



Blueprint for an active Australia

Government and community actions to increase population levels of physical activity and reduce sedentary behaviour in Australia, 2014–2017

Second edition

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First edition 2009

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Foreword

It gives me great pleasure to introduce the second edition of the Heart Foundation's *Blueprint for an active Australia*. This publication is the result of the efforts of many academics and policy specialists in the field of physical activity. It presents an irrefutable and urgent case for change, summarising contemporary evidence in 13 different areas and providing detailed recommendations for urgent action.



Physical inactivity is a risk factor that contributes to Australia's growing and significant burden of chronic disease, including cardiovascular disease, yet it is a risk factor often overlooked in prevention efforts. The positive story of physical activity is its

therapeutic benefits to physical and mental health. This document should remind us all that sometimes the best medicine can be as simple as spending time being physically active.

Time is central to physical activity; the amount of time we allocate to physical activity is decreasing. Since 2001, the proportion and number of Australians doing very little or no exercise has continued to increase. This has been exacerbated by increasing time spent in sedentary activities, such as television viewing or time spent seated at work. The National Physical Activity and Sedentary Behaviour Guidelines recommend that an adult accumulate 150 to 300 minutes of moderate-intensity physical activity or 75 to 150 minutes of vigorous-intensity physical activity each week. The guidelines also recommend that the time spent in prolonged sitting be minimised and that long periods of sitting be broken up as frequently as possible. This edition of the Blueprint includes an action area that tackles sedentary behaviour in settings such as education, workplaces and aged-care services.

Our busy and highly mechanised lifestyles make avoiding prolonged sitting and finding time to participate in structured exercise more and more challenging. In recognising these challenges, *Blueprint for an active Australia* outlines a holistic approach to physical activity. Example initiatives found in the Blueprint include:

- built environment and planning reform to create spaces and places that promote walking and cycling
- incorporation of physical activity programs in schools, workplaces and aged-care settings
- the delivery of affordable and accessible evidence-based physical activity programs for the management and prevention of chronic disease
- increased support for sporting and active recreation clubs.

Overcoming the many barriers to physical activity requires a multi-sectorial response, led by governments and implemented at the community level. The action areas in this document provide a blueprint for change towards an Australia that better reflects the healthy, fit and outdoors-loving archetype so often portrayed as representing the culture of this country.

Mary Barry
Chief Executive Officer – National

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Introduction

The National Heart Foundation of Australia presents the second edition of the *Blueprint for an active Australia*, outlining the case for change towards a more physically active Australia. The evidence and interventions presented in the first edition have been expanded and updated. The second edition features new action areas, reflecting a growing evidence base that reinforces the need for urgent, coordinated and concerted action. Each of the featured action areas has been developed by leading academics, who have applied contemporary evidence and their specialist knowledge and expertise. The Heart Foundation is grateful for their generous contribution. A list of the authors can be found on page 3.

While each of the action areas targets a different area of research expertise, *Blueprint for an active Australia* has been informed by a shared commitment to increasing Australia's investment in preventative health, including physical activity, and to the delivery of this investment in a manner that benefits all Australians, including those experiencing disadvantage.



Physical activity – an investment for our future

Physical inactivity contributes to almost one-quarter of the burden of cardiovascular disease in Australia (24%). It is followed only by high blood pressure (42%) and high blood cholesterol levels (34%).¹

Despite our image of ourselves as an active nation, the data tells a different story. Australians are, in fact, a nation of couch dwellers, and physical activity levels in both adults and children are lower than those of most comparable nations. Eight in ten Australian children do not meet national guidelines of 60 minutes of physical activity per day, and eight in ten children exceed screen-time guidelines of two hours per day.² More than a third (36%) of Australians aged 15 and over do very little or no exercise at all. Since 2001, the proportion and number of Australians doing very little or no exercise has continued to increase.³

These low levels of physical activity will drive up chronic diseases, including heart disease, type 2 diabetes and some cancers. Physical activity deserves a central place in health policy due to its powerful and central role in preventing and managing chronic diseases. The good news is that investing in the evidence-based actions recommended in *Blueprint for an active Australia* will make an important difference. Physical activity is good medicine for our nation.

Participating in regular physical activity can reduce cardiovascular disease-related deaths by up to 35%. Large population studies have repeatedly demonstrated that higher rates and intensity of physical activity are associated with greater risk reduction.^{4,5}

If we think of physical activity as a medication and its adult dose as 30–60 minutes per day, there is scarcely anything else we could take daily that would provide such comprehensive

health benefits. Our daily dose of physical activity can significantly reduce the risk of Australia's leading killers: heart disease, type 2 diabetes and some cancers. Physical activity can also improve mental health.

Physical activity has no side effects, is accessible and has little or no cost. If indeed it were a drug, we would all be taking it.

The health effects of physical activity are compelling. However, the potency of physical activity as a policy investment for Australia extends far beyond health. Active living plays a key role in broader economic and social goals for our nation:

- Walking, cycling and public transport are affordable and sustainable solutions to traffic congestion.
- These same behaviours contribute to cleaner air and reduced carbon emissions and sustainable environments.
- Active neighbourhoods and cities are more liveable, with higher levels of social capital and community cohesion and lower levels of crime.
- In the context of an ageing community, physical activity enables older Australians to live more active lifestyles with reduced risk from disabling and costly chronic diseases.
- Fit and active workers are more productive, take fewer sick days and make a positive contribution to our economic wellbeing.

The policy context

Australia

Increasing physical activity across the Australian population is the responsibility of many parties, including individuals, families, communities, businesses, clubs and various

government departments and agencies. To achieve the coordinated effort necessary, **government leadership and investment is vital**. Policy priorities across sectors, and related funding decisions at the federal, state and local levels, can have a direct impact on opportunities to be active and on access to environments and facilities that enable active living. Coordination is vital as there is no single solution to increasing physical activity or sector that can do it on its own.

Federal leadership

The federal government has a key role in supporting strategic investments that enable delivery of physical activity policies and initiatives. National priorities among these are:

- developing a national physical activity policy and action plan
- securing and allocating sustainable funding
- supporting regular monitoring and robust evaluation
- funding and supporting physical activity research
- developing and regularly updating national physical activity and sedentariness guidelines for adults and children
- ensuring a process for securing high-level expert advice
- establishing a cross-sector committee for national leadership and physical activity policy coordination to provide advice on the development and implementation of national policies and actions; such a committee should be charged with the highest level of reporting and accounting (including to the Council of Australian Governments and related standing councils).



State and territory leadership

State and territory governments have a key role in supporting local strategic investment through relevant departments under their jurisdiction. State and territory departments of health, education, planning, transport and sport and recreation all have roles in enabling policy and programs to support physical activity in communities. Many of the actions recommended in this document are the responsibility of state and territory governments, including:

- health promotion programs and policies
- school physical education, sport and fitness
- walking, cycling and public transport investment
- urban planning codes and policies
- sport and recreation programs and services.

Local government

Local government is the closest tier of government to communities and has a vital role in physical activity service provision and in providing and maintaining physical activity infrastructure such as walking and cycling paths, sport and recreation facilities, parks and open space.

Global

The World Health Organization (WHO), in response to recommendations from the 2011 United Nations High-level Meeting on the Prevention and Control of Non-communicable Diseases, has agreed to a target to reduce physical inactivity across the world by 10% by 2025.⁶

The WHO has endorsed the Global Action Plan for the Prevention and Control of Non-communicable Diseases 2013–2025, in which it has identified proposed actions for member states. It calls for member states to:

- consider **establishing a multi-sectorial national committee or coalition** to provide leadership and coordinate national action for increasing physical activity
- develop policies and strategies with a focus on **actions across multiple settings**.

Additional global initiatives of significance include:

- the policy framework for national action on physical activity of the International Society for Physical Activity and Health
- the Toronto Charter for Physical Activity, a global call to action on physical activity, which provides a framework to:
 1. Implement a national policy and action plan
 2. Introduce policies that support physical activity
 3. Reorient services and funding to prioritise physical activity
 4. Develop partnerships for action.

Blueprint for an active Australia provides appropriate high-level Australian evidence and guidance regarding areas for investment that, when implemented with sufficient weight, can lead to increases in population levels of physical activity.

The case for increased investment in prevention

Australia appears to be performing poorly compared to other members of the Organisation for Economic Co-operation and Development (OECD) when it comes to government investment in public health. Australia's investment in prevention and public health is shrinking, ranking in the lowest third of the OECD nations, well behind New Zealand, which leads the way on 7% of total health expenditure, and Canada, second at 5.9%. In 2011–12, Australian governments spent just 1.7% of total healthcare spending on public health activities.⁷

The case for additional investment in physical activity programs and infrastructure is compelling. In 2008, physical inactivity cost the economy \$13.8 billion, with inactivity causing an estimated 16,000 premature deaths a year. Productivity loss due to physical inactivity was estimated at 1.8 working days per worker per year. Direct health costs were estimated to be \$719 million a year.⁸

In the United Kingdom, ill health related to physical inactivity was calculated to cost the country £900 million in one year alone (2006–07). This modelling identified the following costs: £542 million (heart disease), £158 million (type 2 diabetes), £117 million (stroke), £65 million (colorectal cancer) and £54 million (breast cancer). Total costs of physical inactivity in the UK have been estimated at £10 billion a year.⁹

And while the costs of physical inactivity are high, the return on investment in physical activity programs is impressive. Studies continue to back the case for investment in physical activity. A 2014 Auckland University study found that best-practice cycling policies for New Zealand's largest city could deliver returns 24 times higher than initial investments.¹⁰ *Making the case for walking*, published in 2011 by the British charity Living Streets, found that 'all the evidence reviewed

of evaluations of walking environments showed positive cost benefit ratios, of up to 37.6'.¹¹

A 2011 review of 18 separate economic analyses of physical activity programs (including exercise classes, workplace counselling, walking and fitness programs) across seven countries (including Australia and New Zealand), published between 1982 and 2008, concluded that, while difficult to compare, 'most of the reviewed studies deduce that the investigated intervention is good value for money compared with alternatives or even cost saving'.¹²

In the USA, an evaluation was conducted on the Federal Highway Administration active mobility pilot program in four communities. It revealed that, with investment of US\$88 million, some 137 million vehicle kilometres were avoided between 2009 and 2013. The number of walking trips increased by 23%, while the number of bicycle trips increased by 48%. Reduced economic costs of mortality from bicycling alone were put at US\$46 million in 2013. Petrol savings were estimated at 13.6 million litres. Air pollution was also significantly decreased.¹³



Writing in *The Lancet* in 2012, Chi Pang Wen and Xifeng Wu noted that physical inactivity burdens society through the hidden and growing cost of medical care and loss of productivity. The mortality burden caused by inactivity is, they said, as large as tobacco smoking. And while exercise has been called a miracle drug that can substantially extend the lifespan, 'it receives little respect from doctors or society'.¹⁴

The Heart Foundation believes that all Australian governments must invest more in initiatives that promote physical activity and that investment must be proportional to the burden of disease attributable to an inactive and sedentary society.

The case for reducing the 'participation gap'

Health is not evenly distributed in Australia. Australians with the lowest household incomes die, on average, six years earlier than those with the highest incomes.¹⁵ In fact, for almost every health indicator, people of lower socioeconomic position fare worse than those of higher socioeconomic position. Physical activity participation rates are no different. Low participation rates are associated with lower socioeconomic status, remoteness and Aboriginality.^{16,17}

These health inequities don't happen by accident. They are systematic, avoidable and unfair.^{18,19} They arise because of unequal access to the conditions needed for health, such as a basic education, a secure income, adequate housing, good neighbourhood design, accessible transport and a supportive social network.²⁰ These conditions are often governed by prevailing social and economic policies and are amenable to change.

While individuals are responsible for their own health, it isn't right when these conditions restrict a person's opportunity to be healthy. 'It has been suggested that socioeconomic factors have the largest impact on health, accounting for up to 40% of all influences compared with health behaviours (30%), clinical care (20%) and the physical environment (10%)'.²¹ Strategies are required to change systems and empower people,²² as demonstrated in each of the following action areas. The level of effort and investment must be proportionate to need.^{19,23}

In line with the WHO's call to eradicate health inequities in a generation, this blueprint for action on physical activity promotes concerted action to reduce the physical activity 'participation gap' within Australia.²⁴



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Executive summary

The second edition of *Blueprint for an active Australia* contains 13 action areas; they each contribute to the central objective of increasing the amount of time that people in Australia spend in physically active pursuits.

This is an objective worth pursuing; as stated in **Physical activity – an investment for our future** (pages 4–5), if physical activity was a medication, an adult dose of 30–60 minutes per day would provide significant health benefits. Unfortunately, inadequate physical activity and sedentary behaviour contributes significantly to Australia's burden of disease and overall health costs. **The case for increased investment in prevention** (pages 7–8) reminds us that, in 2008 alone, the

cost of physical inactivity in Australia was \$13.8 billion. This blueprint calls for change, raising the concerning fact that investment in preventative health is rapidly declining, with Australia's spending now ranked in the lowest third of the 34 countries in the Organisation for Economic Co-operation and Development.

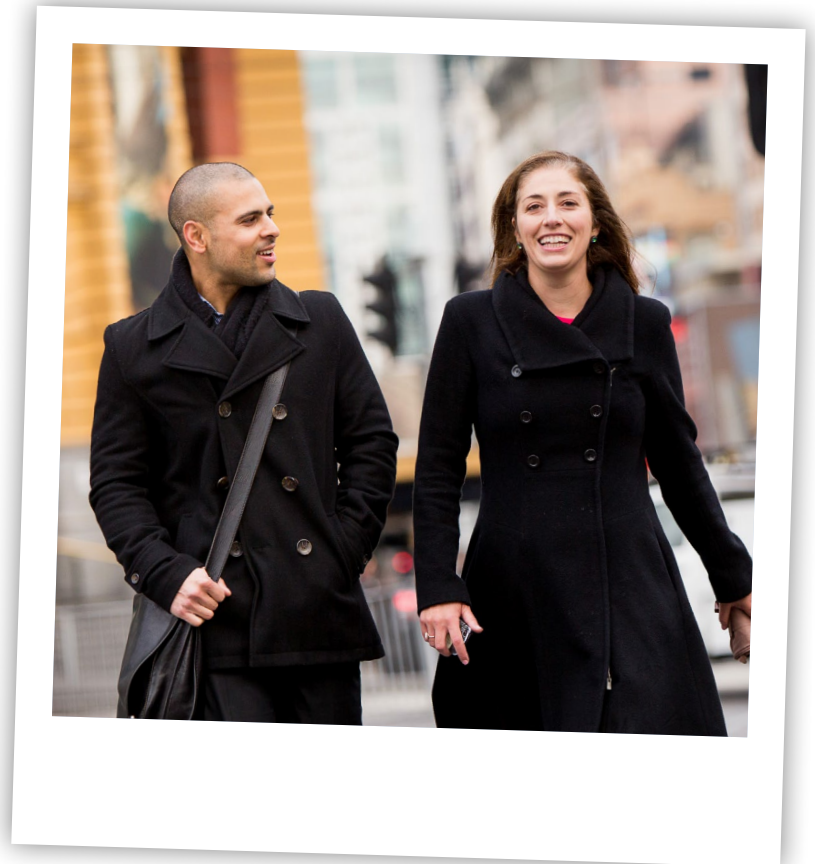
The choices we make about our health are affected by our age, our physical and mental health, by the circumstances and the locations in

which we live, our families, our work and our education. The amount of physical activity that we achieve is not immune to these influences. **The case for reducing the ‘participation gap’** (page 8) is a timely reminder that people experiencing socioeconomic and other forms of disadvantage are less likely to participate in physical activity. Low physical activity participation rates are associated with lower socioeconomic status, remoteness and Aboriginality. This document recommends many approaches to overcome barriers to physical activity and identifies opportunities and incentives to increase participation.

The recommended initiatives contained in the action areas represent an investment in improving the health of Australians and contributing to

reducing the global burden of non-communicable diseases. The World Health Organization has committed to reducing physical inactivity across the world by 10% in the next ten years. To achieve this target, member states, including Australia, are being encouraged to establish a multi-sectorial national committee or coalition to provide necessary leadership and coordination.

The policy context (pages 5–7) demonstrates that investment and leadership by the Australian government is vital. There are roles and activities throughout the Blueprint for each level of government and for the non-government, business and community sectors.



The 13 action areas share a similar format, each exploring the case for change under the heading ‘Why is this important?’, followed by the presentation of recommended initiatives and approaches in ‘What must be done’. The action areas are:

Action area 1

Built environments (page 14) explores how the neighbourhood context permeates our lives, from childhood to older age. Community and neighbourhood design impacts on how frequently we walk, cycle or use public transport and also on our participation in recreational walking and physical activity.

Action area 2

Workplaces (page 20) discusses how to create healthy workplaces through initiatives such as better workspace design, progressive occupational health and safety approaches and workplace physical activity programs.

Action area 3

Health care (page 26) presents the case for integrating physical activity into chronic disease treatment and risk-reduction strategies used by general practitioners and other primary-care staff.

Action area 4

Active travel (page 32) recommends reprioritising transport and urban planning to reduce car dependency and increase the opportunities to ride, walk or use public transport.

Action area 5

Prolonged sitting (sedentary behaviour) (page 38) examines how prolonged periods of sitting occur in many settings – in schools, in workplaces, at home in front of the television or other screen-based devices, and during travel – and recommends interventions to reduce the overall amount of time that is spent sitting.

Action area 6

Sport and active recreation (page 44) highlights that participation in sport and active recreation offers social, developmental and health benefits across all age and population groups.

Action area 7

Disadvantaged populations (page 50) explores barriers and the actions needed to overcome them in disadvantaged populations. People who are socioeconomically and geographically disadvantaged experience unacceptable levels of health inequities.

Action area 8

Aboriginal and Torres Strait Islander peoples (page 56) explores the delivery of culturally suitable and accessible physical activity programs to promote higher levels of participation among Aboriginal and Torres Strait Islander peoples.

Action area 9

Children and adolescents (page 60) discusses the inadequate rates of physical activity participation among children and adolescents; highlights the numerous physical, developmental and social benefits of participation; and recommends actions to increase participation levels.

Action area 10

Older people (page 66) reminds us that sustaining, and even increasing, physical activity as we age benefits mental and physical health, and recommends interventions that can be implemented, taking into account different physical capacities.

Action area 11

Financial measures (page 72) acknowledges that economic measures will influence the choices people make and details useful incentives to increase rates of active travel and physical activity.

Action area 12

Mass-media strategy (page 78) covers the role of mass-media strategies in increasing people's awareness and motivation to increase their rates of physical activity. This action area recognises that media, including social media, is part of our daily lives and is an essential component in increasing Australia's rate of physical activity participation.

Action area 13

Research and program evaluation (page 82) outlines the types of research and evaluation required to monitor, measure and guide the multi-level interventions featured in the Blueprint. It explores general themes in evaluation, monitoring and research rather than individual study areas.



Action area 1 – Built environments

Create built environments that
support active living

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Why is this important?

Reshaping the built environments in which most Australians live, work, learn and recreate can significantly increase daily physical activity levels. Community and neighbourhood design impacts on local walking, cycling and public transport use, as well as on recreational walking and physical activity.

Consider the case for change:

- For decades, concern has been growing about the unsustainability of post–World War II planning principles adopted in Australia, with segregated land use, disconnected streets, low residential density, limited local employment opportunities and public transport, and high motor vehicle dependency.¹
- Higher levels of walking for transport are found in ‘walkable’ neighbourhoods, with higher-density mixed-use zoning, connected street networks and access to public transport,^{2–6} and a balance of jobs to housing.⁶ Creating pedestrian-friendly streets has also been shown to be good for supporting local economies.⁷
- Recreational walking is associated with the presence, proximity and quality of green space and the aesthetics of streets.²
- Providing diverse housing in walkable environments can help older adults to ‘age in place’. Safe neighbourhoods with connected street networks and local shops, services and recreational facilities are associated with more walking in older adults, and may protect against a decline in physical activity over time.^{8–11}
- Emerging evidence suggests that urban sprawl is also associated with coronary heart disease in women;¹² living in more walkable neighbourhoods is associated with lower cardiovascular disease risk factors such as obesity and type 2 diabetes mellitus (men only).¹³
- Creating walkable neighbourhoods in disadvantaged areas may help reduce inequalities in chronic disease.¹⁴
- Children are more likely to be physically active in more walkable neighbourhoods with access to recreation facilities close by,¹⁵ and to walk to school in neighbourhoods with connected street networks but low traffic speeds and volume.¹⁶ In adolescents, physical activity is associated with higher land-use mix and residential density.¹⁵ Having access to a range of local recreational destinations also appears to limit sedentary behaviour in young people.¹⁷
- Emerging evidence suggests that fear of crime can restrict adults’ walking¹⁸ and their children’s independent mobility.¹⁹
- There appears to be growing consumer demand for more walkable neighbourhoods.²⁰



What must be done?

To reshape communities and neighbourhoods, leadership and action is required at all three tiers of government and can be supported by businesses and professionals, particularly developers, architects and engineers, who also have a role to play by adopting healthy planning and design. The following interventions are recommended to enable more active and liveable environments.

Implement policies that create communities and neighbourhoods that support active living:

- appoint a federal minister responsible for major cities and urban development; this portfolio should provide policy leadership on major cities, urban development and transport planning that embeds principles of active living
- provide federal funding to improve public transport infrastructure
- provide federal funding to local government to maintain and enhance community infrastructure that promotes physical activity
- implement integrated urban planning strategies in each state and territory that are overseen by the premier's office and embed principles of healthy living and sustainability
- integrate urban, transport and infrastructure planning to achieve compact, liveable neighbourhoods serviced by public transport, walking and cycling and other social infrastructure
- prioritise infrastructure investment in walking, cycling and public transport projects; allocate resources firstly to underserved neighbourhoods such as those on the urban fringe
- integrate healthy planning principles and active-living design codes in urban planning, design and development policies and regulations
- develop open-space policies, standards and planning codes that ensure residents have access to a range of open spaces for both active and passive recreation within walking distance, accessible by pedestrian-friendly routes
- require health-impact assessments to be undertaken on larger-scale urban and transport planning developments and policies
- introduce financial incentives to promote cycling and demand measures to restrict parking and motor vehicle use to reduce congestion and to encourage people to walk and cycle more frequently
- reduce posted street speeds in local streets to 30km/h to increase safety for cyclists and pedestrians, and to create a more welcoming environment for children²¹
- introduce minimum net-density thresholds in suburban developments to create compact mixed-use neighbourhoods that promote pedestrian- and

bicycle-friendly environments and reduce car dependency, as well as increase the viability and accessibility of local businesses, public transport and local amenities

- ensure high-density development is co-located with public transport, shops and services and increased access to high-quality public open space.

Plan, develop and retrofit neighbourhoods to include the following features:

- mixed land use – provide local access to a mix of shops, schools, parks and services
- higher densities – increase density in outer suburban areas to support access to local infrastructure and public transport that encourages more walking and cycling, and around activity centres and public transport hubs to encourage public transport access, walking and cycling
- transportation systems that prioritise walking, cycling and public transport – prioritise pedestrians and cyclists over motorists through provision of connected networks of footpaths, on-road and off-road cycle paths, traffic calming and safe road-crossing points, and access to affordable and frequent public transport services
- end-use facilities that promote active transport – increase access to facilities such as bicycle parking and showers in workplaces, public buildings, shopping centres and schools to facilitate active travel
- urban design – design neighbourhoods with high levels of street connectivity, diverse lot sizes and dwelling types, access to amenities and increased natural surveillance
- careful siting of key facilities – site schools and retirement housing within connected street networks with low traffic volumes and, in the case of retirement housing, high levels of access to shops and services
- personal safety – enhance natural surveillance of streets and public open spaces from adjacent houses and businesses
- public open space – provide access to a hierarchy of high-quality public open spaces suitable for multiple user groups across the life course; design to enhance safety (natural surveillance from adjacent houses and business) and provide amenities to meet the needs of different user groups.



Implement social and community interventions that support the creation of healthier neighbourhoods:

- develop, implement and evaluate tools and educational strategies that target built environment professionals to embed active-living principles into their practice
- promptly remove litter and graffiti and repair damage through vandalism to enhance perceptions of safety.



Help individuals contribute to creating and choosing active neighbourhoods and communities:

- implement social marketing and advocacy initiatives to mobilise individuals to demand healthier neighbourhoods
- educate consumers about the availability and importance of using neighbourhood walkability and other active-living tools when deciding where to live
- introduce a health-related liveability index for new developments to assist consumers to make informed choices when purchasing property.

See also Action area 4 – Active travel

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Action area 2 – Workplaces

Promote physical activity before,
during and after work

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Why is this important?

Physical activity in the workplace has diminished dramatically over the past five decades,¹ reflecting the rapid increase in computerisation of work. This has led to prolonged sitting, particularly in office and administrative work. Computerisation and mechanisation has also had a negative impact on physical activity in industries such as agriculture, transport and manufacturing, with technology leading to a significant reduction in manual labour.

Consider the case for change:

- Over 11 million Australians² spend an average of eight hours per day in workplaces.
- On average, more than two-thirds of the office workday is spent sedentary, with much of this sedentary time accumulated in prolonged, unbroken bouts of 30 minutes or more^{3,4} – a sitting pattern that is particularly detrimental to health.⁵
- There are both long-term and short-term impacts of too much sitting at work, including increased risk of overweight or obesity, type 2 diabetes, cardiovascular disease and premature mortality,⁶ an increased number of musculoskeletal conditions^{7,8} and eye strain.⁹
- There are economic implications associated with these conditions: long-term health conditions such as type 2 diabetes, cardiovascular disease and musculoskeletal disorders contribute substantially to health expenditure in Australia (estimated to be >\$11 billion).¹⁰
- The workplace is increasingly being recognised (nationally and internationally) as a priority high-reach setting for health behaviour interventions,^{11,12} extending from a labour-based approach to a public health 'healthy workers' approach.¹³
- There is evidence to support the effectiveness of workplace physical activity interventions for improving both health and worksite outcomes, including physical activity behaviour, fitness, body mass index, productivity, work attendance, and job stress.¹⁴ There is also some evidence that these physical activity interventions may reduce sitting time at work.¹⁵
- In general, a physically active workforce can improve physical and mental health, reduce absenteeism and increase productivity, thereby providing important benefits to individuals and workplaces.^{16–18} Workplaces should see the implementation of physical activity programs as a strategic business-enhancement opportunity.



What must be done?

The workplace is an important setting for implementing interventions designed to increase levels of physical activity. These interventions should be multifaceted, addressing individual behaviour-change techniques, mass-reach approaches (electronic and print media) and social support strategies, along with organisational, policy and physical environment initiatives. Interventions to decrease sitting and increase active travel within the workplace have been shown to have minimal negative effect on working tasks.¹⁷ The following multifaceted interventions will support healthier, more active and more productive workplaces.

Implement workplace policies that support physical activity:

- implement policies that encourage and support active commuting (see *Action area 4 – Active travel*)¹⁹
- implement workplace active travel policies that provide incentives for staff to use alternative forms of transport to attend meetings (e.g. free bicycles, prepaid public transport cards) and reduce incentives to use private motor vehicles or taxis
- integrate physical activity measures into occupational health and safety (OHS) policies and meetings; include reducing sedentary behaviour as an objective of the OHS committee
- develop and use audits or checklists to assess the degree to which the workplace is 'activity-permissive'.

Plan, develop and retrofit workplace environments to promote physical activity:

- display point-of-decision prompts that encourage people to use stairs instead of a lift wherever possible as a low-cost and effective intervention²⁰
- build walking tracks outside the company or a 'red-line' route to promote lunchtime walking, and provide exercise equipment and space
- provide facilities (such as showers, lockers and secure cycle racks) in the workplace to increase active transport and physical activity levels²¹
- provide appropriate onsite physical activity facilities in the workplace, as well as subsidised access to external exercise, fitness, sports clubs and facilities
- create an activity-permissive environment, including elements such as height-adjustable workstations,²² standing tables in meeting rooms and communal areas, access to safe stairs and centralised bins and printers.

Implement social and community interventions to promote physical activity before, during and after work:

- provide physical activity opportunities during work breaks, including programs such as regular lunchtime walking groups²³
- provide equitable access to programs for people with disabilities
- gain upper-management support and identify champions to serve

as role models or spokespersons and model behaviour such as promoting standing breaks and participation in physical activity programs

- provide incentives for staff to use alternative forms of transport to attend meetings (e.g. free bicycles) and reduce incentives to use private motor vehicles or taxis.

Assist individuals to understand the benefits of being more active before, during and after work:

- distribute information and provide education about physical activity benefits and physical activity opportunities and programs
- promote the use of stairs and other physical activity facilities within or near the workplace
- communicate the effects of prolonged sitting on health; use software programs to promote standing and screen breaks
- use smartphone technology and social media to prompt participation in organised or unstructured work breaks and physical activity programs
- promote the use of active travel for commuting (for all or part of the journey)
- engage in local promotional activities such as TravelSmart Workplace programs.



See also Action area 4 – Active travel; Action area 5 – Prolonged sitting (sedentary behaviour)

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Action area 3 – Health care

Develop healthcare systems that promote and support physical activity participation

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Why is this important?

The primary-care sector – which includes general practitioners, Aboriginal health workers and allied health professionals – delivers the vast majority of health care in Australia,¹ reaching all ages and most population groups. Around 82% of the Australian population attends a general practice at least once a year.² This sizeable sector of our healthcare system is considered by most a credible source of health advice,³ and many studies suggest that the sector can offer valued encouragement and support for physical activity.^{4–6} There is a strong case for enabling the primary-care sector to fulfil its potential as a gateway to increasing physical activity levels.

Consider the case for change:

- Promotion of physical activity at the primary-care level has a role to play in reducing the risk of developing chronic disease or managing existing chronic health conditions.
- There is a range of approaches to physical activity promotion within the healthcare setting. Common approaches include brief advice and/or counselling, referral to structured exercise programs and provision of information and printed resources.
- Strategies for promoting physical activity can involve a range of health professionals including general practitioners, practice nurses, community nurses, Aboriginal health workers and other allied health professionals.
- Primary-care-based interventions solely targeting physical activity – as well as those delivered in combination with interventions for other risk factors such as diet, smoking and alcohol – have been found to be effective.⁷
- Most interventions to promote physical activity in the primary-care setting are cost-effective.⁸
- For people with chronic conditions such as coronary heart disease, diabetes, osteoporosis, arthritis and cancer, the healthcare setting is an important vehicle for promoting physical activity.
- Although physical activity promotion through primary health services has traditionally targeted adults, research suggests that this may be an appropriate and effective setting for promoting physical activity among other population groups including children⁹ and older adults.⁷





What must be done?

The primary-care sector has frequent contact with people of all ages and from all cultural and socioeconomic population groups. These interactions should be better used to increase the rate of physical activity participation. The following interventions are required to support the sector to fulfil its potential as a gateway to promotion of physical activity.

Implement policies that support the integration of physical activity into the primary-care sector's disease prevention and management strategies:

- integrate physical activity and chronic disease prevention into the standard training packages available to health professionals; this training should include information on the health benefits of physical activity; screening patients for physical activity, counselling and risk stratification; and exercise 'prescription'
- develop simplified guidelines and protocols for integrating physical activity assessment and promotion in the healthcare setting, including screening for physical activity in all health checks, including those for children, adults, older adults and Aboriginal and Torres Strait Islander populations
- develop policies and guidelines for integrating physical activity into chronic-disease care plans and risk-reduction strategies; associated referral, counselling and follow-up support should be appropriately funded through

adjustments to primary-care funding mechanisms such as the Medicare Benefits Scheme and/or Practice Incentive Payment program

- expand Medicare Benefits Scheme eligibility to allied health practitioners, practice nurses and Aboriginal health workers to cover the delivery of counselling and referral to physical activity programs
- federal government to invest in the delivery of accessible and affordable evidence-based physical activity programs; these services to be made available through primary-care referral for people who are at risk of or have a chronic condition
- consider the use of incentives for primary healthcare practitioners to integrate physical activity into routine protocols
- incorporate the promotion of physical activity in the healthcare setting with other national health promotion initiatives to help to support greater awareness among the general public of the physical-activity-related services available through the healthcare system.

Implement interventions in healthcare services to increase physical activity rates among practice populations:

- provide information and training for primary-care practitioners on physical activity promotion:
 - all healthcare practitioners should undertake training on the role of physical activity in preventing and treating a range of health conditions

- develop and disseminate clear standardised protocols for the routine promotion of physical activity in the primary-care setting
 - determine effective ways to use the range of primary healthcare staff, including general practitioners, practice nurses, community nurses and other allied health professionals
 - ensure physical activity assessment and promotion is an integral component of all health checks, including those for children, adults, older adults and Indigenous populations
 - incorporate physical activity into the management plans and care plans for all patients with long-term conditions
 - develop feasible protocols and practice-level systems for providing follow-up support to patients related to physical activity
- ensure provision of affordable, safe and evidence-based physical activity programs and opportunities
 - health professionals should be provided with information on local opportunities to be physically active
 - ensure that appropriate and supervised activities are available for high-risk patients who might need specialist advice and supervision while exercising; for example, through programs such as Heart Moves
 - improved links between healthcare and physical activity providers should be developed so that patients are provided with opportunities that are well-matched to their interests, as well as their needs
- ensure robust elevation of physical activity initiatives in the primary-care setting
 - physical-activity-related interventions should incorporate a minimum standard of monitoring and evaluation to support an assessment of effectiveness and cost-effectiveness.



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Action area 4 – Active travel

Encourage more walking, cycling
and public transport use

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Why is this important?

Walking and cycling for recreation and transport, and greater use of public transport, is good for health, the environment and the economy. Many Australians struggle to find the time to participate in physical activity. Active travel is an efficient means of incorporating physical activity into our daily lives of commuting, working, learning and socialising.

Past and present policies and practices promote the development of car-oriented built environments and car use, limiting the potential for healthier active transport.

Consider the case for change:

- Physical activity, including walking and cycling, plays an important role in reducing the risk of cardiovascular and other chronic diseases and brings with it a wide variety of benefits for physical and mental health, as well as social and community health.¹⁻²
- Co-benefits of increasing walking, cycling and public transport use include:
 - health outcomes
 - sustainability through reducing motor vehicle dependence, air and noise pollution, greenhouse gases, energy use and sprawl
 - economic impacts such as reduced cost of passenger transport and infrastructure
 - improved traffic management, including reduced congestion
 - community impacts such as reducing the loss of social connections in communities and road rage, and increasing public safety
- greater equity, including improving transport choices for disadvantaged or vulnerable groups.³⁻⁶
- In the last four decades, there has been a rapid decline in the number of children walking or cycling to school⁷⁻⁹ and few adults participate in walking or cycling as a mode of transport.¹⁰
- Observational studies have consistently shown that children who walk or cycle to school engage in more physical activity than those who travel by other means.¹¹⁻¹² Commuters who use public transport engage in more physical activity than car drivers.¹³ For example, public transport users in Melbourne achieve over 40 minutes of incidental exercise a day, compared with less than 10 minutes for car users.¹⁴ The odds of achieving 10,000 steps per day were 3.55 times higher in a study of university students who commuted by public transport, compared with drivers.¹⁵ One study found that women who increased their walking distance and speed lowered their risk of cardiovascular disease, type 2 diabetes and all-cause mortality.¹⁶
- There is now strong evidence that the way we build cities, communities and neighbourhoods affects the travel behaviour choices of both adults^{3,5,17-18} and children,¹⁹ and the safety of vulnerable road users.²⁰



What must be done?

Combinations of interventions are required to effectively promote walking and cycling to increase the activity levels of sedentary people, including the provision of safe travel environments. These interventions require action at all three tiers of government and can be supported by business and professionals, particularly urban planners, developers, transport planners, engineers and building designers. Workplaces and schools are also ideally placed to promote active travel options to staff and students.

The following interventions are recommended to support the integration of active travel into the daily lives of people in Australia.

Implement policies that facilitate an increase in the availability and uptake of active travel modes:

- federal government to appoint a minister responsible for major cities and urban development; this portfolio should provide policy leadership on major cities, urban development and transport planning that embeds principles of healthy living and sustainability
- state governments to produce and implement integrated land-use strategies that are overseen by the premier's office and embed principles of healthy living and sustainability
- provide federal funding to improve public transport infrastructure
- improve the integration of land-use, transport and infrastructure
- planning to achieve compact, liveable neighbourhoods that are served by public transport, walking and cycling infrastructure and other social infrastructure
- reorient transport policy, planning and funding to prioritise investment in walking, cycling and public transport infrastructure; allocate resources proportionally to need, concentrating initially on underserved areas, including developments on the urban fringe
- ensure that federal transport infrastructure funding and policy mechanisms resource public transport projects and cost road projects in accordance with the total cost to community, taking into account congestion, pollution and health-related impacts (pricing of road use and other financial measures²¹ are explored further in *Action area 11 – Financial measures*)
- restrict motor vehicle access and the availability of parking at town centres, universities, airports and other highly congested environments by implementing congestion pricing or other comparable pricing schemes and by providing high-quality public transport access; reclaim streets in these locations for public transport, designated pedestrian areas and shared space
- include walking and cycling infrastructure as part of all government-funded urban transport projects
- require health-impact assessments to be undertaken on

- larger-scale urban and transport planning developments and policies
 - integrate health-planning principles and active-living design codes in urban planning, design and development policies and regulations
 - reduce posted street speeds in local streets to 30km/h to increase safety for cyclists and pedestrians, and to create a more welcoming environment for children²²
 - introduce minimum net-density thresholds for the development of compact mixed-use neighbourhoods that promote pedestrian- and bicycle-friendly environments and reduce car dependency
 - introduce minimum net-density thresholds for suburban developments to create compact mixed-use neighbourhoods that promote pedestrian- and bicycle-friendly environments and reduce car dependency, as well as increase the viability and accessibility of local businesses, public transport and local amenities; offset high-density developments with increased access to public open space.
 - improve the coverage, frequency and operating hours of public transport and make more effective use of existing assets, including through the restructuring of the public transport network
 - increase the accessibility of public transport by improving pedestrian and bicycle access and networks around stations
 - integrate cycling and public transport by increasing storage options for cyclists at public transport stations
 - connect major public transport, shopping and employment centres, schools and universities to separated cycling infrastructure
 - ensure that schools are sited in neighbourhoods with connected street networks and low levels of traffic exposure, and have catchment sizes designed to encourage active travel²³
 - provide shower facilities and cycling infrastructure in all workplaces (e.g. include shower facilities in all disability-access toilets and bicycle parking in front of and in car parks of buildings)
 - increase the segregation of cyclists from motor vehicles, on separate bicycle paths or on protected bicycle lanes, except in very low speed environments
 - provide end-of-trip cycling infrastructure, such as safe cycle-parking facilities and lockers at workplaces, schools, universities, public transport hubs, shopping centres and public facilities such as libraries and community centres
- Plan, develop and retrofit the built environment to support active travel:**
- provide for supportive active transport infrastructure such as footpaths and cycle paths, bicycle-parking facilities, shade and way-showing signage, as well as public toilets, seating and other amenities in key activity centres

- introduce designated car drop-off zones linked by safe walking routes 500 metres from schools to reduce traffic danger at school gates and encourage physical activity.

Implement social and community interventions that promote active travel:

- support improvements to Australia's public bicycle hire schemes, including easier access and integration with public transport ticketing
- subsidise the cost of public transport, especially for people living in outer metropolitan areas
- enable bicycles to be taken aboard trains and buses where appropriate
- invest in active school travel programs to encourage more walking and cycling to school
- encourage independent mobility for older children including:
 - a school coordinator who promotes and enables active travel
 - regular mass participation events such as 'walking, wheeling Wednesdays'
 - safe routes to school, with mapped routes and safer crossings
 - road safety and bicycle education programs
- reduce car-parking subsidies in workplaces and use this funding to support subsidised public transport programs for employees
- provide incentives for staff to use alternative forms of transport to attend meetings (e.g. free bicycles, prepaid public transport cards) and, where possible, reduce incentives to use private motor vehicles or taxis
- limit the parking available for staff who live close to their workplace.

Support individuals to understand and advocate for the benefits of active travel:

- support and promote walking programs that target key groups including seniors; raise awareness of the value of walking
- implement social marketing and advocacy initiatives to mobilise community members to demand more active transport investment and healthier communities and neighbourhoods
- increase driver awareness of cyclists and ensure legal liability regimes place an appropriate responsibility upon car drivers in the event of a crash
- conduct localised promotional activities such as workplace travel behaviour-change programs
- educate consumers about the availability and importance of using walkability and other active-living tools when deciding where to live.

See also Action area 1 – Built environments; Action area 9 – Children and adolescents; Action area 11 – Financial measures

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Action area 5 – Prolonged sitting (sedentary behaviour)

Promote opportunities and approaches to reduced prolonged sitting

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Suggested citation

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Why is this important?

Sitting is one of the most common physical human behaviours and, for many Australians, this is the position in which they spend much of their everyday life.¹

Sitting time (sedentary behaviour), as distinct from too little exercise or physical activity, is now being recognised as a population-wide, ever-present health risk, manifested in children, adults and older people.² Even for those people who meet the public health recommendation (for adults, 30 minutes of moderate exercise on most days each week), there are adverse metabolic consequences for people who sit for seven to ten hours or more each day.³ The Physical Activity and Sedentary Behaviour Guidelines published by the Australian Government's Department of Health now contains explicit messages relating to sitting time that are specific to age groupings, advocating that, to reduce health risks, 'minimise the amount of time spent in prolonged sitting' and 'break up long periods of sitting as often as possible'.⁴

Consider the case for change:

- There are both long-term and short-term impacts of too much sitting. These include increased risk of overweight or obesity, type 2 diabetes, cardiovascular disease and premature mortality,^{5,6} an increased number of musculoskeletal conditions^{7,8} and eye strain.⁹
- There are economic implications associated with these conditions: long-term health conditions such as type 2 diabetes, cardiovascular disease and musculoskeletal disorders contribute substantially to health expenditure in Australia (estimated to be >\$11 billion).¹⁰
- Children and adolescents spend approximately 64% of the whole day and 60% of the school day sitting, yet the National Physical Activity and Sedentary Behaviour Guidelines recommend that children 'not be sedentary, restrained or kept inactive for more than 1 hour at a time during waking hours'.^{11,12}
- Sedentary time increases most during the transition from primary school to high school, and older adolescents are the second-most sedentary group in the population after older people.¹³
- In young people, particularly overweight and obese children or those at increased risk of poor cardiovascular health, sedentary time has been shown to be adversely associated





with cardiorespiratory fitness,¹⁴ adiposity,¹⁵ insulin sensitivity¹⁶ and HDL cholesterol,¹⁷ after accounting for participation in moderate-to-vigorous physical activity during leisure time.

- On average, Australian adults sit for nearly nine hours per day. A considerable proportion of the time spent sitting throughout the day is accrued in bouts of 30 minutes or more (prolonged sitting).¹⁸
- High levels of sitting time (>8 hours per day) have been linked to several adverse health outcomes, including type 2 diabetes, cardiovascular disease and premature death.¹⁹
- People may meet the physical activity guidelines (≥150 minutes of moderate-to-vigorous intensity physical activity per week) and yet sit for many hours each day.
- Evidence suggests that the potentially harmful effects of sitting may only be partially mitigated in adults who are physically active or who exercise during leisure time.¹⁹

- New evidence suggests that, no matter what the total sitting time is, regular interruptions from sitting (even as little as standing up) may help to reduce risk factors for developing coronary heart disease and diabetes.²⁰
- Particular sedentary behaviours occur commonly in a variety of settings (sedentary behavioural settings): television viewing and other recreational screen time (i.e. computer use) in domestic environments; classrooms and workplaces, which require prolonged sitting in environments that are increasingly screen-based; and prolonged sitting time in transportation.^{21,22}
- Time spent sitting in different sedentary behaviour settings (domestic, school, workplace, transportation, aged care) is likely to have distinct determinants; as such, behaviours will be shaped by the attributes of the settings in which they occur and the social frame around such settings.^{21,22}
- Emerging evidence from recent intervention studies indicates that it is feasible to reduce television viewing time in overweight and obese adults²³ and to reduce adults' sitting time in some settings (e.g. office-based workplaces,²⁴ aged-care and retirement facilities).²⁵



What must be done?

Sitting time can be highly contextually driven and often is dictated by the setting in which it occurs. Sitting occurs across the key domains of workplace, school, childcare, aged-care, transportation and domestic settings. Accordingly, initiatives to reduce sitting are likely to be most effective when implemented with attention to individual behaviour and environmental and organisational drivers. Importantly, such setting-based approaches have strong potential for rapid, scalable and potentially sustainable changes in sitting time.^{21,22} The following interventions are recommended to support these changes.

Implement policies that reduce the amount of time people spend sitting:

- develop evidence-based policies for use in schools, workplaces, aged services and other settings to guide the reduction of prolonged and total sitting time
- change education curricula to integrate movement into traditional academic areas²⁶
- integrate reduction of sitting time and sedentary behaviour into national policies and guidelines on physical activity and chronic disease prevention with reference to best-practice frameworks (e.g. WHO Workplace Health Promotion Framework)²⁷ that attend to the organisational, individual and environmental drivers of prolonged sitting
- develop workplace policies that encourage and support

regular changes between sitting and standing postures, as well as facilitating incidental movement throughout the day: for example, 'stand up, sit less, move more, more often'

- establish best-practice frameworks and supporting materials for organisations seeking to adopt changes that target reductions in workplace sitting time.

Plan, develop and retrofit environments to discourage sitting:

- design workplace, institutional and educational environments that are activity-permissive
- provide both sitting and standing options in environments with which individuals interact on a daily basis: for example, transportation, work and domestic settings; this includes providing height-adjustable desks and workstations.

Implement social and community interventions that reduce sitting:

- to reduce prolonged sitting, introduce activity breaks and modify typical activities that normally involve sitting
- provide early childhood educators and school teachers with evidence-based information about the benefits of breaking up total sitting during childcare and school times
- develop initiatives and programs to reduce total time spent sitting while at work or school, including low-cost approaches such as using visual prompts to avoid prolonged sitting, conducting standing and

- walking meetings or creating standing agenda items within meetings or classes²⁸
- develop criteria for reducing sedentary time that are relevant to the circumstances and needs of older adults, particularly those with functional limitation and disabilities and who are living with chronic disease.
- screen time (e.g. via web-based resources and information from schools); parents monitor and then selectively or non-selectively target a reduction in recreational screen-time pursuits²⁹
- educate workers and students how to safely operate to best effect height-adjustable furniture.

Help individuals understand the health effects of too much sitting:

- introduce family-based educational approaches that encourage parents to limit their children's total sitting time, particularly their recreational

See also Action area 2 – Workplaces; Action area 4 – Active travel; Action area 9 – Children and adolescents

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Action area 6 – Sport and active recreation

Increase physical activity levels
through sport and active recreation

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Suggested citation

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Why is this important?

Sport and active recreation play an important role in increasing the physical activity levels of Australians.¹ *Sport* has been defined as ‘a human activity involving physical exertion and skill as the primary focus of the activity, with elements of competition where rules and patterns of behaviour governing the activity exist formally through organisations, and is generally recognised as a sport’.¹ *Active recreation* has been defined as those activities ‘engaged in for the purpose of relaxation, health and wellbeing or enjoyment with the primary activity requiring physical exertion, and the primary focus on human activity’.¹ Participation in these activities is linked positively to physical, social and cognitive health.

Consider the case for change:

- Sport and active recreation contribute positively to the development of confidence and social skills, social inclusion, community development, health and wellbeing, diversion from antisocial behaviour and improved self-esteem and health-related quality of life in children and youth.^{2,3} Additional benefits for children include improved fundamental movement skills and physical fitness.⁴
- A ‘sport for all’ approach that encourages enjoyable participation in sport and active recreation across the life span is recommended in the Global Advocacy for Physical Activity⁵ list of seven best investments for physical activity to make a difference to the health of nations.
- Adults who participate in sport are 20–40% less likely to die prematurely from all causes compared with non-participants.⁶ Sport participation is also associated with improved wellbeing, and reduced stress and distress.³
- Sport contributes significantly to Australia’s economy, with the sports sector directly employing 75,000 Australians (1% of the total workforce). Households spend A\$8.4 billion on sporting services and products every year and the export of sporting goods averages A\$442 million per year.⁷
- The last Exercise, Recreation and Sport Survey,⁸ conducted in 2010, highlighted that
 - 47.7% of the adult population (from 15 years) participated at least three times per week in physical activities for exercise, recreation or sport.
 - Between 2001 and 2010, overall increases in regular physical activity were mainly due to an increase in participation in non-organised activities, which increased from 11% to 38.5%. There was also a small increase in participation in organised physical activity in the same period (from 9% to 12%).
 - The top ten physical activities in 2010, in terms of total participation, were walking (36%), aerobics and fitness (24%), swimming (13%), cycling (12%), running (11%), golf (7%), tennis (6%), bushwalking (5%), outdoor football (5%) and netball (4%).

- In 2012, it was estimated that 60% of children (5–14 years) had participated in at least one organised sport outside of school hours, spending an average of five hours in the last school fortnight playing and training.⁹



What must be done?

The following initiatives are recommended to promote and increase participation in sport and active recreation. Investment by governments, organisations and clubs involved in delivering sport and active recreation activities will be essential to support these initiatives. The following interventions are recommended.

Implement policies to promote sport and active recreation:

- fund local government to maintain, improve and expand local sporting and recreation facilities
- develop public open-space policies and strategies to ensure residents have access to a range of open spaces for both sport and active recreation in their neighbourhood
- develop and implement sports injury prevention policies and guidance for use by organising bodies and clubs
- facilitate cooperation between government departments responsible for education curricula and sport and active recreation to promote sharing of facilities and links between schools and external sporting clubs
- strengthen the corporate and governance structures of sports and recreation organisations to sustain and expand their work and relevance in the community
- fund sport and recreation clubs to provide subsidised access to club membership, participation and equipment, prioritising clubs operating in socioeconomically disadvantaged and rural areas.

Improve sport and recreational facilities:

- improve the quality and functions of public open spaces (e.g. aesthetics, facilities, amenities) to attract more user groups to sport and active recreation.

Promote participation in sport and active recreation among at-risk groups and across the lifespan:

- develop programs to promote and maintain participation during key life transitions and events such as leaving secondary school, changes in employment and changes in family structure; retirement presents a significant opportunity to promote engagement in sport and active recreation with increased available leisure time¹⁰
- provide training and education of high-quality coaches at all levels of sport¹¹
- encourage children to participate in developmentally appropriate sports at an early age and maintain this for as long as possible
- provide separate opportunities for sport and recreation by sex (e.g. ensure girls from culturally

diverse backgrounds have the opportunity to use public swimming pools; provide separate classes for girls and boys)

- implement programs specifically for women and adolescent girls and for people from disadvantaged backgrounds or communities^{12–15}
- provide opportunities in regional and rural areas that enable elite participants to stay in these areas
- use sport as a tool to create positive social change and tackle social issues, including health, unemployment, conflict resolution, gang-related violence and education

- provide subsidised fees for sporting club membership or active recreational services for children in families that experience socioeconomic disadvantage
- cater to the needs of all abilities by targeting barriers such as lack of knowledge and skills, negative attitudes to disability, lack of transport and programs, and staff capacity and cost.¹⁶

See also Action area 1 – Built environments; Action area 7– Disadvantaged populations; Action area 9 – Children and adolescents



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Action area 7 – Disadvantaged populations

Address inequality in physical
activity participation

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Why is this important?

Physical activity and related health outcomes are socially distributed. People experiencing socioeconomic disadvantage (e.g. low income, low education level, low-status occupation or living in a socioeconomically disadvantaged neighbourhood) are less likely to meet physical activity guidelines and more likely to be sedentary than more advantaged individuals. This association is graded, with increasing levels of advantage associated with increased physical activity.¹ In addition, people living in regional and remote areas of Australia are generally less physically active than those living in metropolitan areas.²

Consider the case for change:

- Socioeconomic and geographic inequities in physical activity parallel inequities in chronic disease such as heart disease and diabetes and risk factors such as obesity. These inequities result from a complex interaction of political, economic and structural factors, as well as the conditions in which people are born, live, work and age.
- Reducing socioeconomic and geographic inequities in physical activity participation is important to achieve equitable increases in physical activity across the population.
- Key factors contributing to socioeconomic inequities in physical activity participation include lack of access to physical activity facilities or supports in disadvantaged neighbourhoods, financial constraints, long or inflexible working hours, psychosocial stress, real or perceived threats to safety in disadvantaged neighbourhoods, and lack of social support or social or cultural norms that support physical activity among socioeconomically disadvantaged groups.
- Key factors that contribute to geographic inequities in physical activity participation include limited or poor-quality physical activity facilities and infrastructure in rural and remote areas, perceptions that one gets enough physical activity at work, and lack of social support or social or cultural norms that support physical activity in rural or remote areas.
- Rural Australia also faces significant social, demographic, economic and health challenges including high occupational hazards; increased mechanisation of farming practices; de-population and changing population composition; an ageing farmer workforce; social isolation; poor access to services; climatic extremes, with inadequate built environment mitigation; fewer transport options; poorer road quality; exposure to changing climatic conditions; and macro- and micro-economic fluctuations.



What must be done?

Reducing socioeconomic and geographic inequities in physical activity necessitates a multi-sectorial approach that focuses on maximising physical activity opportunities at the neighbourhood level through the built and social environments, and via health promotion, education and support at the individual level. Efforts that only focus on individual education and behaviour change are at risk of widening inequities.³

The following interventions are recommended as means of supporting people who experience socioeconomic or geographical disadvantage to participate in physical activity.

Implement policies that overcome socioeconomic or geographical barriers to physical activity participation:

- apply an equity focus to all policy and funding investments in public transport infrastructure and physical activity programs, with the main effort focused on the most disadvantaged communities and groups
- reorient transport policy, planning and funding to prioritise investment in walking, cycling and public transport infrastructure; allocate resources proportionally to need, concentrating initially on underserved areas, including developments on the urban fringe and in regional centres
- provide federal funding to local government to maintain and enhance community

infrastructure that promotes physical activity

- federal government to invest in the delivery of accessible and affordable evidence-based physical activity programs, to be available in all communities including poorly serviced communities and those isolated by socioeconomic, cultural or geographic attributes
- provide walking and cycling infrastructure as part of all government-funded urban transport projects.

Plan, develop and retrofit environments to support physical activity participation:

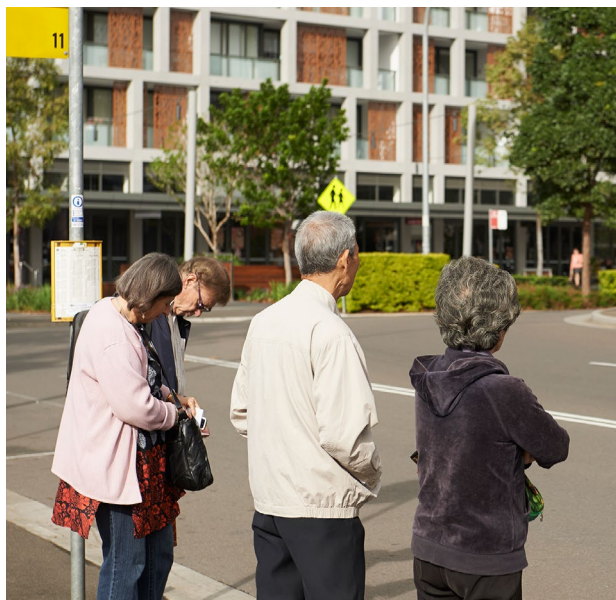
- design and build local environments that promote walking, cycling and perceptions of safety (this can be achieved by implementing initiatives contained in *Action areas 1 and 4* on pages 16–18 and 34–36)

Implement social and community interventions that help to overcome socioeconomic and geographic barriers to physical activity participation:

- develop physical activity opportunities that are socially and culturally accessible to people and groups who are more likely to experience socioeconomic disadvantage, such as migrants from linguistically and culturally diverse backgrounds, single parents, Aboriginal and Torres Strait Islander peoples, people with disabilities and the elderly
- build partnerships with various local organisations and groups

(e.g. local government, primary-care providers, community groups, schools, youth groups, aged-care services, sporting clubs and businesses) to identify and support innovative and affordable physical activity options in areas of socioeconomic or geographic disadvantage; these partnerships should work to

- involve the people who are experiencing disadvantage in the design and delivery of physical activity programs to ensure they meet their needs while also contributing to social capital and instilling feelings of ownership and control
- optimise the use of local facilities including sportsgrounds, gyms, community halls, schools and swimming pools; this may include off-peak access to gyms, better sportsground lighting for after-hours games or training, and facility share arrangements with local schools
- increase physical activity participation by providing targeted subsidies for
 - children from disadvantaged families to participate in organised sport and sporting clubs
 - entry fees to gyms, community recreational facilities and sports clubs
 - participation in evidence-based physical activity programs
- support local sporting clubs to grow membership and remain financially viable by
 - developing linkages with school sport and physical education to increase club membership
 - providing user-friendly guidance on governance, revenue raising and membership recruitment
- implement local safe communities programs and initiatives in partnership with police, community, business and local government to increase actual and perceived safety
- invest in active school travel programs in disadvantaged neighbourhoods to encourage more walking and cycling to school, including
 - regular mass participation events such as ‘walking, wheeling Wednesdays’



- safe routes to school, with mapped routes and safer crossings
- road safety and bicycle education programs
- work with schools and education authorities to promote school-based physical activity programs as an avenue for reducing inequities.⁴
- capitalise on the close connection of rural people with their local media by encouraging residents to submit articles of local relevance to help foster a culture that supports physical activity
- address poor understanding of the national physical guidelines and the moderate physical activity message by disseminating easy-to-understand messages through primary-care services, men's sheds, libraries, technology and customer-facing government services.

Empower individuals to become more physically active:

- support group-based programs that encourage peer support and shared experiences; use existing events and locations where people gather, such as men's sheds or libraries, to promulgate health messages^{5,6}

See also Action area 11 – Financial measures

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Action area 8 – Aboriginal and Torres Strait Islander peoples

Provide programs and opportunities to increase physical activity levels among Aboriginal and Torres Strait Islander peoples

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Macniven R, Wade V, Canuto K, et al. Action area 8: Aboriginal and Torres Strait Islander peoples. In: Blueprint for an active Australia. 2nd edn. Melbourne: National Heart Foundation of Australia, 2014.



Why is this important?

Rates of coronary heart disease in Aboriginal and Torres Strait Islander peoples reflect unacceptable levels of health inequality.

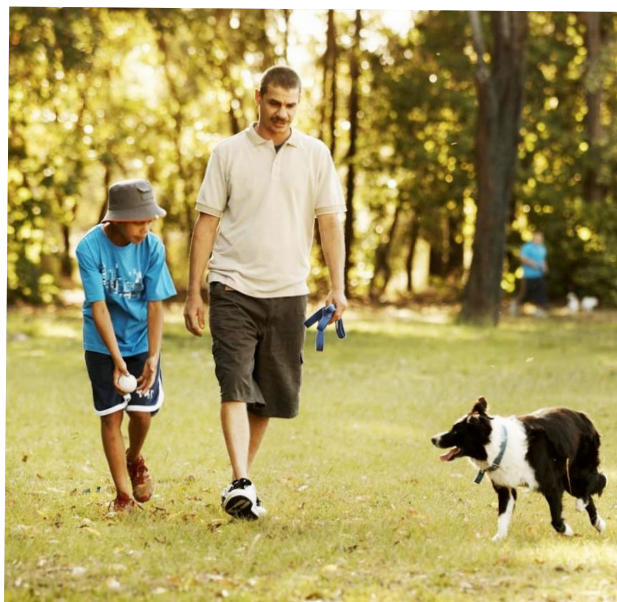
The case for change is compelling:

- Heart attack events in people of Aboriginal and Torres Strait Islander descent are 2.6 times higher than the broader Australian population.¹
- Physical inactivity is a contributor to the rates of chronic disease in this population, accounting for 7% of the total disease burden.²
- While there is limited evidence regarding effective physical activity interventions for targeting Aboriginal and Torres Strait Islander peoples, there is evidence that they experience unique social, cultural and economic barriers to participation, such as negative community perceptions of exercising alone.

- There is also evidence that group programs exclusively for Aboriginal and Torres Strait Islander women are appealing and acceptable.³
- In non-remote areas in 2012–13, 62% of Indigenous Australians aged 15 years and over reported being sedentary or exercising at low levels.⁴

While further research is needed, given the increased chronic disease risks suffered by Aboriginal and Torres Strait Islander peoples, and the key role of physical activity in reducing risk, physical activity interventions (and their evaluation) should be prioritised in Indigenous communities.

Numerous examples of community programs are described in the 'grey', or informally published, literature and this is an important source of qualitative information.⁵





What must be done?

Participation in physical activity can benefit Aboriginal and Torres Strait Islander peoples and their communities in many ways:

- making an important contribution to reducing chronic disease
- improving physical and mental health and wellbeing
- improving social factors, such as community connectedness.

In addition, physical activity can provide important cultural links through activities such as dance, hunting, fishing, bushwalking, intergenerational programs, men's health programs and women's groups.

The following interventions are recommended as means of promoting increased levels of physical activity among Aboriginal and Torres Strait Islander peoples.

Implement policies that promote higher levels of physical activity participation among Aboriginal and Torres Strait Islander peoples:

- policy and funding investments in physical activity programs to include an equity focus, with main effort focused on the most disadvantaged communities and groups
- establish a fund to enable programs with proven effectiveness to be sustained and to be made available to Aboriginal and Torres Strait Islander peoples
- implement policies and investment in ongoing

Aboriginal and Torres Strait Islander cultural awareness training at all three levels of government, particularly for those agencies developing and delivering health services.

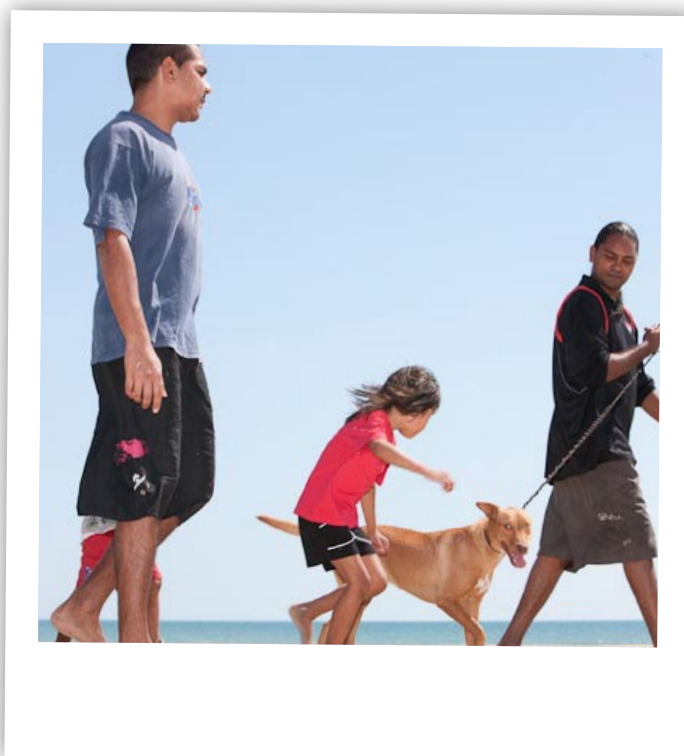
Provide Aboriginal and Torres Strait Islander communities with access to built environments that are conducive to physical activity:

- provide accessible recreation facilities in Aboriginal and Torres Strait Islander communities
- provide attractive open space, shaded areas, basketball rings and safe walking and cycling infrastructure
- promote safe environments and ensure the physical and social environment in the communities is conducive to safe participation in physical activity
- implement physical activity programs that are delivered by qualified exercise staff.

Implement social and community interventions to support Aboriginal and Torres Strait Islander peoples' participation in physical activity:

- develop physical activity opportunities that are affordable and socially and culturally accessible to Aboriginal and Torres Strait Islander peoples
- consult Aboriginal and Torres Strait Islander peoples to ensure programs are developed in accordance with the needs and interests of local people
- with respect to local culture, tailor programs to the needs of men, women and children

- ensure all Aboriginal and Torres Strait Islander children receive quality physical education at school and have access to inexpensive recreation and sport participation opportunities in their community.



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Action area 9 – Children and adolescents

Promote healthy development through
physical activity participation

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Foundation of Australia, 2014.



Why is this important?

Physical activity is integral to the physical and psychological health of children and adolescents¹⁻³; it contributes to successfully navigating each of the major development phases from infancy through to adolescence. Physical activity is one of the building blocks of good health and yet evidence has shown that the rate of physical activity reduces as many young people progress through their formative years. The evidence to support increasing the rates of physical activity among young people is overwhelming.

Consider the case for change:

- Physical activity is critical for a healthy start to life.^{1,4,5}
 - In infants, physical activity is positively associated with improved measures of adiposity, motor skill development and cognitive development.
 - In toddlers, there are positive associations with bone and skeletal health.
 - In pre-schoolers, activity is associated with improved measures of adiposity, motor skill development, psychosocial health and cardiometabolic health indicators.
- Participation in physical activity is positively related to cardiovascular risk factors such as high blood pressure, cholesterol and blood lipids, overweight and obesity, metabolic syndrome, bone mineral density and psychological and cognitive

variables including depression and academic performance.

- The majority of Australian children between the ages of 5 to 17 do not currently meet physical activity guidelines. Australian Health Survey Data shows that approximately 30% in this age bracket met the guidelines. Participation decreases with age, from 36% of 5 to 8 year olds to just 6% of 15 to 17 year olds.⁶
- In spite of evidence that active children and adolescents will become active adults, the mean decline in activity from childhood through to adolescence is 7% per year,⁷ with adolescent girls showing the greatest declines from 9 to 12 years and boys from 13 to 16 years.





What must be done?

Participation in physical activity is fundamental to the health and social development of young people growing up in Australia. The following interventions are recommended to increase the opportunity for young people to be physically active every day.

Implement policies to promote physical activity in young people:

- develop and implement a physical activity accreditation system for childcare services (similar to that of a SunSmart centre)
- mandate delivery of high-quality Health and Physical Education (PE) lessons (at least three lessons of PE totalling 120–180 minutes per week) that focus on lifelong engagement in physical activity and sport, and mastery of fundamental movement skills and sport skills
- ensure that a minimum amount of physical activity per day or week is achieved⁸
- provide funding to local government to maintain and enhance community infrastructure that promotes physical activity for children (e.g. playgrounds and climbing equipment)
- establish policy and environmental support for active transport programs, including improvement of walking and cycling facilities
- implement multi-sectorial cooperation to promote education links with sport and recreation.

Provide physical activity opportunities in pre-school and childcare centres:

- provide training and accreditation to early childhood educators and/or directors in physical activity and gross motor skills⁹
- provide opportunities for children to move throughout the day by providing set times for structured and unstructured physical activity every day.

Promote physical activity in primary and secondary schools:

- teachers to encourage children and adolescents to be more physically active during the course of the school day, particularly during recess and lunch breaks^{10,11}
- ensure the presence of qualified sport and PE teachers in primary and secondary schools; provide flexibility in timetabling and curriculum for sport opportunities
- increase physical activity levels in PE¹² through
 - teacher professional learning that focuses on class organisation, management, transitions and maximising active learning time in physical education
 - instruction and supplementing usual PE lessons with high-intensity activity (i.e. fitness infusion)
 - developing confidence and competence in fundamental movement skills¹³
- make changes to the physical environment:

- provide a variety of grassed surface spaces, access to equipment¹⁴ and playground line markings¹⁵
- increase access to play areas at lunchtime¹⁶ and outside of school hours¹⁷
- provide activity-permissive classrooms through height-adjustable desks and an active curriculum (including homework)¹⁸
- provide safer routes to school to encourage active travel.⁸

Promote physical activity during the after-school period and in other community settings:

- ensure children have the opportunity to be active, with a focus on play, fundamental motor skills and access to school facilities during after-school care^{19,20}
- provide greater access to facilities (e.g. public open spaces, playgrounds) in the community
- promote walking or cycling home from school; use a travel coordinator
- provide children, adolescents and parents with active transport resources; assist with active travel plans (e.g. safe routes to school)
- collaborate with community sporting organisations, including making school facilities accessible and offering the Active After-school Communities Program
- link schools to community opportunities and adapt for adolescents so that they are

better prepared for when they leave school environment and therefore develop lifelong physical activity habits.

Promote physical activity within families:

- provide programs that target parents and caregivers²¹ and incorporate parent training, family counselling or telephone-based interventions²²
- provide information and skills to first-time parents about ways to minimise their infant's or toddler's screen time and optimise activity levels²³
- provide information on local opportunities for physical activity that are suitable for families and free or low-cost ideas about ways that families can incorporate activity into their daily routines
- provide programs to target parenting practices and beliefs relating to physical activity
- provide education on optimising the home, social and physical environments to maximise physical activity opportunities.



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Action area 10 – Older people

Support healthy and active ageing

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Suggested citation

Brown WJ, van Uffelen JGZ. Action area 10: Older people. In: Blueprint for an active Australia. 2nd edn. Melbourne: National Heart Foundation of Australia, 2014.



Why is this important?

In 2012, 14% of Australia's population of 22.7 million people were over 65 years of age.¹ In the next two decades the number of people aged 65 and over is projected to increase by 91% and the number of people aged over 85 years will more than double.² Although about two-thirds of this group rate their own health as good, very good or excellent, the reality is that more than half have chronic health problems and/or physical limitations.

Consider the case for change:

- Increasing levels of physical activity is one of the most important steps older adults can take to improve and maintain their physical and mental health and quality of life.^{3,4}
- There are demonstrated benefits of physical activity for (1) preventing and managing a range of chronic health problems (such as cardiovascular disease, diabetes, musculoskeletal conditions, mental health problems including dementia, and some cancers) and for (2) improving and maintaining physical function, (including strength), reducing physical decline and maintaining the capacity to independently cope with activities of daily living in old age.⁵
- The most recent national survey of physical activity in Australia found that 38% of 65–74 year olds (37% of men and 39% of women) and 25% of those aged 75 or more (32% of men and 20% of women) were meeting the recommended physical activity level for older people of 150 minutes per week.⁶
- Data from the Australian Longitudinal Study on Women's Health also highlight the rapid downward trend in the proportion who meet guidelines with increasing age, from 43% of women aged 70–75 years to 25% at 82–87 years.⁷ These estimates do not include time spent in household and garden activities, which, in older women at least, account for almost half of total activity time.⁸
- If older people do not have the capacity to meet the physical activity guidelines, less than the recommended amount of physical activity will still improve health and quality of life.^{9,10}
- In addition to lack of regular physical activity, sedentary behaviour can also impact negatively on health. In Australia, older people spend more time watching television than their younger counterparts¹¹ and objective measures of sedentary time show increasing sedentary time with increasing age.¹² Strategies for reducing sitting time may therefore offer an alternative approach for promoting more movement in older people.
- Research has shown that, in older women, factors associated with physical activity differ from those associated with sitting time; hence, different approaches may be necessary to encourage older people to both decrease their sitting time and to increase physical activity participation.¹³
- There are indications that physical activity and improved fitness can also help to prevent cognitive decline.^{14,15}



What must be done?

As the numbers of older people in the population escalate over the next 20 years, efforts to promote greater levels of physical activity in this group will become necessary to reduce a tide of rising health and disability and aged-care costs. A multi-strategy response to promoting physical activity among older adults must include individual, social, environmental and policy strategies that are appropriate to age and function.

The definition of ‘older people’ generally relates to those over the age of 65 years. However, people in this age group have a variety of physical capabilities, characterised by relatively good physical function in the ‘young old’ to sometimes severe impairment in the frail elderly. It is important, therefore, to tailor strategies to reflect these capabilities.

The following interventions are recommended.

Implement policies that support older people to live physically active lives:

- develop, implement and fund an integrated and comprehensive active older Australians strategy to increase levels of physical activity among all older Australians
- encourage governments to support the delivery of accessible and affordable evidence-based physical activity programs, delivered by a range of community organisations and primary-care providers (as a means of both reducing chronic disease risk and contributing
- to the management of existing conditions)
- implement planning guidelines that account for the variety of mobility and functional capabilities of older adults when designing road crossings, pedestrian infrastructure, public transport access, public open space and recreational infrastructure, as well as when designing retirement and aged-care housing
- introduce policy mechanisms to mandate the delivery of physical activity programs in aged-care services and settings.

Plan, develop and retrofit environments to provide older people with more opportunities to participate in physical activity:

- to promote wider uptake of walking, implement the interventions contained in *Action area 1 – Built environments* but with benches for resting and attention to access for older people, including those who use walking aids
- in aged-care settings, promote activity-permissive environments by providing safe and aesthetically pleasing walking paths, shade and weather protection, and other facilities that will encourage both walking and other physical activities¹⁶
- site retirement housing and aged-care services within connected street networks with low traffic volumes, and in the case of retirement housing, high levels of access to shops and services.

Implement social and community interventions that support older Australians to live more active lives:

- design health club and recreation centre programs to meet the needs of young-old, mid-old and older-old people, including offering a variety of opportunities to improve aerobic fitness, muscular strength and flexibility; encourage better use of existing infrastructure and organisations (e.g. sports clubs) by older people, with attention to increasing social support for activity
- provide community-based programs that meet the needs of older adults and increase motivation, reduce barriers and build community connection; for example, walking groups (with and without poles to aid balance and prevent falls¹⁷), senior swim clubs, water aerobic classes and tai chi¹⁸
- implement home-based physical activity interventions, with support via telephone (e.g. monitoring and physical activity counselling), video or internet (e.g. live feedback during exercise); these can be as effective as supervised exercise programs and may be an option for helping housebound older people to be more active¹⁹
- make available progressive strength, flexibility and balance training (for falls prevention), as well as programs for cardiovascular health (e.g. walking, pole walking, swimming) and practice in walking up and down steps, in all aged-care facilities

- implement evidence-based physical activity programs to maintain functional status and to improve quality of life in people in aged care who have a diagnosis of dementia or cognitive decline²⁰
- train health professionals to help older people, especially those with health problems or mobility restrictions, to become more active²¹; strategies may include helping older people to develop personalised activity goals or referral to an evidence-based physical activity program.

Help older individuals to understand the health benefits of living a more physically active life:

- design and implement a mass-media campaign tailored to the needs and motivations of older adults in accordance with age and physical capacity
- implement education and awareness programs to promote the health benefits of physical activity for older people, alleviating fears, considering individual preferences and providing social support.

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Action area 11 – Financial measures

Provide financial incentives to make
active choices cheaper and easier

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Suggested citation

Stanley J, McCue P. Action area 11: Financial measures. In: Blueprint for an active Australia. 2nd edn. Melbourne: National Heart Foundation of Australia, 2014.



Why is this important?

Prices influence behaviour and choices, particularly among people on lower incomes, pensioners and unemployed people. Through financial incentives and disincentives we can promote healthier behaviours. In turn, adoption of healthier behaviours creates savings for the country. The formulas for calculating the costs and benefits of many Australian transport, planning and health policy priorities do not accurately reflect the impact these choices have on communities, health and the environment.

The case for change is significant:

- Costing formulas fail to fully account for the impact of private motor vehicle use on the health and wellbeing of communities and the environment, while transport modes of walking, cycling and public transport are not recognised for their wider benefits.^{1–5}
- Low income should not be a barrier to participation in physical activity. Families on low incomes, older adults and Indigenous Australians are more likely to live in outer metropolitan areas or in rural communities with limited or ageing physical activity infrastructure and without the benefits of good public transport services available to those living closer to the centre of cities.^{6,7}
- Socioeconomically disadvantaged members of the community are further disadvantaged by
 - transport policy and urban planning that is dominated by the car (rather than public transport, walking and cycling)^{8,9}
 - urban planning that fails to provide for accessible physical activity, sport, recreation, walking and cycling¹⁰
 - high costs associated with participating in some physical activity, recreation and sporting activities.





What must be done?

It is vital that policies are implemented to correct market-pricing failures and ensure equitable access to physical activity opportunities. The following interventions are recommended.

Implement financial policies and regulations that support and promote more physical activity:

- conduct an inquiry to determine opportunities for public policies to favourably influence affordability of physical-activity-related products and services; examine mechanisms such as pricing, taxation, grants and subsidies
- reorient transport policy, planning and funding to prioritise investment in walking, cycling and public transport infrastructure; allocate resources proportionally to need, concentrating initially on underserved areas, including developments on the urban fringe
- provide financial incentives to make public transport, walking and cycling cheaper choices than driving and parking
- ensure that car users are charged for the costs their travel choices impose on the wider community, using the revenue raised to improve walking, cycling and public transport choices, especially for lower-income communities^{1,11}
- encourage public transport use by continuing to financially support services, especially in outer metropolitan suburbs
- consider a standard affordable charge for public transport journeys in cities, regardless of distance
- increase the availability of free secure bicycle storage facilities close to places of employment
- provide financial incentives for people who choose to ride bicycles for transport (e.g. the UK's 'bike to work scheme' enables the costs of purchasing and running a bike to be paid with pre-tax dollars if people commit to cycle to work 50% of the time)¹²
- provide increased scope for tax deductibility for physical activity participation (such as club memberships, sporting equipment, exercise classes, bicycles and clothing) in a range of settings¹³
- develop a system to provide subsidised sporting club fees for children, especially to families that experience financial hardship
- provide subsidised user fees for community services such as swimming pools and recreation centres, especially in poorer urban suburbs and depressed rural communities
- provide fringe benefits tax exemption for workplace packaging of sporting and health club memberships, bicycle purchases and public transport use

- provide federal funding to local governments to maintain and enhance community infrastructure that promotes physical activity.

Implement social and community interventions that incentivise participation in physical activity:

- financially reward people who make active travel choices through local business and workplace incentives (e.g. a Victorian company pays an annual bonus to staff based on the number of times in the year they rode, walked or caught public transport to work)¹⁴
- fund workplace based TravelSmart programs, Workplace Travel Plans and/or Transport Management Associations to encourage greater use of walking, cycling and public transport, and use these programs to identify incentives that are likely to support travel behaviour change^{2,15–17}
- fund ‘free days’ on public transport to encourage new users to try the service^{17,18}
- increase physical activity participation by providing targeted subsidies for:
 - children from disadvantaged families to participate in organised sport and sporting clubs
 - subsidised entry fees to gyms, community recreational facilities and sports clubs
 - participation in evidence-based physical activity programs (primary-care link)
- ensure equity and access by providing affordable and accessible physical activity options in the poorest metropolitan suburbs and rural and remote communities
- promote subsidised entry to a range of physical activity opportunities for individuals and families with a lower socioeconomic status
- subsidise the cost of public transport, especially for people living in outer metropolitan areas.



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Action area 12 – Mass-media strategy

Promote the benefits of physical activity

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Why is this important?

Mass-media strategies are effective when based on sound theory, adequately resourced and implemented in combination with community physical activity programs and policies and environmental changes. Mass media remains an important tool for reaching large numbers across populations. New media and technology offer additional opportunities for media communication about physical activity.

Consider the case for change:

- Mass media is effective in setting a community agenda around physical activity and in increasing awareness. It serves to inform, remind, motivate and support health-related change.¹⁻³
- Media campaigns have achieved positive results when based on sound theory and research and when combined with community activities.³⁻⁶
- A comprehensive approach may include multi-platform communication, combining social marketing principles and community-wide initiatives with traditional media as well as social and digital media strategies.^{7,8}
- The media can stimulate increases in help-seeking behaviours (e.g. calls to help lines) and can bring about significant change in beliefs and attitudes.⁹
- Online social media and technology have considerable potential for health communication.^{7,10}
- A review of community-wide campaigns identified ten studies that used diverse media in addition to social support, risk factor screening, community events and policy changes. There was a median increase of 4% in physical activity participation and 16% in energy expenditure. Of the 10 studies reviewed, only one failed to report an increase in physical activity.¹¹
- A meta-analysis of nine adult campaigns found mass media had a significant effect on promoting moderate intensity walking, but may not lead to achieving recommended levels of overall physical activity.¹²
- Media is pervasive in the lives of young people and presents an opportunity to advertise the benefits of a healthy, physically active lifestyle. After one year, an evaluation of the US's child and youth physical activity campaign VERB found higher levels of physical activity in subgroups of US children.¹³





What must be done?

The interventions proposed in this document should be supported by a mass-media strategy that promotes the uptake of physical activity throughout the population. This strategy should be sensitive to the needs of different age groups, physical abilities and cultural preferences.

The following interventions are recommended:

- adequately fund an ongoing, targeted, physical activity mass-media strategy, including both traditional and new media
- combine traditional media with social and digital media communication strategies to explore and test the potential of new communication technologies, specifically the internet, mobile phone technology and mobile digital devices
- complement mass-media strategies with community activities designed to encourage a culture of physical activity in Australia (e.g. mass-media advertising, special events, television-free weeks and switch-off days, car-free days)
- fund and promote media-linked information services (e.g. a telephone information line, online services, professional education) that actively promote physical activity and help individuals to take action.

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Action area 13 – Research and program evaluation

Support the implementation of physical activity initiatives through research, monitoring and evaluation

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Suggested citation

Giles-Corti B, Salmon J. Action area 13: Research and program evaluation. In: Blueprint for an active Australia. 2nd edn. Melbourne: National Heart Foundation of Australia, 2014.



Why is this important?

The Blueprint is underpinned by an ‘ecological’ framework, which captures the constant interaction between individuals and the social, built and policy environments in which they live, work, love and play. These interactions can positively or negatively affect cardiovascular health; therefore, multi-level interventions are needed to create cardiovascular-health-enhancing policies and environments, as well as targeting groups, families and individuals in workplaces, schools and community settings.

This section considers the types of research and evaluation required to monitor, measure and guide these multi-level interventions. It explores general themes in evaluation, monitoring and research rather than specific areas of research.

Many of the interventions proposed in the Blueprint offer multiple benefits; measuring these ‘co-benefits’^{1,2} will assist in quantifying the overall societal impact of the interventions. Apart from physical and mental health effects, multiple and varied outcomes should be considered, including productivity, economic and societal benefits.

The research community has an important role to play in informing the implementation, and evaluating the effect of the initiatives contained in the Blueprint. To be effective, the interventions must be informed by policymakers, researchers and other professionals working together.



What must be done?

Cooperation between the various sectors and disciplines is imperative to support informed, effective and measurable outcomes. The following measures are recommended to ensure the development, delivery and demonstrated effectiveness of physical activity programs and policies.

Establish interdisciplinary research teams working in collaboration with multi-sector partners, resulting in:

- research and evaluation that is informed by policymakers and practitioners to ensure it is relevant in practice
- the selection and use of appropriate research and evaluation tools and methods (e.g. specific to the population group or location under observation)
- evaluation that considers multiple health behaviours (e.g. physical activity, sedentary behaviour, dietary intake) that impact on heart health
- research specific to the intervention being undertaken, such as active transport, sport participation and physical activity in older people.

Undertake policy-related research and natural experiments:

Monitoring of policy-level interventions – such as changes to built environments, the introduction of workplace sedentary behaviour guidelines or of citywide low traffic speeds – should be undertaken using a ‘natural experiment’ approach. This approach involves rigorously monitoring the effect of such changes and helps identify intended (and unintended) outcomes.

It is therefore recommended that:

- natural experiment study designs be implemented where possible to monitor before-and-after impacts, and that these studies be undertaken in accordance with best-practice guidelines³
- co-benefits across multiple sectors be assessed (e.g. health, education, recreation, transport and environment)
- cost–benefit analysis also be considered to quantify the value of the studied intervention
- priority is given to evaluating the impact of policies and infrastructure on inequalities in cardiovascular health outcomes.

Evaluate and monitor interventions that target settings, population groups or individuals:

Researchers and policymakers should work together to identify and, where necessary, generate the evidence to inform interventions that target individuals, settings or particular population groups. Researchers should be engaged at the earliest possible stage before designing an intervention.

It is recommended that:

- where there is limited evidence to inform practice, researchers work alongside program or policy staff to identify research to inform the intervention design
- where evidence is absent or limited, studies are undertaken to inform how much of a particular intervention is required before change to physical activity levels are achieved (these are often called ‘dose-response’ studies)
- intervention research is undertaken to establish the effectiveness of strategies to increase physical activity among Aboriginal and Torres Strait Islander peoples
- mass-media and other campaigns are monitored and evaluated for effectiveness
- innovative interventions are designed and undertaken in partnership with policymakers and researchers to quantify the impact.

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