ways to change and alleviate this (Montague 2011).

Living alone

Many older adults live alone and this can be associated with poor variety of diet. A cohort study of men over 50 showed an association between living alone and reduced fruit and vegetable intake (Conklin et al. 2014). A cross-sectional study of older Japanese adults found eating alone was associated with unhealthy dietary behaviours in men and women (Tani et al. 2015). The study also reported that the effects of eating alone were stronger for men. For older men, eating alone was associated with being either overweight or underweight and skipping meals. There are healthy eating resources for older adults who are no longer able to cook for themselves which are discussed in the following section.

Evidence of strategies that support healthy eating

Healthy ageing can be supported through good nutrition. This requires sound nutrition policy and local action that supports the availability of, and equal access to, health-promoting foods and evidence-based nutritional advice, and services that increase the self-efficacy and health literacy of the wider community. It also requires the strong participation of healthcare professionals with training in nutrition.

Australian Dietary Guidelines

The 2013 *Australian dietary guidelines* are an excellent resource for older adults and those supporting older adults. The guidelines contain tips on tackling healthy eating challenges faced by older adults. It

should be noted that the guidelines are not recommended for frail older people who have different nutritional needs. The guidelines recommend older adults:

- Eat nutritious foods and keep physically active to help maintain muscle strength and healthy weight.
- Enjoy a wide variety of nutritious foods by planning in advance to allow for budget constraints. Choose easily palatable food, such as soft cooked and canned fruit, vegetables and nut pastes, if chewing is a problem.
- Limit the intake of food and drinks containing fat, added sugar, added salt and alcohol. Older people may need to talk to a healthcare professional about the risks and benefits of kilojoules versus nutrients and issues with malnutrition.

Education resources

The *Well for life* website also provides evidence-based resource toolkits for the support and education of staff working with older people (Department of Health and Human Services 2015b) that relate to nutrition. The *Well for life* toolkit provides tools for staff providing care to older adults. The tools include training modules and case studies on healthy ageing, nutrition, physical activity and emotional wellbeing; help sheets with information and tips to aid in strategy development; and checklists to promote good practice to promote healthy eating. The *Well for life* toolkit also provides additional resources including research, books, internet sites, magazines, videos and training manuals. A description of each resource and where to find it is included.

A useful resource for older adults concerned with the effects of malnutrition is *Eat to cheat ageing* (Hobbins 2014). This book contains evidence-based tips and tools to help older adults maintain healthy eating into the later stages of life. Other resources for older adults can be found on the Dietitians Association of Australia website (Dietitians Association of Australia 2010) and the Nutrition Australia website (Nutrition Australia 2013).

Seniors Online Victoria has an excellent healthy eating resource for older adults (Department of Health and Human Services 2015a). The website and *Seniors celebrating good eating* guide provide tips and ideas for increasing food enjoyment in older adults through growing food, preparing meals at home, eating out, preparing food with children, and other tips and tricks.

A review on nutrition education interventions for older adults found that many interventions tended to report limited success in behaviour change (Sahyoun et al. 2004). Despite this finding there were certain features that led to positive outcomes including: limiting education messages to one or two; reinforcing and personalising messages; providing hands-on activities, incentives, cues and access to health professionals; and using appropriate theories of behaviour change (Sahyoun et al. 2004). However, this review found that there is a paucity of intervention programs for older adults targeting nutrition. It was noted by these reviewers that before the question about whether nutrition education has a lasting influence on dietary behaviour, biochemical changes and ultimately health improvement/maintenance in older adults can be answered, we need to learn what constitutes well-constructed intervention programs for older adults and develop and evaluate these programs.

An education program, the Healthy Eating for Life Program (HELP), specifically addressed nutritional needs of older adults and focused on food for good nutritional health and eating a variety of nutritious foods (Long et al. 2003). A comparison evaluation showed that the HELP program did assist older adults plan and make changes in their fruit and vegetable eating behaviours through promoting behaviour change and self-efficacy (Long et al. 2003). However, the results may have been biased as the evaluation did not use random selection.

Nutrition and exercise programs

Evidence-based nutrition and exercise education programs successfully implemented into a community setting include the Eat Better Move More (EBMM) program in the USA (Wellman et al. 2007) and the

Happy Together course in Austria (healthPROelderly). The EBMM program was tailored to meet the needs of older adults and aimed to promote behaviour change. The evaluation showed the program improved diets and increased fruit, vegetable and fibre consumption (Wellman et al. 2007). The evaluation of the Happy Together course showed positive health effects in participating migrant women with changed lifestyles and views on nutrition (healthPROelderly). These nutrition education programs were thought to be enhanced by integrating physical activity, however, as the evaluations did not involve any comparison groups, it is difficult to determine which strategy or approach was most effective.

The Evergreen Action Nutrition program was developed as a community-based approach after Canadian researchers identified that little was known about secondary prevention services to help older adults in the community eat better (Hedley et al. 2002, Keller et al. 2005). Created by nutritionists and older adults, the program offered secondary programs such as food demonstrations and workshops at local community centres, as well as nutrition counselling, garden fresh boxes, diabetes support groups and cooking groups. A three-year process evaluation of the program showed that the food demonstrations resulted in the greatest changes in food practices such as cooking methods and/or increased fruit and vegetable intake (Keller et al. 2005). Key strategies to the success of the food demonstrations included: empowerment of behaviour change; an interactive format (including taste testing); social interaction; relevant information, specifically in the form of recipes; consistent, high-quality education; and small group sizes (Keller et al. 2005). Another key strategy was involving older adults in planning, implementing and evaluating the program. This is likely to be a successful strategy as it promotes an ownership of the program for older adults, which is more likely to lead to behaviour change.

One of the largest nutrition assistance programs for older adults in the USA and possibly worldwide is the Elderly Nutrition Program (ENP) (Colello 2011). This innovative program provided grants to state agencies to support congregate and home delivered meals to people aged 60 and over (Colello 2011). The primary aim of the program is to improve the dietary intakes of older adults and offer opportunities to form new friendships and extend social networks (Colello 2011). A major national evaluation of the program found that ENP provided an average of 1 million meals per day to older Americans, targeting highly vulnerable groups including the very old, people living alone, people below or near the poverty line, minority populations and individuals with significant health conditions (Mathematica Policy Research 1996). The main nutritional outcomes were that ENP meals supplied well over 33 per cent of the recommended dietary allowances for key nutrients, were nutrient dense, and significantly increased the dietary intakes of ENP participants (Mathematica Policy Research 1996). Other key outcomes were the reduction in social isolation seen in the evaluation participants, community development, linking agencies with the home and community-based long-term care system, and the cost effectiveness of the program. The ENP plays a key role in improving nutritional intake of older Americans through providing a range of nutrition services such as nutrition screening, assessment, education and counselling to help older adults meet their health and nutrition needs. A number of ENPs across the USA have implemented innovative strategies and activities to address the current nutrition challenges.

One of the ENP's strategies that has been evaluated is the Senior Farmers' Market Nutrition Program, an innovative program that provides low-income seniors with coupons that can be exchanged for eligible foods at farmer's markets, roadside stands and community support agricultural programs (United State Department of Agriculture: Food and Nutrition Service). The aim is to provide fresh, nutritious, unprepared locally grown fruits and vegetables to low-income seniors while increasing the consumption of agricultural commodities (United State Department of Agriculture: Food and Nutrition Service). The program was evaluated and found to be cost effective and successful in targeting older adults (Department of Elder Affairs 2006). The evaluation participants noted high satisfaction with the program in terms of nutritional benefits and improved finances (Department of Elder Affairs 2006). The risk assessment showed that older adults who participated in the program significantly improved their chances of receiving proper nutrition (Department of Elder Affairs 2006). One concern outlined in the evaluation was that although all participants were meant to receive nutrition education materials only 57.6 per cent could recall receiving them (Department of Elder Affairs 2006). A recommendation was

made to improve the nutrition education efforts of the program. Key strategies used in this program included individual empowerment and behaviour change as well as ongoing community development and mobilisation. These factors may have played a role in the program's long-term sustainability.

The Nutrition for One or Two program in Australia aimed to increase the nutrition and food preparation skills of frail HACC clients and promote their functional independence through six three-hour workshops run at community centres (Griffith University 2010). Although there was only a low-level impact and process evaluation conducted, the program showed improvements in self-reported knowledge, attitudes and behaviour regarding nutrition, quality of life and improvements in skills to cook for themselves. The promotion of self-efficacy of the participants was a key strategy used in this program (Griffith University 2010).

Nutrition programs targeting food insecurity that have been evaluated include the Braystone Fruit and Vegetable Supply Project in Australia (VicHealth 2003) and the Food Security Community Partnership Project (FSCPP) in Canada (Peterborough Country-City Health Unit 2007). Both projects help people access healthier foods, particularly fresh fruit and vegetables, through innovative programming and partnerships. Low-level evaluations were conducted and findings indicate that both the frozen food program in the FSCPP program (Peterborough Country-City Health Unit 2007) and the weekly mobile market stall in the Braystone project (Elsworth and Astbury 2005) were successful in providing affordable and convenient access to fruit and vegetables. The evaluation also showed the 'come cook with us' facilitated cooking sessions in the FSCPP program resulted in increased food preparation skills and food safety knowledge (Peterborough Country-City Health Unit 2007). Community development and linking between agencies were key strategies utilised in these programs. The evaluation of the Braystone project also showed that through the commitment and hard work of individuals and the support of a strong network of evolving partnerships the project had clear potential for sustainability (Elsworth and Astbury 2005).

Overweight, cardiovascular disease, cancer and cognitive decline

Measures recommended for reducing weight can also reduce the nutritional risk factors for chronic disease, cancer and cognitive decline. With respect to cognitive decline these include:

- reducing the intake of saturated and trans-unsaturated (hydrogenated) fats (positively associated with increased risk of age-related cognitive decline, mild cognitive impairment and Alzheimer's disease)
- increasing the intake of polyunsaturated (in particular, n-3 PUFA) and monounsaturated fats (protective against cognitive decline in older people in prospective studies)
- increasing fish consumption (associated with lower risk of Alzheimer's disease in longitudinal cohort studies)
- ensuring adequate intake of B-vitamins, especially vitamins B9 (folate) and B12 can reduce the risk of cognitive decline and dementia
- results on antioxidant nutrients are more mixed, suggesting a need to balance the combination of several antioxidant nutrients to exert a significant effect on the prevention of cognitive decline and dementia to avoid any adverse effects caused by overdosing on some
- securing adequate intake of fruit and vegetables as a source of protective antioxidants against cognitive decline, dementia and Alzheimer's disease
- keeping alcohol use to a moderation. Light-to-moderate alcohol use may be associated with a reduced risk of incident dementia and Alzheimer's disease, while for vascular dementia, cognitive decline and pre-dementia syndromes, the current evidence is only suggestive of a protective effect (Gillette Guyonnet et al. 2007, Solfrizzi et al. 2011, World Health Organization 2003a).

The above recommendations are in line with the WHO dietary guidelines (World Health Organization 2003a) for the reduction in overweight and obesity by achieving energy balance and a healthy weight; reduction of chronic illness by limiting energy intake from total fats and saturated fats and eliminating

trans-fatty acids from the dietary sources; increasing the consumption of fruits and vegetables, legumes, whole grains and nuts; and limiting the intake of free sugars and salt (sodium). These guidelines refer to all ages; however, as noted in the previous section, some caution should be exercised with adults over the age of 60 years as being overweight is a protective factor for older people (MacIntosh et al. 2000, Moss et al. 2012, Flicker et al. 2010, McLaughlin et al. 2011, Winter et al. 2014).

Reducing salt consumption from the current levels of above 18 grams per day closer to the recommended level (varying by country from 5 to 8 grams per day), will lead to lower blood pressure levels resulting in significant health benefits and reduced risk of premature mortality (Mozaffarin et al. 2014). Centrally implemented national salt reduction strategies involving all stakeholders and with monitoring and regulatory systems in place are projected to be highly cost effective in the prevention of chronic diseases (Männistö et al. 2010).

Bone health

Bone fractures can be prevented by adequate calcium intake and weight-bearing exercise, plus daily 15-minute exposure of the arms and face to sunlight or supplementing the diet with vitamin D, provided the nutritional intake of calcium and other nutrients is otherwise adequate. Although bone health is established early in life, it needs to be upheld throughout the life course, and can be improved and maintained till late in life (Bonjour 2009). Reducing salt (sodium) intake can provide protection against fractures as high intake of salt has been associated with osteoporosis (Caudarella et al. 2009).

Food safety

Food safety is an important concern for all Australians. Older people generally report safer food-handling practices than younger people, but are more susceptible to food-borne illness and the related complications due to age-related weakening of resistance to infection (Lund and O'Brien 2011, Redmond and Griffith 2003). Food safety may also become a concern with older people due to poor eyesight, memory or other reduction of sensory capacity. Older people affected by malnutrition are naturally more susceptible to food-borne illness. Good nutritional status helps fight infection, but prevention is the key (Lund and O'Brien 2011, Redmond and Griffith 2003). In a review of food-borne illness, Lund and O'Brien (2011) pointed out that 'diets for vulnerable people in care should exclude higher-risk foods, and vulnerable people living at home should receive clear advice about food safety, in particular avoidance of higher-risk foods and substitution of safer, nutritious foods'. Food safety education delivered to older adults has been shown to change food safety practices, as illustrated in a program conducted at congregate meal sites (Sellers et al. 2006).

In terms of prevention, food safety training is required at all levels in the community, including at-risk groups such as older adults. Food safety information and educational material are now available online, which may give opportunities for learning with interactive computer technology (Higgins and Murray 2010). However, the effectiveness of online education for food safety is debated in the literature. Some research indicates that for the current cohort of older adults, web-based educational intervention among older people is not as effective as print material and personal contact (Kosa et al. 2011). However, other researchers promote the use of web-based education modules to inform safe food handling practices in older adults (Roy et al. 2016).

Food safety strategies should also include industry-led approaches to safer and more user-friendly packaging with solutions that can provide longer shelf-life and more suitable portion sizes (Pray et al. 2010).

Fortification and supplementation

Older adults should try to eat a nutritious and varied diet to meet their nutritional needs, however sometimes this is not possible. Older adults are at increased risk of vitamin deficiency including iron,

vitamin B12, vitamin D, vitamin C, folate, riboflavin, calcium and thiamine (WHO 2015). Many food products are fortified in Australia to combat the risks of vitamin deficiency. These include thiamine and folic acid in wheat flour used in making bread; iron and folate fortified cereals; iodised table salt; calcium and vitamin D in milk; as well as omega-3 eggs (National Health and Medical Research Council 2013). Vitamin D is especially important for maintaining health and prolonging disease progression. A recent systematic review found low vitamin D status in older adults is inversely associated with all-cause mortality (Rush et al. 2013). Vitamin D fortification is needed as a safe and effective food-based strategy to increase vitamin D (concentration of circulating 25 hydroxyvitamin D in blood) across the population and prevent vitamin D deficiency, with a potential benefit for public health (Black et al. 2012). Incorporating plant stanols and sterols (used as a constituent in margarines to lower low-density lipoprotein levels and thus reduce cardiovascular disease risk) into a healthy diet can be recommended and implemented in older adult populations in order to promote healthy ageing (Rudkowska 2010). These compounds may also have other potential beneficial effects including anti-inflammatory, antioxidant and anti-cancer activities (Rudkowska 2010).

Gaps and issues

The number of young and middle-aged people who are overweight and obese now is likely to be a problem in the future as these people age, with a heightened risk of chronic disease, metabolic syndrome, cardiovascular disease and cognitive decline in later life.

Currently, disparity in access to safe and nutritious food (food security) exists between rural and urban communities and between socioeconomic groupings, and more research is needed in Australia to find out the best ways to change and alleviate this. There are also very few intervention programs for older adults targeting nutrition.

Food safety information and educational materials are now available online, which may give opportunities for learning with interactive computer technology; however the effectiveness of online education for food safety is debated in the literature. Food safety strategies should also include industry-led approaches to safer and more user-friendly packaging with solutions that can provide longer shelf-life and more suitable portion sizes.

Summary

Healthy eating is important for all stages of life including older adults. There are significant public health problems associated with the rates of overweight and obesity across the population, including among older people, and these are expected to worsen. However, balanced against this is that for those aged 65 and over, being overweight has been shown to decrease the risk of premature morbidity and mortality. Because of this, older adults are encouraged to focus on healthy eating rather than weight loss. Malnutrition affects many older adults and there are resources available that provide information about how to manage this.

The use of dietary guidelines, education resources, nutrition and exercise programs, an awareness of food safety, and fortification and supplementation of foods have all been shown to be effective strategies for enabling healthier eating.

4 Active living

At a glance

- Regular physical activity is essential for healthy ageing, but older adults are the least physically active of any age group.
- Community and group-based physical activity programs can improve physical health and offer opportunities for social connection, which provides motivation for continued participation.
- New technologies may assist people to become and stay active.

What older people can do

- Try to do at least 30 minutes a day of moderate-intensity aerobic activity (such as brisk walking) on most days of the week.
- If living with chronic conditions, be as physically active as abilities and conditions allow.
- Twice a week do activities for muscle strength, balance and flexibility.
- Break up sitting time by standing and moving more often.

What those supporting older people can do

- Discuss the health benefits of physical activity with older people, and promote the message that it is never too late to start exercising.
- Be familiar with the *National physical activity recommendations for older Australians*
- Make physical activity programs fun as well as functional. Tailor the content to participants' abilities and facilitate a positive social environment in group programs.
- Encourage older people to do a variety of activities. Find out their interests and discuss options. Let older people know that physical activity includes incidental activities that increase heartrate, such as housework or gardening.
- Consider combining awareness-raising campaigns with community health development of physical activity programs.

Background

It is well established that physical activity is essential for maintaining physical abilities and independence in older age (Nelson et al. 2007). Regular physical activity is an important contributor to good overall health, including promoting healthy weight and reducing chronic disease risk (Nelson et al. 2007). Results from the English longitudinal study of ageing demonstrated that people can receive health benefits even if they become physically active later in life (Hamer et al. 2014). Physical activity can also maintain or improve brain health. Observational studies have demonstrated that being physically active is associated with a lower risk of cognitive decline and dementia (Scarmeas et al. 2009, Middleton et al. 2010). There is growing evidence that physical activity has a positive effect on cognitive function for older adults with healthy cognition, mild impairment and dementia (Lautenschlager et al. 2012).

Unfortunately, physical activity decreases with age. Only 42.8 per cent of Victorians aged 65 years and over are doing enough physical activity to benefit their health compared with 65.9 per cent of those aged 18 to 24 years (Department of Health and Human Services 2016b). Only a small proportion is engaging in strength training (Bennie et al, 2016). Conversely, sedentary behaviour (sitting, reclining or lying down during waking hours) is highest among older adults. According to the Australian Health Survey (2011–2012), people aged 65 and over spend four hours per day on average doing sedentary leisure activities (Australian Bureau of Statistics 2013a). Too much uninterrupted sedentary time, such as watching

television, has been linked to chronic disease and mortality (Dogra and Stathakostas 2012). An analysis of behavioural surveys from 54 countries revealed that 3.8 per cent of all-cause mortality was associated with sitting for more than three hours per day (Machado de Rezende et al. 2016).

Changing sedentary behaviour is difficult with 50 per cent of people starting an exercise program giving up by six months (Dishman 2001). Older adults with health problems face an even greater challenge than healthy individuals (Macniven et al. 2014). However, there is evidence that motivators such as self-efficacy (confidence to exercise safely), the ability to set individual physical activity goals, and enjoyment of physical activity increase adherence (Franco et al. 2015). Tailoring interventions to suit individuals' preferences is more likely to result in increased activity levels, however further studies are required (Cyarto et al. 2004). Reviews of the literature show that group-based interventions are often preferred by older adults due to their potential to extend social networks (Dunlop and Beauchamp 2013, Hong et al. 2008).

The *National physical activity recommendations for older australians* suggest the following (Department of Health 2009):

1. Older people should do some form of physical activity, no matter what their age, weight, health problems or abilities.
2. Older people should be active every day in as many ways as possible, doing a range of physical activities that incorporate fitness, strength, balance and flexibility.
3. Older people should accumulate at least 30 minutes of moderate-intensity physical activity on most, preferably all, days.
4. Older people who have stopped physical activity, or who are starting a new physical activity, should start at a level that is easily manageable and gradually build up the recommended amount, type and frequency of activity.
5. Older people who continue to enjoy a lifetime of vigorous physical activity should carry on doing so in a manner suited to their capability into later life, provided recommended safety procedures and guidelines are adhered to.

Evidence of strategies that support active living

Physical activity programs for physical health

Physical activity interventions specifically designed for older adults from Canada, the United States, the United Kingdom and Australia were analysed in this review. These programs included: Home Support Exercise Program (Johnson et al. 2003); Project ACE: Active, Connected, Engaged (University of Bath); Functional Fitness for Long-Term Care Program (Lazowski et al. 1999); Living Longer Living Stronger (LLLS) (Vrantsidis et al. 2014); Lift for Life (Minges et al. 2011); the Have A Try (HAT) program (Cyarto et al. 2008); Community Healthy Activities Model Program for Seniors (CHAMPS) (Stewart et al. 2001); Lifestyle Interventions and Independence for Elders (LIFE) program (Pahor et al. 2014); Get Fit for Active Living (Jones et al. 2004) and Osteofit (Carter et al. 2001). The programs were run in community or residential aged care settings and the formats generally included multi-intervention approaches to increasing physical activity in older adults. These multi-intervention approaches included combining various physical activity approaches (for example, aerobic, strength, balance and flexibility exercises) with education programs to empower individuals and promote individual skill development and behaviour change.

The Home Support Exercise Program and Functional Fitness for Long-Term Care Program both target the needs of a more at-risk group of older adults living at home or in long-term care aiming to improve functional mobility through physical activity programs. The Home Support Exercise Program is an evidence-based program designed for frail older adults and delivered via the existing home care

infrastructure in Canada (Johnson et al. 2003). The Functional Fitness for Long-Term Care Program, also from Canada, is tailored to meet the needs of high and low mobility residents in long-term care homes (Lazowski et al. 1999). The evaluations showed the programs to be cost effective and improve physical function for the participants (Johnson et al. 2003, Lazowski et al. 1999, Pahor et al. 2014). The Canadian Centre for Activity and Aging (CCAA, <www.uwo.ca/ccaa>) is an organisation that translates research-based knowledge through education programs delivered to and through healthcare organisations. The CCAA runs workshops for staff wanting to implement these two programs. The Centre also has a Train the Trainer course to enable their courses to be delivered across the country. The support from CCAA for these leadership training programs promotes sustainability and increases the reach of physical activity programs to older Canadians. The LIFE program also targets older adults at risk of mobility disability. It began as a randomised controlled trial delivered in eight urban, suburban and rural centres throughout the United States (Pahor et al. 2014). Participants had physical limitations but they could walk 400 metres.

Evaluations have shown that the physical activity interventions result in improved physical function, reduced mobility disability, improved quality of life, improved mental health, high satisfaction with the program, increased caloric expenditure, high exercise adherence rates, and increased social connections (Stewart et al. 2001, Jones et al. 2004, Carter et al. 2001, Pahor et al. 2014). The evaluations of the group-based programs (for example LLLS (Vrantsidis et al. 2014)) also showed that the social components of these programs were an important reason older people joined and continued to attend the physical activity programs. This complements the research evidence in this area (Dunlop and Beauchamp 2013, Hawley-Hague et al. 2016, Hawley-Hague et al. 2014). Therefore group-based exercise programs could be used as a strategy to not only increase physical activity and adherence to the program but also increase social connections for older people (Dunlop and Beauchamp 2013, McPhate et al. 2016). Other key features of the programs included the cost effectiveness of the programs, the community development and the coordinated approach between organisations for example, the utilisation/endorsement of existing mainstream community facilities such as community and fitness/leisure centres. These factors may have resulted in the ability of the programs to be continued with sustainability being shown in all programs.

The Project ACE: Active, Connected, Engaged is another low-cost and sustainable physical activity intervention (Public Health England 2014). It takes a peer education approach whereby older volunteers are involved in encouraging and supporting older adults who are inactive to get out more and engage with their local communities. Evaluation of the project shows that it has significant impact on participants' physical functioning and social wellbeing (Public Health England 2014). The ACE began in 2013 as a research project and has now been rolled out across the Bristol city in the UK by LinkAge, a local charitable organisation tackling loneliness and isolation in older people. In 2014, Project ACE was recommended as one of the two 'promising practice' programmes in a review of 952 UK physical activity programs (Public Health England 2014).

The LLLS program has particular relevance in this context given that it is already widely utilised and accepted by older people in Victoria. The LLLS scheme was built from an evidence base and incorporates multiple strategies (promotion, education, training and capacity building) to bring about industry change in parallel with the facilitation of appropriate programs. This multifactorial approach coupled with the cost effectiveness and endorsement of mainstream facilities could be seen as the key strategies relating to the success and sustainability of the program. An evaluation of LLLS found significant improvements in balance, gait, lower body strength and function after four months and eight months of program participation (Vrantsidis et al. 2014). The Lift for Life program is another example of an evidence-based program that has been successfully implemented in the Australian community setting. The evaluation of this program noted that considerable time and extensive collaboration is required to establish and foster collaborative links between scientists/researchers and the practitioners who are delivering exercise programs in the community (Minges et al. 2011). For example, the Lift for Life program has been under development for approximately seven years. An increased emphasis on the

establishment and translation of evidence-based physical activity programs for older adults is warranted, as discussed further below.

Another Victorian initiative that broadly promotes healthy ageing, and has specific strategies encompassing physical activity, is *Well for life* (Department of Health and Human Services 2015). This resource toolkit provides management and staff working in community and residential aged care settings with a range of resources on physical activity, nutrition and emotional wellbeing. *Well for Life* is being redeveloped in 2015–16.

Older adults from CALD backgrounds can be marginalised and disadvantaged regarding accessing information and resources about healthy ageing, including physical activity (Belza et al. 2004, Horne et al. 2013). Few resources provide this information in a user-friendly format in languages other than English. A unique model has been developed to engage CALD groups in health promotion activities. The HAT program (Cyarto et al. 2008) and the *Healthy Ageing Quiz* (Cyarto et al. 2013) were introduced to CALD seniors, who already belonged to social activity programs supported by local government. Spanish-speaking, Chinese, Eritrean, Italian and Slavic groups were provided with a sustainable group and home-based exercise program (HAT) and access to information about healthy ageing, all in their first language. After six months, participants reported feeling fitter, stronger, less tired and even younger. These health benefits were corroborated by improved balance, strength and mobility (Cyarto et al. 2014). The HAT program has continued under the leadership of ‘champions’ from within each group.

Physical activity programs for cognitive health

Physical activity appears to be one of the strongest factors for delaying or preventing cognitive decline. Cognitive decline is common in old age. In Australia, 1,400 new cases of dementia are diagnosed each week with Alzheimer’s disease being the most common cause (Access Economics 2009). This is expected to increase by 2050 to 7,400 new cases per week. By 2060 spending on dementia is predicted to overtake any other health condition in Australia (Access Economics 2009). Clinical groups at risk for cognitive decline are older adults free of dementia but with subjective memory complaints (SMC) or mild cognitive impairment (MCI). SMC are defined by complaints about deteriorating cognitive function without objective evidence of impairment on cognitive testing (van Oijen et al. 2007), whereas the definition of MCI requires objective impairment on cognitive testing (Petersen 2011). The prevalence of SMC and MCI increases with age and they affect 46 per cent and 10.6 per cent of community-dwelling women 70 years and older, respectively (Lautenschlager et al. 2005).

In the absence of effective pharmacological strategies to reduce the risk of cognitive decline and Alzheimer’s disease, there has been an increasing call to focus on addressing modifiable risk factors, including physical inactivity. Barnes and Yaffe (2011) reported that about 13 per cent of all cases with Alzheimer’s disease are potentially attributable to physical inactivity and that a 10–25 per cent reduction of physical inactivity would prevent between 380,000 to 1 million Alzheimer’s disease cases worldwide. Many observational studies have demonstrated that physical activity is associated with a lower risk of cognitive decline and dementia (Scarmeas et al. 2009, Middleton et al. 2010).

Only a few good quality randomised controlled trials, literature reviews and meta-analyses have shown that physical activity has a positive effect on cognitive function for older adults with healthy cognition, SMC, MCI and dementia (Kramer et al. 2006, Baker et al. 2010, Heyn et al. 2004, Ahlskog et al. 2011). Lautenschlager and colleagues (2008) showed that a six-month program of moderate-intensity walking (home based, 150 minutes/week) decreased the rate of cognitive decline in older people with SMC or MCI. There is some emerging evidence that mind-body exercise such as tai chi and dancing, which requires integrated cognitive and motor coordination, may have positive effects on the preservation of cognitive function in older people at risk of cognitive decline (Lam et al. 2012, Merom et al. 2016). There are several hypotheses to explain the positive influence of physical activity on brain function, including improved cerebral blood flow, increased neurogenesis, angiogenesis and synaptic plasticity, reduced

inflammation and improved resistance to brain insults (Lautenschlager et al. 2012, Scarmeas et al. 2009).

Technology

Older adults are adopting digital technology at an increasing rate, with 56 per cent of Victorians aged 65 and older now online (VicHealth 2013). In comparison, 51 per cent of Australians 65 years and over use the internet (Australian Bureau of Statistics 2016b). The internet and technological devices are providing new avenues to support active living. There are internet-based physical activity programs and applications (apps) that can be downloaded to a tablet or smartphone. Two examples highlight this burgeoning field.

Active After 55 (Irvine et al. 2013) is a 12 week home-based program designed, using elements of behaviour change theory, to enhance functional ability and physical activity. Text and video messages, integrated with interactive goal-setting activities and strategies to overcome barriers, helped participants tailor an exercise plan consisting of endurance, stretching, strengthening, and balance activities. Despite some methodological limitations, the program appeared to increase participants' level of physical activity, self-efficacy, attitudes to exercise and motivation to exercise (Irvine et al. 2013).

Active Lifestyle is a training app that runs on a tablet and assists, monitors, and motivates older people to follow a 12-week home-based strength and balance program (Silveira et al. 2013). Three levels of progressive strength and balance training plans are supported in the app: beginner, intermediate and expert. The app had built-in features for individual motivation (goal setting, games, inspirational stories) and social networking (bulletin board, feedback from an instructor, collaborative activities). The evaluation of the app was limited. It was found to be acceptable to participants and they preferred the social motivation strategies (Silveira et al. 2013). Participants adhered to the program and increased their gait speed.

The video gaming industry launched its new generation of wireless gaming consoles which spawned the development of 'games for health' or 'exergames' and led to 'active gaming'. Nintendo Wii™ (Nintendo Corp, Kyoto, Japan) and Microsoft's Kinect™ for Xbox 360 (Microsoft Corp, Redmond, US) have been embraced by managers of retirement communities, seniors' centres, aged care and rehabilitation centres, and by older people themselves, for recreational and therapeutic purposes (Cyarto et al. 2011). To date, reviews of the literature generally support the feasibility and acceptability of active gaming for older people, particularly its motivational element (Cyarto et al. 2011, Chao et al. 2015, Molina et al. 2014). However, the benefits of active gaming for physical and cognitive function remain inconclusive (Chao et al. 2015, Cyarto et al. 2011, Molina et al. 2014).

An emerging technology for older adults is the wristband activity tracker. The term 'activity tracker' refers to electronic, wearable devices that monitor and record a person's physical activity. The first consumer-grade activity trackers emerged in about 2006 and there are now about 30 products on the market. In addition to counting steps, they use accelerometers and altimeters to calculate mileage, graph overall physical activity, calculate calorie expenditure, and in some cases also monitor and graph heart rate and quality of sleep. Most activity trackers synchronise with a computer or smartphone which allows the user to view this data and log daily food intake (to determine the amount of carbohydrates, protein, fat and salt consumed) and water consumption. For younger people much of the appeal of activity trackers, which makes them effective tools in increasing health and fitness, comes from the social dimension of sharing via social media (and resulting rivalry to get the most steps per day). There is growing evidence that older adults can also gain health benefits from web-based interventions and activity monitoring. Three studies have found that wristband activity trackers, which were provided to participants by the research teams, are feasible to use with older adults and well accepted (Cadmus-Bertram et al. 2015, O'Brien et al. 2015, Tocci et al. 2016).

In recent years, technology has also been used as a community engagement approach to increase physical activity and promote active lifestyles at the population level. One example is the Healthy

Neighbourhood Discovery Tool, a mobile device-based information and communication technology application, developed by researchers at the Stanford University (King et al. 2016). This tool enables users to collect information on aspects of their physical and social environments that promote or prevent physical activity or other health behaviours. The information can be collected through geocoded photographs, audio narratives, and GPS-tracked walking routes. This information can in turn be systematically reviewed to identify issues that need to be addressed and to initiate changes in their local physical and social environment. The tool has been piloted in 10 culturally and economically diverse sites in California, upstate New York, Arizona, Mexico, Israel, Colombia, and Chile. For example, the tool was used by older people from four rural communities in New York State to identify barriers and facilitators to healthy eating and active living. They identified barriers to physical activity, such as unsafe roads, lack of crosswalks, and poorly maintained walkways and barriers to healthy eating, such as high cost and lack of availability of healthy foods. After the assessment, the older people developed a civic engagement group to increase physical activity for all ages. They also partnered with a number of local community organisations to develop plans and raise funds for a Fun and Fitness Area. The Healthy Neighbourhood Discovery Tool has been used in Israel to develop safe and easy walking routes for older people. This map provides information on features important to older people while they are walking such as the location of benches and toilets.

Healthy living programs

Evidence-based healthy ageing programs are the preferred model for giving older adults information and support (National Council on Aging 2012). The benefits of evidence-based programs are that they are adapted from tested models and interventions that have been proven successful in addressing health issues (National Council on Aging 2012). They are also appealing to healthcare organisations and funding agencies because they are based on scientific research.

The National Council on Aging's Center for Healthy Aging in the USA assists community-based organisations to develop and implement evidence-based physical activity programs that promote healthy lives for older adults (National Council on Aging 2012). These programs include: Active Choices (National Council on Aging 2012); Active Living Every Day (National Council on the Aging) <www.activeliving.info>; Fit and Strong (University of Illinois at Chicago) <www.fitandstrong.org>; EnhanceFitness (Belza et al. 2006) <www.projectenhance.org>; Walk with Ease (Callahan et al. 2011); and Healthy Moves for Ageing Well (Yan et al. 2009). All these programs have been successfully translated into a community setting with diverse populations in the USA. The format of the programs varies and include: a group-based facilitated problem-solving method; physical activity program with a trained activity coach; multi-component community programs incorporating flexibility, strength training and walking with health education and motivational strategies; an in-home strengthening physical activity program; and an in-home physical activity intervention for frail high risk sedentary older adults. The evaluations of these programs showed that health outcomes for older adults included: significant increases in physical activity levels, improved physical function, decreases in stress and depressive symptoms, improved physical activity efficacy and physical activity adherence, increased self-confidence and significant declines in number of falls (Callahan et al. 2011, Minges et al. 2011, Yan et al. 2009, Dunn et al. 1999, Hughes et al. 2004). The programs with a high level of evaluation used guidance and education strategies to help participants develop the behavioural skills needed to build moderate physical activity into their daily lives.

Advice from general practitioners or health professionals

Due to the high rates of interaction that older people have with health professionals, general practice presents an ideal setting to promote and give advice on physical activity to older people. Heartmoves (NSW Department of Health 2004) in Australia, the Green Prescription (GRx) scheme in New Zealand (New Zealand Ministry of Health) <www.health.govt.nz/our-work/preventative-health-wellness/physical-

activity/green-prescriptions> and Prescription for Exercise (Stevens et al. 1998) in the UK are three examples of the use of health professionals and GPs to deliver physical activity advice to patients.

Patients who participated in the GRx scheme and the Prescription for Exercise program significantly improved their physical health and adherence to physical activity (Elley et al. 2003, Stevens et al. 1998). An evaluation of Heartmoves showed some evidence of effectiveness (NSW Department of Health 2004).

The GRx scheme involves GPs delivering physical activity advice to their patients and writing them a 'script' for exercise. Various health promotion actions are offered to patients, such as reorientating health services, strengthening community actions and developing personal skills. GRx increased the number of GPs providing appropriate and effective physical activity advice to patients and also showed evidence of cost effectiveness (Elley et al. 2003). For older adults, the GRx resulted in significant improvements in patients' level of moderate activity, energy expenditure and health-related quality of life (Kerse et al. 2005). Further, patients prescribed a GRx experienced fewer hospital visits compared with those who received usual care. A recent patient survey (Research New Zealand 2015) revealed that 41 per cent of GRx given to those aged over 65 years were for weight problems, followed by arthritis (36 per cent) and cardiovascular risk factors (30 per cent). GRx has continued to benefit older New Zealanders with 71 per cent reporting positive changes in their health, such as feeling stronger/fitter, having more energy, weight loss and less joint pain (Research New Zealand 2015). Since receiving their GRx, 60 per cent of older patients reported that they were spending more time being physically active.

Using a slightly different approach, the Prescription for Exercise and Heartmoves models aim to link health professionals (GPs in particular) and the fitness industry to promote physical activity. The Prescription for Exercise program specifically targeted sedentary older adults and used an individual education approach to promote skill development and behaviour change. Patients who received a referral to an exercise development officer increased their level of moderate physical activity after eight months (Stevens et al. 1998). However, a systematic review and meta-analysis of referrals of middle-aged patients to physical activity found weak evidence of an increase in physical activity (Pavey et al. 2011). The authors suggest that an exercise referral scheme may be of most benefit to patients with a pre-existing medical condition.

In contrast, the Heartmoves model was designed to provide low to moderate-intensity exercise programs for the general population. Although it was not specifically targeted for older adults the evaluation showed that 70 per cent of the Heartmoves participants were aged 60 years and over (NSW Department of Health 2004). The focus on process level indicators in the evaluation of Heartmoves revealed the effectiveness of certain strategies (NSW Department of Health 2004). These key strategies included the utilisation of existing fitness centres, low cost, fitness industry backing, and engagement of fitness leaders and health professionals, which all impacted positively on the ability of the program to be sustained long term. The evaluation also highlighted the difficulty in engaging health professionals, mainly GPs, in the promotion of this program. It was stated that there needs to be further investigation into strategies to engage health professionals in physical activity promotion, beyond existing strategies such as educational workshops and script pads (NSW Department of Health 2004). In addition it was noted that there needs to be continued monitoring of programs such as these, with a focus on referral sources and collecting data from people who withdraw, to inform the development of future programs (NSW Department of Health 2004). In 2014, the Heart Foundation formed a partnership with the YMCA to manage and deliver Heartmoves to participants in approximately 400 locations across Australia (www.heartmoves.org.au). Unfortunately, the YMCA can no longer afford the cost of administering Heartmoves and the program will end in December 2016.

Awareness-raising campaigns

Australian physical activity awareness-raising campaigns that show some level of effectiveness have been the National Heart Foundation campaign (Booth et al. 1992) and the Seniors Go for Your Life

campaign (Nucleus Consulting Group 2006). Although the National Heart Foundation campaign was not specifically designed for older people, the evaluation of this program showed that the slogan 'Exercise: make it a part of your day' was particularly successful at increasing walking for exercise or leisure among older age groups (Booth et al. 1992). However, the second campaign resulted in no further increase in walking in any age group (Booth et al. 1992). The Seniors Go for Your Life campaign, which was specifically targeted to older people, also showed beneficial physical outcomes for older Victorians but it was only evaluated mid-way through the campaign period (Nucleus Consulting Group 2006).

The Heart Foundation Heartmoves program, described above, also used a social marketing campaign with friends, family and the media as a key strategy to inform participants about the physical activity program. The evaluation of this program found that social marketing strategies to promote physical activity programs needed to be multi-component (for example, a combination of public launches, demonstrations, presentations, direct promotion to GPs, media, advertising campaigns, et cetera) to ensure wide coverage and promotion in the community (NSW Department of Health 2004).

The Measure Up campaign was a social marketing activity that was run in Australia (The Social Research Centre 2010). The aim of the campaign was to raise awareness of healthy lifestyle choices and promote consistent evidence-based lifestyle messages to all Australians. The primary target group was 25 to 50-year-old parents, and the secondary audience was people aged 45 to 65 years. The evaluation focused on outcomes for the primary target group and therefore no new learnings about the effectiveness of this approach for older people (above 65) could be found (The Social Research Centre 2010).

The combination of awareness-raising campaigns (mass-media) with community health development of physical activity programs could be used as an important healthy ageing strategy to change physical activity behaviours in older adults.

Reducing sedentary behaviour

Sedentary behaviour has been defined as waking time spent sitting, reclining or lying down (non-exercise) and expending little energy (Cart 2012). It has been associated with several adverse health outcomes in adults and older adults, including obesity, cardiovascular disease, type 2 diabetes, poor quality of life and mortality (Katzmarzyk et al. 2009, Inoue et al. 2012, Gardiner et al. 2011, Meneguci et al. 2015, van der Ploeg et al. 2012). Harvey and colleagues (2015) systematically reviewed 22 studies that quantified the daily amount of time older adults spend in sedentary behaviour using self-report and objective (accelerometry) measures. Sedentary time ranged from 5.3 (self-reported) to 9.4 hours (accelerometer data) per waking day in older adults. Sedentary behaviour increased with advancing age (Harvey et al. 2015). Watching television accounted for most of the time spent sitting.

Interventions are currently being developed to reduce and break up sitting time. Gardiner and colleagues (2011) tested a brief intervention with 59 older adults, based on goal setting and behavioural self-monitoring using an accelerometer. The key message of the Stand Up For Your Health program was to stand up and move after 30 minutes of uninterrupted sitting. After seven months, participants had significantly reduced their sedentary behaviour and had more breaks in sitting time from 7 pm to 9 pm (Gardiner et al. 2011). Strategies to reduce or interrupt sedentary behaviour included standing or moving while talking on the telephone, reading the newspaper at the kitchen bench and standing up during TV ad breaks.

General sedentary behaviour guidelines for older adults are available in Canada, the United Kingdom and the United States (The Canadian Society for Exercise Physiology 2012, Department of Health UK 2011, U.S. Department of Health and Human Services 2008). Public health messages will be refined as more evidence emerges regarding the effects of prolonged sedentary behaviour and the dose response (Harvey et al. 2015).

Gaps and issues

There is a need for a comprehensive national physical activity plan. For older people, this should include enhancing existing physical activity guidelines to include information on supporting cognitive health and the addition of sedentary behaviour guidelines for older Australians.

There is limited information on best practices for physical activity programs for older people in rural and regional areas.

People receiving home care services and those in residential aged care facilities are largely sedentary. More work is required to remove barriers to physical activity and translate the evidence-based programs into real world settings.

There is limited high-quality evidence for the use of technology to support active living.

Summary

Physical activity is essential for maintaining physical abilities and independence as people age. It can also maintain or improve brain health. Being active can provide health benefits, even in those who become physically active later in life. However, those aged 65 and over are the least active age group and spend the most time sitting.

Physical activity recommendations for older adults include engaging in at least 150 minutes of moderate-intensity aerobic activity per week; doing a range of activities that incorporate fitness, strength, flexibility and balance; minimising the amount of time spent in prolonged sitting; and breaking up long periods of sitting as often as possible.

Physical activity interventions have resulted in improved physical function, reduced mobility and disability, improved quality of life, improved mental health, high satisfaction with programs, increased caloric expenditure, high exercise adherence rates, and increased social connections. Group-based programs also have shown that the social components of these programs are an important reason older people joined and continued to attend the physical activity programs.

Other effective interventions include using technology to deliver programs; advice delivered by health professionals; evidence-based healthy living programs and interventions to reduce sedentary behaviour.

5 Tobacco-free living

At a glance

- Tobacco smoking has consistently been linked with lung disease, cancers, long-term morbidity and premature mortality.
- The prevalence of smoking has been steadily declining in Australia in response to the introduction of tobacco control strategies.
- People who are more socioeconomically disadvantaged are more likely to smoke.

What older people can do

- Quit smoking no matter what age; quitting at any age is beneficial to health and the health of family and friends.
- It may take many attempts and setbacks to cease smoking, keep trying to quit.
- Call Quitline on 13 78 48.

What those supporting older people can do

- Healthcare workers should encourage all people to quit smoking and keep trying, no matter their age.
- Different methods of quitting will work for different people so it is important to help older people find what works for them.
- Support older people who are trying to quit by recognising their small successes, avoiding criticism if they slip and have a cigarette and understanding how difficult it can be to quit.

Background

Analysis of the 2014–15 *National health survey* shows that lifestyle behaviours such as tobacco smoking continue to be among the most prominent risk factors for ill health in Australia (Australian Bureau of Statistics 2015e).

Rates of daily smoking within the total population have dropped from 18.9 per cent in 2007–08 to 14.5 per cent in 2014–15 (Australian Bureau of Statistics 2015e). Younger adults are smoking significantly less with rates of daily smoking dropping from 28.2 per cent in 2001 to 16.3 per cent in 2014–15. There has been less of a drop in rates for those aged 45 years and older, with rates dropping from 15.9 per cent in 2001 to 12.7 per cent in 2014–15.

Rates of daily smoking among older adults have remained stable between 2001 and 2013 with smoking rates for 60 to 69 year olds at 11.3 per cent and 11.6 per cent respectively; and smoking rates for people aged 70 and over at 5.7 per cent and 5.8 per cent respectively. More males continue to smoke daily than females with 10.5 per cent of males aged 65 to 74 smoking daily in 2014–15 compared to 7 per cent of females (National Health Survey: First Results, 2014–15). The daily smoking rates for people in Victoria aged 65 and older in 2013 was 5.1 per cent, a decrease from 7.4 per cent in 2009 (Department of Health and Human Services 2016, Department of Health 2011).

Tobacco smoking has consistently been linked with lung disease, cancers, long-term morbidity and premature mortality (Australian Bureau of Statistics 2010c). Analysis of 2011–12 *National health survey* data by the Australian Bureau of Statistics shows that the prevalence is partly dependent upon the

socioeconomic index of the area where people live. People living in the most disadvantaged areas are more likely to smoke (30 per cent) compared to people from the least disadvantaged area (12 per cent).

Despite declines in daily smoking and rates, tobacco smoking remains one of the most prominent risk factors for ill health in Australia. Approximately 3.3 million people still smoke and tobacco smoking is attributed to 15,000 deaths in Australia annually (Beggs et al. 2007). Each year tobacco smoking costs the Commonwealth Government \$31.5 billion in economic and social costs (Collins and Lapsley 2008).

In combining data from two large scale studies in Australia, McLaughlin et al. (2011) have shown how all-cause and cause-specific mortality hazards associated with smoking were similar for men and women, and that quitting was associated with lowered risk, in a time-dependent manner: the longer the time since quitting, the lower the risk (McLaughlin et al. 2011). This message is repeated in international research. A large meta-analysis with over 489,000 participants showed time since cessation of smoking was associated with a reduction in excess mortality (Müezzinler et al. 2015). Quality of life is improved in people who quit smoking (Mulder et al. 2001). People who quit smoking see the health benefits straight away as the body begins to heal (Ellerman et al. 2015). Smoking cessation may reduce the risk of developing a chronic disease or reduce the severity in people already suffering from chronic disease.

Evidence for strategies to promote tobacco-free living

The *WHO framework convention on tobacco control* (World Health Organization 2003b) was ratified by the Commonwealth Government in 2004 and led to the development of the *National tobacco strategy 2012–2018* (Ministerial Council on Drug Strategy 2011). The strategy builds on past National Tobacco Strategies with the goal of reducing the national smoking rate to 10 per cent by 2018. In order to achieve the reduction in smoking the Commonwealth Government introduced plain packaging regulations for all tobacco products sold in Australia. The policy is supported by research both in Australia and internationally (Moodie et al. 2013). Reports on its effectiveness in Australia are still awaited.

Other strategies to improve public health by encouraging tobacco-free living include increasing tax on cigarettes, banning tobacco advertising and community awareness campaigns that promote healthy living. In 2016 Victoria amended the *Tobacco Act 1987* to introduce a ban on smoking in outdoor dining areas, and to regulate e-cigarettes. This continues on from earlier legislative reforms that banned smoking in various public places and in motor vehicles when children are present, and banned the display of tobacco products and packaging in retail outlets (Victorian Government 2016b).

Smoking cessation is difficult. Smoking is both a chemical and behavioural addiction that is difficult to break free from. Smoking cessation can be especially difficult for older adults who have smoked for much of their lives. Research suggests older adults are not aware of their increased risk of illness and premature mortality (Ellerman et al. 2015). They are less likely to quit than younger people and are unable to see the benefits of quitting later in life.

A population survey of recent quitters shows older people are more likely to quit smoking with the use of aids such as nicotine replacement therapy, natural therapy, advice from health professionals, and prescription medication (Hung et al. 2011).

A recent meta-analysis of randomised control trials of smoking cessation interventions in older adults was conducted by (Chen and Wu 2015). The analysis showed there is limited research pertaining to smoking cessation in older adults. Preliminary research shows there are significant treatment effects for non-pharmacological, pharmacological, and multimodal interventions. Non-pharmacological interventions may include physician delivered, printed or electronic education material, and behavioural intervention. Pharmacological interventions include medications and nicotine replacement therapy. Multimodal interventions are classified as a combination of pharmacological and non-pharmacological interventions. Cessation rates were higher than control for multimodal and non-pharmacological interventions. The authors call for more research into smoking cessation in adults over 65 years and for ethnic minorities.

Quitline is a joint initiative of Cancer Council Victoria, the Victorian Department of Health and Human Services, the National Heart Foundation, and VicHealth. The Quitline website provides evidence-based resources for people thinking about quitting smoking. Support is provided through educational resources; a hotline; text message services; QuitCoach; and information on different nicotine replacement therapies as well as prescription medication. Quitline advocates the use of coaching alongside the use of nicotine replacement products or quitting medication.

Gaps and issues

Research suggests older adults are not aware of their increased risk of illness and premature mortality. They are less likely to quit than younger people and are often unable to see the benefits of quitting later in life.

A recent meta-analysis of randomised control trials of smoking cessation interventions in older adults showed there is limited research pertaining to smoking cessation in older adults.

Summary

Tobacco smoking remains one of the most prominent risk factors for ill health in Australia. Significant policy effort has gone into reducing smoking prevalence, and rates of daily smoking within the total population have dropped over the last decades. However, the rate for older adults in Australia has stayed steady, although from a smaller proportional base. In Victoria, the smoking rate of those aged 65 and over has decreased, but not by as much as for younger adults.

Smoking rates are also influenced by socioeconomic factors, with people living in the most disadvantaged areas more than twice as likely to smoke as people from the least disadvantaged areas.

Quitting at any time of life is associated with lowered risk. However, risk reduction is time-dependent: the longer the time since quitting, the lower the risk.

6 Reducing harmful alcohol and drug use

At a glance

- Older people are the age group most likely to drink daily. In recent years, older adults have been consuming more alcohol and this is expected to increase as the baby boomer cohort get older.
- Changes to the ageing body and its ability to metabolise alcohol mean that older people can be more at risk of alcohol misuse and may find it more difficult to tolerate alcohol without impairment.
- Older people respond well to treatment to reduce harmful alcohol and drug use. To be successful, treatment should be age-specific and person centred.

What older people can do

- Restrict alcohol consumption to one to two drinks per day, and aim to have one to two alcohol free days a week.
- Everyone reacts to alcohol differently. For some people drinking alcohol can cause interactions with medications, and it can increase the risk of falls and injuries as well as some chronic diseases. Consult a GP about the most appropriate level of drinking.
- Be aware of how life transitions can affect health and wellbeing. Things such as retirement, loss of a spouse or friend, or other changes can affect people in different ways, and it is wise to be aware of the risks of using alcohol and other drugs as a form of coping.

What those supporting older people can do

- Healthcare workers should routinely discuss alcohol and drug use with older patients, as misuse of alcohol and drugs can go undiagnosed in this age group.
- Healthcare workers should ensure any treatment is approached in a holistic and person-centred way, taking into consideration the older person's individual health and circumstance.
- Any discussion around alcohol and drug use should be respectful and supportive, and avoid patronising or stereotyping behaviour.

Background

This section focuses on alcohol use, illicit drug use and medication misuse, such as using prescription drugs at higher dosages or for non-medical reasons.

As well as affecting older people's physical health, alcohol and drug misuse can have an effect on a range of social issues including mental health, social isolation, employment and income, housing, daily living activities and quality of life (Lintzeris et al. 2016).

Alcohol

Alcohol is the most common drug used by older people and the age group of Australians most likely to drink daily is those aged 70 and older, followed by those aged 60 to 69 years (Australian Institute of Health and Welfare 2014a). According to the Victorian Population Health Survey 2011–12, 2.7 per cent of people aged 65 years and over are at moderate to high risk of harm from alcohol consumption (Victorian Government 2016c). However, according to the 2013 National Drug Survey 11.6 per cent of people in this age group report drinking at levels that put them at risk of harm over a lifetime (Australian Institute of Health and Welfare 2014a).

As with adults of any age, alcohol consumption for older people carries a range of risks and some possible benefits. In recent years, older people have been consuming more alcohol, and this trend is projected to be particularly evident in the baby boomer cohort (Alcohol Research UK 2011). The consumption of alcohol by older people can be influenced by their life history, their social group and attitudes, their health, their level of financial resource, and their use of alcohol as a coping strategy (Hunter 2011).

The current Australian alcohol guidelines state that light-to-moderate alcohol consumption (one to two drinks per day) in older adults may lower the risk of several chronic conditions and convey health benefits such as reduced bone loss and reduced risk of cardiovascular conditions such as heart failure, stroke and atherosclerosis (National Health and Medical Research Council 2009). A small amount of alcohol may also be considered part of a healthy diet in the Mediterranean region (de Lorgeril and Salen 2011).

However, for older people, alcohol consumption can increase the risk of cognitive decline, falls, injuries and some chronic conditions, including liver disease (National Health and Medical Research Council 2009). Every year it is estimated that nearly 600 Australians aged 65 to 74 die prematurely from injury and disease and another 6500 are hospitalised as a result of high alcohol consumption (National Health and Medical Research Council 2009). The ageing body is less able to process alcohol: as we age, our total body water decreases so one drink can result in a higher blood-alcohol concentration, and intoxication, than it would in a younger body (Commonwealth Government 2015). Older people are often on multiple long-term medications, in which case alcohol consumption can increase the risk of negative outcomes (Anstey 2008, Meier and Seitz 2008). Alcohol abuse is also associated with the growing prevalence of mental health conditions such as depression and anxiety; furthermore, alcohol can affect the efficacy of antidepressant medications (National Health and Medical Research Council 2009). Long-term alcohol misuse can often result in alcohol-related brain injury which is common among disadvantaged older people such as those who are homeless and isolated (DrugInfo 2011).

For older adults who choose to drink it is recommended that they have only one to two drinks a day and have one to two alcohol free days per week (Anstey 2008, McCaul et al. 2010, McLaughlin et al. 2011), and consult their health professionals about the most appropriate level of drinking for their health (National Health and Medical Research Council 2009).

Drug use

In recent years, hospital admission rates are rising relating to illicit drug use and prescription drug misuse by people aged 50 and over (Goldney and Fisher 2005). The rate of illicit drug use among older Australians has increased in the last decade, from 8.8 per cent to 11.1 per cent for those aged 50 to 59 and from 5.2 per cent to 6.4 per cent for those aged 60 and older (Nicholas 2015, Australian Institute of Health and Welfare 2014a). This rate is much lower than for other age groups, for example, people aged 20 to 29 are most likely to have used an illicit drug in the previous 12 months (27 per cent of all people in that age range) (Australian Institute of Health and Welfare 2014a), however, with the ageing baby boomer population this increase will require expansion of treatment facilities and development of effective service programs to address emerging needs of people who use illicit drugs as they age. Furthermore, older adults appeared to be less likely than younger adults to perceive substance use as problematic or to use treatment services (Wu and Blazer 2011).

While older people are still less likely than younger people to use illicit drugs, cannabis is the illicit drug most frequently used by older Australians (used by approximately 1.2 per cent of people aged over 60) (Australian Institute of Health and Welfare 2014a). There are many negative consequences of using illicit drugs such as health problems, reduced quality of life and impact on family and social relationships, and often these problems can accumulate with age. The long-term effects of illicit drug use on cognitive health and function are still largely unknown (NSW Health 2015).

Approximately 4.7 per cent of people aged 60 or older reported misuse of pharmaceuticals (using a pharmaceutical drug such as paracetamol, ibuprofen or codeine for non-medical purpose) in the previous 12 months, a number that has increased in recent years (Australian Institute of Health and Welfare 2014a). Unintentional misuse of prescription drugs due to mismanagement or over-prescribing is discussed in Medication management within Section 2: Management of health.

Evidence for strategies to reduce harmful drug and alcohol use

The National Health and Medical Research Council provide guidelines about alcohol use and legislation that has been used by governments to reduce harmful drug and alcohol use in the community, and includes tax on alcoholic products, restrictions on when and where alcohol can be purchased and the regulation of alcohol advertising and promotion. These steps have all been effective in changing Australia's drinking culture and encouraging people of all ages to reduce their alcohol intake. The *VicHealth alcohol strategy 2016–2019* has three key priority areas of alcohol culture, vulnerable groups and policy and is part of the goal to have 200,000 more Victorians drinking less alcohol by 2023 (VicHealth 2016b). VicHealth acknowledges that 'because so many Victorians drink and we have a culture that encourages drinking, the harms arising from alcohol are spread very widely across the community' and consequently the Victorian Government aims to support people of all ages to reduce harmful alcohol use (VicHealth 2016a)(VicHealth 2016).

Some examples of programs and projects funded by the Victorian Government to reduce harmful alcohol usage include the Good Sports initiative, which helps sporting clubs manage alcohol responsibly and reduce alcohol-related problems and the Hello Sunday Morning partnership, which supports Victorians to take a break from drinking, or to cut back (VicHealth 2016a).

The Commonwealth Government is currently developing a new *National drug strategy 2016–2025* and a new *National alcohol strategy 2016–2021*. These will provide frameworks to guide the work of governments, communities and service providers to reduce alcohol and drug-related harm in the near future (Commonwealth Government 2016).

Research suggests that older people respond to treatment to reduce harmful alcohol and drug use, and that they sometimes achieve better results than younger adults (Moy et al. 2011), with age-specific treatments being more effective for older people than programs targeting the general population (Kok 2014). To improve likelihood of success, any approach to intervention and treatment should be holistic and consider any comorbidities including physical and mental health problems (Nicholas 2015).

Peninsula Health is the home of the Older Wiser Lifestyles (OWL) program, Australia's first older adult age-specific alcohol and other drug (AOD) service, and recently commissioned the report *Preventing and reducing alcohol and other drug-related harm among older people: a practical guide for health and welfare professionals* (Nicholas 2015). It details various forms of treatment and the factors that can influence treatment success.

According to this guide, successful interventions for older clients with AOD problems rely on (Nicholas 2015):

- a client-centred, empathetic, non-judgmental and trusting relationship between client and practitioner
- the client seeing the intervention as a mutual exercise where the client makes active decisions
- clients being supported to develop a sense of responsibility for their AOD use and the self-confidence to believe they can change
- tailoring intervention intensity and duration to the client's degree of dependence or AOD harm
- thorough assessment with a view to:
 - building rapport
 - gathering information to guide treatment planning
 - providing clients with feedback to help develop alternative responses

- personalising the health effects of their AOD use
- monitoring progress.

When it comes to effective treatment strategies, it is important to differentiate between older people who have had problems with AOD for many years (early onset); and those who have recently developed problems (late onset).

People with early onset alcohol misuse are likely to experience negative health and cognitive outcomes associated with long-term use, while late onset misuse is often influenced by recent lifestyle changes such as retirement, loss of a spouse, loss of health, increase in free time, reduction of responsibilities and changing peer group (Hunter 2011).

Barriers to help-seeking and identification

Whether the misuse is early or late onset can affect the likelihood and ability of the older person to identify a problem and seek help. Regardless of the onset, some older people may be embarrassed about having problems with alcohol or other drugs at their age, or may see it as a personal rather than health problem.

Substance abuse problems can be missed by health professionals pressed for time, and concerned about the stigma and potential discomfort of assessing their patients for addiction. The symptoms of alcohol and drug misuse can also be similar to other age-related illnesses, increasing the chance that problems go unidentified (Kuerbis et al. 2014).

There is also a need for healthcare practitioners to fully understand the needs of older people with AOD problems, and to consider their own views and values. Some practitioners may lack awareness that AOD problems affect older people, some may believe it is too late for older people to change, or that there is no point so late in their lives. Practitioners may also be reluctant to ask about alcohol usage or lack the confidence to intervene (Nicholas 2015).

A recent review in NSW asked stakeholders to comment on the needs of older people with substance abuse issues when accessing and using services and treatment. It found needs around mobility and transport, accommodation, and a complex care approach that takes into account age-related illnesses (NSW Health 2015).

Person-centred approach

Common among the literature relating to effective AOD treatment is the need for a person-centred approach, with any intervention shaped to fit the individual older person's needs. As Hunter (2011) reported:

Older people may require longer in treatment than younger people. Practitioners report that it is important not to hurry them through assessment and treatment phases, as to get older people to engage you need to listen to their whole story, and consider the impact that alcohol or other drugs may have had on their memory, comprehension and ability to communicate (Hunter 2011).

The treatment approach should be respectful and non-stigmatising, as older people are likely to respond to supportive and non-confrontational approaches (Kuerbis et al. 2014). Health professionals should recognise the risk of stereotyping older clients and avoid using patronising language, while always checking that the client has understood what is being said (Nicholas 2015).

Assessment and screening

Early identification can lead to more effective treatment interventions to reduce AOD use. However, it is not always easy to identify AOD misuse among older populations. Dependence on alcohol in older people can be mistaken for conditions such as depression, insomnia, poor nutrition and frequent falls (Commonwealth Government 2015).

The best way to identify alcohol misuse in older people is for a healthcare provider, such as a GP, to ask questions about amount and frequency of consumption during a regular appointment or assessment (Hunter 2011). It can be beneficial to blend these enquiries about AOD among other questions about health and wellbeing, so the older person does not feel they are being targeted or judged (Kuerbis et al. 2014).

A recent study in NSW screened participants from geriatric hospital and community services and found nearly 20 per cent of older people screened positive for risky substance use while 12 per cent had medium to high risk alcohol or substance use (Draper et al. 2015). The study found the AUDIT-C (Alcohol Use Disorders Identification Test) with cut-point of greater-than or equal to five was the optimal measure for detecting risky alcohol use, while the ASSIST (Alcohol, Smoking and Substance Involvement Screening Test) may be more appropriate if a conservative approach to screening is needed (Draper et al. 2015). Considering that nearly 20 per cent of people in the study who were accessing health services for unrelated problems screened positive for risky substance abuse, it indicates a need for increased screening. A tool such as the Alcohol-Related Problems Survey (ARPS) can also assist healthcare providers to identify health conditions associated with alcohol consumption (Fink A et al. 2002), and it has recently been adapted for use in Australia as the A-ARPS (Bright et al. 2015). The Indigenous Risk Impact Screen has been validated for use with Aboriginal people regarding alcohol and drug use, and mental health issues (NSW Health 2015).

Early intervention and client-centred treatment

The OWL program for adults aged 60 years and over has two distinct arms, one focused on early intervention and reducing risky drinking, and the second on client-centred treatment.

The early intervention and intensive treatment services include:

- Professional education and community awareness-raising
- Psycho-education and individualised feedback on medication interactions and medical comorbidities
- Motivational interviewing and brief interventions
- Individual counselling
- Office based and outreach support
- Aftercare support.

A recent evaluation of the program demonstrates that an age-specific service that can understand the broad needs of older people, and is able to visit them in their homes, is a successful strategy (Mugavin and Berends 2013). The evaluation found program effectiveness was demonstrated in the areas of client satisfaction and service linkages; the appropriateness of the service response; and client benefits. Clients reported a reduction in levels of risky and hazardous alcohol consumption, improvements in mental health, and positive impacts of reducing alcohol use.

The Brief Intervention and Treatment for Elders program in Florida, USA, effectively uses the ASSIST screening tool to identify risky substance abuse in older people in emergency and primary health settings. It includes questions around medication compliance, medicine interactions and social isolation (Schonfeld et al. 2015).

The Older Adult Healthy Living Program (HeLP) is a recent American program that combines motivational interviewing with cognitive-behavioural therapy to treat older adults with substance abuse issues, and formative data from the project suggests it is having a positive effect on reducing substance misuse. The individualised treatment is designed to recognise the limited mobility and advanced age that may prevent older adults from taking part in self-help groups (Cooper 2012).

Online self-management tools

Online self-help programs have been shown to be as effective as face-to-face counselling in many cases, though it can be difficult to encourage participation (O'Connor 2016). In Australia, the Department of Veterans' Affairs created the Right Mix program where its members can assess how much they drink and complete a self-paced program by correspondence or online, Changing the Mix, to ensure they can improve their drinking patterns in a confidential manner (Commonwealth Government Department of Veterans' Affairs). An evaluation of the program is currently underway.

The Australian Centre for Addiction Research runs two Controlled Drinking Programs, namely the Controlled Drinking by Correspondence Program and Control Your Drinking Online (Australian Centre for Addiction Research 2012). Both programs are available free for people who wish to reduce their drinking but are not suited for people who have severe dependence on alcohol. Each program covers self-assessment and several treatment modules that can be completed anonymously and at their own pace.

Turning Point Alcohol and Drug Centre has a variety of services for people affected by drugs and alcohol problems across Australia (Turning Point Alcohol and Drug Centre). Some treatments require a referral from a GP, however other services such as the 24/7 online counselling, case management, and self-management groups do not. The Victorian Drug and Alcohol Clinical Advisory Service is a specialist telephone consultancy service that is free of charge for health and welfare professionals in Victoria, Tasmania and the Northern Territory (Drug and Alcohol Clinical Advisory Service).

Education and self-help groups

Brief interventions based around education about the harms of alcohol and drug abuse have been shown to be effective with older adults (Kuerbis et al. 2014). However, not enough research has been done to show that self-help groups such as Alcoholics Anonymous work for older people, and it is possible that their needs are not particularly well met in this setting: older people with mobility issues may find it difficult to attend meetings, and may find their personal circumstances are too far removed from the predominately younger group attendees (Cooper 2012). There is also the possibility that shame and stigma associated with alcohol and drug use in older age groups may inhibit some older people from being willing participants in a self-help group (Cooper 2012).

Some examples of the ways treatment can be adapted to older age groups are including education about the effects of age-related health issues and multiple medications that might interact with AOD use; holding treatments in accessible locations; running programs at a suitable pace; and using relevant topics that relate to late life stages within group therapy such as coping with loss and grief, loneliness and life transitions (NSW Health 2015).

Gaps and issues

Substance abuse problems can be missed by health professionals pressed for time, concerned about the stigma and potential discomfort of assessing their patients for addiction, or lacking awareness that AOD problems affect older people. Additionally, some may believe it is too late for older people to change, or that there is no point so late in their lives. The symptoms of alcohol and drug misuse can also be similar to other age-related illnesses, increasing the chance that problems go unidentified. There is a need for further education of health professionals on identifying and treating AOD problems in older people.

Treatment strategies do not always differentiate between older people who have had problems with AOD for many years (early onset) and those who have recently developed problems (late onset). In addition, some older people may be embarrassed about having problems with alcohol or other drugs at their age, or may see it as a personal rather than health problem.

Expansion of treatment facilities and development of effective service programs will be required to address the emerging needs of the increasing number of ageing illicit drug users.

Summary

Alcohol is the most common drug used by older people and the age group of Australians most likely to drink daily is those aged 70 and older. In recent years, older people have been consuming more alcohol, and this trend is projected to be particularly evident in the baby boomer cohort.

The current Australian alcohol guidelines state that light-to-moderate alcohol consumption (one to two drinks per day) in older adults may lower the risk of several chronic conditions and convey health benefits. However, for older people, alcohol consumption can increase the risk of cognitive decline, falls, injuries and some chronic conditions, including liver disease.

People are less able to process alcohol as they age. This is because total body water decreases with age, meaning that one drink can result in a higher blood alcohol concentration, and intoxication, than it would in a younger body. Older people are often on multiple long-term medications, in which case alcohol consumption can increase the risk of negative outcomes.

In recent years, hospital admission rates are rising relating to illicit drug use and prescription drug misuse by people aged 50 and over and the rate of illicit drug use among older Australians has increased in the last decade.

Effective strategies to address harmful alcohol and drug use in older Australians include treatment programs that are person centred and specifically targeted at older people. Online self-help programs, early intervention programs targeting risky behaviours and brief education programs have also been shown to be effective.

7 Improving mental health

At a glance

- Although the majority of older people enjoy good mental health, a significant proportion experience one or more mental health problems.
- Depression and anxiety the most common mental health problems among older people. In addition, some older people suffer from social isolation and feel lonely, which can affect their mental health.
- Mental health problems in late life are treatable and effective treatments are available.
- Collaborative approaches, involving older people, are important when developing programs aimed at improving mental health.

What older people can do

- Keep healthy by exercising, eating well and getting adequate sleep.
- Spend time with friends and family, and getting involved in their community, perhaps by volunteering or helping others.
- Maintain interests and hobbies, and participate in enjoyable activities.
- If struggling to cope with everyday life, it is important to seek professional help. Talking to a GP is a good first step.
- Visit relevant websites, such as beyondblue and Better Health Channel, for tips on how to maintain mental health.

What those supporting older people can do

- Be familiar with signs and risk factors of common mental health problems among older people.
- If there are concerns about an older person's mental health, initiate a conversation with the person if you feel comfortable and encourage him or her to seek professional help.
- Be familiar with the range of services available for older people with mental health problems and refer older people to these services if needed.
- Understand personal differences and preferences and involve older people in the planning of services.
- Visit relevant websites, such as beyondblue for information on how to support older people who have mental health problems.

Background

Mental health is an integral and essential component of health. It is fundamental to the wellbeing of individuals, their families, the community, and society as a whole. Overall, the majority of older people enjoy good mental health. However, a significant proportion experience one or more mental health problems.

Depression and anxiety

Of Victorians aged 65 years and over living in private dwellings. Nineteen per cent reported having a mental or behavioural problem in 2014–15 (Australian Bureau of Statistics 2015c). Of the different types of mental health problems, mood problems such as depression are most frequently reported (12 per cent), followed by anxiety-related problems (11 per cent) (Australian Bureau of Statistics 2015c).

There is clear evidence that causes of depression and anxiety are multifactorial, comprising physical, psychological, and social factors (Haralambous et al. 2009, Wells et al. 2014). In most cases, no single factor can be considered as the sole cause. Instead, the development of depression and anxiety in older age is usually the accumulation of multiple risk factors over time. Common risk factors for late-life depression and anxiety include a history of mental health problems, poor physical health, new medical illness, being female, losses in life (such as loss of a significant other or loss of independence), bereavement, social isolation, and adverse life events (Haralambous et al. 2009, Wells et al. 2014). Importantly, there is no evidence that increasing age is a risk factor for depression and anxiety in late life (Haralambous et al. 2009).

Based on these risk factors, studies have identified groups of older people at higher risk of depression and anxiety, including: older people in residential aged care, older people with multiple physical comorbidities, older people with dementia, older people who are carers, older people in hospital, older women, older Indigenous people, and older immigrants (Haralambous et al. 2009). For example, a report by the Australian Institute of Health and Welfare found that around half of residents in residential aged care facilities had symptoms of depression, with women and residents born in non-English speaking countries more likely to report symptoms of depression (Australian Institute of Health and Welfare 2013).

Depression and anxiety in late life are treatable and early detection of depressive and anxiety symptoms is of vital importance in diagnosis and treatment. However, there are many challenges in the recognition and diagnosis of depression and anxiety among the older population. These include communication difficulties caused by hearing or cognitive impairment, physical comorbidities with symptoms similar to those of depression and anxiety, and the stigma associated with mental health problems that can limit the self-reporting of depressive and anxiety symptoms (Bryant 2010, Mohlman et al. 2012). In addition, some symptoms of depression and anxiety are accentuated, whereas others are suppressed in older people. For example, older people with depression typically report less sadness but more physical and psychotic symptoms compared with younger people with depression (Baldwin, 2008, Chiu, Tam and Chiu, 2008). Melancholia, insomnia, hypochondriasis, and SMC are also more likely to occur in older people with depression (Baldwin, 2008, Baldwin et al. 2002). These challenges in the recognition and diagnosis of depression and anxiety might explain the finding that depression and anxiety are often undetected or under-diagnosed in older people (Davidson et al. 2006, N A Pachana et al. 2007, Snowden et al. 2009, McAlpine and Wilson 2004). GPs are in a central position of early recognition of depressive and anxiety symptoms. However, some Australian studies found that GPs were unaware of many depressive symptoms among older people (O'Connor et al. 2001) and that depression symptoms are inadequately recognised and treated in nursing homes (Davidson et al. 2006). One possible reason for the under-recognition and under-treatment of depression in older people might be the common misconception that depression is a normal part of ageing (McCabe et al. 2009, Murray et al. 2006). However, evidence has shown that multiple health problems often account for any initial association between depression and older age (Baldwin, 2008; Baldwin et al., 2002).

GPs are in a central position of early recognition of depressive and anxiety symptoms. However, some Australian studies found that GPs were unaware of many depressive symptoms among older people (O'Connor et al. 2001) and that depression symptoms are inadequately recognised and treated in nursing homes (Davidson et al. 2006). One possible reason for the under-recognition and under-treatment of depression in older people might be the common misconception that depression is a normal part of ageing (McCabe et al. 2009, Murray et al. 2006). However, evidence has shown that multiple health problems often account for any initial association between depression and older age (Baldwin, 2008; Baldwin et al., 2002).

Loneliness and social isolation

Loneliness and social isolation can also have an impact on the mental health of older people. Loneliness is 'a subjective, unwelcome feeling of lack or loss of companionship or emotional attachment with other people', whereas social isolation is 'an objective state of having minimal contact and interaction with

others and a generally low level of involvement in community life' (Commissioner for Senior Victorians 2016). Some important differences between the two concepts are that loneliness is subjective and is almost always involuntary and unwelcome, whereas social isolation is objective and can be either voluntary or involuntary (Victor et al. 2000, Commissioner for Senior Victorians 2016). Therefore, individuals may have very limited social networks (that is, be regarded by others as socially isolated) but not feel lonely, whereas persons with reasonably extensive social networks (that is, not socially isolated) may still feel lonely (Victor, Scambler, Bond and Bowling 2000; de Jong Gierveld and van Tilburg 2006; Commissioner for Senior Victorians 2016).

Based on the review of Australian and international studies, it is estimated that approximately 10 per cent of senior Victorians suffer from chronic loneliness and social isolation (Commissioner for Senior Victorians 2016). The actual rate might be higher because loneliness and social isolation are likely to be under-reported due to the associated stigma with these issues (Commissioner for Senior Victorians 2016). Similar to depression and anxiety, there are physical, psychological, and social risk factors associated with loneliness and isolation in late life (Commissioner for Senior Victorians 2016, Cohen-Mansfield et al. 2016). These include poor physical health, poor functional status, mental health problems, low self-efficacy beliefs, negative life events, being a carer, poor social relationships, unsafe neighbourhoods, inaccessible housing and inadequate resources for socialising (Commissioner for Senior Victorians 2016, Cohen-Mansfield et al. 2016). Based on these risk factors, some groups of older people are at higher risk of loneliness and social isolation. These include carers, older people with a disability or mental health problems, those living alone or those living in rural areas, those with low socioeconomic status, older Indigenous people, and older immigrants (Commissioner for Senior Victorians 2016, Sane Australia 2013).

There is clear evidence that loneliness and social isolation in late life are associated with many negative outcomes. These include physical health problems such as higher blood pressure and sleep disturbance, mental health problems such as depression and suicidal thoughts, and worse cognitive functioning (Luanaigh and Lawlor 2008, Commissioner for Senior Victorians 2016, Choi et al. 2015, Courtin and Knapp 2015).

Evidence for strategies to improve mental health of older people

Depression and anxiety

Screening tools

In clinical practice, a valid screening tool is useful in conjunction with a clinical examination in diagnosing depression and anxiety in older people (Chiu et al., 2008). A recent review by the National Ageing Research Institute found that several screening and assessment tools demonstrate good accuracy for detecting depression and anxiety in older adults (Dow et al. 2010). These include the Geriatric Depression Scale (Yesavage et al. 1982) and the Geriatric Anxiety Inventory (Nancy A. Pachana et al. 2007). Both tools are designed specifically for use with older people. They have a minimum of somatic items, and thus limit the impact of common physical illnesses in old age (Kogan et al. 2000). For people with dementia, it is suggested that the Cornell Scale for Depression in Dementia (Alexopoulos et al. 1988) is more appropriate (Dow et al. 2010). There is some evidence that training in the use of common assessment tools and an education session on late-life depression can be associated with an improvement in GPs' recognition of late-life depression in nursing homes (Davidson et al. 2006).

Intervention programs

Many different approaches have been used to treat anxiety and depression in late life. These include medical treatments (such as antidepressant medication, electroconvulsive therapy), psychological interventions (such as cognitive behaviour therapy and interpersonal therapy), and self-help (such as life style approaches) (Dow et al. 2010, Wells et al. 2014, Haralambous et al. 2009). Generally speaking,

psychosocial interventions are used as the first line treatment for mild and moderate symptoms of depression and anxiety, while a combination of medical and psychosocial interventions is used for more severe symptoms (Canadian Coalition for Seniors' Mental Health 2006, Smith et al. 2008, Royal Australian College of General Practitioners Silver Book National Taskforce 2006).

There is emerging evidence for other approaches, such as physical activity (Lautenschlager et al. 2004, Frazer et al. 2005), reminiscence and life review (Bohlmeijer et al. 2003, Hsieh and Wang 2003) for treatment of depression and anxiety in older people. Of these approaches, physical activity is worth particular attention because there is evidence that it improve physical and cognitive health among older people (see section 4, 'Physical activity programs for physical health' and 'Physical activity programs for cognitive health').

It has been suggested that the treatment of depression and anxiety in older people needs to take an integrated and multidisciplinary approach to reflect the multiple factors affecting the development and course of these disorders (Chiu et al. 2008, Haralambous et al. 2009, Wells et al. 2014, Sane Australia 2013). This is supported by an Australian study which trialled a program to improve the identification and treatment of depression among newly admitted residents to aged care facilities. The program incorporated several strategies, including staff training, interventions for residents (that is, the life story initiative and regular 'talk and walk' program), and training and support groups for family carers (Jordan et al. 2009). Evaluations with staff and residents found that these strategies not only help the staff to improve their knowledge and self-efficacy in recognising and managing late-life depression, but also help residents to be more positive as they adjust to their new environment.

For older people living in their own home, the Healthy IDEAS (Identifying Depression Empowering Activities for Seniors) program provides an evidence-based service delivery model that incorporates depression awareness and self-management interventions into existing case management of community aged care services (Quijano et al. 2007). One unique feature of this program is that it is delivered by case managers and care coordinators in community service agencies. They receive training and then conduct screening and assessment, make referrals to appropriate health professionals, and provide education and teach evidence-based depression self-management skills to older people. The pilot study of the Healthy IDEAS was conducted in Houston, Texas with three community-based service agencies. An evaluation of this pilot study found that participants reported fewer symptoms of depression, reduced physical pain, better ability to recognise and self-treat symptoms of depression, and improved wellbeing (Quijano et al. 2007). The US Administration on Aging has now designated Healthy IDEAS as an evidence-based program and recommends it for nationwide replication.

The Program to Encourage Active, Rewarding Lives for Seniors (PEARLS) is another depression intervention program in the US. The PEARLS targets older people with minor depression and dysthymia. It is a home-based intervention delivered by a trained counsellor over six to eight sessions over a six-month period. The sessions cover problem-solving treatment, behavioural activation and pleasant activities scheduling, and the counsellor focuses on empowering individuals to take action and to make lasting changes. The PEARLS Program was evaluated through a randomised control trial with 138 people who received care from community service agencies in metropolitan Seattle (Ciechanowski et al. 2004). This study showed that over 12 months, individuals who received the PEARLS Program were more likely to have a significant reduction in depression and an improvement in functional and emotional wellbeing (Ciechanowski et al. 2004). The study also found a trend towards lower hospitalisation rates among those who received the PEARLS Program compared to those who did not (Ciechanowski et al. 2004). The PEARLS Program was later expanded for use with people with epilepsy (Ciechanowski et al. 2010).

Clinical guidelines

For health professionals, comprehensive and well-researched clinical guidelines are essential to enable early detection and treatment of depression and anxiety in later life. A review by NARI in this area found

that the majority of the existing guidelines are targeted towards 'youth' or 'adults' in general, and that there are limited clinical practice guidelines that are specific to the detection and treatment of depression and anxiety in older people in Australia (Dow et al. 2010). *Medical care of older persons in residential aged care facilities*, published by the Royal Australian College of General Practitioners Silver Book National Taskforce (2006), is one of the few Australian guidelines that contains information specifically relating to depression in older people, with a focus on those in aged care facilities. The other one is the *Consensus guidelines for the assessment and management of depression in the elderly*, which was developed through collaboration between the Centre for Mental Health, NSW Health Department and the Faculty of Psychiatry of Old Age, Royal Australia and New Zealand College of Psychiatrists (NSW Health Department and Royal Australia and New Zealand College of Psychiatrists 2001).

For staff working in community or residential aged care services, beyondblue provides a free Professional Education to Aged Care e-learning program on its website. It also published a booklet entitled *What works to promote emotional wellbeing in older people* (Wells et al. 2014). This booklet was developed through an extensive search and evaluation of the literature. It covers a range of interventions that can help people with anxiety or depression, such as physical activity, relaxation, reflection, and social activities. It also provides case studies to show how these interventions have been used with older people. It is suggested that when planning the interventions, staff conduct an extensive assessment of the clients and consider the evaluation strategy.

Beyondblue has also started the Life Starts at Sixty campaign to raise awareness of depression and anxiety among older people (beyondblue 2016). The website of this campaign provides useful information on how to stay mentally healthy in late life (for example, being socially active), and how to reach out to a friend who might be feeling isolated (beyondblue 2016).

Loneliness and social isolation

Intervention programs

There have been a number of reviews on health promotion interventions that target social isolation and loneliness among older people. There is evidence that educational and social activity group interventions that target specific groups can alleviate social isolation and loneliness among older people (Cattan et al. 2005). In addition, collaborative community ventures, mentoring and befriending schemes can help older people to access and rebuild social networks that may assist them to sustain wellbeing (Price 2015, Age UK 2010, Collins 2014). Finally, there is emerging evidence that the use of technologies, such as computer-mediated social support and socially assistive robots, can be effective interventions for reducing loneliness among older people (Hagan et al. 2014, Bemelmans et al. 2012, Choi et al. 2012). Importantly, a study conducted by Age UK indicated that there appears to be 'a growing gap between the understanding of what constitutes a 'loneliness intervention' demonstrated in the academic literature, and that of those involved in delivering interventions' (Age UK 2015). In particular, the approaches that experts in the field considered as promising were not specific activities or interventions, but services designed to address one or more of the key challenges faced in working with lonely individuals and approaches that focus on creating a supportive environment for loneliness to be reduced (Age UK 2015). Consequently, Age UK suggests that we need to focus more on approaches that support the development of new structures within communities, and include not only specific interventions and services, but also services that address the key challenges faced in working with lonely individuals (Age UK 2015). Some examples of these holistic approaches are neighbourhood approaches and asset based community development approaches (Age UK 2015).

Socialisation Program is an innovation by the Brotherhood of St Laurence to address social isolation among their clients, in particular older people and people with a disability. This program assesses clients' leisure and recreational preferences and uses a case management approach to organise community-based recreation, leisure and social activities to meet individuals' preferences and to rebuild their social friendships and networks (Hillier 2007). The key objectives of the program are to facilitate friendships

within structured groups and to encourage contact between participants in external community settings (Hillier 2007). In addition, unpaid carers who wish to join in these group activities are encouraged to do so (Hillier 2007). The evaluation found that the program had a positive impact on the clients' quality of life and social wellbeing (Hillier 2007). The program also enhanced interpersonal relationships between the carer and the care recipient through the enjoyment of shared activities (Hillier 2007). Findings from this program suggest that although building social friendships and networks was not traditionally seen as a major goal of case management, this goal might be of equal importance or greater importance than other case management goals such as personal care, transport and healthcare (Hillier 2007). It is suggested that rebuilding social networks and increasing social connectedness be incorporated into program objectives and funding guidelines of community aged care services (Hillier 2007).

For older men, there is evidence that Men's Sheds are effective in reducing social isolation among this group. Men's Sheds are community-based organisations that provide a space for older men for social and occupational engagement (Flood and Blair 2013, Wilson and Cordier 2013). Typical activities at Men's Sheds include carpentry, pottery, gardening, social outings and art. Many Men's Sheds provide health information for men and have visits and health screening services from health professionals (Flood and Blair 2013). Currently, there are more than 600 Men's Sheds operating across Australia (Wilson and Cordier 2013). A recent review by Wilson and Cordier (2013) found that, compared to traditional learning centres, Men's Sheds offer an informal learning environment that is better suited to men. It also found that participation at Men's Sheds enhanced one's health and wellbeing (Wilson and Cordier 2013). These findings are supported by an evaluation on the impact of Men's Sheds on the physical and mental wellbeing of their members (Flood and Blair 2013). The study consisted of focus groups, interviews, and a survey with over 2000 people which included both Shed members and non-members (Flood and Blair 2013). It was found that social interaction was seen as the greatest benefit of Men's Sheds (Flood and Blair 2013). It was also the main reason that men joined the Sheds (Flood and Blair 2013). Men's Sheds also provided men with a sense of purpose and self-esteem (Flood and Blair 2013). Importantly, when compared with socially isolated non-members, the Shed members scored significantly higher in physical functioning, general health, vitality, mental health and mental wellbeing (Flood and Blair 2013). Shed members were also found to be more likely to seek help if they were experiencing depression or anxiety than non-members (Flood and Blair 2013). This positive impact of Men's Sheds was explained through increased social connectedness with other shed members and with the community as a whole. Finally, the study found that a large proportion of shed members were older men from regional and remote areas and from lower socioeconomic areas (Flood and Blair 2013). Because these groups have been identified as priority groups for health intervention in Australia (Department of Health and Ageing 2010), it suggests that Men's Sheds might play a particularly important role in reaching these at-risk groups.

Clinical guidelines

The Queensland Department of Communities has released a set of best practice guidelines to assist service providers, government agencies, and community groups in designing, implementing and evaluating projects to reduce social isolation among older people. These best practice guidelines were developed based on findings from the Queensland Cross-Government Project to Reduce Social Isolation in Older People, which involved literature reviews, five demonstration projects, and an evaluation of the five demonstration projects (Queensland Government 2009). In brief, it is suggested that programs should be theory-based, build a whole-of-community response, use interventions that match the needs of specific target groups, use existing community resources to provide sustainable outcomes, involve older people in the planning, implementation and evaluation, and provide training and support for staff (Queensland Government 2009). For example, the demonstration projects used a community development approach and delivered a wide range of group activities and services in their local areas to create meaningful social networks and close relationships among older people (Bartlett et al. 2013). The projects were designed and implemented in partnership with community organisations and councils, and older people were involved in the process of planning and service delivery through extensive community

consultation, and needs analyses to ensure that the resultant program areas met their needs (Bartlett et al. 2013). Older people were also actively involved in the implementation of the projects, with many projects providing training for older volunteers to enable them to engage with more isolated people in their community or to organise their own community activities (Bartlett et al. 2013). Although there were no significantly robust findings on the effectiveness of the programs in reducing loneliness and increasing social support for older people in the community, qualitative data indicated that the projects were successful (Bartlett et al. 2013, Queensland Government 2009). It is suggested that the lack of significant differences may be largely due to sampling error, changes in sample characteristics from pre- to post-program, and unstandardised data collection and intervention strategies (Bartlett et al. 2013). These best practice guidelines are consistent with the findings from an evidence review on loneliness and isolation in late life by Age UK (2010), which highlights the importance of involving older people at every stage and the need to tailor the interventions to the needs of target groups.

Gaps and issues

There is clear evidence from the literature that specific programs are effective in improving mental health among older people. However, many of the programs are designed as short-term projects only. Many also do not include outcome evaluation in the design stage. Even when the evaluation was included in the project design, it tended to rely only on qualitative data and to focus on the immediate effect rather than long-term effect. Further studies need to consider including quantitative data and evaluating the program over a longer period of time.

One particular challenge for projects focusing on social isolation is that these projects often require a whole-of-community approach but it is methodologically challenging to recruit, deliver, and evaluate community-based programs. For example, it is often difficult to recruit an appropriate and representative sample of participants in community settings. To overcome these challenges, it is important to build partnerships with target communities, provide training and support to intervention staff, and use standardised data collection and intervention strategies.

Summary

A significant proportion of older people experience one or more mental health problems. The most prevalent of these are depression and anxiety. There are a number of risk factors for depression and anxiety in older people, and particular groups are considered to be at higher risk of developing these issues, however advancing age is not a risk factor in itself.

It is estimated that approximately 10 per cent of senior Victorians suffer from chronic loneliness and social isolation, although this may be under-reported. It is important to note that loneliness is subjective and is almost always involuntary and unwelcome, whereas social isolation is objective and can be either voluntary or involuntary.

Based on the evaluation of the literature, a number of key strategies have been suggested for successful programs to improve mental health among older people. These include building collaborative partnerships with stakeholders; using an integrated and multidisciplinary approach; taking a holistic view of active ageing; using an evidence-based approach; involving older people in the whole process; addressing the needs of specific target groups and providing training and support for staff and volunteers.

8 Preventing violence and injury: Family violence and elder abuse

At a glance

- Elder abuse is a form of family violence where the victim is an older person. It has been defined as any act occurring within a relationship where there is an implication of trust which results in harm to an older person.
- Elder abuse perpetrated by an older person's adult son or daughter often involves financial and psychological abuse that causes lasting harm. Older people can also be subject to physical, social and sexual abuse, including intimate partner violence.
- As there are many types of abuse that occur in different circumstances, any intervention to address the abuse needs to be tailored to the individual.

What older people can do

- Think carefully about financial and legal decisions related to house and assets, even when trusted family members are involved. Never sign a document that is not understood, and always get any financial agreement in writing.
- If an older person feels their decisions and wishes are not being respected they should speak to a trusted friend, family member or health professional such as a GP about their concerns.
- Anyone experiencing elder abuse or having concerns about how they are being treated should contact Seniors Rights Victoria.

What those supporting older people can do

- Education of professionals can increase the likelihood that elder abuse is recognised and acted upon. Professionals in areas such as health, law, finance and family violence are encouraged to be aware of elder abuse, and to talk about it with older people they provide care for.
- If an older person expresses concern about their situation, listen to what they have to say, offer ongoing support, and encourage them to contact Seniors Rights Victoria or a trusted professional, such as their GP.

Background

Elder abuse is a form of family violence where the victim is an older person. The Victorian Government definition of elder abuse is 'any act occurring within a relationship where there is an implication of trust, which results in harm to an older person' (Victorian Government 2009). Age discrimination and a lack of respect for older people have been noted as societal factors that influence the occurrence of elder abuse (Hayslip et al. 2015, Mann et al. 2014). People who experience elder abuse have been shown to have higher levels of loneliness and poor economic wellbeing, be more likely to experience depression and have poorer mental health, leading to a lower satisfaction with their life (Polly Yeung et al. 2015).

Elder abuse may be financial, psychological, physical, social, sexual abuse, and can also involve neglect. It includes:

- **financial abuse** – using someone's money, property or other assets illegally or improperly, for example, forcing someone to change his or her will or to sign documents

- **emotional or psychological abuse** – using threats, humiliation or harassment causing anguish and feelings of shame or powerlessness. It often occurs in combination with other forms of abuse
- **physical abuse** – inflicting pain or injury, for example, hitting, slapping, pushing or using restraints
- **sexual abuse** – any sexual activity for which the person has not consented
- **social abuse** – preventing contact with relatives, friends or service providers, or restricting activities
- **neglect** – failing to provide the basic necessities of life, either intentionally or unintentionally. (Joosten et al. 2015).

Elder abuse is often perpetrated by somebody close to the older person, and is recognised as a form of family violence. The recent Victorian Royal Commission into Family Violence noted that in some ways family violence experienced by older people is no different to that experienced by younger people, including the fact that women are over-represented as victims, and men as perpetrators, however, the proportion of older men who experience family violence is higher than of younger men (Neave et al. 2016).

A recent analysis of data collected by the Seniors Rights Victoria helpline suggested that two-thirds of perpetrators of elder abuse are sons or daughters of the older person, with over 90 per cent of all abuse caused by a relative or partner of the older person (Joosten et al. 2015). Abuse can also be caused by the spouse or partner of the older person, in which case it has sometimes been occurring over a lifetime. While sometimes the older person is dependent on the perpetrator for accommodation or assistance with daily tasks, sometimes it is the perpetrator who is dependent on the older person, so any intervention to address the elder abuse needs to take these relationships into account (Joosten et al. 2015). There is little research focused on the sexual assault of older women, though there is evidence sexual abuse of older women occurs in a range of settings and relationships, including by husbands/partners and family members, as well as by health and aged care staff (Mann et al. 2014).

Elder abuse can also be caused by neglect (both deliberate and unintentional) and can be the result of a carer trying to balance an older person's rights and needs with their own, rather than the result of a carer wilfully causing harm. While misconduct of a health professional, such as an aged care worker, nurse or doctor, can also constitute abuse, it is dealt with through professional regulatory bodies, while criminal activity should be reported directly to the police (Victorian Government 2009). Abuse that occurs within residential care facilities is often characterised as a 'failure of care' on behalf of the provider, and is dealt with by the Commonwealth Government through compulsory reporting under the *Aged Care Act 1997* (Victorian Government 2009).

Prevalence

Lack of recognition and under-reporting means that the extent of elder abuse is difficult to estimate, but research indicates it may be experienced by between 2 and 6 per cent of older people in Australia (Kaspiew et al. 2016), with the understanding that there are different prevalence rates for different types of abuse. The World Health Organization estimates elder abuse prevalence on an international level as being between 2 and 14 per cent (World Health Organization 2015c).

A recent review by the Australian Institute of Family Studies found there were only two Australian population-based studies that gave some indication of the prevalence of elder abuse. Analysis of the Australian Bureau of Statistics Personal Safety Survey focused on intimate partner violence and found 0.4 per cent of older women (55 years and older) experienced cohabiting partner violence in the previous 12 months (Cox 2015). The Australian Longitudinal Study of Women's Health has measures relating to vulnerability, coercion, dependence and dejection and in its 2014 report found that 8 per cent of a cohort aged 85 to 90 years had experienced vulnerability to abuse. Neglect was indicated to be as high as 20 per cent across cohorts from ages 70 to 75, and 85 to 90 years (Australian Longitudinal Study on Women's Health 2014).

Elder abuse may be under-reported as professionals in various fields may not recognise it: some research suggesting that only around 1 per cent of cases are detected and reported by medical practitioners (Kurrle et al. 1997), and less than half of health workers and students have received any education or training alerting them to issues of elder abuse (Dow et al. 2013). The Royal Commission received submissions that suggested those providing services to older people may not know how to recognise and respond to people experiencing family violence, which may hinder the identification of elder abuse and the provision of appropriate support (Neave et al. 2016). The Royal Commission was told professionals can fail to recognise elder abuse because of:

- a limited understanding of what constitutes abuse
- a lack of knowledge about referral frameworks
- concerns about confidentiality
- concerns referrals may compromise therapeutic relationships
- concerns for consequences for the older person
- impact of the legal process on the older person
- reluctance to become involved in the legal process
- outside scope of professional responsibility
- dissatisfaction with authorities' responses to elder abuse
- lack of conviction that referral would improve outcomes
- older person has denied mistreatment
- abuse only involves subtle signs
- difficulties in obtaining necessary evidence (Neave et al. 2016), Chapter V, p.82.

The Royal Commission heard that violence against older people tends to be under-reported for a variety of reasons, including that older people may not recognise their experiences as family violence and may regard the abusive behaviour as normal, taking into consideration that in the past women were not supported to report or leave abusive relationships, and older people may not be culturally empowered to report family violence because of generational expectations (Neave et al. 2016). Some older people may be financially reliant on the perpetrator, and may worry about who will provide assistance and care if they report the abuse.

Risk factors

Elder abuse is a complex issue and different situations and types of abuse involve different risk factors. Ageism, which is the stereotyping or discriminating against a person because of their age, is a factor in elder abuse, and the Royal Commission noted that societal ageism includes a lack of respect for older people, and a view of older people as incapable or a burden (Neave et al. 2016).

It is also important to balance the autonomy and wishes of an older person with the need to maintain safety and mitigate risk. Recent research shows there are some risk factors involving the older person, the perpetrator, their relationship and the environment, which are reproducible across a range of settings (Johannesen and LoGiudice 2013).

Table 3: Risk factors for elder abuse in community-dwelling older people (Johannesen and LoGiudice 2013)

Older person	Perpetrator	Relationship	Environment
<ul style="list-style-type: none"> • Cognitive impairment • Behavioural problems • Psychiatric illness or psychological problems • Functional dependency • Poor physical health or frailty • Low income or wealth • Trauma or past abuse • Ethnicity 	<ul style="list-style-type: none"> • Caregiver burden or stress • Psychiatric illness or psychological problems 	<ul style="list-style-type: none"> • Family disharmony and poor or conflictual relationships 	<ul style="list-style-type: none"> • Low social support • Living with others (except for financial abuse)

Some research has identified psychopathology in the abuser, such as the perpetrator being dependent on the older person, and having issues such as drug and alcohol abuse, or mental illness, as being a risk factor (World Health Organization 2015c, Pillemer et al. 2016). However, there needs to be more research done in this area to confirm when it leads to elder abuse. Literature also shows that cognitive impairment (including dementia), which leads to reduced capacity, is a risk factor for elder abuse, as is social isolation and traumatic life events (Kaspiew et al. 2016).

Elder abuse that occurs unintentionally through a carer's lack of knowledge or ability to cope can sometimes be influenced by stress in the care relationship, and the older person finding it difficult to accept their need for care (Victorian Government 2009). A recent study showed that more than a third of family carers self-reported engaging in potentially harmful behaviours towards an older person in their care, demonstrating the need for elder abuse prevention aimed at stressful caregiving situations (Lafferty et al. 2016).

Evidence for strategies to address elder abuse

There are different approaches that can be taken to prevent and address elder abuse, though few interventions have been sufficiently evaluated to demonstrate unequivocal effectiveness (Ploeg et al. 2009). Different types of abuse require different interventions and prevention measures at different levels (individual, community and societal), and while some actions might have an immediate effect (such as an intervention order forcing the perpetrator to move house), others might address underlying issues and require ongoing support to enable success.

Some approaches focus on raising awareness in the community so people can recognise the situation, and know how to respond. Other approaches aim to educate professionals who come into contact with

older people (such as health professionals, aged and community care providers, nurses, lawyers and bankers) so they can identify risk factors and be alert to warning signs that their client or patient may be experiencing abuse. Most interventions aiming to directly stop elder abuse occur on a case-by-case basis and primarily involve supporting the older person to make decisions, and providing legal services when necessary.

The Royal Commission heard that older people from diverse communities may have difficulties accessing services relating to family violence. This includes older Aboriginal and Torres Strait Islander people; older gay, lesbian, bisexual and transgender people; older people in rural and regional areas; older people from culturally and linguistically diverse backgrounds and older people with disabilities (Neave et al. 2016).

Recent research has suggested that focusing exclusively on the victim is misguided, and that an effective response needs to also assess and support the perpetrator, taking into account the relationship between the victim and abuser, with a particular focus on both parties' problem-solving skills (Jackson 2016). For this to happen there needs to be more research around the perpetrator, what motivates their behaviour, and the importance of the victim-perpetrator relationship. The Royal Commission found that there is a need for family violence interventions (such as men's behaviour change programs) that are closely linked with mental health and drug and alcohol programs, and a similar approach that takes into account the circumstances of elder abuse perpetrators may prove effective when addressing abuse of older people (Neave et al. 2016).

While noting the lack of evaluated programs, a recent review noted five interventions that research indicates have promising outcomes in preventing elder abuse: money management programs, helplines, emergency shelter, multidisciplinary teams, and caregiver interventions (Pillemer et al. 2016). The Royal Commission recommended building community and service providers' awareness about family violence against older people through targeted information campaigns and training. It was also suggested that the Victoria Police trial a dedicated family violence and elder abuse response team in one local area (Neave et al. 2016).

Community awareness

There is little research into the effectiveness of education about elder abuse to the wider community; though it is likely that higher awareness of the issue and where to seek help have some positive effect. A 2010 public awareness campaign by the Queensland Elder Abuse Prevention Unit found that notifications of elder abuse to the helpline rose by 64 per cent in the wake of the campaign (Sparkes and Jackson 2011).

Cultural factors can influence how elder abuse is perceived and responded to in different communities. For this reason, both awareness-raising education and interventions need to be culturally appropriate and consider the needs of people from culturally and linguistically diverse backgrounds, including Aboriginal and Torres Strait Islander people. The Ethnic Communities Council of Victoria created a community education tool *Within My Walls* (available in eight languages) that uses short films to show types of elder abuse commonly seen in the community. Funded by the Victorian Government Department of Health and Human Services, the films come with an education resource that can be used by workplaces, individuals and community groups (Ethnic Communities Council of Victoria 2014).

Professional education

The Victorian Government provides online training based on the Victorian Government Practice Guide *With respect to age 2009*. It is targeted at anyone working with older people and aims to help the participants recognise different types of abuse, identify risk factors, understand the empowerment model, recognise the complexity of elder abuse situations, understand their duty as a care worker, and contribute in building the capacity of their organisation to respond to elder abuse (Victorian Government

2016a). The program is soon to be evaluated, and research has shown that education can be effective in raising awareness about elder abuse.

A recent study found elder abuse education was effective when aimed at young adults, however over time the effect diminished, suggesting the need for supplemental education to maintain ongoing changes to attitudes and behaviour regarding elder abuse (Hayslip et al. 2015). While there is a growing awareness of the occurrence of elder abuse, less than half of health workers and students have received any education or training alerting them to issues of elder abuse (Dow et al. 2013).

Research has shown that health professionals who receive brief group education on elder abuse increase their knowledge and ability to detect abuse, immediately and three months later, though they still remain reluctant to ask patients about abuse for fear of causing offence, harming their relationship, or not knowing how to ask such questions of a person with dementia (Cooper et al. 2012). This indicates that as well as needing to be educated about the existence and signs of elder abuse, health professionals may also need professional development around communicating with their patients about difficult issues. The Elder Financial Abuse web-based training education program <www.elderfinancialabuse.co.uk> has been shown to be effective with increasing health professionals' knowledge about elder abuse (Harries et al. 2014). The Royal Commission recommended that family violence training, including training on elder abuse, be made available for health professionals; Home and Community Care workers; the aged care workforce, including aged care assessment teams; the Office of the Public Advocate's community visitors; Victoria Police; other service providers; banking and financial services staff; lawyers; and counsellors (Neave et al. 2016). The Victorian Government recently provided funding to the Bouverie Centre to deliver training relating to elder abuse, single-session therapy and family inclusive practice. This will aim to provide clinicians with skills on how to have a conversation with clients relating to elder abuse

St Vincent's Hospital Melbourne has established a hospital-wide policy of care and education to respond to elder abuse. The model includes supporting staff to identify pathways for intervention and escalation based on risk, patient choice and safety; education for staff; data collection and notification; and a senior Vulnerable Older People Coordination and Response Group that reviews data related to suspected cases, and advises on policy and continuous improvement. The framework has delivered significant improvements to practice and could be used in other hospitals or healthcare settings (Neave et al. 2016).

Multidisciplinary interventions to assist older adults

It is difficult to evaluate the effectiveness of interventions intended to stop or reduce elder abuse, because they are often designed on a case-by-case basis, acknowledging the complex and varied nature of the issue. A systematic review of elder abuse interventions that prioritised quantitative methods found few studies could be comprehensively evaluated as they did not include a comparison group (usual care or another intervention) and were not conducted as randomised controlled trials (Ploeg et al. 2009).

Most elder abuse interventions are evaluated through case record analysis that measures the cessation or reduction of abuse as the primary outcome. Evaluating only whether the abuse has ceased or reduced and whether the older person remains safe does not consider whether the intervention may have unintentionally exacerbated the older person's situation: little research has been done into the perspectives of victims of elder abuse and what they consider a successful outcome.

Some research is now considering wider measures of success, including whether the older person has made progress towards their goal (such as seeing the situation as abusive) even if they're not yet willing to make the difficult decisions to change it (Morris Mariani et al. 2015); and whether the older person has an improved ability to cope after the intervention (Alon and Berg-Warman 2014). One study found that many older people experienced ambivalence towards the intervention procedure because while they believed it to be necessary, it also exposed feelings of anger, guilt, shame and fear, and instigated sometimes traumatic change in order to stop the abuse (Douglass 2005). For example, many older people report being ambivalent about doing anything to stop the abuse as they are worried it may have a

negative effect on their relationship with the perpetrator (who is often their adult child) (Vrantsidis et al. 2016). This research confirms the complex nature of elder abuse, and the need for nuanced and complex interventions that address short and long-term goals.

Interventions that combine legal components (complaint filed with police; application for court order; legal advice; guardianship) with therapeutic elements (support from a social worker; counselling for victim and abuser; supportive service including medical and home care) were shown in one study to improve the older person's situation by helping stop or reduce abuse, and by improving the individual's ability to cope (Alon and Berg-Warman 2014). A systematic evaluation of a similar multidisciplinary social work-lawyer elder mistreatment intervention model demonstrated that the most effective interventions combined social work with legal services, and older people who only used social work services (and no legal intervention) were less likely to have a reduction in their maltreatment risk (Rizzo et al. 2015).

Seniors Rights Victoria (SRV), funded by the Department of Health and Human Services combines helpline, advocacy and legal services to assist people who are experiencing elder abuse. Using a multidisciplinary legal and advocacy approach, SRV aims to assist older people in preventing and responding to elder abuse through various means including access to support services, legal services and empowerment to enable the older person to live as they wish, and research shows there have been numerous successful interventions of a similar type (Alon and Berg-Warman 2014, Rizzo et al. 2015, Wilber et al. 2014). A recent study in which past clients of SRV were interviewed, looked at the consequences of an intervention to stop elder abuse. As a result of the intervention, most participants found that the abuse ceased; the older person felt supported, informed and enabled to act; they knew what their available options were and where to go for assistance in the future. Even when there were negative consequences of the intervention, including things like the loss of their relationship with the perpetrator, changes in living arrangements, or ongoing financial difficulty, the older people did not regret taking action to halt the abuse, and would encourage other people in their position to do the same (Vrantsidis et al. 2016).

Justice Connect Seniors Law provides free legal services for older people with a legal issue associated with ageing, including clients experiencing or at risk of elder abuse. They have recently initiated a health justice partnership (HJP) where a lawyer is incorporated into a healthcare team in order to prevent and respond to suspected elder abuse. Health professionals are well placed to recognise elder abuse and have often developed a relationship of trust with the older people they provide care for, allowing them to identify risks and warning signs of an older person experiencing abuse. The HJP model allows health professionals to identify legal risks and discuss legal services with their client, and connect them with a lawyer. While the HJP is only a recent development, early evaluation indicates there has been improved relationships and understanding between professionals; improved capacity to prevent and respond to suspected elder abuse; and better reach to help disadvantaged clients (Justice Connect Seniors Law 2016).

The ambivalence that an older person can feel about their situation can affect the decisions they make regarding an intervention. In many cases an older person may want the abuse to stop, but they may not want to cause trouble for their adult child who is perpetrating the abuse. Some research has shown that it is important to have ongoing support for older people wanting to put a stop to elder abuse: one review of a legal-therapeutic elder abuse intervention in America showed that while those with intervention support had equivalent rates of criminal charges and successful prosecution, they were less likely to have a future elder abuse situation that required adult protective services than those who just had the legal intervention without other supports (Wilber et al. 2014). An evaluation of a support program that connected older people to support services, and used motivational interviewing to help them overcome their ambivalence about making difficult life choices, was shown to be effective in strengthening the relationships between the older person and the service provider, and reducing elder abuse risk factors (Mariam et al. 2015).

Family interventions

While there is no conclusive research around the effectiveness of family mediation and Family Care Conferences or Family Group Conferences, they may offer a promising alternative to legal action and are likely to be valued by older people who want to maintain relationships with abuse perpetrators.

Recent research used national online surveys to consider mediation and financial abuse within Australia. The surveys were sent to older people and their families, and organisations that provide services to this group (including family mediation agencies). They reported advantages to mediation such as engaging in frank and honest appraisal of a situation, clear communications, identifying risks, naming the abuse and its unacceptability, educating perpetrators, and empowering both parties to make their own decision (Bagshaw et al. 2015). While it is not clear how extensive the use is of family mediation to address elder abuse of the organisations surveyed, 7.5 per cent were providing mediation services, 25.4 per cent were providing counselling services, and 3.4 per cent were providing family therapy services (Bagshaw et al. 2015). There are concerns, however, that mediation is most helpful as a preventive measure at the early stages of conflict but may not be appropriate when there is abuse, a power imbalance, or a history of family violence, intimidation or dysfunctional patterns of relating (Braun 2013, Craig 1998). Mediation to support families negotiating complex issues relating to ageing is currently being trialled in Victoria (through Relationship Australia's Elder Relationship Services and through Family Mediation and Counselling Victoria with Benetas) though the programs have not yet been evaluated for effectiveness.

Family Care Conferences or Family Group Conferences involve meeting for information sharing, followed by private family time where the family discusses the issues and makes a plan, and then a second meeting where all interested parties return and make an agreement, with a follow-up meeting scheduled for 12 weeks later to review the situation (Tapper 2010). While the process has not yet been properly evaluated, initial findings from the Daybreak Bluebird Project, a three-year FGC project in the UK, indicated that it is an effective decision-making tool to address elder abuse (Tapper 2010).

Caregiver interventions

While there has not been extensive evaluation of interventions to address potentially abusive behaviours in caregivers, some research indicates that caregiver support interventions may help reduce the likelihood of abuse occurring (Pillemer et al. 2016). Some elder abuse is caused by carers of people with dementia, and can be linked to stress, depression and the pressure of the caring role. The START psychological intervention (an eight session, manual-based coping intervention) reduces depression and anxiety in family carers of people with dementia, but a recent study showed there was no evidence that it reduced carer abusive behaviour (Cooper et al. 2016).

A study that provided anger management counselling to perpetrators who physically abused the older person they were caring for demonstrated that this type of psychological intervention could reduce conflict, strain, depression and anxiety (Reay and Browne 2002). A study that gave educational support to caregivers found that this intervention was successful in alleviating psychologically abusive behaviour and in increasing caregiving knowledge, but did not have an effect on work stress (Hsieh et al. 2009).

Financial management for older people

A significant amount of elder abuse comprises financial abuse, and ensuring older people have adequate financial literacy is an important part of preventing abuse. Capacity Australia has developed an online tool that bank staff can use to identify financial abuse, or the risk of financial abuse, and respond appropriately. It also includes information on dementia, financial capacity and supported decision making. While the tool has been shown to be an effective means of knowledge translation, it is not known how widespread the use of this tool is (Peisah et al. 2016). Money management programs targeted to groups at high risk of financial exploitation (for example, people with cognitive impairment or who are socially isolated) may help prevent elder abuse (Pillemer et al. 2016).

Gaps and issues

There is a need for more research on all aspects of elder abuse, from its prevalence to risk factors to the effectiveness of interventions. Little is known about the perpetrators of elder abuse, including their circumstances and motivations. Characteristics of perpetrators are usually only gleaned from information reported by the older person, and more work needs to be done to understand why adult–child relationships can result in conflict and abuse. The Royal Commission into Family Violence has made a number of recommendations that will be enacted by the Victorian Government in coming years in order to address family violence. These recommendations are inclusive of older people and recognise that elder abuse is a form of family violence.

While community awareness and various interventions have been shown to be effective, there needs to be more evaluation of these programs to make sure they are informed by the latest and most comprehensive evidence. Research shows that a multidisciplinary approach (including legal with advocacy or support services) can effectively address both long and short-term causes of elder abuse, but it is not clear what specific combination of approaches best suits the different types of abuse.

Summary

Elder abuse is a form of family violence that involves any act occurring within a relationship where there is an implication of trust, which results in harm to an older person. Forms of elder abuse include financial, psychological, physical, social and sexual abuse, as well as neglect. While a lack of recognition and under-reporting means that the extent of elder abuse is difficult to estimate and no prevalence data is available for the Australian population, research suggests it may be experienced by between 2 per cent and 10 per cent of older people in Australia.

Elder abuse prevention strategies include raising community awareness of the issue; supporting older people to make informed decisions; addressing risk factors involving the older person, the alleged perpetrator, their relationship and the environment; and educating health professionals about the issue and appropriate responses.

Multidisciplinary interventions are the most effective ways of stopping elder abuse, as they provide older people legal and support services to respond to suspected elder abuse. These interventions also have potential for conflict resolution that maintains family relationships.

9 Preventing violence and injury: transport-related injury

At a glance

- Drivers aged 75 years or older have a higher risk of being killed in a crash than any other age group.
- Pedestrians aged 75 or older are over-represented in both fatalities and hospitalised injuries.
- Older people need to make choices about safety when deciding to drive, using public transport, and being a pedestrian.

What older people can do

- Recognise warning signs of not driving safely or confidently.
- Talk with health professionals (particularly doctors and pharmacists) about medical conditions and medications which can impact on driving capabilities.
- Use different forms of transport for community mobility so if there is a need to stop driving, the transition is easier.

What those supporting older people can do

- Families can help older people to recognise declining driving performance.
- Transport professionals and health promotion officers can include older people's perspectives in transport infrastructure design and policy.
- Public transport needs to be available, accessible and affordable for older people.
- Services and programs which assess and train the ability to drive and use vehicles by older people should be available.

Background

Everyone uses a variety of transport options, but as people age changes due to illness, disability or functional decline may mean that their transport needs require extra consideration. The use of public and private transport has been associated with better quality of life and independence for older people (Gilhooly et al. 2002), while community mobility can improve incidental physical activity, which has a positive impact on health (Beavis and Moodie 2015, Kohl et al. 2012).

As people age, it becomes increasingly difficult to get to the places they need to go: in Australia in 2010, for people over 65 years older, 81 per cent were able to easily get to the places needed, but this number drops 66 per cent for those aged 85 and above (Australian Institute of Health and Welfare 2007b). Difficulty accessing services was reported by 22 per cent of older people, and 11 per cent of these report their difficulty accessing services was related to transport difficulty or distance (Australian Institute of Health and Welfare 2007b).

Age-friendly communities are being developed throughout Australia (see section 12, 'Age-friendly environments') (World Health Organization 2014a), however the availability of transport varies greatly depending on where older people live. Those in metropolitan areas may have more options for shorter distance trips (including walking and a variety of public transport) while those in remote areas need to rely more on private vehicles for transport. In 2006, older people living in major cities had more difficulty getting to the places they need than those living in inner regional areas: 77 per cent of older people in major cities can easily get to the places they need to go compared with 86 per cent of those living in inner regional areas (Australian Institute of Health and Welfare 2007a).

The most common reasons for older people not using public transport are: difficulty getting into or out of vehicles (53 per cent), difficulty getting to stops and stations (30 per cent), lack of seating combined with difficulty standing (12 per cent), and pain or discomfort (12 per cent) (Australian Institute of Health and Welfare 2007a). Older people's access to motor vehicles as drivers is lower than the general adult population: 87 per cent of adults under 65 have access to motor vehicles, compared to 77 per cent of those 65 and over, and 40 per cent of those 85 and older (Australian Institute of Health and Welfare 2007b).

A review of transport usage by people over 65 years of age in Melbourne found private motorised transport was the predominant mode of transport for older adults, representing approximately 70 per cent of travel (Oxley 2015). Approximately 22 per cent of travel was made using active transportation (mainly walking trips). In those older than 75 years, average trip distance, trip duration and walking speed tended to decrease.

Transport safety

While the nature of transport brings with it inherent safety risks, ensuring transport safety for older people is important for healthy ageing, as it allows community participation. Older people are more concerned with traffic and personal safety than younger drivers (Fildes et al. 1994). When using transport, people are often in unfamiliar environments, many variables are beyond an individual's control, machines involved are often moving at high speed resulting in high impact, and environmental conditions can fluctuate rapidly. Accidents can occur very quickly and cause anything from mild injuries to more serious injuries that require hospitalisation, and at times result in death. Therefore, the choices older people make about what transport to use, taking into account availability, accessibility and affordability, may have significant and sometimes devastating impacts on health and wellbeing.

Community mobility requirements and transport safety are multifactorial. They depend on infrastructure (for example, road designs), vehicle safety (for example, car design) and the abilities of people using the transport systems (for example, driver competence, whether that be in a motor vehicle, a bicycle or motorised scooter; passenger behaviour; and pedestrian behaviour). Safety in these areas can be measured by increases in performance failures (for example, drifting across lanes on multilane roads, unable to drive at a safe speed on a busy freeway), infringements of traffic rules and regulations, and crashes (with or without injury).

A strategic approach is needed to ensure the safety of older people when using transport. This involves monitoring transport crashes involving older people, considering older drivers in road design, and collecting comprehensive exposure data on older drivers' road usage. This strategic approach is required at policy and regulation level; in research and development of vehicles and road infrastructure; in knowledge, education, screening, assessment and training of an older person's performance for driving and the ability of older people to self-regulate their driving behaviour; safety awareness for all drivers and passengers accessing all types of vehicles; and for pedestrians in public spaces (Fildes 1997).

Transport crashes and incidents can include:

- crashes where vehicles either collide with another vehicle(s) or with other objects (inanimate or living)
- falls which occur on or accessing a vehicle (for example, getting on a tram, when a bus stops suddenly, slipping on the deck of a boat, falling off a bicycle, or a quad bike overturning onto the driver), or
- injuries that are caused by the driving of a vehicle (for example, where a pedestrian is hit by a bicycle).

Although a large number of falls occur in public spaces (for example, on road or footpath environments) (Oxley et al. 2016), they are not considered transport-related unless a vehicle is involved and will not be considered in this literature review.

The types of transport can be classified as land, water and air transport. Only 3 per cent of hospitalised serious injuries in 2008–09 in Australia involved air or water transport so will not be considered in this literature review (Henley and Harrison 2012).

Transport-related injuries

Transport-related injuries are those involving vehicles, which may be motor vehicles (cars, motorcycles, scooters, buses, trams and trains), pedal or electric bicycles, or animals and animal-drawn vehicles (when they travel on the road). Pedestrians are also considered if an injury is caused by a vehicle. Transport crashes can lead to fatalities and serious injury requiring presentation to emergency departments and hospitalisation.

Fatalities

While there have been reductions in transport-related fatalities for all ages in Australia, for older people there has been a plateauing, and recently increases, in deaths on roads (mainly in driver and motorcyclist fatalities) (Bureau of Infrastructure Transport and Regional Economics 2013). In Victoria for the period 2010–2012, 219 people 65 years and older died as a result of a transport injury (Clapperton et al. 2015). Falls accounted for over two-thirds of injury deaths among older persons (69.9 per cent, n=1,931), followed by suicide (8.4 per cent, n=231), and transport injury (7.9 per cent, n=219) (Clapperton et al. 2015). For those aged over 65 (except of those 80–84 where it was ranked second), transport was ranked the third highest cause of injury deaths in 2010–2012 (Clapperton et al. 2015).

Drivers aged 75 years or over have a higher risk (per distance travelled) of being killed in a crash than any other age group (Transport Accident Commission 2016c). The five-year average for fatalities on Victorian roads is 313 people; the five-year average for fatalities on Victorian roads for those over 60 years of age is 76, and for those 75 years and older is 37 (Transport Accident Commission 2016d). Of the 25 older drivers killed in 2013, 64 per cent were male, 24 per cent were involved in single vehicle crashes, 52 per cent occurred on regional roads, 44 per cent occurred between 12 noon and 4 pm, and 52 per cent occurred on roads sign posted 100 km/h or more (Transport Accident Commission 2016b).

Older driver fatal crashes differ from other fatal crashes. In Australia, crashes at intersections or involving multiple vehicles are over-represented in older driver fatal crashes, while run-off-the-road (often high-speed) crashes are under-represented (Bureau of Infrastructure Transport and Regional Economics 2013). This is similar to crash data in the UK where it was found older drivers have significant problems with intersection collisions and failing to give right of way (Clarke et al. 2010).

A similar picture exists for pedestrians and transport-related fatalities. In recent years there has been a downward trend in pedestrian fatalities in Australia and Victoria (in Victoria, there has been a significant reduction in pedestrian deaths, from approximately 160 deaths per annum in the late 1980s to 44 deaths in 2014 (Oxley et al. 2016), but pedestrians aged 75 and older are still over-represented in both fatalities and hospitalised injuries.

In Victoria in a 10-year period between 2003 and 2012, adults over 65 years were involved in 21 per cent of all pedestrian collisions (O'Hern et al. 2015). A high fatality rate was found among older adults, particularly for those aged 75 years and older: this group had 3.2 deaths per 100,000 population, compared to a rate of 1.3 for those aged 65 to 74 years and 0.7 for adults below 65 years of age (O'Hern et al. 2015). Similarly the data for the period from 2006–08 shows 120 traffic-related pedestrian deaths were recorded in Victoria. Just over one-third (34 per cent) of these pedestrian deaths were in those 75 years and older; considering only 6 per cent of the Victorian population in 2006–2008 were aged 75 years and over there was an over-representation of older people in pedestrian fatalities. In both sexes the risk of fatal injury in pedestrian crashes increased as age increased, with a sharp increase in risk from age 75 years. Further analysis showed that the number of traffic-related pedestrian deaths was highest in those 80 to 84 years (15 per cent of all pedestrian deaths, n=18), followed by those 75 to 79 years (12 per cent, n=14) and the age group 85+ (8 per cent, n=9). The all-ages pedestrian fatality rate is

0.8 per 100,000, but the fatality rate was highest in persons aged 80 to 84 years (5.6 per 100,000), followed by persons aged 85 years and over (3.4 per 100,000), then persons aged 75 to 79 years (3.3 per 100,000) (Cassell et al. 2010).

Male pedestrians in all age groups are more than twice as likely as female pedestrians to be fatally injured in a road crash for all age groups, except those aged 65 and older (Bureau of Infrastructure Transport and Regional Economics 2015). The Transport Accident Commission data reported that 465 pedestrians have been killed between 2004 and 2013 on Victorian roads: one third of these were aged 70 years or over (Transport Accident Commission 2016d). In 2013, 39 per cent of pedestrians killed were aged 75 years and older; 57 per cent of these were aged over 85. There were no gender differences (Transport Accident Commission 2016b).

Serious injury

In those people aged 65 years and over, transport-related injuries accounted for 5 per cent of all injuries requiring hospitalisation in Australia in 2011–12 (Tovell et al. 2014).

Rates (cases per 100,000 population) of transport-related injury were higher for men than women in each age group, and higher rates occurred in the older age categories (Tovell et al. 2014).

In Victoria in 2014–15, for older adults (65 years and older), 8 per cent of hospital admissions and 8 per cent of emergency department presentations were for injuries that occurred on a road, street or highway. Transport accounted for 11 per cent of admissions (n=10,280) but just 7 per cent of emergency department presentations (n=21,489) (Clapperton and Fernando 2016).

A similar picture is shown when road traffic crashes are analysed. Nearly 10 percent (9.8 per cent) of people seriously injured in Australia in 2008–09 due to road traffic crashes were aged 65 years or over, with no gender difference. However in older age groups, female rates were higher than male rates, especially in the oldest age group (Henley and Harrison 2012). A 2012 study from the Monash University Accident Research Centre (Budd et al. 2012) found that compared to younger drivers (35 to 54 years old), older drivers in Australia and New Zealand were more likely to be injured in a crash and the injury was more likely to be serious, and older female drivers were more likely to be injured or seriously injured than older male drivers.

Serious injury rates for pedestrians are similar. The rates for pedestrian serious injury in Australia in 2008–09 were slightly elevated from 15 to 19 years of age through to 25 to 29 years of age and in those aged 65 years and over (Henley and Harrison 2012).

In Victoria in 2014, Transport Accident Commission data reported 1,310 people 60 years of age or older required hospitalisation following an accident caused by the driving of a vehicle (and presumably had made a Transport Accident Commission claim). This data does not discriminate between drivers, passengers and pedestrians. The five-year average for Victorian transport accident claims involving a hospital admission was 1,278 people aged 60 years and over (Transport Accident Commission 2016d).

Most of transport-related injury cases (70 per cent) were reported to have occurred on a public highway or street. Other places where transport-related injuries occurred were on a farm, in the driveway to a home and on a footpath (3 per cent each); a further 2 per cent of injuries occurred in a parking area (Tovell et al. 2014). People in motor vehicles made up the majority (54 per cent) of the land transport injury cases. The proportion of men in this group who sustained the injury while riding a motor cycle (9 per cent) or a pedal cycle (14 per cent) was higher than the equivalent proportions for women (1 per cent and 5 per cent, respectively). Women, however, were more likely to have been injured while a car occupant (63 per cent), a bus occupant (7 per cent) or as a pedestrian (18 per cent). More than half (53 per cent) of the injured car occupants were involved in a collision with another vehicle, while 18 per cent of crashes involving car occupants collided with a fixed or stationary object (Tovell et al. 2014).

The body region most often injured for both sexes (men 41 per cent; women 44 per cent) was the trunk, including the neck, thorax, abdomen, lower back, lumbar spine and pelvis, followed by an injury to the hip, leg or foot (22 per cent men; 25 per cent women). Nearly half of all of transport-related injuries requiring hospitalisation of older Australians were fractures (48 per cent). Superficial injuries (10 per cent), open wounds (10 per cent), intracranial injury including concussion (7 per cent) and injuries to an internal organ (4 per cent) were the next most common types of injuries (Tovell et al. 2014). For those transport-related injuries that were due to a road vehicle traffic crash, seriously injured people in older age groups were more likely to have longer lengths of stay in hospital than those in younger age groups (mean of greater than six days for those 65 years and over, compared to a mean of 4.9 days for all age groups combined) (Henley and Harrison 2012)

Minor or moderate injury not requiring hospitalisation

Data presented above relates to people who sustain serious injury requiring hospitalisation and emergency department presentations. However, a large number of people may be involved in transport crashes that result in injury but do not present to hospital. Information about these injuries is limited (Watson and Ozanne-Smith 2000).

Injury management issues

In Victoria, for people involved in an accident caused by the driving of a car, motorcycle, bus, train or tram (whether a driver, occupant, pedestrian or cyclist), a claim for medical treatment, rehabilitation services, disability services, income assistance, travel and household support services can be made through the Transport Accident Commission (TAC). For those injured in transport crashes not meeting the TAC criteria, no compensation is available and the public health system is available. Injury management and long-term impacts on older people are beyond the scope of this literature review.

Evidence for strategies to reduce transport-related injury

Strategies to reduce transport-related injury must recognise older people as transport users and include the areas of:

- transport infrastructure (including road and rail)
- public transport availability, accessibility and affordability
- vehicle safety
- vehicle choice
- older people making choices about safety regarding driving, using public transport and/or being a pedestrian
- providing services and programs which assess and train older people's ability to drive and use vehicles
- resources for older people, families, and health professionals regarding transport issues whether the older person is still driving, ceased driving or has never driven.

Transport safety

Transport and health promotion professionals need to work together to design and build sustainable transport options that address barriers for older people.

There are a number of groups in Victoria with a specific interest in transport safety. Transport Safety Victoria provides information about transport safety issues for government, the public and importantly public transport operators <transportsafety.vic.gov.au>. Groups such as the Monash University public transport research group <publictransportresearchgroup.info> and the Monash University Accident Research Centre <www.monash.edu/muarc> are involved in research of safety across all modes of transport and transport users.

The Safe System approach to minimise the risk of fatalities and serious injuries has been adopted in Australia as part of the *National road safety strategy 2011–2020*. It comprises four pillars: vehicles, infrastructure, speeds and people <roadsafety.gov.au/nrss/safe-system.aspx>. The interactions of these four components should minimise death and serious injury.

A number of services and programs specific to the transport needs of older people are available in Victoria, including:

- *Make the right choice: vehicle safety advice for seniors* – a brochure produced by Royal Automobile Club of Victoria (RACV) that provides essential vehicle safety information and a checklist of important features that should be looked for when buying a car (RACV). It is available online or from RACV shops
- Seniors Card – cardholders receive concessional rates on public transport across Australia <www.seniorsonline.vic.gov.au>
- Community Travel Training – provided by Travellers Aid Australia and supported by RACV, these training sessions <www.travellersaid.org.au/community-travel-training> include information on learning to access public transport safely and confidently for all ages and physical abilities
- Medical Companion Service – Travellers Aid Australia offers a service to assist people <www.travellersaid.org.au/our-services/medical-companion-service> who are unfamiliar with Melbourne, or feel anxious using public transport alone, to be able to travel independently. Trained volunteers are available to meet people who have medical appointments in central Melbourne, and accompany them by public transport to and from their appointment. The project is funded by the Victorian Government's Transport Connection Partnership and is supported by V/Line.

Public transport safety

Public transport provides an important mode of community mobility for all ages. The availability, accessibility and affordability of public transport all affect the wellbeing of older people. Quality of life can be extended by public transport use and there is evidence that physical activity benefits are gained by people public transport (Webb et al. 2012, Rissel et al. 2012).

There is little evidence available on the impact of medical conditions on older people's use of public transport, for example, chronic illness, cognitive decline, visual impairments, poor balance and limited endurance. Also there is little published information on public transport crowding and the impact on older people, when older people may be more vulnerable as passengers rush in and out of carriages or vehicles.

Public transport operators offer information and resources relevant for all users, and which may be of particular interest to older passengers:

- **Tram Safety:** Public Transport Victoria have run awareness campaigns encouraging passengers on trams to be aware of sudden stops (Public Transport Victoria)
- **Accessible Journey:** Yarra Trams have an accessibility guide regarding their services in Melbourne (Yarra Trams 2013)

Motor vehicle driver safety

Most older people drive safely and without injury. However, as people age they, or their family and friends, might become concerned about their ability to continue. Making the decision about continuing to drive is a critical one and can impact health and wellbeing.

Various factors are associated with safe driving and crash risk in older adults, and it is thought that cognition, sensory function, physical function and medical conditions can affect driving ability, and safe driving behaviour also requires accurate self-monitoring of these factors (Anstey et al. 2005).

Specific areas for older people to consider when deciding whether to continue driving include vehicle choice, medical conditions, use of medications including the interaction with alcohol, environmental conditions, and confidence. Research suggests that the relatively high number of crashes in those over 60 years of age might be caused in part by fatigue and illness, time of day factors, and unintended accelerations (Clarke et al. 2010).

Driving and vehicle choice

Vehicles involved in crashes with older drivers tended to have poorer crashworthiness status than those of younger drivers, with the vehicles of crash-involved drivers tending to be retained by drivers for long periods after purchase (Budd, Scully et al. 2012). Authors of this 2012 study suggested that if older drivers optimised safe vehicle choices (models manufactured after 2000), then fatal and serious injury crashes could be reduced (Budd et al. 2012). A 2013 study found that older drivers acknowledge the importance of safety features (that is, seat belts, air bags, braking), but they often downplay the role of safety in their vehicle purchasing process (Koppel et al. 2013). Emphasising the value of safety features and their role in reducing the risk of injury and death may benefit older drivers.

Driving and health conditions

Physical and mental changes associated with ageing can affect how well older people drive. These changes include slower reaction times, loss of clarity in vision and hearing, and loss of muscle strength and flexibility. Also the presence of illness and medical conditions in older people can affect driver capability and performance. Increasing accident risk for those over 75 years of age may be related to health decline. Specific areas such as visual impairments and cognitive decline pose particular risks for transport injury.

However, a recent paper looking at speeding events (greater than 1 km/h with 3 per cent tolerance above speed limit) in drivers over 75 years of age found the speeding events could not be explained by deficits in vision and cognition (Chevalier et al. 2016). Low range speeding was common and the likelihood of speeding decreased with age. Other research suggests mild age-related cognitive impairment may not pose a motor vehicle crash hazard for the older drivers but further research is warranted (Koppel et al. 2015).

Chronic illness

A 2010 review of chronic illness and crash risk found conditions that have at least a moderately elevated risk of crash involvement (compared to a control group) are alcohol abuse and dependence, dementia, epilepsy, multiple sclerosis, psychiatric disorders, schizophrenia, sleep apnoea and cataracts (Charlton, Koppel et al. 2010). The authors comment that successful management of chronic illness may reduce crash risk. The impact of any chronic illness and treatment upon driving needs to be considered, for example, the treatment of psychiatric disorders with benzodiazepines and at least one type of antidepressant may increase crash risk.

Visual impairment

The nature of driving makes vision a very important aspect of safety. Cataract surgery has been shown to reduce crashes (Subzwari et al. 2008). Assessment of vision (at least once every two years) is important for those older people wishing to drive and optometrists should be made aware of a person's intention to drive. There is evidence that the visual assessment test Useful Field of View (UFOV) is a valid and reliable index of driving performance and safety, and can be used as a screening measure for at-risk older drivers (Clay et al. 2005).

Fatigue

Driving when feeling tired or when there has been poor sleep can be detrimental to driver performance. This is particularly highlighted in older drivers with a diagnosis of obstructive sleep apnoea. The use of a

continuous positive airways pressure device for people with sleep apnoea has been shown to reduce crash risk (Charlton et al. 2010).

As for all drivers, planning shorter driving periods, and resting along the way can make for safer driving for older people (Transport Accident Commission 2016f).

Driving and the use of medications

Many people are aware of the effect of alcohol on driving performance, but the effect on driving of taking medication should also be considered. Common side effects of some medications are drowsiness or tiredness, dizziness or feeling faint, blurred vision, shakiness or unsteadiness, confusion and poor concentration, slower reaction time, nausea, mood changes and anxiety. It is recommended older people talk to a pharmacist or doctor about any effect medication may have on driving. Extra knowledge and care is needed for those taking pharmacy medications alongside alcohol.

Medications that can affect driving include benzodiazepines, other sleep medicines, tricyclic antidepressants, monoamine oxidase, selective serotonin re-uptake inhibitors, other antidepressants, antipsychotics, sedating antihistamines, anticonvulsants and opioids (Transport Accident Commission).

The Transport Accident Commission website also provides information for drivers of all ages to understand that some medications can impair driving (Transport Accident Commission).

Driving and environmental conditions

The environmental conditions older drivers face can impact on driving performance and safety. Older people tend to adopt self-regulatory behaviours when not confident to drive at night, on wet nights or in busy traffic (Charlton et al. 2006). In situations where it was difficult to see other road users, older people drove less and took fewer trips than younger people (Fildes et al. 1994). If visual impairment is present, then driving only in daylight hours and avoiding driving at sunset or sunrise (both are times of high glare and poor visibility) could be recommended. Choosing the safest route, rather than the most direct one, can reduce concern about particular driving requirements. Considering weather conditions before driving is important, as wet surfaces require particular driving skills which an older person may not confidently possess. Many older people choose to drive only in familiar environments and will use other forms of transport in unfamiliar settings.

Fitness to drive

Older people must be able to make a decision about their fitness to use a vehicle on a public road. Consideration of driving performance, driving infringement notices and crash involvement can help determine fitness for driving. Licensing authorities need to consider how much risk is tolerated and the extent to which safety is compromised for an individual. This needs to balance the challenge of acceptable risk of crash (and/or injury) with the societal and individual need for driving mobility (Charlton et al. 2010).

Driving assessments

General practitioners and occupational therapists (trained as driver assessors) can undertake assessment for driving capability. This may include a review of medical conditions and medication use, and a driving stimulator and/or road driving assessment.

When crucial decisions such as whether one can continue driving are at stake, predictor values of certain tests (for example, MMSE, Trails A test, past driving incidents) may not be conclusive (Bedard et al. 2008). Other studies do show predictor value for some items, for example the UFOV as a screening measure for at-risk older drivers (Clay et al. 2005). Lane maintenance, yielding, and gap acceptance errors predicted crash-related injuries with almost 50 per cent probability in one study (Classen et al. 2010), while another study identified a range of predictive tests for screening older drivers (Mathias and Lucas 2009).

A recent study investigated the predictive value of the occupational therapy – driver off-road assessment battery (OT-DORA Battery) in drivers in the early stages of Alzheimer’s disease or cognitive decline (Unsworth and Chan 2016). Nearly two-thirds (64 per cent) of the participants were passed as fit to drive with 83 per cent of these having at least one condition placed on their licence. This study suggested that the diagnosis of Alzheimer’s disease or cognitive decline should not automatically preclude driving, and scores on subtests from the OT-DORA Battery may be used to help determine fitness to drive and whether specialist occupational therapy driver referral is required.

Helping older people to identify situations that are challenging or potentially hazardous when driving may be useful for self-regulation of driving. The Situational Avoidance Questionnaire is a tool which could be used to measure situational avoidance (Davis et al. 2016), and a paper offering a summary of scales for measuring self-regulatory driving has recently been published (Yeoh et al. 2016). A paper investigating the relationship between the assessments, DriveSafe and DriveAware and the restriction of driving in 380 people over 75 years of age showed 62 per cent self-reported driving restriction. The paper suggest that the DriveSafe and DriveAware are sensitive to deficits in vision and cognition, and drivers with worse DriveSafe scores self-report restricting their driving (Allan et al. 2015). These programs may guide older people and health professionals in decision making.

Driver training programs

There is evidence that driver training can improve driving safety (Stav et al. 2006). Education combined with on-road training has been shown to improve driving performance and knowledge (Korner-Bitensky, Kua et al. 2009). Also there is evidence that physical retraining improves driving performance; and that an educational intervention curriculum alone is not effective in reducing crashes (Korner-Bitensky et al. 2009, Marmeleira et al. 2009, Devos et al. 2011).

In Victoria, VicRoads publishes the Victorian Older Drivers’ Handbook, available in a variety of community languages. It aims to help older drivers to continue driving safely and to alert them to changes that may make it unsafe to continue driving (VicRoads).

The Transport Accident Commission provides a checklist for older drivers to look out for warning signs they are not driving safely. The checklist includes consideration of:

- serious health conditions
- medication that may impair driving
- difficulty reacting quickly to other drivers’ actions
- driving at inappropriate speeds
- ignoring or misinterpreting traffic signs and signals
- becoming easily flustered or angry
- having had one or more near accidents
- feeling exhausted after driving for an hour or more
- feeling uncomfortable in heavy traffic.

The TAC also offers simple tips to keep driving safely such as limiting driving to off-peak periods, and trying to avoid non-signalled right hand turns where possible (Transport Accident Commission 2016g).

RACV offers a Road Safety for Seniors program providing practical information and advice to older road users through a one-hour awareness session (RACV). The TAC Community Mobility Program provides sessions on older driver safety delivered by occupational therapists (Transport Accident Commission).

The education and training program Seniors Driving Longer, Smarter, Safer was developed with the support and sponsorship of the NRMA ACT Road Safety Trust. It is an educational program designed to provide older drivers with knowledge of crash and injury risk; raising awareness of changing functional abilities and the impact on driving behaviour and performance; promoting strategies to keep driving for as

long as possible; and planning ahead for a successful transition from driver to non-driver (Oxley et al. 2010, Jennifer Oxley et al. 2013).

Cessation of driving

Making the decision to give up driving can affect quality of life, and have social, psychological and physical impact. There is little evidence of planning and support in making the decision to stop driving. There is a need for resources to assist older people, carers and health professionals to plan for the transition from driver to non-driver and to manage alternative transport options more effectively (Peel et al. 2002, Kendig and Stacey 1997, Oxley and Charlton 2009). The decision to stop driving is reluctantly made by older people, and it is often accompanied by a sense of loss of independence (Adler and Rottunda 2006). There appear to be gender differences in driving cessation: for those 70 years and over, females were more likely to avoid challenging situations but less likely to reduce their driving when compared to males (Hassan et al. 2015, Oxley and Charlton 2011). A Danish study has shown older drivers who recognise problems with cognitive function display good self-assessment of changes in their driving skills and any driving-related discomfort is an important factor affecting the self-regulation of driving (Meng and Siren 2012).

A 2009 study identified being a non-driver is associated with an increased risk for a three-year mortality. The cessation of driving not only shows a change in independence but may indicate underlying changes to health and wellbeing for older people (Edwards et al. 2009).

There is evidence that suggests those who gradually reduce driving and replace it with alternative transport cope better when finally giving up use of their car, and education and training to help older people gain confidence in using alternative transport modes when giving up the car is encouraged (Musselwhite 2010). The study also found that the education should include informal and formal travel information such as timetables, and knowledge of how to use the alternative transport, including the ease of getting a seat or carrying shopping. Individuals should plan to give up driving with the support and help of family and friends over a long period of time, while gradually trialling other forms of transport.

Older people need to have a say in the transport solutions that are designed for them in a life beyond the car including public and community transport, and walking and cycling infrastructure (Musselwhite 2011). Gender differences may also need to be addressed in the process of driving reduction and the planning process for driving cessation (Hassan et al. 2015, Oxley and Charlton 2011).

Motorcycle and pedal cycle safety

Using a motorcycle or a pedal cycle has inherent risk for injury due to the lack of protection, which increases the likelihood of serious injury or death.

Motorcycle riders are 37 times more likely to be seriously injured than motorists (Henley and Harrison 2012). As at June 2015, more than 410,000 Victorians held a current Victorian motorcycle licence or permit; of these licence holders, 18 per cent are aged over 60 years (with 4 per cent over 70 years) (Transport Accident Commission 2016a). There was only one motorcycle fatality of a person over 60 years of age in 2015 and there were 66 motorcycle claims involving hospital admission for those over 60 years in Victoria for 2014–2015 (Transport Accident Commission 2016a). Research in Queensland has suggested that while older riders have a lower crash rate than younger riders, the huge growth in the numbers of older riders has increased the number of crashes involving this group (Broadley and Hawkins 2011). Older people may be at particular risk of injury on motorcycles because of the inherent instability and braking difficulties of motorcycles.

For all pedal cyclists, the environmental factors identified as being positively associated with cycling included dedicated cycle routes or paths, separation of cycling from other traffic, and short trip distance. Negative environmental factors were perceived and objective traffic danger, long trip distance, steep inclines and distance from cycle paths (Fraser and Lock 2011). Cycling and the benefits for healthy

ageing have been investigated. The existing evidence reinforces the current efforts to promote cycling as an important contributor for better population health (Oja et al. 2011).

A US study in 2015 showed an increase in bicycle-related injuries and hospital admissions in adults in the United States between 1998 and 2013, driven by an increase in injuries in individuals older than 45 years. The increase in hospital admissions outpaced the increase in overall injuries, perhaps due to an increase in severe injuries in older individuals. Older individuals made up a greater proportion of injured cyclists in 2012–13 compared with 1998–99 perhaps reflecting the trends in an increase in ridership in those over 45 years (Sanford et al. 2015).

Off-road transport safety

Motorised mobility scooters

Motorised mobility scooters (MMS) are a mode of transport that allows independent travel for short trips, and are commonly used by older people who have stopped driving cars. By allowing mobility, MMS have a positive impact on quality of life, social inclusion and health. However, the safety and implications of MMS need to be explored (Johnson et al. 2013). A number of studies have identified an emerging trend in Australia of death and serious injury associated with the use of mobility scooters, particularly among older people (Gibson et al. 2011, Cassell and Clapperton 2004). There were six MMS deaths and 11 hospital-treated injuries in Victoria between 2001 and 2005. However, occurrences are thought to be at least five times higher due to difficulty extracting data. Those over 80 years of age appear to be over-represented in both fatalities and injuries requiring hospitalisations. The cause of MMS fatalities and injuries is primarily due to falls, but also include collisions with objects on pathways or with cars, or tip overs on uneven surfaces. MMS injuries can occur both in the home setting and in the road environment.

Strategies to reduce MMS injuries may include education; consideration of helmets and seatbelts; assessment and training of competence in getting on and off and using MMS; safer design of braking systems; increased stability when cornering; and improved visibility in traffic (Cassell and Clapperton 2004, Murphy et al. 2014). The Australian Competition and Consumer Commission provides information on MMS on their product safety website (Australian Competition and Consumer Commission).

Users of MMS need to be aware of safety with pedestrians on shared footpaths, ensure competency in use of the motorised scooter and choose vehicles that match their requirements and abilities. Older people need to be aware that because they travel over 10 km/hr, all scooters must be registered as vehicles and travel on footpaths, shared paths or the side of the road if there is no footpath (Transport Accident Commission 2016e).

Farm transport

Using transport on farms is particularly risky for injury due to the uneven environments, and the size and power of vehicles involved. Injuries may include crashes or falls from motorbikes and quad bikes, while tractors, utes and horses can also result in major injuries. There were 69 on-farm deaths in Australia in 2015 but reports do not separately extract data for those aged 65 years and over (Australian Centre for Agricultural Health and Safety 2016).

A Safe Work Australia report identified nearly one-third of the 356 people who died while working on a farming property from 1 July 2003 to 30 June 2011 on farms were workers aged 65 years or over (Safe Work Australia 2015). For all workers, incidents involving vehicles accounted for 71 per cent of fatalities on farms, including tractors (26 per cent), aircraft (13 per cent), light vehicles (8 per cent), and quad bikes (8 per cent). Workers aged 65 years and over accounted for 12 per cent of farm hospitalisations; this proportion is four times the proportion this age group represents for hospitalisations across all places of work (3 per cent).

Transport safety on farms is vital, particularly for older farmers. A brochure for farmers that provides information to make farm work easier and safer as they get older has been produced by Farmsafe Australia (The Australian Centre for Agricultural Health and Safety 2014).

Tractors account for approximately 15 per cent of work-related fatalities among those employed in agriculture in Australia (Day and Rechnitzer 2005). Mounting and dismounting a tractor has been identified as a common antecedent to tractor run-over events, and retrofitting platforms is considered to be current best practice to manage this risk.

Quad bike fatalities and injuries are also an important issue. Quad bike use has been reported in the literature as the second leading cause of unintentional deaths from injury on farms in 2003-06 (Lower and Herde 2012). A paper by Clapperton et al. (2013) reported fatalities and hospital-treated injury associated with quad bike use in Victoria from 2002–11. Of the 19 fatalities in the nine-year period, 32 per cent were in those 60 years and over. Eleven per cent of the 766 hospital admissions were in those over 60 and for the 816 ED presentations, only 43 (6 per cent) were by older people (60 years and over). Safe Work Australia presents the most recent data on quad bike fatalities (Safe Work Australia 2016). In 2015 in Australia, of the 21 fatalities associated with quad bike use, nine (42 per cent) were in those 60 years and over. Five of these deaths were in Victoria, all nine were male and in all but two cases the older people were involved in work-related activities.

Although this data highlights the high number of quad bike fatalities in older people, little has been published relating to prevention of death and injury specifically in older riders. Recommendations to prevent death and injury are focused on riders of all ages and these include helmet use, rider training, vehicle safety, crush protection devices, restricting design for children to operate quad bikes and for passengers to be carried. If possible, people should use a safer transport option instead (Clapperton et al. 2013). Other recommendations for prevention of death include mandatory training, a licensing system, safety ratings for quad bikes and introducing an Australian standard for quad bikes (including higher requirements when the quad bike is used in the workplace) (Royal Australasian College of Surgeons 2016).

Pedestrian safety

Walking as an older person has unique safety issues. Road and pathway environments provide challenges to walking in public spaces. Falls, falls risk and falls injuries are particularly prevalent in older pedestrians, and over-represented in those pedestrians over 75 years (Oxley et al. 2016) (see section 10, 'Preventing violence and injury: falls prevention for more information'). Fear of falling, inattention, balance and gait issues, combined with pedestrian infrastructure (traffic hazards, footpaths design and maintenance, and obstacles on footpaths) all present risks for older people (Garrard 2013, Oxley et al. 2016). Transport-related barriers to walking for older people include drivers failing to give way, and bicycle riders using shared footpaths. Older people identified ways to improve safety which included reducing cycling speed and improving cyclist behaviour on shared paths, more emphasis on pedestrian safety in driver education, and 40 km/h zones in local shopping centres (Garrard 2013).

Adults older than 60 years may be at high risk of injury as pedestrians because of changes in their mobility and declining functional ability. Judging distances and the speed of oncoming traffic may become more difficult with age, while street-crossing decisions by older pedestrians may be explained by declines in functional abilities such as walking speed (Dommes et al. 2013). Pedestrians over 70 years were more likely than those less than 70 to make decisions that could lead to collisions with approaching cars, especially when traffic coming from two directions was approaching at a high speed. The combined age-related physical, perceptual, and cognitive performance declines may contribute to poorer street-crossing decisions. Specifically, the effect of cognitive impairment on older pedestrians' behaviour and crash risk has been investigated (Oxley et al. 2005). Substantial evidence was found of an effect of medical conditions that result in cognitive impairment on pedestrian performance and crash risk,

particularly for impairments associated with moderate to severe dementia, moderate to severe Parkinson's disease, cerebrovascular disease (particularly stroke) and multiple sclerosis.

The most common collision types for all pedestrians are associated with pedestrians colliding with vehicles while crossing the road, both at intersections and while crossing mid-block road sections (Oxley et al. 2013). Older pedestrians have also been found to have an increased prevalence of crashes occurring at driveways and on footpaths than younger cohorts (O'Hern et al. 2015). When injured, the severity of the injury appears greater for older pedestrians than younger people (O'Hern et al. 2015). The type of crossings (traffic lights, pedestrian crossings), the speed and type of signalling, clothing, and road safety all play a role in safe walking. Pedestrian crossing signalling is often inappropriate for older people (Asher et al. 2012, Fildes et al. 1994) and most older people seek pedestrian crossings when crossing the road (Fildes et al. 1994).

Older pedestrian safety could be improved with safer roads and pathways, slower traffic, good street lighting particularly at crossing points, adequate time for older pedestrians to cross carriageways, pedestrian refuges to allow older people to stage their road crossing, improved shared-space design, improved vehicle design and pedestrian-focused driver education (Oxley et al. 2016). These involve engineering, behavioural and enforcement measures to address the safety issues faced by the older pedestrians (O'Hern et al. 2015, Oxley et al. 2004). A systematic review published in 2002 looking at education of pedestrians about safety for injury prevention showed a lack of good evidence of effectiveness of safety education for adult pedestrians, especially older people (Duperrex et al. 2002).

Gaps and issues

Ways to reduce transport-related deaths and injuries of older people (particularly those over 75 years of age) need to be developed and their impact studied. There also needs to be more research into the transition from driving to the cessation of driving and the impact on health and wellbeing.

As the population ages, age-friendly communities become more prevalent, and transport itself changes, there will need to be further research. For example, changes to public transport will affect older people, and the impact of the expected increases in older cyclists will also need further study.

A focus on community education of the risks for older pedestrians is needed. This needs to include those who may be concerned about their ability to walk in the community safely, drivers who need to recognise pedestrians as vulnerable road users, and transport designers and planners to review road and pathway infrastructure and shared use policies.

Further research into the prevention of injury and death related to older people using tractors and quad bikes on farms is required.

Summary

Older people are over-represented in the fatalities and injuries on Australian (and Victorian) roads. This is particularly evident in those over 75 years of age. There are many services, programs and resources available for older people, their families and carers and health professionals regarding transport safety, in particular for older drivers.

The cessation of driving can have a dramatic effect on an older person's health and quality of life. The transition to using other modes of transport (for example, public transport) may be a difficult time for older people and needs to be supported.

Public transport can pose safety risks for older people and these risks need to be considered by transport professionals, health professionals, families and older people themselves. Of great concern is the risks for older people as pedestrians and much work needs to be undertaken to make walking a safer form of transport for older people.

Strategies to reduce transport-related injury among older people include providing information targeted towards older people to help increase awareness of and encourage them to self-manage risk, for both public transport use and driving. Strategies to improve pedestrian safety include making roads and paths safer, improving street lighting, increasing time allowed for crossing at pedestrian lights and pedestrian focused driver education.

10 Preventing violence and injury: Falls prevention

At a glance

- Falls are common in older people and increase with age.
- Falls can have serious consequences, including injury, hospitalisation and death.
- Falls can be prevented. For older people living in the community, there are a number of proven strategies that can work to prevent falls, including exercise, multifactorial interventions and reducing medications.

What older people can do

- If you are concerned about falling, or have had a fall (even without injury), seek the advice of a health professional, such as a general practitioner, physiotherapist or occupational therapist.
- Balance exercise and other falls prevention interventions can be started at any age – it is never too early.
- Talk to a doctor about medications and their possible effect on falls, and ask for a home medicines review.

What those supporting older people can do

- Health professionals should ask the older person about falls and undertake a detailed, evidence-based falls assessment where necessary.
- Encourage older people to implement the strategies recommended by health professionals by understanding their needs and preferences.
- Help older people understand their falls risk in order to promote participation in evidence-based falls prevention activities.
- Consider referral to specialist falls and balance clinics if recurrent falls are identified.

Background

Definition and prevalence

Falls in people aged 65 and over represent a major public health issue (World Health Organization 2008). A fall is commonly defined as 'an unexpected event which results in the person coming to rest on the ground, floor or lower level' (Lamb et al. 2005, World Health Organization 2007b). Australian and international studies of community-dwelling older people have identified that approximately one in three people aged 65 years and over fall each year, with 10 per cent having multiple falls and over 30 per cent experiencing injuries requiring medical attention (Hill et al. 2004). The proportion of people who fall in any given year increases with age. The rates of falls and associated injuries are higher for older people in hospital settings and residential care (Hill et al. 2004). Although there have been no recent population-based studies examining the rate of falls in community-dwelling older people, recent intervention studies indicate that the current rates are consistent with earlier epidemiological data. Falls in older people may result in serious injury and hospitalisation and are a significant threat to the health, safety and independence of older people.

Impacts

In Australia, the most common cause of death resulting from injury is falls (32.2 per cent of all injury-related deaths in 2009–10) (Australian Institute of Health and Welfare 2014b). This is greater than injury deaths resulting from self-harm or transport accidents. In that time period, falls accounted for 40 per cent of all injury-related hospitalisations. While the age-standardised rates of injury-related hospitalisations are rising by an average of 1 per cent per year, injury-related hospitalisations due to falls are rising at double the rate (2 per cent per year) (Australian Institute of Health and Welfare 2014b).

Every year, large numbers of Australians experience serious consequences as a result of a fall. In Australia in 2010–11, over 92,000 people over 65 years of age suffered a serious injury resulting from a fall. In 2010–2011, 70 per cent of hospitalised falls occurred in either the home or an aged care facility. The age-standardised rate of falls in the home for older people living in the community was 1,647 per 100,000 population while the rate of falls for older people living in aged care facilities was 9,226 per 100,000 population. Of note is that the average length of hospital stay for a fall-related injury for those 65 years and over was 14.7 days in 2010–2011 (Australian Institute of Health and Welfare 2014b). It is highly likely that this underestimates the impact of falls in Australia, as information about injury resulting from falls that do not result in hospitalisation is not routinely collected and there are no recent Australian-based population studies.

Falls can occur in any location, but frequently occur at home. Despite the fact that many older people fall while walking in public places, until recently there have been no studies examining falls and falls-related injuries in this context. Recent research undertaken by the Monash Accident Research Centre has now found that over 5,000 pedestrians are hospitalised after falls in Australia each year and that pedestrian falls affect older people to a greater extent than younger people, particularly in terms of injury and in recovery from injury (Oxley et al. 2016). Those aged 85 and over were 14 times more likely to be admitted to hospital than 35 to 64 year olds, and women account for the majority of presentations to emergency departments and hospital admissions (Oxley et al. 2016).

Apart from injury and, in the worst case, death, falls also impact on individuals and society in other ways. Fear of falling and other fall-related psychological concerns are highly prevalent among older people with estimates ranging from between 21 per cent and 85 per cent (Scheffer et al. 2008). Fear of falling can seriously affect an older person's quality of life as it can lead to restriction of activity impacting on physical and social activities. Fear of falling is generally thought to be related to falls, as is falls efficacy and balance confidence, but there are inconsistencies in the literature regarding this relationship and between the different psychological concerns and other factors such as anxiety, depression and falls risk (Payette et al. 2016, Denkinger et al. 2015).

Causes of falls

The causes of falls are multifactorial and result from the interplay between an individual and their environment (Ambrose et al. 2015). The person-specific (intrinsic) and environmental (extrinsic) risk factors can also be categorised as modifiable or non-modifiable. Modifiable risk factors for falls include impaired balance and mobility, reduced muscle strength, low levels of physical activity, low BMI and fear of falling, and environmental hazards in the home or in public areas, such as clutter, poor lighting, and uneven flooring (Hill et al. 2004). Other important risk factors include visual impairment, continence issues, polypharmacy and taking medications that increase the risk of falls, for example antidepressants, sedatives and centrally acting analgesics (Ambrose et al. 2015, Richardson et al. 2014). Medications may contribute to falls risk through a number of mechanisms including causing drowsiness, dizziness, blurring of vision and urinary urgency. Whereas the focus of falls prevention efforts should be directed towards the modifiable risk factors, an understanding of the non-modifiable risk factors such as history of falls, age and sex can help health professionals identify those most at risk of falls.

Overview of risk factors and their relationship to falls

Table 4: Falls risk factors and their relationship to falls

Risk factor	Relationship to falls
Age	The risk of falls and injurious falls increases with age.
Gender	Women are more likely to experience non-fatal fall injury than men. Overall fall-related mortality is higher in men than in women.
Ethnicity	Although there is a lack of research, one study has shown that Italian-born men living in Sydney have a 43 per cent lower fall rate than age-matched Australian men (Stanaway et al. 2011).
Gait and balance	Impaired gait and balance are associated with increased risk and rate of falls.
Lower limb strength	Decreased strength of knee extension and ankle dorsiflexion is associated with increased risk of falling.
Dizziness	A causal relationship between vestibular dysfunction and falls has not been definitively established although guidelines suggest that dizziness is related to falls.
Vision	Poor visual acuity is associated with multiple falls. Macular degeneration is associated with an increased risk of falls. Loss of contrast sensitivity is associated with an increased risk of falls.
Cognition	Global and specific cognitive impairments are associated with an increased risk of falls (Muir et al. 2012). Specific domains associated with increased falls risk include executive function impairment, decreased ability to undertake dual tasks, decreased information processing and increased reaction time.
Neurological conditions	Dementia, Parkinson's disease and other neurological conditions such as stroke are associated with increased risk and rate of falling.
Orthostatic hypotension	Sustained postural hypotension and uncontrolled hypertension are associated with an increased risk of falls, whereas postural hypotension that is transient is not.
Atrial fibrillation	Atrial fibrillation is a risk factor for falls that are not trips or slips.
Psychotropic medications	Antidepressants, antipsychotics, anxiolytics/hypnotics, drugs used in dementia and centrally acting analgesics are associated with increased falls risk.
Non-steroidal anti-inflammatory medications	Non-steroidal anti-inflammatory use is associated with increased falls risk in some studies, but not in others. In some studies the magnitude of risk has been compared to the risk associated with the use of benzodiazepines.
Cardiovascular medications	Cardiovascular medications associated with falls include digoxin, type 1a anti-arrhythmics and diuretics. Although it has been suggested that antihypertensive use can increase the risk of falls, evidence suggests that, apart from loop diuretics, antihypertensive use is not associated with an increased risk of recurrent falls (Marcum et al. 2015).

Risk factor	Relationship to falls
Depression	Anxiety and depression are associated with falls and fear of falling but there are inconsistencies in the nature and direction of the relationship and possible mediating factors.
Home environment	Clutter, poor lighting, slippery surfaces and loose rugs have been implicated in falls.
Footwear	Wearing slippers is associated with an increased risk of falls. Wearing shoes with a heel greater than 2.5 cm is associated with an increased risk of falls.

Unless otherwise referenced, adapted from Ambrose et al. 2015.

Evidence of strategies that prevent falls

Coordinated, effective falls prevention strategies are needed in order to combat the physical, emotional, personal and health resource costs associated with the number of falls among older Australians. A key component that needs to be considered when implementing interventions or programs is the sustainability of the intervention or program.

Interventions to prevent falls can be categorised as single (for example, exercise), multifactorial (multiple components based on individual assessment), or multiple (the same components provided to all people) (Gillespie et al. 2012). The choice of intervention type depends on the overall approach, with literature suggesting that single interventions may be more suitable at the population level, whereas multifactorial or multiple interventions are more suitable in clinical settings or for those particularly at risk (Campbell and Robertson 2013, Day 2013).

General guidelines on assessment and management

Guidelines are available that describe systematic approaches to the assessment and management of falls in community-dwelling people, particularly for those who have experienced recurrent falls. The clinical algorithm presented in the American Geriatrics and British Geriatrics Societies' guidelines (American Geriatrics Society 2011) recommends:

- screening for falls by asking older adults about recurrent falls or if they have problems with walking or balance
- multifactorial falls risk assessment for older adults who present with a fall or who have objective gait and balance problems as well as for those who report problems with gait and balance
- direct implementation of interventions targeted at issues identified in the assessment and preferably performed by the person who completed the assessment or, if not, by referral
- interventions that should be considered include:
 - minimising medications
 - individually tailored exercise programs
 - treating vision impairment
 - management of postural hypotension
 - management of heart rate and rhythm abnormalities
 - vitamin D supplementation
 - management of foot and footwear problems
 - home environment modification
 - education.

These recommendations are similar to recommendations made by others including Ambrose et al. (2015) and Phelan et al. (2015) and supported by the evidence in the 2012 Cochrane Review that individualised multifactorial falls prevention strategies can reduce falls by approximately 24 per cent (Gillespie et al. 2012).

In addition to the peer-reviewed evidence, there are other resources that provide information on best practice and evidence-based approaches to falls prevention. These include the American Center for Disease Control and Prevention's (CDC) Stopping Elderly Accidents, Deaths and Injuries programs, toolkits and resources (Centers for Disease Control and Prevention), the Australian Commission on Safety and Quality in Health Care's *Preventing falls and harm from falls in older people: best practice guidelines 2009*, which include recommendations for community care settings (Australian Commission for Quality and Safety in Healthcare 2009a) as well as for hospitals (Australian Commission for Quality and Safety in Healthcare 2009b) and residential aged care settings (Australian Commission for Quality and Safety in Healthcare 2009c).

Screening and assessment

While general guidelines include recommendations about screening and assessment, there are other validated tools that can be used. Locally validated tools include the National Ageing Research Institute's Falls Risk for Older People in the Community Screening tool (FROP-Screen) (Russell et al. 2008) and the Falls Risk for Older People in the Community Assessment Tool (FROP-Com) (Russell et al. 2009), available at <www.nari.net.au/resources/health-professionals/falls-and-balance> and the Prince of Wales Medical Research Institute's QuickScreen Falls Risk Assessment Tool (Tiedemann et al. 2010), available at <www.neura.edu.au/research-clinic/fbrg/quickscreen/>.

Exercise for falls prevention

There is very strong evidence that exercise is effective in preventing falls in community-dwelling older people. Both the 2012 Cochrane Review (Gillespie et al. 2012) and the systematic review of exercise for falls prevention (Sherrington et al. 2011) conclude that multi-component exercise (for example programs that include strength and balance components) can reduce falls. Group and home-based exercise programs or the combination of both are effective (Power and Clifford 2013, Gillespie et al. 2012), and exercise that specifically challenges balance is most effective (Sherrington et al. 2011). The dosage of exercise is also important. Estimates of sufficient dosage vary with one study finding that effective falls prevention exercise programs should include a minimum of one hour of exercise, three times per week for 40 weeks (Power and Clifford 2013), whereas another suggests at least two hours of exercise per week on an ongoing basis (Sherrington et al. 2011) is needed, a change from the previously recommended minimum of 50 hours total exercise time (Sherrington et al. 2008).

However, the evidence suggests that not all exercise programs can be applied equally to all cohorts. A systematic review and meta-analysis found that individualised home-based exercise appears to reduce falls and improve physical performance in those with increased falls risk, for example people with Parkinson's disease, hip fracture and dementia, but that older people recently discharged from hospital may not benefit from an individualised home-based exercise program, possibly because the risk of falls is particularly high in the immediate post-discharge period (Hill et al. 2015, Sherrington et al. 2014). This area requires further study.

There are a number of particular exercise types and programs that have been shown to be effective in preventing falls. The Otago Exercise Programme (OEP) has been shown to be effective in numerous studies, particularly for older cohorts (Campbell and Robertson 2003, Thomas et al. 2010, Campbell et al. 2005) in terms of its ability to significantly reduce the risk of falling and death in older community-dwelling adults. The OEP has been shown to be cost effective as well as appropriate and effective, including when delivered through routine healthcare services via physiotherapists or trained nurses (Campbell and Robertson 2003, M. C. Robertson et al. 2001, M.C. Robertson et al. 2001, Carande-Kulis

et al. 2015). There is now emerging evidence that the OEP delivered by a physiotherapist but implemented as group training may be more effective in reducing falls than the original OEP delivered at home (Kyrddalen et al. 2014).

The 2012 Cochrane Review found that after combining individual studies, tai chi exercise is effective in reducing the risk of falling, but not the rate of falls (Gillespie et al. 2012). Some individual studies have found tai chi to be effective, for example the Tai Chi: Moving for Better Balance program (Li et al. 2005), which emphasises postural alignment and coordinated movements, and the tai ji quan approach which has been shown to reduce falls and injury in older adults (Stevens et al. 2014). There is also evidence of a positive net economic benefit of the Tai Chi: Moving for Better Balance program (Carande-Kulis et al. 2015).

Other programs such as the Lifestyle Integrated Exercise Program (LiFE) and Falls Management Exercise (FaMe) are also effective falls prevention exercise programs. LiFE adopts an alternative approach to exercise in that it incorporates balance and strength training into everyday activities, embedding exercise into a person's daily routine rather than having them complete a set exercise session (Clemson et al. 2014). The FaMe program uses exercises based on the OEP and promotes long-term adherence to exercise by also integrating exercise into a person's daily life (Skelton et al. 2005, Pui Yee Yeung et al. 2015).

While walking programs produce a range of benefits, it appears that walking itself does not necessarily prevent falls. For example, the Easy Steps walking program, consisting of 48 weeks of a self-paced walking regime, did not reduce falls in older people compared to a control group, although it did lead to increases in physical activity (Voukelatos et al. 2015). This supports previous research that has shown walking to be ineffective as a falls prevention strategy (Sherrington et al. 2011).

Multifactorial interventions

Given that multiple risk factors are often involved in falls, a falls prevention program that addresses more than one falls risk factor is likely to reduce falls rates. Indeed, the 2009 and more recent 2012 Cochrane Reviews found that multifactorial interventions (individualised combination of interventions based on risk assessment) are effective in reducing the rate and risk of falls (Gillespie et al. 2009, Gillespie et al. 2012).

Multimodal interventions

There are a number of programs that use a combination of strategies including peer education programs, social marketing strategies, training programs for staff, exercise programs (strength and balance), falls risk assessments, falls monitoring systems, education of falls prevention strategies, strategies to reduce fear of falling, community education, awareness-raising, policy development and individually targeted interventions, in order to prevent falls. These include:

- Stay on Your Feet (Kempton et al. 2000)
- Steady As You Go (SAYGO) (Robson et al. 2003)
- Strategies and Action for Independent Living (SAIL) (Scott et al. 2006)
- Matter of Balance (Tennstedt et al. 1998)
- Greater Glasgow and Clyde Community Falls Prevention Program (Skelton and Neil 2009)
- Stepping On (Clemson and Swann 2008).

The Stay on Your Feet program has evidence of effectiveness and it has been shown that it leads to a lower incidence of self-reported falls and fall-related hospitalisation rates. The program is also very cost effective (Kempton et al. 2000).

The Stepping On <www.steppingon.com> and SAYGO programs are also effective in reducing falls (Clemson and Swann 2008, Robson et al. 2003). Both programs use a cognitive-behavioural approach

and a multifactorial risk reduction approach focusing on empowering older adults to identify and implement strategies to reduce community falls hazards. The Stepping On program uses adult learning principles which aim to increase knowledge and change attitudes and behaviours. It has also been shown that Stepping On has a positive net economic benefit (Carande-Kulis et al. 2015). Two other programs also showing some, albeit weaker, levels of effectiveness are the SAIL and the Greater Glasgow and Clyde Community Falls Prevention programs (Skelton and Neil 2009, Scott et al. 2006). The SAIL program is an innovative program that has been implemented in Canada and Australia. This program trains community health workers and home care professionals to implement falls prevention strategies with older adults who are in need of ongoing home support. The Canadian evaluation showed this program to be cost effective and effective in preventing falls (Scott et al. 2006). No Australian evaluations of this program have been found. The Greater Glasgow and Clyde Community Falls Prevention Program works in partnership with local authority and voluntary organisations to provide a specialist falls service in the UK. The program provides comprehensive falls screening, health education, exercise, rehabilitation and onward referral. Although the evaluation only showed weak evidence of effectiveness, the program sees 175 older adults a month (the largest falls service in the UK per capita) and has shown a reduction of falls in the home and residential institutions (Skelton and Neil 2009). The program empowers individuals and promotes community development with key success factors being its single entry point, constant update training, promotion, and its accessibility and easy referral pathway. The program, A Matter of Balance (Tennstedt et al. 1998) is primarily aimed at reducing fear of falling and increasing physical activity through a cognitive-behavioural approach. It has been shown to be effective in achieving these aims when delivered by trained professionals as well as through volunteer lay leaders (Healy et al. 2008). The program has not been evaluated in the Australian context.

Home safety

Home safety interventions, particularly if undertaken by an occupational therapist, have been shown to be effective in reducing falls, especially for those at high risk of falls (Chase et al. 2012). The Westmead Home Safety Assessment is a valid and reliable tool that assists with the identification of fall hazards in an older person's home (Lindy Clemson et al. 1999, L. Clemson et al. 1999), and the Home Falls and Accidents Screening Tool (HOME FAST) also has good inter-rater reliability and responsiveness to change (Mackenzie et al. 2009, Vu and Mackenzie 2012). While not validated by research studies, there are a number of other checklists available which assist older people in identifying potential hazards in the environment. The Stay on Your Feet WA website includes a home safety checklist (Stay on Your Feet WA 2016), and New South Wales Ministry of Health's Staying active and on your feet resource, which also includes a home safety checklist (NSW Ministry of Health 2013).

Vision

Best practice and guidelines suggest that addressing visual impairment is important in reducing falls. Cataract surgery on the first eye has been shown to reduce falls by 34 per cent in women, but without additional reduction in falls after surgery on the second eye cataract (Foss et al. 2006, Harwood et al. 2005). Providing single-lens glasses for outdoor use for those who are able to walk in the community is effective in reducing falls, but may increase falls in people who have low levels of outdoor mobility and wear multifocal lenses (Haran et al. 2010).

Medication withdrawal

Medication review and, where appropriate, withdrawal of psychotropic medications is recommended by guidelines and from individual studies, though most evidence is not recent. The gradual withdrawal of psychotropic medication (medications for improving sleep, reducing anxiety, and treating depression) reduces the rate of falls but not the risk of falling, whereas a prescribing modification program for primary care physicians may reduce the risk of falling and not the rate (Gillespie et al. 2009, Gillespie et al. 2012). Medication reviews may include withdrawing drugs, reducing or increasing the dose of drugs.

Feet and footwear

There is growing evidence of the effectiveness of interventions that are targeted at addressing foot and footwear problems in preventing falls. Strategies found to be effective in community-dwelling older people include providing older people experiencing foot pain with podiatry including footwear assessment and advice, orthotics, subsidised footwear, a home foot and ankle exercise program, and routine podiatry care (Spink et al. 2011). The foot and ankle exercise program that was evaluated in the randomised controlled trial is now available as an online resource <www.foothold.org.au/>; however, the effectiveness of the program in this format has not yet been evaluated.

Vitamin D supplementation

There is mixed evidence about the effectiveness of vitamin D supplementation to prevent falls (Bolland et al. 2014). The consensus is that vitamin D supplementation may contribute to a decreased risk of falls in people with low serum vitamin D levels, for example those in residential aged care (Gillespie et al. 2012), although this is not clear cut (Bolland et al. 2014).

Adherence, implementation and sustainability considerations

As seen clearly in the paragraphs above, there is substantial evidence about what works to prevent falls. However, often the implementation of programs is inconsistent and this may lead to limited impact of falls and falls-related injuries and difficulties in sustainability of programs or interventions. To address this, there needs to be evaluation and adjustment to established behaviours and practices at the level of the individual, professional and organisation (Child et al. 2012).

The literature indicates that it is important to consider participant factors when implementing any program, including acceptance, adherence and completion factors. For example the completion rates for a fear of falling program (Matter of Balance) in the US were higher for women and for those where falls limited a person's social activities (Batra et al. 2013). Understanding an older person's intention to participate in an intervention is also important and may assist in promoting uptake. For example, from a telephone survey of community-dwelling older people, four elements influenced intention to participate in multifactorial falls clinic-type interventions: personal perception of intervention effectiveness; self-perceived risk of falls; self-perceived risk of injury; and inability to walk up/down steps without a handrail (Hill et al. 2014). In addition, older people may have the perception that falls prevention strategies may reduce falls risk in others but not in themselves (Haines et al. 2014). Helping older people to understand their own falls risk rather than convincing them of the benefits of the intervention may be key to encouraging participation in falls prevention strategies.

Recently there has been more of a focus on incorporating behaviour change elements into programs to promote self-efficacy and self-management by older people (Fleig et al. 2016, Johansson and Jonsson 2013). However, older people may lack the skills to monitor or evaluate their own progress with exercise-based programs and this can limit ongoing adherence (Robinson et al. 2014).

Not only is it important to understand a person's intention to undertake an intervention, but it is also important to understand the intention to participate in a particular type of exercise. Haines et al. (2016) suggest that offering a home-based program to people who do not want to participate in exercise may support them in taking up the program. However the particular characteristics of a home program may influence its acceptance, for example higher levels of adherence have been found to be associated with an intervention that was physiotherapist led, and contained walking and balance exercises but not flexibility training (Simek et al. 2012, Simek et al. 2015).

Despite participants of falls prevention programs feeling they make physical improvement and enjoy exercise, at the end of a program sustained behaviour change to continue exercise is needed. Programs should ensure that older people are supported over the longer term (Haas and Haines 2014).

Sustainability is also a key consideration for organisations. It is clear that there are many organisational factors that can support the implementation and sustainability of falls prevention programs. These are intrinsically aligned with evidence and the policy context.

Health professionals need support to implement falls prevention evidence and practice guidelines, and to encourage interactive learning and problem solving (McKenzie et al. 2016), and consideration needs to be given to the setting in which the evidence is implemented (Markle-Reid et al. 2015), as well as incorporating falls prevention programs wherever possible into existing programs but with refinement (Middlebrook and Mackenzie 2012, Day et al. 2014).

Sustainability is also enhanced by the involvement of older people in the planning and development of falls prevention programs (Lovarini et al. 2013).

Clearly enhancing the translation of evidence into practice is vital. Despite the evidence, there are many obstacles to translating this evidence into healthcare practice. Solutions include more translational research, increasing awareness and adoption of proven exercise interventions by clinicians, and improving communication and collaboration at all levels (Li et al. 2016, Lord et al. 2011). It is also important for partners in falls prevention programs to have long-term commitment in developing, supporting, training and implementing the evidence, as well as sufficient financial and human resources (Lord et al. 2011, Williams and Ullmann 2012).

Gaps and issues

There is a lack of research into differences in falls rates and falls risk factors in culturally and linguistically diverse populations, and little falls prevention research and information on resources specifically designed for Aboriginal people.

Further work needs to occur to fully understand the relationship between fear of falling and other fall-related psychological concerns and falls, and the implications for falls prevention programs.

There is little research into the differential effects of falls prevention programs in different cohorts, for example frailer older people or people recently discharged from hospital. There is also a lack of evidence on effective translation of research into practice at the population level.

Summary

Falls are common in older people and increase with age. While many falls are minor, falls can have serious impacts including injury and at worst, death. Falls result from the interplay between intrinsic (person-specific) and extrinsic (environmental) factors. Although falls are a common occurrence, they are not an inevitable part of ageing and there are many things that can be done to prevent falls.

Evidence supports the effectiveness of both single and multifactorial interventions, including strategies such as strength and balance exercise, reducing medications and addressing vision impairment, among others. Despite the evidence of effective interventions, the translation of this evidence into practice remains a challenge at both individual and population levels.

11 Improving sexual health

At a glance

- Older people can – and do – remain sexually active into their 80s and 90s. Ongoing sexual activity in later life has been associated with health, wellbeing, life satisfaction and lower rates of depression.
- Many newly single older people do not use condoms and are at risk of contracting sexually transmitted infections (STIs) and HIV/AIDS. The rate of these infections has been steadily rising in older populations throughout the world. Many of the symptoms of these diseases mimic other health issues associated with ageing and therefore could be missed by healthcare providers and older people themselves.
- General practitioners and service providers are reluctant to talk to older people about sexual health issues. Older people are also reluctant to bring up sexual health matters and believe that healthcare providers should initiate these conversations.

What older people can do

- Be prepared to talk to health practitioners and service providers about sexual health.
- Use condoms, particularly if in a new sexual relationship.
- Have a health screening that includes a blood test for STIs.

What those supporting older people can do

- Healthcare workers should routinely discuss sexual health with patients as STIs can go undetected in this age group. Older people may have questions and issues about being sexual in later life and be unprepared to initiate the conversation themselves.
- It is every person's human right to continue to be sexually active if they want to. Healthcare workers should discuss sexual health in a holistic, person-centred and culturally appropriate way.
- Any discussion around sexual activity in later life should be respectful and supportive, and avoid patronising or stereotyping behaviour.

Background

Nearly one-quarter of older Australians live alone, through widowhood and, increasingly, through divorce, or because they are single or their partner is in aged care (Australian Bureau of Statistics 2013b). As the numbers of single older adults dating, cohabiting and remarrying grows, the issue of older adult sexual health is becoming more prominent. This is partly in response to the growing recognition of older adults as ongoing sexual beings, but is also a result of recent data which indicates that rates of STIs and HIV/AIDS are rapidly increasing in older populations around the world (Minichiello et al. 2012, Kirby Institute 2014). Although the overall rates are low compared to other population groups, they represent a worrying trend. For instance, 22 per cent of all new HIV diagnoses in Canada in 2014 were in people aged 50 years and older (Public Health Agency of Canada 2015). In Australia from 2009 to 2013, newly diagnosed cases of chlamydia, gonorrhoea, syphilis and HIV among older adults aged 60 years and older increased yearly (Kirby Institute 2014). In Victoria, however, the numbers of notified cases of HIV in those aged 60 and over diminished between 2013 and 2015 (Department of Health and Human Services 2016a).

The reasons for such a widespread increase are due to a number of factors, including the number of new partners available via online dating websites, providing older adults with more partner choice than ever

before (Bateson et al. 2012) (Malta and Farquharson 2014); the infrequent use of condoms because of a perceived lack of need among older adults, who associate them with contraception and do not see themselves at risk of STIs (Sherrard and Wainwright 2013); and limited knowledge and education regarding safe sex and the risks of disease transmission (Kirkman et al. 2016, Public Health Agency of Canada 2015, Sherrard and Wainwright 2013). Furthermore, there is evidence that older women are less likely to use condoms than younger women (Bateson et al. 2012, Bodley-Tickell et al. 2008).

In addition, a recent review has shown that older adults are reluctant to talk about sexual health matters with their GPs, believing that GPs should initiate these conversations (Hinchliff and Gott 2011). The study showed that GPs are equally reluctant to discuss sexual health issues with older patients, because of their own limited knowledge of later-life sexuality, attributed to inadequate training at medical school. Other barriers include GPs' assumptions that such topics are private and might cause offence, and that sex lacked importance in older adult lives (Hinchliff and Gott 2011). These findings illustrate that STIs are often overlooked at the primary healthcare level and are therefore untreated.

Structural ageing of the population indicates that sexual health issues in older people could become an increasing public health issue. The current lack of government sexual healthcare policies specifically targeting older adults is also of concern (Kirkman et al. 2016, Kirkman et al. 2013).

Late-life sexuality

Despite the enduring myth of asexuality in later life (Minichiello et al. 2011) there is now ample evidence showing that a substantial number of men and women continue to engage in sexual activity throughout their lives (Lindau et al. 2007, Waite et al. 2009). Ongoing interest and involvement in sexual activity is, however, usually governed by the availability of a spouse or romantic partner, particularly for older women (Woloski-Wruble et al. 2010).

Most studies have found that older men are more likely than older women to have a sexual partner, to be sexually active, and to rate sexual activity as important (Lindau et al. 2007, Waite et al. 2009). These gender differences are attributed to higher remarriage rates among men who are divorced or widowed (men are more likely than women to remarry), an age difference in existing relationships (men tend to marry women younger than themselves) and also to the higher mortality rate among men, leading to an absence of available partners for women, especially at the latter end of life (Carpenter et al. 2006, Waite et al. 2009).

Biomedical studies indicate that rates of sexual activity generally decline with age (Karraker et al. 2011). Certain physiological changes related to ageing, such as vaginal dryness in females (as a result of menopause) and erectile dysfunction in males, as well as other health conditions such as diabetes, high blood pressure and prostate cancer can also limit sexual activity (Bach et al. 2013, Karraker et al. 2011, Waite et al. 2009). It has also generally been found that medication, physical illness and psychosocial issues, such as lifestyle choices, can affect sexual functioning at any time of life (Laumann et al. 1999).

Quantitative, biomedical studies have been criticised in the past because of their focus on counting the number of times sexual activity takes place over any given time period, with sexual activity being almost always defined as sexual intercourse (Gott 2006). Such an approach highlights sexual intercourse as the gold-standard by which ongoing sexuality is judged (Gott 2006). Moreover, this view preferences men's sexuality over and above women's (Burgess 2004) and it makes no allowance for alternative means of sexual expression or differences in how people express themselves sexually across the lifespan (Minichiello et al. 1996). Cross-sectional studies also, invariably, compare the sexual activity of older adults against that of younger age groups (Connidis 2010).

The medical and biological emphasis of these studies tends to highlight the difficulties associated with sexuality and ageing, and mirrors the increasing medicalisation of sexual function or dysfunction within society (DeLamater and Sill 2005). This biomedical approach creates a one-sided view which serves to support the belief that healthy older adults are asexual (DeLamater 2012).

Qualitative, personal accounts of sexuality provide a more balanced perspective and indicate that, for the most part, sex is very important in later life (Gott and Hinchliff 2003, M. Bauer et al. 2013b). They also show that functional and/or disease limitations provide opportunities for older people to redefine their late-life sexuality, by encompassing non-coital forms of love and expression to create intimacy, stimulate arousal and achieve satisfaction (Gott and Hinchliff 2003, Hurd Clarke 2006).

More recently, a number of studies have found correlations between ongoing sexual activity in later life and life satisfaction, health status and overall wellbeing (Anderson 2013, Woloski-Wruble et al. 2010) as well as lower levels of depression (Ganong and Larson 2011). Involvement in intimate partnerships can also reduce the negative effects of social isolation and loneliness, which can occur in older age (de Jong Gierveld 2002).

Sexual rights and late-life sexual health policy

The World Health Organization's (2006) definition of sexuality describes it as a 'central aspect of being human throughout life'. In relation to sexual health, it states:

Sexual health is a state of physical, emotional, mental and social wellbeing in relation to sexuality; it is not merely the absence of disease, dysfunction or infirmity. Sexual health requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination and violence. For sexual health to be attained and maintained, the sexual rights of all persons must be respected, protected and fulfilled (World Health Organization 2006).

As such, the sexual rights of older adults should be recognised and respected as they are for all other age groups, and this includes the right to the highest achievable standard of sexual health, including access to sexual healthcare services, information and education.

Sexual and reproductive rights in Victoria are recognised through a range of policy initiatives such as the *Victorian women's health and wellbeing strategy 2010–14* the *Victorian Men's health and wellbeing strategy 2010–14* (Department of Health 2010b, Department of Health 2010a), and the *Victorian public health and wellbeing plan 2015–2019* (Department of Health and Human Services 2015b).

Disaggregating reproduction from sexuality, this latter plan encompasses the following strategic directions over the life course:

- actions to reduce sexually transmissible infections and blood-borne viruses to focus on prevention, testing, management, care and support, surveillance, research and evaluation, in line with national strategies
- work towards eliminating HIV and viral hepatitis transmission and significantly increase treatment rates.

However, direct issues of relevance to older adults are not outlined, nor are strategies and programs to address specific sexual health needs. An action plan is currently under development, which will address some of these issues and outline specific strategies. In addition, healthy ageing is emphasised as a key aspect of the life-course approach of the plan (Department of Health and Human Services 2015b).

In 2014, the Australian Medical Association released its Position Statement on Sexual and Reproductive Health, making the following recommendation for older adults:

... that the sexual and reproductive health needs of mid-life and older adults be recognised and supported in policy and programs, including targeted sexual and reproductive health education, health promotion and prevention strategies. These policies and programs should be underpinned by ongoing research and the provision of information and education to health and aged care service providers on strategies to promote the sexual health of older people, and to ensure services are inclusive of the full diversity of sexual orientations, gender identities, and sexual health needs.

The Australian Medical Association also suggested that investment in sexual and reproductive health is cost effective, as it has the 'potential to minimise future health system costs and to realise significant benefits at the personal, family and societal levels' (Australian Medical Association 2014).

Sexual health in health and aged care services

There are many diseases and treatments which have a negative impact on sexual health. Despite this, nurses and healthcare staff typically do not address sexual issues with patients. Like society generally, staff in hospitals and in residential aged care facilities hold the same ageist stereotypes about asexual older adults. Discussing sexual issues with patients or residents is considered a nursing role by patients (Bouman et al. 2006) and by nurses themselves (Saunamäki et al. 2010), but such discussions are usually avoided (Bauer et al. 2015). Studies of organisations that care for older adults found that staff views ranged on a continuum from being comfortable to not being comfortable with patient or resident sexuality, and these views were usually based on factors such as their level of education and their religious and cultural beliefs (Roach 2004). Some nurses will not talk about sexuality, others are embarrassed or fearful, and still others feel that sexuality is someone else's responsibility and even a taboo subject (Bauer et al. 2015). There is also evidence that some organisations restrict residents' expression of sexuality because it is seen as a problem and should be curtailed (Bauer et al. 2007).

Nursing and care staff, in most cases, are the frontline staff who are likely to witness and deal with issues of sexuality. It is therefore important that staff think carefully about how they feel about sexuality and particularly sexual expression in their workplace. A document which outlines some important discussion points for all nursing staff and administrators and which included descriptive case studies was released in 2011 by the Royal College of Nursing, UK. These case studies identify how organisations can be supportive and responsive to patient and resident needs and privacy, and how to address each case on its individual merit (Royal College of Nursing 2011).

Michael Bauer (Bauer et al. 2012) outlined some basic principles for all staff to take note of and remember in their daily practice:

- 'Sexual sensations are among the last of the pleasure-giving biological processes to deteriorate, and are an enduring source of gratification at a time when pleasures are becoming fewer and fewer' (Roach 2004).
- Moderate cognitive impairment does not necessarily preclude a person with dementia from exhibiting clear preferences for a special friend or partner, having an awareness of a relationship with another, or avoiding exploitation (Everett 2007, Kuhn 2002, Mayers 1998, Messinger-Rapport et al. 2003, Schindel et al. 2002). To this end, health and aged care staff need to bear in mind at all times that sexual expression is a basic human right – that is, of course, where it does not infringe upon the rights of others (Bauer et al. 2012).

The work of Bauer and colleagues has highlighted how educational initiatives can positively impact the attitudes and practices of aged care workers regarding sexual expression in their clients (Michael Bauer et al. 2013). The simple and effective Sexuality Assessment Tool (SexAT) has been designed to assist aged care facilities to support the normalisation of sexuality among residents, and to identify where 'enhancements to the environment, policies, procedures and practices, information and education/training are required' (M. Bauer et al. 2013a).

Simple help sheets which provide information about the way direct care staff can help are also included as part of the *Well for life* toolkit, available online (Department of Health and Human Services).

LGBTI sexual health

The World Health Organization's 2015 Report on Human Rights, Sexual Rights and the Law acknowledges that all older adults have the:

- rights to equality and non-discrimination

- right to be free from torture or to cruel, inhumane or degrading treatment or punishment
- right to privacy.

These rights apply regardless of sexual orientation, and without distinction of any kind such as race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status (Australian Human Rights Commission 2015, United Nations 1976).

Findings from the second wave of the Australian Study of Health and Relationships (Ritchers et al. 2014) found that 9 per cent of men and 19 per cent of women reported a previous same-sex attraction and/or experience. While it is difficult to determine how many people are LGBTI, it is estimated that up to 11 per cent of Australians identify as gender or sexually diverse (Commonwealth Government 2012). Aged care service providers have traditionally assumed that their clients are heterosexual, which has led to an absence of appropriate services for LGBTI people (Commonwealth Government 2012). Furthermore, older LGBTI Australians have historically experienced discrimination and stigma, leading to a fear of disclosure and/or their failure to access health and aged care services (Barrett 2008b, Barrett et al. 2014, Tinney et al. 2015). It has also been shown that older LGBTI people hide their sexual orientation, or feel they are forced to hide their orientation by going 'back in the closet', from staff and other service users when accessing aged care services (Barrett et al. 2015). LGBTI elders living with dementia and their carers face distinctive challenges (Birch 2009).

In recent times, LGBTI ageing has been highlighted for support by various research and government organisations. In 2012 the then Federal Minister for Ageing, Mark Butler, pronounced that LGBTI ageing was 'a unique and important experience warranting particular attention' (Commonwealth Government 2012). To this end, recent initiatives include the National LGBTI Ageing and Aged Care Strategy and the Rainbow Tick initiative, where organisations seek accreditation against Australian standards for LGBTI-inclusive health and human services. A small number of organisations have received Rainbow Tick accreditation, including the City of Stonnington, Uniting Care and the only private residential care provider, Lifeview Residential Care.

There are also a number of readily available resources available which assist health and human services to determine whether their organisations are LGBTI inclusive (see section 11, 'Promoting supportive and inclusive practice').

Sexual abuse and violence against older women

Despite a small body of research highlighting sexual violence and assault against older women dating back into the 1970s, older people had generally not been considered as possible or actual victims of sexual violence and assault and, as such, had been essentially 'under-identified and under-served' (National Sexual Violence Resource Center 2010). In addition, although the number of sexual assaults perpetrated against older people appeared to be very low (< 5 per cent), it was postulated that the numbers could be much higher, as incidents tended to be concealed and therefore under-reported.

Following a proliferation of research on the topic in the 2000s (Fileborn 2016), the Commonwealth Government-funded Norma's Project brought national attention to the issue of sexual assault of older women in Australia (Mann et al. 2014). It found that sexual assault of older women occurred 'in a wide range of contexts, settings and relationships' and that:

Older women remain vulnerable to sexual assaults by husbands / partners and other family members. They can also face threats from service providers that they may rely upon for general care, healthcare and intimate care. Assaults in such settings can be perpetrated by female as well as male staff (Mann et al. 2014).

A recent review of the literature described sexual violence against women as a 'pervasive form of gender-based harm' and confirmed that the experiences of older women especially have received little attention to date (Fileborn 2016).

The impact of sexual violence and assault on older women has been shown to differ to that of younger women. Due to the changes associated with menopause and ageing, they are more likely to sustain genital injuries and may be less likely to cope, both physically and mentally, with the aftermath, and this may lead to an increase in victim mortality (Fileborn 2016). The impact of sexual violence and assault on older women's longer term sexual health is currently not known (Bishop 2014).

The importance of maintaining sexual health as an older woman

As women age, physical, hormonal and psychological changes may affect the blood flow and muscle tone of the vagina, which may affect sexual health and active enjoyment of sex. Regular masturbation can help, as can vaginal lubricants, appropriate hormone therapies and counselling (Better Health Channel 2015b).

Many older women mistakenly believe that they do not need to continue to have pap tests. In 2007, 57 per cent of deaths due to cervical cancer occurred among women aged 60 years and over (Cancer Australia 2012). In addition, women who were not screened at age 50 to 64 years were six times more likely to develop cervical cancer between the ages of 65 and 83 years than those who were screened (Castánón et al. 2014). Along with the increasing rates of STIs and HIV/AIDS in older adults, it is therefore more important than ever that older women continue to be checked every two years. Pap tests are recommended for women up to age 70 and beyond (Better Health Channel 2016).

It should never be assumed that ageing or health issues preclude the need or desire for sexual intimacy (Bauer et al. 2007, M. Bauer et al. 2013b). It is therefore important for health practitioners and their older patients to be able to talk openly about sexual health.

The importance of maintaining sexual health as an older man

As men age physical changes may gradually affect how the penis functions, resulting in erectile dysfunction, which may affect sexual health and active enjoyment of sex. Non-invasive treatments can help, such as reducing risk factors (particularly diabetes and cardiovascular heart disease), oral medication, counselling and/or external devices such as vacuum pumps (Better Health Channel 2015a).

Prostate issues also increase with age and can have a deleterious effect on men's overall and sexual health (Holden et al. 2005). Early signs of prostate disease include symptoms relating to difficulty with urination, however, many men are reluctant to undertake health screening, particularly for bowel and prostate issues, and often delay testing.

It should never be assumed that ageing or health issues preclude the need or desire for sexual intimacy (Bauer et al. 2007, M. Bauer et al. 2013b). It is therefore important for health practitioners and their older patients to be able to talk openly about sexual health.

Evidence for strategies to improve sexual health

There has been a concerted focus on the sexual health and wellbeing of LGBTI groups in recent years, however, sexual health promotion strategies for heterosexual older adults have been extremely limited (Kirkman et al. 2016, Kirkman et al. 2013).

Safer Sex: Little Black Dress campaign

Family Planning NSW launched the first safe sex campaigns targeting mid-life to older people, specifically those aged 40 and older. Called The Little Black Dress campaign it was launched in 2012 with the tag line 'Safe sex is an easier conversation to have with your clothes on' <www.fpnsw.org.au>. It aimed to raise awareness among mid-life and older Australians about the risks of having sex without a condom, how to have conversations about safe sex with new partners and with their doctors, and the importance of being tested for STIs if unprotected sex had occurred.

The campaign was developed after research revealed that women aged 40 and over were less likely to use condoms with new partners than their younger counterparts, and in response to rising rates of STIs. The campaign included a short video, safe sex packs, factsheets and a book about healthy contraception choices. It is difficult to comment on the success and impact of this campaign as it has not been evaluated.

Community-level engagement

Some local organisations such as Women's Health in the South-East (WHISE) have recently highlighted older women's sexual health as a key priority issue, as distinct from younger women's reproductive health. WHISE focused on women aged 50 years and older, and have recently completed a research project which involved an in-depth literature review, followed by individual interviews and focus groups with local women in the community and interviews with service professionals. The final report made the following five recommendations for a concerted approach to improve older women's sexual health:

- **information/support from health and community services** – to ensure older women's sexual health is included in regular health assessments, as well as providing referrals to or access to STI testing
- **education** – to improve older women's knowledge regarding sexual health, as well as teaching skill development in communication, assertiveness and negotiation of safe sex practices
- **community campaigns** – a large public health campaign such as that conducted for the QUIT smoking and AIDS Grim Reaper campaigns to raise awareness among older women and other members of the community as well as service providers
- **further research and data collection** – in older populations, as much of the available research in Australia is limited to younger age groups
- **policy direction** – inclusion of older women in policies and protocols in relation to sexual and reproductive health.

Overseas initiatives

Safer Sex for Seniors is an American website targeting older adults and the community and is run by an independent community group of sexuality educators, researchers, authors, trainers, counsellors and therapists. The website hosts a series of fact sheets, blogs and links to sexual health resources, as well as a short video and associated poster advocating a safe sex public health message for older adults (Safer Sex 4 Seniors).

The Royal College of Nursing, UK (2011) discussion and guidance document for the nursing workforce provides rationale and evidence to help staff and organisations acknowledge the sexual expression of their clients (Royal College of Nursing 2011).

Promoting supportive and inclusive practice

The Sexuality Assessment Tool (SexAT) for residential aged care facilities is available from La Trobe University's website (M. Bauer et al. 2013a).

Simple help sheets which provide information about the ways direct care staff can help are included as part of the *Well for life* toolkit (Department of Health and Human Services).

The Ministerial Advisory Committee on LGBTI Health and Wellbeing released a guide for LGBTI-inclusive practice for health and human services (Ministerial Advisory Committee on LGBTI Health and Wellbeing 2009). There are a number of additional guide-sheets, reports and even a self-assessment and planning audit tool to help health and human services providers ensure their services are LGBTI inclusive. Some of these resources are available at the Val's Café website <valscafe.org.au>. Gay and Lesbian Health Victoria also has a LGBTI-inclusive practice audit tool for health and human services (Gay and Lesbian Health Victoria 2013).

Gaps and issues

There are few sexual health policies and programs specifically targeting heterosexual mid-life and older adults or sexual health education initiatives for older adults.

There is also little medical education about late-life sexuality or sexual expression and activity. Medical practitioners and health and aged care workers do not initiate sexual health conversations with their older patients and residents, and older adults wait for healthcare workers to initiate conversations about sexual health. There is a need for updated medical and health sector training on these issues.

There is a need to differentiate between sexual and reproductive health needs, particularly for women, as reproductive health is generally age-dependent, whereas sexuality and sexual health continues throughout the life course.

Summary

The issues of older adult sexuality and sexual health are becoming more prominent. This is partly in response to the growing recognition of older adults as ongoing sexual beings, and recognition that older men and women continue to engage in sexual activity into very late life, providing they have access to a viable partner.

The increasing prominence of these issues is also due to rising rates of STIs and HIV/AIDS in older people. A primary reason for this is that many older adults do not practice safe sex (do not use condoms). Additionally, many of the symptoms of these diseases mimic other health issues associated with ageing and could be missed by healthcare providers and older people themselves.

Structural ageing of the population indicates that sexual health issues in older people could become an increasing public health issue. Currently there is a lack of government sexual healthcare policies specifically targeting older adults.

Groups within the population that are particularly neglected when it comes to recognition of needs and responses to them include aged care residents, LGBTI older people and victims of sexual violence and assault. There have been some recent strategies targeting service providers, particularly promoting supportive and inclusive practice for aged care residents and for LGBTI older people accessing health and aged care services.

In general, sexual health promotion strategies for heterosexual older adults have been extremely limited. Research recommendations for strategies include provision of information and support by health and community services, education for older people, public health campaigns, further research and data collection, and policy direction.

12 Age-friendly environments

At a glance

- Healthy ageing depends on the interaction between an individual's personal characteristics and behaviours, as well as the environments in which they live.
- Environments encompass physical environments (such as streets and buildings), social environments (such as attitudes and relationships with others), services, and political systems and policies.
- Age-friendly environments do not just benefit older people, but people of all ages, including younger people and those with disabilities or limited mobility.

What older people can do

- Join a local Age-Friendly Victoria group. These can be located by visiting <www.agefriendlyvictoria.org.au>.
- Consider ways of making homes more liveable as people age, for example lighting, non-slip surfaces. Many councils provide low-cost home modification services for older people.
- Visit the websites of relevant organisations, such as local council and the Victorian Government, for more information on local initiatives on age-friendly environments.
- Talk to local council about ways they could make the local area more age friendly.

What those supporting older people can do

- Be aware of any age-related decline in the older person's function and determine if their physical environment requires adapting to respond to these changes.
- Use an evidence-based audit tool, such as the environmental audit tool by NARI and the Dementia Friendly Community Toolkit by Alzheimer's Australia, to identify ways to make the physical environments of your organisation age friendly.
- Visit the websites of relevant organisations, such as WHO's Global Network of Age-friendly Cities and Communities, for practical examples of best practice in age-friendly environments.

Background

Age-friendly environments do not just benefit older people, but people of all ages, including younger people and those with disabilities or limited mobility (World Health Organization 2007a). Healthy ageing depends on the interaction between an individual's personal characteristics and behaviours and the environment in which they live. Many different terms have been used to describe these environments, such as age-friendly environments, age-friendly cities, age-friendly communities, healthy cities, liveable communities, and lifetime neighbourhoods. In this report, the term 'age-friendly environments' is used. In addition, it is worth noting that there have been recent developments in our knowledge and practice regarding enhancing the environment for people living with dementia. The term 'dementia-friendly environments' has been used to describe these types of initiatives (Victorian Government 2015a).

Age-friendly environments are defined by WHO as environments that:

Encourage active ageing by optimising opportunities for health, participation and security in order to enhance quality of life as people age. In practical terms, an age-friendly city adapts its structures and services to be accessible to and inclusive of older people with varying needs and capacities (World Health Organization 2007a).

Environments encompass physical environments (such as streets and buildings), social environments (such as attitudes and relationships with others), services, and political systems and policies. WHO identifies eight key domains of age-friendly environments (World Health Organization 2007a):

1. Outdoor spaces and buildings
2. Transportation
3. Housing
4. Social participation
5. Respect and social inclusion
6. Civic participation and employment
7. Communication and information
8. Community support and health services.

Physical environments

It is well known that physical environments contribute significantly to an individual's physical, mental, and social health across the life course. Importantly, it has been argued that compared to younger people, physical environments play a more important role for older people due to age-related declines in functioning, such as changes to vision, hearing, and balance (Garin et al. 2014, Beard and Petitot 2010, Annear et al. 2014, Clarke and Nieuwenhuijsen 2009). As a person ages, changes in vision, such as reduction in the amount of light that reaches the retina and loss of contrast sensitivity, can affect a person's visual performance and ability to navigate the physical environment (for example, Jung et al. 2007, Shikder et al. 2012). Strategies such as implementing increased lighting and colour contrasting can compensate for those experiencing impaired vision (Shikder et al. 2012, Kerr et al. 2012).

A number of recent reviews have explored the associations between physical environments and older people's physical, mental, and social health (Kerr et al. 2012, Annear et al. 2014, Ahrentzen and Tural 2015, Beard and Petitot 2010, Garin et al. 2014, Clarke and Nieuwenhuijsen 2009, O'Hehir 2014). These reviews cover a diverse range of features such as noise, lighting, road surface and a diversity of settings such as homes, buildings and outdoor spaces, and transportation. These reviews indicate that physical environments can promote or constrain the physical, mental, and social health of older people.

Physical environments have a significant and independent impact on disability, physical functioning (such as mobility and activities of daily life), self-reported health, incidences of falls and injuries, physical activity and risk for diabetes and cardiovascular diseases (Annear et al. 2014, Beard and Petitot 2010, Garin et al. 2014). Although there is less published research on the associations between physical environments and mental health (Kerr et al. 2012, Garin et al. 2014), there is emerging evidence that physical environments are associated with various aspects of mental health. This includes symptoms of depression, psychological distress, and life satisfaction (Kerr et al. 2012, Garin et al. 2014, Annear et al. 2014). There is also consistent evidence that physical environments can encourage or constrain older people's social, community, and workforce participation (Alidoust et al. 2014, Kerr et al. 2012).

A number of key features of physical environments can support healthy ageing (World Health Organization 2007a, Garin et al. 2014, Beard and Petitot 2010, Annear et al. 2014, Clarke and Nieuwenhuijsen 2009). These features can be organised using the three domains of physical environments identified by WHO: outdoor spaces and buildings; transportation; and housing. Features of outdoor spaces and buildings that encourage healthy ageing include pleasant and clean environments, green spaces, pedestrian-friendly walkways, seating areas, non-slip surfaces with even paving and free of hazards to prevent falls, easy access to shops and transport, adequate security, and access to suitable public toilets (World Health Organization 2007a, Annear et al. 2014). Aspects of age-friendly transportation include safe, affordable, reliable and frequent public transport, well-connected public

transport with different transport options, age-friendly vehicles and stations, and well-maintained roads and traffic signals (World Health Organization 2007a, Kerr et al. 2012). Features of age-friendly housing include affordable housing with essential services, housing that is adapted or modified to ensure even surfaces, wide passages, and bathrooms and toilets equipped with handrails.

Social environments

Recent developments on age-friendly environments emphasise the critical role of the social environment in healthy ageing. WHO has identified three key domains in age-friendly social environments, which include social participation; respect and social inclusion; and civic participation and employment. Of these three domains, the issues surrounding participation and inclusion (including social, community, and workforce participation) have been discussed in section section13, 'Participation', so this section will focus on respect.

Ageism is the 'process of stereotyping of and discrimination against people because of their age, just as racism and sexism accomplish this for skin colour and gender' (Butler 1987). Although ageism can refer to negative attitudes towards younger or older people, it most commonly refers to negative attitudes towards older people. There is clear evidence that many older people experience ageist attitudes and a lack of respect in society (Ory et al. 2003, Holroyd et al. 2009, World Health Organization 2007a, Bodner 2009, Palmore 2001, Nelson 2002). Ageism can be expressed in a wide range of phenomena, from the subtle avoidance of contact to outright disdain and dislike, and discriminatory practices in employment and public services (Nelson 2002). Ageist stereotypes are pervasive in our society and harmful to older people's psychological wellbeing, and physical and cognitive functioning (Ory et al. 2003).

Ageism can limit access to healthcare, due to unfounded beliefs that health problems are just a normal part of ageing; reduce opportunities for participation in the workforce, due to negative beliefs about older workers; and limit access to social activities, for example, sporting activities, due to these activities being designed for and focused on younger people. Ageism can also impact upon older people's views of themselves. If older people are continually exposed to ageist attitudes and negative depictions of older people, such as are seen in the media, in cartoons and birthday cards, they can internalise these views. In turn this can impact upon their sense of self-worth, identity and wellbeing (George 1998, Siebert et al. 1999, Nelson 2002). Research has demonstrated that negative ageist stereotypes have a self-fulfilling impact on older people (Krauss Whitbourne and Sneed 2002, Levy 1996, Nelson 2002). Older people with negative attitudes to ageing have been found to have decreased physical health, including elevated blood pressure, less stability and walking speed, and even decreased lifespan (Bodner 2009).

Ageism has also been linked to elder abuse (Dow and Joosten 2012), which is becoming an increasing problem in our society. Although elder abuse is often seen as an individual act involving a perpetrator and a victim, older people themselves tend to see it in much broader terms. In a series of peer-led focus groups, O'Brien et al. (2011) found that older people identified societal concerns such as the withdrawal of respect and recognition, and the reduction of the roles and opportunities for participation, as constituting elder abuse (O'Brien et al. 2011). These findings reflected WHO's 2002 report *Missing voices: views of older persons on elder abuse*, which found that older people's perceptions can be grouped into three main areas: neglect, including isolation, abandonment and social exclusion; violation, of human, legal and medical rights; and deprivation of choices, decisions, status, finance and respect (World Health Organization and International Network for the Prevention of Elder Abuse 2002).

Ageist views can come from a lack of knowledge about older people, a lack of close interactions with older people, and a 'fear of being old translating itself into a desire to distance oneself from being old' (Ory et al. 2003, Bodner 2009). A key to age prejudice is in the process of 'othering', which 'lumps those considered old into a category defined first, as different and, second, as inferior. This suggests that all older people are alike, hence obscuring differences that exist among and between older persons' (Phillips et al. 2010). Research into perceptions of ageing shows that age prejudice is more likely to be expressed towards groups and individuals who are not known to the person. It is more difficult to see all

older people as alike and inferior if one is in close day-to-day contact with them. Generally, family and friends are excluded from age-based negative stereotypes (Dow et al. 2011). This would suggest that strategies to address ageism might include education that debunks myths and fears associated with ageing, programs that address barriers to workplace participation for older people, and the promotion of intergenerational connection.

Evidence for strategies that support age-friendly environments

Over the past few years, many programs have been developed under WHO's framework of Age-Friendly Cities or Age-Friendly Communities. These programs vary from small, local projects funded by regional groups to major national programs coordinated by national committees under the direction of federal governments. WHO's Global Network of Age-friendly Cities and Communities was established in 2010 to connect cities, communities and organisations across the world with the common vision of making their community age friendly (World Health Organization 2014b). The network also provides a global platform for information exchange, mutual learning and support. One particular focus of the network is action at the local level that fosters the full participation of older people in community life and promotes healthy and active ageing. Currently, the network includes 287 cities and communities in 33 countries, covering over 113 million people worldwide.

Reviews examining these interventions have identified a number of key features of successful strategies to create age-friendly environments, including (Steels 2015, Lui et al. 2009, O'Hehir 2014):

- a collaborative approach that engages multiple stakeholders
- empowering older people and engaging them in the whole process
- addressing local needs and using multiple interventions
- ensuring interventions are theory and evidence-based.

Physical environment interventions

The Do It Yourself Streets initiative is a pilot project within the Liveable Neighbourhoods program that aims to improve residential streets in urban areas in England, Wales and Scotland (Thompson et al. 2014). Interventions included inserting planters, changing parking space provision and layout, and adding features to reduce the speed and volume of traffic. An evaluation of the project found that although there was no change in participants' self-reported levels of activity over the period of interventions, participants in the intervention group perceived it was easier to walk on their street than those in the control group and that they were more active after the interventions.

Theory and evidence-based interventions have been the features of many environmental checklists and toolkits on age-friendly physical environments. In Victoria, an environmental audit tool for physical environments in health services was developed by researchers at the National Ageing Research Institute (National Ageing Research Institute 2006). The audit tool was later revised to be used in residential aged care settings (Moore et al. 2009). While there has not been a formal evaluation conducted on the use of the two audit tools, anecdotal feedback suggests the tool has been crucial in raising awareness among staff of the important role that the environment can play in facilitating independence and participation of older people and their families, and the simple strategies that can be introduced to enhance this. This tool is being redeveloped in 2016–17.

Dementia-friendly environments

In recent years, there have been a number of environmental resources and tools developed to create environments that are inclusive and supportive for people living with dementia. Alzheimer's Australia has developed the Dementia Friendly Business Toolkit and the Dementia Friendly Community Toolkit, to provide information on how to make businesses and the community more dementia friendly (Alzheimer's Australia 2015a, Alzheimer's Australia 2015b). The Victorian Department of Health and Human Services

has developed a comprehensive online resource, *Dementia-friendly environments*, for service providers, carers and families (Victorian Government 2015a). This resource draws on current research, knowledge and practical experience to inform the creation of environments that are more friendly, inclusive and supportive for people living with dementia. The information and tools found within this resource can be applied to residential care facilities, hospitals, community health services, private homes, shops and public spaces.

Public transport

Other initiatives focus on public transportation for older people living in the community. In Hervey Bay, Queensland, age-friendly guidelines for public buses included introducing more buses with lower floors, age-awareness training for bus drivers, increasing the frequency of scheduling, improved pedestrian infrastructure, a bus buddy program and the trial of a flexible bus route (Broome et al. 2013). An on-board satisfaction survey with older bus users found that these changes resulted in improved satisfaction with, and perceived useability of, the bus system. Importantly, older people in Hervey Bay maintained their bus use and social activity participation over the intervention period, while those in the control site experienced a decline in bus use and social activity participation during the same period.

Safe Streets for Seniors is a pedestrian safety initiative for older people living in the city of New York (New York City Department of Transportation 2016). The program identified Senior Pedestrian Focus Areas through data analyses of crashes where older pedestrians had been involved and had severe injuries or died. It then developed measures to improve the safety of older pedestrians in those particular areas of local need. Since the program began, annual senior pedestrian fatalities have decreased 10 per cent citywide, from 58 senior fatalities in 2008 to 52 in 2015 (New York City Department of Transportation 2016).

Residential care

The Green House project is a trademarked model of small-house nursing homes in the USA (Jenkins et al. 2011, Cutler and Kane 2009, Kane et al. 2007). The model is based on the philosophies of person-directed and relationship-based care (Sharkey et al. 2011). There are three key components of this model: the physical environment; the role of staff; and the care of residents (Cutler and Kane 2009). Each Green House is designed as a self-contained home that blends into its surrounding neighbourhood (Kane et al. 2007). Ten to 12 residents live in the home, each with a private bedroom with ensuite bathroom and toilet. In addition, there is communal space, including a residential-style open kitchen where meals are prepared on-site, a living room with a fireplace, a communal dining room, and an accessible outdoor space (Kane et al. 2007). These characteristics contrast with the traditional institutional model of nursing homes, which often feature nursing stations, public address systems and medication trolleys. Eliminating the institutional features of the physical environment and designing the facilities to resemble familiar home spaces provides residents with more opportunities to participate in both private and communal activities. The Green House also transforms staff roles and the way that care is delivered to residents. Each Green House home is staffed by a self-directed team of certified nursing assistants who have blended and expanded roles, including cooking, housekeeping, personal laundry, personal care to residents, implementation of care plans, and assisting residents to spend time according to their preferences. The nursing assistants report to an administrator rather than to a nurse and are supported by visiting clinical support teams that consist of clinicians mandated in regulations in the US (including nurses, physicians, social workers, dietitians and pharmacists). The clinical support teams provide specialised assessments and supervise care within their areas of expertise. Evaluations of the Green House initiative were conducted between 2003 and 2012 using mixed methods. They explored quality of life among residents, satisfaction among family members, quality of care, and financial performance of the Green House homes. Positive outcomes of the model include an improved quality of life and physical functioning among residents and higher levels of satisfaction among family members than those in traditional nursing homes (Lum et al. 2008, Kane et al. 2007, Cutler and Kane 2009). They

also found that although the Green House model has a higher ratio of certified nursing assistants staff to residents than traditional nursing homes, overall staff time (combined total of nursing and non-nursing staff) is slightly less in the Green House model (Sharkey et al. 2011).

Intergenerational programs have also been found to be effective in bringing different generations together, improving understanding and increasing interaction between them. See section 13, 'Participation: Intergenerational programs' for effective strategies on intergenerational programs.

Gaps and issues

There is evidence that programs focusing on enhancing environments to become age friendly can increase older people's health; however there is limited information on the effectiveness of specific approaches. Future age-friendly environment projects need to incorporate both process and outcome evaluations in their study design.

Current research relies mainly on cross-sectional data and there is a need for more longitudinal studies to provide more rigorous evidence. Most of the current research has focused on the urban setting and relatively few studies examined age-friendly environments for older people living in rural or remote areas. There is a need for more theoretically informed research to improve our understanding of the relationships between environments and health. There is also a need for better definition and measurement of various aspects of environments to enable results from different studies to be compared.

Summary

Environments encompass physical environments (such as streets and buildings), social environments (such as attitudes and relationships with others), as well as services and political systems and policies.

Physical environments contribute significantly to an individuals' physical, mental, and social health across the life course, and may actually play a more important role for older people due to age-related declines in functioning, such as declines in vision, hearing, and balance.

Recent developments on age-friendly environments emphasise the critical role of the social environment in healthy ageing. WHO has identified three key domains in age-friendly social environments, which include social participation, respect and social inclusion, and civic participation and employment.

Commonly held ageist stereotypes are harmful to older people's psychological wellbeing, and physical and cognitive functioning, and negatively affect the social environment.

A number of key strategies have been suggested in the literature for successful programs to build age-friendly environments. These include a collaborative approach that engages multiple stakeholders, empowering older people and engaging them throughout the whole process, addressing local needs and using multiple interventions, and embedding theory and evidence-based interventions.

13 Participation

At a glance

- Older people participate in society in many different ways, such as socialising with family and friends, volunteering, and workforce participation.
- Participation is essential for older people's health and wellbeing. It also has enormous benefits for society broadly.
- Many programs have been found to be effective in increasing participation among older people, including intergenerational programs, art-based programs, group-based physical activity programs, volunteer training programs, and the University of the Third Age.

What older people can do

- Spend time with friends and family, and doing enjoyable and relaxing activities.
- Try new things such as taking up a new hobby, volunteering, or enrolling in an education course.
- Plan for life-long career development and take up training and development opportunities as they arise.
- Visit the websites of relevant organisations, such as local councils, COTA, U3A, Seniors Online and Better Health Channel for information on local activities.

What those supporting older people can do

- Encourage older people to engage with family and friends, and be involved in various activities.
- Consider individual older people's needs and interests and assist older people to identify their own goals.
- Consider setting up intergenerational programs that meet local needs to encourage interactions across different generations.
- Help older people to address practical barriers to participation, such as transport, communication difficulties and cost.
- Adopt age-friendly management practices in the workplace.

Background

Older people participate in society in many different ways. These include social participation (such as socialising with family and friends), community participation (such as volunteering), and workforce participation. These forms of participation tend to overlap with each other. For example, volunteering in an organisation often brings opportunities for social participation through conversations with staff and other volunteers.

Social participation

Social participation is probably the most common way that older people participate. Examples of social participation include socialising with family and friends, participating in cultural, leisure, and recreational activities, and life-long learning. Data from the Australian Bureau of Statistics suggests that 92 per cent of people aged 65 and over who live in the community had at least weekly contact with family or friends living outside the household in previous three months, and over three-quarters had face-to-face contact in the previous week (Australian Bureau of Statistics 2011b). The table below, however, demonstrates that as people get older they are less frequently involved in other types of social participation.

Table 5: Participation rates of older Australians (Australian Bureau of Statistics 2011b).

Type	65 to 74 years	75 to 84 years	85 years and older
Social group participation	65%	56%	47%
Sport or recreational group participation	76%	62%	57%
Cultural and leisure event participation	70%	51%	34%

The 2012 Victorian Population Health Survey provides the most up-to-date data on participation among older Victorians and it demonstrates a decline in the number of social contacts as people age (Department of Health and Human Services 2016b). For example, the proportion of individuals who spoke with 10 or more people the previous day declined with age, from 64 per cent of those aged 18 to 24 years, to 35 per cent of those aged 65 years and over (Department of Health and Human Services 2016b). In contrast, the proportion of people who had spoken with fewer than five people the previous day increased with age, from 8 per cent of those aged 18 to 24 years to 31 per cent of those aged 65 years and over (Department of Health and Human Services 2016b). With regard to attendance at local community events, 49 per cent of older people indicated that they had engaged in this kind of activity in the past six months (Department of Health and Human Services 2016b). Again, this rate was lower than that of the general population (55 per cent) (Department of Health and Human Services 2016b).

Social participation for older adults promotes feelings of connectedness and improves mental and physical health (Australian Institute of Health and Welfare 2011a, Savage and Bailey 2004b, Australian Institute of Health and Welfare 2007a, Family and Community Development Committee 2012). Crucially, social participation is linked to social connectedness. There is strong evidence of a direct link between social connectedness and mental and physical health outcomes (World Health Organization 2002). In a recent meta-analytic review, participants with stronger social relationships had a 50 per cent increased likelihood of survival than those without social ties (J Holt-Lunstad et al. 2010). This effect is comparable with the well-established risk factors of smoking and alcohol abuse (J Holt-Lunstad et al. 2010). Also, lower levels of contact with social networks and loneliness increase the risk of cognitive decline and dementia, while frequent emotional support and social activity reduce the risk of cognitive decline (Barber et al. 2010). Participation is also related to improved quality of life among older people (Family and Community Development Committee 2012).

Life-long learning

Life-long learning is an avenue for social participation and an important component of healthy ageing. In the absence of dementia, older people maintain almost all cognitive processes without a decline. Indeed, learning continues throughout the lifespan with vocabulary and cultural knowledge continually increasing (Schaie 1994). Along with these improvements in learning capability are improvements in motivation and emotional stability, permitting older people to develop or improve interpersonal skills (Carstensen 2006). Life-long learning also has a positive and lasting impact on cognition, with the capacity to improve brain health and brain function (Simone and Scullin 2006). Active learning is considered an ideal means of cognitive stimulation that can be achieved by simply learning something new and interesting (Simone and Scullin 2006). Such active learning opportunities include being involved in a group discussion on a new topic, attending life-long learning institutes (such as University of the Third Age), or learning a new language (Simone and Scullin 2006, Biggs 2005). Life-long learning opportunities are also important to

ensure older people are able to participate in civil activities, volunteering and in the workplace as well as encourage intergenerational understanding and support (Biggs 2005). The social benefits of life-long learning also help to solidify and enhance mental health benefits (Simone and Sculli 2006, Biggs 2005).

Community participation

Community participation includes different types of activities that connect older people to the community. This includes unpaid caring, volunteering, mentoring and community leadership.

Caring

In 2012, 22 per cent of informal carers were aged 65 years and over (Australian Institute of Health and Welfare 2015b). In total, 19 per cent of older people were informal carers, most often providing care for their spouses (Australian Institute of Health and Welfare 2015b). Like other age groups, older women are more likely to be informal carers than old men. However, the difference is small in this age group: 51 per cent to 49 per cent (Australian Institute of Health and Welfare 2015b). Many older people also provide care to their grandchildren. In Australia, grandparents were the most common source of informal childcare, regularly looking after 22 per cent of children aged 0 to 12 (Australian Bureau of Statistics 2015a). Almost one-third of children of working parents received childcare from their grandparents (Australian Bureau of Statistics 2015a). Importantly, most children (98 per cent) in a grandparent's care were cared for at no cost to their parents (Australian Bureau of Statistics 2012a).

Being a carer can be associated with positive outcomes, such as feelings of satisfaction and being valued (Carers Trust and Jennie Chapman Consultancy and Training Ltd. 2015, Savage and Bailey 2004a). However, it can also be associated with negative outcomes, such as poorer physical health and quality of life and higher levels of emotional distress and depression (Carers Trust and Jennie Chapman Consultancy and Training Ltd. 2015, The Princess Royal Trust for Carers 2011, Savage and Bailey 2004a). Being a carer might also be associated with disruption of employment and social networks (The Princess Royal Trust for Carers 2011, Colombo et al. 2011).

Volunteering

Volunteering in this context refers to formal volunteering, that is, volunteering conducted through a formal organisation or group (Volunteering Australia 2012). In 2010, 31 per cent of older people had undertaken volunteering work in the previous 12 months (Australian Bureau of Statistics 2011f). Although this rate is slightly lower than the Australian population as a whole (36 per cent), older volunteers generally spend more time volunteering than younger volunteers (Australian Bureau of Statistics 2011f).

Of people aged 65 and over, 28.6 per cent reported helping out a local group by volunteering (Department of Health and Human Services 2016b). This rate was the second highest of all age groups (only slightly lower than that among those aged 35 to 44 years, 29 per cent) and was higher than that among the general population (24 per cent) (Department of Health and Human Services 2016b). In addition, a further 8.6 per cent reported that they sometimes helped out as volunteers (Department of Health and Human Services 2016b).

Volunteering has been shown to have a positive health and wellbeing impact on older people with improvement in physical functioning, self-reported health, social integration, life satisfaction and quality of life, as well as decreased depression and mortality (Onyx and Warburton 2003, Gill 2006, von Bonsdorff and Rantanen 2011, Cattana et al. 2011, Okun et al. 2013). These benefits are usually explained through the increased social capital, for example trust and reciprocity, associated with volunteering (Onyx and Warburton 2003, von Bonsdorff and Rantanen 2011). As Onyx and Warburton (2003) have reported, 'it is likely that the presence of high levels of social capital supports and maintains the health of older persons, provides informal support in times of sickness and stress and thus enhances quality of life as well as reducing or delaying the onset of illness and death'.

Workforce participation

Workforce participation remains an important component of healthy ageing for many older people. Data from the ABS indicate that workforce participation rates among people aged 55 years and over have increased significantly over the past few decades (Australian Bureau of Statistics 2010a). In 2010, around one-third of this group (34 per cent, or 1.9 million) were participating in the labour force, up from 25 per cent three decades earlier, with most of the increase occurring in the previous decade (Australian Bureau of Statistics 2010a). Consistently, their share in the total labour force market increased from 10 per cent to 16 per cent over the 30 years (Australian Bureau of Statistics 2010a). The same trend has also been observed in Victoria (Temple 2014). This increase in workforce participation rates has been driven largely by the increased participation of women in the labour force, reflecting a range of social changes, including greater acceptance of, and opportunities for, women in the workforce (Australian Bureau of Statistics 2005). For example, in 2003–04 the participation rate for women aged 45 to 64 years was 60 per cent, well above the 36 per cent participation rate in 1983–84 (Australian Bureau of Statistics 2005).

There are benefits to individuals and society in continued workforce participation of older people. Working may be beneficial to individual health. In Australia, workers aged 45 to 74 years are less likely than their non-working counterparts to have a chronic health condition such as cardiovascular disease, diabetes or obesity (Australian Bureau of Statistics 2008a). However, it is unclear whether this is due to their continued workforce participation or whether it is a selection effect, that is, people who do not have chronic disease are able to work for longer. Increased participation of older workers can also have a substantial impact on the nation's GDP. If the participation rate of 50 to 69 year olds in Australia was increased by 10 per cent by 2050 this would increase GDP by an estimated 2.4 per cent, considerably reducing the 2.75 per cent fiscal gap that Treasury estimates will come from the ageing population (Chomik and Piggott 2012). Furthermore, expenditure would decrease by approximately 0.5 per cent of GDP, due to reduced pension and health costs (Chomik and Piggott 2012). Consequently, increasing the labour force participation rate of older people has been regarded as one way to help soften the economic impacts of an ageing population (Australian Bureau of Statistics 2010b).

Evidence for strategies to support participation by older people

Intergenerational programs

Negative attitudes towards older people have been identified as an important barrier in participation among older people (Principi et al. 2012, Robertson 2013). Intergenerational programs, defined as 'vehicles for the purposeful and ongoing exchange of resources and learning among older and younger generations' (Bostrum et al. 2000), attempt to bring different generations together, improving understanding and increasing interaction between them. Intergenerational programs can take many forms:

- older people assisting younger people (e.g. Experience Corp, Timehelp/EdConnect, Intergenerational Mentoring Project, Grandfriends Intergenerational Program, Generations in Action, Landed Learning School Year Program) (AARP Foundation , EdConnect , Beth Johnson Foundation , COTA NSW 2009, University of British Columbia)
- younger people helping older people to improve their skills (for example, Trans-IT intergenerational computer project, Students Teach Adults Computer Knowledge) (Harrison and Mulvehill 2008, New York City Department for the Aging 2010)
- older and younger people working together (for example, Thinking Village, Our Generations, Creating Community) (Joseph Rowntree Foundation , Gilfoy et al. 2009, New York City Department for the Aging 2010)
- shared site programs (for example, Playgroup in residential aged care, Naturally Occurring Interaction in a Shared Environment Everyday) (Listokin 2009, Williams et al. 2010).

These programs involve different types of activities (including academic mentoring, arts activities, computer training, and environment improving activities), and happen in a wide range of settings (such as schools, community centres, farms and aged care). Evaluation of these programs indicates that there are a number of benefits of intergenerational programs, including benefits to older people, younger people and the community. For older people, the opportunity to share their skills, knowledge, and experience with younger generations and to stay connected to their communities had a positive impact on life satisfaction, social engagement, and overall health (JCY-Westchester Community Partners , New York City Department for the Aging 2010, Listokin 2009, Williams et al. 2010, Gilfoy et al. 2009, Porter and Seeley 2008, Harrison and Mulvehill 2008, Ellis 2004, University of British Columbia , Purcell and Hatton-Yeo 2002, Kingman 2014, AARP Foundation).

Experience Corps is an American program that brings older adults into disadvantaged public elementary schools to improve academic achievement of students through one-to-one tutoring, small group academic help, and assisting teachers (AARP Foundation). External evaluation of the program found that older volunteers showed significant increases in cognitive ability, physical activity and strength, compared to older people in the control group. Older volunteers of the program also reported social gains, including a significant decrease in time spent watching TV and a significant increase in the number of people they feel they could turn to for help (AARP Foundation).

Creating Community is an American intergenerational program where older people and children/youth spend one year learning together to construct an oral history and then present it to the community (New York City Department for the Aging 2010). Evaluation of the program found that older people felt invigorated and safer in the neighbourhood. They discovered that they matter to the younger people, and that they have something to give them. These experiences of connection dispel feelings of isolation.

Trans-IT intergenerational computer project is a weekly program of one-to-one tuition delivered by young volunteers from local secondary schools to help older people access computers and the internet (Harrison and Mulvehill 2008). It was found that older people in this program increased their independence and confidence through enhanced IT skills and social networks. They also changed their opinion of young people through being involved in the program.

These intergenerational programs also help to reduce ageist attitudes towards older people. The Thinking Village project initiated by the Joseph Rowntree Foundation in the UK involved older and younger people doing activities together, such as museum visits and playing bowls (Joseph Rowntree Foundation). The qualitative evaluation of the project found that there was some evidence of improved relationships between generations, increased trust and understanding (Porter and Seeley 2008).

A number of the projects identified can be applied to the Victorian setting. The Greenvale and Hervey Bay projects for rural and regional communities, and the Santropol Roulant Intergenerational program and Thinking Village projects offer new approaches to participation, with individual benefits for participants as well as benefits flowing more broadly to intergenerational renewal, social inclusion, and community strengthening (Queensland Government 2009, Santropol Roulant 2012, Joseph Rowntree Foundation). In addition, the Community Leadership Program and the Apple Store offer guidance for working with existing providers of services to expand their models to include older people. These innovative programs currently have no evaluation components.

The Victorian Government's Count Us In initiative included a playgroup run in a residential care facility. Residents, staff, parents and children all seemed to benefit from this approach and anecdotal evidence suggested improvement in attitudes towards older people among the parents (Williams et al. 2010). In the evaluation of Count Us In participation projects undertaken with residents in aged care facilities, a number of key factors were also identified. Greater success was achieved when time was spent engaging and involving residents in the project and activities; funding was used as a resource to initiate change; residential care services were used that had a strong philosophy of social wellbeing and social inclusion and demonstrated an increased capacity to implement the projects; and there was the existence of high-level support and leadership through executive, senior management and the dedication

of project managers. As many of the projects relied heavily on the use of volunteers to assist with community-based activities, successful volunteer recruitment strategies were essential. Overall, it was found that the success of participation strategies was multifactorial and that it was important that the strategies or projects were integrated within broader principles of healthy ageing.

Intergenerational programs can also expand services and stretch scarce resources by utilising volunteers and sharing sites and resources. Timehelp/EdConnect is an Australian school-based intergenerational mentoring program (Kingman 2014). Evaluation of this program found that the program contributed positively to the schools. The 2009 dollar value (as deemed by schools) of more than 90 Timehelp volunteers in 31 schools was approximately \$324,000, resulting in a return of 360 per cent on the investment of \$90,000 (Kingman 2014). COTA NSW runs a Grandfriends Intergenerational Program where older volunteers assist in schools with a variety of learning activities (COTA NSW 2009). Feedback from children and volunteers suggest that the volunteers were well accepted by the children and that they enjoyed making a contribution to their education (COTA).

From the evaluations of these programs a number of key factors for a successful intergenerational program could be drawn. These include:

- using collaborative partnership approaches
- using sustained interventions that allow enough time for relationships between participants to be established
- ensuring the programs involve thorough planning
- providing staff, volunteers and participants with appropriate skills and training needed to foster intergenerational relationships between participants (for example, communication skills training)
- using activities shaped by and for the needs of participants
- creating activities that focus on empowering and developing relationships with participants.

Supporting social participation

There is some evidence that arts-based programs are effective in increasing social inclusion and strengthening social networks among older people. One example is the Arts, Health and Seniors: Healthy Aging Through Arts project (AHS) in Canada (Phinney et al. 2012). The project took place in four community centres located in four different neighbourhoods, of which three were considered disadvantaged neighbourhoods.

The project involved weekly participatory workshops led by professional artists, and yearly exhibitions and performances at community and professional venues of the works created. Participants also had opportunities to visit relevant arts exhibitions and performances at professional galleries and theatres. Art forms experienced at the four sites included writing and digital photography, digital video, puppetry and dance, and mixed-media visual arts. An evaluation of this project found that participants experienced higher degrees of social inclusion, improved physical wellbeing, increased confidence and a sense of accomplishment. Following the completion of the project, participants and artists expressed a strong desire to see their site's program continue, and organisational partners extended the project. In 2009, three additional sites were initiated as part of the Vancouver Coastal Health's Integrated Health Network program. The project is now ongoing and is currently in its tenth year of program delivery.

Within the Australian context, there have been some community-based arts programs that focus on strengthening community cohesion and social participation (Pope and Doyle 2006, Mulligan and Smith 2006). However, these programs often focus on the general population rather than specifically on older people. On the other hand, some community service providers have incorporated arts-based programs into their services. For example, the Brotherhood of St Laurence has used forms of the arts to help socially isolated older people and people with disabilities to connect with their community (Barraket 2005). In 2004, it developed a partnership with the Art Shed, a local gallery, to offer an eight-week art and craft course for older people and people with disabilities (Barraket 2005). It also ran monthly

concerts in partnership with Anglicare and Southern Cross Care around the Mornington/Frankston region, which were open to the public, including people living in nursing homes and hostels (Barraket 2005). Both programs drew on the resources of local communities and were held in convenient locations to enable participation among people who were less mobile (Barraket 2005). Although these programs were not evaluated, it is suggested that arts-based programs could be a relatively inexpensive way to provide opportunities for older people to meet and be involved in the community (Barraket 2005).

The University of the Third Age (U3A) is one of the most popular educational models for older people across the world. The first U3A was developed in France in 1972 and the first Australian U3A started in Melbourne in 1984 (Hebestreit 2006). In 2009, there were 211 independent U3As listed in the U3A online database with a total membership of 64,535 (Swindell et al. 2009). The actual number of U3As and their members might be higher because some U3As did not register with or put the number of their members into the database. A survey of 127 Australian U3As and 38 New Zealand U3As in 2008 found that providing intellectually stimulating opportunities and social networking were seen as the two major accomplishments of the U3As (Swindell et al. 2009). Further evaluation of the U3As in the Australian context came from a study with 627 members of two U3As in Melbourne (Box Hill and Frankston U3As) and 55 presidents of U3As in Victoria. The survey with the U3A members found that most respondents reported intellectual, mental, social and physical improvement as a result of U3A participation (Hebestreit 2006). However, there were a number of challenges in the management of the U3As, primarily obtaining tutors and classroom availability (Hebestreit 2006). These concerns were expressed by both the members and the presidents. The study also identified a number of barriers to participation in U3A, including a lack of awareness of U3A, the stereotypical attitudinal barrier of 'I am too old' and negative past educational experiences (Hebestreit 2006). In particular, the study suggested that the U3As should increase marketing endeavours, with almost a third of the respondents indicating that they would have joined earlier if aware of U3As (Hebestreit 2006).

In addition, social eating and group-based physical activity programs have also been found to be effective to increase social participation among older people. Please refer to section 3, 'Healthier eating' and section 4, 'Active living' for more information. There are also other participation programs which include older people in significant numbers but have been beyond the scope of this review to access and report on. VicHealth, the National Heart Foundation and the International Diabetes Institute have all funded programs focusing on increasing rates of participation in social activities alongside physical activity programs, and older people are the majority of participants in many of these. However, the information publicly available regarding the evaluation of these programs is limited, and fails to provide advice on implementation and outcomes. There may be avenues available to government to work with these organisations to access such information.

Supporting community participation

As noted earlier, there are both positive and negative outcomes associated with providing informal care in late life. There is also evidence that being an older carer might be associated with social isolation and disruption of social networks and employment (The Princess Royal Trust for Carers 2011, Colombo et al. 2011). Therefore, it is important to provide services to support older carers in their caring roles. However, few programs focus on older carers (Parker et al. 2010, Williams and Owen 2009) and there is a need for further research in this area.

With regard to volunteering, a number of the previously discussed intergenerational programs include older volunteers in their programs. The U3As also rely on older volunteers as tutors to deliver their courses. Good collaboration between organisations (such as education organisations, charitable foundations, professional organisations, and associations of older people) has been identified as a key factor to engage older volunteers and a combination of life-long learning and civic engagement can be an effective method of attracting and retaining older volunteers (Principi et al. 2012).

A good example is the Legacy Leadership Institutes, which is a volunteer leadership program for people aged 50 years and older to facilitate their transition from paid employment into volunteer positions and community leaders (Manning et al. 2006). This program was developed by the Center on Aging at the University of Maryland in collaboration with community agencies (Manning et al. 2006). It provides intensive classroom training in specific role competencies and non-positional leadership development, followed by supervised field placements in government offices and community agencies (Manning et al. 2006). The program benefits the volunteers through enjoyable and productive engagement, as well as community organisation through capacity building enabled by the commitment of competent volunteers (Manning et al. 2006). This model has now been adapted and used in the Netherlands, Belgium and Germany to increase participation among older people after retirement (Harlow-Rosentraub et al. 2007).

The need to combine life-long learning and civic engagement to provide meaningful activities to attract older volunteers has also been highlighted in the review by Sellon (2014) on recruiting and retaining older adults in volunteer programs. Based on this review, seven best practices were proposed, including a personal invitation, meaningfulness, social interaction, role flexibility, stipends, support from staff, and recognition. In addition to these seven best practices, which focus primarily on features of volunteer programs, Sellon (2014) argued that it is important to incorporate the Strengths Perspective, a perspective focusing on the strengths, abilities, and hopes of individuals and communities, to emphasise the strengths and abilities of individual volunteers and the physical and cultural resources of their communities. This focus on strengths of individuals and communities is consistent with the asset based approach in promoting active ageing and intergenerational solidarity in Europe, that is, considering older people as 'active agents pursuing their own lives within their families and community' (Robertson 2013).

There are a range of Australian programs involving older volunteers. These include peer education programs run by State and Territory COTAs. These peer education programs are delivered by trained peer educators and cover a variety of topics, such as active ageing, physical activity, and aged care. The Community Visitors Scheme (CVS) also includes many older volunteers. The CVS is run by community-based organisations through funding from the federal government. The CVS support approved volunteers to make regular visits to socially and or culturally isolated older people who are receiving government-funded aged care services. However, there is limited information on the evaluation of these programs.

Supporting workforce participation

In 2012, the Parliament of Victoria Family and Community Development Committee conducted an inquiry into opportunities for participation of Victorian seniors. This inquiry suggested a number of strategies to support workforce participation among older people, such as changing workplace culture and employer attitudes towards older workers, providing flexible employment arrangements (such as job sharing and working from home) and career pathways across the life course, and supporting people to plan for continuing participation in as they age (Family and Community Development Committee 2012).

Gaps and issues

Specific programs supporting older people's participation in all aspects of community life have been shown to be beneficial; however there is less evidence available on the design and implementation of these programs. For some areas, such as programs for carers, there are limited programs focusing on the particular needs of older carers.

While workforce participation rates of older people have been increasing, there are still substantial barriers for many older people to remain in the workforce. Strategies to support workforce participation among older people should be tested, such as changing workplace culture and employer attitudes towards older workers, providing flexible employment arrangements (such as job sharing and working from home) and career pathways across the life course, and supporting people to plan for continuing participation as they age.

Summary

Older people participate in society in many different ways. These include social participation, community participation and workforce participation. These forms of participation tend to overlap with each other.

Social participation in late life promotes feelings of connectedness, improves mental and physical health and is linked to social connectedness. There is strong evidence of a direct link between social connectedness and mental and physical health outcomes.

Being a carer can be associated with positive outcomes, such as feelings of satisfaction and being valued. However, it can also be associated with negative outcomes, such as poorer physical health and quality of life and higher levels of emotional distress and depression.

Volunteering has been shown to have a positive health and wellbeing impact on older people with improvement in physical functioning, self-reported health, social integration, life satisfaction and quality of life and, as well as decreased depression and mortality.

There are benefits to individuals and society in continued workforce participation of older people. Working may be beneficial to individual health.

Key strategies for successful participation programs for older adults include using collaborative partnership approaches; involving older adults in planning, implementation and evaluation of programs; using evidence-based approaches; addressing local needs; using existing resources; and utilising volunteers.

14 Evidence gaps and issues

This review has identified programs and strategies that target healthy ageing across a range of domains and in a range of settings. However, across all areas, there appears to be a lack of evidence-based programs and systematic review.

This review has highlighted a lack of strong evidence for strategies to enable or enhance healthy ageing. This review builds on evidence found in the 2012 *Healthy ageing literature review* and also includes the additional areas of sexual health and injury and violence. As found in other domains, there appears to be a lack of evidence-based programs and systematic reviews in both these areas.

Many interventions identified in this review were pilot projects and thus not of a sufficient duration for their effectiveness to be shown. This was mostly related to funding only being available for a short period of time. Previous reviews of the literature also noted a lack of good quality, comprehensive evaluations of healthy ageing and health promotion projects developed specifically for older people. This review highlights the need for high-quality evaluations of healthy ageing strategies and programs that focus on outcomes for older people. Such evaluations would enable better understanding of the strategies and actions needed to support the diversity of older people's needs for healthy ageing interventions and the factors that support or prevent healthy ageing.

There are some developmental and innovative healthy ageing programs; however there is currently little evidence of their effectiveness. Health organisations in Australia, including health services and community health, have funded programs focusing on promoting healthy ageing, however the information made publicly available regarding the evaluation of these programs is scant, and fails to provide advice on implementation and outcomes. There is an opportunity for governments and health organisations to work together in Australia to disseminate knowledge so that the current evidence base for healthy ageing can be expanded and shared. There is also an opportunity for evaluation to occur on existing programs that are currently running in settings where older people live. This review identified various programs targeting older adults that are currently being implemented but appear to have had no formal evaluation.

The next section provides a summary of the main gaps and issues identified in each topic by this review.

Management of health

In general, a low level of literacy and health literacy can mean poorer health outcomes and poorer use of health services, however there is little specific research on health literacy and older people. The baby boomer cohort is more likely to use the internet and technology for their health needs than earlier generations, so further research needs to take this into account, while acknowledging that older people with low health literacy are less likely than others to use the internet.

While there is evidence supporting the use of age-appropriate self-management programs for older people, the research usually relates to a specific illness, such as arthritis. There is a need for more research into self-management programs that support older people with multiple, long-term illnesses.

There is not yet significant research to support the use by health professionals of online health management strategies when working with older populations, though computerised support systems have been shown to improve medication prescribing and dispensing practices.

Healthier eating

The number of people who are overweight and obese now is likely to be a problem in the future as these people age, with risk of chronic disease, metabolic syndrome, cardiovascular disease and cognitive decline in later life.

Currently, disparity in access to safe and nutritious food (food security) exists between rural and urban communities and between socioeconomic groupings, and more research is needed in Australia to find out the best ways to change and alleviate this. There are also very few intervention programs for older adults targeting nutrition.

Food safety information and educational materials are now available online, which may give opportunities for learning with interactive computer technology; however the effectiveness of online education for food safety is debated in the literature. Food safety strategies should also include industry-led approaches to safer and more user-friendly packaging with solutions that can provide longer shelf-life and more suitable portion sizes.

Active living

There is a need for a comprehensive national physical activity plan. For older people, this should include enhancing existing physical activity guidelines to include information on supporting cognitive health and the addition of sedentary behaviour guidelines for older Australians.

There is limited information on best practices for physical activity programs for older people in rural and regional areas.

People receiving home care services and those in residential aged care facilities are largely sedentary. More work is required to remove barriers to physical activity and translate the evidence-based programs into real world settings.

There is limited high-quality evidence for the use of technology to support active living.

Tobacco-free living

Research suggests older adult smokers are not aware of their increased risk of illness and premature mortality. They are less likely to quit than younger people and are often unable to see the benefits of quitting later in life.

A recent meta-analysis of randomised control trials of smoking cessation interventions in older adults showed there is limited research pertaining to smoking cessation in older adults.

Reducing harmful alcohol and drug use

Substance abuse problems can be missed by health professionals pressed for time, concerned about the stigma and potential discomfort of assessing their patients for addiction, or lacking awareness that AOD problems affect older people. Additionally, some may believe it is too late for older people to change, or that there is no point so late in their lives. The symptoms of alcohol and drug misuse can also be similar to other age-related illnesses, increasing the chance that problems go unidentified. There is a need for further education of health professionals on identifying and treating AOD problems in older people.

Treatment strategies do not always differentiate between older people who have had problems with AOD for many years (early onset) and those who have recently developed problems (late onset). In addition, some older people may be embarrassed about having problems with alcohol or other drugs at their age, or may see it as a personal rather than health problem.

Expansion of treatment facilities and development of effective service programs will be required to address the emerging needs of the increasing number of ageing illicit drug users.

Improving mental health

There is clear evidence from the literature that specific programs are effective in improving mental health among older people. However, many of the programs are designed as short-term projects only. Many also do not include outcome evaluation in the design stage. Even when the evaluation was included in the project design, it tended to rely only on qualitative data and to focus on the immediate effect rather

than long term. Further studies need to consider including quantitative data and evaluating the program over a longer period of time.

One particular challenge for projects focusing on social isolation is that these projects often require a whole-of-community approach but it is methodologically challenging to recruit, deliver, and evaluate community-based programs. For example, it is often difficult to recruit an appropriate and representative sample of participants in community settings. To overcome these challenges, it is important to build partnerships with target communities, provide training and support to intervention staff, and use standardised data collection and intervention strategies.

Preventing violence and injury

Family violence and elder abuse

There is a need for more research on all aspects of elder abuse, from its prevalence to risk factors to the effectiveness of interventions. Little is known about the perpetrators of elder abuse, including their circumstances and motivations. Characteristics of perpetrators are usually only gleaned from information reported by the older person, and more work needs to be done to understand why adult–child relationships can result in conflict and abuse.

While community awareness and various interventions have been shown to be effective, there needs to be more evaluation of these programs to make sure they are informed by the latest and most comprehensive evidence. Research shows that a multidisciplinary approach (including legal with advocacy or support services) can effectively address both long and short-term causes of elder abuse, but it is not clear what specific combination of approaches best suits the different types of abuse.

Transport-related injury

Ways to reduce deaths and injuries of older people (particularly those over 75 years of age) caused by transport-related crashes need to be developed and their impact studied. There also needs to be more research into the transition from driving to the cessation of driving and the impact on health and wellbeing.

As the population ages, age-friendly communities become more prevalent, and transport itself changes, there will need to be further research. For example, changes to public transport will affect older people, and the impact of the expected increases in older cyclists will need further study.

A focus on community education of the risks for older pedestrians is needed. This needs to include those who may be concerned about their ability to walk in the community safely, drivers who need to recognise pedestrians as vulnerable road users, and transport designers and planners to review road and pathway infrastructure and shared use policies.

Further research into the prevention of injury and death related to older people using tractors and quad bikes on farms is required.

Falls prevention

There is a lack of research into differences in falls rates and falls risk factors in culturally and linguistically diverse populations, and little falls prevention research and information on resources specifically designed for Aboriginal people.

Further work needs to occur to fully understand the relationship between fear of falling and other fall-related psychological concerns and falls, and the implications for falls prevention programs.

There is little research into the differential effects of falls prevention programs in different cohorts, for example frailer older people or people recently discharged from hospital. There is also a lack of evidence on effective translation of research into practice at the population level.

Improving sexual health

There are few sexual health policies and programs specifically targeting heterosexual mid-life and older adults or sexual health education initiatives for older adults. To address this, there is a need for provision of information and support by health and community services, education for older people, public health campaigns, further research and data collection, and policy direction.

There is also little medical education about late-life sexuality or sexual expression and activity. Medical practitioners and health and aged care workers do not initiate sexual health conversations with their older patients and residents, and older adults wait for healthcare workers to initiate conversations about sexual health. There is a need for updated medical and health sector training on these issues.

There is a need to differentiate between sexual and reproductive health needs, particularly for women, as reproductive health is generally age-dependent, whereas sexuality and sexual health continues throughout the life course.

Age-friendly environments

There is evidence that programs focusing on enhancing environments to become age friendly can increase older people's health; however there is limited information on the effectiveness of specific approaches. Future age-friendly environment projects need to incorporate both process and outcome evaluations in the study design.

Current research relies mainly on cross-sectional data and there is a need for more longitudinal studies to provide more rigorous evidence. Most of the current research has focused on the urban setting and relatively few studies examined age-friendly environments for older people living in rural or remote areas. There is a need for more theoretically informed research to improve our understanding of the relationships between environments and health. There is also a need for better definition and measurement of various aspects of environments to enable results from different studies to be compared.

Participation

Specific programs supporting older people's participation in all aspects of community life have been shown to be beneficial; however there is less evidence available on the design and implementation of these programs. For some areas, such as programs for carers, there are limited programs focusing on the particular needs of older carers.

While workforce participation rates of older people have been increasing, there are still substantial barriers for many older people to remain in the workforce. Strategies to support workforce participation among older people should be tested, such as changing workplace culture and employer attitudes towards older workers, providing flexible employment arrangements (such as job sharing and working from home) and career pathways across the life course, and supporting people to plan for continuing participation in later life.

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