



Australian Government
Department of Health



2021-2030

Acknowledgements

Many individuals and organisations have given their time and expertise to the development of the National Preventive Health Strategy. An Expert Steering Committee has guided its development, composed of experts in public health, research, health promotion, medical, allied health, nursing and consumer advocacy fields. The Department of Health would also like to acknowledge the contributions of the Sax Institute and the department's National Preventive Health Taskforce.

© Commonwealth of Australia as represented by the Department of Health 2021

Title: National Preventive Health Strategy 2021–2030

Creative Commons Licence



This publication is licensed under the Creative Commons Attribution 4.0 International Public License available from <https://creativecommons.org/licenses/by/4.0/legalcode> ("Licence"). You must read and understand the Licence before using any material from this publication.

Restrictions

The Licence may not give you all the permissions necessary for your intended use. For example, other rights (such as publicity, privacy and moral rights) may limit how you use the material found in this publication. The Licence does not cover, and there is no permission given for, use of any of the following material found in this publication:

- the Commonwealth Coat of Arms (by way of information, the terms under which the Coat of Arms may be used can be found on the Department of Prime Minister and Cabinet website <https://www.pmc.gov.au/government/commonwealth-coat-arms>);
- any logos and trademarks;
- any photographs and images;
- any signatures; and
- any material belonging to third parties.

Attribution

Without limiting your obligations under the Licence, the Department of Health requests that you attribute this publication in your work. Any reasonable form of words may be used provided that you:

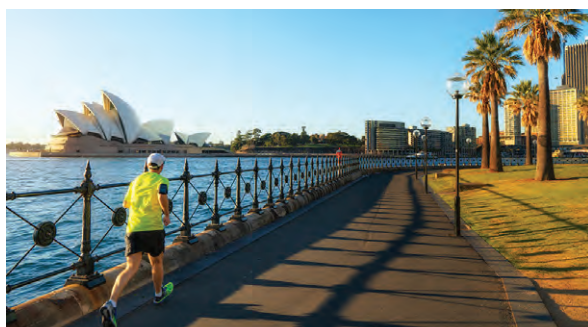
- include a reference to this publication and where, practicable, the relevant page numbers;
- make it clear that you have permission to use the material under the Creative Commons Attribution 4.0 International Public License;
- make it clear whether or not you have changed the material used from this publication;
- include a copyright notice in relation to the material used. In the case of no change to the material, the words "© Commonwealth of Australia (Department of Health) 2021" may be used. In the case where the material has been changed or adapted, the words: "Based on Commonwealth of Australia (Department of Health) material" may be used; and
- do not suggest that the Department of Health endorses you or your use of the material.

Enquiries

Enquiries regarding any other use of this publication should be addressed to the Branch Manager, Communication Branch, Department of Health, GPO Box 9848, Canberra ACT 2601, or via e-mail to copyright@health.gov.au

The National Preventive Health Strategy presents a powerful opportunity for Australia to build a sustainable prevention system for the future – building on previous success and momentum, addressing the increasing burden of disease, reducing health inequity and increasing preparedness for emerging health threats.

Contents



■ Shaping Australia's health	5
■ The Approach	7
■ What will this Strategy achieve?	8
Vision	9
Aims	9
Principles	10
■ Australia's report card	11
■ Knowing the causes	13
Social	14
Environmental	15
Structural	16
Economic	16
Cultural	17
Biomedical	18
Commercial	19
Digital	20
Priority populations	21
■ Protecting our health	22
What is prevention	22
The value of prevention	24



■ Adapting our response	26
Learning from our past success in prevention	27
Learning from the COVID-19 experience	31
Listening to the community	32
■ The Framework for Action	33
■ Mobilising a Prevention System	34
Securing the future	35
Leadership, governance and funding	36
Prevention in the health system	38
Partnerships and community engagement	40
Information and health literacy	41
Research and evaluation	42
Monitoring and Surveillance	43
Preparedness	45
The immediate priorities	47
■ Boosting Action	48
Reducing tobacco use	49
Improving access to and the consumption of a healthy diet	52
Increasing physical activity	55
Increasing cancer screening and prevention	58
Improving immunisation coverage	61
Reducing alcohol and other drug harm	64
Promoting and protecting mental health	68
■ Continuing Strong Foundations	71
Monitoring Australia's success	72
Appendix A	73
References	77





Shaping Australia's health

Harnessing our current challenges to build healthier communities

For all Australians, there is immense value in being healthy and maintaining health right across one's life course, from prenatal to older age. But health is not just the presence or absence of disease or injury. More holistically, health is a state of physical, mental and social wellbeing, and for Aboriginal and Torres Strait Islander people and other communities, this also includes cultural wellbeing^{1,2}. Australians in good health are better able to lead fulfilling and productive lives, participating fully in their community, in their education and/or in their employment. The benefits of this are experienced system-wide with decreased disease burden leading to a reduction in the pressures on our health and aged care systems, and economic benefits demonstrated by an increase in Australia's gross domestic product (GDP). In 2017, the Productivity Commission conservatively estimated that the GDP could be increased by \$4 billion per year if the health of people in fair or poor health was improved³.

Preventive health action is the key to achieving a healthier Australia by 2030. Even though the majority of Australians have one of the longest life expectancies in the world due to successful and sustained prevention programs and a world-leading health system, more Australians are now living with and suffering from chronic illness than ever⁴. On average, Australians live almost eleven years in poor health, or around thirteen percent of their life³. Over the past fifty years, the prevalence of chronic conditions has increased, leading to the majority of disease burden in Australia to be caused by cancer, cardiovascular diseases,

musculoskeletal conditions, and mental and substance use disorders⁵. It is estimated however that 38% of this disease burden, 49% for Aboriginal and Torres Strait Islander people, could be prevented through a reduction in modifiable risk factors such as overweight and obesity, physical inactivity, dietary risks, and alcohol, tobacco and other drug use⁵. Preventing these conditions and their associated risk factors requires addressing the underlying 'causes of the causes', also known as the wider determinants of health.

As the prevalence of illness and disease continues to rise, so too does the pressure on our health system. Alongside chronic conditions, significant contributors to the poor health of Australians also include infectious disease, injury and trauma. In 2020, the emergence of coronavirus (COVID-19) highlighted how important it is to have an agile health system focused on prevention. The Australian health system has had to adapt quickly during the pandemic, and all levels of government have responded by setting up a number of structural changes to the system. This included the Australian Government expanding telehealth, and establishing GP-led respiratory clinics to ensure the acute settings did not become overwhelmed. Australians rapidly modified their behaviour too, with handwashing, physical distancing, and self-isolating whilst unwell being instilled into the nation's approach to everyday life. The pandemic requires an enormous public health response to protect the lives of Australians and there are key learnings that will continue to influence our

health system over the next decade.

Currently, our health system is fundamentally focused on the treatment of illness and disease. During COVID-19, the profile of public health and prevention has been significantly elevated. Data from around the world and in Australia has demonstrated that individuals with preventable chronic conditions and vulnerabilities such as cardiovascular disease, smoking, and obesity, were at greater risk of adverse outcomes associated with COVID-19⁶⁻⁹. This was a wake-up call to health systems worldwide, as it demonstrated that significantly more needs to be done outside of a pandemic to keep people healthy and well. We need to rebalance the health system; we need to invest more in prevention.

It is well known that when a community flourishes, its health tends to flourish too, enabling individuals to achieve their full potential. This is due to the close relationship between people's health and the circumstances in which people grow, live, work, play and age – the wider determinants of health¹⁰. It is these social, environmental, structural, economic, cultural, biomedical, commercial and digital factors that lead to inequity and inequality within society. These circumstances, including the neighbourhood we grew up in or our exposure to air pollution for example, are often outside of our control yet they play a significant role in determining our health and wellbeing. These inequities, which often exist at the systemic level, lead to the burden of disease being experienced unevenly in Australia. People in lower socioeconomic groups are at greater risk of poor health, with higher rates of illness, disability and premature death than people from higher socioeconomic groups⁵.

Health inequities are, in particular, experienced by certain groups within society. This includes: Aboriginal and Torres Strait Islander people; those living in rural and remote areas; people experiencing socioeconomic disadvantage; people living with mental illness; people with disability; lesbian, gay, bisexual, transgender, queer or questioning, intersex and/or other sexuality and gender diverse people (LGBTQI+); and those from culturally and linguistically diverse (CALD) backgrounds. While acknowledging the strengths of these groups, many experience an avoidable and greater burden of disease compared with the rest of the population⁴. In order to significantly improve the health of all Australians, a health equity lens must be applied to all preventive health action, with

the needs of these groups prioritised for action.

There is a risk that advances made in recent decades to improve our overall health could be reversed if Australia does not increase its focus on preventive health and health promotion, especially focusing on the wider determinants of health. In order to achieve this, a systems-based approach is critical to success. Australia's current prevention efforts need to be systematised, enhanced and strengthened in order to create long-term, sustainable improvements to the health and wellbeing of all Australians and to embed prevention across the life course. Australia already has a strong and successful health system, but we need to ensure that there is an equally strong prevention system.

The National Preventive Health Strategy (this Strategy) will create a stronger and more effective prevention system, and recognises that a whole-of-government response is required at all levels. This Strategy will enhance the focus on prevention not only within the current health system, but also beyond, involving other sectors and industries that have a direct impact on the health and wellbeing of Australians.

This Strategy will address the third pillar of Australia's Long Term National Health Plan, and will align to the 2020-25 National Health Reform Agreement.

This Strategy will ensure that in Australia:

- 1.** children grow up in communities that nurture their healthy development - **providing the best start to life;**
- 2.** individuals are living well for longer, enjoying life as they age - **adding health to life;**
- 3.** groups that experience poorer health outcomes compared to the rest of the population have greater improvements in health - **addressing inequity in health;** and
- 4.** prevention is valued and viewed as a worthwhile and important venture - **funding is rebalanced towards prevention.**

Achieving this will require close alignment with other key areas of health reform for the Australian Government (e.g. the Primary Health Care 10 Year Plan and the National Aboriginal and Torres Strait Islander Health Plan). It will also require alignment with other whole-of-government approaches, including the new National Agreement on Closing the Gap¹¹. Aligning action through whole-of-government approaches will assist in making Australia a more equitable and healthy place to live, grow, work, play and age for generations to come.



The Approach

This will be a strategy for all Australians, no matter who they are or where they live

This Strategy provides the overarching, long-term approach to prevention in Australia by building systemic change to ensure the best outcomes for all Australians. It identifies areas of focus for the next 10 years and outlines the key achievements Australia should be striving for by 2030.

Effective prevention requires a collective and comprehensive effort across sectors to better prevent disease and to promote environments that support individuals to lead healthy lives. The responsibility for creating positive change by 2030 is shared by: all governments, the non-government sector, research and academia, the private sector, industries, communities and individuals. Every Australian and every sector has a role to play in achieving the vision that we are healthy and able to lead fulfilling and productive lives for as long as possible.

This Strategy has been developed using the best evidence from a range of sources including:

- **National and international evidence** about what works.
- **Targeted consultations**, which provided the opportunity to hear from experts in different fields of prevention; the views of people representing communities, consumer groups and advocacy organisations; and from the public about what is important to keep themselves, their families and their communities healthy.
- Responses from over 6,000 people through an **online survey**.
- The lessons **learned from past prevention activities**.
- Other relevant **national strategies, action plans and frameworks** to ensure the Strategy aligns with and builds on action in prevention.
- **Relevant health consultations** conducted by the Australian Government in recent years.
- **Online public consultations** on the Consultation Paper and the draft Strategy.

An Expert Steering Committee, composed of experts from the public health, research, health promotion, medical, allied health, nursing and consumer advocacy fields, provided evidence-based advice throughout the development of this Strategy.

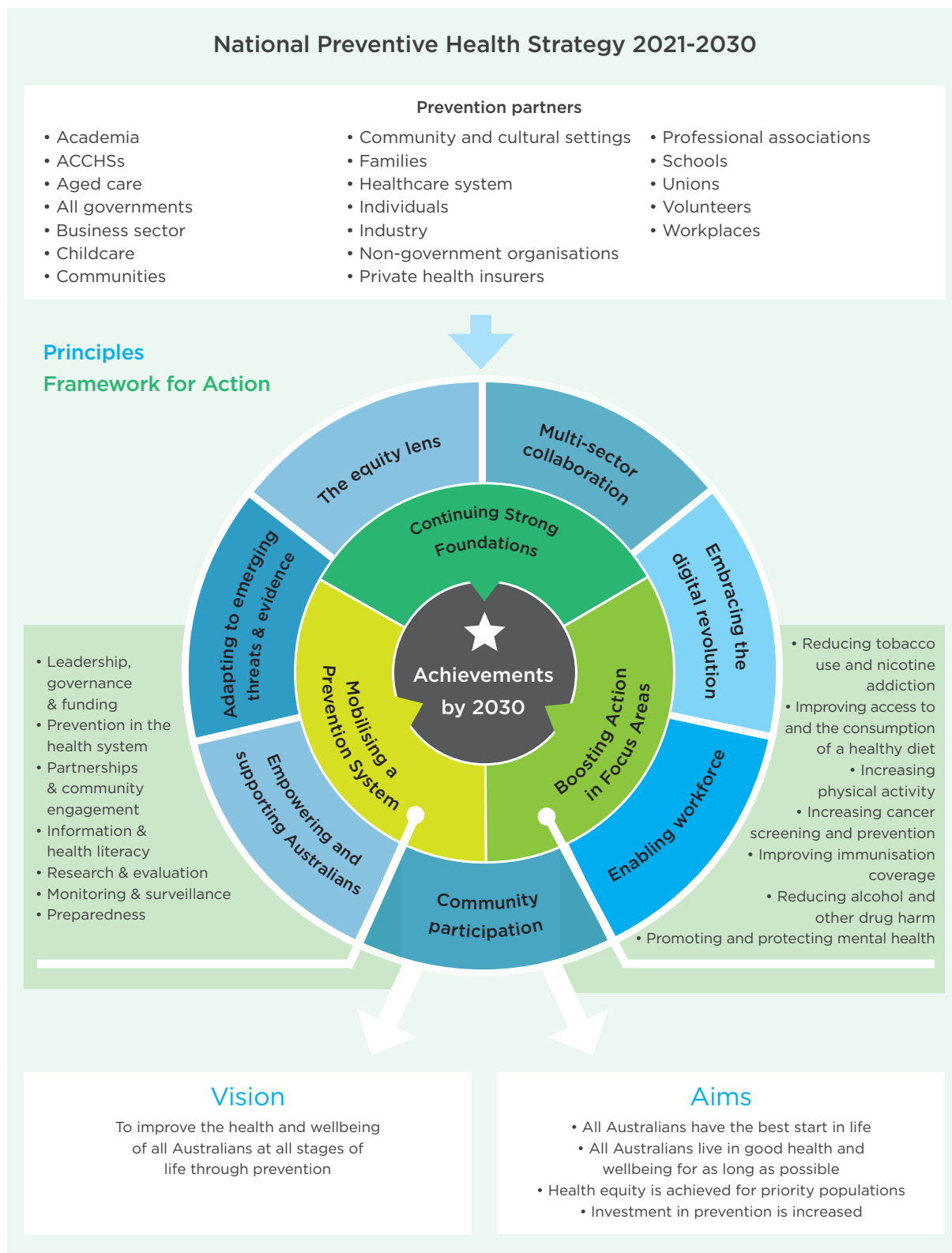
Australia's Long Term National Health Plan outlines a number of areas of reform, including the development of the Primary Health Care 10 Year Plan and reforms that target mental health and suicide prevention. These strategies and plans have been considered in the development of this Strategy to ensure there is a consistent and complementary approach to reform, particularly in regards to person-centred care, utilising partnerships, and embedding approaches that consider the wider determinants of health and wellbeing across the life course. This Strategy also complements the refreshed National Aboriginal and Torres Strait Islander Health Plan, which includes a focus on the cultural determinants and social determinants of health as the foundations for a healthy life.

What will this strategy achieve?

This Strategy articulates a vision supported by four high-level aims. The aims include measurable targets in order to track the progress of this Strategy in achieving its vision.

Seven principles are included in this Strategy to underpin the *Framework for Action* by guiding implementation and strengthening efforts in prevention.

Figure 1 - Overview of the Strategy



Vision




To improve the health and wellbeing of all Australians at all stages of life through prevention.

Refer to Appendix A on page 73 for further details on the targets

Aims


1. All Australians have the best start in life

This Strategy recognises the value of health and wellbeing at all stages of life, which emphasises the significance of prevention from preconception period through to the early years of life. Improving the prevention of risk factors for chronic conditions, injuries and infectious disease as well as improving protective factors in childhood that are critical to creating strong foundations for later in life.

-  **Target:** The proportion of the first 25 years lived in full health will increase by at least 2% by 2030
-  **Target:** The proportion of Aboriginal and Torres Strait Islander babies with a healthy birthweight will increase to at least 91% by 2031
-  **Target:** The proportion of the first 0-4 years of life lived in full health will increase by at least 3.5% by 2030

2. All Australians live in good health and wellbeing for as long as possible



A strong focus on preventive health and health promotion can extend the quality of life and life expectancy of Australians. Opportunities for prevention change as individuals age and this Strategy will support holistic action across the wider determinants of health to prevent chronic conditions, injuries, and infectious disease throughout life.

-  **Target:** Australians will have at least an additional two years of life lived in full health by 2030




3. Health equity is achieved for priority populations

The burden of ill-health is not shared equally amongst Australians. This Strategy will result in overall greater gains for parts of the Australian community who are burdened unfairly due to the wider determinants of health.

-  **Target:** Australians in the two lowest SEIFA quintiles will have at least an additional three years of life lived in full health by 2030
-  **Target:** Australians in regional and remote areas will have at least an additional three years of life lived in full health by 2030
-  **Target:** Aboriginal and Torres Strait Islander people will have at least an additional three years of life lived in full health by 2030

4. Investment in prevention is increased

Health expenditure is currently spent primarily on the treatment of illness and disease. Investment in prevention needs to be enhanced in order to achieve a better balance between treatment and prevention in Australia, as outlined in Australia's Long Term National Health Plan.

-  **Underpinned by:** Investment in preventive health will rise to be 5% of total health expenditure across Commonwealth, state and territory governments by 2030



Principles

Multi-sector collaboration

In recognition of the wider determinants of health, multi-sector collaboration must inform policy to improve health and wellbeing outcomes. Action by different sectors at all levels, within and outside of health, should be coordinated, transparent and monitored to support integrated and evidence-based solutions to complex prevention challenges.

Enabling the workforce

The health workforce is enabled to embed prevention across, and beyond, the health system. Action must enable the health workforce to engage in promoting health and preventing illness through multi-disciplinary health care and utilising the full scope of practice for all health professionals. This includes ensuring that the workforce is available, educated and capable of providing evidence-based, culturally safe and responsive care.

Community participation

All communities – including neighbourhoods, cultural and social groups, workplaces, schools and interest groups, along with non-government organisations, local government and community-controlled organisations (such as Aboriginal Community Controlled Health Services

[ACCHSs]) – are engaged to drive prevention across the life course. Place-based and co-designed approaches are led by communities, in recognition that local individuals are best placed to understand local needs and improve health outcomes for their communities.

Empowering and supporting Australians

All Australians, from all socioeconomic and cultural backgrounds are enabled and supported to make the best possible decisions about their health – promoting self-determination and self-care. Action must be informed by evidence and free from vested and commercial interest. It must focus on appropriate and targeted information, health promotion, and the structural and environmental factors which impact individual autonomy.

Adapting to emerging threats and evidence

Emerging threats to health, as well as the development of new science, are reviewed continuously to ensure prevention efforts mitigate and minimise harms to health to achieve the greatest health gains possible. To determine where to prioritise efforts, knowledge translation is vital.

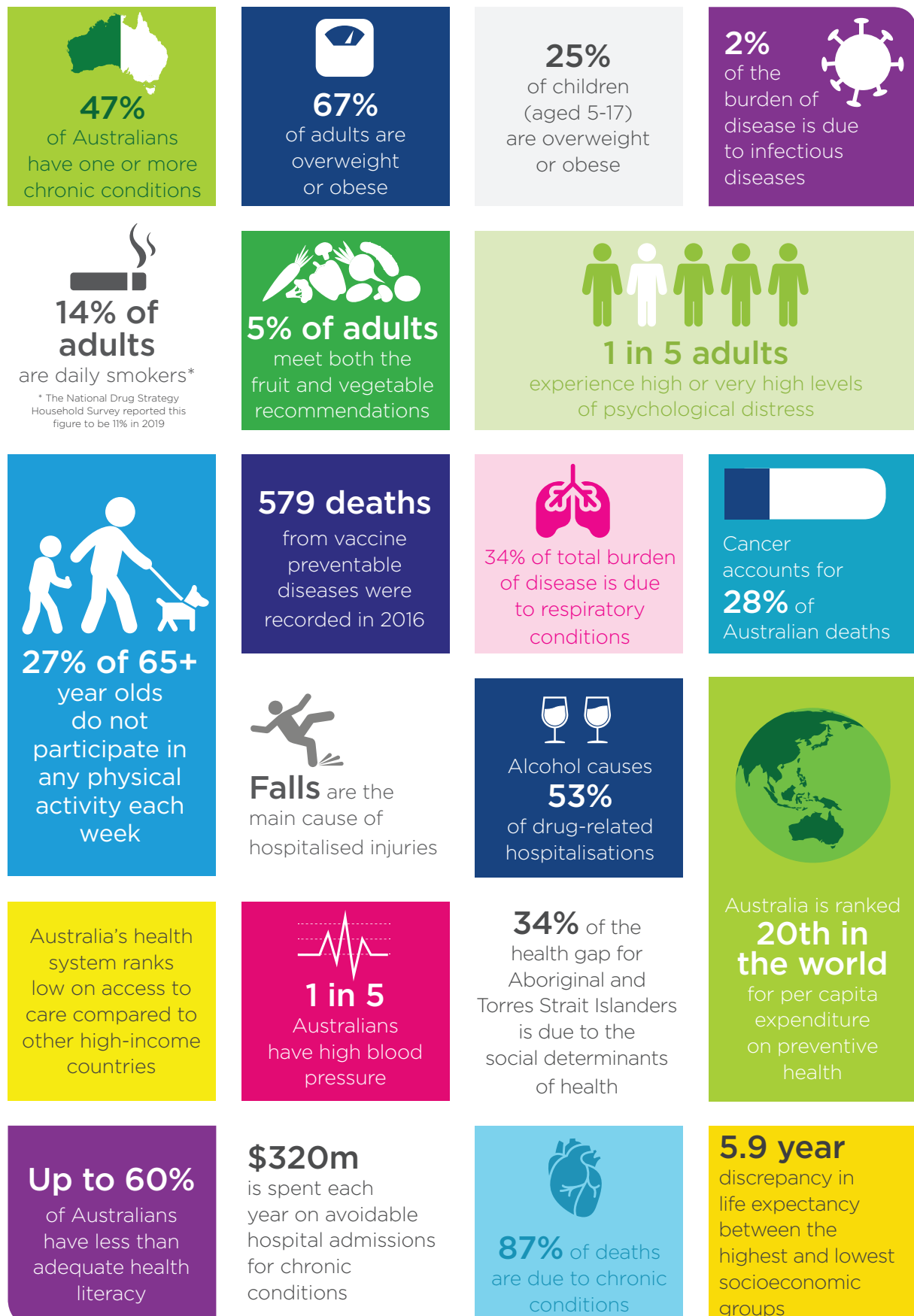
The equity lens

Preventive health action considers the inequities that exist across Australia, including gender inequities, and promotes equitable access to health care that is culturally safe and tailored to diverse community needs. Action must focus on the external barriers that impact on health.

Embracing the digital revolution

Digital technology and capability are embraced by the prevention system, and the advancements and integrations of technology empower and enable individuals to be as healthy as possible. A focus on a hybrid model of care is prioritised, acknowledging that different aspects of prevention have different needs and some may work best when digital technology is coupled with face-to-face interactions or when digital is used on its own. There is a focus on digital inclusion especially for priority populations, to ensure that technological advancements do not inadvertently deepen the equity divide in Australia.

Australia's report card



(informed by Australia's Health Tracker, Mitchell Institute)^{4, 12-19}





Knowing the causes

The root causes of poor health

Traditionally, emphasis has been placed on individuals and how their behaviour, actions and motivation have contributed to their overall state of health. However, it is widely recognised that there are broad contextual factors that play an integral role in determining the health of society, many of which lie outside of both the health system and the control of individuals^{10, 20}. These are referred to as the wider determinants of health, and include the social, environmental, structural, economic, cultural, biomedical, commercial and digital environments in which we live, work, play and age^{10, 20}. These factors are the ‘causes of the causes’²¹ – the reasons underpinning why some Australians are more likely to engage in less healthy behaviours, such as consuming a poor diet or participating in less physical activity.

In order to understand the wider determinants of health, they need to be viewed through a compassionate lens; one which allows us to see beyond highly individualised factors and to focus on the underlying conditions that have created these inequalities in the first place²². There is a complex interplay between environmental influences and our health²¹. Not only is it a two-way relationship – i.e. our health influences our situation and our situation influences our health – but the relationship is also more than just a simple cause and effect²¹. If an individual lives in a low socioeconomic area, it is not certain they will develop more chronic conditions or engage in higher levels of risk factor behaviour, but the likelihood is stronger and greater. Furthermore, it often takes time for the connections between our environment and our health to manifest; for example, it may take decades or generations to experience the deleterious effects of living in food insecurity or in an area with high air pollution.

Complex and multigenerational health outcomes can also result from ongoing racism and discrimination, such as the intergenerational trauma experienced by Aboriginal and Torres Strait

Islander people as a consequence of colonisation and the Stolen Generations^{23, 24}. Understanding and addressing the implications of these factors requires a trauma-informed approach.

The compassionate lens is also important when discussing the health inequities that exist between population groups. In many cases, it is the wider determinants that have contributed to the preventable and unfair gap between different socioeconomic positions, genders, locations, and ethnicities or races²¹. In 2015, the Australian Institute of Health and Welfare (AIHW) found that 20% of the disease burden in Australia could have been avoided if disparities among the five socioeconomic groups analysed were addressed⁴.

Compassion also focuses on the web of interconnectedness that binds all Australians together; ultimately, if some Australians are suffering in poor health, then we are all impacted²⁵. This has never been more apparent than it was in 2020-21 when the COVID-19 pandemic highlighted the inequities that some population groups are exposed to on a daily basis^{25, 26}. The pandemic forced Australians to understand and acknowledge that the health of the community has ramifications for the health of all.

It is important to note that whilst many of the wider determinants sit outside of the direct control of the health system (i.e. climate change, racism, social media etc.) and consequently the scope of this Strategy, it is important to acknowledge the significant impact that they currently have on health and wellbeing outcomes and will continue to have in the future. It is also important to recognise the influential role that health leaders can have on other sectors in order to achieve better health for all Australians.

Each determinant, and its indirect and direct relationship to health, is outlined below in more detail. For many of these factors there is both a protective and adverse impact on health and wellbeing.



Social

There are a number of elements that make up the social determinants of health: from family situation, early childhood circumstances, and support from social connections, to housing, working conditions and employment²¹. The protective and adverse nature of each of these elements is outlined in **Table 1** below.

Table 1 - *The effect of social determinants on health*

Social element	Protective	Adverse
Family situation ²⁷	High-functioning, cohesive and supportive relationships	High stress environment Socioeconomic disadvantage Presence of violence and abuse
Early childhood ^{10, 21, 28}	Preconception - parents' health and diet Preschool education/programs Quality of relationships	Unhealthy learned behaviours Deprivation
Housing ^{21, 29-31}	Strong structural integrity Home ownership Quality infrastructure provides shelter, safety, security and privacy Appropriate for family unit	Overcrowding Insecure housing Unaffordable housing Homelessness Inadequate supply and poor conditions of social housing
Working conditions ^{10, 21, 32-35}	Secure, full-time arrangement Strong social connections in the workplace	Exposure to harmful substances & injury risks Underemployment Working excessively long hours Psychologically harmful working conditions (stress, bullying, harassment etc.)
Social support and participation ^{20, 36-40}	Strong social networks outside of family	Lack of support Loneliness Social exclusion

Across the life course, all of the social determinants occur in combination and there is a cumulative effect. For example, the impacts of childhood disadvantage are often experienced over many years and potentially between different generations within a family; research demonstrates that the children of socially disadvantaged parents have a higher risk of being socially disadvantaged themselves^{33, 41}.

Environmental

The environmental determinants of health are composed of the natural and the built environments in which we live, work, and play and age²¹. The natural environment is made up of the atmosphere, land, water, oceans, and the diversity of living things⁴², and the built environment is the human made surroundings and the urban form (e.g. shape, size, population density and layout of cities²¹). Both of these factors play an integral role in shaping the health and wellbeing of Australians, especially the natural environment which provides provisioning services (i.e. food, water, raw materials, medicines) and regulatory services (i.e. water and air purification, climate regulation, waste decomposition, pest and disease control) that are essential to sustaining all planetary life⁴³⁻⁴⁵.

Table 2 - The effect of environmental determinants on health

Natural environment	Protective	Adverse
Climate change and extreme weather events ^{21, 46-51}	Renewable energy sources Increased greenhouse gases removed from the atmosphere Preparedness for bushfires, violent storms, heavy rainfall & flooding Heatwave response planning Sustainable food systems	Increased atmospheric greenhouse gases Increased intensity and/or frequency of heat waves and drought Increased bushfires, violent storms, heavy rainfall events & flooding. Coastal erosion Environmental degradation
UV radiation ^{21, 52}	Vitamin D production	Carcinogenic
Biodiversity ^{42, 53, 54}	Regulates climate Filters air and water Enables soil formation Mitigates the impact of natural disasters	Rapidly declining planetary biodiversity Increasing impact of climate change Habitat fragmentation and degradation Invasive species
Air pollution ^{21, 49, 55-57}	n/a	Increased presence of fine airborne particles (PM _{2.5}) Carcinogenic Major single health events i.e. thunderstorm asthma Extreme localised events (bushfires, dust storms)
Vector borne diseases ^{55, 58-61}	Increased blood and bodily fluid safety Prophylaxis and preventive medication treatment, including immunisation Increased food safety	Changes in climate: extend the geographic spread and lengthen the transmission seasons of vector borne diseases; and increase the likelihood of food- and water-borne disease
Built environment	Protective	Adverse
Urban design ^{2, 21, 62-65}	Low population density Contact & connection with nature Protection from the elements Social engagement	Increased car use Loss of agricultural land & green spaces Urban heat island effect Unaffordable housing in city centres
Walkability ⁶⁶⁻⁷⁰	Neighbourhoods within walkable distances of destinations Well-connected streets Increased physical activity	Low public transport options Non-diverse land use
Transport ^{21, 71, 72}	Increased access to resources and facilities needed for a healthy life Promotes and supports active travel i.e. walking paths and cycling tracks integrated into urban planning	Car dependence, Traffic accidents Traffic congestion, Car-related expenses Promotes sedentary behaviour Reduction of natural space Affects greenhouse gas emissions, climate change, air pollution, environmental noise
Green and public open spaces ^{66, 73-77}	Social interaction/Reduced social isolation Increased physical activity levels Community connections Positive mental health and wellbeing	Decreased sense of safety Decreased physical activity and increased screen time for children
Food environments ^{21, 78-84}	Closer proximity to supermarkets Access to urban agriculture and community gardens Access to affordable, nutritious fresh food	Increased density and location of fast food outlets and alcohol outlets Marketing and product placement of unhealthy items in supermarkets
Water resources ^{21, 72}	Reliable and safe drinking water and wastewater services	Poorly maintained water and wastewater infrastructures

Structural

There are structural barriers in Australia that inhibit equitable access to health-supporting behaviours and health care. Some social and population groups are better serviced by health infrastructure than other groups or communities, which can lead to or amplify health inequalities⁸⁵. These barriers include: the cost of health care and user fees; the availability of timely and quality services; systemic racism and discrimination; health literacy levels; and geographic location⁸⁵. Access to health care as well as access to quality health care is a particular issue for rural and remote communities^{86, 87}.

For some Aboriginal and Torres Strait Islander people, there are a number of historical and cultural factors, including racism and discrimination, colonisation and colonialism, and the Stolen Generations, that have an ongoing impact on their health and wellbeing⁸⁸. The effects of these factors are evident today in reduced employment and educational opportunities, inequitable living conditions and cultural dislocation^{88, 89}, all of which influence health outcomes.

Table 3 - *The effect of structural determinants on health*

Structural element	Protective	Adverse
Healthcare costs ^{85, 90, 91}	Universal health care	Constrained by income Out of pocket costs
Service provision ^{87, 90}	Receive timely and quality care for all health needs	Long appointment waiting period Poor access to appropriate services, including specialists and allied health
Systemic attitudes and practices ⁹²⁻⁹⁴	Access to culturally appropriate, safe and responsive care	Racism and discrimination resulting in the provision of low quality healthcare Avoidance of healthcare settings by people requiring care
Health literacy ⁹⁵⁻¹⁰¹	Crucial to effective self-care Can access, understand, appraise and use information to make informed health-related decisions	Low health literacy linked with poor health across the life course Reduced capacity to engage in self-care and preventive health care Increased healthcare costs and hospitalisations
Geographic location ¹⁰²	High quality, affordable and locally available health care	Lack of locally available health care across a range of primary and acute care settings Critical shortages of health care professionals

Economic

Economic determinants are some of the most influential factors affecting health and wellbeing. These determinants include education, employment, occupation, and income²¹. These factors, together with the social factors, commonly identify an individual's socioeconomic position within society²¹.

Table 4 - *The effect of economic determinants on health*

Economic element	Protective	Adverse
Education ^{10, 21, 103}	Higher skilled jobs Higher income Understanding & implementing preventive health messaging Stronger health literacy	Greater disadvantage leading to higher mortality rates amongst poorly educated Australians
Employment and occupation ^{20, 104-106}	Sense of purpose Job security Financial security Social status Personal development	Unemployment Reduced income Underemployment
Income ^{21, 33}	Higher standard of living Greater choice in food availability and quality of food, housing, physical activity, social participation, and health care	Loss of income from poor health Higher mortality rates amongst lower income earners Social inequality



Cultural

The cultural determinants of health are integral to understanding and improving the health and wellbeing of Aboriginal and Torres Strait Islander people as well as the CALD community².

For Aboriginal and Torres Strait Islander people, this perspective takes a strengths-based approach and acknowledges that stronger connections to culture and country are vital for stronger individual and collective identities^{107, 108}.

As identified in the Mayi Kuwayu literature review, there are six overarching domains for describing the cultural determinants of health that are specific to Aboriginal and Torres Strait Islander people^{107, 108}. These include: Connection to Country; Family, kinship and community; Indigenous beliefs and knowledge; Cultural expression and continuity; Indigenous language; and Self-determination and leadership^{107, 109}. As this is a strengths-based approach, only the protective factors of each domain will be highlighted in the table below.

Table 5 - The effect of cultural determinants on health

Cultural domain ^{107, 109}	Protective
Connection to Country	Spiritual connection Health and traditional foods Living on Country Land rights and autonomy Caring for Country
Family, kinship and community	Family and kinship Community
Indigenous beliefs and knowledge	Spiritual and religious beliefs Traditional knowledge Traditional healing Knowledge transmission and continuity
Cultural expression and continuity	Identity Cultural practices Art and music
Indigenous language	Impacts of language on health Language revitalisation Aboriginal and Torres Strait Islander language education
Self-determination and leadership	Cultural safety Self-determination and wellbeing Leadership

With almost half of all Australians being born overseas or having one or both parents born overseas, culture also plays a strong role in the health and wellbeing of CALD communities^{110, 111}. Some of the protective factors outlined in Table 5 are also influential for CALD communities, including: self-determination and leadership; cultural expression and continuity; and family, kinship and community. There are also a number of other protective factors including: access to interpreting services; respect for cultural differences and beliefs, including spirituality; shared decision-making; and the availability of accessible and quality health information^{112, 113}. However, factors such as discrimination, racism, and poor health literacy have a negative impact on the health and wellbeing of Australians who identify as CALD^{112, 113}.

Biomedical

There are a number of personal biomedical factors that contribute to the risk of an individual developing a serious chronic health condition such as cardiovascular disease, type 2 diabetes, and chronic kidney disease¹¹⁴. Factors may include: blood pressure; high blood glucose levels; overweight and obesity; and elevated blood cholesterol. There is a strong relationship between biomedical factors and behavioural risk factors (i.e. physical inactivity, tobacco use, poor diet), with the effects of each amplifying when they co-occur in an individual¹¹⁵. Social factors, such as financial and occupational stress, also affect biomedical factors.

The table below outlines only the detrimental aspects of the biomedical factors, as having normal blood pressure, blood glucose levels, and being within a normal weight range all enable an individual to live as long as possible in good health.

Table 6 - *The effect of biomedical determinants on health*

Biomedical element	Adverse
Blood pressure ^{4, 116-121}	High blood pressure increases risk of chronic conditions e.g. CVD, stroke, diabetes, dementia, hypertensive diseases, kidney disease Low blood pressure is a risk factor for glaucoma
Blood glucose levels ^{4, 118, 122, 123}	High blood glucose is a risk factor for CVD, retinopathy, kidney disease
Weight range ¹²⁴⁻¹³⁴	Overweight and obesity increases risk of diabetes, cancer, asthma, depression, and adverse outcomes during pregnancy such as preeclampsia and stillbirth Underweight increases risk of CVD, stroke, heart attack, atrial fibrillation, infection, and adverse outcomes in pregnancy such as preterm delivery and low birthweight
Blood cholesterol ¹³⁵	High blood cholesterol is associated with ischaemic heart disease
Genetics, epigenetics and telomere biology ¹³⁶⁻¹⁴⁴	Increased risk of cancer due to genetic changes to telomeres Increased risk of alcohol dependence, diabetes, inflammatory bowel disease and Alzheimer's disease due to genetic predisposition Changes in epigenetics leading to increased risk of cancer, a weakened immune system, and affecting a newborn's genetic predisposition to disease Aboriginal and Torres Strait Islander people are at increased risk of adverse epigenetic implications as a result of colonisation and intergenerational trauma





Commercial

The commercial determinants of health are defined as factors that influence health which stem from the profit motive¹⁴⁵. In addition, these also encompass the strategies and approaches used to promote products and/or choices that are detrimental to an individual's health¹⁴⁶. There are four main ways that corporate influence is exerted: marketing and advertising; corporate political activities (i.e. lobbying); corporate social responsibility strategies; and supply chains¹⁴⁶.

Consideration of the commercial determinants of health is critical to establishing effective approaches to preventive health, as individuals have limited control over their circumstances and what they are exposed to in their everyday life¹⁴⁷.

Table 7 - *The effect of commercial determinants on health*

Commercial element	Protective	Adverse
Marketing and advertising ¹⁴⁶⁻¹⁵⁰	Social marketing promotes public health and health promotion messaging	Promotion of unhealthy products Enhances desirability and acceptability of unhealthy products
Corporate political activities ^{147, 151}	The provision of goods and services such as health facilities, schools or other collective goods, especially in political environments where these goods are under-provided	Lobbying Political donations Barrier to public health policy Shapes the social environment
Corporate social responsibility strategies ^{147, 152}	Add meaningful benefit to society by addressing a need	Enhances public perception and credibility of organisations who don't have health at the heart of their products or services
Supply chains ^{147, 153}	Development of health-enhancing products	Resistance of inclusion of features that enhance health due to cost Development of products that are detrimental to health

The commercial sector could play a pivotal role in positively shaping the health outcomes of Australians by aligning their strategies to the health and wellbeing goals of society^{153, 154}.

Digital

Digital technology and resources have become an integral and ubiquitous part of everyday life and provide a structural resource for the health system, the public health workforce and everyday living. Technology is rapidly advancing and evolving all around the world and the use of technology can have both positive and negative effects on our health and wellbeing. Advancements in technology have introduced electronic medical records, advances to diagnostic and therapeutic tools, as well as the increased use of wearable technologies, telehealth and digital platforms¹⁵⁵.

Table 8 - *The effect of digital determinants on health*

Digital element	Protective	Adverse
Telehealth ¹⁵⁶⁻¹⁶⁰	Greater accessibility to services Convenience	Requires access to devices, internet and digital literacy Lack of infrastructure/bandwidth required to connect to services Some limitations in assessment compared to face-to-face consultations Potential privacy concerns Potential for misuse and over-use of service Potential for predatory business models and behaviours
Diagnostic and therapeutic tools ^{155, 161}	Earlier diagnosis and care Increased objectivity in disease detection Reduced diagnostic and therapeutic errors	Potential over-diagnosis
Wearable technologies ¹⁶²⁻¹⁶⁴	Empower consumers to track and enhance their health	Potential privacy concerns Only wearables defined as 'medical devices' are subject to regulation Potential information overload or misinformation
Digital platforms ^{155, 165, 166}	Enables social connectedness Positive impact on wellbeing Provides channels to host, publish and distribute health information and resources (e.g. Healthdirect) Rapid sharing of health updates and information	Negative impact on mental health and wellbeing (particularly for youth) associated with regular digital platform use Online advertising and marketing Increased access to platforms that deliver unhealthy products Spread of health misinformation Potential privacy concerns
Electronic medical records ¹⁶⁷⁻¹⁶⁹	Ease of sharing to assist healthcare practitioners Centrally located Consumer empowerment/engagement Increased health literacy	Potential privacy concerns
Working arrangements ¹⁷⁰⁻¹⁷²	Increased potential for flexible working arrangements Positive impact on work/life balance	Negative impact on work/life balance
Data ¹⁷³⁻¹⁷⁵	Increased capability to collect, store, manage and share data Increased capability for evaluation of health initiatives Provision of health system information that is accessible, up-to-date and best practice (e.g. "living guidelines")	Priority population groups may not be measured nor represented equally in data sets Potential privacy concerns

It is essential that digital inclusion is equally distributed across all social and economic groups to ensure that advances in digital health technology do not exacerbate the equity divide. This includes providing the appropriate infrastructure and ensuring accessibility for priority populations. With all technological advancements, it is important to prioritise improvements in data and information privacy, governance, and trust¹⁵⁵.



Priority populations

There are a number of different groups within society who experience a disproportionate burden of disease, leading to differences in health outcomes and life expectancy⁴. This inequitable burden of disease is not due to personal fault or responsibility, rather, it is largely avoidable. The WHO recognises that the main causes are a result of social inequality and social disadvantage¹⁷⁶. While individuals from these groups may not be physically ill, they are often unable to fully participate in their health and may be resisting or recovering from a crisis or illness¹⁷⁷. This is due to a multitude of reasons, including the wider determinants outlined above. These groups include, but are not limited to, the following communities:

- Aboriginal and Torres Strait Islander people
- Culturally and linguistically diverse (CALD)
- Lesbian, gay, bisexual, transgender, queer or questioning, intersex and/or other sexuality and gender diverse people (LGBTQI+)
- people with mental illness
- people of low socioeconomic status
- people with disability
- rural, regional and remote

The needs of each group are diverse and there is no one size fits all approach to improving health equity and the communities' overall health outcomes. People may identify as belonging to one or more of these population groups, and as such, may have compounding health and wellbeing experiences that must be considered. It is also important to recognise that these population groups all have inherent strengths and resilience. Many people who identify within these groups are thriving in spite of the challenges they face. Shared decision-making, strategic partnerships and involving people with lived experience at the heart of policy development and implementation are key to creating meaningful change.

Protecting our health

Prevention works and provides financial gains



What is prevention?

In the context of health, prevention includes taking measures to keep people healthy and well and to avoid the onset of illness, disease or injury. For many of us, prevention is ingrained in our daily habits and actions; hand washing helps to prevent the spread of infection; a nutritious diet and regular physical activity improves our physical, mental health and wellbeing; wearing a hat and applying sunscreen protects against the development of skin cancer; and wearing seatbelts in the car reduces the chance of injury or death.

The WHO defines prevention as “approaches and activities aimed at reducing the likelihood that a disease or disorder will affect an individual,

interrupting or slowing the progress of the disorder or reducing disability”¹⁷⁸. The goal of prevention is to maintain and improve the health and wellbeing of the entire population, while simultaneously reducing health disparities between priority population groups and the general population.

There are several types of prevention, which are categorised based on the stage of health (or ill health) at which they are implemented. Even once a person becomes unwell, there are preventive actions that can be taken to prevent disease progression and/or prevent concurrent illnesses from occurring.

The types of prevention are¹⁷⁹⁻¹⁸¹:

1. **Primordial prevention** focuses on addressing the wider determinants of health by reducing the environmental factors, hazards and social factors that negatively affect health. This includes the creation of enabling environments that promote health through the built environment by encouraging healthy behaviours such as physical activity, and providing access to healthy food, clean air, water and sanitation.
2. **Primary prevention** focuses on reducing risk factors to prevent a disease or disorder before it arises. This includes: behavioural factors such as low physical activity levels and poor dietary intake; biomedical factors such as overweight and obesity and high blood pressure; and specific protective factors such as immunisation.
3. **Secondary prevention** focuses on the early detection and best practice management of a disease or disorder to reduce deterioration and long-term effects. This includes identifying people at risk of ill-health through screening programs, general health examinations, as well as the identification of complications and co-morbidities.
4. **Tertiary prevention** focuses on reducing harms in people with a disease or disorder and minimising their functional impairment. This includes management of co-morbidities, complications and associated disabilities.
5. **Quaternary prevention** focuses on reducing harms caused by medical interventions for a disease or disorder^{182, 183}.

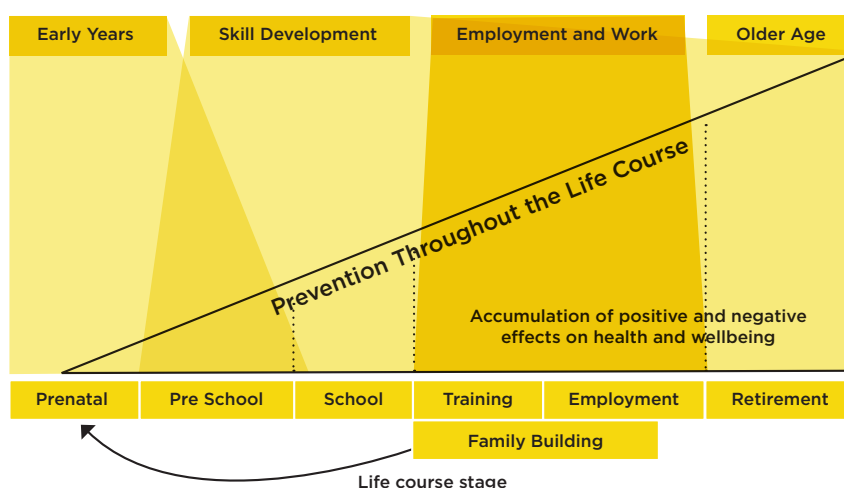
The different types of preventive health recognise that there are many individual and collective factors that influence health and wellbeing. The health of an individual is determined largely by the social, environmental,

cultural, structural, economic, commercial and digital environments experienced throughout life, as well as various individual attributes like genetic make-up. Many of these factors are interrelated and evolve over time, as described in further detail within the '*Knowing the causes*' chapter. To promote health and wellbeing across Australia, all of these factors must be considered in preventive health action in order to reduce the health inequalities and inequities that exist, especially for priority populations. Preventive health measures also need to address health at all stages across the life course – from prenatal, infancy and childhood, to adolescence, adulthood, and through to older age. Consistent with the life course approach adopted in other key plans and strategies, such as the National Aboriginal and Torres Strait Islander Health Plan, this approach takes into account the different positive and negative health impacts through life that people encounter and acknowledges our changing health needs as we age¹⁸⁴ (Figure 2). Prevention efforts can focus on the whole population. They can also be effective when they are targeted to different sub-populations or communities, based on need^{179, 183, 185}:

- *Universal prevention* is a broad approach for the entire population e.g. fluoridated water.
- *Selective prevention* focuses on people with a greater risk of developing a disease or disorder, e.g. breast cancer screening for females between 50-74 years of age.
- *Indicated prevention* targets people at high risk, e.g. injecting drug users or prisoners.

Australia has an excellent record of accomplishment in health prevention, however spending on preventive health is still low. In 2018-19, 2.0% of total health expenditure was spent on public health and prevention¹⁸⁶. This

Figure 2 – The life course approach – adapted from *Marmot and Goldblatt et al. 2010*¹⁸⁴



takes into account Commonwealth and state and territory health expenditure. This amount is significantly lower than other countries with similar health systems such as Canada (over 6%) and the UK (over 5%)¹⁸⁷. Of the 33 OECD countries who reported on prevention spending in 2018, Australia ranked 20th in terms of per capita spending on prevention, and 27th in terms of percentage of overall spending on health allocated to prevention¹⁸⁸. A greater investment in preventive health would allow for more initiatives that can protect the health of Australians before they become unwell.

Prevention doesn't only take place in health settings such as at general practices and health services, but also in homes, schools, workplaces, community organisations and in social and cultural settings. Many of the wider determinants of health are outside of the health sector, which means approaches to prevention must be considered across sectors, and in all policies across governments. Only a collective and cohesive effort across sectors will provide the full extent of work required to create and enhance the types of environments needed to support individuals to lead healthy lives.



The value of prevention

The benefits of prevention extend beyond reducing chronic conditions and living longer, healthier lives. Prevention generates benefits not only by reducing pressure on the health budget, but by also increasing workforce participation and productivity, and improving the health of future generations¹⁸⁸. To date, Australia's preventive health initiatives have shown how dramatically prevention can positively impact our health. These include our immunisation and cancer screening programs, our tobacco and UV exposure reduction initiatives, the introduction of gun laws, the success in containing the spread of HIV, and the introduction of safe driving measures such as compulsory seatbelt use in cars, random breath testing, and speed monitoring interventions (see 'Adapting our response' chapter for further information).

Preventable ill-health is putting enormous pressure on the Australian healthcare budget. In 2015-16, the cost of healthcare goods and services was \$10.4 billion for cardiovascular diseases, \$8.9 billion for injuries and \$8.9 billion for mental and substance use disorders¹⁸⁹. By

preventing these conditions, governments can avoid future costs to the healthcare budget related to managing the complex treatment and care of these conditions. However, healthcare costs are not the only economic impact of preventable ill-health. Social costs also need to be considered, which include the costs associated with household expenditure (e.g. the cost of purchasing tobacco products), decreased productivity costs (e.g. increased absenteeism and presenteeism), and law enforcement costs (e.g. police attendances in relation to drug offences). In 2015-16, the social costs of opioid use and tobacco use were estimated at \$15.76 billion and \$136.9 billion respectively¹⁸⁶, and in 2010, the estimated social cost of alcohol misuse was \$14.35 billion¹⁸⁶. Reducing the impact of these risk factors has the benefit of significantly reducing pressure on the health budget, as well as putting money back into the pockets of Australians and increasing workplace participation, productivity and quality of life.

Chronic conditions are becoming increasingly prevalent and pose a significant challenge to



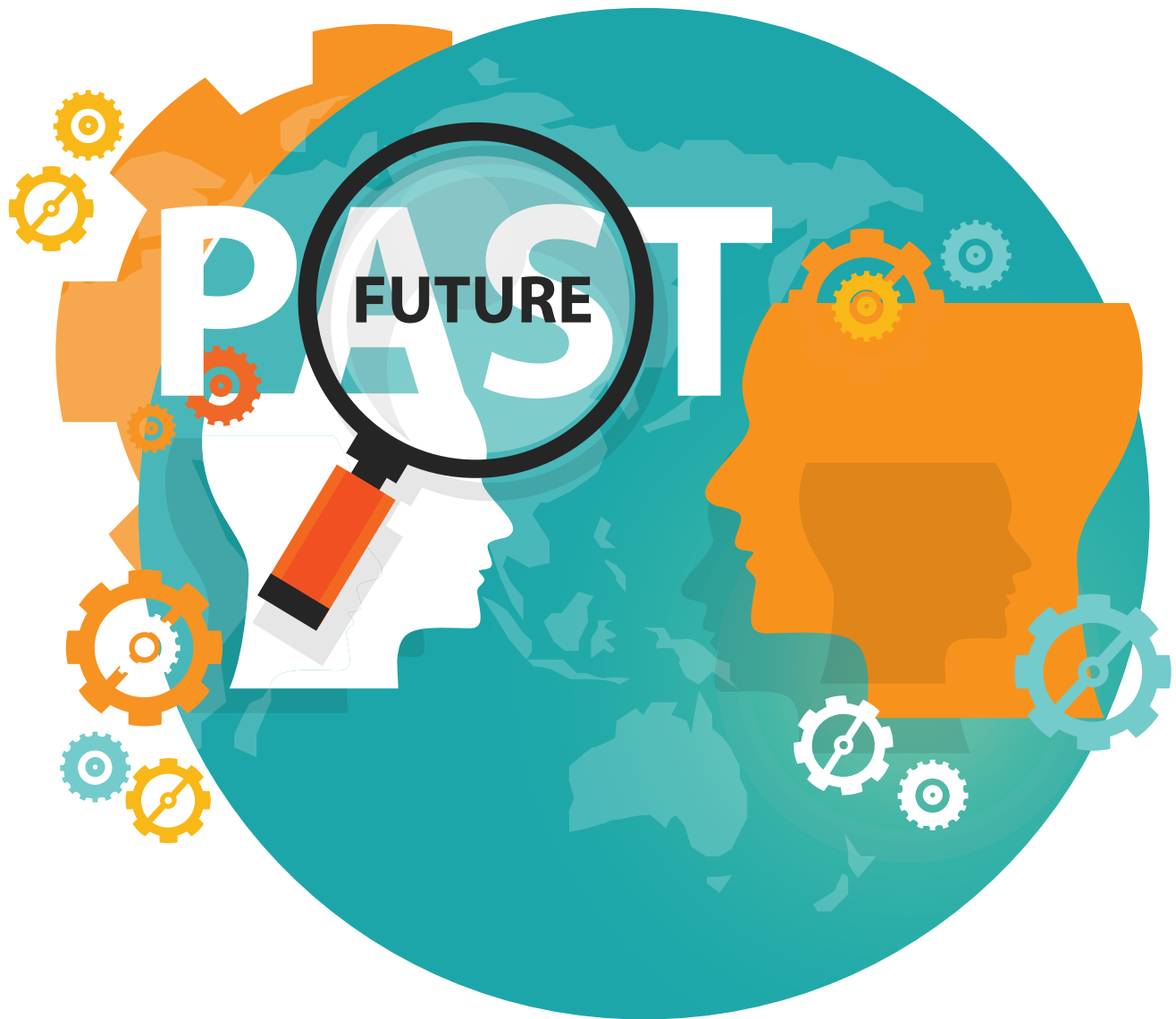
the health system¹⁹⁰. Chronic conditions make up roughly half of all potentially preventable hospitalisations (46%) which in 2015-2016 cost the health system over \$2.3 billion dollars²¹. Without intervention, the impact of chronic conditions will continue to grow. Research suggests that if no additional action is taken to tackle the increase in obesity, it will cost Australia a total of \$88 billion in direct and indirect costs over a 10-year period¹⁹¹. Interventions to combat this will not only improve the health of individuals, but will reduce costs in the long term.

There is clear evidence that many preventive health interventions are cost-effective and offer good value for money, in both Australian and international contexts¹⁹²⁻¹⁹⁴. In the 30 years between 1970 and 2000, at least \$2 billion in net benefits has been gained through health promotion campaigns aimed at reducing tobacco consumption¹⁸⁵. The 2010 Assessing Cost-Effectiveness (ACE) in Prevention study demonstrated that prevention interventions in Australia can create savings by offsetting the cost of the interventions by the savings that result from a reduced need to manage and treat diseases¹⁹⁵. By introducing tax increases on tobacco (30% increase), alcohol (30% increase) and unhealthy foods (10% increase), alongside mandatory salt limits on processed foods, it was estimated that \$6 billion of net savings could be made to the health system through a reduction in direct healthcare costs¹⁹⁵. The evidence from previous, successful preventive health initiatives need to be utilised to direct preventive health investment in Australia to where it can be used most efficiently and effectively, and to enable the greatest gains.

The greatest gains for prevention can be demonstrated when preventive health action starts early in life, from the preconception phase

(health of both parents) to early childhood stages this creates the foundations of adult health¹⁹⁶. Social, emotional, cognitive and physical wellbeing later in life is underpinned by healthy physical development and emotional support during the first years of life¹¹⁵. For example, three factors during infancy are shown to impact weight gain later in life: how rapidly an infant gains weight, initiation and length of breastfeeding, and the duration of infant sleep¹⁹⁷. Positive health and wellbeing during early childhood and adolescence is also critical to healthy ageing. Nutrition in early life plays a key role in the risk of developing musculoskeletal problems such as osteoporosis, sarcopenia, and osteoarthritis¹⁹⁸.

Preventive health action can also work to raise the health of priority populations to an equitable level. Australia has made valuable gains in terms of reducing the burden of some chronic conditions, but there is considerable work that still needs to be done for high-risk and priority population groups. If action were taken to address the wider determinants of health, then it is estimated that 170,000 extra Australians could enter the workforce, generating \$8 billion in extra earnings, annual savings of \$4 billion in welfare support payments could be made, and 60,000 fewer people would need to be admitted to hospital annually resulting in savings of \$2.3 billion in hospital expenditure¹⁹⁹. Furthermore, 5.5 million fewer Medicare services would be needed each year, resulting in annual savings of \$273 million, and 5.3 million fewer Pharmaceutical Benefit Scheme scripts would need to be filled each year, resulting in annual savings of \$184.5 million each year¹⁹⁹. The evidence is clear; tackling influencing factors outside of the health system is crucial for improving the health of priority populations and benefitting all Australians overall.



Adapting our response

One eye on the past and one eye on the future

Learning from our past success in prevention

Australia is recognised as an international leader in many areas of prevention. There is a lot that we can learn from our past success to guide our future strategy. Success in prevention has not occurred by chance. It has involved sustained commitment by governments, passionate non-government organisations, community members and a determined response by members of the public. It has also involved long-term, multi-sectoral and multi-lateral partnerships to achieve continued success.

There are many positive stories in Australia when it comes to prevention, particularly our experience in tobacco control, our response to the HIV epidemic, skin cancer prevention, road safety, our introduction of national cancer screening programs, and our innovation in immunisation. The following vignettes provide key examples of preventive health success in the past, and highlight key learnings that are critical to guide Australia's future action.

Vignette 1: Tobacco Control in Australia

Smoking prevalence in Australia has significantly fallen over the past 20 years due to successful preventive health measures²⁰⁰. Since 1995, the proportion of adults who are daily smokers has decreased from 23.8% to 13.8% in 2017-18²⁰¹. Young people (aged 18-24) are more likely to have never smoked than a decade ago (75% compared with 34%)²⁵⁴.

Figure 3 outlines the success Australia has had in reducing tobacco use and the proportion of Australians smoking. This important example demonstrates the need for a continuous and comprehensive approach. Success has been achieved through a range of interventions including taxation, indoor and outdoor smoking bans, and product regulation, as well as support from health services and public education campaigns. The implementation of these strategies, combined with high quality evaluations and data from continuous monitoring, is widely viewed as a world-leading case study for achieving sustained public health outcomes.

Through the implementation of preventive health measures outlined in **Figure 3**, fewer Australians have died prematurely due to smoking, and there has been a reduction in overall healthcare and productivity costs²⁰⁰.

Although significant progress has been made, tobacco remains the leading cause of cancer in Australia, contributing 22% of cancer burden, as well as contributing 41% of respiratory diseases and 12% of cardiovascular diseases²⁰². Tobacco use also remains a leading burden of disease for Aboriginal and Torres Strait Islander people²⁰³. Ongoing effort is essential in order to continue the downward trend for Australia's current and future generations.

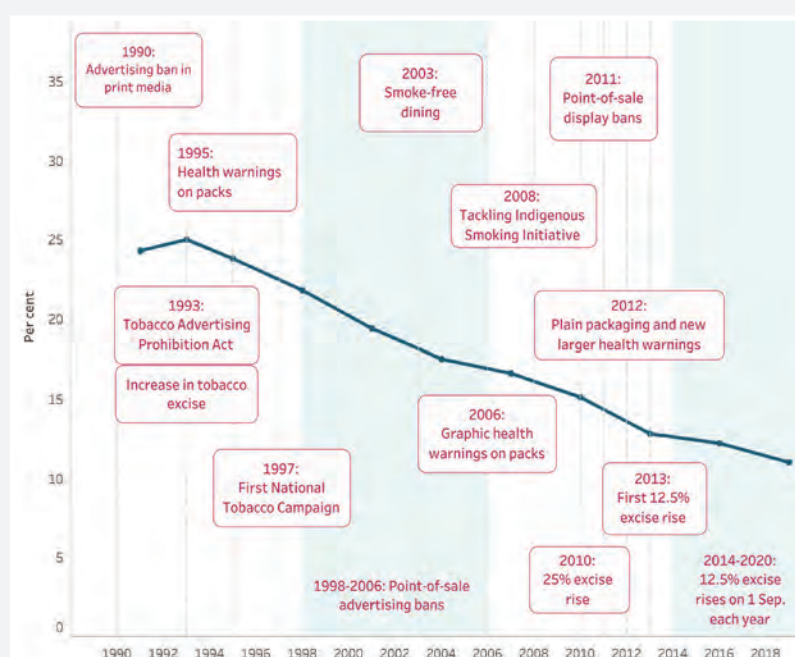


Figure 3 - Prevalence of daily tobacco smoking in Australians aged >14 years old

Source: *Tobacco in Australia, Facts and Issue Introduction & Chapters 11, 11A, 13, 14 & 15 and National Drug Strategy Household Surveys, 1991 to 2016, AIHW 2017*



Vignette 2: Skin Cancer Prevention

Compared to the 1980s, Australians today have an increased awareness of the importance of sun protection²⁰⁰. The use of sunscreen, hats and protective clothing has increased²⁰⁰. The rate of young people preferring a suntan has also dropped from 60% to 38%²⁰⁰. Over recent decades, there has been a significant reduction in melanoma rates in Australians aged less than 40 years²⁰⁴, with many aware of the associated harm related to skin cancer and taking the initiative to seek medical checks. For many older Australians, the damage of the past is hard to reverse, but evidence suggests that improved sun protection in middle age can successfully reduce skin cancers later in life²⁰⁴.

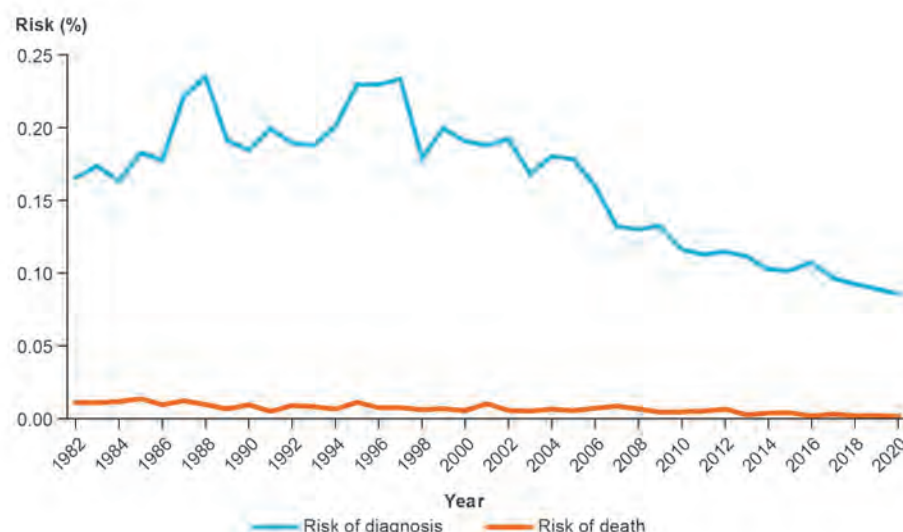
There have been a number of educational skin cancer prevention campaigns and programs implemented in Australia over the past few decades, and they have successfully contributed to much of the attitudinal and behavioural shift demonstrated by Australians. This includes, for example, the *Slip! Slop! Slap! Seek! Slide!* campaigns and the *SunSmart Program* in primary school settings. These preventive health initiatives have contributed to saving many lives and reducing the incidence of skin cancers^{205, 206}.

Critical to these achievements has been the establishment of strategic relationships between partners from all levels of government, non-government organisations and communities, which are active in a wide variety of population and community settings²⁰⁷.

While our progress has been substantial, there is still much to be done. Like tobacco control, sustained and ongoing cancer prevention efforts are critical to embed and reinforce health promoting behaviours and to increase participation in cancer screening programs for the early detection of cancer.

**Figure 4 -
Incidence rates
of melanomas
in Australia in
persons ages
0-39 years**

Source: Australian
Institute of Health
and Welfare (2017)
Australian Cancer
Incidence and
Mortality books,
2017



Vignette 3: HIV and AIDS

Since the first cases of acquired immune deficiency syndrome (AIDS) and the discovery of human immunodeficiency virus infection (HIV) 35 years ago, and the subsequent HIV epidemic in the 1980s, Australia has made a concerted and sustained effort to respond to the virus. This has included vital awareness-raising campaigns, needle and syringe programs and other behavioural changes among priority populations. The Australian response initiated one of the most rapid and sustained changes in community behaviour in Australia's health promotion history²⁰⁸. This response is regarded internationally as a world-leading model of best practice.

Australia's HIV prevention strategies have also included early and sustained treatment to achieve an undetectable viral load and access to pre-exposure prophylaxis (PrEP). In the first two years since being listed on the Pharmaceutical Benefits Scheme (PBS), the number of HIV notifications in Australian-born men with male-to-male sex as an exposure risk has decreased, and this has been attributed to the PBS listing in combination with other strategies²⁰⁹.

Australia has been extremely fortunate to have a well-funded, bipartisan, collaborative response to HIV for over thirty years now. This has resulted in internationally low levels of infection, which makes it possible for Australia to consider a variety of ways to end HIV²⁰⁸.

Key lessons have been learnt throughout the HIV public health response, including the need: to harness community mobilisation and action; for sustained participation; for investment and leadership; for partnership; to commit to social, political and structural approaches for prevention; and to build and use evidence from multiple sources to continuously adapt and evolve²⁰⁸.

Figure 5 – New HIV diagnoses in Australia, 1984-2017, by sex

The Kirby Institute 2017. SERP Annual Surveillance Report 2017. The Kirby Institute, The University of New South Wales (Sydney).



* Includes transgender people and people for whom data on sex was missing.

Key Learnings

The vignettes above highlight Australia's preventive health achievements in several areas of health. It is important we learn from these achievements; lessons from history not only act as reminders about what it was like in the past, but they also help to inform and guide future action. Our successes so far should be celebrated, but we cannot become complacent. Prevention policy needs to build on and enhance these previous successes in public health to not only improve health for all Australians, but to also reduce health inequalities for groups such as people experiencing socioeconomic disadvantage, people living in remote areas, and Aboriginal and Torres Strait Islander people²¹⁰. The key themes that emerge when exploring past successes and failures include:



Success comes from sustained and coordinated action:

Solving complex public health challenges is not easy and there is no 'silver bullet' solution. Our experience in reducing tobacco use, in HIV prevention and in reducing road traffic injuries has demonstrated the importance of combining different forms of government action with meaningful engagement from many sectors to achieve incremental change. This includes formal partnerships and shared decision-making with non-government organisations and communities, underpinned by sustained public education.



To have real impact, prevention needs to be financed:

Although effective public health provides economic saves for our health system and economy in the long term, prevention efforts need to be sustainably financed if they are to have a real impact on population health.



Healthy environments support healthy living:

Several factors are critical to enabling people to lead healthy lives. These include: the way our cities and neighbourhoods are planned; environmental factors such as weather events and air quality; commercial influences; availability and access to healthy food choices; our workplaces; and safe environments for physical activity in our communities. Creating supportive and enabling environments for health is a collective responsibility of communities, individuals, organisations, governments at all levels, the private sector and industry.



Health is for all Australians:

Some groups in our community have poorer health or particular health needs – including Aboriginal and Torres Strait Islander people, those experiencing social and economic disadvantage, those living in rural and remote areas, people with disability, LGBTIQ+ people, and those from culturally and linguistically diverse backgrounds.

Whole of population initiatives, policies and programs are needed, complemented by additional support for those who experience the greatest inequity of outcomes. We have learned that a co-design approach with communities in the development, delivery and evaluation of services produces the best outcomes.



The health sector is enabled to lead by example:

In many of these public health successes in the past, the health sector in Australia led by example. Moving forward, the health sector should be enabled to continue to make the most of every opportunity to improve prevention to create supportive and enabling environments for health. This should be done both within the health system and through partnerships with other sectors.



Data, research and evidence are important drivers:

We know a great deal about what works in prevention, but still have much to learn – especially in designing effective interventions for populations with the greatest need. There is a need to develop capacity, tools and networks to support prevention research and strengthen research-policy pathways. There is also a need to ensure data are available and accessible at the local level.



Adapting to the future:

History tells us that we should always be adaptable and responsive to emerging issues and the benefits and impacts of evolving technology – such as newly emerging infectious diseases, a changing climate and personalised health treatments.



Learning from the COVID-19 experience

COVID-19 has been a dominant issue for every Australian in 2020-2021, and the pandemic presents an opportune time to pause and reflect on the many lessons that must be taken from this crisis. The COVID-19 pandemic has highlighted the importance of an adaptable, resilient and agile health system, as well as the need for strong leadership, coordination and communication. It has demonstrated that individuals experiencing vulnerabilities and preventable chronic conditions are at greater risk of both direct and indirect adverse outcomes. Around the world, obesity has presented as a novel risk factor for COVID-19, resulting in higher rates of hospitalisation, admittance to intensive care and death^{211, 212}.

The pandemic has also emphasised the importance and benefits of prevention – prevention is much more cost-effective than treatment, both during ordinary times and a pandemic²¹³. The National Contact Tracing Review (the Review) supports the need to maintain a focus on preventive public health measures and highlights that the most effective responses have been achieved through long-term investment in public health²¹⁴. The Review also clearly outlined that Australia's public health experts have been instrumental in safely stewarding Australia's response through the COVID-19 pandemic, concluding that a highly qualified public health workforce is vital²¹⁴.

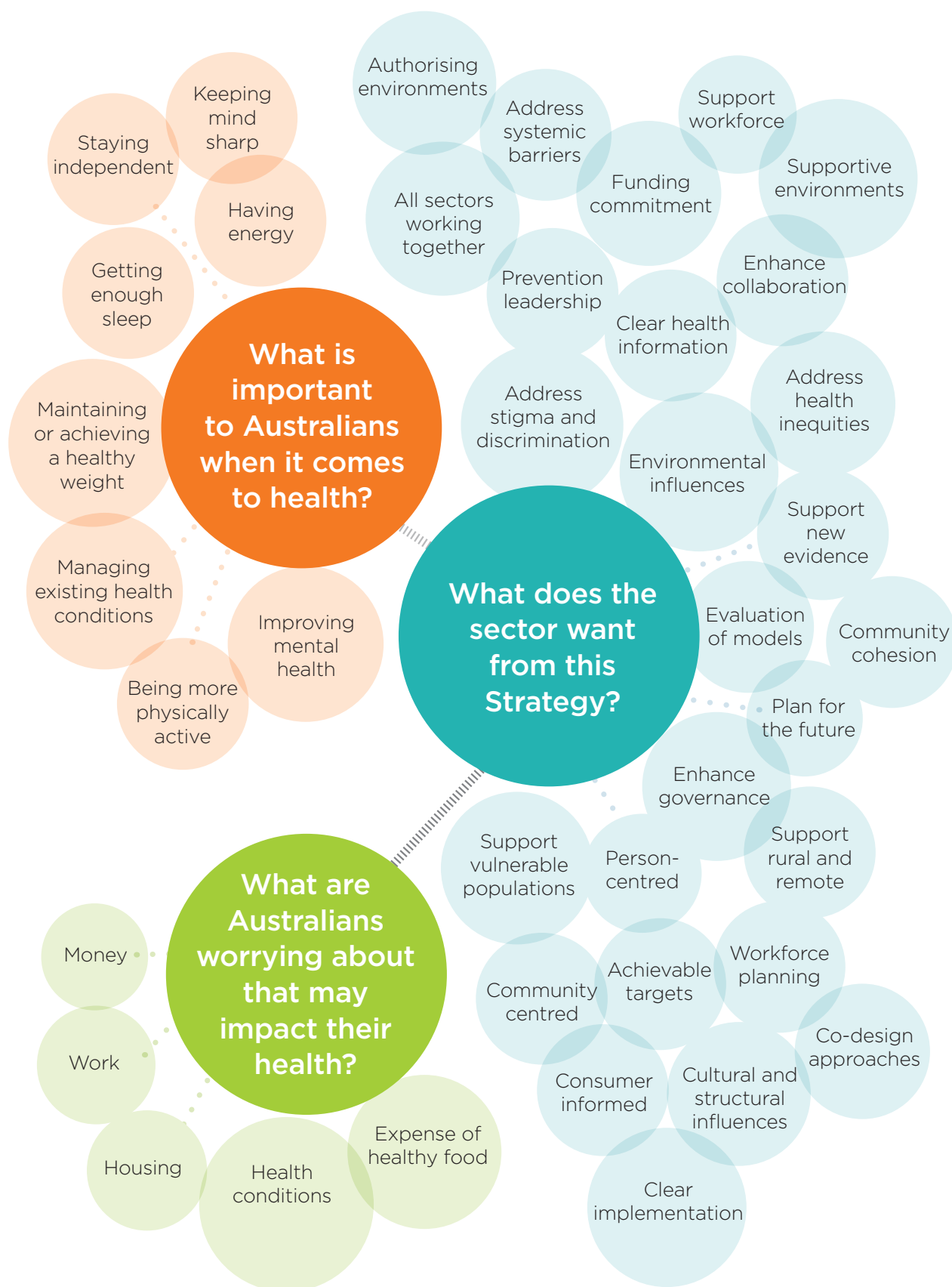
COVID-19 has shown Australians and the world how interconnected our health is, with the risk to

some, becoming the risk to many. The pandemic has revealed weak points in how we think about 'health' or 'public health' and in some instances, how it is funded²¹⁵. Ultimately, it should be about improving the health of communities and the population²¹⁶. Instead, there is a strong emphasis on the health of individuals, and the doctors and medicines that help us to recover when we, as individuals, get sick²¹⁶. The COVID-19 pandemic has highlighted that there needs to be a shift in this thinking to a whole of population focused approach – a collectivist approach that is focused on preventing disease, injury and illness for all Australians²¹⁶.

COVID-19 has also brought to light the importance of partnership approaches and involving communities in decision making processes. The strength and leadership of the ACCHS sector during the pandemic meant that locally-led, holistic, comprehensive, and culturally appropriate health care continued to be delivered to communities, in spite of lockdowns and other restrictions. This sector-led response has been instrumental in reducing the impact of COVID-19 in Aboriginal and Torres Strait Islander communities.

The lessons from the COVID-19 pandemic will continue to emerge over the next decade. It will be important to understand and learn from these lessons in order to ensure Australia, and the world, are less vulnerable to future public health challenges.

Listening to the community

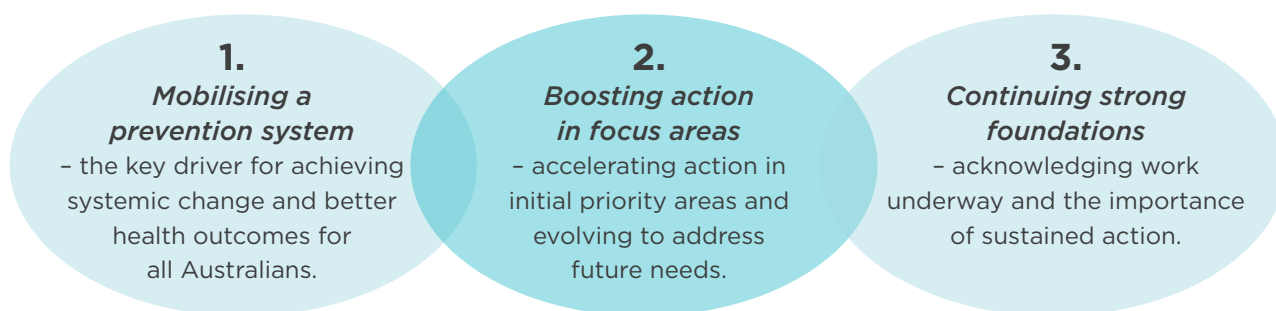


The Framework for Action

Achieving the vision and aims

The Framework for Action (the Framework) forms the foundation of this Strategy, providing a strategic and structured approach to achieve better health and wellbeing for all Australians by 2030.

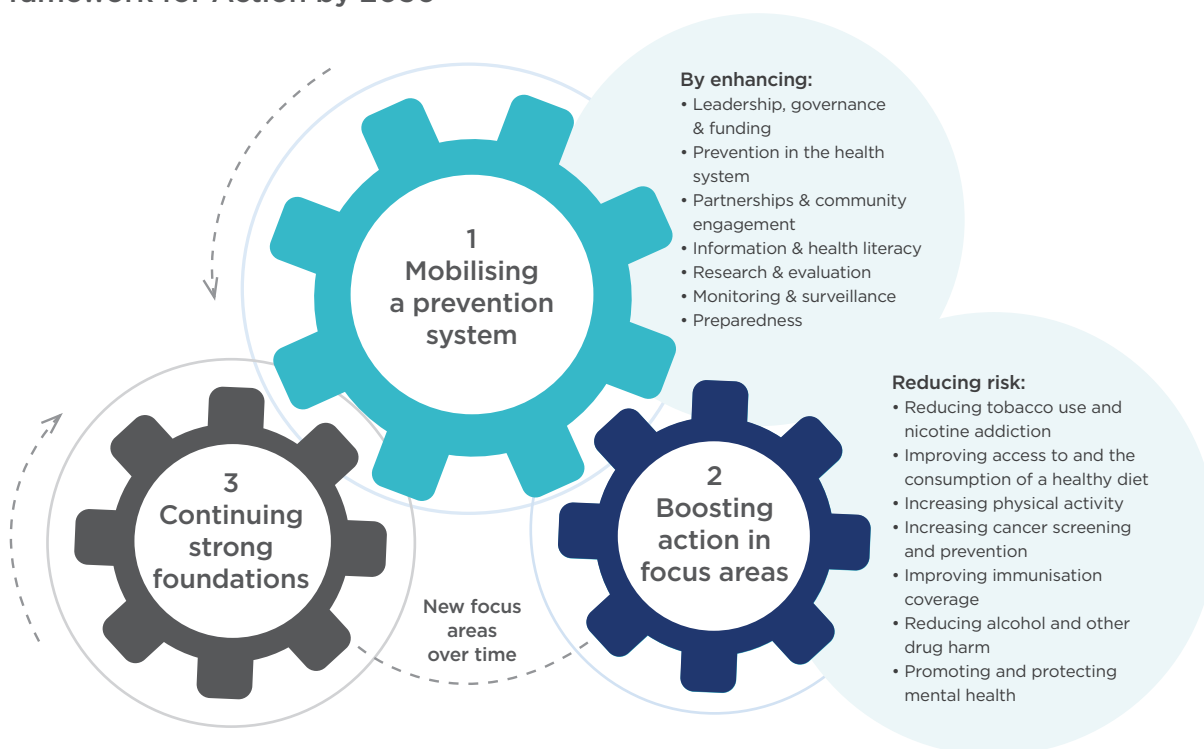
The Framework is composed of three interlinked elements:

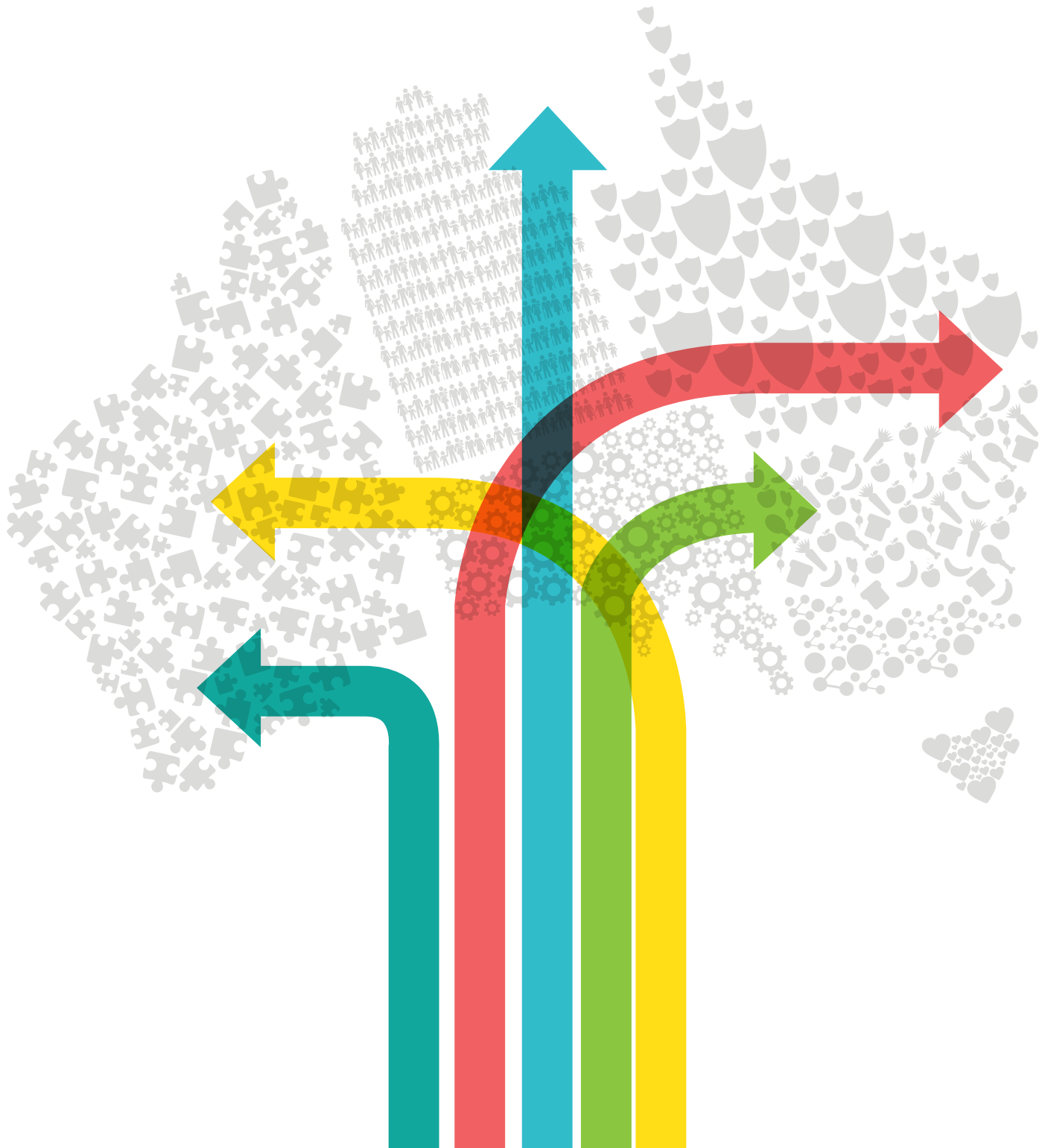


The **Mobilising a prevention system** element is key to achieving a sustainable prevention system in Australia. Focusing on the system enablers of the prevention system will enable long-term improvements in the focus areas as well as support preventive health action which is currently underway. The **Boosting action in focus areas** element is composed of a number of initial areas that have been prioritised to achieve early gains in reducing the overall burden in the population. As health issues arise, the Framework allows for new focus areas to be identified and actioned. The **Continuing strong foundations** element acknowledges the immense preventive health action already being undertaken across Australia and recognises the importance of this action not only continuing but being enhanced.

Through the implementation of the Framework, the vision and aims of this Strategy will be achieved, with all action underpinned by the overarching principles.

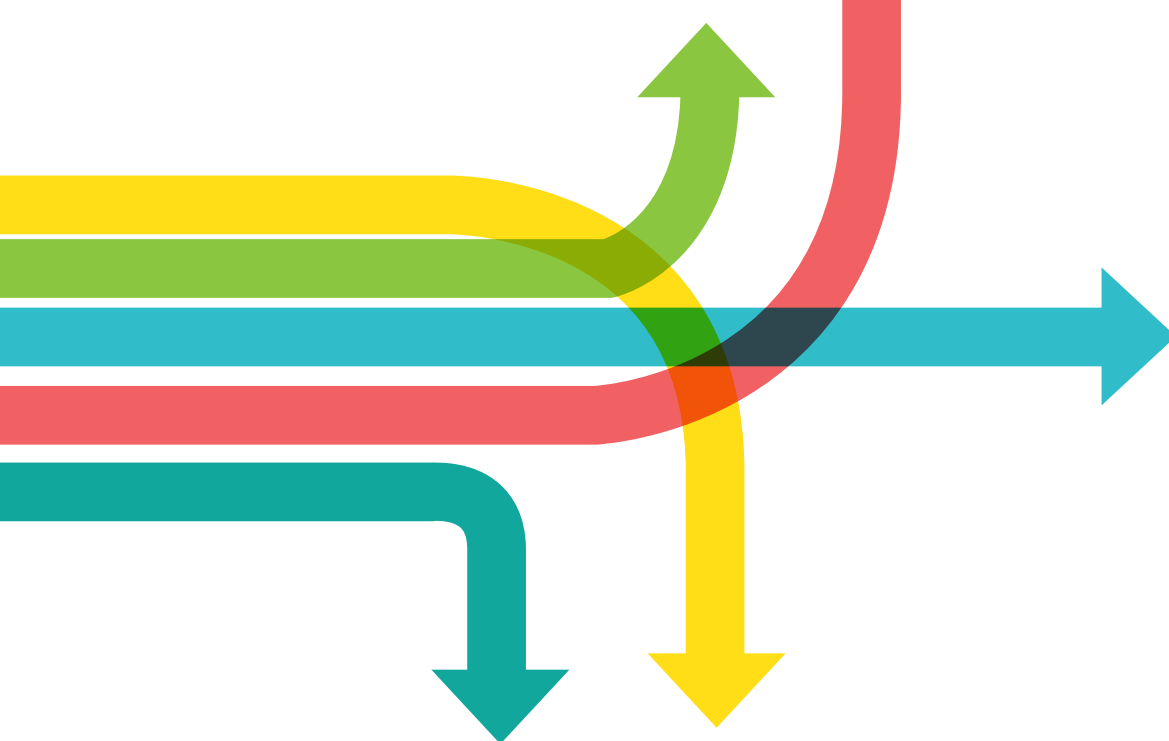
Framework for Action by 2030





Mobilising a Prevention System

Looking beyond the individual



Securing our future

Australia's current health system takes a systematic approach to diagnosing and managing disease in order to deliver health outcomes that are among the best in the world. It is built on evidence, leadership, partnerships and effective monitoring.

This Strategy is designed to deliver an equally strong prevention system. While Australia has a history of world-leading prevention programs, our approach to prevention is often disjointed, not sustained and does not effectively build on locally successful programs to deliver national change. There is a need for a more coordinated and evidence-driven approach that can create long-term, sustainable improvements to the health and wellbeing of all Australians.

There are many interconnected factors that contribute to good health, including the wider determinants of health and individual factors. Our approach to prevention must take a systems-based approach by recognising and unpacking this complexity and understanding how components of the health system and beyond are interrelated. Using systems thinking to tackle complex issues, such as the health and wellbeing of all Australians, enables this Strategy to delve deeper and address the fundamental and interconnected causes of the issue. Governments, organisations and individuals must work together in a coordinated way to drive change from different angles and in dynamic and flexible ways.

Seven system enablers are identified in this Strategy that are critical to creating a more effective and integrated prevention system for Australia over the next 10 years. For the

purposes of this Strategy, the prevention system is defined as the people, processes, activities, settings and structures, as well as the dynamic relationships between them that can protect, maintain and promote the health and wellbeing of individuals and their families, communities and environments.

The seven enablers to mobilise a prevention system, outlined in more detail from page 36, are:

- **Leadership, governance and funding**
- **Prevention in the health system**
- **Partnerships and community engagement**
- **Information and health literacy**
- **Research and evaluation**
- **Monitoring and surveillance**
- **Preparedness**

The system enablers are strongly interconnected, with success in one area driving success in another. For example, 'preparedness' will rely on strong leadership, effective partnerships, accessible and tailored public health messaging, a mobilised public health workforce, research and evaluation to drive evidence-based action, and high-quality monitoring and surveillance systems.

For each system enabler, key quotes from the public consultation of this Strategy are outlined together with the desired policy achievements by 2030. These achievements provide levers within the health system and across broader sectors, whilst allowing flexibility with implementation across all levels of government, non-government organisations and within the community.



Leadership, governance and funding

The most effective preventive health efforts in Australia have come from evidence-based approaches that have received sustained investment and commitment by governments, the health sector and the community²⁰⁰. Enhanced governance structures are required to create a more resilient prevention system²¹⁷. This includes:

- an independent, expert-led mechanism that will advise the Australian Government, through an equity lens, on current, emerging and future priorities in prevention, and
- a governance mechanism within government, and across relevant portfolios, that have an influence on the health and wellbeing of Australians.

These mechanisms need to be underpinned by long-term and sustainable funding.


“It is time that funding and governance is ring-fenced for prevention. We need strong, independent institutions and financing and a decision-making mechanism.”

Australia needs to be able to assess, prioritise and direct action towards the best possible initiatives to have the greatest impact on health and ensure

the best use of resources. This mechanism would: provide independent, expert-led, evidence-based assessment of the effectiveness and efficiency of preventive health programs; provide guidance on investment and implementation; enable monitoring of existing and emerging health issues; and enable cross-sectoral collaboration, including shared-decision making with Aboriginal and Torres Strait Islander people.

“A long-term and sustainable funding mechanism will be critical to success.”

There is a need to significantly enhance investment in prevention in order to achieve a better balance between treatment and prevention¹⁹⁵. A long-term, sustainable funding mechanism is essential to achieving the aims of this Strategy, including that *investment in prevention is increased* (Aim 4). It should be recognised that investment in the avoidance of illness is an investment in the avoidance of future treatment costs. The independent, expert-led governance mechanism would provide advice to Government on how the fund can be used to implement affordable, feasible and cost-effective prevention action.

 *“The success of the Strategy will depend on leadership and collaboration both vertically - across national, state and local governments, and horizontally - across multiple sectors and within the health sector itself.”*

Strong leadership across all levels of government is essential to create an authorising and supportive environment for prevention and to greatly strengthen capacity for effective and agile prevention in our health system. Collaboration between sectors, led by the health sector, will result in more successful individual and system based outcomes and ultimately, achieve the aims of this Strategy. The establishment of a formalised governance mechanism for preventive health within the Australian Government is required that brings together relevant portfolios that play a key part in the health of Australians. This collaboration will be essential in implementing effective approaches and providing opportunities to scale up initiatives.

 *“Strongly recommend a stronger focus on the ‘health in all policies’ approach. There needs to be an expectation reset in every sector.”*

The consideration of health influencers and impacts in all policy development has the potential to improve health and reduce inequalities through defined partnerships across different areas of government²¹⁸. Public policies need to be developed and implemented across sectors by examining issues through a health lens, with the co-benefits for all engaged partners considered during the process. This will enable other sectors of government and broader health groups, including ACCHSs, to work in partnership to contribute to the preventive health agenda.

Prevention is everyone’s business. In order to address complex health issues such as obesity, the health of Australians must be considered by all policy makers, both within health and broader government portfolios. Health must also be a key consideration for schools, workplaces, businesses, and community organisations. To achieve the best possible outcomes for Australians, a systemic and structured approach to embedding the consideration of health across all policies is required.



Policy
achievements
by 2030

- The **priorities for preventive health action are informed by a national, independent governance mechanism** that is based on evidence, effectiveness and relevance.
- Preventive health and health promotion activities in Australia are sustainably funded through an **ongoing, long-term prevention fund** – rebalancing health action.
- The governance mechanism will provide advice on the **direction of the prevention fund**.
- A **health lens is applied to all policy through ongoing, cross-sectoral partnerships**, led by the health sector, at all levels of governments, to address the determinants of health.



Prevention in the health system

The key remit of our health system is to promote, protect and enhance the health of the community. This remit spans across community and primary health care including ACCHSs, through to hospitals and residential facilities. Although our health system has a strong focus on the diagnosis and management of disease, it also makes a valuable contribution to disease prevention and health promotion. This Strategy will support the enhancement and expansion of prevention across the health system. The health workforce, including the important role of the public health workforce, will play an integral role in enabling this change, including the delivery of culturally safe prevention efforts.

 ***“Let’s reorientate from an ‘illness system’ to a ‘wellness system’.”***

Most Australians value and act on advice from healthcare professionals. There is strong evidence that many preventive health interventions delivered within the health system are cost-effective¹⁷⁹. It is recognised that supporting clinicians to focus more on preventive and population health can also provide greater professional satisfaction, and reduce the frustration that many doctors feel in

being unable to address the underlying cause of many of the health problems they encounter among their patients²¹⁹. There are opportunities to deeply embed prevention as part of routine health service delivery and implementation, including in primary health care, hospitals, community health services and in public health.




“More than ever we need a sustainable public health workforce in Australia – COVID has highlighted this.”

COVID-19 has highlighted the importance of the public health workforce in Australia²¹⁴. The workforce is integral to the management of current and possible future communicable disease outbreaks, and to address the heavy burden of chronic conditions in Australia^{214, 220}. Future public health workforce planning is vital, as is increasing the capacity and capability of the overall health workforce, including boosting their confidence in using digital health technologies to deliver health care safely, in order to be effective in prevention and public health emergencies. Strengthening the workforce requires support for digital health training and investment in digital infrastructure^{221, 222}.

 *“Given the diversity of communities, regional planning for prevention needs to be at the heart of the health response.”*

Ensuring linkages at the regional level is crucial in meeting the local health needs of communities and responding rapidly but appropriately to public health issues and threats²²³. There is an opportunity to enhance linkages and build collaboration especially between primary healthcare providers, community health, Primary Health Networks, Local Health Networks, ACCHSs, and non-medical and community groups to address the information needs and behavioural and environmental changes required in communities with poorer health and wellbeing. Through these effective linkages, effective referral pathways and coordinated care can be formed to address the social and economic influences on health and wellbeing.

 *“There is a real opportunity for primary health care to be at the forefront of prevention but the infrastructure needs to change to do this properly.”*

A key goal of Australia’s Long Term National Health Plan is to make primary health care *“more patient-focused, more accessible and better able to provide preventive health and management of chronic conditions”*²²⁴. Part of this goal involves continuity of care and using the strong

relationships between GPs and patients as a foundation for person-centred models of primary care delivery^{225, 226}. Given the majority of chronic conditions are often preventable, risk assessment and early detection is important to halt or slow disease progression, prevent avoidable long-term complications and hospitalisation, provide treatment at an early stage of disease for better outcomes, and reduce adverse events. Enhancing preventive health capability in primary health care, including both opportunistic and systematic screening, requires current barriers in the system to be addressed.

As outlined in the Primary Health Care 10 Year Plan, embracing and investing in the use of digital innovations is vital to further embedding prevention in primary health care. This includes innovations such as: telehealth and virtual care (as well as the associated infrastructure), wearable and remote monitoring, healthcare data and software, data linkages, health technology assessment, and electronic records management such as MyHealthRecord. In parallel, we must ensure that technology does not become the only avenue for preventive health and health care, particularly in areas where access to face-to-face care is already limited²²⁷.

In order to meet the needs of modern Australia, future action in this area must also align with the National Digital Health Strategy to improve the accessibility, quality, safety and efficiency of health care and to ensure it evolves overtime.




Policy achievements by 2030

- **Increased investment in resilient system infrastructure**, particularly service models, workforce roles and capacities, digital health technologies and funding levers, enables preventive health to be embedded across the health system.
- **The inherent preventive health capabilities of primary health care professionals**, including GPs, allied health, pharmacists and nurses, are better supported and integrated within health services.
- **The public health workforce is ‘future proofed’** through the enhancement of the availability, distribution, capacity and skills of the workforce.
- **Improved cultural safety across the Australian health system** to enhance access to appropriate and responsive health care for all Australians including Aboriginal and Torres Strait Islander people and the prioritisation of care through ACCHSs.
- **Enhanced continuity of care for patients**, within the primary health care system, is supported through a voluntary enrolment mechanism – allowing practices to plan and monitor individual health risks.
- **Enhanced referral pathways to community services** to improve health and wellbeing are **embedded** in the health system at a local level with a **focus on self-care support** (e.g. social prescribing).
- **Regional prevention frameworks are established** to achieve sustained collaborative referral and monitoring arrangements.
- **Risk assessment and early detection of chronic conditions is enhanced** to support appropriate referral pathways and early intervention.
- More **equitable access to quality care** is facilitated through telehealth and electronic prescribing.
- **Prevention in primary health care is enhanced** through the implementation of the Primary Health Care 10 Year Plan.

Partnerships and community engagement

Partnerships and community lie at the heart of a strong and enduring prevention system that can build and sustain capacity to promote health and prevent illness²²⁶. With so many of the factors influencing the health of Australians emanating from outside of the health system, multi-sectoral partnerships will be critical to addressing the social, cultural, economic, structural, environmental and commercial determinants of health.

 ***“The importance of consumers and consumer groups being recognised as equal participants in health partnerships, to ensure that prevention systems are person centred.”***

There are a wide range of non-government players who have an integral role in improving the health of Australians. This includes ACCHSs, community groups, consumers, advocacy groups, businesses, not-for-profit organisations and professional associations. Partnerships must include different sectors that influence health and drive evidence informed changes. This includes transport, urban planning, social services, agriculture, housing and food systems as well as organisations addressing the quality of our air and water.

Local and regional communities, including cultural, ethnic and religious groups also play a vital role in prevention; they understand the local issues and the opportunities for improving health. This Strategy recognises that communities have the skills and ability to take the lead in prevention action, and seeks to enable them by ensuring shared access to the necessary evidence, tools

and data. Involving consumers and communities at the heart of policy design and implementation, will more likely result in meaningful, long-term change²²⁸. Integrating the voices of Australians with lived experience must be valued and utilised by all levels of government^{95, 228, 229}. These partnerships will be of particular importance in addressing the needs of priority groups, including but not limited to Aboriginal and Torres Strait Islander people (consistent with the National Agreement on Closing the Gap) and Australians from CALD communities. This will be critical to the development of effective and sustainable solutions that meet the diverse needs of the Australian community^{95, 228, 229}.

 ***“Partnerships action must be protected from undue influence by any form of vested interest.”***

Consistent with the WHO Global Action Plan for the Prevention and Control of Non-communicable Diseases, public health policies, strategies and multi-sectoral action must be protected from undue influence by any form of vested commercial interest²³⁰. Real, perceived or potential conflicts of interest must be proactively identified, acknowledged and managed for all aspects of preventive health work, not just in the space of preventing and managing chronic conditions²³⁰. An evidence-based approach to monitor and address these conflicts will be integral to a strong prevention system.



Policy
achievements
by 2030


- **Innovative partnerships are established between and within sectors that influence health**, to ensure shared decision-making and to drive evidence-based change.
- **Partnerships with the community are strengthened** and informed by a national consumer engagement strategy that prioritises co-design approaches.
- Communities are supported to collaboratively deliver **place-based, evidence-informed preventive health action** that is responsive to local circumstances.
- Public health policies, strategies, and multi-sectoral action for prevention are **monitored and protected from real, perceived or potential conflicts of interest** through a national evidence-based approach and transparent stakeholder engagement processes.
- **Preventive health partnerships** with priority population communities and organisations **are established and strengthened**.

Information and health literacy

All Australians should have access to high quality, evidence-based information about how to manage their health and wellbeing through appropriate preventive action across each stage of their life. This includes at school, in the workforce, and in community and health care settings. However, there are a number of systemic barriers to the provision of information, including access to credible and reliable sources of information, as well as socioeconomic barriers that can affect the education level and health literacy skills of the audience. There is a strong need to create an effective health literacy environment whereby health information is person-centred, accessible, and culturally appropriate.


 *“Translating and communicating health information to all stakeholders in a collaborative and accessible way is essential to improving health literacy and public health messaging.”*

There are many factors that influence an individual's health literacy, including age, gender, education, disability, digital literacy, culture and language, and whether they are Aboriginal and Torres Strait Islander²³¹. As health literacy has strong interactions with the wider determinants of health, any action aimed at improving health literacy and the provision of health information must be implemented through an equity lens⁹⁵.


 *“It is vital that health advice is not only culturally tailored and relevant, but where possible developed with input from the people who would benefit most from it.”*

Communities and consumers must be viewed as partners in improving health literacy skills²⁹⁷. The community must be mobilised to participate in the co-design of health information and education; this will ensure that information not only meets the needs of the target audience but also reflects

the community in its approach leading to greater community acceptance and uptake²³¹.

 *“Individuals need to be supported with trustworthy and simplified health information...that can be provided from their family general practice or a trustworthy government or organisation internet source.”*

Individuals face a range of challenges in accessing preventive health information. There is an overwhelming amount of health information available to consumers today, especially on the internet²³¹. But it is often difficult to know whether this information is credible, trustworthy or useful. There is a strong need to help Australians acquire the practical transferable skills to understand which sources of information to trust, in order to combat disinformation and misinformation. This can be achieved through education, improving health information, promoting digital health literacy, and upskilling the workforce, for example.

 *“Information and literacy should focus on both improving the literacy of consumers as well as healthcare professionals.”*

Just like consumers are partners in improving health literacy, so too are members of the health workforce, including acute and specialist health, primary health care, allied health, community health, and public health practitioners. The health workforce have a key role in supporting consumers to access reliable and credible sources of health information, as well as providing information in an accessible and easy to understand format³⁰⁰. The capabilities of the workforce in this area must also be developed and maintained through ongoing professional development that recognises the importance of embedding preventive education in high quality, person-centred care²³¹.




Policy achievements by 2030

- Consumers are informed by a **national platform that provides or identifies credible, evidence-based health information**.
- A **national health literacy strategy is developed** and implemented, and guides health service improvements.
- **Health and health care information is developed with priority populations, and is tailored, culturally appropriate and accessible** (includes Aboriginal and Torres Strait Islander communities, people with disability and CALD communities).
- The **health workforce is supported in building the health literacy capacity of themselves, their communities, patients and clients**.
- **Concise, valid and reliable measures are used to improve and monitor national health literacy levels** of Australians.
- **National guidelines** that provide risk-factor related advice are updated in a timely manner and are translated into practical advice.
- **Evidence-based dissemination strategies** are used to promote health information.



Research and evaluation

Effective preventive health interventions for all Australians must be underpinned by evidence and incorporate evaluation to inform our knowledge base and ensure continuous quality improvement. Australia has significant strengths in describing patterns of disease and risk factors, as well as mapping the determinants of health^{115, 233}. There is an opportunity to better inform our prevention efforts through a greater focus on implementation research that examines the effectiveness of prevention initiatives and provides insights into the resourcing implications, who preventive initiatives work for, and under what conditions¹⁵³. Research to consider how local programs can be scaled up to improve health and wellbeing at the regional and national levels is needed^{234, 235}. This research must be co-designed and implemented in partnership.

 ***“Ongoing and careful evaluation provides feedback so that activity can be adjusted over time and remain adaptive to changing circumstances.”***

Across Australia there are many examples of effective and innovative approaches to prevention²⁰⁰. This Strategy will encourage prevention programs to include rigorous evaluation in their delivery to ensure that we take every opportunity to understand what works in the Australian context. Evaluation should be: built into program design; methodologically rigorous, with appropriate scale and design; conducted with a combination of expertise and independence; timely to support and influence decision making; and the evaluation processes should be transparent and open to scrutiny²³⁶. The outcomes of evaluation should also be used to inform and refine policies and programs to

ensure continuous improvement.

This Strategy will enhance Australia’s capacity to understand what works in prevention, including the outcomes from Australian research and evaluation, maximising the benefits to a wider population and making best use of resources.

 ***“Bringing researchers together with policy-makers, practitioners, and consumers and community members can have two-fold benefits – ensuring that the research meets the needs of the system and that the research can be more effectively translated into improvements in policy and practice.”***

Prevention research and evaluation should be underpinned by strong partnerships between multiple stakeholders to generate the most valuable research for informing the health of Australians²³⁷. Embedding the expertise of consumers, communities and health care professionals is critical to effective research and evaluation²³⁸. It ensures that research and evaluation is ethical, responsive and beneficial to the people it impacts, and reflective of local needs and priorities. Early involvement of researchers in the design of a policy, program or prevention service can contribute to more informative evaluation²³⁹. Likewise, the early engagement of policy makers in research development will assist in aligning research to meet policy needs, increasing the chances of research findings making an impact on preventive health policy²⁴⁰. These stakeholders hold vital insights that are required to shape the direction of research and evaluation by refining questions, co-designing interventions, and choosing data collection methods and outcome measures²³⁸.



Policy achievements by 2030

- A **systematic approach to the prioritisation** of preventive health research is established to address key gaps including the impact of the wider determinants of health.
- The development, testing and evaluation of **preventive health interventions** in Australia are enhanced.
- **Partnerships** with those that are affected **drive the development, implementation and evaluation of interventions.**
- Partnership research and interventions with **specific population groups**, including Aboriginal and Torres Strait Islander people, rural and remote Australians, and other diverse groups, are prioritised.
- **Bidirectional prevention partnerships are established between policy makers and researchers** to enable the development of evidence-informed policy and to ensure research aligns with the strategic direction of governments.
- **Collaborative partnership research models are well established** between researchers, policy makers, healthcare professionals and consumers to ensure evidence translation and knowledge exchange.
- **National guidelines are developed to ensure high-quality evaluation** is a key part of preventive health policy, program development and implementation.
- **Increased evaluation of local initiatives** across different settings and communities to inform opportunities for scaling up at the national level.
- A widely accessible mechanism to **enhance sharing of information on best practice interventions** is established.
- **Health economics** is included in **research and evaluation.**
- Preventive health research is **protected from real, perceived or potential conflicts of interest.**



Monitoring and Surveillance

Monitoring and surveillance of preventive health outcomes is important in enabling a strong prevention system. A robust monitoring and surveillance system that is reliable and provides widely accessible data in a timely manner has the potential to drive improvements in prevention by providing information on the effectiveness of initiatives, as well as where additional effort needs to be focused. The COVID-19 pandemic has demonstrated the power of automated disease detection, surveillance and prediction¹⁵⁵, as well as emphasising the importance of scalable,


interoperable technologies and real-time access to high quality data in facilitating an effective public health response. However, currently, our monitoring and surveillance systems for prevention are fragmented; this Strategy will strengthen this key enabler to better inform preventive action.



“Consistent, large-scale measurement of wellbeing in Australia has been lacking, with significant consequences for the planning, implementation and monitoring of prevention activity.”

While information and data are collected for a number of preventive health risk factors (such as physical inactivity and tobacco use), there are often inconsistencies between the types of data collected^{241, 242}. When the outputs of research are used in the absence of national surveillance methods, the variation in measurement is even greater. This means that we cannot accurately and consistently describe trends over time nor identify where in Australia preventive action is better or worse. For example, Australia currently lacks up-to-date national data sets on dietary intake, with current policy relying on information from irregular surveys²⁴³. The establishment of national data sets, with regular data collection, should underpin any surveillance and monitoring system. Furthermore, disaggregation of these data sets according to location and priority populations is required.

The majority of surveillance indicators in Australia currently rely on self-reporting, such as through the National Health Survey and the National Aboriginal and Torres Strait Islander Health Survey. While self-reporting can be relatively accurate for factors such as smoking status, self reporting of risk factors such as weight status is less accurate. Furthermore, this method of surveillance is costly and difficult to collect.

 ***“As prevention needs to address the social determinants or root causes of ill-health in order to improve health outcomes, monitoring and surveillance indicators must include measures which relate to action on these determinants as well as disease outcomes.”***

A comprehensive prevention monitoring and surveillance system will include information about wider, systemic factors that underpin health and wellbeing. For example, is accurate health information available in different languages and accessible to all Australians including people with disability? Has access to a nutritious and affordable food supply increased in food insecure communities? Have changes in climate, including natural disasters, impacted mental health and wellbeing? These measures not only provide key information about whether prevention initiatives are being implemented successfully, but they can also provide critical information to supplement and validate self-reported indicators.

 ***“Monitoring of outcomes should be comprehensive and timely.”***

Importantly, the collection of comparative datasets must be timely to allow a clear understanding of the effectiveness of preventive interventions and to observe trends and patterns in the data. In addition, monitoring activities need to include the systematic collection and analysis of demographic data, to better identify the health needs and priorities of priority populations. To effectively implement preventive health initiatives that are both impactful and targeted, it is essential to build on existing data collection methods and data sources to create a comprehensive picture of the state of health and wellbeing of Australians.




Policy
achievements
by 2030

- A preventive health governance mechanism supports the monitoring and surveillance of this Strategy.
- **National data sets**, including the AIHW's Burden of Disease Study, the National Primary Health Data Asset, and health expenditure, are compiled and **published regularly**, and include anthropometric (i.e. height, weight etc.), biomedical and environmental measures.
- Collection of **demographic information** in national data sets is **improved**, especially for priority populations, to ensure differences in health and wellbeing outcomes can be measured.
- A set of nationally agreed prevention and wellbeing indicators, including definitions and measures of the wider determinants of health, are established and monitored.
- A national prevention monitoring and reporting framework is utilised by all levels of government.
- A national standard approach to govern the creation, access and sharing of data from all Australian governments is established.
- Data indicators for social and environmental determinants of health are developed.




Preparedness

The emergence of COVID-19 and the extreme bushfire season of 2019-20 in Australia has highlighted the importance of being prepared for future events that may impact our health, including mitigation strategies. Having an adaptable and resilient health system will ensure that processes and systems can continue to pivot in the face of new threats²⁴⁴.

 *“Climate change is likely to be the biggest challenge to health, wellbeing and economic prosperity.”*

Human health is dependent on planetary health. Environmental issues, such as extreme weather events and significant changes in climate systems, have had, and will continue to have, an impact on the health and wellbeing of all Australians²⁴⁵. This is particularly true for rural and remote communities, including Aboriginal and Torres Strait Islander people, who have close cultural, spiritual and social connections to the land. In order to prepare for future challenges and address the health of the planet, the impacts of climate change on physical and mental health need to be understood, especially through a health equity lens^{246, 247}.


 *“It is critical we can learn from [COVID-19] and put in place strategies that will enable the preventive health system to adapt to, and more effectively deal with, similar challenges in the future.”*

All of the achievements outlined in this Strategy will help build our preparedness for and the mitigation of future health threats: a strong prevention research sector, high quality monitoring and surveillance, an effective and mobilised workforce, and strategies that address the system-level causes of poor health. All of these factors, and more, will create a stronger Australia for the future. The capability to identify early research or other evidence that indicates emerging issues should lie at the heart of an approach to prevention preparedness²⁴⁸. Understanding key risks, effective planning and the ability to rapidly respond lie at the heart of effective prevention preparedness.

 *“Preparedness depends on building workforce capacity that is essential.”*


Investment in workforce and infrastructure that can promptly respond to emerging issues is central to preparedness²⁴⁸. For the COVID-19 pandemic, areas with a well-developed public health workforce and strong infrastructure were better able to mobilise a rapid and effective response to contact tracing and preventing the spread of the virus. This included the ACCHS sector, whose work to protect remote communities and ensure accessible health information averted the risk of high rates of community transmission. Furthermore, Australia’s investment in centres of research expertise such as the National Centre for

Immunisation Research and Surveillance enabled existing capacity to provide data to inform public policy in a rapid manner²⁴⁹. This kind of investment in research which explores health threats such as emerging disease surveillance and climate change impacts, enable a ‘readiness’ that cannot be generated through one-off short-term funding.

 *“The partnerships between local government, health and community services have been instrumental in addressing the urgent needs for Victorian communities [during the COVID-19 pandemic]... it is the quality and depth of relationships built on trust that support the success of rapidly mobilised interventions.”*

The capacity to bring together leaders across all levels of government, non-government organisations, health professionals, communities and academia and across different fields is central to an effective response to unexpected and emerging challenges²⁵⁰. The effectiveness of these partnerships has been illustrated in Australia’s response to COVID-19, which brought together all Australian governments through a National Cabinet and ensured that health expertise was combined with that of police, treasury, education and other areas where action was critically needed. Co-ordination between these entities also requires understanding roles, where each entity can make a contribution,

what resources can be leveraged, shared data and evidence on which to base decisions, collegiate support for each other in the implementation of planning and response, and utilising previous experience of working together across sectors²⁵¹.

 *“The COVID pandemic... has shone a light on the circumstances which create unequal vulnerability to illness.”*

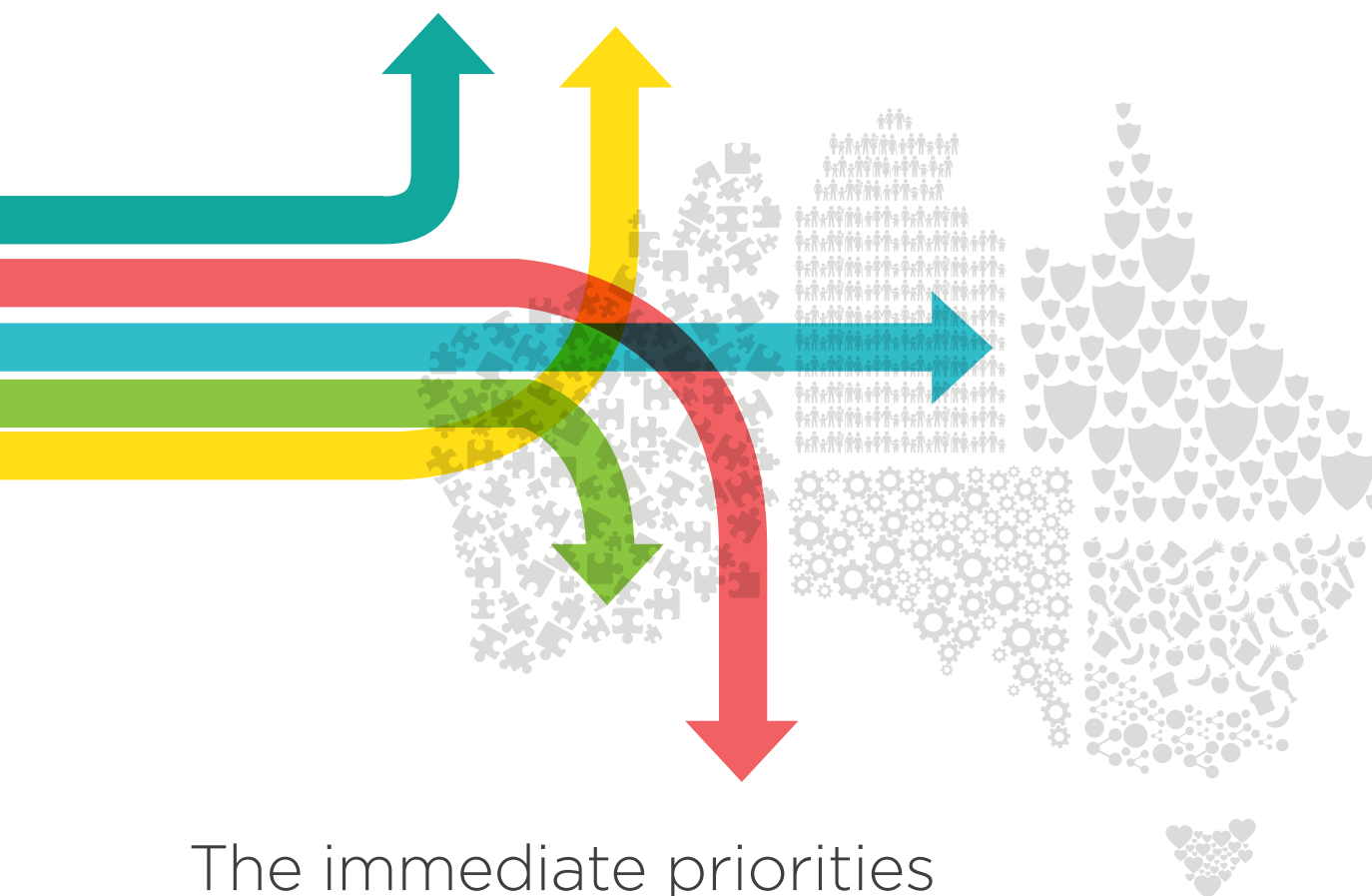
There are already some emerging threats where Australia may wish to increase its preparedness, including the consequences of climate change, rise of antimicrobial resistance and the likelihood of further communicable disease pandemics²⁵². The experience of COVID-19 as well as the 2019-20 bushfire season have demonstrated clearly that those who are most vulnerable in society are those who feel the impact of a population-wide public health emergency the greatest²⁵³. The availability of tailored, culturally appropriate and accessible communication has proven vital to ensure the safety and health and wellbeing of priority populations in Australia²⁵⁴.

The ramifications of the COVID-19 pandemic and the 2019-20 bushfire season have further highlighted the interconnected nature of our health and shown that the wellbeing of a community is only as strong as its individuals. Consequently, when enhancing preparedness and preventive health efforts, a health equity lens must be applied.



Policy achievements by 2030

- A national strategic plan addressing the impacts of environmental health, including horizon scanning to identify and understand future threats, is developed and implemented in alignment with this Strategy and the work of the Environmental Health Standing Committee (enHealth).
- Evidence-based approaches are developed and implemented to identify, address and mitigate the impacts of climate change on the health system.
- Stronger infrastructure supports the rapid drawing together of leaders from different fields and from different jurisdictions to develop national and local responses.
- The public health workforce is ‘future proofed’ through the enhancement of the availability, distribution, capacity and skills of the workforce.
- The provision of **tailored, culturally appropriate and accessible information for all Australians is prioritised** during an emergency response to ensure effective messaging and distribution of public health advice.
- A **national framework** is implemented in all states and territories **to distribute close to real-time, nationally consistent air quality information**, including consistent categorisation and public health advice²⁵⁵.
- A **national framework** is developed to address the impacts of emergencies and disasters on **mental health and wellbeing**.



The immediate priorities

In order to realise the achievements over the next 10 years, building key infrastructure and establishing policy direction to mobilise the prevention system needs to be the immediate priority of this Strategy. It is through prioritising the enablers and desired achievements outlined below that the foundation will be laid for further action in the prevention system.

- **1. Governance mechanisms**
- **2. Increased investment in prevention**
- **3. A national platform providing credible and reliable health information**
- **4. Embedding prevention in primary health care and aligning with the Primary Health Care 10 Year Plan**
- **5. National consumer engagement strategy**
- **6. National health literacy strategy**
- **7. Enhanced public health workforce planning**
- **8. Ongoing national data sets to support the monitoring and evaluation of this Strategy and a national prevention monitoring and reporting framework**

It is time to be bold. Taking a systems-based approach to this Strategy will ensure that it remains relevant with increased prevention funding providing children with the best start to life, improving health inequities, and ultimately, helping Australians to live well for longer.

Prioritising our efforts

This Strategy identifies seven focus areas where a stronger and better-coordinated effort will enable accelerated gains in health, particularly for communities experiencing an unfair burden of disease. These focus areas have been identified to boost prevention action in the first years of this Strategy and to impact health outcomes across all stages of life:

- Accelerated action in each of the focus areas, but especially tobacco, nutrition and physical activity, will significantly decrease the overall burden of disease in Australia. Furthermore, there is an economic benefit to including these focus areas in this Strategy, with research demonstrating that \$6 billion in health costs could be saved by taking action on tobacco, alcohol and unhealthy foods alone¹⁹⁵.

Many of these focus areas already have national strategies and plans to guide action; this Strategy will enable, prioritise and build on these efforts. While these focus areas will be the initial priorities for implementation, over the duration of this Strategy, additional focus areas will be identified and addressed as the health needs of Australians evolve over time.

National Preventive Health Strategy 48



Targets

- Achieve a national daily smoking prevalence of less than 10% by 2025 and 5% or less for adults (≥ 18 years) by 2030
- Reduce the daily smoking rate among Aboriginal and Torres Strait Islander people (≥ 15 years) to 27% or less by 2030



Reducing tobacco use and nicotine addiction

Australia remains committed to improving the health of all Australians by reducing tobacco use and its associated health, social, environmental and economic costs, and the inequalities it causes. The comprehensive range of tobacco control measures progressively implemented by all Australian governments has been instrumental in ensuring the long-term decline in smoking prevalence, which has seen the proportion of adults who are daily smokers decrease from 23.8% in 1995 to 13.8% in 2017-18²⁰¹. To date, the Commonwealth and state and territory governments have implemented a range of tobacco control measures, including but not limited to increased tobacco excise and excise-equivalent customs duty, plain packaging of tobacco products, and restrictions on the advertising and promotion of tobacco products. In 2018, tobacco use contributed to approximately 20,500 deaths in Australia (13% of all deaths) and 8.4% of the total burden of disease, and contributed to the most fatal burden⁵. Tobacco is also the leading cause of cancer in Australia, contributing to 22% of cancer burden, as well as contributing to 41% of respiratory diseases and 12% of cardiovascular diseases¹⁸⁶. Premature

mortality is significantly increased in current smokers, with long term smokers dying an average of 10 years earlier than non-smokers²⁵⁶.

Ending the tobacco epidemic is a priority for all Australian governments and has a high level of continued public support for policy measures to reduce tobacco-related harm²⁵⁷. Significantly reducing and eventually eliminating tobacco use in Australia would dramatically reduce illness, increase quality of life and wellbeing, and reduce health, social and economic inequalities for smokers, their families and the wider Australian community^{202, 258}. It would prevent hundreds of thousands of premature deaths, reduce the burden of costly tobacco-attributable disease, increase workers' economic productivity and reduce the burden on carers^{202, 258}.

Advertising and promotional activities by tobacco companies have been shown to cause the onset and continuation of smoking among adolescents and young adults²⁵⁹. However, there are a range of psychological, social, economic and cultural factors that contribute to an increased likelihood of using tobacco and a greater difficulty in quitting²⁶⁰. Despite large reductions in tobacco smoking over time,

there are substantial differences in the smoking rates of populations experiencing disadvantage compared with the broader community. In 2017-18, rates of smoking were higher in areas of most disadvantage with over one fifth (21.7%) of adults living in areas of most disadvantage being current daily smokers, compared with 6.8% in the least disadvantaged areas²⁰¹. Adults reporting mental and behavioural conditions were 1.6 times as likely to be daily smokers compared to the overall population²⁰¹. Smoking prevalence also remains disproportionately high among Aboriginal and Torres Strait Islander people in comparison with the general population (particularly in remote areas) and remains one of the main factors influencing the lower life expectancy of Aboriginal and Torres Strait Islander people. In 2018-19, 43.1% of Aboriginal and Torres Strait Islander people aged 18 years and over were current smokers, compared with 15.0% of non-Indigenous Australians¹⁸⁶. Reducing smoking rates will require action to address the underlying factors that contribute to higher tobacco use and increasing access to support services and community-based tailored programs, particularly within organisations that are already accessed by these groups²⁶⁰.

Exposure to second-hand smoke is also a cause of preventable death and disability. It can cause coronary heart disease and lung cancer in non-smoking adults, sudden unexpected death in infancy, and induces and exacerbates a range of mild to severe respiratory effects in people of all ages¹⁸⁶. Additionally, there is increasing evidence that second-hand smoke exposure is associated with psychological distress²⁶¹. Furthermore, exposure to nicotine through second-hand smoke has shown to increase the chance of nicotine addiction²⁶². No level of exposure to second-hand tobacco smoke is considered safe²⁶³, and decreasing tobacco consumption in individuals also has a positive health effect on the people and communities around them by decreasing exposure to second hand smoke.

Tobacco smoking during pregnancy is the most common preventable risk factor for pregnancy complications, and is associated with poorer perinatal outcomes including low birthweight, being small for gestational age, pre-term birth and perinatal death²⁶⁴. In 2018, 9.6% (28,219) of all mothers who gave birth smoked at some time during their pregnancy²⁶⁴. Eliminating smoking during pregnancy will give newborns the best chance to have a healthy start to their lives. This is also pivotal to achieving Target 2 in the National Agreement on Closing the Gap: *By 2031,*



Key Facts

- Tobacco smoking is the leading cause of preventable disease burden in Australia, contributing to 8.6% of the disease burden in 2018^{5, 202}
- Tobacco smoking in Australia is estimated to have killed 1,280,000 Australians between 1960 and 2020²⁶⁹
- In 2018 alone, tobacco use was estimated to contribute to almost 20,500 deaths²⁰²
- In 2015, people living in the most disadvantaged socioeconomic areas experienced 2.6 times the rate of tobacco-attributable death and disease compared to those living in the highest socioeconomic areas²⁰²
- Smoking is responsible for 23% of the gap in health burden between Aboriginal and Torres Strait Islander people and non-Indigenous Australians²⁷²
- Smoking causes over one-third of all deaths in the Aboriginal and Torres Strait Islander population, and half of deaths in older Aboriginal and Torres Strait Islander adults²⁷³
- There are higher rates of daily smoking for people living in outer regional areas (19.0%) and inner regional (15.4%), compared to those living in major cities (12.7%)¹⁰²
- Compared to the general population, smoking rates are approximately double for lesbian and bisexual women, gay men, transgender people, and people with HIV^{274, 275}
- In 2015-16, the costs of tobacco use borne by the Australian community were estimated to be \$137 billion²⁵⁸

Long-term benefits of stopping tobacco use²⁶⁶:

- In 1 year, the risk of heart disease is halved
- In 5 years, the risk of a stroke is almost the same as that of a person who has never smoked
- In 10 years, the risk of lung cancer is less than half that of a continuing smoker

Related Strategic Guidance

- National Tobacco Strategy 2012-2018
- National Tobacco Strategy 2020-2030 (under development)
- National Drug Strategy 2017-2026
- National Aboriginal and Torres Strait Islander Health Plan
- The National Agreement on Closing the Gap
- National Strategic Framework for Chronic Conditions

*increase the proportion of Aboriginal and Torres Strait Islander babies with a healthy birthweight to 91%*²⁶⁵.

Evidence shows that health begins to improve as soon as smoking stops²⁶⁶. Over time, the risk of life-threatening health problems, including lung cancer, heart disease and stroke, drops dramatically²⁶⁷. There is also evidence that smoking cessation improves mental health and can reduce depression, anxiety and stress²⁶⁸. Any attempt to stop smoking should be supported, and evidence-based smoking cessation measures should be readily available to support smokers who want to quit. For the best possible health outcomes for Australians, it is vital to build upon and strengthen population-wide approaches that have been successful in reducing the prevalence of tobacco use over the past four decades. This needs to be accompanied by a strong emphasis on reducing health and social inequalities through more targeted approaches to reduce smoking among populations with a high prevalence of tobacco use. It is clear that although smoking continues to decline in Australia, maintaining this progress and reaching national daily smoking prevalence targets requires ongoing concerted action.

Novel and emerging products (such as e-cigarettes) present an ongoing challenge in Australia's work to prevent and reduce tobacco

use and nicotine addiction. Between 2016 and 2019, overall use of e-cigarettes in Australia increased among smokers and non-smokers and across most age groups in 2019; 28.7% of smokers aged 14 years and over reported using e-cigarettes at some point in their lives, with 9.7% currently using e-cigarettes²⁵⁷. While most state and territory governments have amended their tobacco control laws to include restriction of the advertising, sale and use of e-cigarettes, Australia's tobacco control efforts have largely focused on preventing and reducing the use of conventional tobacco products. To date, Australian governments have taken a precautionary approach to e-cigarettes in view of the risks these products pose to tobacco control efforts and population health and individual health. This approach is underpinned by the current state of evidence regarding the direct harms associated with e-cigarette use and their impacts on smoking behaviour, particularly among youth. Accordingly, there is a need to ensure that sufficient controls are in place to protect the Australian community from the harms associated with the marketing and use of novel tobacco products, with all Australian governments agreeing to protect the health of children and young people as a primary focus. The Australian Government will continue to monitor evidence in relation to the marketing and use of these products.



Policy achievements by 2030

- Ongoing development, implementation and funding of mass media campaigns and other communication tools have been implemented to: motivate people who use tobacco to quit and recent quitters to continue smoking abstinence; discourage uptake of tobacco use; and reshape social norms about the tobacco industry and tobacco use
- Protection of public policy, including tobacco control policies, from tobacco industry interference
- Increased provision and access to evidence-based cessation services and support to help people who use tobacco and other novel and emerging products, including e-cigarettes, to quit
- Ongoing reduction of affordability of tobacco products including harmonisation of excise and custom duty on roll your own products compared with factory made cigarettes
- Elimination of exceptions to smoke-free workplaces, public places and other settings
- Reduced tobacco use among populations at a higher risk of harm from tobacco use, and populations with a high prevalence of tobacco use
- Elimination of remaining tobacco-related advertising, promotion and sponsorship
- Stronger regulation of the contents and product disclosures pertaining to tobacco products
- The supply, availability and accessibility of tobacco products is reduced through stronger regulation
- Reduced tobacco use among Aboriginal and Torres Strait Islander people, including during pregnancy, through expansion of efforts and community partnerships
- Stronger regulation, monitoring and enforcement for novel and emerging products including e-cigarettes is implemented
- Reduced tobacco use among disadvantaged communities and other vulnerable population groups through expansion of efforts and community partnerships
- Reduced tobacco use among regional and remote Australians through targeted support



Targets

- Halt the rise and reverse the trend in the prevalence of obesity in adults by 2030
- Reduce overweight and obesity in children and adolescents aged 2-17 years by at least 5% by 2030
- Adults and children (≥ 9 years) maintain or increase their fruit consumption to an average 2 serves per day by 2030
- Adults and children (≥ 9 years) increase their vegetable consumption to an average 5 serves per day by 2030
- Reduce the proportion of children and adults' total energy intake from discretionary foods from $>30\%$ to $<20\%$ by 2030
- Reduce the average population sodium intake by at least 30% by 2030
- Increase the proportion of adults and children who are not exceeding the recommended intake of free sugars by 2030
- At least 50% of babies are exclusively breastfed until around 6 months of age by 2025

Improving access to and the consumption of a healthy diet

A nutritious diet is one of the most influential factors contributing to our overall health and wellbeing. Nutrition plays a pivotal role at each stage of life, from influencing the expression of an unborn baby's genetic makeup during a woman's pre-natal stage to healing wounds and preventing falls in the elderly; the food and drinks that we consume have immediate as well as long-term effects on our physical and mental health and wellbeing. This is especially true in the first 2000 days of a child's life whereby, if physically and emotionally possible for both mother and baby, breastfeeding is one of the most effective preventive measures available to provide a child with the best start in life²⁷⁶.

Many Australians are consuming a diet with a low intake of fruits, vegetables, wholegrains, nuts and seeds, and a high intake of processed meats, salt, red meat and free sugars²⁷⁷. Many diseases are caused or exacerbated by a poor diet, with the top five in 2015 including: coronary heart disease, stroke, type 2 diabetes, bowel

cancer and lung cancer⁴. Furthermore, five of the seven leading factors that have been identified as contributing to the health gap between Aboriginal and Torres Strait Islander people and non-Indigenous Australians are related to poor dietary intake: obesity, high blood cholesterol, alcohol consumption, high blood pressure, and low fruit and vegetable intake²⁷⁸. There is also a bidirectional relationship between the food we consume and oral health; increased free sugar intake is strongly linked to increased oral disease which in turn affects an individual's ability to consume adequate nutrition²⁷⁹. Mental health and wellbeing is also impacted by our diet, with the risk for depression increasing whilst consuming an unhealthy diet²⁸⁰.

In 2018, overweight and obesity was the second highest contributing risk factor to the burden of disease and Australia now has one of the highest rates of obesity in the world^{4, 5, 281}. The biggest increase in weight is experienced as children transition to early adulthood, further



Key Facts

- 27,500 people die a preventable death each year from an unhealthy diet³⁰⁰
- Australia has the sixth highest rate of obesity among 22 of the OECD countries³⁰¹
- The cost of healthier foods such as fresh fruit and vegetables and wholegrain bread are sometimes more than 30% higher in regional, rural and remote areas than in major Australian cities³⁰²
- 4% of Australians reported running out of food in the past 12 months and not being able to purchase more³⁰³
- 95% of adults have inadequate fruit and vegetable intake, and 95% of children have inadequate vegetable intake³²
- Around one-third of Australians' daily energy intake is from discretionary foods which should only be consumed in small amounts - this is highest for teenagers at 41%⁴
- For adults aged 51-70, alcoholic drinks account for more than one-fifth (22%) of discretionary food intake²⁷⁷
- In 2017-18, 67% of adults were overweight or obese, up from 63.4% in 2014-15²⁰¹
- A quarter of Australian children are experiencing overweight or obesity – this proportion has not changed in a decade²⁰¹
- Obesity contributes to 7.2% of the health gap between Aboriginal and Torres Strait Islander people and non-Indigenous Australians³⁰⁴
- 75% of the salt we consume is hidden in packaged and processed foods³⁰⁵
- There is an approximate 30% reduction in the risk for depression in individuals consuming a healthier diet³⁰⁶
- 41% of eligible processed and packaged food and drinks contain the Health Star Rating on their front-of-pack labelling³⁰⁷

Related strategic guidance

- National Obesity Prevention Strategy (under development)
- Australian Dietary Guidelines
- National Strategic Framework for Chronic Conditions
- Australian National Breastfeeding Strategy: 2019 and Beyond
- National Healthy School Canteen Guidelines
- Infant Feeding Guidelines
- Clinical Practice Care Guidelines: Pregnancy Care 2019 – Chapter 11 Nutrition and physical activity
- Australian Guide to Healthy Eating
- Aboriginal and Torres Strait Islander Guide to Healthy Eating
- National Aboriginal and Torres Strait Islander Health Plan
- The National Agreement on Closing the Gap

demonstrating the importance of establishing strong nutritional patterns during the first 2000 days to ensure poor health outcomes do not manifest over the life course. By the time individuals reach mid-life, 84% of men and 73% of women are overweight or obese^{282, 283}. This can impact an individual's life immensely, affecting not only their physical health, but also their mental health and wellbeing, and their social and economic opportunities. The harmful health ramifications of carrying excess weight have been highlighted even further during the COVID-19 pandemic, with those living with severe obesity being more at risk of severe illness, including hospitalisation and death, if COVID-19 is contracted^{211, 212}.

Another prominent nutrition-related issue in Australia is malnutrition, especially in older Australians. In 2021, the Royal Commission into Aged Care Quality and Safety deemed that food and nutrition in aged care settings was one of four concerns requiring immediate attention²⁸⁴. Malnutrition increases the risk of falls, hospital admissions, pressure injuries, and ultimately, leads to higher treatment costs and mortality^{285, 286}. At this stage of life, consuming a healthy diet is critical to healthy ageing and delaying the onset of increased care requirements.

Many Australians understand the link between consuming a poor diet and the subsequent negative health implications, however behaviour does not necessarily change. Factors that are not in our direct control, such as the duration of our sleep, affect our ability to regulate appetite and metabolism. Individual choice is not the only factor driving why we eat what we eat; the environment and the food systems where we live, work, play and age influence our dietary patterns strongly^{287, 288}. There have been major changes to the global food system and the way that we consume food over the past few decades. Food is more processed, the serving sizes are larger, the kilojoule content is higher, food is travelling greater distances to get to consumers, and convenience foods are often priced to be more affordable than healthy alternatives^{277, 289-292}. For Aboriginal and Torres Strait Islander communities, colonisation has significantly altered the traditional diet which is rich in nutrients and low in energy density²⁹³. These communities often have particular challenges in accessing healthy and affordable food. Also, all Australians, particularly children, are inundated with extremely effective marketing techniques that are used to promote

the sale and desire of unhealthy products^{294, 295}. During 2016-18 across a variety of Australian media channels, advertising expenditure on sugary drinks (\$129.5 million) significantly exceeded expenditure on alternative cold beverages (\$68.8 million)²⁹⁶.

Just like access to clean water and health care are basic human rights, so too is access to adequate food and nutrition²⁹⁵. In 2014, five million Australians experienced food insecurity including running out of food and not being able to purchase more (in the past 12 months)²⁹⁷. Preliminary reports suggest that the number of food insecure Australians seeking food relief has doubled in 2020 due to the COVID-19 pandemic²⁹⁸. Food insecure households are more likely to develop chronic conditions such as diabetes, hypertension and mental health issues, as the food and drinks they are consuming are generally high in energy, fat and sugar, and provide low nutritional value²⁹⁹. Food access (including cost, affordability, availability and location) is one factor that contributes to food security and consequently, communities affected by disadvantage including those who live in rural and remote locations, people who are of low socioeconomic status, and Aboriginal and Torres Strait Islander communities, are impacted disproportionately²⁹⁹.

For these reasons, multiple strategies aimed at the individual, communities, the food system and the food environment will be needed to achieve the targets in this focus area. This is especially true in order to tackle the obesity epidemic in Australia; action is needed across the spectrum of prevention, from primordial right through to quaternary. This Strategy seeks to increase the consumption of healthy food and drinks, as well as decrease the consumption of discretionary foods that are currently contributing to a large and excessive proportion of Australians' energy intake⁴.

The Australian Government has a number of initiatives currently underway to increase consumption of a healthy diet, including but not limited to the voluntary Health Star Rating system, the Australian Dietary Guidelines, and the Healthy Food Partnership's Reformulation Program. However, more work must be undertaken to protect against the avoidable burden of dietary-related disease, illness, and premature death.



Policy achievements by 2030

- Nutrition and food action in Australia is guided by a specific national policy document
- Nutrition information and guidance is translated and widely communicated for all health literacy levels
- Structural and environmental barriers to breastfeeding are decreased through policy action
- Australian Dietary Guidelines are supported by a communication and social marketing strategy
- Healthy eating is promoted through widespread multi-media education campaigns
- Ongoing access to adequate and affordable healthy food options are available to all Australians, including older Australians
- A national policy document is developed to address food security in priority populations
- Consumer choice is guided by the Health Star Rating system which is displayed on all multi-ingredient packaged food products
- Children's exposure to unhealthy food and drink marketing, branding and sponsorships is further restricted across all forms of media, including through digital media
- Reduced sugar, saturated fat and sodium content of relevant packaged and processed foods through reformulation and serving size reduction, including consideration of tax reform
- Relevant guidelines and policies are regularly updated using the latest scientific evidence
- Consumer choice is guided by energy and ingredient labelling on all packaged alcoholic products
- The nutritional and health needs of priority populations are met through co-designed, community-based programs that are culturally appropriate
- Restricted promotion of unhealthy food and drinks at point of sale and at the end-of-aisle in prominent food retail environments, and increased promotion of healthy food options
- Comprehensive national data on nutrition is enhanced and collected regularly



Targets

- Reduce the prevalence of insufficient physical activity amongst children, adolescents and adults by at least 15% by 2030
- Reduce the prevalence of Australians (≥ 15 years) undertaking no physical activity by at least 15% by 2030
- Increase the prevalence of Australians (≥ 15 years) who are meeting the strengthening guidelines by at least 15% by 2030

Increasing physical activity

Australia has a strong sporting culture which is intrinsically linked to our identity as a nation. However, this does not translate into our day-to-day lives and we are generally not physically active enough to receive the numerous co-benefits that movement brings to individuals and communities. Being physically active and achieving adequate sleep are essential components of preventing poor physical health and for establishing and maintaining strong mental health and wellbeing. For people with poor quality sleep, finding the energy to undertake adequate physical activity can be a significant challenge³⁰⁸.

There are many different types of physical activity – it is not limited to playing competitive sport or going for a run, and you do not need to be an athlete nor be of a certain age to move your body successfully. The WHO defines physical activity as “any bodily movement produced by skeletal muscles that requires energy expenditure”³⁰⁹. This includes activities such as gardening, using the playground, practising yoga, taking the stairs, carrying out household chores and walking to school or work³². Conversely, activities that involve

sitting, lying down or reclining (when not sleeping) and that do not require a lot of energy expenditure, are referred to as ‘sedentary’³¹⁰. In Australia, the overall rates of physical inactivity have not changed significantly since 2011 and consequently³¹¹, Australia was poorly ranked 97-out-of-168 countries by the WHO for physical activity levels in 2016³¹². The ramifications of this immense inactivity are experienced across all levels of society in Australia.

Physical inactivity significantly increases the risk of developing cardiovascular disease, diabetes, breast and colon cancer, mental health issues, experiencing falls and musculoskeletal conditions^{313, 314}. Regular physical activity at all stages of life also plays an integral role in preventing overweight and obesity, and consequently, with no changes to the population’s activity levels³², Australia is still battling an obesity epidemic. Another contributing factor to obesity – as distinct from too little movement – is the amount of time we spend sitting each day. On average, Australian adults are sitting for nearly nine hours per day, and astonishingly, older adolescents are the second-most sedentary group in the

population after older Australians³¹⁵. The impact of digitalisation on physical activity levels in children is not yet clear, but some studies have demonstrated that screen time is associated with a reduction in physical activity³¹⁶. Furthermore, there is some evidence that spending prolonged periods of time in a sitting position leads to an increased risk of cardiovascular disease and premature death³¹⁷. The mortality risks associated with sitting for longer durations each day (eight or more hours) can be eliminated through high levels (at least 60 mins per day) of moderate intensity physical activity³¹⁸. But there is hope for improving health, as scenario modelling has demonstrated that for sedentary, low and moderate activity population groups, future disease burden due to insufficient physical activity could be reduced by 13% through an extra 15 minutes of brisk walking, five days per week³¹⁴. This statistic increases to a 26% reduction in future disease burden if the duration of brisk walking is increased to 30 minutes, five days per week³¹⁴.

The repercussions of Australia's low rates of physical activity are also felt in the workplace and in the school environment. For employers, there are higher rates of absenteeism amongst employees who have low physical activity levels³¹⁹, and for employees, increased sedentary time is associated with decreased productivity and lower job satisfaction³²⁰. It has been estimated that the cost of absenteeism in Australia is \$7 billion per year³²¹, but the cost of physical inactivity is more accurately measured by presenteeism (decreased productivity due to illness/injury), which is estimated to be \$26 billion per year³²². When it comes to the school environment, active students perform better academically^{323, 324}.

Similar to other focus areas in this Strategy, Australians know they need to be moving more to improve their health, but this knowledge is not translating into action. As a nation, our physical activity rates are severely lacking with only 15% of adults meeting both the physical activity and muscle strengthening guidelines³¹¹. These statistics are even poorer for younger generations with only 12% of children (aged 5-12 years) and 2% of young people (aged 13-17 years) meeting both the physical activity and sedentary screen-based behaviour guidelines³¹¹. Physical activity is affected by individual, social, economic and structural factors. For example, whether someone is physically active will be immensely affected by where someone lives, their level of income, and the access they have to places that promote physical activity (i.e. green spaces, community



Key Facts

- In 2008, it was estimated that physical inactivity costs Australia more than \$13 billion each year in health care costs³²⁹
- In 2017-18, 11.5% of those aged 18-64 and 27% of those aged 65+ were inactive (i.e. did not participate in any activity across the week)²⁰¹
- 55% of adults did not meet the physical activity guidelines in 2017-18³¹¹
- 77% of adults did not meet the muscle strengthening guidelines in 2017-18³¹¹
- 69% of children aged 2-17 did not meet the physical activity guidelines in 2011-12³¹¹
- Children and adolescents are spending approximately 64% of their whole day, and 60% of their school day sitting^{330, 331}
- In 2017-18, 63% of people from the lowest socioeconomic areas were insufficiently active, compared with only 48% in the highest socioeconomic areas
- More Aboriginal and Torres Strait Islander children aged 5-17 years met the physical activity guidelines than non-Indigenous Australians³¹¹
- 14 million Australians participate in sport annually³³²
- Participation in sports at least once a week amongst 14 year old females and twice a week amongst 14 year old males is associated with a high level of physical activity in later life.³³³
- On average, more than two-thirds of the office workday is spent being sedentary³³⁴

Related Strategic Guidance

- Australian 24-Hour Movement Guidelines for the Early Years (birth to 5 years)
- Australian 24-Hour Movement Guidelines for Children and Young People (5 to 17 years)
- Australia's Physical Activity and Sedentary Behaviour Guidelines for Adults (18 to 64 years), Older Australians (65+ years) and Pregnancy
- Sport 2030 – National Sport Plan
- National Strategic Framework for Chronic Conditions
- National Aboriginal and Torres Strait Islander Health Plan
- Clinical Practice Care Guidelines: Pregnancy Care 2019 – Chapter 11 Nutrition and physical activity
- National Obesity Prevention Strategy (under development)

sport, gyms, walking/bike paths etc.). In addition, perceptions of a lack of safety in the community, physical literacy levels (i.e. the skills, knowledge and behaviours to lead an active life), not being able to prioritise exercise, and the fear of being judged, can all reduce the likelihood of physical movement. Furthermore, there are often fewer opportunities for girls, women, people with disability, older adults, LGBTIQ+ communities, people of low socioeconomic position, and those living in rural/remote communities to access safe, accessible and affordable spaces to be physically active³²⁵.

While the Australian physical activity and movement guidelines provide a benchmark for achieving optimal benefits from physical activity, evidence suggests there is no threshold for benefits to accrue, with some of the largest health gains derived when the least active individuals become more active³²⁶. Encouraging and supporting inactive individuals to increase their physical movement, even by small amounts, would benefit the health of many Australians, especially socially disadvantaged communities, leading to broader community and economic gains. This is particularly true for people with dementia and mental illness. There is compelling

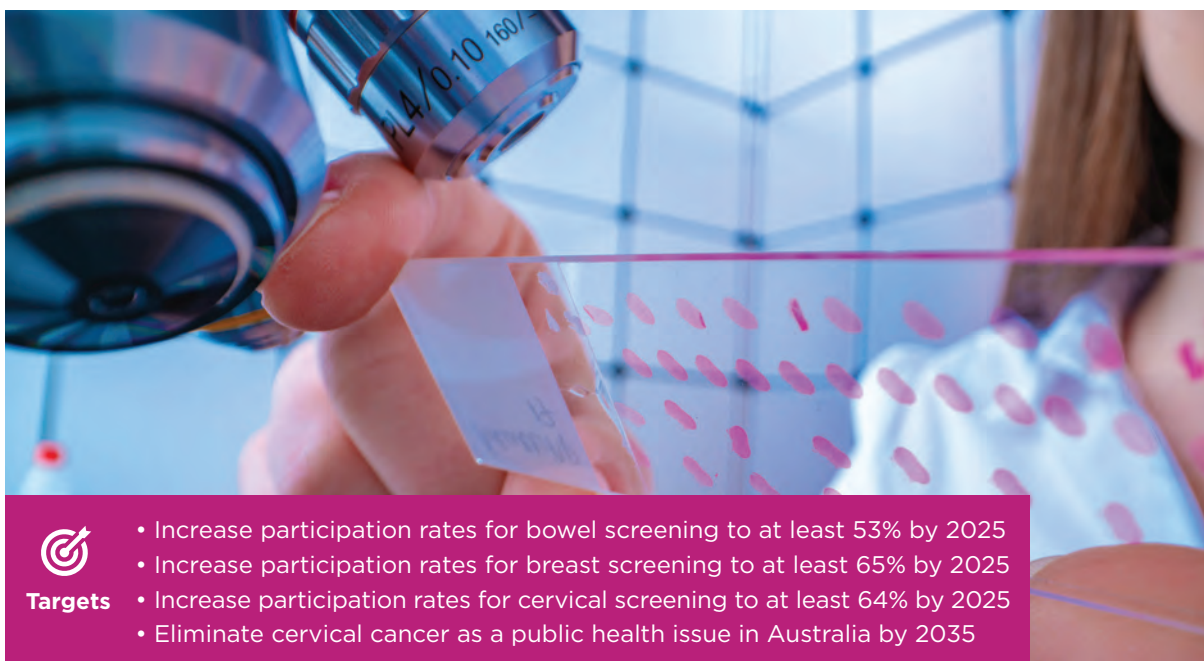
evidence that being more physically active is an effective preventive measure as well as an adjunctive treatment for improving symptoms across a broad range of mental health conditions³²⁷.

Physical inactivity is a complex problem. A whole-of-systems approach to physical activity will be required to better support Australians to embed physical movement into their everyday life³²⁸. Just like altering environments to make healthy food choices the easy choice, opportunities for physical activity must also be accessible and the environments in which we live, work, play, and age need to support us to be more active more regularly. The benefits of this would be widespread, with substantial health and other co-benefits experienced by different sectors within society³²⁸. There are positive implications for: economic growth through decreased absenteeism and increased workplace productivity; liveability and improved climate due to decreased urban traffic congestion and pollution; education with physically active children performing better academically; and the community through increased social cohesion and connectedness and decreased social isolation³²⁸.



Policy achievements by 2030

- Physical activity action in Australia is guided by a specific national policy document
- Mass media campaigns that link to actionable behaviour change are used to create healthier social norms and influence physical activity behaviour
- Prioritise urban design, land use and infrastructure to support physical activity by providing Australians with access to natural environments, public open spaces and green areas, and active transport networks
- Physical activity measures are standardised and defined consistently across jurisdictions
- Early childhood education and care settings, pre-school, primary and secondary schools are supported to ensure that children and students are physically active
- Investment in preventive health action is prioritised for Australians who are currently least active
- Physical activity levels in children are increased through enhanced support for parents and carers
- Healthcare professionals are trained and supported to provide advice and support to patients to promote physical activity and to engage in social prescribing (connecting patients with community services to improve health and wellbeing)
- Increased physical activity and reduced sedentary behaviour is promoted and facilitated in Australian workplaces
- Communities are encouraged and supported to deliver locally designed programs that support physical activity, which are inclusive and promote social connection through physical activity
- More Australians are engaged in sport and active recreation throughout every stage of life
- Behavioural and social marketing approaches are used to modify the travel behaviours of Australians to be more active
- All national guidelines and policies are updated using the latest scientific evidence
- Sleep and screen time recommendations for all age groups are incorporated into national guidelines and policies where appropriate
- Additional advice is provided in national guidelines and policies to increase physical activity for priority population groups
- A greater role is played by the Australian sport sector in preventive health action to increase physical activity and improve mental health within the community



Increasing cancer screening and prevention

Australia is a world leader when it comes to the early detection and prevention of cancer. Despite increasing survival rates, cancer remains one of the leading causes of premature death, accounting for around 30% of deaths⁴. Around one third of cancers in Australia are caused by modifiable risk factors, with around 90% of preventable cancers being attributed to tobacco use, UV radiation, overweight and obesity, poor diet and alcohol consumption.

Australia has established a variety of cancer prevention efforts, with one of the most successful being the *Slip! Slop! Slap! Seek! Slide!* campaign. Over the past few decades, this campaign has helped educate Australians on how to be sun smart to reduce UV exposure and prevent skin cancer. Campaigns such as this helped embed prevention into Australian culture and has contributed to lower rates of cancer nationally^{204, 335}. Complementary efforts, such as promoting skin checks, subsequently increases the early detection and early intervention of cancer leading to better health outcomes for Australians.

For those cancers where traditional preventive measures are ineffective or there are currently no screening programs, a focus on research, early detection and accurate diagnosis, and equitable access to treatment and supportive care, is required.

Cancer screening programs increase the likelihood of detecting abnormalities or cancer in its earlier stages, leading to better outcomes.

In 2011, people diagnosed with the earliest stage (Stage I) of colorectal cancer and breast cancer in females, had a 5-year relative survival rate close to 100%. When these cancers were diagnosed at their latest stage (Stage IV), the 5-year relative survival rate dropped to 13% and 32% respectively³³⁶.

Australia has three world-leading population-based screening programs for cancers: the National Bowel Cancer Screening Program (NBCSP), BreastScreen Australia (BSA), and the National Cervical Screening Program (NCSP). These programs aim to reduce the number of deaths caused by using evidence-based approaches to target specific age and population groups. The NCSP and the NBCSP also aim to reduce the number of new cases of cervical and bowel cancer by identifying and treating their precursors (such as pre-cancerous lesions).

Australians with abnormalities diagnosed through the national cancer screening programs have a 54%-63% lower risk of dying from breast cancer³³⁷ and are 40% less likely to die from bowel cancer compared to Australians diagnosed another way³³⁸. Australia is on track to be the first country in the world to eliminate cervical cancer³³⁹ (i.e. maintain an incidence rate of below four per 100,000 women) thanks to the combination of the NCSP and human papillomavirus (HPV) vaccination.

Despite their success, around 50% of eligible Australians do not regularly participate in the



Key Facts

- In 2020, it is estimated there will be around 145,000 new cases of cancer diagnosed and around 48,000 deaths from cancer (excluding keratinocyte skin cancers)³³⁶ (n.b. this statistic does not include non-melanoma skin cancer)
- In 2020, lung cancer is estimated to be the leading cause of cancer-related death, followed by colorectal cancer³³⁶
- In 2020, breast cancer is estimated to be the most commonly diagnosed cancer, followed by prostate cancer, and melanoma of the skin³³⁶ (n.b. this statistic does not include non-melanoma skin cancer)
- At least one in three cancer cases can be prevented³⁴⁵
- Skin cancer accounts for around 80% of all newly diagnosed cancers³⁴⁶
- Each year, more than 13,000 cancer deaths are due to smoking, sun exposure, poor diet, alcohol, inadequate exercise or being overweight³⁴⁷
- Compared to the heterosexual population, lesbian and bisexual women and gay men are twice as likely to be diagnosed with cancer. This is partly attributed to higher rates of smoking and alcohol consumption and low rates of cancer screening in LGBTQI+ communities³⁴⁸

BreastScreen Australia (BSA)

- In 2018–2019, more than 1.8 million women aged 50–74 participated in BSA, which equates to an age standardised participation rate of 54%³⁴⁹
- Breast cancer mortality has significantly decreased since BSA began, from 74 deaths per 100,000 women aged 50–74 in 1991 to 40 deaths per 100,000 in 2018³³⁷

National Bowel Cancer Screening Program (NBCSP)

- In 2015–16, the estimated health system cost for bowel cancer was over \$650 million per year¹⁸⁹
- Almost 90% of bowel cancers can be cured if detected early³⁵⁰
- In 2018–19, almost 2.5 million people aged 50–74 who were invited to participate in the NBCSP returned a completed bowel screening test. This is a participation rate of approximately 44%³⁴⁹
- The re-participation rate in 2018–2019 for people who had taken part in their previous invitation round was 81%³⁴⁹
- Since 2000, bowel cancer incidence rates have decreased more than any other cancer³³⁶

national cancer screening programs. Participation rates have remained stable over recent years and have returned to pre-pandemic levels^{340, 341}. Lower rates are also typically experienced across all three programs for specific population cohorts including Aboriginal and Torres Strait Islander, low socioeconomic, CALD, and rural and remote populations³³⁸. This disparity is particularly significant for Aboriginal and Torres Strait Islander people, where cancer is a leading cause of the burden of disease and the leading cause of death, accounting for 23% of all deaths¹⁹.

Increasing participation rates will prevent thousands of deaths from cancer. For example, if participation in the bowel cancer screening program reaches and stays at 60% from 2020, potentially 83,000 Australian lives would be saved by 2040³⁴². Advanced approaches can also save lives, with the 2017 switch to the more accurate HPV screening test expected to avert 2,006 cases of invasive cervical cancer and save 587 lives over the period 2018–2035³⁴³.

Strong community engagement and more innovative, data driven approaches are integral to ensuring all eligible Australians are accessing the available screening programs. A recent pilot that involved Indigenous primary health care centres directly distributing bowel screening test kits to Aboriginal and Torres Strait Islander people increased participation rates from 23.3% to 39.8%. The option to allow a 'self-collected' sample to be tested for cervical abnormalities also has significant potential to increase the participation rate in this important program³⁴⁴.

Building a greater evidence base through data, evaluation and research is vital to inform interventions focused on increasing participation in cancer screening. Investment in data on screening behaviour will allow screening programs to be tailored to deliver the most benefit. Emerging data and evidence will continue to be reviewed to assess the need for and feasibility of additional cancer screening programs. For example, the outcome of Cancer Australia's targeted consultations following the release of their Lung Cancer Screening enquiry (2020) will be carefully considered by Government. This rigorous evaluation is vital prior to implementation of new screening programs to ensure that the benefits of the program outweigh any potential risks.

The establishment of the National Cancer Screening Register enables more accurate, national data to be collected on the programs. These data can be analysed and considered in



Key Facts cont.

the context of behavioural science models to help segment audiences, identify trends and develop targeted strategies to drive participation. In the future, people can receive personalised correspondence, tailored to their circumstances and known influences.

New and more flexible approaches to better leverage or adapt existing resources or screening infrastructure could make screening more accessible to under-screened populations. Supporting expanded opening hours for existing screening facilities and co-locating services would make it easier to get screened. Customising materials and supporting culturally or gender appropriate approaches would also expand reach, including among CALD groups and under-screened populations, including men, who typically screen at lower rates than women.

Primary Care healthcare providers, and administrative and support staff such as practice managers, must also be engaged and supported to increase their patients' screening rates.

All of these activities need to be supported by a coordinated and planned national approach to ensure investments in interventions at all levels of government are achievable, efficient, effective, and more sustainable. This approach is detailed in the National Plan for Increasing Participation in Cancer Screening 2020-2025 and is necessary to increase participation and save lives through early detection or prevention of bowel, breast and cervical cancers. Furthermore, increased awareness and education on the risk factors that lead to preventable cancers and how these factors can be reduced or avoided is integral to improving the health and wellbeing of all Australians.

National Cervical Screening Program (NCSP)

- In 2015-16, the estimated health system cost for cervical cancer was over \$27 million per year¹⁸⁹
- Over 2018-19, secondary to the change in two yearly Pap testing to five yearly HPV testing in December 2017, more than 3.1 million people aged 25-74 had a screening HPV test. Whilst it is too early to determine the true impact of the renewal on participation, this equates to an age-standardised participation rate of 46.5%
- In 2018-2019, the lowest participation rates occurred in very remote and remote areas (36.9% and 42.4%, respectively), compared to major cities with the highest participation rate (46.9%)
- In 2018-19, participation was lowest for people residing in areas with highest disadvantage at 40.8%, compared to 52.0% in areas of lowest disadvantage
- More than 70% of cervical cancers diagnosed between 2002 and 2012 in people aged 20-69 occurred in those who had either never screened or were overdue for screening

Related Strategic Guidance

- National Plan for Increasing Participation in Cancer Screening 2020-2025 (under development)
- National Cervical Screening Program Quality Framework
- National Bowel Cancer Screening Program Quality Framework Phase Four 2015-2020
- National Bowel Cancer Screening Program Primary Health Care Engagement Strategy 2016-2020
- BreastScreen Australia National Quality Improvement Plan 2018-2020
- Cancer Australia Report on the Lung Cancer Screening enquiry
- National Aboriginal and Torres Strait Islander Health Plan
- National Agreement on Closing the Gap



Policy achievements by 2030

- Increased screening participation for Aboriginal and Torres Strait Islander, low socioeconomic, CALD, and rural and remote populations through targeted, localised and culturally appropriate engagement
- Interventions focused on increasing participation in cancer screening are developed based on evidence built through research, data, and evaluation
- Healthcare providers are supported and engaged to further encourage and support people to participate in cancer screening
- Engagement strategies are informed by existing and new data to drive behavioural change and increase participation in screening
- The quality and analysis of national cancer screening data has improved, leading to improved services and higher participation rates
- A coordinated national approach has been established that ensures investments in interventions at the national, state, and local level are achievable, efficient, effective, and more sustainable
- Mass media campaigns are used to influence sun protective behaviour
- The evidence base supporting new screening programs is developed further, enabling safe and cost-effective approaches to be considered by the Government
- The feasibility of a national lung cancer screening program targeting high-risk individuals is assessed
- Education and health promotion initiatives are delivered to raise awareness of the modifiable risk factors that lead to preventable cancers



Targets

- Increase immunisation coverage rates to at least 95% of children aged 1 and 2 years by 2030, and maintain a coverage rate of at least 95% for children aged 5 years
- Increase immunisation coverage rates to at least 95% of Aboriginal and Torres Strait Islander children aged 1 and 2 years by 2030, and maintain a coverage rate of at least 95% for Aboriginal and Torres Strait Islander children aged 5 years
- HPV immunisation rate increased to at least 85% for both boys and girls by 2030

Improving immunisation coverage

Communicable diseases can have a severe impact on the health and wellbeing of individuals and the community. Many of these diseases are vaccine preventable diseases (VPDs), such as rubella, whooping cough and influenza. Vaccines work by activating the body's immune system to protect against future infection, leading to an individual becoming immune to that disease. Immunisation is one of the most significant public health interventions of the past 200 years, and the WHO estimates that immunisation prevents 2–3 million deaths worldwide each year³⁵². One of the key initiatives established to date by the Commonwealth and state and territory governments is the National Immunisation Program (NIP), which provides free vaccines to eligible people including young children, adolescents, older Australians, Aboriginal and Torres Strait Islander people, and others who are at greater risk of serious harm from VPDs.

The AIHW reported that in 2015, the equivalent of 15,781 years of healthy life were lost due to VPDs²⁸³. 83% of this burden was due to influenza, pneumococcal disease and HPV, and this burden was 4.1 times higher among Aboriginal and Torres

Strait Islander people²⁸³. People aged 25–29 had the highest burden (12%) due to the potential long-term outcome of developing cervical cancer after infection with HPV, followed by people aged 85 and over (11%)²⁸³. For immunisation to have the greatest benefit, a large proportion of the community must be fully immunised³⁵³. High immunisation rates protect vulnerable groups in the community, such as those who are too young or too sick to be vaccinated, highlighting the importance of access regardless of financial or geographical barriers. The COVID-19 pandemic has highlighted the importance of immunisation against infectious diseases, and how preventing the spread of disease is integral to community safety.

Immunisation against VPDs is an important prevention measure, particularly in the early years of life. Australia has a strong record in childhood immunisation coverage including amongst Aboriginal and Torres Strait Islander children, with at least 91% of children at aged 1, 2 and 5 years fully vaccinated in 2020³⁵⁴. However, a high national coverage rate can mask geographic areas and population groups



who have low coverage. It will continue to be important to maintain and improve these rates over the next 10 years. Consistent with the WHO target for the Western Pacific Region, Australian governments have committed to a target of 95% immunisation coverage for children aged 1, 2 and 5 years through the National Immunisation Strategy 2019-2024³⁵⁵. This target provides sufficient herd immunity to prevent transmission of highly infectious VPDs and supports Australia's contribution to achieving measles elimination in the Western Pacific Region³⁵⁶.

While childhood immunisation rates are high across Australia, immunisation coverage is important at all stages of life. One of the key challenges in improving immunisation coverage is to target immunisation to population groups who are at increased risk from VPDs, including pregnant women and specific age cohorts³⁵⁷. In some cases, people working in areas with a high risk of transmission, such as health care, aged care, or child care, are also at higher risk³⁵⁵. Vaccination uptake among adults in Australia is not optimal. In 2009, only 53.4% of at-risk adults were vaccinated against influenza and 30% of eligible older adults were vaccinated against shingles³⁵⁸. Moving forward, immunisation will need to evolve from a focus on infants and children to vaccinating along the life course – including the need for improved data amongst these cohorts. The Australian Government is committed to ensuring the Australian Immunisation Register (AIR) is a complete and reliable national dataset. The reporting of vaccinations to the AIR is key to the health of all Australians as it ensures their AIR records are kept up to date and are accurate. It also enables the monitoring of immunisation coverage to better inform vaccine projections, purchasing, delivery and program performance, and analyses of vaccine effectiveness and safety. On 1 March 2021, mandatory reporting of flu and COVID-19 vaccinations to the AIR was introduced. This measure aims to increase reporting to the AIR, which will most likely improve the reported coverage rates over time.

The success of the NIP has meant that many diseases – such as rubella, tetanus, diphtheria, haemophilus influenzae type b (Hib) and measles – are now rare in Australia³⁵⁵. With the lack of visibility of these diseases in the community, complacency can occur among some individuals and healthcare providers. There is a growing trend of parents who hesitate to have their children vaccinated or delay vaccination. Research suggests

Key Facts

- In 2015-16, vaccine-preventable conditions cost the hospital sector \$616.7 million²¹
- In 2015, 15,781 years of healthy life were lost due to VPDs. The majority of VPDs burden was due to Influenza, Pneumococcal disease and HPV²⁸³
- In 2016, there were 579 recorded deaths from vaccine-preventable diseases in Australia³⁶²
- In 2015, 80% of the disease burden from VPDs was due to premature death²⁸³
- Aboriginal and Torres Strait Islander people accounted for 10% of the disease burden due to VPDs²⁸³
- Funding for vaccine purchasing and services to support immunisation uptake has increased from \$10 million per year in the mid-1970s to more than \$460 million in 2017-18³⁵⁵
- The 2009 Adult Vaccination Survey estimated that, for the population aged 65 years and older, 74.6% were vaccinated against seasonal influenza and 54.4% against pneumococcal disease. However, even though this age group is the target population for these vaccines, 22.1% were not vaccinated for either disease³⁵⁸
- In 2009, only 11.3% of Australians aged 18 years and over had received a pertussis vaccination as an adult or adolescent³⁵⁸
- Since the HPV vaccine was introduced in Australia in 2007, the number of women under 20 years of age with high-grade cervical abnormalities has fallen from 11.6 per 1000 women screened that year to 3.9 per 1000 women screened in 2016³⁶²
- In Australia, vaccines must pass strict safety testing before the Therapeutic Goods Administration (TGA) will register them for use³⁶⁴
- Hepatitis B has been declining over the past 10 years, particularly in younger age groups and may be attributable in part to national immunisation programs. At the end of 2018, an estimated 226,566 people were living with chronic hepatitis B³⁶³

Childhood Immunisation

- 94.9% of all one year olds, 92.5% of all two year olds and 95.2% of all five year olds were fully vaccinated in March 2021³⁵⁴
- Among Aboriginal and Torres Strait Islander children, 93.7% of all one year olds, 91.7% of all two year olds and 97.3% of all five year olds were fully vaccinated in March 2021³⁵⁴
- Up to 2% of Australian parents do not immunise their children because they oppose or have concerns about vaccines³⁵⁹

that as many as 2% of Australian parents do not immunise their children because they oppose or have concerns about vaccines³⁵⁹. This hesitancy can put children at risk of contracting VPDs and puts the success of the NIP at risk.

Australia's NIP has produced significant gains over the last 20 years. The ongoing success of the NIP depends on a high level of community confidence in immunisation among both individuals and health professionals. To improve immunisation coverage, it is vital that community confidence in the NIP is maintained and boosted through effective communication strategies. While technological platforms such as social media are a potential means for distributing information and educating consumers, particularly populations that are otherwise hard to reach, the WHO reports that these technological trends are also contributing to increased vaccine hesitancy³⁶⁰. As outlined in the WHO Global Vaccine Action Plan, it is critical that individuals and communities understand the value of vaccines and demand immunisation as both their right and responsibility³⁶¹. Boosting community confidence in immunisation will be critical in increasing immunisation coverage and lowering the impact of VPDs on the health and wellbeing of Australians.



Related Strategic Guidance

- National Immunisation Strategy for Australia 2019 to 2024
- National Immunisation Program Schedule
- Australian Immunisation Handbook
- National Framework for Communicable Disease Control
- Australia's COVID-19 Vaccine and Treatment Strategy
- National Partnership on Essential Vaccines
- National Aboriginal and Torres Strait Islander Health Plan
- National Agreement on Closing the Gap
- Suite of national blood-borne virus and sexually transmitted infection strategies^{365a-e}



Policy achievements by 2030

- Individuals and communities' understanding of the value of vaccines is increased
- HPV immunisation coverage rates continue to increase through higher participation in the Gardasil vaccination program and by targeting priority populations
- Enhanced immunisation data are available through increased reporting of vaccinations to the Australian Immunisation Register for all Australians
- Improved monitoring and uptake of influenza, pneumococcal and herpes zoster vaccination
- Access to immunisation services is available for all Australians, regardless of financial or geographical barriers, including increasing/ utilising eligible providers who can administer NIP vaccines, thereby increasing access and uptake
- Immunisation coverage of priority populations, including Aboriginal and Torres Strait Islander people and difficult to reach groups, have improved through strategic targeting, engagement and culturally safe delivery
- Increased community and health professional awareness of vaccine safety systems, which has led to improved confidence in the program and reporting of adverse events
- Immunisation continues to evolve from a focus on infants and children to vaccinating along the life course
- Safe and effective vaccines for COVID-19 are available to all Australians
- Community confidence in the National Immunisation Program is established and maintained through effective communication strategies
- Health workforce are trained to work with people from culturally, ethnically and linguistically diverse communities to ensure that services are delivered in a culturally appropriate and safe way
- Establish a benchmark and targets for adults at increased risk of vaccine preventable diseases due to age or underlying medical conditions, and work towards meeting those targets by 2030



Reducing alcohol and other drug harm



Targets

- At least a 10% reduction in harmful alcohol consumption by Australians (≥ 14 years) by 2025 and at least a 15% reduction by 2030
- Less than 10% of young people (14-17 year olds) are consuming alcohol by 2030
- At least a 15% decrease in the prevalence of recent illicit drug use (≥ 14 years) by 2030

Australian governments address alcohol and other drug (AOD) use in the community through a long-standing commitment to a harm minimisation framework. This internationally recognised approach prevents and reduces the harms associated with AOD use through three pillars: harm reduction, demand reduction and supply reduction³⁶⁶. This balanced framework guides both health and law enforcement AOD policy and has been shown, over decades, to be an effective approach.

Despite increased investment and some gains, AOD-related harms still impact (directly and/or indirectly) all Australian communities, families and individuals. It is not just individuals who are affected; AOD use can adversely affect families, friends and bystanders. Populations experiencing disadvantage in Australia, including Aboriginal and Torres Strait

Islander people, are at greater risk of harm from AOD-related harm. These harms span health, social and economic domains and range from injury, chronic conditions, mental health problems, road trauma, violence, engagement with criminal justice, trauma and child protection issues³⁶⁶. Economically, AOD use can decrease productivity, increase healthcare and law enforcement costs, and reinforce marginalisation and disadvantage³⁶⁶.

The consumption of AODs is a major cause of preventable disease and illness in Australia. Together, alcohol use and illicit drug use in Australia contribute to nearly 5% of all deaths¹⁸⁶. In 2018, alcohol use contributed 4.5% of the overall disease burden and injury through a range of disorders including eight types of cancer, alcohol use disorders, chronic liver disease and injury^{5, 186}.



Key Facts³⁷⁷

Alcohol

- In 2018, alcohol was the fifth highest risk factor contributing to the burden of disease in Australia (4.5% of total burden)⁵
- Over 4000 deaths per year have been associated with alcohol use³⁷⁰
- In 2017–18, over 2 in 5 adults aged 18+ years consumed more than 4 standard drinks on one occasion, at least monthly, exceeding single occasion risk guidelines
- In 2019, people living in remote and very remote areas were about 1.5 times as likely than those in major cities to exceed lifetime and single occasion risk guidelines (at least monthly)
- People aged 70 and over are the most likely to drink alcohol daily and the 50–59 age group are most likely to exceed the lifetime risk guideline
- A higher proportion of people with a mental health condition reported drinking at risky levels (for both lifetime and single occasion risk) compared with people who had not been diagnosed or treated for a mental health condition
- In 2019, homosexual and bisexual people were more likely to exceed lifetime (25% vs 16.9%) and single occasion risky drinking guidelines (35% vs 26%) compared to heterosexual people²⁵⁷
- In 2019, 19.3% of Aboriginal and Torres Strait Islander people aged 14+ exceeded the lifetime risk guidelines²⁵⁷
- At the start of 2018, there were an estimated 143,580 people living with chronic hepatitis C infection in Australia, reducing to an estimated 129,640 people at the end of 2018
- Receptive syringe sharing remains a key risk factor for hepatitis C transmission among both the Aboriginal and Torres Strait Islander population as well as the non-Indigenous population³⁶³

There are a number of public health gains that have been made in Australia regarding alcohol consumption. Between 2009 and 2018, Australia's overall consumption of alcohol (on a per capita basis) declined and the percentage of people reporting abstinence remained relatively stable³⁶⁷. In addition, there has been a significant improvement demonstrated by teenagers aged 12–17 years abstaining from alcohol or delaying the age of their first drink³⁶⁸. However, alcohol still remains an important public health issue that is associated with over 4,000 deaths, accounts for 54% of drug-related hospitalisations, and has a significant impact on violence in Australian communities^{186, 341, 369, 370}.

The consumption of alcohol during pregnancy can result in birth defects and behavioural and neurodevelopmental abnormalities known as Fetal Alcohol Spectrum Disorder which has lifelong impacts on individuals, families, carers and communities³⁷¹. The risks associated with alcohol consumption during pregnancy are often underestimated. For women who are pregnant, planning a pregnancy or who are breastfeeding, not drinking is the safest option.

Alcohol has a complex role in Australian society. For example, some Australians regard drinking as the cultural norm and people may not recognise that they are consuming alcohol in quantities that are damaging to their health³⁷². Many are unaware of how consuming alcohol contributes to cancer, cerebrovascular, cardiovascular, liver and digestive disease³⁷³. The Australian Guidelines to Reduce Risks from Drinking Alcohol states to reduce the risk of harm from alcohol-related disease or injury, healthy men and women should drink no more than 10 standard drinks a week and no more than 4 standard drinks on any one day³⁷⁴. Results



from the National Drug Strategy Household Survey show that risky drinkers (lifetime and single occasion risk) are more likely to believe they can consume above the recommended guidelines without affecting or putting their health at risk³⁷³.

Illicit drug use contributes 2.7% of the total disease burden, through accidental poisoning, self-harm, mental illness and suicide, among others¹⁸⁶. Opioid use accounted for the largest proportion (36%) of the illicit drug burden, followed by amphetamine use, cocaine and cannabis¹⁸⁶. The non-medical use of pharmaceutical drugs is an ongoing public health challenge in Australia, with evidence suggesting an increase in associated harms including mortality³⁷⁵.

As with many health issues, social and structural determinants significantly contribute to harmful AOD use and can include complex issues such as social and economic exclusion, poverty, marginalisation, racism and stigmatisation^{115, 373}. Many Australians whilst growing up have unfortunately experienced one or many risk factors that can lead to problematic AOD use, including genetic influences, social disadvantage, ease of access, family breakdown, childhood neglect and poor adolescent adjustment³⁷⁶. Although no single risk factor can be pinpointed



Key Facts cont.

Non-medical use of pharmaceuticals

- In 2019, people with mental health conditions were twice as likely as those without mental health conditions to have recently used pharmaceuticals for non-medical reasons
- In 2019, Australians were more likely to approve of non-medical (non-prescribed) use of painkillers/opioids (12.4%) and tranquilisers /sleeping pills (9.3%) than other illicit drugs (except cannabis)
- Between 2009 and 2018, the number of deaths where benzodiazepines were present rose by 70%
- Painkillers/opioids were the most common pharmaceutical used for non-medical reasons in 2019, followed by tranquilisers/sleeping pills
- In 2019, people from remote and very remote areas were 1.5 times as likely as those from major cities to have used pharmaceuticals for non-medical reasons (non-prescribed)

Illicit Drugs

- 43% (9.0 million) of Australians aged 14 and over had illicitly used a drug in their life and 16% (3.4 million) had used one in the last 12 months³⁷⁸
- Illicit drug use in the previous 12 months has increased for cannabis, cocaine, ecstasy, inhalants, hallucinogens and ketamine, between 2016 and 2019²⁵⁷
- Use of any illicit drug increased among people in their 40s (from 12% to 16%) and 50s (from 6.7% to 13%) between 2001 and 2019²⁵⁷
- In 2019, 31% of homosexual and bisexual people reported recent illicit drug use compared to 16.1% of heterosexual people²⁵⁷

Related Strategic Guidance

- The National Alcohol Strategy 2019-2028
- The National Drug Strategy 2017-2026
- National Ice Action Strategy 2015
- National Fetal Alcohol Spectrum Disorder (FASD) Strategic Action Plan 2018-2028
- Australian Guidelines to Reduce Health Risks from Drinking Alcohol
- National Aboriginal and Torres Strait Islander Health Plan
- National Agreement on Closing the Gap

as the cause of future issues, the more risk factors that persist, the greater the cumulative impact. It is the building of protective factors and the development of resilience throughout the lifespan that can counter these risk factors.

Much of Australia's preventive efforts, when it comes to AOD use, rightly focuses on preventing uptake and/or delaying first use, and preventing or reducing harm from use. This approach is underpinned by clear evidence that early onset puts an individual at high risk for problems now and in the future³⁷³. A greater focus on prevention and action across the lifespan is needed. When it comes to addressing AOD use, the focus should be on a harm minimisation response and one that focuses on the wider determinants of health.

There is an opportunity to strengthen Australia's approach to AOD prevention. There

is a need for sustainable, coordinated and evidence-based prevention action to shift cultural norms for our younger generations, prevent and delay use, and minimise harms. At the same time, programs that prevent harmful AOD use across the life span should be developed. A significant part of this action must focus on tackling the determinants (individual, social and structural) that lead to AOD-related harm through sustained and whole-of-government action coupled with community engagement and participation. Furthermore, a stronger sense of connectedness to schools and the community are important goals, as well as strategies to enhance wellbeing through a focus on the social and structural influences on risk and protective factors.



Policy achievements by 2030

- Harm minimisation and addressing the wider determinants of health are at the forefront of Australia's approach to alcohol and other drug policy and prevention investment - guided by a national strategy
- Leaders across Australia challenge the normalisation of hazardous and harmful alcohol use
- AOD policy and programs including prevention strategies avoid and reduce stigma and discrimination
- Effective strategies include engagement with and involvement of the broader community
- Build consumer awareness of the National Alcohol Guidelines
- The availability and promotion of alcohol is restricted to minimise alcohol-related harm, as outlined in the National Alcohol Strategy
- Restrict exposure to alcohol marketing for children and youth, including through digital media
- Evidence-based and credible mass media campaigns are a part of broader strategies to prevent harm and are adapted to local need
- Prevention is informed by evidence-based strategies to reduce risk factors and enhance protective factors
- The age of onset of alcohol and other drug use is prevented or delayed to reduce harm among young people and across their later years, including through evidence-based and aged-appropriate school programs
- The needs of high risk and priority populations, particularly the impact of alcohol use on Aboriginal and Torres Strait Islander communities and rural and remote communities, are prioritised within AOD prevention action
- The health workforce is better educated on alcohol, tobacco and other drug issues, through training and embedding in undergraduate curriculum, and are confident in evidence-based screening, brief intervention and referral to treatment (SBIRT)



- Towards zero suicides for all Australians

Promoting and protecting mental health

Mental health plays an integral role in determining our overall health and social and emotional wellbeing²¹. It is expected that almost half of the Australian population (45%) aged 16-85 years will experience a mental disorder at some point in their life³⁷⁷, and an estimated 2-3% of Australians have severe mental illness (including psychotic disorders and people with severe depression and anxiety)³⁷⁹. Additionally, over 3000 Australians per year are lost to suicide³⁸⁰. This is a prominent issue for Australians and in 2012, the National Mental Health Commission was established to provide evidence-based policy advice to Government and to disseminate information on ways to continuously improve Australia's mental health and suicide prevention systems. However, across Australia more work is required to support this effort and reduce the burden of disease, and a focus on the protective factors for positive mental health and wellbeing is required.

There is a bidirectional relationship between mental illness and physical health; people with mental illness have an increased risk of physical illness, and vice-versa. Thus, strengthening our mental health not only increases wellbeing, but also protects against other health conditions (such as dementia) and reduces our exposure to risk factors. People with severe mental illness are three times more likely than the general population to have diabetes and are at increased risk of cardiovascular disease³⁸¹. Additionally, there is a strong association between mental illness and the use of alcohol, tobacco and illicit

drugs, with people with mental health issues being twice as likely to smoke³⁸² and 1.7 times more likely to have used illicit drugs³⁸². Use of these substances not only triggers and/or worsens mental health issues, but substance use is also strongly associated with cancer, cirrhosis of the liver, and cardiovascular disease³⁸³.

There are many protective factors that contribute to positive mental health and wellbeing. Over the life course, these include positive family functioning, supportive communities, social support and strong social relationships (including online), physical activity, employment, consuming a nutritious diet, reduced alcohol intake, the length and quality of sleep, and the access and use of green space³⁸⁴. Boosting protective factors can help people cope with the normal stresses of life and increase resilience in the face of adversity, enabling them to work productively and make a contribution to their community^{380, 385}. Providing supports that mitigate the effects of social, economic, or environmental stresses also helps to protect mental health from deteriorating³⁸⁰. Many of the protective factors are strongly linked to the wider determinants of health and therefore, to better protect and promote mental health and wellbeing, health needs to be considered in all policies across government as recommended in the *Mobilising a prevention system* section of this Strategy. There is a particular need to focus on physical health and wellbeing in those who experience severe mental illness¹¹⁴. This is an area that has not seen improvement in recent decades.



Key Facts

- In 2018, mental and substance use disorders contributed to 13% of Australia's burden of disease⁵
- Over 13% of 4-11 year olds in Australia experienced a diagnosable mental health condition in the past 12 months³⁹⁵
- Half of all mental disorders start by 14 years³⁹⁶
- 75% of people who develop mental illness first experience mental ill-health before the age of 25 years³⁸⁰
- Almost half of all Australian adults have met the diagnostic criteria for a mental illness at some point in their lives, and almost one in five Australians have met the criteria in a given year³⁸⁰
- In 2019, 16.9% of the general population aged 14 and over had been diagnosed or treated for a mental health condition in the previous 12 months³⁸²
- Australia spends over \$9.9 billion each year on mental health-related services³⁷⁷
- The cost of mental ill health and suicide to the Australian economy is estimated at between \$43 billion and \$70 billion per year, including the costs of providing treatment and supports and loss of economic participation and productivity³⁸⁰
- In 2019, people with mental health conditions were more likely to drink alcohol at risky levels than those without mental health conditions (21% compared with 17.1% for lifetime risky drinking, and 31% compared with 25% for single occasion risky drinking at least monthly)³⁸²
- In 2010, 96% of people with psychosis were classified as either sedentary or undertaking low levels of exercise compared with 72% for the general population³⁹⁷
- Compared with the general population, LGBTQI+ people are more likely to have depression, anxiety, be diagnosed with a mental health disorder, have suicidal ideation, engaged in self-harm and/or have attempted suicide in their lifetime³⁹⁸
- In 2003, 10% of the health gap between Aboriginal and Torres Strait Islander people and non-Indigenous Australians was linked to mental health conditions; another 4% of the gap is attributable to suicide³⁹¹
- Generally, immigrants are under-represented in the populations who utilise mental health services in Australia³⁹⁹
- Australians living in remote and very remote areas are around twice as likely to die from suicide compared with Australia overall¹⁰²

Infants and children, more than any other age group, are shaped and influenced by a range of social, biological and environmental factors. Their mental health and wellbeing cannot be separated from the broader context of their lives, which includes their own individual characteristics, their family, school, local neighbourhood, work and community environments. Prevention and early intervention are vital elements in improving infant and child emotional and social wellbeing, and helping to prevent the development of mental illness as they journey into adolescence and adulthood³⁸⁶.

Adolescence and early adulthood is a critical time in a young person's life, with research highlighting that more than 75% of mental health disorders begin before the age of 25³⁸⁷. For people aged 10 to 24 years old, neuropsychiatric disorders, including anxiety and mood disorders, are the main cause of disability-adjusted life-years, accounting for 45% of the global burden of disease³⁸⁸.

Since 2020, the COVID-19 pandemic has highlighted more than ever the importance of social connection and the immense impact that social isolation can have on our mental health and wellbeing. Being involved in a community can improve peoples' feelings of social connectedness and provide a sense of belonging and purpose in everyday life³⁸⁹. This sense of value and social connection can prevent and reduce feelings of isolation, anxiety and depression³⁸⁹. A positive sense of identity and cultural heritage can also contribute to mental health and wellbeing, particularly for people from CALD backgrounds. When there are uncertainties around cultural identity and individuals don't feel like they 'belong' in a community, feelings of being lost and isolated are often experienced³⁹⁰. To combat this, it is imperative that communities are inclusive of people from all cultures, are free from discrimination, and differences in cultures are understood, accommodated and embraced. This is also essential during the provision of health care so that people from CALD backgrounds receive culturally appropriate health advice and information.

For Aboriginal and Torres Strait Islander people, the separation from country and kin, and subsequent loss of connection to traditional cultural practices due to colonisation, is one of the leading factors of poor mental health and wellbeing^{390, 391}. Additionally, suicide rates are significantly higher in the Aboriginal and Torres Strait Islander population, accounting for 5.7% of all deaths in 2019 compared with 1.9% in the non-Indigenous population³⁹².

The Aboriginal and Torres Strait Islander approach to health is holistic and connection to land, culture, spirituality, ancestry, family and community all impact mental health and wellbeing³⁹². These elements are all part of the concept of social and emotional wellbeing for Aboriginal and Torres Strait Islander people, and strong connections in these areas can have a protective effect¹⁰⁷. Reconnecting to culture is crucial in helping Aboriginal and Torres Strait Islander people heal from the intergenerational trauma caused by colonisation, and to help future generations avoid the same adverse effects. Supporting the holistic, comprehensive and culturally appropriate health care provided by ACCHSs, along with collectively working together to achieve the outcomes and objectives of the National Agreement on Closing the Gap, will empower Aboriginal and Torres Strait Islander people and communities to drive place-based solutions according to their own unique priorities and circumstances.

As recommended in the Mental Health Productivity Commission report, handed down in November 2020, the mental health system needs to be refocused towards prevention and early intervention³⁸⁰.

As those with severe mental illness have a reduced life expectancy compared with the rest of the population, there needs to be a specific focus on how these people access relevant services and

Related Strategic Guidance

- Fifth National Mental Health and Suicide Prevention Plan 2017-2022
- Productivity Commission Mental Health Inquiry Report
- National Strategic Framework for Aboriginal and Torres Strait Islander Peoples' Mental Health and Social and Emotional Wellbeing 2017-2023
- National Mental Health and Wellbeing Pandemic Response Plan
- National Children's Mental Health and Wellbeing Strategy
- National Mental Health and Suicide Prevention Plan
- National Aboriginal and Torres Strait Islander Suicide Prevention Strategy

are supported to improve their physical health³⁹³. This includes services across the health system, as mental health is not just the responsibility of mental health services, but of all health professionals³⁹⁴. Boosting action in the other focus areas of this Strategy, including a focus on diet, physical activity, alcohol, tobacco, and other drug use, will also contribute strongly to improving and protecting the mental health and wellbeing of individuals, families and communities. This, alongside supporting community cohesion and promoting social connectivity, will help protect the mental health and wellbeing of Australians to allow them to live full and meaningful lives.



Policy achievements by 2030

- Australians are kept well through the management of their health and wellbeing in the community
- Community cohesion and social connectivity is boosted and promoted, particularly among those at risk of loneliness and isolation
- The use of mental health services is promoted and normalised to reduce stigma and encourage early intervention
- A national stigma reduction strategy is developed and implemented. Investment in prevention and early intervention is prioritised, both early in life and early in the development of an illness, supporting Australians, especially rural and remote communities, to prioritise and manage their own mental health and that of their loved ones
- Programs are delivered within schools, workplaces and communities to improve mental health literacy and enhance resilience
- Targeted prevention and early intervention programs are implemented for children and their families through partnerships between mental health, maternal and child health services, schools and other related organisations
- Suicide prevention activities are co-ordinated through the National Mental Health and Suicide Prevention Agreement
- Mental health policy addresses social and emotional wellbeing for Aboriginal and Torres Strait Islander people, including the importance of connection to land, spirituality, ancestry and family and community
- Aboriginal and Torres Strait Islander communities are empowered to develop their own solutions, with people with lived experience driving solutions
- A national framework is developed to address the mental health and wellbeing impacts of emergencies and disasters

Continuing Strong Foundations

Ensuring sustained action

There are many effective and well-designed prevention-based programs and strategies developed by government, non-government organisations, and communities. This element of the Strategy's Framework for Action acknowledges the immense activity that is already under way to better prevent illness and disease in Australia. This activity is delivered by a number of prevention actors highlighted in **Figure 6**.

Key lessons should be considered in order to continue strong prevention foundations including the need to harness community mobilisation and action; for sustained participation; for enhanced investment and leadership; for partnerships; to commit to social, political and structural approaches to prevention; and to build and use evidence from multiple sources to continuously adapt and evolve.

It is important to continue and build on current prevention activity by incorporating the lessons learnt over time, to ensure sustained action across the prevention system.

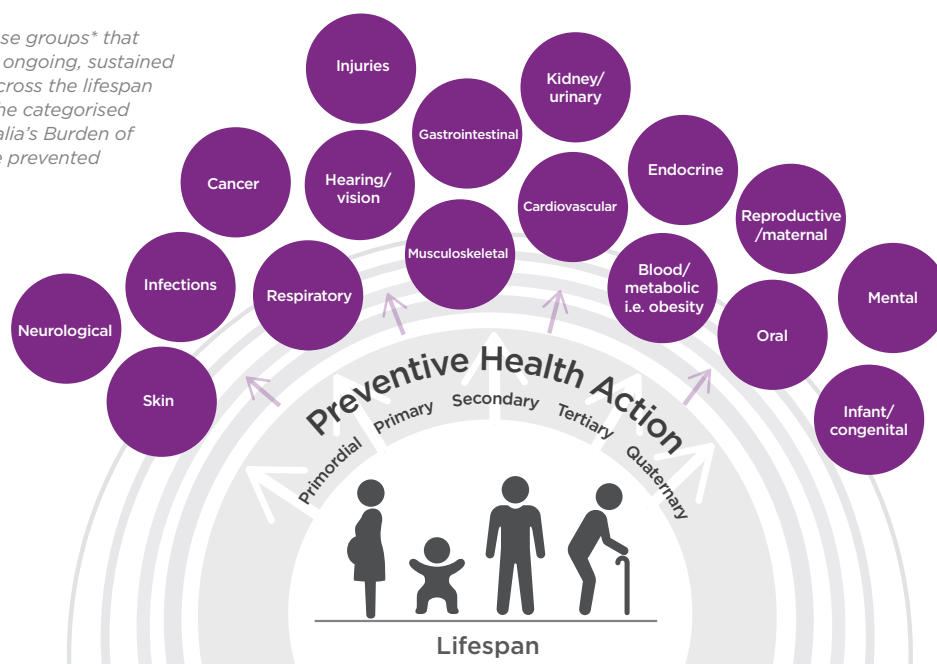
Figure 6 – Partners in preventive health action

Prevention partners		
Academia	Community and cultural settings	Private health insurers
ACCHSs	Families	Professional associations
Aged care	Healthcare systems	Schools
All governments	Individuals	Unions
Business sector	Industry	Volunteers
Childcare	Non-government organisations	Workplaces
Communities		

The Framework allows for the creation of new Focus Areas to boost responses to emerging health issues.

This Strategy will continue and improve on the current action taking place in the prevention system including through implementation of the prevention measures outlined in the chronic disease national strategic action plans. This action contributes to reducing and preventing the burden of disease across the lifespan of all Australians (Figure 7). In turn, notwithstanding the importance of addressing the wider determinants of health, this action will also reduce the burden on the health system. The Framework has been designed to be responsive and adaptable over the 10-year period of this Strategy.

Figure 7 - The AIHW disease groups* that can be prevented through ongoing, sustained preventive health action across the lifespan
 *not all diseases listed in the categorised groups in the AIHW Australia's Burden of Disease Study 2015 can be prevented





Monitoring Australia's success

Action by all

This is a Strategy for all Australians. The responsibility for creating positive change by 2030 is shared by: all governments, the non-government sector, healthcare sector, research and academia, private sector, industries, communities and individuals. Every Australian and every sector has a role to play in achieving the vision that we are healthy and able to lead fulfilling and productive lives for as long as possible. This Strategy is a collective framework for action.

A “Blueprint for Action” will be developed which outlines the implementation details for the Strategy, including how existing health infrastructure will be leveraged, in reaching the ‘Policy achievements by 2030’ and targets outlined within this Strategy. A key focus of this Strategy is the need to mobilise the prevention system to ensure an enduring system into the future and it is important this commences in the first year of this Strategy. Therefore, parallel to the development of the “Blueprint for Action”,

the implementation of the immediate priorities outlined in this Strategy will commence.

Appendix A outlines all of the targets that will be monitored and reported on within the “Blueprint for Action”. Appendix A also provides further detail on the definitions of key terms in the targets as well as strategic links to current Australian Government policy and international commitments that Australia has signed up to as a Member State of the WHO.

The Australian Government will monitor progress towards each of the targets outlined in Appendix A and will report regularly on Australia's progress.

Appendix A - Targets for the Aims and Focus Areas of the Strategy

Aim/Focus area	Target/s	Baseline figures	Data source and anticipated timeframe	Relevant strategy, action plan, guidelines etc.	Aligns with international commitments?	Comments
Aim 1: All Australians have the best start in life	The proportion of the first 25 years lived in full health will increase by at least 2% by 2030	In 2018, the total DALY in Australians aged 0-24 years was 549,749. The proportion of the first 0-24 years lived in full health in 2018 was 92.6%	AIHW Burden of Disease Study, approx. every three years	n/a	Aligns broadly with: <ul style="list-style-type: none"> • UN SGD Target 3.1 • UN SGD Target 3.2 • UN SDG Target 3.7 • UN SDG Target 5.6 • WHO 'Healthier Populations' triple billion goal • WHO 'Universal Health Coverage' triple billion goal • WHO Global nutrition targets 2025 	Percentage point increase by at least 2%
	The proportion of Aboriginal and Torres Strait Islander babies with a healthy birthweight will increase to at least 91% by 2031	In 2018, 88.9% of Aboriginal and Torres Strait Islander babies had a healthy birthweight	AIHW National Perinatal Data Collection, yearly	National Agreement on Closing the Gap		Percentage point increase to at least 91%
	The proportion of the first 0-4 years of life lived in full health will increase by at least 3.5% by 2030	In 2018, the total DALY in Australians aged 0-4 years was 124,954. The proportion of the first 0-4 years lived in full health in 2018 was 92.1%	AIHW Burden of Disease Study, approx. every three years			A healthy birthweight is defined as 2,500-4,499g
Aim 2: All Australians live in good health and wellbeing for as long as possible	Australians will have at least an additional two years of life lived in full health by 2030	In 2018, HALE for males at birth was 71.5 years and 74.1 years for females (compared to life expectancy, this is an average of 89% and 87% of life lived in full health, respectively)	AIHW Burden of Disease Study, approx. every three years	n/a	Aligns broadly with: <ul style="list-style-type: none"> • UN SDG Target 3.8 • WHO 'Healthier Populations' triple billion goal 	'Additional years of life lived in full health' means additional years of healthy life, which is in relation to the baseline year.
Aim 3: Health equity is achieved for priority populations	Australians in the two lowest SEIFA quintiles will have at least an additional three years of life lived in full health by 2030	In 2018, HALE for males in the lowest socioeconomic group at birth was 68.6 years and 71.4 years for females (compared to life expectancy, this is an average of 88% and 86% of life lived in full health, respectively) In 2018, HALE for males in the second lowest socioeconomic group at birth was 70.1 years and 73.5 years for females (compared to life expectancy, this is an average of 88% and 87% of life lived in full health, respectively)	AIHW Burden of Disease Study, approx. every three years	n/a	Aligns broadly with: <ul style="list-style-type: none"> • UN SDG Target 3.8 • WHO 'Healthier Populations' triple billion goal 	'Additional years of life lived in full health' means additional years of healthy life, which is in relation to the baseline year.
	Australians in regional and remote areas will have at least an additional three years of life lived in full health by 2030	In 2018, HALE at birth for males and females in inner regional areas was 2.2 and 1.7 years shorter, respectively, than for those in major cities; and in outer regional areas, was 2.7 and 1.4 years shorter	AIHW Burden of Disease Study, approx. every three years	n/a		
	Aboriginal and Torres Strait Islander people will have at least an additional three years of life lived in full health by 2030	In 2018, HALE for Aboriginal and Torres Strait Islander males at birth was 56.0 years and 58.8 years for Aboriginal and Torres Strait Islander females (compared to life expectancy, this is an average of 80% and 79% of life lived in full health, respectively)	AIHW Indigenous Burden of Disease Study, approx. every three years	n/a		
Aim 4: Investment in prevention is increased	Underpinned by: Investment in preventive health will rise to be 5% of total health expenditure across Commonwealth, state and territory governments by 2030	In 2018-19, public health expenditure was 2.0% of total health expenditure across all governments	AIHW Health Expenditure Analysis, yearly	n/a	n/a	Percentage point increase to 5% Public health is defined by AIHW as "activities that focus on prevention, promotion and protection rather than on treatment, on populations rather than individuals, and on the factors and behaviours that cause illness and injury rather than the injury itself". The estimates do not include funding of public health activities by departments such as education, veterans' affairs, law enforcement, transport and environment, non-government organisations or households.

Aim/Focus area	Target/s	Baseline figures	Data source and anticipated timeframe	Relevant strategy, action plan, guidelines etc.	Aligns with international commitments?	Comments
Focus Area: Reducing tobacco use and nicotine addiction	Achieve a national daily smoking prevalence of less than 10% by 2025 and 5% or less for adults (≥18 years) by 2030	In 2017-18, 13.8% of adults (≥18 years) are daily smokers	ABS National Health Survey, approx. every three years	National Tobacco Strategy 2020-2030	Aligns broadly with: <ul style="list-style-type: none"> The WHO Framework Convention on Tobacco Control WHO Global NCD targets for 2025 (5 - Tobacco) UN SDG Target 3.5 UN SDG Target 3.a 	Percentage point decrease to <10% by 2025 and to <5% by 2030
	Reduce the daily smoking rate among Aboriginal and Torres Strait Islander people (≥15 years) to 27% or less by 2030	In 2018-19, 37% of Aboriginal and Torres Strait Islander people 15 years and over smoked daily	ABS National Aboriginal and Torres Strait Islander Health Survey, approx. every 4-6 years (as smoking rates also recorded in National Aboriginal and Torres Strait Islander Social Survey)	n/a		Percentage point decrease to 27%
Focus Area: Improving access to and the consumption of a healthy diet	Halt the rise and reverse the trend in the prevalence of obesity in adults by 2030	In 2017-18, 31% of adults (18+) were obese	ABS National Health Survey, approx. every three years	n/a	Aligns broadly with: <ul style="list-style-type: none"> WHO Global NCD targets for 2025 (7 - Diabetes and Obesity) 	
	Reduce overweight and obesity in children and adolescents aged 2-17 years by at least 5% by 2030	In 2017-18, 25.0% of children and adolescents aged 2-17 years were overweight or obese	ABS National Health Survey, approx. every three years	n/a	Aligns broadly with: <ul style="list-style-type: none"> WHO Global NCD targets for 2025 (7 - Diabetes and Obesity) WHO Global nutrition targets 2025 (4 - Childhood Overweight) 	Percentage point decrease by at least 5% Overweight and obesity are defined as: BMI ≥ 25 kg/ m ² = Overweight or obese BMI ≥ 30 kg/m ² = Obese BMI ≥ 25 kg/ m ² but <30 = Overweight but not obese
	Adults and children (≥9 years) increase their vegetable consumption to an average 5 serves per day by 2030	In 2017-18 Ages 9-11: 2.1 serves Ages 12-13: 2.0 serves Ages 14-17: 2.2 serves Ages 18+: 2.4 serves	ABS National Health Survey, approx. every three years	National Obesity Prevention Strategy 2020 Australian Dietary Guidelines	n/a	
	Reduce the proportion of children and adults' total energy intake from discretionary foods from >30% to <20% by 2030	In 2011-12 across all ages, 35% of total energy consumed was from discretionary foods. This was highest amongst 14-18 year olds (41%)	ABS National Health Survey, varied (not measured in more recent National Health Surveys)	n/a	n/a	Percentage point decrease to <20% Discretionary foods are foods considered to be of little nutritional value and which tend to be high in saturated fats, sugars, salt and/or alcohol.
	Reduce the average population sodium intake by at least 30% by 2030	In 2011-12, average daily intake of sodium from food was just over 2,404mg (includes sodium naturally present in foods & sodium added during processing, but excludes 'discretionary salt' added by consumers)	National Nutrition and Physical Activity Survey (NNPAS)	n/a	Aligns directly with: <ul style="list-style-type: none"> WHO Global nutrition targets 2025 (4 - salt/sodium intake): A 30% relative reduction in mean population intake of salt/ sodium intake 	Relative reduction against baseline by at least 30% The NNPAS is anticipated to be completed again in 2023 as part of Intergenerational Health and Mental Health Study.
	Increase the proportion of adults and children who are not exceeding the recommended intake of free sugars by 2030	In 2011-12, over half of Australians (aged 2+ years) exceeded 10% of dietary energy from free sugars (consumed an average of 60g of free sugars per day)	ABS Australian Health Survey: Consumption of added sugars. Varied (not measured in more recent National Health Surveys)	n/a	Aligns broadly with: <ul style="list-style-type: none"> WHO Global NCD targets for 2025 (7 - Diabetes and Obesity) WHO Global nutrition targets 2025 (4 - Childhood Overweight) 	The World Health Organization (2015) recommends that 'free' sugars make up no more than 10% of daily kilojoule intake to prevent unhealthy weight gain and dental caries.
	At least 50% of babies are exclusively breastfed until around 6 months of age by 2025	In 2010, around 39% of infants were exclusively breastfed to 3 months, and 15% to 5 months	AIHW Australian National Infant Feeding Survey	COAG Health Council Australian National Breastfeeding Strategy: 2019 and beyond	Aligns directly with: <ul style="list-style-type: none"> WHO Global nutrition targets 2025 (5 - Breastfeeding): increase the rate of exclusive breastfeeding in the first 6 months up to at least 50% Aligns broadly with: <ul style="list-style-type: none"> UN SDG Target 2.2 	Percentage point increase to at least 50% World Health Organization recommends exclusive breastfeeding to 6 months of age.

Aim/Focus area	Target/s	Baseline figures	Data source and anticipated timeframe	Relevant strategy, action plan, guidelines etc.	Aligns with international commitments?	Comments
Focus Area: Increasing physical activity	Reduce the prevalence of physical inactivity amongst children, adolescents and adults by at least 15% by 2030	2011-12: 2-5 years: 39% did not meet physical activity guideline 5-12 years: 74% did not meet guidelines 13-17 years: 92% did not meet guidelines 2017-18: 90% of 15-17 years olds did not meet guideline of at least 60mins of physical activity on 7 days in the last week (including work) Proportion of 18-64 not meeting physical activity component of guidelines (including work): 50% Proportion of 65+ not meeting physical activity component of guidelines (including work): 72%	ABS National Health Survey Approx. every three years National Nutrition and Physical Activity Survey (NNPAS)	Australia's 24-Hour Movement Guidelines and Australia's Physical Activity and Sedentary Behaviour Guidelines	Aligns directly with: • Global Action Plan on Physical Activity 2018-2030 target: reduce physical inactivity by 15% by 2030	Relative reduction against baseline by at least 15% Definition of physical inactivity for the target: An absence or sufficient level of physical activity required to meet the current physical activity component of the national recommendations. The National Nutrition and Physical Activity Survey is anticipated to be completed again in 2023 as part of Intergenerational Health and Mental Health Study. Where feasible, data for this target can be broken down by categories when measuring progress i.e. sex, age group, rural and remote, socio economic status etc.
	Reduce the prevalence of Australians (≥15 years) undertaking no physical activity by at least 15% by 2030	2017-18: 14.3% of those 15 years and over participated in 0 minutes physical activity	ABS National Health Survey, approx. every three years	n/a	Aligns broadly with: • Global Action Plan on Physical Activity 2018-2030	Relative reduction against baseline by at least 15%
	Increase the prevalence of Australians (≥15 years) who are meeting the strengthening guideline by at least 15% by 2030	2017-18: 15.8% of those 15-17 years and over did strength or toning activities 3 or more times weekly 23.1% of those 18 years and over did strength or toning activities 2 or more times weekly	ABS National Health Survey, approx. every three years	n/a	n/a	Relative increase against baseline by at least 15%
Focus Area: Increasing cancer screening and prevention	Increase participation rates for bowel cancer (to at least 53%), breast cancer (to at least 65%) and cervical cancer (to at least 64%) screening by 2025	2020 reported screening rates (2018-2019 participation): Bowel - 44% Breast - 54% Cervical - 46%** **Estimated 2-year participation rate for a 5-year program. See comment box	AIHW National Cancer Participation data, yearly, for screening interval ending the previous year	n/a	Aligns broadly with: • WHO Resolution WHA70.12 (early diagnosis and screening of cancer)	Percentage point increase to at least 53% (bowel cancer), 65% (breast cancer) and 64% (cervical cancer) The National Cervical Screening Program underwent a major renewal in late 2017; including a change to screening interval (from 2 to 5 years) and eligible ages. As such, a formal participation rate will not be available until 2023; when a complete 5 year screening interval has passed (2018-2022). This means there is no “baseline” available for the NCSP.
	Eliminate cervical cancer as a public health issue in Australia by 2035	In 2016, there were 889 new cases of cervical cancer diagnosed in Australia	AIHW Cancer In Australia Report, every 1-3 years	n/a	Aligns directly with: • WHO Global strategy to accelerate the elimination of cervical cancer as a public health problem	
Focus Area: Improving immunisation coverage	Increase immunisation coverage rates to at least 95% of children aged 1 and 2 years by 2030, and maintain a coverage rate of at least 95% for children aged 5 years	In March 2021: 94.9% of all one year olds, 92.5% of all two year olds, and 95.2% of all five year olds fully vaccinated	Australian Immunisation Register (published by Department of Health), Quarterly	National Immunisation Strategy for Australia 2019 to 2024	Aligns broadly with: • WHO Immunisation Agenda 2030	Percentage point increase to at least 95%
	Increase immunisation coverage rates to at least 95% of Aboriginal and Torres Strait Islander children aged 1 and 2 years by 2030, and maintain a coverage rate of at least 95% for Aboriginal and Torres Strait Islander children aged 5 years	In March 2021: 93.7% of all one year olds, 91.7% of all two year olds, and 97.3% of all five year olds were fully vaccinated	Australian Immunisation Register (published by Department of Health), Quarterly	National Aboriginal and Torres Strait Islander Health Plan	Aligns broadly with: • WHO Immunisation Agenda 2030	Percentage point increase to at least 95%
	HPV immunisation rate increased to at least 85% for both boys and girls by 2030	80.2% coverage of females turning 15 years of age in 2017 75.9% coverage of males turning 15 years of age in 2017	National HPV Vaccination Program Register (HPV Register)	National Immunisation Strategy for Australia 2019 to 2024	Aligns broadly with: • Immunization Agenda 2030: Proposed Impact Goal Indicators and Target 2.2 • WHO Global strategy to accelerate the elimination of cervical cancer as a public health problem	

Aim/Focus area	Target/s	Baseline figures	Data source and anticipated timeframe	Relevant strategy, action plan, guidelines etc.	Aligns with international commitments?	Comments
Focus Area: Reducing alcohol and other drug harm	At least a 10% reduction in harmful alcohol consumption by Australians (≥14 years) by 2025 and at least a 15% reduction by 2030	In 2019, 32.0% of people aged 14 and over consumed alcohol in ways that increased the risk of alcohol-related disease or injury***	National Drug Strategy Household Survey, every 2-3 years	National Alcohol Strategy 2019–2028 National Drug Strategy 2017-2026	Aligns directly with: • WHO Global NCD targets for 2025 (2 - Alcohol): At least a 10% relative reduction in the harmful use of alcohol, as appropriate, within the national context by 2025 Aligns broadly with: • UN SDG Target 3.5	Relative reduction against baseline by at least 10% by 2025 and by at least 15% by 2030 Harmful alcohol consumption is measured against the NHMRC Guidelines to Reduce Harm from Alcohol as consuming more than 10 standard drinks a week and no more than 4 standard drinks on any one day. **Please note, the baseline data may change in line with the updated (2020) Australian Alcohol Guidelines.
	Less than 10% of pregnant women aged 14 to 49 are consuming alcohol whilst pregnant by 2030	In 2019, 29.7% of pregnant women aged 14 to 49 consumed alcohol before or after knowledge of pregnancy	National Drug Strategy Household Survey, every 2-3 years	n/a	Aligns broadly with: • WHO Global NCD targets for 2025 (2 - Alcohol) • UN SDG Target 3.5	Percentage point decrease to <10%
	Less than 10% of young people (14-17 year olds) are consuming alcohol by 2030	In 2019, 30.2% of 14-17 year olds consumed alcohol in the previous 12 months	National Drug Strategy Household Survey, every 2-3 years	n/a		Percentage point decrease to <10%
	At least a 15% decrease in the prevalence of recent illicit drug use (≥14 years) by 2030	In 2019, 16.4% had used an illicit drug in the past 12 months (this includes non-medical use of pharmaceuticals)	National Drug Strategy Household Survey, every 2-3 years	n/a	Aligns broadly with: • UN SDG Target 3.5	Relative reduction against baseline by at least 15%
Focus Area: Promoting and protecting mental health	Towards zero suicides for all Australians	In 2019, there were 3,318 deaths by suicide with an age-standardised rate of 12.9 per 100,000 population	AIHW Suicide & self-harm monitoring data, annually	The Fifth National Mental Health and Suicide Prevention Plan	Aligns broadly with: • WHO Comprehensive Mental Health Action Plan 2013-2020 (extended to 2030) Global target 3.2 • UN SDG Target 3.4	
*Please note, the timeframe for each target may vary due to alignment with existing national plans and/or international commitments						

References

1. International Health Conference, 2002. *Constitution of the World Health Organization 1946*. 80. World Health Organization. p. 983-984.
2. Department of Health and Ageing, 2013. *National Aboriginal and Torres Strait Islander Health Plan 2013-2023*. Canberra: Commonwealth of Australia.
3. Productivity Commission, 2017. *Impacts of Health Recommendations, Shifting the Dial: 5 year Productivity Review, Supporting Paper No. 6*. Canberra.
4. Australian Institute of Health and Welfare, 2019. *Australian Burden of Disease Study: impact and causes of illness and death in Australia 2015*. Australian Burden of Disease series no. 19. Cat. no. BOD 22. Canberra: AIHW.
5. Australian Institute of Health and Welfare, 2021. *Australian Burden of Disease Study 2018 - Key findings*. Cat. no. BOD 30. Canberra: AIHW.
6. Garg S, Kim L, Whitaker M, et al., 2020. *Hospitalization rates and characteristics of patients hospitalized with laboratory-confirmed coronavirus disease 2019—COVID-NET, 14 States, March 1-30, 2020*. MMWR Morb Mortal Wkly Rep. 69(15):458-464.
7. Hamer M, Kivimäki M, Gale CR and Batty GD, 2020. *Lifestyle Risk Factors for Cardiovascular Disease in Relation to COVID-19 Hospitalization: A Community-Based Cohort Study of 387,109 Adults in UK*. Update in: Brain Behav Immun.
8. Almalki ZS, Khan MF, Almazrou S, et al., 2020. *Clinical characteristics and outcomes among COVID-19 hospitalized patients with chronic conditions: A retrospective single-center study*. Journal of multidisciplinary healthcare. 13:1089-1097.
9. Yashadhana A, Pollard-Wharton N, Zwi AB and Biles B, 2020. *Indigenous Australians at increased risk of COVID-19 due to existing health and socioeconomic inequities*. The Lancet Regional Health-Western Pacific.
10. Commission on Social Determinants of Health, 2008. *Closing the gap in a generation: health equity through action on the social determinants of health. Final report of the Commission on Social Determinants of Health*. Geneva: World Health Organisation.
11. Coalition of Aboriginal and Torres Strait Islander Peak Organisations and all Australian Governments, 2020. *National Agreement On Closing The Gap*.
12. Australian Institute of Health and Welfare, 2020. *Australia's health 2020: Infectious and communicable diseases*. Canberra: AIHW.
13. Schneider E C, Sarnak D O, Squires D, et al., 2020. *Mirror, Mirror 2017: International Comparison Reflects Flaws and Opportunities for Better U.S. Health Care*. The Commonwealth Fund.
14. Australian Bureau of Statistics, 2008. *Health Literacy, Australia, 2006*. Canberra: ABS.
15. Swerissen H, Duckett S, and Wright J, 2016. *Chronic failure in primary care*. Grattan Institute Report No. 2016-2. Victoria: Grattan Institute.
16. Australian Health Ministers' Advisory Council, 2017. *Aboriginal and Torres Strait Islander Health Performance Framework 2017 report*. Canberra: AHMAC.
17. Australian Institute of Health and Welfare, 2018. *Vaccine preventable disease in Australia*. Cat. no. PHE 236. Canberra: AIHW.
18. Australian Bureau of Statistics, 2018. *Health conditions and risks*. Canberra: ABS.
19. Australian Institute of Health and Welfare, 2020. *Aboriginal and Torres Strait Islander Health Performance Framework 2020 summary report*. Cat. no. IHPF 2. Canberra: AIHW.
20. World Health Organization: Regional Office for Europe, 2003. *Social determinants of health: the solid facts - second edition*. Copenhagen: WHO.
21. Australian Institute of Health and Welfare, 2020. *Australia's health 2020 data insights*. Australia's health series no. 17. Cat. no. AUS 231. Canberra: AIHW.
22. Galea S, 2020. *Coronavirus Made It Clear: Our Health System Needs More Compassion*. Elemental. Accessed November 2020. Available from: <https://elemental.medium.com/coronavirus-made-it-clear-our-health-system-needs-more-compassion-5982a3f23ba2>.
23. Dudgeon P, Watson M, and Holland C, 2017. *Trauma in the Aboriginal and Torres Strait Islander Population*. Australian Clinical Psychologist. 3(1): p. 1741.
24. Menzies K, 2019. *Understanding the Australian Aboriginal experience of collective, historical and intergenerational trauma*. International Social Work. 62(6): p. 1522-1534.
25. Galea S, 2020. *Compassion in a time of COVID-19*. Lancet. 395(10241): p. 1897-1898.
26. Chowdhry K, 2020. *Has COVID-19 highlighted social injustice built into our cities?* England: The Centre for Evidence-Based Medicine and University of Oxford. Accessed November 2020. Available from: <https://www.cebm.net/2020/10/has-covid-19-highlighted-social-injustice-built-into-our-cities/>.
27. Australian Institute of Health and Welfare, 2019. *National Healthcare Agreement: PI 18—Selected potentially preventable hospitalisations, 2019*. Canberra: AIHW.
28. Aber J L, Bennett N G, Conley D C, et al., 1997. *The Effects of Poverty on Child Health and Development*. Annual Review of Public Health. 18(1): p. 463-483.
29. Mikkonen J and Raphael D, 2010. *Social Determinants of Health: The Canadian Facts*. Toronto: York University School of Health Policy and Management.
30. Sandel M, Sheward R, Ettinger de Cuba S, et al., 2018. *Unstable Housing and Caregiver and Child Health in Renter Families*. Pediatrics. 141(2): p. e20172199.
31. Milligan V, Phillips R, Easthope H, et al., 2011. *Urban social housing for Aboriginal people and Torres Strait Islanders: respecting culture and adapting services*. AHURI Final Report No.172. Melbourne: Australian Housing and Urban Research Institute.
32. Australian Institute of Health and Welfare, 2018. *Australia's health 2018*. Australia's health series no. 16. AUS 221. Canberra: AIHW.
33. Braveman P, Egerter S, and Williams D R, 2011. *The social determinants of health: coming of age*. Annu Rev Public Health. 32: p. 381-98.
34. Stansfeld S and Candy B, 2006. *Psychosocial work environment and mental health -a meta-analytic review*. Scand J Work Environ Health. 32(6): p. 443-62.
35. Einarsen S and Nielsen M B, 2015. *Workplace bullying as an antecedent of mental health problems: a five-year prospective and representative study*. Int Arch Occup Environ Health. 88(2): p. 131-42.
36. Holt-Lunstad J, Smith T B, and Layton J B, 2010. *Social relationships and mortality risk: a meta-analytic review*. PLoS Med. 7(7): p. e1000316.
37. Berkman L F and Glass T, 2000. *Social integration, social networks, social support and health*. Social Epidemiology. New York: Oxford University Press.
38. Cockerham W C, Hamby B W, and Oates G R, 2017. *The Social Determinants of Chronic Disease*. American journal of preventive medicine. 52(1S1): p. S5-S12.
39. Australian Institute of Health and Welfare, 2019. *Social isolation and loneliness*. AIHW. Canberra. Accessed November 2020. Available from: <https://www.aihw.gov.au/reports/australias-welfare/social-isolation-and-loneliness>.
40. Holden L, Lee C, Hockey R, et al., 2015. *Longitudinal analysis of relationships between social support and general health in an Australian population cohort of young women*. Qual Life Res. 24(2): p. 485-92.
41. Australian Institute of Health and Welfare, 2019. *Australia's welfare 2019: data insights*. Cat. no. AUS 226. Canberra: AIHW.
42. UN Environment, 2019. *Global Environment Outlook - GEO-6: Healthy Planet, Healthy People*. Cambridge: Cambridge University Press.
43. Costanza R, d'Arge R, de Groot R, et al., 1997. *The value of the world's ecosystem services and natural capital*. Nature 387. p. 253-260.
44. Australian Government Department of the Environment, Water, Heritage and the Arts, 2009. *Ecosystem Services: Key Concepts And Applications*. Occasional Paper Series(1).
45. UK National Ecosystem Assessment (UK NEA), 2012. *UK National Ecosystem Assessment: Ecosystem Services*. Available from: <http://uknea.unep-wcmc.org/EcosystemAssessmentConcepts/EcosystemServices/tabid/103/Default.aspx>.
46. Bureau of Meteorology and Commonwealth Scientific and Industrial Research Organisation, 2018. *State of the Climate 2018*. Canberra: BoM.
47. Department of the Environment and Energy, 2019. *Adapting to climate change*. Canberra. Accessed November 2020. Available from: <https://www.environment.gov.au/climate-change/adaptation>.
48. Zhang Y, Beggs P J, Bambrick H, et al., 2018. *The MJA-Lancet Countdown on health and climate change: Australian policy inaction threatens lives*. Med J Aust. 209(11): p. 474.
49. Australian Institute of Health and Welfare, 2011. *Health and the environment: a compilation of evidence*. Cat. no. PHE 136. Canberra: AIHW.
50. Kalis M A, Miller M D, and Wilson R J, 2009. *Public health and drought*. Journal of environmental health. 72(1): p. 10-11.

51. Intergovernmental Panel on Climate Change (IPCC), 2014. *AR5 Synthesis Report: Climate Change 2014. Contribution of working groups I, II and III to the fifth assessment report of the Intergovernmental Panel on Climate Change* Geneva [Core Writing Team, R.K. Pachauri and L.A. Meyer, Editors]. Geneva: IPCC.
52. World Health Organization, 2017. *Radiation: The known health effects of ultraviolet radiation; What are the effects of UV on the eye?* Geneva: WHO. Accessed November 2020. Available from: <https://www.who.int/news-room/q-a-detail/radiation-the-known-health-effects-of-ultraviolet-radiation>.
53. World Wide Fund (WWF), 2018. *Living Planet Report - 2018: Aiming Higher*. Grooten M, and Almond, R.E.A. Editors. Gland, Switzerland: WWF.
54. Cresswell ID, Murphy H, 2016. Biodiversity: Biodiversity. In: *Australia state of the environment*. Canberra: Australian Government Department of the Environment and Energy. Accessed November 2020. Available from: <https://soe.environment.gov.au/theme/biodiversity>.
55. Jackson WJ, Argent RM, and Bax NJ, 2016. *Australia state of the environment 2016*. Canberra: Australian Government Department of the Environment and Energy. Accessed November 2020. Available from: <https://soe.environment.gov.au/>.
56. Thien F, Beggs P J, Csutoros D, et al., 2018. *The Melbourne epidemic thunderstorm asthma event 2016: an investigation of environmental triggers, effect on health services, and patient risk factors*. *Lancet Planet Health*. 2(6): p. e255-e263.
57. Keywood MD, Emmerson KM, and Hibberd MF, 2016. *Australia State of the environment 2016: Ambient air quality*. Canberra: Department of the Environment and Energy. Accessed November 2020. Available from: <https://soe.environment.gov.au/theme/ambient-air-quality>.
58. World Health Organization, 2014. *A global brief on vector-borne diseases*. Geneva: DCO/WHO/2014.1.
59. Bambrick H J, Capon A G, Barnett G B, et al., 2011. *Climate change and health in the urban environment: adaptation opportunities in Australian cities*. *Asia Pac J Public Health*. 23(2 Suppl): p. 67s-79.
60. World Health Organization, 2018. *COP24 Special report: Health & Climate Change*. Geneva: WHO.
61. Campbell-Lendrum D, Manga L, Bagayoko M, et al., 2015. *Climate change and vector-borne diseases: what are the implications for public health research and policy?* *Philosophical transactions of the Royal Society of London. Series B, Biological sciences*. 370(1665): p. 20130552.
62. Chandrabose M, Rachele J N, Gunn L, et al., 2019. *Built environment and cardio-metabolic health: systematic review and meta-analysis of longitudinal studies*. *Obes Rev*. 20(1): p. 41-54.
63. Government of South Australia, 2019. *Creating greener places for healthy and sustainable communities: ideas for quality green public space in South Australia*. Government of South Australia.
64. Christian T J, 2012. *Trade-offs between commuting time and health-related activities*. *J Urban Health*. 89(5): p. 746-57.
65. Trubka R, Newman P, and Bilsborough D, 2010. *The Costs of Urban Sprawl - Infrastructure and Transportation*. *Environment Design Guide*. GEN 83: pp. 1-6.
66. Giles-Corti B, Foster S, Shilton T, et al., 2010. *The co-benefits for health of investing in active transportation*. *NSW Public Health Bull*. 21(5-6): p. 122-7.
67. Gebel K, Bauman A, Owen N, et al., 2009. *Position statement: the built environment and walking*. National Heart Foundation of Australia.
68. Kamruzzaman M, Washington S, Baker D, et al., 2014. *Built environment impacts on walking for transport in Brisbane, Australia*. *Transportation*.
69. Bull F, Hooper P, Giles-Corti W, et al., 2015. *Living Liveable. The impact of the Liveable Neighbourhoods Policy on the health and wellbeing of Perth residents*. Perth: University of Western Australia.
70. Loh V H, Rachele J N, Brown W J, et al., 2019. *The potential for walkability to narrow neighbourhood socioeconomic inequalities in physical function: A case study of middle-aged to older adults in Brisbane, Australia*. *Health Place*. 56: p. 99-105.
71. Kent J and Thompson S, 2019. *Planning Australia's Healthy Built Environments*.
72. Infrastructure Australia, 2019. *An assessment of Australia's future infrastructure needs: the Australian infrastructure audit 2019*. Infrastructure Australia.
73. Sugiyama T, Leslie E, Giles-Corti B, et al., 2008. *Associations of neighbourhood greenness with physical and mental health: do walking, social coherence and local social interaction explain the relationships?* *Journal of Epidemiology and Community Health*. 62(5): p. e9.
74. White M, Alcock I, Grellier J, et al., 2019. *Spending at least 120 minutes a week in nature is associated with good health and wellbeing*. *Scientific Reports*. 9: p. 7730.
75. Mavoa S, Badland H, and Learnihan V, 2016. *The Australian National Liveability Study final report: Development of policy-relevant liveability indicators relating to health and wellbeing and recommendations for their dissemination*. The University of Melbourne.
76. Mahmoudi Farahani L, 2016. *The Value of the Sense of Community and Neighbouring*. *Housing, Theory and Society*. 33: p. 357-376.
77. Sanders T, Feng X, Fahey P P, et al., 2015. *The influence of neighbourhood green space on children's physical activity and screen time: findings from the longitudinal study of Australian children*. *Int J Behav Nutr Phys Act*. 12: p. 126.
78. Allender S, Gleeson E, Crammond B, et al., 2012. *Policy change to create supportive environments for physical activity and healthy eating: which options are the most realistic for local government?* *Health Promot Int*. 27(2): p. 261-74.
79. Levy G, 2012. *The supermarket as an environment for facilitating dietary behaviour change*. National Heart Foundation of Australia.
80. Livingston M, Wilkinson C, and Room R, 2015. *Community impact of liquor licences: an Evidence Check rapid review*. Sydney: Sax Institute for the New South Wales Ministry of Health.
81. Townshend T G, Gallo R G, and Lake A A, 2015. *The Routledge handbook of planning for health and well-being: Shaping a sustainable and healthy future*. Abingdon: Routledge.
82. Fraser L K, Edwards K L, Cade J, et al., 2010. *The geography of Fast Food outlets: a review*. *International journal of environmental research and public health*. 7(5): p. 2290-2308.
83. Hobbs M, Marek L, Wiki J, et al., 2020. *Close proximity to alcohol outlets is associated with increased crime and hazardous drinking: Pooled nationally representative data from New Zealand*. *Health Place*. 65: p. 102397.
84. Sacks G, Schultz S, Grigsby-Duffy L, et al, 2020. *Inside our supermarkets: assessment of the healthiness of Australian supermarkets*. Melbourne: Deakin University Accessed October 2020. Available from: <https://preventioncentre.org.au/wp-content/uploads/2020/05/Inside-our-supermarkets-Assessment-of-the-healthiness-of-Australian-supermarkets.pdf>.
85. Parliament of Australia, 2010-13. *Chapter 2: Evidence for the Social Determinants of Health in Australia*. Accessed December, 2020. Available from: https://www.aph.gov.au/parliamentary_business/committees/senate/community_affairs/completed_inquiries/2010-13/socialdeterminantsofhealth/report/c02.
86. Australian Institute of Health and Welfare, 2018. *Survey of Health Care: selected findings for rural and remote Australians*. Cat. no. PHE 220. Canberra: AIHW.
87. Australian Institute of Health and Welfare, 2020. *Patient experiences in Australia by small geographic areas in 2018-19*. Cat. no. HPF 64. Canberra: AIHW.
88. The Royal Australian College of General Practitioners, 2020. *Addressing social and cultural determinants in primary care for Aboriginal and Torres Strait Islander peoples: position statement*. RACGP. Accessed November 2020. Available from: <https://www.racgp.org.au/the-racgp/faculties/atsi/position-statements/addressing-social-and-cultural-determinants-in-pri>.
89. Macdonald J J, 2010. *Health equity and the social determinants of health in Australia*. *Social Alternatives*. 29(2), 34-40.
90. Council of Social Service, 2012. *Submission to the Senate Standing Committee on Community Affairs: Australia's domestic response to the WHO Commission on Social Determinants of Health report "Closing the gap within a generation"*. Surry Hills: Council of Social Service of New South Wales.
91. Russle L, 2014. *The impact of out-of-pocket costs on Australians with multiple morbidities. Submission to the Senate inquiry into out-of-pocket costs in Australian Healthcare*. Canberra: Parliament of Australia.
92. Lowitja Institute, 2020. *Culture is Key: Towards cultural determinant-driven health policy - Final Report*. Melbourne: Lowitja Institute.
93. Commonwealth of Australia as represented by the Department of Health, 2017. *My Life My Lead - Opportunities for strengthening approaches to the social determinants and cultural determinants of Indigenous health: Report on the national consultations*. Canberra: Australian Government.
94. Australian Commission on Safety and Quality in Health Care, 2020. *Understanding Leave Events for Aboriginal and Torres Strait Islander People and other Australians from Health Service Organisations Systematic Literature Review*. Sydney: ACSQHC.
95. Nichols T, Calder R, Morgan M, et al., 2020. *Self-care for health: a national policy blueprint. Policy paper*. Melbourne: Mitchell Institute Victoria University.

96. World Health Organization, 2019. *WHO Health Evidence Network synthesis report 65. What is the evidence on the methods, frameworks and indicators used to evaluate health literacy policies, programmes and interventions at the regional, national and organizational levels?* Copenhagen: WHO Regional Office for Europe.
97. Berkman N D, Sheridan S L, Donahue K E, et al., 2011. *Health literacy interventions and outcomes: an updated systematic review.* Evid Rep Technol Assess (Full Rep). (199): p. 1-941.
98. Ioka G S, 2018. *The relationship between health literacy and health outcomes in Australian, Canadian and New Zealand adults: A scoping review of interventions within the literature. An unpublished thesis submitted in partial fulfilment of the requirements for the degree of Master of Osteopathy.* Unitec Institute of Technology, Auckland, New Zealand.
99. Institute of Medicine Committee on Health and Literacy, in *Health Literacy: A Prescription to End Confusion*, Nielsen-Bohman L, Panzer A M, and Kindig D A, Editors. 2004, National Academies Press (US). Washington DC: National Academy of Sciences.
100. Ishikawa H and Yano E, 2008. *Patient health literacy and participation in the health-care process.* Health Expect. 11(2): p. 113-22.
101. van der Heide I, Uiters E, Rademakers J, et al., 2014. *Associations among health literacy, diabetes knowledge, and self-management behavior in adults with diabetes: results of a dutch cross-sectional study.* J Health Commun. 19 Suppl 2: p. 115-31.
102. Australian Institute of Health and Welfare, 2019. *Rural & remote health.* Cat. no. PHE 255. Canberra: AIHW.
103. Korda R J, Biddle N, Lynch J, et al., 2020. *Education inequalities in adult all-cause mortality: first national data for Australia using linked census and mortality data.* International Journal of Epidemiology. 49(2): p. 511-518.
104. Kasl SV and Jones BA, 2000. *The impact of job loss and retirement on health, in Social epidemiology*, Berkman LF and I K, Editors. Oxford University Press: New York.
105. Montgomery S M, Cook D G, Bartley M J, et al., 1999. *Unemployment pre-dates symptoms of depression and anxiety resulting in medical consultation in young men.* Int J Epidemiol. 28(1): p. 95-100.
106. Marmot M and Friel S, 2008. *Global health equity: evidence for action on the social determinants of health.* J Epidemiol Community Health. 62(12): p. 1095-7.
107. Lowitja Institute, 2020. *Close the Gap Report 2020.* The Close the Gap Campaign Steering Committee.
108. Australian Indigenous HealthInfoNet, 2020. *Social and Cultural Determinants.* Accessed November 2020. Available from: <https://healthinfonet.ecu.edu.au/learn/determinants-of-health/social-cultural-determinants>.
109. Bourke S, Wright A, Guthrie J, et al., 2018. *Evidence Review of Indigenous Culture for Health and Wellbeing.* The International Journal of Health, Wellness, and Society. 8: p. 11-27.
110. Australian Bureau of Statistics, 2017. *Census of Population and Housing: cultural diversity data cube.* ABS Cat. No. 2071.0. Canberra: ABS.
111. Australian Institute of Health and Welfare, 2018. Chapter 5.3 *Culturally and linguistically diverse populations, in Australia's health 2018.* Australia's health series no. 16. AUS 221. AIHW: Canberra.
112. Paradies Y, 2006. *A systematic review of empirical research on self-reported racism and health.* Int J Epidemiol. 35(4): p. 888-901.
113. Harrell C J, Burford T I, Cage B N, et al., 2011. *Multiple Pathways Linking Racism to Health Outcomes.* Du Bois Rev. 8(1): p. 143-157.
114. Australian Institute of Health and Welfare, 2020. *Australia's health performance framework. Determinants of health: Personal biomedical factors.* Canberra: AIHW.
115. Australian Institute of Health and Welfare, 2016. *Australia's health 2016.* Australia's health series no. 15. Cat. no. AUS 199. Canberra: AIHW.
116. Qiu C, Winblad B, and Fratiglioni L, 2005. *The age-dependent relation of blood pressure to cognitive function and dementia.* Lancet Neurol. 4(8): p. 487-99.
117. Lawes C M, Vander Hoorn S, and Rodgers A, 2008. *Global burden of blood-pressure-related disease, 2001.* Lancet. 371(9623): p. 1513-8.
118. Kramer M K, Molenaar D M, Arena V C, et al., 2015. *Improving employee health: evaluation of a worksite lifestyle change program to decrease risk factors for diabetes and cardiovascular disease.* J Occup Environ Med. 57(3): p. 284-91.
119. Binggeli T, Schoetza A, and Konieczka K, 2018. *In glaucoma patients, low blood pressure is accompanied by vascular dysregulation.* The EPMA journal. 9(4): p. 387-391.
120. Caprioli J and Coleman A L, 2010. *Blood Pressure, Perfusion Pressure, and Glaucoma.* American Journal of Ophthalmology. 149(5): p. 704-712.
121. He Z, Vingrys A J, Armitage J A, et al., 2011. *The role of blood pressure in glaucoma.* Clin Exp Optom. 94(2): p. 133-49.
122. Bonora E and Muggeo M, 2001. *Postprandial blood glucose as a risk factor for cardiovascular disease in Type II diabetes: the epidemiological evidence.* Diabetologia. 44(12): p. 2107-14.
123. Gimeno-Orna J A, Castro-Alonso F J, Boned-Juliani B, et al., 2003. *Fasting plasma glucose variability as a risk factor of retinopathy in Type 2 diabetic patients.* J Diabetes Complications. 17(2): p. 78-81.
124. Mokdad A H, Ford E S, Bowman B A, et al., 2003. *Prevalence of obesity, diabetes, and obesity-related health risk factors, 2001.* Jama. 289(1): p. 76-9.
125. Bianchini F, Kaaks R, and Vainio H, 2002. *Overweight, obesity, and cancer risk.* Lancet Oncol. 3(9): p. 565-74.
126. Beuther D A and Sutherland E R, 2007. *Overweight, obesity, and incident asthma: a meta-analysis of prospective epidemiologic studies.* Am J Respir Crit Care Med. 175(7): p. 661-6.
127. Luppino F S, de Wit L M, Bouvy P F, et al., 2010. *Overweight, obesity, and depression: a systematic review and meta-analysis of longitudinal studies.* Arch Gen Psychiatry. 67(3): p. 220-9.
128. Walsh S W, 2007. *Obesity: a risk factor for preeclampsia.* Trends Endocrinol Metab. 18(10): p. 365-70.
129. Chu S Y, Kim S Y, Lau J, et al., 2007. *Maternal obesity and risk of stillbirth: a metaanalysis.* Am J Obstet Gynecol. 197(3): p. 223-8.
130. Watkins M L, Rasmussen S A, Honein M A, et al., 2003. *Maternal obesity and risk for birth defects.* Pediatrics. 111(5 Pt 2): p. 1152-8.
131. Kang S-H, Choi E-K, Kyungdo H, et al., 2016. *Underweight is a risk factor for atrial fibrillation: A nationwide population-based study.* International Journal of Cardiology. 215:449-56.
132. Park D, Lee J-H, and Han S, 2017. *Underweight: another risk factor for cardiovascular disease?: A cross-sectional 2013 Behavioral Risk Factor Surveillance System (BRFSS) study of 491,773 individuals in the USA.* Medicine. 96(48): p. e8769-e8769.
133. Dobner J and Kaser S, 2018. *Body mass index and the risk of infection - from underweight to obesity.* Clin Microbiol Infect. 24(1): p. 24-28.
134. Sebire N J, Jolly M, Harris J, et al., 2001. *Is maternal underweight really a risk factor for adverse pregnancy outcome? A population-based study in London.* Bjog. 108(1): p. 61-6.
135. Lewington S, Whitlock G, Clarke R, et al., 2007. *Blood cholesterol and vascular mortality by age, sex, and blood pressure: a meta-analysis of individual data from 61 prospective studies with 55,000 vascular deaths.* Lancet. 370(9602): p. 1829-39.
136. Blackburn E H, Epel E S, and Lin J, 2015. *Human telomere biology: A contributory and interactive factor in aging, disease risks, and protection.* Science. 350(6265): p. 1193-8.
137. Edenberg H J, 2007. *The genetics of alcohol metabolism: role of alcohol dehydrogenase and aldehyde dehydrogenase variants.* Alcohol research & health: the journal of the National Institute on Alcohol Abuse and Alcoholism. 30(1): p. 5-13.
138. Lyssenko V, Jonsson A, Almgren P, et al., 2008. *Clinical risk factors, DNA variants, and the development of type 2 diabetes.* N Engl J Med. 359(21): p. 2220-32.
139. Concannon P, Rich S S, and Nepom G T, 2009. *Genetics of type 1A diabetes.* N Engl J Med. 360(16): p. 1646-54.
140. Ponder B A, 2001. *Cancer genetics.* Nature. 411(6835): p. 336-41.
141. Khor B, Gardet A, and Xavier R J, 2011. *Genetics and pathogenesis of inflammatory bowel disease.* Nature. 474(7351): p. 307-17.
142. Bertram L and Tanzi R E, 2008. *Thirty years of Alzheimer's disease genetics: the implications of systematic meta-analyses.* Nat Rev Neurosci. 9(10): p. 768-78.
143. Australian Medical Association, 2013. *Aboriginal and Torres Strait Islander Health Report Card 2012-2013: The Healthy Early Years - Getting the right start in life.* Canberra: AMA.
144. Arabena K, 2020. *'Country Can't Hear English': A guide supporting the implementation of cultural determinants of health and wellbeing with Aboriginal and Torres Strait Islander peoples.* Melbourne: Karabena Consulting.
145. West R and Marteau T, 2013. *Commentary on Casswell (2013): the commercial determinants of health.* Addiction. 108(4): p. 686-7.
146. Kickbusch I, Allen L, and Franz C, 2016. *The commercial determinants of health.* Lancet Glob Health. 4(12): p. e895-e896.
147. de Lacy-Vawdon C and Livingstone C, 2020. *Defining the commercial determinants of health: a systematic review.* BMC Public Health. 20(1): p. 1022.
148. Donovan R, 2011. *The role for marketing in public health change programs.* Australian Review of Public Affairs. 1: p. 23-40.

149. Gordon R, McDermott L, Stead M, et al., 2006. *The effectiveness of social marketing interventions for health improvement: What's the evidence?* Public Health. 120(12): p. 1133-1139.
150. Cuijpers P, 2009. *Three Decades of Drug Prevention Research. Drugs: Education Prevention and Policy.* 10: p. 7-20.
151. Lawton T, McGuire S, and Rajwani T, 2013. *Corporate Political Activity: A Literature Review and Research Agenda.* International Journal of Management Reviews. 15.
152. Rangan VK, Chase L, and S K, 2015. *The Truth about CSR. Harvard Business Review.* Accessed October 2020. Available from: <https://hbr.org/2015/01/the-truth-about-csr>.
153. Marks L, Howse E, Rychetnik L et al., 2020. *Current and future trends in chronic disease prevention: Thematic analysis of grey and scientific literature.* The Australian Prevention Partnership Centre. Accessed October 2020. Available from: https://preventioncentre.org.au/wp-content/uploads/2020/05/Future-of-Prevention-Report_Final-29042020.pdf.
154. Kunkle S, Christie G, Hajat C, et al., 2016. *The Role of the Private Sector in Tilting Health Systems Toward Chronic Disease Prevention.* Glob Heart. 11(4): p. 451-454.
155. Backholer K, Baum F, Finlay S M, et al., 2021. *Australia in 2030: what is our path to health for all?* Medical Journal of Australia. 214(S8): p. S5-S40.
156. Hall J L and McGraw D, 2014. *For Telehealth To Succeed, Privacy And Security Risks Must Be Identified And Addressed.* Health Affairs. 33(2): p. 216-221.
157. Chang J E, Lai A Y, Gupta A, et al., 2021. *Rapid Transition to Telehealth and the Digital Divide: Implications for Primary Care Access and Equity in a Post-COVID Era.* The Milbank Quarterly.
158. Reeves J J, Ayers J W, and Longhurst C A, 2021. *Telehealth in the COVID-19 Era: A Balancing Act to Avoid Harm.* J Med Internet Res. 23(2): p. e24785.
159. Freeman T, Fisher M, Baum F, et al., 2018. *Healthy infrastructure: Australian National Broadband Network policy implementation and its importance to health equity.* Information, Communication & Society. 22(10): p. 1414-1431.
160. Telstra, 2020. *Digital Inclusion Index: Measuring Australia's Digital Divide.*
161. Vogt H, Green S, Ekstrøm C T, et al., 2019. *How precision medicine and screening with big data could increase overdiagnosis.* BMJ. 366: p. 15270.
162. Peake JM K G, Sullivan JP., 2018. *A critical review of consumer wearables, mobile applications, and equipment for providing biofeedback, monitoring stress, and sleep in physically active populations.* Frontiers in physiology. 9:743.
163. Wu M, and Luo J, 2019. *Wearable technology applications in healthcare: A literature review.* Online Journal of Nursing Informatics (OJNI). 23(3).
164. Department of Health, 2021. *Regulation of software based medical devices.* Canberra: Therapeutic Goods Association. Accessed July 2021. Available from: <https://www.tga.gov.au/node/4316>.
165. Rosen L D, Lim A F, Felt J, et al., 2014. *Media and technology use predicts ill-being among children, preteens and teenagers independent of the negative health impacts of exercise and eating habits.* Computers in human behavior. 35: p. 364-375.
166. Swire-Thompson B and Lazer D, 2020. *Public Health and Online Misinformation: Challenges and Recommendations.* Annu Rev Public Health. 41: p. 433-451.
167. Keshta I and Odeh A, 2021. *Security and privacy of electronic health records: Concerns and challenges.* Egyptian Informatics Journal. 22(2): p. 177-183.
168. Harman L B, Flite C A, and Bond K, 2012. *Electronic Health Records: Privacy, Confidentiality, and Security.* AMA Journal of Ethics. 14(9):712-719.
169. Australian Government Department of Health, 2021. *Health technology.* Accessed 25 June 2021. Available from: <https://www.health.gov.au/health-topics/health-technology>.
170. Sulaymonov A, 2020. *Flexible Working Practices: Urgency or Future?* Modern Economy. 11:07: p. 9.
171. Norgate S H and Cooper C L, 2020. *Flexible Work: Designing our Healthier Future Lives.* Abingdon, Oxon: Routledge.
172. Subramaniam G, Ramachandran J, Putit L, et al., 2020. *Exploring Academics' Work-Life Balance and Stress Levels Using Flexible Working Arrangements.* Environment-Behaviour Proceedings Journal. 5(15): p. 469-476.
173. Ibrahim SA C M, Neill DB, 2020 *Big data analytic's and the struggle for equity in healthcare: the promise and perils.* Health Equity. 4: 99-101(4): p. 99-101.
174. Australian Institute of Health and Welfare. *Digital Health. Australia's Health 2020.* Accessed 23 July 2021. Available from: <https://www.aihw.gov.au/reports/australias-health/digital-health>.
175. Alotaibi Y K and Federico F, 2017. *The impact of health information technology on patient safety.* Saudi medical journal. 38(12)(12): p. 1173-1180.
176. World Health Organization, 2018. *Health inequities and their causes.* Accessed October 2020. Available from: <https://www.who.int/news-room/facts-in-pictures/detail/health-inequities-and-their-causes>
177. World Health Organization, 2016. *Environmental health in emergencies: Vulnerable groups.* Geneva: WHO.
178. World Health Organization, 2004. *Global forum on chronic disease prevention and control (4th, Ottawa, Canada).* Geneva: WHO.
179. Wilcox S, 2015. *Chronic diseases in Australia: Blueprint for preventive action, Australian Health Policy Collaboration Policy paper No. 2015-01.* Melbourne: Australian Health Policy Collaboration.
180. Kislign L A and M Das J, 2020. *Prevention Strategies.* StatPearls Publishing. Treasure Island (FL). Accessed October 2020. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK537222/>.
181. The Association of Faculties of Medicine of Canada, 2020. *Chapter 4 Basic Concepts in Prevention and Health Promotion, in AFMC Primer on Population Health: A virtual textbook on Public Health concepts for clinicians.*
182. Martins C, Godycki-Cwirko M, Heleno B, et al., 2018. *Quaternary prevention: reviewing the concept.* The European journal of general practice. 24(1): p. 106-111.
183. Pandve H T, 2014 *Quaternary prevention: need of the hour.* J Family Med Prim Care. 3(4): p. 309-10.
184. Marmot M, Goldblatt P, and Allen J, 2010. *Fair Society, Healthy Lives. The Marmot Review. Strategic Review of Health Inequalities in England Post 2010.* London: The Marmot Review.
185. Australian Institute of Health and Welfare, 2014. *Australia's health 2014.* Australia's health series no. 14. Cat. no. AUS 178. Canberra: AIHW.
186. Australian Institute of Health and Welfare, 2020. *Health expenditure Australia 2018-19.* Health and welfare expenditure series no.66. Table A9. Cat. no. HWE 80. Canberra: AIHW.
187. Organisation for Economic Co-operation and Development (OECD). *Health expenditure and financing [dataset].* OECD. Paris. Accessed December 2020. Available from: <http://stats.oecd.org/Index.aspx?DataSetCode=SHA>.
188. Organisation for Economic Co-operation and Development (OECD). 2016. *Health Statistics.* Joint OECD, EUROSTAT and WHO Health Accounts SHA Questionnaires (JHAQ). Paris. Accessed 28th June 2021. Available from: <https://stats.oecd.org/Index.aspx?DataSetCode=SHA#>
189. Australian Institute of Health and Welfare, 2019. *Disease expenditure in Australia.* Cat. no. HWE 76. Canberra: AIHW.
190. Australian Institute of Health and Welfare, 2020. *Chronic Disease.* Canberra: AIHW.
191. PwC, 2015. *Obesity to affect one-third of Australians and cost \$88b by 2025.* Accessed December 2020. Available from: <https://www.pwc.com.au/press-room/2015/australian-obesity-report-oct15.html>.
192. McDavid D and Needle J, 2006. *Economic evaluation of public health: mapping the literature.* Cardiff: Health Promotion Division, Welsh Assembly Government.
193. Dalziel K, Segal L, and Mortimer D, 2008. *Review of Australian health economic evaluation - 245 interventions: what can we say about cost effectiveness?* Cost Eff Resour Alloc. 6: p. 9.
194. Tengs T O, Adams M E, Pliskin J S, et al., 1995. *Five-hundred life-saving interventions and their cost-effectiveness.* Risk Anal. 15(3): p. 369-90.
195. Vos T, Carter R, Barendregt J, et al., 2010. *Assessing Cost-Effectiveness in Prevention (ACE-Prevention): Final Report.* Brisbane: University of Queensland and Melbourne: Deakin University.
196. Lynch J and Smith G D, 2005. *A life course approach to chronic disease epidemiology.* Annu Rev Public Health. 26: p. 1-35.
197. Moore T G, Arefadib N, Deery A, et al., 2017. *The first thousand days: an evidence paper.* Centre for Community Child Health.
198. Sayer A A and Cooper C, 2004. *A life course approach to biological ageing, in A Life Course Approach to Chronic Disease Epidemiology.* Oxford University Press.
199. Brown L, Thurecht L, and Nepal B, 2012. *The cost of inaction on the social determinants of health.* Canberra: National Centre for Social and Economic Modelling, University of Canberra.
200. Public Health Association of Australia, 2018. *Top 10 public health successes over the last 20 years,* PHAA Monograph Series No. 2. Canberra: PHAA.

201. Australian Bureau of Statistics, 2018. *Smoking, 2017-18 financial year*. Canberra: Commonwealth of Australia.
202. Australian Institute of Health and Welfare, 2019. *Burden of tobacco use in Australia: Australian Burden of Disease Study 2015*. Cat. no. BOD 20. Canberra: AIHW.
203. Australian Institute of Health and Welfare, 2021. *Australian Burden of Disease Study 2018: key findings for Aboriginal and Torres Strait Islander people*. Canberra: AIHW.
204. Cancer Council, 2020. *Turning the tide of skin cancer*. Accessed December 2020. Available from: <https://www.cancer.org.au/about-us/how-we-help/prevention/stories/turning-the-tide-of-skin-cancer>.
205. Tabbakh T, Volkov A, Wakefield M, et al., 2019. *Implementation of the SunSmart program and population sun protection behaviour in Melbourne, Australia: Results from cross-sectional summer surveys from 1987 to 2017*. *PLoS Medicine*. 16: p. e1002932.
206. Montague M, Borland R, and Sinclair C, 2001. *Slip! Slop! Slap! and SunSmart, 1980-2000: Skin Cancer Control and 20 Years of Population-Based Campaigning*. *Health Education & Behavior*. 28(3): p. 290-305.
207. Cancer Institute New South Wales, 2017. *NSW Skin Cancer Prevention Strategy*. Sydney: Cancer Institute NSW.
208. Brown G, O'Donnell D, Crooks L, et al., 2014. *Mobilisation, politics, investment and constant adaptation: lessons from the Australian health-promotion response to HIV*. *Health Promot J Austr*. 25(1): p. 35-41.
209. The Kirby Institute. 2019. *HIV diagnoses in Australia drop to lowest number in 18 years*. Accessed 25 June 2021. Available from: <https://kirby.unsw.edu.au/news/hiv-diagnoses-australia-drop-lowest-number-18-years>.
210. Gruszyn S, Hetzel D, and Glover J, 2012. *Advocacy and action in public health: lessons from Australia over the twentieth century*. Canberra: Australian National Preventive Health Agency.
211. Malik P, Patel U, Patel K, et al., 2020. *Obesity a predictor of outcomes of COVID-19 hospitalized patients-A systematic review and meta-analysis*. *J Med Virol*. 93(2): p. 1188-1193.
212. Popkin B M, Du S, Green W D, et al., 2020. *Individuals with obesity and COVID-19: A global perspective on the epidemiology and biological relationships*. *Obes Rev*. 21(11): p. e13128.
213. Blecher G E, Blashki G A, and Judkins S, 2020. *Crisis as opportunity: how COVID-19 can reshape the Australian health system*. *Med J Aust*. 213(5): p. 196-198.e1.
214. Finkel A, Jasper L, and Weeramanthri T, 2020. *National Contact Tracing Review: A report for Australia's National Cabinet*. Canberra: Department of Health.
215. Halcomb E, McInnes S, Williams A, et al., 2020. *The Experiences of Primary Healthcare Nurses During the COVID-19 Pandemic in Australia*. *J Nurs Scholarsh*. 52(5): p. 553-563.
216. Galea S, 2020. *4 lessons from the coronavirus*. *Fortune*. Accessed November 2020. Available from: <https://fortune.com/2020/03/14/four-lessons-from-the-coronavirus/>.
217. Wutzke S, Morrice E, Benton M, et al., 2017. *What will it take to improve prevention of chronic diseases in Australia? A case study of two national approaches*. *Aust Health Rev*. 41(2): p. 176-181.
218. World Health Organization, 2014. *Health in all policies: Helsinki statement. Framework for country action*. France: WHO.
219. Doggett J, 2007. *A new approach to primary care for Australia*. Occasional Paper Number 1. Sydney: Centre for Policy Development.
220. World Health Organization and United Nations Children's Fund, 2018. *A vision for primary health care in the 21st century: towards universal health coverage and the Sustainable Development Goals*. Geneva.
221. Kayyali R, Hesso I, Mahdi A, Hamzat O, Adu A, Nabhani Gebara S, 2017. *Telehealth: misconceptions and experiences of healthcare professionals in England*. *International Journal of Pharmacy Practice*. Jun;25(3)(3): p. 203-9.
222. Thomas E E, Haydon H M, Mehrotra A, et al., 2020. *Building on the momentum: Sustaining telehealth beyond COVID-19*. *Journal of telemedicine and telecare*.
223. Department of Health, 2016. *Primary Health Care Advisory Group Final Report: Better Outcomes for People with Chronic and Complex Health Conditions*. Canberra: Commonwealth of Australia as represented by the Department of Health.
224. Department of Health, 2019. *Australia's Long Term National Health Plan: to build the world's best health system*. Canberra: DoH.
225. Macinko J, Starfield B, and Shi L, 2003. *The contribution of primary care systems to health outcomes within Organization for Economic Cooperation and Development (OECD) countries, 1970-1998*. *Health Serv Res*. 38(3): p. 831-65.
226. Bodenheimer T, Ghorob A, Willard-Grace R, et al., 2014. *The 10 building blocks of high-performing primary care*. *Ann Fam Med*. 12(2): p. 166-71.
227. O'Kane G, 2020. *Telehealth—Improving access for rural, regional and remote communities*. *The Australian Journal of Rural Health*. 28(4):419.
228. Australian Commission on Safety and Quality in Health Care, 2012. *Safety and Quality Improvement Guide Standard 2: Partnering with Consumers*. Sydney: ACSQHC.
229. Nichols T, Calder R, Morgan M, et al., 2020. *Self-care for health: a national policy blueprint*. Policy paper 2020-01. Melbourne: Mitchell Institute, Victoria University.
230. World Health Organization, 2013. *Global action plan for the prevention and control of noncommunicable diseases 2013-2020*. Geneva: WHO.
231. Australian Commission on Safety and Quality in Health Care, 2014. *Health literacy: Taking action to improve safety and quality*. Sydney: ACSQHC.
232. Coulter A, Ellins J, Swain D, et al., 2006. *Assessing the quality of information to support people in making decisions about their health and healthcare*. Picker Institute Europe.
233. The Senate Community Affairs References Committee, 2013. *Australia's domestic response to the World Health Organization's (WHO) Commission on Social Determinants of Health report "Closing the gap within a generation"*. Canberra: Commonwealth of Australia.
234. Milat A J, Bauman A, and Redman S, 2015. *Narrative review of models and success factors for scaling up public health interventions*. *Implement Sci*. 10: p. 113.
235. Indig D, Lee K, Grunseit A, et al., 2017. *Pathways for scaling up public health interventions [published correction]*. *BMC Public Health*. 18(1): p. 68.
236. NSW Government, 2013. *Evaluation Framework*. Sydney: NSW Government.
237. Bauman A and Nutbeam D, 2013. *Evaluation in a nutshell: a practical guide to the evaluation of health promotion programs*. Australia: McGraw-Hill Education
238. Slattery P, Saeri A K, and Bragge P, 2020. *Research co-design in health: a rapid overview of reviews*. *Health Research Policy and Systems*. 18(1): p. 17.
239. Clancy C M, Glied S A, and Lurie N, 2012. *From research to health policy impact*. *Health services research*. 47(1 Pt 2): p. 337-343.
240. Tricco A C, Zarin W, Rios P, et al., 2018. *Engaging policy-makers, health system managers, and policy analysts in the knowledge synthesis process: a scoping review*. *Implementation Science*. 13(1): p. 31.
241. Pedisic Z, Zhong A, Hardy L, et al., 2017. *Physical activity prevalence in Australian children and adolescents: Why do different surveys provide so different estimates, and what can we do about it?* *Kinesiology*. 49.
242. Bauman A, 2020. *Are Australians Active? Prevalence, trends and correlates of meeting PA guidelines, in Getting Australia Active III: A systems approach to physical activity for policy makers*, Bellew B N T, Smith B, Bauman A, Editors. Sydney: The Australian Prevention Partnership Centre and The University of Sydney.
243. Webb K L, Rutishauser I H, Marks G C, et al., 2006. *Nutrition surveys or surveillance: one-night stands or a long-term commitment?* *Med J Aust*. 185(5): p. 248-9.
244. Kruk M E, Myers M, Varpilah S T, et al., 2015 *What is a resilient health system? Lessons from Ebola*. *Lancet*. 385(9980): p. 1910-2.
245. Gupta J, Hurley F, Grobicki A, et al., 2019. *Communicating the health of the planet and its links to human health*. *Lancet Planet Health*. 3(5): p. e204-e206.
246. World Health Organization, 2018. *Climate change and health*. WHO. Accessed December 2020. Available from: <https://www.who.int/news-room/fact-sheets/detail/climate-change-and-health>.
247. Padhy S K, Sarkar S, Panigrahi M, et al., 2015. *Mental health effects of climate change*. *Indian journal of occupational and environmental medicine*. 19(1): p. 3-7.
248. Palagyi A, Marais B J, Abimbola S, et al., 2019. *Health system preparedness for emerging infectious diseases: A synthesis of the literature*. *Glob Public Health*. 14(12): p. 1847-1868.
249. Macartney K, Quinn H E, Pillsbury A J, et al., 2020. *Transmission of SARS-CoV-2 in Australian educational settings: a prospective cohort study*. *The Lancet Child & Adolescent Health*. 4(11): p. 807-816.
250. Telfair LeBlanc T, Kosmos C, and Avchen R N, 2019. *Collaboration Is Key to Community Preparedness*. *American journal of public health*. 109(S4): p. S252-S252.
251. Department of Health, 2020. *National Contact Tracing Review: A report for National Cabinet*. Canberra: Commonwealth of Australia.
252. World Health Organization, 2019. *Ten threats to global health in 2019*. WHO. Accessed December 2020. Available from: <https://www.who.int/vietnam/news/feature-stories/detail/ten-threats-to-global-health-in-2019>.

253. Powers M, 2016. *Vulnerable Populations in the Context of Public Health Emergency Preparedness Planning and Response, in Emergency Ethics: Public Health Preparedness and Response*. Oxford University Press: Oxford, UK.
254. Meltzer A, 2020. *Public health crises and the need for accessible information*. Medical Journal of Australia. 213(10): p. 478-478.e1.
255. Royal Commission, 2020. *The Royal Commission into National Natural Disaster Arrangements Report*. Canberra: Commonwealth of Australia.
256. Department of Health, 2020. What are the effects of smoking and tobacco? Accessed September 2020. Available from: <https://www.health.gov.au/health-topics/smoking-and-tobacco/about-smoking-and-tobacco/what-are-the-effects-of-smoking-and-tobacco>.
257. Australian Institute of Health and Welfare, 2020. *National Drug Strategy Household Survey 2019*. Drug statistics series no. 32. Cat. no. PHE 270. Canberra: AIHW.
258. Tait R J, Whetton S, and Allsop S, 2019. *Identifying the Social Costs of Tobacco Use to Australia in 2015/16*. Perth: National Drug Reserach Institute Curtin University.
259. National Center for Chronic Disease Prevention and Health Promotion (US) Office on Smoking and Health, 2012. *Preventing Tobacco Use Among Youth and Young Adults: A Report of the Surgeon General*. Atlanta (GA): Centers for Disease Control and Prevention (US).
260. Cancel Council Victoria, 2013. *Smoking & Disadvantage Evidence Brief*. Canberra: Australian National Preventive Health Agency.
261. Campbell MA, Ford C, and Winstanley MH, 2017. *The health effects of secondhand smoke, 4.0 Background, in Tobacco in Australia: Facts and issues*, Scollo MM and Winstanley MH, Editors. Melbourne: Cancer Council Victoria.
262. Culbertson C S, Bramen J, Cohen M S, et al., 2011. *Effect of bupropion treatment on brain activation induced by cigarette-related cues in smokers*. Arch Gen Psychiatry. 68(5): p. 505-15.
263. Department of Health, 2019. *About Passive Smoking*. DoH. Accessed October 2020. Available from: <https://www.health.gov.au/health-topics/smoking-and-tobacco/about-smoking-and-tobacco/about-passive-smoking>.
264. Australian Institute of Health and Welfare, 2020. *Australia's mothers and babies 2018—in brief*. Cat. no. PER 108. Canberra: AIHW.
265. Australian Governments, 2020. *National Agreement on Closing the Gap: July 2020*. Canberra: Australian Government.
266. World Health Organization, 2020. *Tobacco: Health benefits of smoking cessation*. WHO. Accessed October 2020. Available from: <https://www.who.int/news-room/q-a-detail/tobacco-health-benefits-of-smoking-cessation>.
267. Department of Health, 2019. *Why quit smoking?* DoH. Accessed October 2020. Available from: <https://www.health.gov.au/health-topics/smoking-and-tobacco/how-to-quit-smoking/why-quit-smoking>.
268. National Center for Chronic Disease Prevention and Health Promotion (US) Office on Smoking and Health, 2020. *Smoking Cessation: A Report of the Surgeon General*. Atlanta (GA): Centers for Disease Control and Prevention (US).
269. Winstanley MH and Greenhalgh EM, 2019. *3.0 Introduction, in Tobacco in Australia: Facts and issues*, Scollo MM and Winstanley MH, Editors. Melbourne: Cancer Council Victoria.
270. Banks E, Joshy G, Weber M F, et al., 2015. *Tobacco smoking and all-cause mortality in a large Australian cohort study: findings from a mature epidemic with current low smoking prevalence*. BMC Medicine. 13(1): p. 38.
271. Pirie K, Peto R, Reeves G K, et al., 2013. *The 21st century hazards of smoking and benefits of stopping: a prospective study of one million women in the UK*. Lancet. 381(9861): p. 133-41.
272. Australian Institute of Health and Welfare, 2020. *Alcohol, tobacco & other drugs in Australia: Aboriginal and Torres Strait Islander people*. Canberra: AIHW. Accessed October 2020. Available from: <https://www.aihw.gov.au/reports/alcohol/alcohol-tobacco-other-drugs-australia/contents/population-groups-of-interest/aboriginal-and-torres-strait-islander-people>.
273. Thurber K A, Banks E, Joshy G, et al., 2021. *Tobacco smoking and mortality among Aboriginal and Torres Strait Islander adults in Australia*. International Journal of Epidemiology.
274. Mooney-Somers J, Deacon R, Scott P, et al., 2018. *Women in contact with the Sydney LGBTQ communities: Report of the SWASH Lesbian, Bisexual and Queer Women's Health Survey 2014, 2016, 2018*. Sydney: Sydney Health Ethics University of Sydney.
275. AIDS Council of NSW (ACON), 2013. *Health Outcome Strategy 2013-2018: Smoking*. Sydney: ACON.
276. United States of America Department of Health and Human Services, 2011. *Executive Summary The Surgeon General's Call to Action to Support Breastfeeding*. Washington, DC: U.S Department of Health and Human Services.
277. Australian Institute of Health and Welfare, 2018. *Nutrition across the life stages*. Cat. no. PHE 227. Canberra: AIHW.
278. Al-Yaman F, 2017. *The Australian Burden of Disease Study: impact and causes of illness and death in Aboriginal and Torres Strait Islander people, 2011*. Public Health Res Pract. 27(4).
279. World Health Organization, 2015. *Guideline: Sugars intake for adults and children*. Geneva: WHO.
280. Lai J S, Hiles S, Bisquera A, et al., 2014. *A systematic review and meta-analysis of dietary patterns and depression in community-dwelling adults*. Am J Clin Nutr. 99(1): p. 181-97.
281. Organisation for Economic Co-operation and Development (OECD), 2019. *The Heavy Burden of Obesity*.
282. Australian Institute of Health and Welfare, 2019. *The health of Australia's males*. Cat. no. PHE 239. Canberra: AIHW.
283. Australian Institute of Health and Welfare, 2019. *The health of Australia's females*. Cat. no. PHE 240. Canberra: AIHW.
284. Commonwealth of Australia, 2021. *Royal Commission into Aged Care Quality and Safety Final Report: Care, Dignity and Respect*. Canberra: Royal Commission into Aged Care Quality and Safety.
285. Australian Commission on Safety and Quality in Health Care, 2018. *Hospital-Acquired Complication 13: Malnutrition*. Canberra: Australian Commission on Safety and Quality in Health Care.
286. Dietitians Association of Australia, 2019. *Royal Commission into Aged Care Quality and Safety*. Canberra: Dietitians Association of Australia.
287. Dixon J, Omwega A M, Friel S, et al., 2007. *The Health Equity Dimensions of Urban Food Systems*. Journal of Urban Health. 84(1): p. 118-129.
288. Swinburn B, Kraak V, Rutter H, et al., 2015 *Strengthening of accountability systems to create healthy food environments and reduce global obesity*. The Lancet. 385(9986): p. 2534-2545.
289. Machado P P, Steele E M, Levy R B, et al., 2019. *Ultra-processed foods and recommended intake levels of nutrients linked to non-communicable diseases in Australia: evidence from a nationally representative cross-sectional study*. BMJ Open. 9(8): p. e029544.
290. Zheng M, Wu J H, Louie J C, et al., 2016. *Typical food portion sizes consumed by Australian adults: results from the 2011-12 Australian National Nutrition and Physical Activity Survey*. Sci Rep. 6: p. 19596.
291. Australian Institute of Health and Welfare, 2012. *Australia's food and nutrition 2012: in brief*. Cat. no. PHE 163. Canberra: AIHW.
292. McDermott A J and Stephens M B, 2010. *Cost of eating: whole foods versus convenience foods in a low-income model*. Fam Med. 42(4): p. 280-4.
293. Whalan S, Farnbach S, Volk L, et al., 2017. *What do we know about the diets of Aboriginal and Torres Strait Islander peoples in Australia? A systematic literature review*. Aust N Z J Public Health. 41(6): p. 579-584.
294. Watson W L, Lau V, Wellard L, et al., 2017. *Advertising to children initiatives have not reduced unhealthy food advertising on Australian television*. J Public Health (Oxf). 39(4): p. 787-792.
295. Obesity Policy Coalition, 2018. *Policy brief: food advertising to children*.
296. Haynes A, Bayly M, Dixon H, et al., 2021. *Sugary drink advertising expenditure across Australian media channels 2016-2018*. Australian and New Zealand Journal of Public Health. 45(3): p. 270-276.
297. Foodbank Australia, 2019. *Foodbank Hunger Report 2019*.
298. Foodbank Australia, 2020. *Foodbank Hunger Report 2020*.
299. McKay F H, Haines B C, and Dunn M, 2019. *Measuring and Understanding Food Insecurity in Australia: A Systematic Review*. International journal of environmental research and public health. 16(3): p. 476.
300. Crosland P, Ananthapavan J, Davison J, et al., 2019. *The health burden of preventable disease in Australia: a systematic review*. Aust N Z J Public Health. 43(2): p. 163-170.
301. Australian Institute of Health and Welfare, 2020. *International health data comparisons, 2020*. Canberra: AIHW.
302. National Health and Medical Research Council, 2020. *Nutrition in Aboriginal and Torres Strait Islander peoples: an information paper*. Canberra: NHMRC.
303. Australian Bureau of Statistics, 2015. *All Australians love treat foods no matter where they live*. Accessed October 2020. Available from: <https://www.abs.gov.au/articles/all-australians-love-treat-foods-no-matter-where-they-live>.
304. Australian Institute of Health and Welfare, 2018. *Chapter 6.7 Size and sources of the Indigenous health gap, in Australia's Health 2018*. Canberra: AIHW.

305. Better Health Approved by VIC Department of Health, 2020. *Salt*. Accessed 24 June 2021. Available from: <https://www.betterhealth.vic.gov.au/health/healthyliving/salt#select-foods-with-less-hidden-salt>
306. Lassale C, Batty G D, Baghdadli A, et al., 2018. *Healthy dietary indices and risk of depressive outcomes: a systematic review and meta-analysis of observational studies*. Mol Psychiatry. 24(7): p 965-986.
307. Shahid M, Neal B, and Jones A, 2020. *Uptake of Australia's Health Star Rating System 2014-2019*. Nutrients. 12(6): p. 1791.
308. Shechter A and St-Onge M-P, 2014. *Delayed sleep timing is associated with low levels of free-living physical activity in normal sleeping adults*. Sleep medicine. 15(12): p. 1586-1589.
309. World Health Organization, 2020. *Physical activity*. Geneva: WHO. Accessed October 2020. Available from: <https://www.who.int/news-room/fact-sheets/detail/physical-activity>.
310. Department of Health, 2019. *Sedentary behaviour*. Canberra: DoH. Accessed October 2020. Available from: <https://www1.health.gov.au/internet/main/publishing.nsf/Content/sbehaviour>.
311. Australian Institute of Health and Welfare, 2020. *Insufficient physical activity*. Cat. no. PHE 248. Canberra: AIHW.
312. Guthold R, Stevens G A, Riley L M, et al., 2018. *Worldwide trends in insufficient physical activity from 2001 to 2016: a pooled analysis of 358 population-based surveys with 1.9 million participants*. The Lancet. Global health. 6(10): p. e1077-e1086.
313. World Health Organization, 2002. *Physical inactivity a leading cause of disease and disability, warns WHO*. WHO: Geneva. Accessed October 2020. Available from: <https://www.who.int/news/item/04-04-2002-physical-inactivity-a-leading-cause-of-disease-and-disability-warns-who>.
314. Australian Institute of Health and Welfare, 2017. *Impact of physical inactivity as a risk factor for chronic conditions: Australian Burden of Disease*. Cat. no. BOD 16. Canberra: AIHW.
315. Matthews C E, Chen K Y, Freedson P S, et al., 2008. *Amount of time spent in sedentary behaviors in the United States, 2003-2004*. Am J Epidemiol. 167(7): p. 875-81.
316. Kardefelt Winther D, 2017. *How does the time children spend using digital technology impact their mental well-being, social relationships and physical activity? An evidence-focused literature review*. Innocenti Discussion Papers no. 2017-02. Innocenti, Florence: UNICEF Office of Research.
317. 2018 Physical Activity Guidelines Advisory Committee, 2018. *2018 Physical Activity Guidelines Advisory Committee Scientific Report*. Washington DC: U.S. Department of Health and Human Services.
318. Ekelund U, Steene-Johannessen J, Brown W J, et al., 2016. *Does physical activity attenuate, or even eliminate, the detrimental association of sitting time with mortality? A harmonised meta-analysis of data from more than 1 million men and women*. Lancet. 388(10051): p. 1302-10.
319. Losina E, Yang H Y, Deshpande B R, et al., 2017. *Physical activity and unplanned illness-related work absenteeism: Data from an employee wellness program*. PLoS One. 12(5): p. e0176872.
320. Rosenkranz S K, Mailey E L, Umansky E, et al., 2020. *Workplace Sedentary Behavior and Productivity: A Cross-Sectional Study*. Int J Environ Res Public Health. 17(18).
321. Medibank, 2005. *The health of Australia's workforce*. Australia: Medibank Private Limited. Accessed November 2020. Available from: https://www.medibank.com.au/Client/Documents/Pdfs/The_health_of_Australia's_workforce.pdf.
322. Franco G, 1999. *Ramazzini and workers' health*. Lancet. 354(9181): p. 858-61.
323. Watson A, Timperio A, Brown H, et al., 2017. *Effect of classroom-based physical activity interventions on academic and physical activity outcomes: a systematic review and meta-analysis*. International Journal of Behavioral Nutrition and Physical Activity. 14(1): p. 114.
324. Álvarez-Bueno C, Pesce C, Cervero-Redondo I, et al., 2017. *Academic Achievement and Physical Activity: A Meta-analysis*. Pediatrics. p. e20171498.
325. World Health Organization, 2018. *Global Action Plan for Physical Activity 2018-2030: more active people for a healthier world*. Geneva: WHO.
326. Ekelund U, Ward H A, Norat T, et al., 2015. *Physical activity and all-cause mortality across levels of overall and abdominal adiposity in European men and women: the European Prospective Investigation into Cancer and Nutrition Study (EPIC)*. Am J Clin Nutr. 101(3): p. 613-21.
327. Ashdown-Franks G, Firth J, Carney R, et al., 2020. *Exercise as Medicine for Mental and Substance Use Disorders: A Meta-review of the Benefits for Neuropsychiatric and Cognitive Outcomes*. Sports Med. 50(1): p. 151-170.
328. Bellew B, Nau T, Smith B, et al., 2020. *Getting Australia Active III: A systems approach to physical activity for policy makers*. Sydney: The Australian Prevention Partnership Centre and The University of Sydney.
329. Medibank, 2008. *The cost of physical inactivity*. Australia: Medibank Private Limited. Accessed October 2020. Available from: <https://www.medibank.com.au/livebetter/newsroom/post/the-cost-of-physical-inactivity>.
330. Ridgers N D, Salmon J, Ridley K, et al., 2012. *Agreement between activPAL and ActiGraph for assessing children's sedentary time*. Int J Behav Nutr Phys Act. 9: p. 15.
331. Carson V, Salmon J, Arundell L, et al., 2013. *Examination of mid-intervention mediating effects on objectively assessed sedentary time among children in the Transform-Us! cluster-randomized controlled trial*. International Journal of Behavioral Nutrition and Physical Activity. 10(1): p. 62.
332. Commonwealth of Australia as represented by the Department of Health, 2018. *Sport 2030*. Canberra: Department of Health.
333. Tammelin T, Näyhä S, Hills A P, et al., 2003. *Adolescent participation in sports and adult physical activity*. Am J Prev Med. 24(1): p. 22-8.
334. Healy G N and Goode A D, 2018. *Workplace programmes aimed at limiting occupational sitting, in Sedentary Behaviour Epidemiology*. Leitzmann M, Jochem C, and Schmid D, Editors. Springer. p. 445-457.
335. Iannacone M R and Green A C, 2014. *Towards skin cancer prevention and early detection: evolution of skin cancer awareness campaigns in Australia*. Melanoma management. 1(1): p. 75-84.
336. Australian Institute of Health and Welfare, 2020. *Cancer data in Australia*. Cat. no. CAN 122. Canberra: AIHW.
337. Australian Institute of Health and Welfare, 2020. *BreastScreen Australia monitoring report 2020*. Cat. no. CAN 135. Canberra: AIHW.
338. Australian Institute of Health and Welfare, 2018. *Analysis of cancer outcomes and screening behaviour for national cancer screening programs in Australia*. Cat. no. CAN 115. Canberra: AIHW.
339. Hall M, Simms K, Lew J-B, et al., 2018. *The projected timeframe until cervical cancer elimination in Australia: a modelling study*. The Lancet Public Health.
340. Australian Institute of Health and Welfare 2021. *Cancer screening and COVID-19 in Australia*. Cat. no. CAN 137. Canberra: AIHW.
341. Australian Institute of Health and Welfare, 2020. *Cancer Screening Programs: Quarterly Data web report*. Canberra: AIHW. Available from: <https://www.aihw.gov.au/reports/cancer-screening/national-cancer-screening-programs-participation/contents/summary>.
342. Lew J-B, John D, Xu X-M, et al., 2017. *Long-term evaluation of benefits, harms, and cost-effectiveness of the National Bowel Cancer Screening Program in Australia: A modelling study*. The Lancet Public Health.
343. Hall M T, Simms K T, Lew J B, et al., 2018. *Projected future impact of HPV vaccination and primary HPV screening on cervical cancer rates from 2017-2035: Example from Australia*. PLoS One. 13(2): p. e0185332.
344. Arbyn M, Smith S B, Temin S, et al., 2018. *Detecting cervical precancer and reaching underscreened women by using HPV testing on self samples: updated meta-analyses*. Brmj. 363: p. k4823.
345. Whiteman D C, Webb P M, Green A C, et al., 2015. *Cancers in Australia in 2010 [special issue]*. Aust N Z J Public Health. 39(5): p. 403-499.
346. Australian Institute of Health and Welfare, 2016. *Skin cancer in Australia*. Canberra: AIHW.
347. Cancer Council, 2020. *Causes and prevention; Reduce your cancer risk. Australia: Cancer Council*. Accessed December 2020. Available from: <https://www.cancer.org.au/cancer-information/causes-and-prevention>.
348. Quinn G P, Sanchez J A, Sutton S K, et al., 2015. *Cancer and lesbian, gay, bisexual, transgender/transsexual, and queer/questioning (LGBTQ) populations*. CA Cancer J Clin. 65(5): p. 384-400.
349. Australian Institute of Health and Welfare, 2020. *Cancer screening programs: quarterly data*. Canberra: AIHW.
350. Canfell K, 2017. *Bowel cancer screening could save 83,800 lives by 2040*. Cancer Council NSW. Accessed November 2020. Available from: <https://www.cancercouncil.com.au/blog/bowel-cancer-screening-save-83800-lives-2040/>.
351. Australian Institute of Health and Welfare, 2020. *National Cervical Screening Program monitoring report 2020*. Cat. no. CAN 138. Canberra: AIHW.
352. World Health Organization, 2020. *Immunization coverage*. Accessed October 2020. Available from: <https://www.who.int/news-room/fact-sheets/detail/immunization-coverage>.
353. Australian Institute of Health and Welfare, 2018. *Immunisation*. Canberra: AIHW.
354. Department of Health, 2020. *Current coverage data tables for Aboriginal and Torres Strait Islander children*.

355. Commonwealth of Australia as represented by the Department of Health, 2018. *National Immunisation Strategy for Australia 2019-2024*. Canberra: Department of Health.
356. Department of Health, 2016. *Immunisation coverage targets*.
357. Australian Institute of Health and Welfare, 2019. *The burden of vaccine preventable diseases in Australia*. Cat. no. PHE 263. Canberra: AIHW.
358. Australian Institute of Health and Welfare, 2011. *2009 Adult Vaccination Survey: summary results*. Cat. no. PHE 135. Canberra: AIHW.
359. My C, Danchin M, Willaby H W, et al., 2017. *Parental attitudes, beliefs, behaviours and concerns towards childhood vaccinations in Australia: A national online survey*. Aust Fam Physician. 46(3): p. 145-151.
360. World Health Organization, 2019. *Towards a Vision and Strategy for Vaccines and Immunization for the Decade Ahead*. Geneva: WHO.
361. World Health Organization, 2013. *Global vaccine action plan 2011-2020*. Geneva: WHO.
362. Australian Institute of Health and Welfare, 2018. *Cervical screening in Australia 2018*. Canberra: AIHW.
363. The Kirby Institute for infection and immunity in society UNSW Sydney, 2020. *National update on HIV, viral hepatitis and sexually transmissible infections in Australia: 2009-2018*. Sydney: UNSW.
364. Department of Health, 2020. Are vaccines safe? Canberra: Department of Health. Accessed September 2020. Available from: <https://www.health.gov.au/health-topics/immunisation/about-immunisation/are-vaccines-safe>
- 365a. Commonwealth of Australia as represented by the Department of Health, 2018. *Third National Hepatitis B Strategy*. Canberra: Department of Health.
- 365b. Commonwealth of Australia as represented by the Department of Health, 2018. *Fourth National Sexually Transmissible Infections Strategy*. Canberra: Department of Health.
- 365c. Commonwealth of Australia as represented by the Department of Health, 2018. *Eighth National HIV Strategy*. Canberra: Department of Health.
- 365d. Commonwealth of Australia as represented by the Department of Health, 2018. *Fifth National Aboriginal and Torres Strait Islander BBV and STI Strategy*. Canberra: Department of Health.
- 365e. Commonwealth of Australia as represented by the Department of Health, 2018. *Fifth National Hepatitis C Strategy*. Canberra: Department of Health.
366. Commonwealth of Australia as represented by the Department of Health, 2017. *National Drug Strategy 2017-2026*. Canberra: Department of Health.
367. Australian Bureau of Statistics, 2019. *Apparent Consumption of Alcohol, Australia - 2017-18 financial year*. Canberra: ABS.
368. Australian Institute of Health and Welfare, 2017. *National Drug Strategy Household Survey 2016: detailed findings*. Drug Statistics series no. 31. Cat. no. PHE 214. Canberra: AIHW.
369. Miller P, Cox E, Costa B, et al., *Alcohol/Drug-Involved Family Violence in Australia (ADIVA)*. 2016, Canberra: National Drug Law Enforcement Research Fund.
370. Australian Bureau of Statistics, 2018. *Causes of Death, Australia, 2017: Deaths due to harmful alcohol consumption in Australia*. ABS cat. no. 3303.0. Canberra: ABS.
371. Commonwealth of Australia as represented by the Department of Health, 2018. *National Fetal Alcohol Spectrum Disorder Strategic Action Plan 2018-2028*. Canberra: Department of Health.
372. Australian Institute of Health and Welfare, 2018. *Alcohol*. Canberra: AIHW.
373. Commonwealth of Australia as represented by the Department of Health, 2019. *National Alcohol Strategy 2019-2028*. Canberra: Department of Health.
374. Commonwealth of Australia, 2020. *Australian Guidelines to Reduce Health Risks from Drinking Alcohol*. Canberra: National Health and Medical Research Council.
375. Australian Institute of Health and Welfare, 2020. *Alcohol, tobacco & other drugs in Australia: Non-medical use of pharmaceuticals - infographic*. Cat. no. PHE 221. Canberra: AIHW.
376. Australian Institute of Health and Welfare, 2017. *Risk factors to health - excessive alcohol consumption*. Accessed 11 August 2021. Available from: <https://www.aihw.gov.au/reports/risk-factors/risk-factors-to-health>
377. Australian Institute of Health and Welfare, 2020. *Alcohol, tobacco & other drugs in Australia: Summary of main data sources used in this report*. Canberra: AIHW.
378. Australian Institute of Health and Welfare, 2021. *Illicit drug use*. Accessed 11 August 2021. Available from: <https://www.aihw.gov.au/reports/australias-health/illicit-drug-use>
379. Department of Health and Ageing, 2013. *National Mental Health Report 2013: tracking progress of mental health reform in Australia 1993 - 2011*. Canberra: Commonwealth of Australia.
380. Productivity Commission, 2020. *Mental Health, Report no. 95*. Canberra: Commonwealth of Australia.
381. Morgan V A, Waterreus A, Jablensky A, et al., 2012. *People living with psychotic illness in 2010: the second Australian national survey of psychosis*. Aust N Z J Psychiatry. 46(8): p. 735-52.
382. Australian Institute of Health and Welfare, 2020. *Alcohol, tobacco & other drugs in Australia: People with mental health conditions*. Canberra: AIHW.
383. Crocq M-A, 2003. *Alcohol, nicotine, caffeine, and mental disorders*. Dialogues in clinical neuroscience. 5(2): p. 175-185.
384. Rickwood DJ and Thomas KA, 2019. *Mental wellbeing interventions: an Evidence Check rapid review brokered by the Sax Institute for VicHealth*. Victoria: Sax Institute.
385. Rickwood D, 2006. *Pathways of Recovery: Preventing Further Episodes of Mental Illness (Monograph)*. Canberra: Commonwealth of Australia.
386. Minds E, 2020. *What is child mental health? Australia: Emerging Minds*. Accessed November 2020. Available from: <https://emergingminds.com.au/our-work/what-is-child-mental-health/>
387. Kessler R C, Berglund P, Demler O, et al., 2005. *Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication*. Arch Gen Psychiatry. 62(6): p. 593-602.
388. Gore F M, Bloem P J, Patton G C, et al., 2011. *Global burden of disease in young people aged 10-24 years: a systematic analysis*. Lancet. 377(9783): p. 2093-102.
389. Head to Health, 2019. *Connecting with community*. Canberra: Department of Health. Accessed December 2020. Available from: <https://headtohealth.gov.au/meaningful-life/connectedness/community#:~:text=Being%20part%20of%20a%20community,and%20purpose%20to%20everyday%20life>
390. Garvey D, 2008. *A review of the social and emotional wellbeing of Indigenous Australian peoples - considerations, challenges and opportunities*. Western Australia: Australian Indigenous HealthInfoNet.
391. Dudgeon P, Walker R, Scrine C, et al., 2014. *Effective strategies to strengthen the mental health and wellbeing of Aboriginal and Torres Strait Islander people*. Canberra: AIHW and Melbourne: Australian Institute of Family Studies.
392. Australian Institute of Health and Welfare, 2020. *Suicide & self-harm monitoring: Deaths by suicide amongst Indigenous Australians*. Canberra: AIHW.
393. Firth J, Siddiqi N, Koyanagi A, et al., 2019. *A blueprint for protecting physical health in people with mental illness*. Lancet Psychiatry. 6(8): p. 675-712.
394. Australian College of Mental Health Nurses, 2018. *Mental Health Practice Standards for Nurses in Australian General Practice 2018*. Available from: <https://acmhnmembers.imtg.com.au/publications/gpn-practice-standards>
395. Lawrence D, Johnson S, Hafeekost J, et al., 2015. *The Mental Health of Children and Adolescents: Report on the second Australian Child and Adolescent Survey of Mental Health and Wellbeing*. Canberra: Department of Health.
396. Colizzi M, Lasalvia A, and Ruggeri M, 2020. *Prevention and early intervention in youth mental health: is it time for a multidisciplinary and trans-diagnostic model for care?* Int J Ment Health Syst. 14: p. 23.
397. Morgan V A, Waterreus A, Jablensky A, et al., 2011. *People living with psychotic illness 2010: Report on the second Australian national survey*. Canberra: Australian Government.
398. National LGBTI Health Alliance, 2020. *Snapshot of mental health and suicide prevention statistics for LGBTI people*.
399. Minas H, Kakuma R, Too L S, et al., 2013. *Mental health research and evaluation in multicultural Australia: developing a culture of inclusion*. International journal of mental health systems. 7(1): p. 23-23.



Australian Government
Department of Health