STATE OF PREVENTIVE HEALTH 2013

Australian Government
Australian National Preventive Health Agency

A report presented to the Minister for Health by the Australian National Preventive Health Agency
The Australian National Preventive Health Agency (the Agency) was established to strengthen Australia’s investment and infrastructure in preventive health. The Agency is providing policy leadership and establishing partnerships with Commonwealth, state and territory governments, community health promotion organisations, industry and primary health care providers.

The Agency’s vision is for a healthy Australian society, where the promotion of health is embraced by every sector, valued by every individual, and includes everybody.
Dear Minister,

It is with great pleasure that I present, on behalf of the Australian National Preventive Health Agency, this national assessment on the state of preventive health in Australia. 

State of Preventive Health 2013 aims to give Australians a comprehensive overview of the health challenges facing Australians, particularly in relation to chronic disease, and the associated risk factors including tobacco consumption, harmful alcohol use and obesity.

This Report meets the requirements under the Australian National Preventive Health Agency Act 2010 to ‘every 2 years, starting in 2013, publish a report on the state of preventive health in Australia’.

It is our hope that this Report will highlight the burden of chronic disease across Australia and increase community awareness and understanding of Australia’s preventive and health promotion efforts.

I commend the report to you, and through you, to the people of Australia.


Louise Sylvan
Chief Executive Officer
26 July, 2013
FACING AUSTRALIA’S PREVENTIVE HEALTH CHALLENGES
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ENABLING ALL AUSTRALIANS TO LEAD HEALTHY LIVES
ACKNOWLEDGMENTS

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Good health is fundamental to Australia's future social and economic wellbeing. This inaugural *State of Preventive Health* report highlights the Australian, and state and territory, governments’ commitment to disease prevention and enabling all Australians to enjoy good health throughout their lives.

This Report provides readers with a clear picture of the substantial effort and leadership that is underway in Australia to reduce key risk factors for chronic disease, including obesity and physical inactivity, tobacco use and the harmful use of alcohol.

The Report also illustrates the significant and ongoing investment and partnerships with non-government organisations, communities and industry to deliver high quality preventive health outcomes.

Australia has an impressive track record when it comes to promoting and protecting the health of its population – our strategies to prevent the uptake of tobacco smoking and our success in helping people quit are recognised around the world.

The Australian Government and state and territory governments continue to work hard to address the behavioural and environmental challenges that have contributed to the significant rise in obesity over the past two decades. This Report features a number of health and wellbeing programs being rolled out in our workplaces, schools and communities around the country to tackle the rising rates of obesity. Some of these programs are working to address the higher prevalence of health risk behaviours and chronic diseases that are apparent in areas of socioeconomic disadvantage and in regional and remote Australia, including among our Aboriginal and Torres Strait Islander communities.

Connections between prevention and the broader health sector are also highlighted in the Report. In particular the primary health care sector’s role in prevention is described. This role has been enhanced by our investment in health care reform to ensure regionally integrated preventive health and health care.

For those who want more information on the economic tools available to assess the cost-effectiveness of preventive health measures this Report is an important resource. With limited resources it is important that tools are available to assist with crucial decisions about where to invest to enable all Australians to lead healthy lives.

Australia can continue to be a world leader in prevention and will support the World Health Organization’s Global Plan of Action for Noncommunicable Diseases 2013–2020. The *State of Preventive Health* series will provide a useful biennial update of progress on the implementation of Australia’s preventive health actions aimed at addressing the risk factors associated with the burden of chronic disease in Australia.
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*Risk factors information is from Australian Health Survey: First Results (Australian Bureau of Statistics Publication Number: 4264.0.55.001)

*Reference for alcohol figure is from Australian Health Survey: First Results (Australian Bureau of Statistics Publication Number: 4264.0.55.001)

*Reference for daily smoking and obese or overweight is from Australian Health Survey: Updated Results, 2011–2012 (Australian Bureau of Statistics Publication Number: 4364.0.55.003)

**For information on the National Health and Medical Research Council (NHMRC) Guidelines, see Chapter 2
The need to prevent chronic disease and to keep people healthy and out of hospital has become increasingly important in maintaining the quality of life enjoyed by many. Australia has an impressive track-record in addressing public health challenges and much is already underway to address the risk factors of harmful alcohol use, smoking, overweight and obesity, poor diets and physical inactivity that are all contributing significantly to our current chronic disease burden. More can, and needs, to be done, particularly for those population groups at increased risk or that have not enjoyed the benefits of health gains equitably. Australia has the experience, knowledge and capacity to continue to make great strides in improving the health of all.

* For more information on the following data infographics refer to Chapter 2.
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*For more information on the following data infographics refer to Chapter 2.*

### SMOKING

2011–2012

16.1 PER CENT

ADULTS REPORTED SMOKING ON A DAILY BASIS

- 18%
- 14%

MORE MALES SMOKED DAILY THAN FEMALES

A CONTINUING DECLINE IN DAILY SMOKING RATES IN AUSTRALIA

THE HIGHEST RATES OF SMOKING ARE IN THE MOST DISADVANTAGED AREAS

### OVERWEIGHT AND OBESITY

1995

70%

56%

A HIGHER PROPORTION OF MALES THAN FEMALES WERE CLASSIFIED AS BEING OVERWEIGHT OR OBESE

2011–12

56%

63%

OVERWEIGHT AND OBESITY IN ADULTS HAS INCREASED FROM 56% IN 1995 TO 63% IN 2011–12

CHILDREN 5–18 YEARS

18% OVERWEIGHT

8% OBSESE

OBESITY IS HIGHEST IN AREAS OF GREATEST SOCIOECONOMIC DISADVANTAGE*

* For adults, this difference is more marked in 2011–12 than it was in 1995
WHERE AUSTRALIA STANDS

STATE AND TERRITORY COMPARISONS
Where Australia Stands

**KEY**

- Proportion of persons (18+) at lifetime risk of harm from alcohol related disease or injury (based on 2009 NHMRC guidelines)

- Proportion of persons (18+) who are daily smokers

- Proportion of obese & overweight (measured) adults (18+)

Source: National Health Survey 2011-12 age standardised to 2001
INTERNATIONAL COMPARISONS
FROM THE OECD*

INTERNATIONAL DATA ON THE APPARENT CONSUMPTION OF ALCOHOL PLACE AUSTRALIA ABOVE THE OECD AVERAGE OF 9.1 LITRES PER CAPITA PER YEAR

When compared to countries with similar economies

* OECD – Organisation for Economic and Cooperative Development
** This figure is from Australian Health Survey First Results
(Australian Bureau of Statistics Publication Number: 4264.0.55.001)
INTERNATIONAL COMPARISONS
FROM THE OECD*
INTERNATIONAL DATA ON THE
APPARENT CONSUMPTION OF
ALCOHOL PLACE AUSTRALIA
ABOVE THE OECD
AVERAGE OF LITRES PER CAPITA PER YEAR
9.1
When compared to countries with similar economies
21.5%
19.5%
15.7%**
26.1%
3.5%
10.2L
7.3L
10L
28.3%
JAPAN
UNITED KINGDOM
AUSTRALIA
UNITED STATES
28.4%
35.9%
15.1%
9.5L
8.7L
** This figure is from Australian Health Survey First Results (Australian Bureau of Statistics Publication Number: 4264.0.55.001)
* OECD – Organistaion for Economic and Cooperative Development

KEY
Alcohol consumed
Litres per capita (15+ years)
Proportion of population
(15+ years) daily smokers
Proportion of adults
that are obese
I’m passionate about preventive health. Longevity beckons but what’s the point if we’re not fit and healthy enough to enjoy it. When I became the 2013 Australian of the Year, I pledged to raise awareness about positive ageing and to encourage people to adopt preventive health strategies especially in relation to chronic diseases such as dementia, arthritis, macular degeneration and diabetes that affect so many Australians as they grow older.

The establishment of the Australian National Preventive Health Agency in 2011 was an important step forward in recognising the importance of prevention and health promotion, and the Agency’s campaigns against tobacco, obesity and harmful alcohol use – three key health areas impacting on Australians – are excellent, but there is still much more to be done.

Everyone needs to be more aware of the relationship between the different chronic diseases. Too few Australians know about this connection. We now know there is a link between diabetes and dementia. We also know that some of the same lifestyle choices that reduce the risk of heart disease can also reduce the risk of macular degeneration and dementia.

Even though most people are aware that tobacco, obesity and excessive alcohol use can lead to health problems they often don’t realise that all three of these factors are risks for heart disease in general, dementia, macular degeneration for which smoking is a significant risk factor, and other chronic illnesses, including cancer. Perhaps most disturbing, is how few Australians are taking up a healthier lifestyle as a result.

For instance, while 3.3 million Australians have arthritis, osteoarthritis (OA), the most common form affects 1.8 million people. Obesity is a clear risk factor for developing OA. For every kilo a person loses, four kilos of pressure is taken off weight-bearing joints (knees/hips). By simply losing three kilos a person saves a load of 12 kilos yet finding the will to lose a few kilos eludes many men and women.

With the ageing of the population and conditions such as dementia on the rise we need more research into the causes, treatment and prevention of chronic diseases to combat some of our country’s major causes of death and burden of disease.

Government and non-government sectors, industry, workplaces, individuals, families and friends need to work together if we are to change behaviour, attitudes and make a commitment to healthy lives and ageing. As Australian of the Year, I am urging all Australians to realise the benefits of a healthier lifestyle, one that includes taking positive steps for their brain health from as early an age as possible.

Being brain healthy means keeping our brains active, being socially engaged, eating healthily, only drinking alcohol in moderation, keeping fit, managing our weight, blood pressure, cholesterol and blood sugar levels and not smoking.

The *State of Preventive Health* in Australia is a welcome report to help us celebrate the work that has been done to date, and to provide goals for what we can and should do in the future. In the meantime, everybody needs to take personal responsibility for embracing healthier lifestyles so the future can be all that we want it to be.
The last half-century has been characterized by rapid changes, and occasional massive reversals, in population health worldwide. These changes have been particularly rapid during the past two decades, with death rates rising and then falling for some major global epidemics, not falling for others, and declining steadily for some diseases. Moreover, the speed and timing of epidemiological change has varied across populations, being particularly rapid in Asia, but much less impressive in most of Africa. It is particularly important that, given this varied epidemiology, governments everywhere understand the leading causes of disease burden in their populations, and how these are changing.

The Global Burden of Disease (GBD) Study 2010 attempts to meet this need by providing detailed estimates of the comparative magnitude of almost 300 diseases and injuries and 67 risk factors, in 187 populations, for the period 1990-2010. It represents the single largest global comparative assessment of health conditions worldwide ever undertaken, involving over 500 scientists in more than 300 institutions from more than 50 countries carried out between 2007 and 2012. The final results were published in The Lancet in December, 2012. The GBD Study generated more than 650 million estimates, quantifying disease burden both in terms of premature mortality as well as years of healthy life lost due to morbidity and disability.

The Study found that the leading causes of premature death and disability, or Disability Adjusted Life Years (DALYs), had changed dramatically over the past 20 years. Large declines were observed for many of the leading causes of childhood illness, including lower respiratory infections, diarrhoea, malnutrition and preterm birth complications. HIV/AIDS mortality had increased by over 350% since 1990, although death rates have been declining since about 2005 with better treatment availability, particularly in Africa. Malaria mortality has also declined in recent years, reflecting improved access to treatment and wider use of bednets. Causes associated with disease burden in adults, particularly ischaemic hearth disease, stroke, and low back pain have increased in relative importance since 1990.

Worldwide, the number of people dying from noncommunicable diseases such as heart disease and diabetes has risen 30% since 1990, mostly due to population ageing and population growth. However, important increases in disease burden from leading risk factors have also been observed. DALYs from high blood pressure have increased by 30% worldwide since 1990, and by 32% from alcohol use. Declines in tobacco use in rich countries were more than offset by rises in poor countries, with global tobacco-attributable DALYs rising by 3%. Disease burden attributed to overweight and obesity rose by a dramatic 82% over the past 20 years. Over the same period, there has been very little progress in reducing premature death and disability from injuries and violence.

While substantial reductions in the leading causes of childhood illness have been achieved, much more needs to be done; almost 7 million children still die each year before age 5. In parallel, much greater effort is required to prevent premature deaths in adulthood, not only from leading infectious diseases such as HIV/AIDS and tuberculosis, but also from road traffic accidents, suicide, heart disease, cirrhosis, reproductive cancers and diabetes.
The challenge of chronic disease prevention — a Chief Medical Officer’s perspective

As the Australian Government Chief Medical Officer, a major part of my role relates to the prevention and management of communicable diseases. This prevention activity comes about by the oversight of the National Immunisation Program, by the surveillance of infectious diseases, by the promotion of programs to reduce antimicrobial resistance and to improve antimicrobial stewardship and by the development of plans to mitigate the effects of novel infectious agents, including those that cause pandemics.

This work of prevention is undertaken not only by colleagues throughout the Department of Health and Ageing, but also with colleagues in the Department of Agriculture, Fisheries and Forestry, including, particularly, the Chief Veterinary Officer, in a “One Health” approach.

Just as important is the partnership with all State and Territory Chief Health Officers. Our combined actions to prevent communicable diseases and to reduce their impact, are essential if these actions are to be effective.

However, all of us are very much aware of the burden of noncommunicable diseases (NCDs) in Australia and of the need to address the challenges provided by NCDs by using the same tactics of prevention, and management when required.

It has been estimated by the Australian Institute of Health and Welfare that cancers, cardiovascular disease and diabetes are together responsible for 42.5% of the total disease and injury burden in Australia.

Results from the Australian Health Survey 2011–12 show that 15.6% of Australians report being diagnosed with one or more of the following: heart, stroke or vascular disease, cancer, diabetes mellitus, or hypertensive disease.

This burden of NCDs is a global phenomenon.

As reported by Atun et al in The Lancet this year, “in almost all countries, development of health systems that are responsive to the challenge of prevention and treatment of NCDs is a priority.” “The growing burden of NCDs in low-income and middle-income countries will compound the poverty and economic hardship created by communicable diseases and hold back development.” The authors go on to point out that “an ageing society, alongside improving health care, means that health systems have to manage not only disease such as heart disease, stroke and cancer, but also individuals with multiple chronic disorders.”

Recent literature on chronic diseases suggests that prevention policies are effective and cost effective but raise an important question of how quickly might benefits follow improvements in risk factors in entire populations? While it is often assumed that this lag might be of several decades, the authors provide examples of rapid mortality falls after risk-factor changes in populations, this providing encouragement for all involved in prevention activities that the fruits of their labours can be apparent in the short to medium term.
The Australian Government is addressing the increased rate of obesity and lifestyle related chronic disease through a range of activities, funded by the National Partnership Agreement on Preventive Health and the Chronic Disease Prevention and Service Improvement Fund. Initiatives include the Healthy Communities Initiative, a Healthy Children Initiative, a Healthy Workers Initiative and an Industry Partnership. The Chronic Disease Prevention and Service Improvement Fund provides targeted support to improve prevention, detection and management across a range of chronic diseases, such as cancer and diabetes. It is the entire community and all levels of jurisdictions that combine to address this growing risk of NCDs as we will all benefit from successes arising from these initiatives.
Chapter 1: Australia: A Leader In Prevention

State of Preventive Health Report 2013
IN MANY AREAS OF PREVENTIVE HEALTH PRACTICE AUSTRALIA IS A GLOBAL LEADER
CHAPTER 1:
AUSTRALIA: A LEADER IN PREVENTION

For more than one hundred years, Australia has had significant success in improving the health and wellbeing of its population as a whole. A boy born in 2006 is expected to live to 78.7 years on average, while a girl could live to 83.5 years – life expectancies that are more than 25 years longer than they were 100 years ago and amongst the highest in the world. The Australian Health Survey (2012) found that the proportion of the population reporting excellent/very good health increased by nine per cent over the period 2001 to 2011-12, with a 23% reduction in those reporting their health as fair or poor.

For most, Australia’s health care system provides high quality care in a timely manner, reducing the morbidity and mortality associated with many diseases. Australia’s public health capacity for the protection and promotion of health and the prevention of illness, injury and disability across the population has saved many lives over the past 100 years in areas such as road safety; communicable disease control through food safety, immunisation, water and environmental standards; and, tobacco control. As summarised in the volume by Gruszin et al., ‘Advocacy and Action in Public Health: Lessons from Australia over the 20th Century’:

Improvements in public health have gradually lifted educational and labour force participation, especially for older workers; increased overall wellbeing, quality and enjoyment of life; and increased the numbers of people in education, the labour force, volunteering and grand-parenting by reducing the impacts of preventable illness, disability and injury.

In many areas of preventive health practice Australia is a global leader. The reduction in road trauma-related mortality with alcohol-related measures, laws and community education; the response to the emergence of the human-immunodeficiency virus (HIV) involving affected and at-risk communities; and, the multi-faceted response to tobacco control which has Australian smoking rates amongst the lowest in the world, are a few key examples. This experience, involving governments, public health leaders and advocates, public education, communities, good data and sustained effort has facilitated the ongoing development of an evidence base that informs good practice and can be applied to a range of population health challenges.

Yet, areas of weakness exist. The health status and life expectancy of Australia’s Aboriginal and Torres Strait Islander peoples is much lower than the general population and stands as an indicator of the social and health challenges endured and remaining. The inequitable distribution of health outcomes and risk factors across socio-economic strata reflects the pervasive role of the social determinants of health such as education and income and the challenge of addressing and surmounting these
determinants to provide the opportunities of good health more equitably. These challenges, along with the ongoing quest to achieve and sustain good health for as many, and as long, as possible, are at core of the state of preventive health in Australia.

**Australia’s chronic disease challenge**

Despite the significant gains in life expectancy and many areas of health risk, in Australia and internationally, the growing burden of chronic, noncommunicable disease has become a critical issue for health systems and governments. As the population ages, and the modern perils of unhealthy diets, physical inactivity, tobacco and harmful alcohol use continue to contribute to this burden, the demands on health systems and other areas of the economy will continue to grow.

The Global Burden of Disease study released in December 2012 found that the top five causes of death and illness in Australia in 2010 were ischemic heart disease, stroke, lung cancer, alzheimer’s disease and chronic obstructive pulmonary disorder, followed closely by colorectal cancer and diabetes. The rise in the prevalence of chronic disease has been attributed to the ageing of Australia’s population, early detection and improved treatments for diseases that previously caused early death and some behavioural factors, for example, poor diet. The need to prevent chronic disease and to keep people healthy and out of hospital has become increasingly important and the subject of government, community and professional concern.

In 2009 the National Preventative Health Task Force stated that – with appropriate information, intervention and adequate infrastructure - Australia could become the healthiest country by 2020. Over the past five years, under the national health reform agenda all Australian governments have made significant additional investment in preventive health through the National Partnership Agreement on Preventive Health aimed at tackling the rising prevalence of lifestyle related chronic diseases.

This first report on the State of Preventive Health in 2013 focuses on the national effort to prevent the burden of chronic, noncommunicable diseases in the Australian community. It reviews new information on the associated risk factors, particularly tobacco, obesity and harmful alcohol consumption (Chapter 2) and overviews the array of responses that are needed and underway to reduce risk, prevent disease and promote health (Chapter 3).
This report explores two particular issues in depth – the response and potential of primary health care in relation to preventive health (Chapter 4) and the challenge of valuing and effectively costing preventive health and chronic disease (Feature Essay). It is expected that future reports will address other issues in a similar way. The report concludes with an overview of the challenges ahead – which are immense – and considers the experience and wisdom that Australian governments and communities can bring to this challenge.

Knowing the challenge

Australia is well-endowed with regular national, state and issues-based reports on the health of its people and the performance of its healthcare system. However, existing reports have not focused specifically on the causes or determinants of preventable chronic disease nor the nature of the nationally coordinated efforts underway to tackle them.

The Council of Australian Governments’ Reform Council (the CRC) reports each year on the performance of all States and Territories under the National Healthcare Agreement, and includes reference to selected preventive health indicators including overweight and obesity, daily smoking and harmful alcohol use. The 2013 report has noted that, in relation to daily smoking the Council of Australian Governments (COAG) target of 10% of adults by 2018, there has been good progress although some acceleration may be needed to reach the target. The report also notes the lack of progress in relation to meeting the 2018 benchmark for 72.7% of children and 41.9% of adults will be at healthy body weight.10 A summary of the data for key indicators, by jurisdiction, is in Table 1.

TABLE 1: RATES (%) OF OVERWEIGHT AND OBESITY, DAILY SMOKING AND HARMFUL ALCOHOL USE FOR ADULTS (18+) BY STATE OR TERRITORY 2010–11

<table>
<thead>
<tr>
<th></th>
<th>NSW</th>
<th>VIC</th>
<th>QLD</th>
<th>WA</th>
<th>SA</th>
<th>TAS</th>
<th>ACT</th>
<th>NT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overweight and obesitya</td>
<td>61.1</td>
<td>61.9</td>
<td>65.4</td>
<td>66.0</td>
<td>66.1</td>
<td>64.1</td>
<td>63.6</td>
<td>63.7</td>
</tr>
<tr>
<td>Daily smoking</td>
<td>14.8</td>
<td>16.8</td>
<td>17.5</td>
<td>16.9</td>
<td>17.4</td>
<td>23.2</td>
<td>13.4</td>
<td>22.6</td>
</tr>
<tr>
<td>Risk of long term harm from alcohol use</td>
<td>18.5</td>
<td>17.5</td>
<td>19.9</td>
<td>25.3</td>
<td>18.2</td>
<td>22.8</td>
<td>21.0</td>
<td>24.2</td>
</tr>
</tbody>
</table>

Notes: Rates are age standardised by State and Territory to the 2001 Estimated Resident Population (5 year ranges from 18 years).

a. Overweight for adults is defined as BMI equal to 25 but less than 30, Obesity for adults is defined as BMI equal to or greater than 30. Includes measured persons only. Source: Australian Bureau of Statistics (unpublished), Australian Health Survey 2011–13 analysis, (2011–12 National Health Survey component).
In addition to the reporting on the National Healthcare Agreement, the Australian Institute of Health and Welfare (AIHW) produces a comprehensive report on Australia’s Health every two years, the most recent being 2012. Other expected reporting includes the results of an evaluation which is now underway on the National Partnership Agreement on Preventive Health. Over the nine-year life of this Agreement (2009/10 to 2017/18), Australia will see additional funding of $932.7M for programs and activities aimed at reducing the current and projected burden of preventable chronic disease. (See further description in Chapter 3).

As important as these programs and activities are, there is much more to Australia’s national preventive health effort than is captured within these reports. The non-government sector, local government, primary care providers and sectors outside the health system such as early childhood and schooling, industry and business all have an important role. Other elements, beyond the visible preventive programs, for which leadership, investment and reporting are needed include workforce, surveillance and sustained, timely analyses, governance arrangements, rigorous and innovative evaluation capacity and ongoing research that directly supports policy and programs.

The Challenge is Global

Australia faces similar challenges to other economically developed countries in relation to chronic disease. Diets heavy with unhealthy (high-fat, high sugar, high salt) foods, physical inactivity and sedentary behaviour, the prolonged burden of tobacco-related disease and harmful alcohol consumption are common characteristics of high and middle income countries (and growing rapidly in low-income countries). Improved health care that increases survival from, but prolongs life with, chronic disease places extended and intensive demands on health care systems along with social and economic burdens on individuals, families, communities and economies. Preventive measures are increasingly seen as essential means of reducing this burden.

The United Nations (UN), led by the World Health Organisation (WHO), has recognised that the burden and threat of noncommunicable diseases is already undermining social and economic development throughout the world. An estimated 36 million deaths, or 63% of the 57 million deaths globally in 2008, were caused mainly by cardiovascular diseases (48%), cancers (21%), chronic respiratory diseases (12%) and diabetes (3.5%).

A high-level meeting of the United Nations General Assembly on the Prevention and Control of Noncommunicable Diseases in September 2011 resolved that noncommunicable or chronic diseases constitute a major challenge to socio-economic development, environmental sustainability and poverty alleviation (resolution 66/2).

That recognition has been translated into a Global Action Plan adopted by the World Health Assembly in May 2013 (see Box 1). Implementation, monitoring and reporting on progress of the 2013–2020 Plan will be required of all member countries (including Australia) and requires high-level political commitment, predictable and sustainable resources and the concerted involvement of national governments and society as a whole.
Overview

Overview Vision: A world free of the avoidable burden of noncommunicable diseases.

Goal: To reduce the preventable and avoidable burden of morbidity, mortality and disability due to noncommunicable diseases by means of multisectoral collaboration and cooperation at national, regional and global levels, so that populations reach the highest attainable standards of health and productivity at every age and those diseases are no longer a barrier to wellbeing or socioeconomic development.

Overarching principles:
- Life-course approach
- Empowerment of people and communities
- Evidence-based strategies
- Universal health coverage
- Management of real, perceived or potential conflicts of interest
- Human rights approach
- Equity-based approach
- National action and international cooperation and solidarity
- Multisectoral action

Objectives

1. To raise the priority accorded to the prevention and control of noncommunicable diseases in global, regional and national agendas and internationally agreed development goals, through strengthened international cooperation and advocacy.

2. To strengthen national capacity, leadership, governance, multisectoral action and partnerships to accelerate country response for the prevention and control of noncommunicable diseases.

3. To reduce modifiable risk factors for noncommunicable diseases and underlying social determinants through creation of health-promoting environments.

4. To strengthen and orient health systems to address the prevention and control of noncommunicable diseases and the underlying social determinants through people-centred primary health care and universal health coverage.

5. To promote and support national capacity for high-quality research and development or the prevention and control of noncommunicable diseases.
6. To monitor the trends and determinants of noncommunicable diseases and evaluate progress in their prevention and control.

**Voluntary global targets**

(1) A 25% relative reduction in the overall mortality from cardiovascular diseases, cancer, diabetes, or chronic respiratory diseases

(2) At least 10% relative reduction in the harmful use of alcohol, as appropriate, within the national context

(3) A 10% relative reduction in prevalence of insufficient physical activity

(4) A 30% relative reduction in mean population intake of salt/sodium

(5) A 30% relative reduction in prevalence of current tobacco use in persons aged 15+ years

(6) A 25% relative reduction in the prevalence of raised blood pressure or contain the prevalence of raised blood pressure, according to national circumstances

(7) Halt the rise in diabetes and obesity

(8) At least 50% of eligible people receive drug therapy and counselling (including glycaemic control) to prevent heart attacks and strokes

(9) An 80% availability of the affordable basic technologies and essential medicines, including generics, required to treat major noncommunicable diseases in both public and private facilities

Enacting a comprehensive preventive health effort in Australia

The World Health Organization 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.*

The 2009 report of the National Preventative Health Taskforce noted that prevention can:

- Reduce the personal, family and community burden of disease, injury and disability (or illness);
- Allow better use of health system resources;
- Generate substantial economic benefits, which although not immediate are tangible and significant over time; and
- Produce a healthier workforce which in turn boosts economic performance and productivity.

Preventive health action aims to support good health and eliminate or reduce those factors that contribute to poor health. While it focuses primarily on people who are currently in good health, and those who are at risk of illness, it is also concerned with preventing, where possible, the progression of disease among people already affected (secondary prevention).

The knowledge that is brought to preventive health action is drawn from significant public health experience in Australia and internationally. From communicable, or infectious, disease control over the past one hundred years to reducing the incidence of serious injury and death in road traffic accidents, alongside well-advanced efforts in reducing tobacco consumption and the incidence of melanoma arising from sun damage – each experience has led to lessons and knowledge that is applicable to other challenges.

Tobacco control is a particularly sound example of good practice in prevention and one which stands as an exemplary approach for future efforts in other areas. Since the early 1980s (some twenty years after the first definitive statements on the significant health risks associated with tobacco use) a multi-faceted, comprehensive, set of actions have been taken including public education, taxation, legislation, regulation (particularly around settings in which smoking is banned), support for quit attempts, monitoring, research and evaluation. These actions are clearly associated with a steady and mostly sustained decline in smoking prevalence (Figure 1).
FIGURE 1.1: PREVENTIVE HEALTH ACTION TO REDUCE TOBACCO SMOKING IN AUSTRALIA 1980–2012

Adapted from: National Preventative Health Taskforce9
Another example, with a similar pattern between planned action and health outcome, can be found in the effort to reduce road fatalities in Australia since the early 1970s. As with tobacco control, a multi-faceted set of actions have been taken including laws to enforce seat belt wearing and helmets for cyclists, public education, regulation and enforcement around blood-alcohol limits when driving and escalating fines associated with speeding. These actions can also be associated with a steady decline in road fatalities (Figure 1.2) and importantly, for a health challenge such as this (including the significant burden of injury associated with non-fatal accident outcomes) demonstrate the role of many partners and players outside the health sector such as law enforcement. While not depicted here, the role of planners and engineers to improve road design and industry in developing the safety measures now incorporated as standard features in car design and construction, also cannot be overlooked.

**FIGURE 1.2. ROAD FATALITIES AND PREVENTIVE HEALTH ACTION IN AUSTRALIA 1968-2008.**

Source: National Preventative Health Taskforce[^5^]
Experience has consistently shown that preventive health effort requires a broad, multifaceted and coordinated strategy over a sustained period with partnerships between health and other portfolios and industry sectors, and between government, business and community groups. Such approaches are often challenging given government structures and budget cycles yet experience has shown these challenges are not insurmountable. Preventive health actions, in practice, must be multi-faceted with concurrent public health action across different areas including legislation, fiscal incentives, social marketing, health promotion and the provision of public health services. While not all actions are required at all times, experience has certainly shown that no single action alone is sufficient.

The determinants of health and health status inequalities

Health is shaped by a complex mix of biological, behavioural, socioeconomic, societal and environmental factors (Figure 1.3).

In understanding how this array, or ‘web’, of determinants affect an individual’s health status, it is critical to acknowledge that not all individuals experience these determinants equally and that the wide variations that exist are reflected in the distribution of, and inequities in, good health status. Variations in exposure to these less proximate forms of risk lead to an unequal distribution in the burden of both infectious or communicable diseases such as influenza, malaria and measles and chronic or noncommunicable diseases such as cancer, diabetes, heart disease and asthma, as well as premature mortality from these diseases.

This unequal distribution is called “the social gradient”, i.e. there tends to be a higher prevalence of risk factors, disease and associated disability among poorer and more disadvantaged groups than among people higher up the socioeconomic scale (Figure 1.4). The markedly poor health of Aboriginal and Torres Strait Islanders peoples, especially with respect to risk factors and chronic disease, warrants particular attention.

A growing body of research has identified that these social determinants of health also interact to increase biological vulnerability to illness (both chronic and communicable). These processes and interactions, including particular vulnerabilities at different periods of life, have potentially significant implications for preventive health action.
FIGURE 1.3: A FRAMEWORK FOR THE DETERMINANTS OF HEALTH

BROAD FEATURES OF SOCIETY
- Culture
- Affluence
- Social cohesion
- Social inclusion
- Political structures
- Media
- Language

ENVIRONMENTAL FACTORS
- Natural
- Built
- Geographical location
- Remoteness
- Latitude

SOCIOECONOMIC CHARACTERISTICS
- Education
- Employment
- Income & wealth
- Family, neighbourhood
- Housing
- Access to services
- Migration/refugee status
- Food Security

HEALTH BEHAVIOURS
- Tobacco use
- Alcohol consumption
- Physical activity
- Dietary behaviour
- Use of illicit drugs
- Sexual practices
- Vaccination

PSYCHOLOGICAL FACTORS
- Stress
- Trauma, torture

SAFETY FACTORS
- Risk taking, violence
- OH&S

BIOMEDICAL FACTORS
- Birth weight
- Body weight
- Blood pressure
- Blood cholesterol
- Glucose tolerance
- Immune status

HEALTH AND WELLBEING OVER TIME
- Life expectancy, mortality
- Subjective health
- Functioning, disability
- Illness, disease
- Injury

GENETICS, ANTE NATAL ENVIRONMENT, GENDER, AGEING, LIFE COURSE AND INTERGENERATIONAL INFLUENCES

Note: Grey shading highlights selected social determinants of health
FIGURE 1.4: DIFFERENCES IN PREVALENCE OF SELECTED RISK FACTORS AND DISEASES, BY SOCIOECONOMIC STATUS, 2011–12

Source: ABS21
Australia’s health care system and prevention (a snapshot)

Health care in Australia is provided through a system that relies on a series of inputs (e.g. finance and workforce), policies and processes and their resulting outputs and outcomes. The health care system is located in a broad socio-political environment and is complex, in part due to Australia being a political federation of states and territories and the differing roles and responsibilities of the different levels of government. It is organised according to need, demand and supply of health programs and services, and evaluated in terms of impact on quality, efficiency, acceptability and equity. There are variations in the way that health services are purchased, funded and provided with multiple funders, participants and support mechanisms.

Actions to promote and protect health and prevent illness are undertaken by all three levels of government, non-government organisations and the private sector as well as community groups. There are also opportunities to promote good health and prevent illness across the continuum of health care and the primary health care sector plays a key role. Other sectors such as education, urban planning and sport and recreation also have a role to play in supporting good health. Ultimately individuals make decisions that affect their own health but experience shows that these various groups and sections play a critical role in making it easier for individuals and the community as a whole to lead healthier lives.

The Australian health care system comprises both public and private service providers in multiple settings, supported by a variety of legislative, regulatory and funding arrangements. Almost 70% of health expenditure in Australia is funded by government. The Australian Government contributes two-thirds of this and state, territory and local governments contribute the other third. The two major national subsidy schemes are Medicare and the Pharmaceutical Benefits Scheme (PBS). Figure 1.5 provides a map of this system, showing types of service, sector responsibility and funding sources.
FIGURE 1.5: HEALTH SERVICES – FUNDING AND RESPONSIBILITY

Source: AIHW23
A large proportion of health expenditure is in acute care and hospital funding with smaller amounts where the majority of preventive health activity takes place e.g. public health and community health. Identification of the exact investment in preventive health is constrained by the breadth of work, range of providers, involvement of different levels of government and definitional challenges. The best current estimates are that 1.6% of recurrent expenditure of governments is on public health broadly (see also Box 2).

The Australian Government sets national health policies and subsidises the health services provided by state and territory governments and the private sector. State and territory governments deliver health services (including most acute and psychiatric hospitals) and provide community and public health services. Local governments provide environmental control (for example garbage disposal, clean water, health inspections, smoke free venues) and provide home care and personal preventive services, such as immunisation.

The private and non-government sectors also play a critical role in the health system, particularly preventive health, through primary health care including general practice and allied health services, community services programs, advocacy and research.
It is not currently possible to put a precise figure on what is spent by Government each year in Australia on activity aimed at preventing chronic disease. However, the most reliable estimate available suggests that public health expenditure (which includes preventive health activities) is 1.6% of overall annual health expenditure in the year. This does not include relevant expenditure in other “non-health” sectors such as by local governments and schools.

Source: AIHW
In real terms between 2000–01 and 2010–11, estimated government expenditure on public health activities grew at an average rate of 3.8% per year. Between 2000–01 and 2010–11, all public health activities (with the exception of environmental health and public health research) showed real increases in expenditure, with the highest average annual growth rates being recorded for expenditure on prevention of hazardous and harmful drug use (7.1%) and organised immunisation (6.0%) and selected health promotion (3.2%). Much of the growth in expenditure on organised immunisation resulted from the implementation of the human papillomavirus vaccination program implemented in 2007–08. This underpinned the apparent rapid growth in public health expenditure in 2007–08 when it grew by 21.4%. The majority of the new immunisation program funds were spent in the first year with a steady decline after high initial take up. This is reflected in the publicly reported negative growth between 2009–10 and 2010–11 in expenditure on public health.23

In summary

Australia’s health and health care system is good by international standards. The Organisation for Economic Cooperation and Development (OECD) compares health expenditure and health status across countries with similar economies and levels of development to Australia. Data released by the OECD in June 2013 found that total health spending accounted for 8.9% of gross domestic product (GDP) in Australia in 2010–2011, slightly lower than the average of 9.3% in OECD countries in 2011. Health spending as a share of GDP is lower in Australia than in the United States (which spent 17.7% of its GDP on health in 2011) and in a number of European countries including the Netherlands (11.9%), France (11.6%) and Germany (11.3%).24

The capacity and evidence built over the past 40-50 years can be drawn on and utilised to tackle the complex preventive health challenges Australia faces, particularly around the rising prevalence of obesity and the associated burden of chronic disease. While the challenge of tobacco control in retrospect looks simple – a single behaviour with a raft of clear-cut reasons for cessation. It did not always appear that simple or doable. Ingrained behaviours enacted in environments associated with the core of ‘Australianness’, physiological addiction and the ‘foe’ of big tobacco, that saw no limits to the resources or tactics use to resist control measures, were significant challenges that required years of sustained action and knowledge accumulation to understand, conquer and change.

The preventive health evidence and capacity that Australia now has, combined with that available internationally, augers well for activity which is well-planned and strategic. The evidence and experience also shows that the policies and programs aimed at behaviour change, measured across a population, take many years through which efforts must be sustained and responsive. As a global preventive health leader, Australia can draw on its knowledge and experience – as set out in this volume – to expand and continue such efforts and thus continue to build a preventive health system that will deliver improved health and wellbeing outcomes for all Australians.
References


Chapter 1: Australia: A Leader In Prevention

State of Preventive Health Report 2013


On health promotion

DR MARGARET CHAN
DIRECTOR-GENERAL, WORLD HEALTH ORGANIZATION

An extract of her opening address to the 8th Global Conference on Health Promotion
Helsinki, Finland, 10 June 2013*

The challenges facing public health have changed enormously since the start of this century. In our closely interconnected world, health everywhere is being shaped by the same powerful forces: demographic ageing, rapid urbanization, and the globalization of unhealthy lifestyles.

Under the pressure of these forces, chronic noncommunicable diseases have overtaken infectious diseases as the leading cause of morbidity, disability, and mortality.

As stated in the UN Political Declaration on NCDs, prevention must be the cornerstone of the global response to these costly, deadly, and demanding diseases. Their root causes reside in non-health sectors. Collaboration among multiple sectors is imperative.

The consequences of this shift in the disease burden reach far beyond the health sector to touch economies everywhere. Recent studies demonstrate that the costs of advanced cancer care are unsustainable, even in the richest countries in the world.

In some countries, diabetes alone consumes 15% of the total health budget. In the developing world, the costs of these diseases can easily cancel out the benefits of economic gain. Again, collaboration among multiple sectors is imperative.

In a sense, this is nothing new. Beginning in the 19th century, improvements in hygiene and living conditions were followed by vast improvements in health status and life-expectancy. These environmental improvements aided the control of infectious diseases, totally vanquishing many major killers from modern societies.

Today, the tables are turned. Instead of diseases vanishing as living conditions improve, socioeconomic progress is actually creating the conditions that favour the rise of noncommunicable diseases. Economic growth, modernization, and urbanization have opened wide the entry point for the spread of unhealthy lifestyles.

The globalization of unhealthy lifestyles is by no means just a technical issue for public health. It is a political issue. It is a trade issue. And it is an issue for foreign affairs.

In another disturbing trend, inequalities, between and within countries, in income levels, opportunities, and health outcomes, are now greater than at any time in recent decades. We increasingly live in a world of rich countries full of poor and sick people. The rise of noncommunicable diseases threatens to widen these gaps even further.

* Used with permission. For more on this speech, see Chapter 5.
Prevention in Aboriginal and Torres Strait Islander health

PAT ANDERSON
CHAIRPERSON, THE LOWITJA INSTITUTE

We all know the statistics about the greater burden of illness and mortality carried by Australia’s First Peoples compared to other Australians.

The prevention of illness is a very important strategy to close this gap, but prevention approaches need to be mindful of the Aboriginal and Torres Strait Islander definition of health. For our peoples, health is not just about the absence of disease. Health for us includes physical health, of course, but goes beyond it to social and emotional wellbeing, culture, spirituality, and social justice. This holistic definition has always been central to our health.

So attempts to prevent physical health issues are not enough from our perspective – prevention needs to operate across all these other domains as well. Our holistic conception of health is powerfully supported by the theory of the social determinants of health.

There is now clear evidence that there are deep, societal drivers of ill-health: early childhood disadvantage, lack of life control, racism, social exclusion, poverty, lack of access to education, poor housing ... all these exert a powerful effect on health across our lives. We need to be mindful of this evidence if we are serious about prevention for Aboriginal and Torres Strait Islander peoples.

For example, ‘lifestyle risks’ such as smoking, excessive alcohol use, poor nutrition, and lack of physical activity are a key area for health promotion and illness prevention. But we need to look at how these individual behaviours are embedded in social and economic environments, and we need to approach them in ways that contribute to addressing the deeper drivers of ill health.

In this context, approaches that focus solely on the individual and their lifestyle choices are likely to be ineffective at best, and harmful at worst. The key strategy here is a genuine partnership between health expertise and Aboriginal and Torres Strait Islander communities and organisations.

Genuine partnerships ensure that prevention approaches are built on good evidence, and that they take into account local conditions, the Aboriginal and Torres Strait Islander approach to health, and the social determinants. Aboriginal community controlled health services have provided the critical space for over forty years where these partnerships can be nurtured and grown under Aboriginal and Torres Strait Islander leadership.

There are now over 120 of these services, and their culturally appropriate, comprehensive models of primary health care are foundational for tackling the broader issues of prevention while delivering good health care. At the same time, we need to keep working on the evidence base, on developing and deepening our understanding of what works. This is important for ensuring prevention programs are built on good evidence.

Crucially, it can help build healthy public policy by integrating the Aboriginal and Torres Strait Islander holistic definition of health and the accumulating evidence on the social determinants of health into the way the health system works to prevent ill health in Aboriginal and Torres Strait Islander communities.
Good health = good business

ROHAN MEAD
CHAIRMAN OF THE BUSINESS COUNCIL OF AUSTRALIA’S HEALTHY AUSTRALIA TASKFORCE

The Business Council of Australia’s (BCA) mission is to help make Australia the best place in the world to live, work and do business. Integral to this vision is a healthy population and a sustainable, world-class healthcare system. Good health means higher workforce and education participation, which supports individual and family financial resilience and improved quality of life. And it ensures people are capable of the social and civic engagement that nurtures our communities.

A key to good health is preventing illness and injury. Self-evidently, this is better than dealing with health issues after they arise - better for individual wellbeing and, given the high cost of providing acute services, better for State and Federal budgets. The BCA firmly believes a focus on prevention in healthcare is a laudable national goal.

Australia’s healthcare system has to date compared favourably in world terms. The last 30 years has seen life expectancy increase significantly and preventable deaths decline in several areas e.g. from road accidents and some communicable diseases. But this demographic change is putting pressure on the health system. Health costs for older people are up to four times higher than those of younger people, and Australians of all ages have rising expectations about the quality and quantity of their healthcare. As the population ages it will become increasingly important to get the best value for every health dollar we spend. Against this backdrop, the BCA considers that our approach to healthcare should be redesigned and reconfigured. To ensure long-term and sustainable improvement, the BCA believes that this redesign must not be implemented as a series of stand-alone measures but through the broader policy prism of “patient-centred” care.

Australia must move on from the traditional model of providing acute healthcare services to patients when they present with illness or injury, a model that leaves it to patients to negotiate the convoluted system (based on cost, location and availability of providers) to find appropriate care. In the BCA’s view, the health system of the future must be restructured around patient needs, recalibrated to give the public greater support to maintain their health and manage illness issues early. At the same time, citizens must be encouraged, and enabled, to take greater responsibility for managing their own health, including the preventable health issues on which all Australian governments are now focused.

A stronger focus on preventive health can boost both individual wellbeing and national productivity. With annual productivity losses associated with absenteeism and presenteeism estimated to be as much as $25 billion, reorientating our healthcare sector is an economic imperative, as well as a wellbeing imperative.
Alcohol and violence

Each and every day, the NSW Police Force bears witness to the terrible toll that alcohol misuse and abuse takes on the community:

- family and domestic violence in homes
- a continuing factor in the road toll
- a contributor to self harm
- senseless violence at licensed premises.

So much police time is devoted to dealing with the consequences of alcohol related crime and anti-social behaviour, whether it’s dealing with victims, witnesses or offenders; 70% of the street offences that our police deal with have alcohol as a related factor.

Sadly, many people demonstrate an inability to drink responsibly and as a result become intoxicated to the extent that their behaviour places them or others at risk. There is a culture that tolerates being intoxicated as an excuse for violent or anti-social behaviour and a view that aggression is caused by the alcohol and not the individual.

Our young people and particularly those under the age of 18 are most vulnerable to the damaging effects of alcohol. Excessive use can increase their risk of becoming a victim and/or an offender of alcohol related crime.

But while it’s a social problem that needs to be arrested, is it a problem that we can arrest our way out of?

Police cannot be the first line of defence in combating and reducing alcohol-related crime - alcohol is not illegal, the consumption of alcohol is not illegal and intoxication on its own is not illegal. Rather, it is the actions that too often occur as a result of intoxication that are illegal.

We need to look to and emulate the success of other law enforcement, public health, and social amenity campaigns. We buckle up our seat belts, front and back, without a second thought. We accept that being caught drink-driving isn’t bad luck, it’s a crime. We’ve witnessed the successes of anti-smoking campaigns.

It will be difficult to change the culture of alcohol when there is a safe level of use, and where that use is considered a normal part of life. Having a drink is a very Australian thing to do.

Nonetheless, I believe that the community needs to reassess our celebration of alcohol; our infatuation with drinking to get drunk; and our right to have yet another drink, any time of day, any day of the week.

It has to start with personal responsibility. Taking responsibility for yourself and looking out for those you care for, those who have lost the capacity to act responsibly because of intoxication, but who will be held responsible when their actions affect others: a child, a spouse, an innocent pedestrian.

So I urge everyone to put some meaning into the phrase personal responsibility. Give it some meaning in your own life and let’s make the change that has to be made.
Accurate and timely information about the population’s health is necessary to address the challenges.
CHAPTER 2: UNDERSTANDING THE CHALLENGE

Accurate, timely information about a population’s health, health risks and health services is necessary for planning and evaluating health policies and care.\(^1\)

This chapter utilises data from the National Health Survey (NHS) series. The NHS 2011–12 is one component of the most recent Australian Health Survey in 2011-13 (see Box 1). This chapter also utilises data from the Organisation for Economic Co-operation and Development (OECD) for international comparisons. Data sources for Aboriginal and Torres Strait Islander comparisons are as referenced.

**BOX 1:**

**The Australian Health Survey**

The Australian Health Survey (AHS) was conducted by the Australian Bureau of Statistics (ABS) and comprises:
- the National Health Survey (2011-2012);
- the National Aboriginal and Torres Strait Islander Health Survey; and
- two new surveys – the National Nutrition and Physical Activity Survey and the National Health Measures Survey.\(^2\)

The AHS collected detailed information about the nutritional status of Australians.

The data collected includes information gathered using physical measures (for example, measuring body mass, and blood pressure) or through biomedical measures (such as from blood samples).

These data and those on physical activity and the health of Aboriginal and Torres Strait Islander peoples are not yet available, and will be reported on more fully in the next *State of Preventive Health*.

The health risk behaviours that are the focus in this chapter are:
- being obese or overweight;
- smoking tobacco; and
- consuming alcohol at levels harmful to health.

The data relate primarily to people aged 18 years and over; however, there are also data for children and adolescents with respect to obesity and alcohol consumption.

Within the population, there are differences, or inequalities, in the rates of disease or risk factors between groups. Age, ethnicity, gender, social and economic position, disability, geographical area and remoteness can all underlie inequality.\(^3\) Some elements of inequality, such as age, are unavoidable and cannot be changed; others occur as a result of differences in access to educational opportunities, available resources, safe workplaces, effective services, and good living conditions in childhood, among others.\(^4\) If the health of all Australians is to improve, it will be important to understand these inequalities and seek effective measures to overcome them.
The majority of data presented in this chapter are from ABS surveys, namely:

- the 1995 National Nutrition Survey;
- the 2001 National Health Survey;
- the 2007–08 National Health Survey; and
- the 2011–12 National Health Survey component of the 2011–13 Australian Health Survey.

These surveys have long been recognised as providing high quality data, representative of the Australian population.

The release late in 2012 of the first results from the 2011–13 Australian Health Survey has provided valuable, up-to-date information for this report. These new data, together with data from earlier surveys and commissioned research, provide a rich source for the analysis presented in this chapter.

**Socioeconomic status**

The ABS Index of Relative Socio-economic Disadvantage (IRSD) has been used to show the extent of variation in obesity, smoking or risky consumption of alcohol by socioeconomic status. The IRSD and the risk factor data are both available at the Census Collection District (CD) level. CDs were ranked on their IRSD score, and five groups, or quintiles, were determined, with each quintile comprising approximately 20% of the Australian population. The risk factor data were then allocated to a group on the basis of the IRSD score of the CD in which each respondent lived at the time of the survey; results (e.g. proportion obese, proportion smoking) were then calculated for each quintile. The quintiles, as presented in this chapter, range from the ‘Least disadvantaged’ areas in Australia (those with higher proportions of their populations with higher levels of education, higher incomes, less unemployment, etc.) to the ‘Most disadvantaged’ areas (those with higher proportions of their populations with lower levels of education, lower incomes, higher unemployment, etc.). This measure is used as a proxy for socioeconomic status.

**Remoteness**

The ABS Remoteness Structure classifies Australia into large regions that share common characteristics of remoteness, using data on the distances people travel to service centres (towns) of different population sizes. In this report, data are presented in five classes, namely Major Cities of Australia, Inner Regional Australia, Outer Regional Australia, Remote Australia and Very Remote Australia.
Overweight and Obesity

Australia is one of the most overweight of the developed nations, with overweight and obesity affecting almost two in three adults and around one in four children. This is of relevance to governments and individuals as obese people are more likely to develop chronic conditions such as high blood pressure, coronary heart disease, stroke, type 2 diabetes, joint problems, sleep apnoea, psychosocial problems, and some cancers.5

Obesity has been defined as ‘a physiological condition in which excess body fat has accumulated to an extent that can negatively affect health’.6 This is caused by an imbalance between the amount of dietary energy taken in, and the amount of energy expended in daily activity. This leads to unused energy being stored in the body as fat.7

A range of factors can lead to obesity. Factors in childhood and adolescence are particularly influential, since a high proportion of obese children and adolescents grow up to be obese adults, with consequent risks to their lifetime health. Obesity also has detrimental social, psychological and other physical effects for those who are affected, especially children.8,9

It is the interaction between people’s genetic, cultural and socioeconomic predisposition to weight gain and modern environments, particularly easy access to energy-dense, palatable, affordable foods and sedentary lifestyles that is propelling this trend, and underpins the different responses of individuals to these influences.

This Report provides an overview of overweight and obesity in the Australian population aged 18 years or over with a focus on levels of obesity. Similar information is provided for children aged five to 17 years. While there are high quality data on the prevalence of overweight and obesity, information on physical activity levels and nutrition is, at this time, limited. The next State of Preventive Health will report more fully on these risk factors for obesity.
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**BOX 3:**

**Measuring overweight and obesity**

Overweight and obesity is measured at the population level for adults using the Body Mass Index (BMI) calculated by dividing weight in kilograms by height in metres squared.

\[ \text{BMI} = \frac{\text{weight (kg)}}{\text{height}^2 \text{ (m)}} \]

For example, a woman 1.67m in height and weighing 65kg would have a BMI of 23.3, which falls within the normal, or healthy, weight range. Overweight is measured at a BMI of 25 or more, with obesity determined at a BMI of 30 or more and underweight at a BMI below 18.5. These cut-off points have been adopted for use internationally by the World Health Organization. For children, overweight is defined differently than it is for adults. The cut-off points for overweight (equivalent to a BMI score of 25 for an adult) and obesity (equivalent to a BMI score of 30 for an adult) are sourced from Cole et al., *Establishing a standard definition for child overweight and obesity worldwide: international survey*, 2000.10

The data used in this section are largely based on the ABS 2011–12 National Health Survey component of the 2011–13 Australian Health Survey, with data for earlier periods from the ABS 1995 National Nutrition Survey and the ABS 2007–08 National Health Survey. Although similar data are also available from other surveys (1989–90, 2001 and 2004–05), in which height and weight were as reported by respondents; in the three surveys used here, measurements were taken by the ABS interviewers, thus providing more accurate and consistent measures.

**Overweight and obesity in adults**

In 2011–12, almost two thirds (63%) of Australians aged 18 years and over were overweight or obese. More than a third of adults were classified as overweight (35%) and over a quarter were classified as obese (28%). People in the healthy weight range also comprised just over a third (35%), and a small proportion (1.5%) were classified as being underweight (Figure 2.1).

In the last two decades, the prevalence of overweight and obesity among Australian adults has increased, from 56% in 1995 to 61% in 2007–08, and to 63% in 2011–12. Of greatest concern is that the proportion of the population that is obese has increased (shown by the shaded area in Figure 2.1). At the same time, the size of the underweight and overweight groups has decreased, as has the group at a healthy weight.
In other words, over time, people are moving from the healthy weight group to the overweight group, and even more are moving from the overweight group into the obese group. Note particularly that an increased proportion of the people in the overweight group are at the higher end of that range and are therefore at risk of becoming obese over time.

**FIGURE 2.1: BODY MASS INDEX DISTRIBUTION, PERSONS 18 YEARS AND OVER, 1995 AND 2011-12**

A higher proportion of males (70%) than females (56%) were classified as being overweight or obese. Regardless of this difference, the increase in obesity has been at comparable rates for males and females, as has the decrease in overweight (Figure 2.2). However the decline in the proportion of those at a healthy weight has been greater for males than for females.

*Note: Shaded area depicts the increase in proportion of population that is obese*

*Source: ABS*
Age and sex

The prevalence of obesity among females aged 18 to 24 years has more than doubled from 1995 to 2011–12 and the proportion in the overweight and healthy weight categories has declined (Figure 2.3). This pattern of an increase in obesity and a decrease in the overweight and healthy weight proportions was evident in most age groups.

Although there was also an increase in obesity for males in the 18 to 24 year age group, there were similar, or larger, increases at other ages. The pattern of an increase in obesity and a decrease in the overweight and healthy weight proportions was also evident for males at most ages.
Overweight and obesity in children

For children, obesity has detrimental social, psychological, emotional and physical effects which can adversely affect many aspects of their health in the short and longer terms. One long-term consequence is its continuation into adulthood, which not only increases the risk of obesity-related conditions later in life but also their onset at an earlier age.

Of children (aged five to 17 years) almost 18% are overweight and 8% are obese. These figures have remained almost unchanged since 2007–08.

Similarly, there has been little change in the prevalence of overweight or obesity in children by socioeconomic disadvantage of area. The prevalence of obesity in the most disadvantaged areas was four times that in the least disadvantaged areas in 2011–12; for overweight children, the differential was 27% (See Figure 2.4). There were insufficient data for comparisons by remoteness.

Source: ABS

FIGURE 2.3: CHANGE IN BMI CATEGORY, BY AGE AND SEX, 1995 TO 2011–12
FIGURE 2.4: OVERWEIGHT AND OBESITY IN CHILDREN, BY SOCIOECONOMIC STATUS, 2007–08 AND 2011–12

Source: ABS

Trends in obesity

International comparisons
The increasing prevalence of obesity in Australia is part of a worldwide trend (Figure 2.5). Data compiled by the Organisation for Economic Cooperation and Development (OECD) from a range of surveys in which height and weight were measured show that the level of, and trend in, obesity in Australia are consistent with the positions in New Zealand and the United Kingdom, but below those in the United States. Japan has largely escaped this trend. This may well be because its traditional cuisine and diet, which is supportive of healthy weight maintenance, have been largely retained.
The increasing prevalence of obesity in Australia is part of a worldwide trend, with the exception of Japan, for example.
Age and sex

Some of the largest relative increases in obesity rates since 1995 have occurred for females in the 18 to 24, 35 to 44 and 75 and over year age groups (Figure 2.6). For males, the largest increases were in the 35 to 44, 55 to 64 and 65 to 74 year age groups.

That increases have occurred across all age groups in the same period suggests there are changes in the broader environment that are having a significant effect, rather than the increase starting off in one generation and then carrying through as that particular group or cohort ages.


Differences in obesity between population groups

Socioeconomic status

There is a marked social gradient in each survey period, with the prevalence of obesity in adults increasing steadily across the socioeconomic status groups to its highest level in areas of greatest socioeconomic disadvantage (Figure 2.7). The overall difference in rates between the areas of greatest and least socioeconomic disadvantage is more marked in 2011–12 (obesity is 63% higher in the most disadvantaged areas) than it was in 1995 (34% higher).
Remoteness

Similarly, there is a gradient in obesity when comparisons are made between those adults who live in Australia’s major cities, in inner or outer regional areas, or in remote areas. Obesity is much more prevalent in areas in the Remote Australia category (38% of the population were obese in 2011–12) when compared to the Major Cities (27%) areas (Figure 2.8).
Aboriginal and Torres Strait Islander peoples

The proportion of the Aboriginal and Torres Strait Islander population that was overweight or obese increased from 48% in 1995 to 56% in 2004-05, the latest date for which self-reported data are available.

The level of obesity for Aboriginal and Torres Strait Islander males (31%) is above that for other Australian males (19%); for females (of whom 37% are in the obese category), the gap is much greater, at almost two and a quarter times the non-Indigenous proportion (17%) (Figure 2.9).

The proportions in both the overweight and healthy weight categories for Aboriginal and Torres Strait Islander males and females are lower than for the non-Indigenous population; this is particularly the case for females at a healthy weight.
Related issues

The factors most associated with increases in obesity and overweight are poor nutrition, sedentary behaviour and physical inactivity. As the nutrition and physical activity data from the 2011–13 AHS will not be released until after this Report has been finalised, these topics are only discussed briefly (see Boxes 4 and 5), with more detail to be provided in the next State of Preventive Health.

**BOX 4: Physical activity**

In 2011–12, almost one-third (32%) of adults aged 18 years and over undertook moderate or high levels of exercise (for fitness, recreation or sport) in the reference week, up from 28% in 2007–08. However, two thirds of the Australian population was either sedentary or had low levels of exercise in 2011–12 (comprising of 36% no exercise and 31.5% low levels of exercise). This is a decrease from 2007–08 when the proportion of the population who reported no exercise or had low levels of exercise was 72%.

An important, modifiable source of physical activity is how actively people travel to work. Data from the ABS Census indicate that active travel to work (such as walking, cycling and public transport use) decreased in capital cities up to 2001, although since then, it has recovered (Figure 2.10).

**FIGURE 2.10:** ACTIVE TRAVEL IN AUSTRALIAN CAPITAL CITIES, 1976 TO 2011

Source: ABS

**BOX 5:**

**Nutrition**

The simultaneous increases in obesity in almost all countries appear to be driven mainly by changes in the global food system, which is producing more processed, affordable, and effectively marketed foods than ever before.\(^{2,12,23}\) These changes interact with local environmental factors to create a wide variation in obesity prevalence in different populations.\(^{21}\) While eating a healthy diet plays a significant role in supporting good health and preventing disease, there is clear evidence of the links between poor diet and the risk of high blood pressure, coronary heart disease, stroke, type 2 diabetes, joint problems, sleep apnoea, psychosocial problems, and some cancers.\(^5\)

The forthcoming analysis of the Australian Health Survey (AHS) will provide important up to date information on dietary patterns. Data released to date from the 2011–12 National Health Survey component of the AHS show that, for people aged 18 years and over:

- less than half reported daily fruit intake that met the 2003 Australian Dietary Guidelines; and
- only 8% met the 2003 guideline for daily vegetable intake.\(^2\)
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For children, the data show that:

- 95% of children aged 5-11 years were reported to usually meet the 2003 recommended daily intake of 1 serve of fruit, compared to only 20% of children aged 12-17 years (for whom 3 serves of fruit per day were considered adequate in 2003); and

- younger children were also more likely to meet the 2003 age-specific guidelines for vegetable intake than older children: 56% of children aged 5-7 years met the 2003 recommended intake of at least 2 serves per day, 31% of children aged 8-11 years met the 2003 recommended intake of at least 3 serves while 15% of children aged 12-17 years met the 2003 recommended intake of at least 4 serves of vegetables.2

The new Australian Dietary Guidelines were released in 201324 and future analyses of the NHS data will be against these guidelines.

Smoking

Tobacco smoking is recognised as one of the largest preventable causes of death and disease in Australia.25 Tobacco smoking is strongly associated with lung cancer and contributes to other types of cancer such as those of the mouth, bladder, kidney, stomach and cervix, heart disease and stroke, chest and lung illnesses, eye and kidney diseases, peripheral vascular disease, and stomach ulcers.26 It is also a key risk factor for the three diseases that cause most deaths in Australia: ischaemic heart disease, cerebrovascular disease and lung cancer. Smoking claims the lives of more than 15,000 Australians every year.25,27 Smoking in pregnancy increases the risk of health problems for both mother and child.28

Tobacco contains nicotine which is powerfully addictive. People who start smoking when young are more likely to smoke heavily, become more dependent on nicotine, and be at increased risk of smoking-related illness or death.29 Moreover, adult smokers generally drink more alcohol at harmful levels, eat fewer fruit and vegetables and exercise less than ex-smokers and those who report never smoking.30

In the past 20 years, secondhand smoke exposure has been linked to many harmful health effects in unborn infants, in children and in adults. In children, these include middle ear infections and bronchitis, pneumonia, asthma and other chest conditions, while in adults, secondhand smoke exposure can increase the risk of heart disease, lung cancer and other chronic lung diseases.31,32 Secondhand smoke exposure is also linked to Sudden Infant Death Syndrome (SIDS).

Smoking is more prevalent among Aboriginal and Torres Strait Islander peoples with almost one in two people over the age of 15 years likely to be current daily smokers.33 The rate of smoking is also much higher in areas of socioeconomic disadvantage.
In 2011-12, there were an estimated 2.8 million Australians aged 18 years and over who smoked daily (16%). This proportion has decreased consistently from 37% in 1977, signalling considerable success in this area of prevention.34

The Australian approach to tobacco control has seen strong and enduring partnerships between governments, non-government organisations and community groups. Australia has progressively applied a comprehensive range of policies that include mass media education campaigns, support for cessation services, required health warnings (including graphic photographs) onto tobacco packaging, prohibition of tobacco advertising and marketing (including the ground-breaking requirement for ‘plain-packaging’ on tobacco products), progressively increasing taxation on tobacco products, and controlling exposure to second-hand smoke by restricting smoking in public and other spaces and controlling access to tobacco (age limits for purchase). These measures have assisted in the reduction of Australian smoking rates to a level among the lowest in the world.35

Overview

The extent of smoking among adults in Australia is measured in two regular, large, national surveys, the ABS National Health Survey (NHS) and the National Drug Strategy Household Survey (NDSHS) conducted by the Australian Institute of Health and Welfare.

Although these surveys use different field methods to collect data, the figure below shows that both the NHS and NDSHS report similar figures for daily smoking prevalence for adult men and women. The NDSHS reported that 15% of people aged 14 years or over smoked daily while the NHS finding for people 15 years or over was 16%. While the different survey methodologies and reporting frames account for these differences, it can be said with some certainty that in the period 2011–12, around 16% of Australians aged 15 years and over smoked every day, with higher rates among men than among women (Figure 2.11).

The data reported on in the remainder of this section are from the National Health Survey component of the 2011–13 Australian Health Survey. These are the most recent data; Australian data for earlier periods are also from ABS surveys.

**FIGURE 2.11 PERCENTAGE OF DAILY SMOKING**

<table>
<thead>
<tr>
<th></th>
<th>NHS 2011–12</th>
<th>NDSHS 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>18+</td>
<td>15+</td>
</tr>
<tr>
<td>MALE</td>
<td>18.2</td>
<td>17.5</td>
</tr>
<tr>
<td>FEMALE</td>
<td>14.4</td>
<td>13.9</td>
</tr>
<tr>
<td>PERSONS</td>
<td>16.3</td>
<td>15.7</td>
</tr>
</tbody>
</table>

*Source: ABS36 and AIHW37*
Smoking trends

The 2011–12 National Health Survey confirms the consistent downward trend in smoking rates for those aged 18 years and over, with the rate in 2011–12 of 16% being below the rates of 19% in 2007–08, 21% in 2004–05 and 22% in 2001 (Figure 2.12).

Rates of daily smoking were higher for males (18%) than for females (14%) in 2011–12, although male rates have declined at a slightly faster rate since 2001.


Source: ABS38
Australia has one of the lowest smoking rates in the world. A comparison of smoking in Australia with comparable OECD countries shows this to have been the case for much of the past 35 years.\(^{39}\)
Since 2001, smoking among males has declined in all age groups, with the largest declines at the youngest ages; the trend for females is similar (Figure 2.14). For example, rates declined by 40% from 2001 to 2011–12 for males aged 18 to 24 years, and by 43% for females at those ages.


![Graph showing daily smoking by age and sex](image)

Source: ABS

**Differences in smoking between population groups**

**Socioeconomic status**

The highest rates of smoking in each of the four survey periods discussed here are in the most disadvantaged areas (Figure 2.15). It is of note that the level in 2011–12 in the most disadvantaged areas is well above the level in the least disadvantaged areas in 2001. The largest reductions have occurred in the two least disadvantaged groups and the smallest in the two most disadvantaged. As a result, in 2011–12 the smoking prevalence in the most disadvantaged areas was 2.4 times that in the most advantaged areas; the comparable figure in 2001 was a little lower, at 2.2 times.

A positive change is that the current ratio (2.4) is lower than that recorded in 2007–08, when it was 2.57; the narrowing of the gap over this most recent period is a result of the relatively large drop in smoking prevalence in the most disadvantaged areas.
Smoking increases with geographical remoteness (Figure 2.16). Over the four survey periods, prevalence has declined in all classes but the reduction has been largest in the Major Cities Areas (for which rates in 2011–12 were down by 31% on the 2001 level), and smallest in the Inner Regional and Outer Regional areas (both down by just under 13%, although the difference in the Outer Regional areas is not statistically significant).

The reduction in smoking in the Remote Australia areas from 2001 to 2011–12 was just over half that in the Major Cities areas. As a result, the rate of smoking in Remote Australia was almost 1.5 times higher than in the Major Cities areas in 2001 and by 2011–12 it was over 1.75 times higher.
Almost half (47%) of the Aboriginal and Torres Strait Islander respondents aged 15 years and over to the ABS 2008 National Aboriginal and Torres Strait Islander Social Survey reported smoking, with a slightly higher rate for males (49%) than for females (45%). Smoking rates are very high across all age groups, with rates for females lower than for males, other than in the 15 to 24 year age group (Figure 2.17).
The smoking prevalence for Aboriginal and Torres Strait Islander peoples aged 18 years and over was 46% in 2004–05, more than twice that in the non-Indigenous population (21%) at that time.31

**FIGURE 2.17: DAILY SMOKING BY ABORIGINAL AND TORRES STRAIT ISLANDER PEOPLES, BY SEX AND AGE, 2008**

![Graph showing daily smoking by Aboriginal and Torres Strait Islander peoples, by sex and age, 2008](image)

Source: ABS40

**Alcohol**

Alcohol is consumed widely in Australia and, as a health issue, harmful levels of consumption are associated with increased risk of chronic disease, including certain forms of cancer, injury and premature death.42,43

The harmful consumption of alcohol has both short-term and long-term health effects.44 In the short term, the effects are mainly related to injury of the drinker or others affected by the drinker’s behaviour.45 Over the longer term, harmful drinking is associated with alcohol dependence and other chronic conditions, such as high blood pressure, cardiovascular diseases, cirrhosis of the liver, types of dementia, mental health problems, and various cancers.43 The harmful use of alcohol is also associated with several infectious diseases, such as sexually transmitted infections.46 Drinking alcohol during pregnancy increases the risk of impaired fetal development, which can lead to permanent problems for affected children.47

Harmful alcohol consumption can also adversely affect the wellbeing and health of people around the drinker and the social and economic life of the broader community. Much of the disease burden arises from unintentional and intentional injuries, including those due to road traffic accidents, violence, and suicide.46 Alcohol is strongly associated with social harms, including domestic violence, child neglect and abuse, assault, injury and absenteeism in the workplace; and with significant financial costs in areas such as health, police and justice, local government, business, welfare and transport.45,46
ASSessing the risk of alcohol-related harm

The Australian guidelines for reducing health risks associated with the consumption of alcohol, cover lifetime risk, single occasion risk as well as advice for those under 18 years of age and pregnant and breastfeeding women. The 2009 National Health and Medical Research Council (NHMRC) guidelines are as follows.44

**Lifetime risk**

The guideline states that, for healthy men and women, ‘drinking no more than two standard drinks on any day reduces the lifetime risk of harm from alcohol-related disease or injury’. The National Centre for Education and Training on Addiction (NCETA) describes this as the accumulated risk from drinking either on many occasions, or on a regular (e.g. daily) basis over a lifetime.48

**Single occasion risk**

For a single occasion, the guideline states that, for healthy men and women, ‘drinking no more than four standard drinks on a single occasion reduces the risk of alcohol-related injury arising from that occasion’.

**Children and young people under 18 years of age**

The guideline states that for children and young people under 18 years of age ‘not drinking is the safest option’.

**Pregnancy and breastfeeding**

‘For women who are pregnant or planning a pregnancy, not drinking is the safest option and for women who are breastfeeding, not drinking is the safest option’.

---

Note: The data presented in the following pages in relation to these guidelines are based on information reported to interviewers in the Australian Bureau of Statistics’ health surveys, from 2001 to 2011–12.
The prevalence of alcohol consumption by adults in Australia at levels considered to be risky to their lifetime health has generally plateaued in recent years (Figure 2.18). In 2011–12, 19.5% of adults exceeded the 2009 NHMRC lifetime risk guidelines by consuming more than two standard drinks on average per day (Figure 2.18).

Although in 2011–12 the proportion of males drinking at levels of long-term risk had returned to the 2001 level, the figure for females was still higher (10%) than in 2001 (8.5%).


![Graph showing the proportion of adults consuming more than 2 standard drinks per day on average from 2001 to 2011–12 for males and females.]

* Exceeding the 2009 NHMRC Guideline for lifetime risk of harm from alcohol related disease or injury

Source: ABS

**Daily consumption of alcohol**

Males were more than twice as likely as females to have consumed alcohol every day in the seven days prior to being interviewed, with proportions of 16% and 8%, respectively (Figure 2.22).
FIGURE 2.19: PROPORTION OF THE POPULATION CONSUMING ALCOHOL DAILY IN THE PAST WEEK, BY SEX AND AGE, 2011–12

* Estimate not shown – considered to be unreliable as is based on a small number of responses

Source: ABS36
Australia’s alcohol consumption has declined since the 1970s. When compared with other OECD countries, Australia’s consumption in 2009 was above the OECD average of 9.1 Litres per capita; 14 OECD countries had consumption at the same or a higher rate than Australia.

Source: OECD

Note: These data are estimates of apparent consumption of alcohol, based on the availability of alcoholic beverages in each country. They provide an estimate of the quantity of pure alcohol available for consumption from beer, wine and spirits, expressed as a rate (per capita) for the population aged 15 years and over. Data on Ready to Drink (pre-mixed) beverages are not included.
Variations in alcohol-related harm over a lifetime

Age and sex

The overall impression of trends in males drinking alcohol at levels of lifetime risk to their health is of an improvement in 2011–12 (in comparison with the higher levels in 2004–05), in particular at ages under 55 years (Figure 2.21). The most notable variations in male drinking at risky levels are that:

- the prevalence of harmful drinking across the 18 to 54 year age groups is generally at the lowest level in the 2011–12 survey;
- however, in the 55 to 74 year age groups, prevalence remains at historically high levels over the period surveyed; and
- the higher level of consumption at ages 45 to 54 years in 2001 is evident some ten years later, in the 55 to 64 year age group.


* Exceeding the 2009 NHMRC Guideline for lifetime risk of harm from alcohol related disease or injury

For females, the picture is more complex, although it is clear that the prevalence of harmful consumption in 2011–12 is above that in 2001 at all but the youngest ages (Figure 2.22). The most notable variations in the extent to which females were drinking alcohol at levels of lifetime risk to their health are:

- that the prevalence of risky drinking in 2011–12 generally remains above the level in 2001 and those aged 55–64 reported the highest rate;
• the proportion of females aged 75 years and over who reported consuming alcohol at levels that put them at lifetime risk in 2011–12 is relatively high which is likely to reflect the drinking patterns seen in the 2007–08 survey for females aged 65 to 74 years.


<table>
<thead>
<tr>
<th>Age (years)</th>
<th>2001</th>
<th>2004–05</th>
<th>2007–08</th>
<th>2011–12</th>
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<tr>
<td>18–24</td>
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<td>35–44</td>
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<tr>
<td>45–54</td>
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<td></td>
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<tr>
<td>55–64</td>
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<td></td>
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<tr>
<td>65–74</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>75+ yrs</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

* Exceeding the 2009 NHMRC Guideline for lifetime risk of harm from alcohol related disease or injury

Source: ABS

**BOX 7:**

**Young people and alcohol consumption**

The NHMRC alcohol guidelines state that, for children and young people under 18 years of age, ‘not drinking is the safest option’.

It is estimated that in 2011–12 about 31% of males and 14% of females aged 15 to 17 years exceeded alcohol guidelines for single occasion risk in the past year. An estimated 2% of 15 to 17 year olds exceeded the alcohol guidelines for harm over a lifetime.

In 2011, the Cancer Council of Victoria’s survey of secondary school students (the ASSAD survey) found that just under one in ten students aged 12 to 14 years consumed alcohol in the week prior to the survey, ranging from about one in twenty 12 year olds to about one in ten 14 year olds.

Single occasion risk

Comparison of adults at single occasion risk and at lifetime risk, by age

The proportion of the population drinking alcohol at levels of lifetime risk in the past year is similar across the age groups, before declining at older ages. In contrast, the proportion of the population drinking at levels likely to result in single occasion risk decreases markedly with age (Figure 2.23).

FIGURE 2.23: PROPORTION OF PEOPLE THAT DRANK IN EXCESS OF 2009 NHMRC GUIDELINE, BY AGE, 2011–12

Age and sex

In 2011–12, over half of adult Australian males and almost one third of females were drinking, at least once in the past year, at levels considered to increase the risk of alcohol-related injury (i.e. single occasion risk). However, the extent of drinking at this level declined markedly across the age groups (Figure 2.24).

For males, the range is from 74% at ages 18 to 24 years, to 13% at ages 75 years and over; and, for females, the variation is from 59% at ages 18 to 24 years, to 2% at ages 75 years and over.

Of note is that, whereas the lifetime risk of alcohol consumption for females was just over one third (35%) of the male rate, the single occasion risk was just over half the male rate (55%).

Source: ABS36
Survey respondents were also asked whether they had consumed more than four standard drinks per day on average in the seven days prior to the interview (Figure 2.25). The proportion for males (13%) was more than four times that for females (3%). The greater extent of daily drinking by males is evident in all age groups, with the largest gap in the 35 to 44 year age group (the gap in the 75 years and over age group is similar, but the estimate for females is considered to be less reliable – see note beneath the chart). The proportions shown in Figure 2.25 are lower than those shown in Figure 2.24, which reports single occasion risk in the past year.
**FIGURE 2.25:** PROPORTION OF ADULTS THAT DRANK IN EXCESS OF 2009 NHMRC GUIDELINE FOR SINGLE OCCASION RISK OF INJURY AT LEAST ONCE IN THE PAST WEEK, BY SEX AND AGE, 2011–12

*Estimates for females in the 18 to 24, 65 to 74 and 75 years and over age groups should be used with caution, as they are based on a small number of responses*

Source: ABS36

## Differences in alcohol-related harm over a lifetime between population groups

### Socioeconomic status

In each of the four most recent ABS surveys, the highest rates of consumption of alcohol at levels of long-term risk to health were found in the least disadvantaged areas, with consumption declining as socioeconomic disadvantage increased (Figure 2.26). It is worth noting that this gradient is the opposite of those seen for obesity and smoking.
Geographic location

Alcohol consumption at levels of risk to lifetime health in the Remote Australia areas was some 1.7 times higher than in the Major Cities areas in 2011–12 (Figure 2.27). Further, consumption at risky levels in these areas increased by over a third (39%) over the period from 2001 to 2011–12. In contrast, rates in the Major Cities, Inner Regional and Outer Regional areas had, by 2011–12, returned to around the levels in 2001.

It is of note that there was little difference in the consumption of alcohol at risky/high risk levels, outside of the Major Cities and Inner Regional areas, when analysed by Indigenous status in 2004–05.\(^{18}\)

<table>
<thead>
<tr>
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<td>20.5</td>
<td>19.4</td>
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<td>24.1</td>
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<td>22.2</td>
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<td>22.6</td>
<td>28.9</td>
<td>27.8</td>
<td>31.4</td>
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Source: ABS36
Aboriginal and Torres Strait Islander peoples

In 2004–05, the ABS reported that consuming alcohol at levels deemed as risky or of high risk to health (see Box 8 for the definition used in this earlier analysis) was similar in the Indigenous (15%) and non-Indigenous (14%) populations; however, it was also higher for Aboriginal and Torres Strait Islander males than for females (Figure 2.28). The extent of risky or high risk drinking varied by age, in particular for Aboriginal and Torres Strait Islander males.

Some 10% of Aboriginal and Torres Strait Islander people reported never having consumed alcohol, the comparable figure in 2004–05 for the non-Indigenous population was 7%.

**FIGURE 2.28: DRINKING AT RISKY OR HIGH RISK LEVELS BY INDIGENOUS STATUS, AGE AND SEX, 2004–05 (SEE BOX 8)**

Source: ABS41

**BOX 8:**

**Measure of alcohol risk used in the ABS National Aboriginal and Torres Strait Islander Health Survey, 2004–05**

The measures of risk applied in this analysis, described below, are different from the measures reported above. They are from the 2001 NHMRC Australian alcohol guidelines.51

*Risky levels* are those at which risk of harm is significantly increased beyond any possible benefits.

*High risk* drinking levels are those at which there is substantial risk of serious harm, and above which risk continues to increase rapidly.
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Chapter 2: Understanding The Challenge

State of Preventive Health Report 2013


20 ABS Census data: method of travel to work, 1976-2011, for all capital cities.


Chapter 2: Understanding The Challenge

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45 Laslett AM, Room R, Ferris J. Surveying the range and magnitude of alcohol's harm to others in Australia. Addiction 2011; 106(9): 1603-1611.


I came to the Kitchen Garden project via a winding path that commenced with growing up in a food-loving family. The daily gathering around the family table was a highlight of the day. The broadest possible range of flavours and textures was experienced regularly. Much of the food we ate was grown by my mother and grandfather in our organic garden and orchard. These formative experiences and this positive modelling made me and my three siblings food lovers for life with an ongoing interest in growing at least some of our own food.

After a long career in hospitality I became increasingly disturbed about the anxiety and lack of knowledge regarding food preparation I encountered amongst many young people. I wrote The Cook’s Companion, a massive volume that helped many. But what about the very young I wondered? I was aware of the implications of the rising rates of obesity. How could I make more of a difference? My answer was to develop a program that could positively influence the food choices and attitudes of young children within the primary school setting.

I believe that the Stephanie Alexander Kitchen Garden program has achieved this. Currently it operates in 267 primary schools around Australia; large and small, urban, regional and remote. The recent evaluation of the program undertaken by the University of Wollongong found real health behaviour change for children, families and school communities participating in the Program.

‘Students in Kitchen Garden National Program schools were more likely to report that they would always try new foods as compared to students in comparison schools. The proportion was higher if the students had grown or cooked the foods themselves.’

Our present total of 267 schools is set to grow. Our aim is to be represented in another 400 schools by the end of 2015. Our program has attracted interest from academics, public health bodies, educational institutions and governments from many countries. I have been invited to speak about our work to countless organisations.

Anecdotal reports from parents tell us that attitudes change fast. Children want to cook the dishes they made at school with their families. They want to start a small garden at home. They want to talk about what happened. They have become more critical consumers. They are environmentally aware. They understand and appreciate cultural differences. They will have had weekly experience in teamwork, in problem-solving, in observing the life in their garden and the flavours in their food. The program integrates marvellously with other areas of the curriculum.

I have never believed that change will result by frightening children or demonising certain foods. By engaging a child’s energy, curiosity and taste buds in an enjoyable way, and offering the broadest possible experience, I believe we have shown the way to positively influence food choices.
Whenever visiting academics, educationalists, politicians and bureaucrats visit a SAKG school and watch the children gardening and then cooking and then sit and have lunch and talk with these kids – perhaps over a fennel risotto, or a silverbeet and potato pie, or a dip made from beetroot with their own flatbread, or corn cakes made from just harvested corn with a sauce using the last of the season’s tomatoes, and a leafy salad— then it can be a revelation.

We are very grateful that politicians have visited and had such an experience. The support we have had initially from the Victorian State Government, and then through the Department of Health and Ageing in the Australian Government has guaranteed the growth and depth of this program.
CHAPTER 3:
PREVENTION ON THE GROUND
PREVENTIVE HEALTH ACTION OCCURS WHERE WE WORK, LIVE AND PLAY
CHAPTER 3: PREVENTION ON THE GROUND

Australia’s investment in preventive health over many years has achieved world-class results. With experience and expertise developed in areas such as tobacco control, prevention of injury and sun safety, the legacy of these achievements is a strong foundation for action on current and emerging threats to health both for the population as a whole and for specific groups at greater risk.

This Chapter:
• provides an overview of structures in place to support contemporary prevention practice;
• describes how Australia is putting in place a comprehensive approach to address smoking, alcohol-related harm and obesity and thereby contributes to the prevention of chronic disease; and
• describes the infrastructure and enablers that support the planning, resourcing, delivery, monitoring and reporting of our strategies at the national level.

The case studies in this chapter illustrate the breadth of good practice and promising work currently underway across Australia.

A Developing Preventive Health System
Recognising that health is determined by a complex mix of biological, behavioural, socioeconomic, societal and environmental factors that interact to shape health (refer to Figure 1.2 in Chapter 1) means answers to reducing the risk factors that contribute to chronic disease are likely to be complex and multifaceted. Action is needed on a number of fronts; and it needs to be coordinated, sequenced and connected.

Figure 3.1 provides a framework for depicting the elements of, and contributors to, achieving and maintaining a systematic approach to preventive health. The design and delivery of interventions can best utilise individuals, communities and organisations, including government, non-government entities (e.g. Heart Foundation, Cancer Council), academia and/or the private sector at different points and places. Strategies need to be appropriate to specific needs and implemented with sufficient reach and intensity (or dose). The focus of intervention efforts can be the whole population, or discrete groups and/or individuals depending on specific needs and targets. Settings for action in environments such as community parks, urban spaces, schools and workplaces play a role in creating healthy, sustainable communities.

Effective preventive health action also requires an enabling infrastructure to function including research, monitoring and evaluation, information, a strong workforce and leadership.
FIGURE 3.1 A PREVENTIVE HEALTH SYSTEM FRAMEWORK

WHO ACTS? (Partners in Prevention)
Government (local, state territory, national), community, private sectors, non-government organisations, academia, health sector, other sectors (early childhood, agriculture, planning, education)

FOR WHOM AND WHEN TO INTERVENE? (target groups and times)
e.g. whole of population, early years, culturally and linguistically diverse, youth, elderly, Aboriginal and Torres Strait Islanders, those with disability etc.

HOW? (tools, strategies & interventions)
e.g. policies, fiscal, regulation, advocacy, social marketing, health programs & services (e.g. primary care)

WHERE? (environments and setting for action)
e.g. built environments, schools, workplaces, communities, sporting clubs, food outlets, health services

DETERMINANTS OF HEALTH
Genetic
Social
Economic
Political
Biological
Cultural
Gender
Environmental
Behavioural
Psycho-social

OUTCOMES
Improved health
Reduced chronic disease
Improved health equity

Enabling infrastructure – leadership and coordination, supportive policy, funding, information, research and evaluation, workforce
Health Reform for Prevention – a key enabler

High-level policy support, coordination and leadership are essential elements of effective preventive health action and governments are critical to providing this. Other components of the enabling infrastructure are discussed later in this chapter.

National Healthcare Agreement

In recent years, governments across Australia have embarked on a series of health reforms that include an emphasis on prevention.

Through the Council of Australian Governments (COAG) the National Healthcare Agreement was signed in 2012 to reaffirm that Australia’s health system should, inter alia, focus on the ‘prevention of disease and injury and the maintenance of health, not simply the treatment of illness’.

While COAG provides high-level leadership, Health Ministers, through the Standing Council on Health (SCoH), work to deliver on COAG’s strategic themes.1

A number of sub-committees supporting the SCoH have been charged with progressing the preventive health agenda over the past decade. Currently, responsibility for preventive health-related action rests with the Community Care and Population Health Principal Committee and the Mental Health, Drug and Alcohol Principal Committee while the Australian Health Protection Committee also has a prevention focus, largely in relation to communicable disease, immunisation and environmental health. Responsibilities of these committees include commissioning and approval of national reports and strategies such as the National Tobacco Strategy 2012–20182 and the National Alcohol Strategy under preparation in 2013. Together, these strategies and other guiding documents provide the national governance for preventive health in Australia, complemented by the leadership and policy structures of states and territories and through collaboration with those working in related fields such as tobacco control or Aboriginal health.

The National Partnership Agreement on Preventive Health

In November 2008, the National Partnership Agreement on Preventive Health (NPAPH) was announced by COAG.3

The NPAPH is providing $932.7 million over nine years from 2009–10 to June 2018. This significant investment by the Australian Government in preventive health is aimed at tackling the rising prevalence of lifestyle-related chronic disease. The package (see also Box 1) is comprehensive and works with, and through, local, state and territory governments. It will work in settings such as neighbourhood communities, early childhood education and care environments, schools and workplaces to enable healthy lifestyle choices around food and physical activity.
These actions are complemented by national social marketing efforts and the establishment of the infrastructure required to monitor and evaluate interventions. This includes additional investment in key components of the Australian Health Survey (see chapter 2) and the establishment of the Australian National Preventive Health Agency. The Agency:

- provides policy leadership and builds partnerships with governments, community health promotion organisations, industry and primary health care providers;
- supports the development of evidence and data on the state of preventive health in Australia and the effectiveness of interventions;
- leads national social marketing initiatives related to smoking, alcohol and obesity; and
- has developed the National Preventive Health Research Strategy (2013–2018) (see Chapter 5 for more detail) and provided funding for policy-ready research in the area of prevention.

An evaluation of the NPAPH is underway and representatives of all jurisdictions meet regularly to coordinate planning and roll out of the strategies.
Chapter 3: Prevention On The Ground

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Box 1: National Partnership Agreement on Preventive Health (NPAPH)

11 Key Elements

1. Healthy Communities – supports community-based healthy lifestyle programs aimed at increasing access to physical activity, healthy eating and healthy weight activities for disadvantaged groups in 92 local government areas across Australia.

2. Healthy Children – delivering programs for children from birth to 16 years of age to increase levels of physical activity and improve the intake of fruit and vegetables in settings such as child care centres, pre-schools and schools.

3. Healthy Workers – supports workplace health programs that are aimed at reducing overweight and obesity, increasing levels of physical activity and the intake of fruit and vegetables, supporting smoking cessation and reducing harmful levels of alcohol consumption.

4. Industry Partnership – developing and supporting partnerships between Governments and relevant industry sectors to encourage changes in policies and practices so they are consistent with the Government’s healthy living agenda. The partnerships are initially focused on the food industry, before extending to the fitness and weight loss sectors.

5. Social Marketing – Measure Up funding for this social marketing campaign to expand its reach to high-risk groups, raise awareness of healthy lifestyle choices, physical activity and nutrition, as well as increasing awareness of the link with chronic disease risk (ended 2012-13).

6. Social Marketing – Tobacco funding for social marketing activities focused on increasing awareness of the health risks of smoking and supporting quit attempts.

7. The Australian Health Survey – funding to collect essential population health data including dietary intake, nutritional status, physical activity levels and the prevalence of chronic disease risk factors.

8. Enhanced State and Territory Surveillance – funding for the implementation of a health, nutrition and physical activity monitoring surveys in the states and territories.

9. Workforce Audit and Strategy – aimed at reviewing and developing the workforce required to deliver the settings-based initiatives funded through the NPAPH and at ensuring long-term capacity in this area.

10. Australian National Preventive Health Agency and Research Fund – drives the prevention agenda, providing advice to Health Ministers, supports the creation of evidence and data, and development of national guidelines and standards to guide preventive health activities.

11. Eating Disorders Collaboration – funded to facilitate the implementation of a comprehensive approach to the prevention and management of eating disorders.

More information on these initiatives is available at: www.health.gov.au/internet/main/publishing.nsf/Content/phd-prevention-np
CASE STUDY 1:
Get Healthy Information and Coaching Service®

The Get Healthy Information and Coaching Service® (GHS) was launched by the NSW Ministry of Health in February 2009. This telephone-based service supports adults to eat a healthier diet, to be more physically active and to achieve or maintain healthy weight. The GHS is also available in Tasmania, Australian Capital Territory and Queensland.

A six-month coaching program is offered that includes 10 individually-tailored phone calls from University-qualified health coaches using behaviour change principles. Participants are assisted with goal setting, maintaining motivation, overcoming barriers and making sustainable lifestyle changes. Callers undergo assessment and screening (and may require Medical Practitioner clearance) before being enrolled in the coaching program. A specific module has been developed for Aboriginal people with enhanced coaching and extra phone calls, together with appropriate resources.

An information-only service is also available. This provides participants with an evidence-based information package on healthy eating, physical activity, and achieving and maintaining a healthy weight.

Almost 20,000 people have registered their interest in the GHS to date—two-thirds as Coaching participants and one-third for Information only. Participants who complete the six month coaching program on average lose 3.9kg in weight and 5cm off their waist circumference and they maintain these improvements six months after completing the program.

The GHS is being used by those in the community who are most at need including those in the lowest quintiles of advantage, those in regional and remote locations and those who have a high risk of chronic disease.25

Mass media campaigns, referrals by General Practitioners and other health professionals and proactive marketing strategies have been used to encourage people to use the GHS, with mass media attracting the most number of participants.

For more information visit:
www.gethealthynsw.com.au

Defining the Target Group

The design and implementation of measures must clearly identify the target of action. This can range from the whole-of-population to particular age ranges (early childhood, adolescence, the elderly), particular culturally and linguistically diverse groups and Aboriginal and Torres Strait Islander peoples. Based on data (evidence, experience) about particular risks, likelihood of responses and practicality of delivery, an intervention will be designed to maximise impact and outcomes. Effective whole-of-population action will also require universal approaches combined with progressively more intensive responses for disadvantaged population groups and/or those at risk.6
Responses that are tailored to levels of risk and need, aim to reduce the gradient of health and wellbeing indicators that parallels that of social disadvantage. Higher-need groups include Aboriginal and Torres Strait Islanders, low socioeconomic communities, refugees and some recently arrived migrants, and those whose circumstances make them more vulnerable (e.g. unsupported parents, those living with a mental illness or disability). Those living in rural and regional areas also frequently experience poorer health outcomes and higher prevalence of risk factors, indicating targeted, and tailored, approaches are needed.

CASE STUDY 2:
Regional Tackling Smoking and Healthy Lifestyle Teams

The Department of Health and Ageing is rolling out a National Network of Regional Tackling Smoking and Healthy Lifestyle Teams in 57 regions across Australia. Regional Teams are working with Aboriginal and Torres Strait Islander communities to tackle some of the main causes of morbidity and mortality: smoking, poor nutrition and lack of physical activity. National leadership is provided by Dr Tom Calma AO, the National Coordinator, Tackling Indigenous Smoking.

The Regional Teams are asked to connect with communities across their regions in cities, outer suburbs, and rural and remote areas. Regions have up to six dedicated workers comprising a Regional Tobacco Coordinator, up to three Tobacco Action Workers and up to two Healthy Lifestyle Workers to focus on health promotion and related activities. Teams work with communities to develop local approaches to reduce smoking rates, improve nutrition and physical activity levels, through social marketing campaigns, community events and health information sessions. Locally relevant programs that respond to the specific needs of communities, including specific target groups such as pregnant women and school students, are undertaken.

This new National Network is helping people to quit and encouraging people to live smoke-free lives. Health promotion activities are locally tailored to community needs and making a difference by:

- increasing community awareness and understanding of the dangers of smoking, the benefits of being smoke-free and smoke-free environments;
- encouraging children and young people to choose and stick to a healthy smoke-free lifestyle;
- supporting smoke-free events, homes, cars and workplaces; and
- assisting with lifestyle modification to promote healthy active lifestyles.

Each regional team also has access to the Regional Tackling Smoking Fund which provides funding for locally tailored social marketing and health promotion activities to tackle smoking. Locally developed campaigns and activities have included ‘Nuff of the Puff’ from the Kimberley, ‘Smoking – It’s Killin’ Our Mob’ from Mildura, ‘Live Healthy, Live Strong’, from Central Australia, ‘Nobkkibaby’ from Geraldton, ‘Triple D Warrior’ from Northern Queensland and ‘Deadly Choices’ from South East Queensland.

For more information on the Regional Tackling Smoking and Healthy Lifestyle Teams and other elements of the Closing the Gap Tackling Indigenous Smoking measure visit www.tacklingsmoking.govspace.gov.au
CASE STUDY 3:  
Reducing alcohol related harm in the Fitzroy Valley, Western Australia

Fitzroy Crossing and the surrounding Fitzroy Valley communities of the Kimberley Region of WA have a long history of alcohol related harm including antisocial behaviour, domestic assault and emergency department presentations. In 2008, a Coronial inquest into Aboriginal suicide in the Kimberley also found alcohol to be a key contributing factor in the high level of suicide within the community.

These and other issues led a group of community members, with the support of service providers, to call for alcohol restrictions to give the community a better future. In 2007, the Director of Liquor Licensing put in place a restriction that, ‘the sale of packaged liquor, exceeding a concentration of ethanol in liquor of 2.7% at 20 degrees Celsius, is prohibited to any person other than a lodger’. This effectively meant that the only takeaway alcohol an individual could purchase was light beer.

The Fitzroy Valley Alcohol and Other Drug Management Committee, formed in 2007, is responsible for ensuring that initiatives designed to address alcohol and other drug related issues are implemented in a strategic, integrated and coordinated manner.

The Committee’s work, which has been instrumental in the success of the alcohol restriction, includes implementing a communication strategy, developing culturally appropriate resources, supporting restricted area requests for surrounding communities, building the capacity of community members to respond to ongoing local alcohol issues, advocating for and receiving additional support services, and developing reports to assess the liquor restriction’s impact.

Approximately six months after the restriction was introduced, some interesting changes were reported:

- no noticeable increase in calls for detoxification services or residential rehabilitation;
- with reduced levels of drunkenness, hospital staff were more able to address long-term health issues, patients were more responsive and more people were attending follow-up presentations as well as taking a greater interest in their general health and wellbeing;
- an increase in demand for allied health services, including drug and alcohol prevention, sexual health education, nutrition education and programs around healthy living;
- rates of gonorrhoea decreased by 50% and chlamydia decreased by 30% despite increased testing post-restriction;
- with the reduction in alcohol-related incidents, police were able to increase their level of proactive policing, including regular community patrols. Police also noted an increase in people seeking drivers’ licences and clearing old traffic offences post-restriction;
- many services and businesses reported less work stress and greater job satisfaction, resulting in better staff retention and ability to attract staff;
- teachers reported that post-restriction, students were attending school more often, along with a growing interest in parents engaging with their child’s learning. Students were presenting more rested, often better fed and with lunch or lunch money.
- A twelve month evaluation showed sustained reductions (36%) in the number and the severity of emergency department presentations, significantly less public drunkenness and associated anti-social behaviour, a 28% reduction in the average number of monthly alcohol-related tasks attended by police and 12.5% less drink driving.
CASE STUDY 4:  
Hutt Street Centre for the Homeless – a smoke-free centre

The Hutt Street Centre (HSC) for the Homeless is a non-profit, multi-service agency that provides services to people who are homeless and vulnerable in the eastern region of Adelaide. In 2011 the centre decided to become a smoke-free organisation after management became concerned about the impact of smoking on clients visiting the centre, volunteers and staff working on site and a desire to support HSC clients to reduce their smoking or quit altogether. This was a collaborative effort between HSC, Quit SA and the Royal District Nursing Service and consultation with staff and clients informed the approach.

Since going smoke-free on 31 May 2011, clients have shown a high level of interest in quitting. Cessation support is now a standard protocol of client care at the centre and Quit SA facilitates ongoing weekly outreach sessions at the site; clients can receive nicotine replacement therapy. With these support structures in place, new clients regularly attempt cessation and many conversations occur around the desire to stop smoking for health and financial reasons.

The Quit SA worker who visits the centre has recorded almost 600 conversations addressing smoking with 200 individual clients. Most have attempted to cut down, and many have actually quit. Given the challenging nature of life for these clients this is a positive outcome. Interest in ‘getting off the smokes’ remains consistently high and many clients voice appreciation for the support offered.

Quit SA has made the story of Robert, a client, available on YouTube:  
www.youtube.com/watch?v=LgTsg-HYJmU
Partners in Prevention

Health promotion has been described as ‘everybody’s business’ with a range of partners necessary, and none alone sufficient. The organisations and individuals that need to be involved are diverse and play critical roles in different ways and times, depending on the objectives, design and targeting of an intervention.

Partners in prevention include:

- **individuals** – to take an active role in improving their own health and support families and friends to make healthy choices and to lead community change;
- **communities** – such as schools, cultural, geographic or special interest groups;
- **the health sector** – a variety of practitioners in primary, secondary and tertiary care, hospitals and Aboriginal Community Controlled Health Organisations in supporting Aboriginal health;
- **all levels of government** contribute as funders, providers, regulators and leaders;
- **practitioners and policy leaders** in other sectors – e.g. urban planning, agriculture, transport, and education – need to lead, enable and initiate actions that make healthy choices easier. The pre-natal, early childhood and schooling sectors are particularly crucial given the evidence that indicates lifelong chronic disease risk is impacted on by in-utero nutrition and early childhood experiences and education;
- **public health non-government agencies** of which Australia has a particularly rich endowment including organisations that target key disease groups e.g. Diabetes Australia, Heart Foundation, Cancer Council, Stroke Foundation, Kidney Health Australia, Alzheimers Australia, Asthma Foundation etc.;
- **the private sector** including employers, industry groups, private health insurance, fitness, retail, advertising and hospitality; and
- **universities, researchers and academics** that provide education, training, research and support evaluation and evidence-building.
CASE STUDY 5:  
Retail store nutrition program for remote Indigenous communities in Queensland

Since 2010, the Qld Department of Health has partnered with two remote food store groups—the Retail Stores Branch of the Qld Department of Aboriginal and Torres Strait Islander and Multicultural Affairs and the Islander Board of Industries and Service (IBIS) to help remote Aboriginal and Torres Strait Islander people in Queensland to eat more healthy food. Retail Stores operates stores in Doomadgee, Palm Island, Woorabinda, Lockhart River, Pormpuraaw and Kowanyama. IBIS operates 17 stores across the Torres Strait and Northern Peninsula Area. Funding from the Department of Health enables each food store operator to employ a qualified nutritionist and to:

- increase the range of healthy food and drinks in the stores and promote these to customers;
- hold cooking demonstrations and display posters and recipe cards to promote healthy food;
- conduct nutrition education sessions for community health centres and schools;
- provide store managers and staff with some nutrition training; and
- partner with community organisations, schools, sport and recreation officers, sports teams and local health teams to promote healthy food and drink choices.

An evaluation of the in-store badging systems introduced by the stores indicated that most foods were correctly labelled, particularly where there was adequate and consistent staffing. Overall, sales of labelled products did not increase, however there were increased sales in some food categories.

In 2012, the stores stocked more healthy foods for sale compared to the pre-intervention stocking practice. Both stores price foods such as fruit and vegetables to be as affordable as possible. Preliminary data indicate that the impact on sales was positive, but only in some stores. This may have been due to the relatively short timeframe during which promotional activities were conducted or to changes in the number of people living in some communities, the higher cost of some food and drink choices coupled with lower household income in remote Queensland.
The Australian Government is working with industry through the Food and Health Dialogue (the Dialogue), a non-regulatory, collaborative forum between government, industry and public health groups to make healthier eating choices easier and more accessible for all Australians. The Dialogue’s primary activity is in food innovation, including a voluntary reformulation program across a range of commonly consumed foods.

During the past four years the Dialogue has:

- achieved 17 sodium reduction targets in eight food categories including bread, breakfast cereal, simmer sauces, processed meat, soup, savoury pies, potato, corn and extruded snacks and savoury crackers;
- agreed saturated fat targets for processed meats; and
- engaged with the Quick Service Restaurant sector in its reformulation, portion sizing and consumer messaging activities.

The Department of Health and Ageing convenes food category roundtables with manufacturers, retailers, food service operators and distributors at which food reformulation targets are agreed and where commitments are made to promote healthy food consumer messaging activities.

Modelling analyses done to date indicate that approximately 2200 tonnes of salt can be removed from the food supply every year for the first four food categories alone—potentially reducing sodium intakes across most population age groups by 4%. This figure will increase as more food categories are included.

Further information on the work of the Dialogue is available at: www.foodhealthdialogue.gov.au
Preventive health tools, strategies and interventions

Preventive health action can incorporate a range of tools and strategies. Experience has indicated that the selection of particular tools, and sequencing, provide an interactive effect that enhances and drives strategies, programs and policies. The experience with efforts to reduce smoking are indicative of this, with research showing coordinated social marketing efforts enhance the uptake of smoking cessation services and create community support for regulatory interventions. Similarly, education about the risks of sun exposure have enabled the implementation of ‘no hat no play’ policies in schools while voiced community concerns for the human toll and costs of road traffic accidents have enabled governments to increase fines, support education campaigns and work with car manufacturers to enhance safety features.

The tools, strategies and intervention options available to policy makers and program implementers are diverse ranging from fiscal and regulatory to social marketing programs and interventions through health services. These are described below with selected case studies to illustrate current practice. Prevention-focused screening, health checks and brief-interventions (information provision, counselling etc.) are delivered through health services, particularly at the primary care level. This area of preventive health is discussed in some detail in Chapter 4.

Policy responses

Policies supported by legislation, regulatory measures and economic instruments including taxation and pricing strategies have been used extensively to support safer and healthier environments and protect against threats to health. From laws that addressed air and water pollution as threats to health in the industrial revolution to those that target the quality and safety of our food supply today, consumers support governments to use the measures available to protect health.

Laws and regulations (including self-regulatory and co-regulatory approaches). Governments have long used legislative measures to achieve health goals. Legislation has eliminated tobacco promotions, advertising and displays and prohibits smoking publicly where people can be exposed to second hand smoke.

In relation to food composition, strategies to reduce salt and saturated fat are currently pursued in a self-regulatory environment in Australia. However a legislative instrument under the Australia New Zealand Food Standards Code has required bread products to be fortified with folic acid and iodine since October 2009 to protect against birth defects and to support the healthy development of babies.9,10

The 2011 Review on Food Labelling Law and Policy (referred to as the ‘Blewett Review’) made recommendations about front-of-pack labelling for processed foods (see Chapter 5 for further information).11

Alcohol-related policy reforms have been progressively implemented in the road safety area including random breath testing, graduated licensing for young drivers, and cancellation of driving licences for repeat or significant drink driving offences.
The short and long-term adverse health effects of alcohol consumption were also acknowledged in the Blewett Review and in response, Australian and New Zealand health ministers have supported the requirement for warnings about the harm of drinking whilst pregnant. Industry’s voluntary action on this will be reviewed in 2013.13

Advertising of alcohol and some food products is a contentious policy area in Australia. Both are currently directed by voluntary, industry-led and administered codes. While industry advocates that these codes are effective, public health entities contend they are not with differences lying in arguments on the scope of the codes (particularly regarding advertising placement and content) and on the measurement of outcomes and impact.

Managing Supply. The ready availability of tobacco, alcohol and nutrient dense, so-called fast foods, is an area for policy attention. Evidence suggests that when the availability of alcohol is restricted, consumption and related harm decreases.15 Age-restrictions on availability have been an integral part of tobacco and alcohol control measures while in the case of alcohol, the levers available to liquor licensing authorities and local governments have been studied and used to manage supply and affect associated health impacts.15

Pricing. Governments use fiscal policy to encourage healthy behaviours. The tools used include taxes and subsidies, direct provision of certain health services for free or at a subsidised rate. Examples include the taxes on tobacco and alcohol products with increases associated with reduced demand14,16 and subsidies for screening programs and immunisations associated with significant increases in population coverage.

In the case of alcohol, the Australian Government acted in 2009 to address significant evidence and concerns about the harms associated with ‘alcopops’ or ready-to-drink beverages, with high sugar levels that masked their alcohol content, and increased appeal to young people, especially females. The nature of alcohol taxation meant these beverages were relatively affordable and consumed in large quantities. The Australian Government acted by increasing the excise duty on pre-mixed alcoholic beverages by almost 70%. Studies since have indicated a direct effect with 3.45 million fewer standard drinks of all spirit-based products consumed in a typical week compared to before the tax increase.17 The policy option of a minimum (or floor) price for alcohol has also been considered by several countries in the advent of very cheap sources of alcohol. In Australia, the Government asked the Australian National Preventive Health Agency to consider the public interest case for such a measure and the Agency provided advice on this to Government in May 2013.

Fiscal policies are also being studied and considered around the world in relation to food pricing – both food subsidies to support consumption of fruit and vegetables and price increases for energy dense, nutrient poor foods. In recent times, governments in the United States of America have considered the introduction of a tax on sugar sweetened beverages and public health advocacy groups in Australia have initiated action on this. It is expected that further advocacy, discussion and economic modelling on the fiscal options with relation to food will occur (see also Advocacy section following).18
CASE STUDY 7: 
Plain packaging of tobacco products

A key strategy in reducing smoking rates in Australia over the past three decades has been to reframe smoking as both toxic and socially unacceptable. Most recently, the introduction of a ‘plain packaging’ requirement for tobacco products has assisted in this process.12

The plain paper packaging requirement has effectively removed one of the last means for tobacco companies to promote and market their product i.e. via the box or packet.

The concept of mandatory, generic packaging of all tobacco products was endorsed in Australia as far back as 1990 at the Seventh World Conference on Tobacco and Health. In 2009, plain packaging was included as a recommendation of the National Preventative Health Taskforce as an important regulatory option for advancing tobacco-control efforts to improve health.19 The reform, announced in 2010, received bipartisan support and came into effect from 1 December 2012.

On 15 August 2012, the High Court of Australia rejected a constitutional challenge to this legislation from the tobacco industry, awarding costs to the Government. As Australia is the first country to make this change the decision has paved the way for other countries to follow suit–New Zealand announced the decision to do so in February 2013.

Based on the evidence that underpinned this measure, it is expected that plain packaging will increase the noticeability, recall and impact of graphic health warnings; reduce the ability of package design to portray some tobacco products as less harmful than others; and thus, lead to fewer people taking up smoking and more quit attempts by smokers.
Responding to the growing problem of overweight and obesity, the New South Wales (NSW) Government passed laws requiring larger fast food and snack food chains to display kilojoule (kJ) information at the point of sale from February 2012. The aim was to provide simple, standardised kJ information to consumers so they are better informed about what they’re eating.

From the outset, the Government engaged with relevant food industry sectors and achieved their strong support. The complementary consumer education campaign — 8700 kilojoules a day: Find your ideal figure — targeted audience engagement via paid advertising supported with an education campaign that included visual portrayals of the kilojoules that popular fast and convenience foods contain, along with quirky radio ads that mimicked the style and placement of the fast food industry’s own advertising.

Maintaining a neutral tone towards the foods that were the subject of the campaign was critical to success.

Rather than telling people what they can and can’t eat, consumers are told about the energy content of what they’re ordering at the venue, helping them to make choices appropriate to their individual circumstances. The education campaign has been recognised with national awards for public relations, digital marketing and app development.

Pre-post evaluation indicates:

- the proportion of people able to identify the average daily kJ intake as being around 8700kJ rose from 5% to 19%;
- fewer kJ were consumed when eating fast food. On average there was a reduction of 519kJ in purchases made in a single meal, which represents a 6% reduction in the daily average kJ intake of 8700kJ; and
- people say they want kJ information in stores; 53% of people surveyed said that they approved of the Fast Choices initiative and that the campaign was very necessary while more than 75% had no objections to the initiative.

The NSW Food Authority reports a high level of compliance by industry. One chain chose to introduce kJ labelling voluntarily even though it had fewer than 20 outlets in NSW. A number of chains embraced and promoted standard language and consumer nutrition messaging in respect of energy in food and drinks.

While kJ labelling initiatives currently exist only in New South Wales, the Australian Capital Territory and South Australia, some chains have shown further support for the initiative by implementing kJ labelling nationally.

For more information on the campaign visit:
www.8700.com.au
Advocacy

Advocacy by non-government organisations and academics with an interest in public health has played a major role in achieving progressive tobacco policy reforms in Australia. Advocacy in relation to obesity, nutrition, physical activity and alcohol related harm is a growing feature of the contemporary preventive health landscape. Public health experts, private industry, high profile individuals and clinicians all bring their experience and perspectives to the attention of the government and the public. Individuals and consumer groups also advocate for health and preventive health services.

Social marketing

Social marketing is the use of classical marketing tools and approaches to achieve behaviour change. Social marketing can be used to promote the use of some goods or behaviours or to educate and inform of the hazards and risks associated with other behaviours and products. Evidence from health promotion efforts in multiple areas – immunisation, tobacco, road safety, sun smart (‘slip, slop, slap’) and reducing the stigma of mental illness – has shown this to be an integral part of preventive health work. The use of social media and online communication along with tools for mobile devices (e.g. smartphone apps) are increasingly important parts of a social marketing effort and have broad reach across most age groups.

Australia has been at the forefront of innovative social marketing approaches to tobacco control with many Australian produced materials being licensed for use internationally. Commonwealth, state and territory governments and non-government organisations have invested in this domain with high levels of cooperation in sharing data, materials and coordinating efforts, being a hallmark of this preventive health effort.

Similar efforts over the years have focused on reducing harmful alcohol use (e.g. ‘Rethink Drink’ and ‘Don’t turn a night out into a nightmare’ etc.) and in obesity prevention (e.g. ‘Go for 2&5®’, ‘Find 30®’, etc.). Campaigns are often targeted, for example to young people, parents or particular cultural or linguistic groups. Alternatively, campaigns or initiatives incorporate phases or elements that are adapted to specific at-risk groups as determined by data and other available evidence.

The National Partnership Agreement on Preventive Health allocated $151.5M to social marketing on obesity prevention and tobacco over the life of the agreement which supplements existing investments by states and territories.
CASE STUDY 10:
Advocacy on sugar-sweetened beverages

A recent review of the evidence by the National Health and Medical Research Council for the Australian Dietary Guidelines concluded that consumption of sugar-sweetened beverages is associated with increased risk of weight gain in adults and children. It resulted in the recommendation to limit consumption of drinks with added sugar.23

This evidence confirmed the basis of an advocacy initiative, launched through a partnership between Cancer Council, Diabetes Australia and the National Heart Foundation. The initiative has launched the campaign Rethink Sugary Drink, which is aimed at encouraging Australians to rethink their sugary drink consumption and switch from soft drinks, energy drinks and sports drinks to water, reduced-fat milk or unsweetened options.24

The three health organisations have signed a consensus statement with a series of recommendations. These include:

- implementing restrictions to reduce children’s exposure to marketing of sugary drinks, including through schools and sports events;
- taking action to limit the sale of sugary drinks in all schools and places frequented by children and young adults;
- reducing the availability of these drinks in workplaces, healthcare settings and community settings;
- investigating taxation options to increase the price of sugar-sweetened drinks with the aim of changing purchasing habits and achieving healthier diets;
- developing and launching a social marketing campaign supported by Australian governments to encourage people to reduce their consumption levels.

The initiative is also using the increasingly popular form of information transmission with the development of an infographic on the topic.

Source: www.rethinksugarydrink.org.au
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Launched in mid-2012, LiveLighter is a unique campaign, targeting adults aged 25 to 64 years, which shows the health effects of overweight and obesity. The LiveLighter campaign is about motivating and supporting individuals and families to make changes to adopt a healthier diet and more active lifestyle. It also aims to stimulate public debate.

LiveLighter is funded by the Western Australian Department of Health, and delivered by the National Heart Foundation WA in partnership with the Cancer Council WA.

The LiveLighter television commercials take viewers on a journey inside their own bodies to help them understand the link between a ‘grabbable gut’ on the outside and visceral or ‘toxic’ fat on the inside around vital organs. The campaign’s approach is intentionally graphic and confronting. It is supported by practical information and tips about how to introduce healthier lifestyle options into everyday life. The overall approach is based on sound research, review of previous state, national and international healthy lifestyle and anti-smoking campaigns and behavioural change science.

The LiveLighter campaign includes a comprehensive range of activities, including mass media advertising, public relations, online information and tools, sponsorship, social media and advocacy. After its first six months, LiveLighter had established 100 brand partnerships with government and not-for-profit organisations to extend the campaign’s message through community level healthy lifestyle activities.

The first two phases of the campaign led to considerable community engagement – by February 2013, there had been approximately 88,000 unique visitors to the website and 228,000 viewings of the advertisements on YouTube. A survey of 1,000 25 to 49 year-old Western Australians after the second phase of advertising found:

- strong levels of awareness—a third (32%) recalled the campaign without prompting, and more than half (54%) recalled or recognised the campaign;
- the vast majority of those aware reacted positively with more than nine out of ten finding it believable and eight out of ten that it made a strong argument for reducing weight; three quarters said the campaign made them stop and think and three in ten reported being motivated to take action. Almost half learnt something new; and
- the campaign resonated even more strongly with overweight adults.

For more information about the LiveLighter campaign visit the website www.livelighter.com.au
CASE STUDY 11: Western Australia’s LiveLighter social marketing campaign: ‘Grabbable gut outside means toxic fat inside’

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For more information about the LiveLighter campaign visit the website www.livelighter.com.au
Environments and Settings – Creating Healthier Places

A settings approach enables the places where Australians live, learn, work and play to support good health. Programs and services described in this chapter can be adapted for many different settings – from schools to workplaces – and for the needs of different population groups through different settings.

Community-focused programs and services

Communities – neighbourhoods, towns, settings in which people live – have proven to be a suitable environment in which to effectively deliver programs and services that support healthy living. Many individuals, families and households need support to adopt healthier lifestyles. Community-based programs and services can:

• build skills in changing behaviour;
• connect people with similar needs and interests;
• provide individually tailored advice and information; and
• take account of individual, family and local circumstances.

Governments and non-government community-based agencies are usually best placed to provide these programs and services, in consultation with the communities to be targeted.

Through the NPAPH the Healthy Communities Initiative has provided funding of $71.8M over five years to 92 local government organisations throughout Australia. Funding supports the roll-out of community-based healthy lifestyle programs that facilitate increased access to physical activity, healthy eating and healthy weight activities that target adults who are predominantly not in the paid workforce, including older people.
CASE STUDY 12:
Childhood obesity prevention in South Australia and the Northern Territory

What do geo-caching, walking to the moon and backyard garden blitzes have in common? They are all part of an innovative, community-based, childhood obesity-prevention program—Obesity Prevention and Lifestyle or OPAL.

OPAL, funded by federal, state and local governments, is being implemented in 19 Councils across South Australia (SA) and will run until 2018. In each Council region, the OPAL team, with the local community, explores ways to encourage healthy eating and physical activity. Each team has a plan and in each plan there are inspired activities. Like the Geo-caching project in Charles Sturt where OPAL has brought together technology and ‘being active’. Geo-caching is like a high-tech treasure hunt that uses smart phone or GPS technology to show online clues to finding real ‘hidden treasure’ or ‘caches’ in local parks and spaces. The 200 or more geocaches in Charles Sturt are now more accessible with OPAL providing GPS units to lending libraries, engaging local enthusiasts and businesses to provide geocaching workshops for beginners and by promoting family friendly caches.

And then there is the Walk to the Moon Challenge in Port Adelaide Enfield where more than 700 participants including four schools, five community groups/organisations, 140 Council staff and seven Council elected members clocked up 118,836,256 steps! That is approximately 83,185km or twice around the Earth. So, not quite to the moon but the effects were felt widely – e.g. Council staff now more strongly advocate being active. OPAL will trade on this goodwill to bring about sustainable change throughout the broader community.

In the south east of SA, the Mount Gambier OPAL team developed the Plant your own fresh snack program. A dozen tenants of SA Housing properties signed up for $10 to plant two fruit trees in their backyards. With the fruit trees came some planter boxes and gardening equipment provided by local suppliers. Tenants were supported by a local volunteer gardening mentor for a year who worked with them to clear their backyards and to plant the trees. Participants began attending cooking classes, friendships were formed and confidence grew. OPAL staff know that to eat well and be active, people need skills, self-belief and to be connected and supported locally. Sometimes, as in this case, a backyard garden is the catalyst to much more than eating better.

There are a thousand stories in OPAL communities, some small and personal, others large and corporate. OPAL makes sense of the complexity of communities through an elegant model of engagement and action. That model is based on the internationally acclaimed French program EPODE4,5, adapted for South Australia. The action in OPAL communities mesh with local government plans and will be an important cog in the local Public Health Plans of Councils.

The Northern Territory is implementing COPAL (Childhood Obesity Prevention and Lifestyle initiative) in Palmerston in collaboration with South Australia using similar methodology and adapted materials.

Case Study 13: A Snapshot of Lift for Life®

Lift for Life is an evidence-based, progressive resistance training program, designed by Baker IDI Heart and Diabetes Institute for adults with, or at risk of, type 2 diabetes and other chronic conditions or diseases.

Fitness Australia is delivering Lift for Life under COAG’s Healthy Communities Initiative. Currently, there are 119 providers nationally and nearly 1,600 people have participated since July 2010.

Mark Thomson of Move it with Mark, a Lift for Life provider on Queensland’s Sunshine Coast, has delivered the program to 78 older adults. Participants manage arthritis, types 1 and 2 diabetes, heart disease/stroke, asthma, Alzheimer’s, Parkinson’s disease and scoliosis, among others.

The health outcomes for these participants after 24 weeks were outstanding and (based on average age of 77 years), include:

- 95.8% adherence rate;
- 50.3% improvement in aerobic capacity;
- 59.3% improvement in lower body strength;
- 66.4% improvement in upper body strength;
- 35.5% improvement in agility; and
- 2.4% reduction in waist circumference.

“Lift for Life has taught me the value of regular exercise, directed exercise. It has shown me proper techniques of exercising as I’ve never previously been to a gym. It has improved the quality of my life in several ways, I enjoy the program.” Jo, 77 yrs old.
CASE STUDY 14:
Jamie’s Ministry of Food

Based on the ‘star’ value of celebrity chef Jamie Oliver, Jamie’s Ministry of Food Australia aims to teach people to plan and cook simple, healthy and affordable meals using fresh, seasonal produce and to develop healthy eating practices.

The Good Foundation established Jamie’s Ministry of Food campaign in 2010 as a practical response to the rising rates of obesity and diet related disease as well as concern at the lack of basic food skills in the community.

A not-for-profit organisation, The Good Foundation partnered with Jamie Oliver and retailer The Good Guys to build, equip and run community based Jamie’s Ministry of Food centres.

In 2011 the Queensland government joined the partnership establishing a Jamie’s Ministry of Food centre in Ipswich and in 2012 the Victorian Government opened a centre in Geelong as part of Healthy Together Victoria, a jointly funded initiative of the State Government of Victoria and the Australian Government. Purpose-built mobile kitchen classrooms travel to metropolitan and regional locations in both states.

The five-week cooking courses are targeted at those who want to start cooking for themselves and their families, equipping them with some simple skills and knowledge and inspiring people to love and enjoy good food.

As of early 2013, more than 850 participants have registered for courses through the Geelong fixed kitchen and 550 have registered for the mobile kitchen in Bendigo. There are 1,700 volunteers registered Victoria wide.

At least 2,400 people will undertake the 10-week cooking program at the Ipswich centre over the life of the program and another 9,000 people will be reached through community cooking demonstration events.

Programs in both states are being evaluated.
Supporting physical activity through enhanced built environments

The design of built environments and availability of suitable ‘spaces’ has a direct impact on people’s ability and likelihood to undertake regular physical activity such as walking, cycling, playing sport and other forms of recreation. The responsibility and capacity to design and install health-enhancing physical environments lies largely outside the health sector, including with those that lead, work and resource local government, urban planning, transport and recreation policies and programs.

Good practice includes attention to ensuring the walkability and connectivity of environments, supporting the use of public transport and associated physical activity, making cycling and walking easy and safe and providing open spaces and other recreation and sporting facilities.

Resources are available to assist urban planners and developers support physical activity through design and also to ensure healthy, sustainable and equitable food is available for Australians into the future. These include the Healthy Spaces and Places: a national guide to designing places for healthy living developed in collaboration by the Australian Local Government Association, National Heart Foundation and the Planning Institute of Australia with funding from the Australian Government.

National policy guidance has also been provided in 2013 through the Australian Government’s Moving Australia 2030 – A Transport Plan for a Productive and Active Australia which has set out a number of tangible targets for the year 2030, including that public transport, walking and bicycling will account for more than 30 per cent of all passenger trips in our capital cities.

CASE STUDY 15: Property development to support health

Rock Development Group (Rock DG) was established in Canberra in the 1960’s as a family business by the late Tom Efkaridis and his brother Tim. The success of a family take-away restaurant business led to the establishment of one of Australia’s largest independent supermarket chains and wholesale operators – Cannons Supermarkets and the Australian Independent Wholesalers. Rock DG has since acquired a portfolio of various residential and commercial properties in Canberra and has invested over $100 million on more than eight property developments in the past 15 years.

The next generation of the Efkaridis family run their own development-related business. Ten years ago, Maria Efkaridis became aware of the rising prevalence of type 2 diabetes and the prediction that 1 in 3 children could develop diabetes by age 40. She convinced her business partners and family of the need to act for the sake of their children’s generation and as a first step created awareness of the problem and how property developers could make a difference.

One major focus has been on a development project in Belconnen, a district of Canberra with a population of about 93,000 people. Rock DG’s ‘loop’ project is a 40,000 square metre precinct based around the Belconnen Fresh Food Markets which houses primary produce retailers and associated specialty food
stores. The ‘loop’ project integrates residential, commercial and retail space with a strong focus on providing social, economic and environmentally focused design including:

- Open green roof top spaces with gym circuits, basketball courts and barbeque areas for residents.
- A podium to link all three of the residential towers providing an area for small community gardens and allotments.
- Parkland will run alongside Belconnen Way adjacent to the loop development creating more garden plots for the community as well future sites for students studying Social and Horticultural studies at the nearby University of Canberra.
- Surplus produce from market vendors is donated to the Yellow Van project, providing food to local community services in Canberra.

To enhance the learning experience of primary aged students in the ACT and educate our youth about the importance of a healthy and balanced diet, Maria Efkarpidis worked closely with Nutrition Australia and ACT Health to improve our Market Tours. Market Tours teach children about fresh produce and the importance of including healthy and nutritious foods in our diet. Additionally, to ensure that the local adolescent population was also given the opportunity to learn in a fun and exciting capacity, Maria developed “Teen Chefs”, a local cooking competition for Canberra’s youth. Now in their fifth year, Teen Chefs targets students in year 9–12 and requires students to work in teams to develop an interesting and healthy three course menu within a set budget. Promoting team work, creativity, fresh produce and healthy eating habits, students are also closely mentored by an experienced chef to nurture their skills as students and potentially create a pathway into the hospitality industry.

As major sponsors of Canberra’s premier W-League team — Canberra United, Rock DG is able to promote the loop precinct and their initiatives with the full support of the players to develop lasting relationships with the community.
Schools, preschools and other learning institutions

Schools and preschools have proven to be important locations to assist children to adopt healthy behaviours and learn the skills for healthy lifestyles beyond school. In obesity prevention, embedding physical activity and healthy eating into the routine policies and practices of schools is the focus for many Australian initiatives, including in recent years those supported by the NPAPH through the Healthy Children initiative which has allocated $325.9 million over seven years to the states and territories.

A range of strategies can be used in schools, preschools, child care, play groups and out-of-hours care including healthy food in school canteens; changing the physical environment to support active play; walk or ride to school programs and supporting staff development to enable knowledge and skills building for young people.

Higher education institutions can also enable healthy behaviours through smoke-free campuses, which have been introduced in some locations. The tertiary education setting also offers important opportunities to implement policies, programs and services that reduce harmful consumption of alcohol and promote access to healthy foods.

Education settings have also played an important role in supporting broader health initiatives such as sun safety and mental health resilience while ensuring children are physically and socially safe and supported to develop connections with local health and community services.
CASE STUDY 16:
It’s Your Move – Australian Capital Territory

It’s Your Move ACT (IYM ACT) is a ‘whole school approach’ intervention which encourages young people aged 12–17 years to eat well, to participate in regular physical activity and ultimately to prevent childhood obesity.

Using National Partnership Agreement on Preventive Health funding, the three-year program (2012–2014) is being piloted through a health and education partnership in three intervention and three control schools.

Based on a similar program delivered in Victoria, IYM ACT combines the lessons learned from community programs and recognises the complexity of obesity as a problem as well as the existing context and systems in which prevention activities occur.

The program’s evaluation is being overseen by Deakin University; baseline data (response rates vary from 30–80%) includes student demographic information, nutrition and physical activity behaviours, attitudes and knowledge, perceptions of the school environment and mental health. Current physical activity and nutrition related school based programs and systems have been mapped; and school environments and capacity to intervene have been measured.

The prevalence of overweight/obesity in schools participating in the ACT-IYM project was 27% and 25% had depressive symptoms. The majority of students were eating below the recommended minimum two serves of fruit and five, or five and a half (girls and boys, respectively), serves of vegetables per day. Student perception of the canteen was that they mostly had unhealthy or very unhealthy choices, and only 32% thought teachers were good or very good role models for healthy eating.

More generally, most students (65%) thought their schools were not very good at promoting physical activity at lunchtime. A clear majority (65%) exceeded the guidelines for screen time of two hours or less per day and students seemed to have better knowledge about physical activity than they did about healthy eating programs being run at their school.

Each school community has developed a locally-tailored action plan. Initiatives include training ‘student ambassadors’ to be leaders and champions, developing and implementing water and school food policies, curriculum development addressing healthy body image and avoiding inappropriate dieting. All three schools have started to influence teachers to be positive role models and have established partnerships with local businesses and community organisations. One school has introduced a Food Bank for families in need with a focus on healthy staples and recipes. Another has installed water stations and provided water bottles and canteen sales of bottled water and stopped selling carbonated drinks. All schools now have more physical activity sessions both in curriculum time and lunch time; one school has created a fitness lab (gym) for students and staff; and another has embedded the ACT ride or walk to school program into the year 7 and 8 Health and Physical Education curriculum.
Workplaces

Workplaces can also play a significant role in promoting health and healthy lifestyles. Evidence supports the fact that a health promoting workplace will experience increased productivity, reduced sick leave and absenteeism, improved staff morale and motivation and improved workplace relationships. Workplaces therefore are another key setting for health promoting interventions. Most adults spend around half their waking hours at work and workplaces offer an excellent opportunity to reach those with poorer health. Occupational health and safety reforms have made workplaces safer than ever but chronic diseases and risk factors including alcohol misuse, excess sitting and mental health problems impose significant, though difficult to measure, costs on industry. The Feature Essay includes further discussion on this issue.

The NPAPH Healthy Workers initiative has recognised the opportunity for workplaces to help people stop smoking, use alcohol safely and adopt good nutrition practices, particularly fruit and vegetable consumption and to enable workers to be more physically active. Funding of $294.3 million is allocated for the years 2009–10 to 2017–18. This includes $5 million for the development of a national quality framework that specifies standards for workplace programs, a web portal with tools and resources and a healthy workplace awards program through the Australian National Preventive Health Agency.

CASE STUDY 17:
Healthy workplaces – the Tasmanian example

The Tasmanian Healthy Workplace initiative has a primary focus on implementing a health promoting environment for employees.

Tasmania has been able to implement this initiative rapidly because of existing valued partnerships with a number of organisations, including WorkCover Tasmania, the Menzies Research Institute, the Premier’s Physical Activity Council, unions and industry representatives.

In August 2011, a Health and Wellbeing Advisory Service was established in a partnership between the Department of Health and Human Services and WorkCover Tasmania. WorkCover Tasmania already had in place a high quality health and safety advisory service. The new wellbeing component of the advisory service offered an ideal fit by complementing the existing health and safety aspect of the advisory service.

Two health and wellbeing advisers, with a focus on small to medium businesses, were appointed to provide a statewide service. To date, they have engaged with 150 organisations.

The advisory service also has an active web presence that includes a suite of tools and resources such as Your simple guide to workplace health and wellbeing and Going Smoke-free: Your workplace kit, business-to-business peer networking sessions, regular newsletters, a workplace initiative incentive award program, and the use of social media to help raise general awareness.
Evaluation is ongoing, and includes data from client surveys, website statistics and follow-up interviews and surveys. Researchers are also looking at return on investment for workplace health and barriers and enablers to engagement and participation.

Some gaps have already been identified: viz. the need for practical tools and resources to help embed workplace wellness into the organisations’ leadership culture and the training and skill development needs of workplace wellness champions that is recognised and/or certified, in the same way as it is for workplace health and safety representatives.

For more information visit:
www.workcover.tas.gov.au/goodhealthgoodbusiness

**Sporting Clubs**

Sport and recreation settings provide important opportunities for community members of all ages be active, develop skills and to compete and socialise with others. They can also deliver participation opportunities for those with particular risk or needs including Aboriginal and Torres Strait Islander Australians, those in remote and rural areas, older people and those with a disability. As well as promoting physical activity, sport and recreation environments can influence alcohol and smoking related risk and promote healthy eating choices through the social environments around sport and recreation activities.
CASE STUDY 18:

**Good Sports**: building healthy sports clubs and strong communities

The key aim of the Australian Drug Foundation's (ADF) Good Sports program is to reduce harmful drinking by supporting community sporting clubs that serve or consume alcohol to introduce progressively stronger alcohol management practices and policies. Clubs move through three accreditation levels over three to five years. Community sports clubs are high-risk environments for risky drinking and alcohol related harm particularly following a sporting event. A national survey of sports clubs found:

- 1 in 5 people consume 7 or more drinks in one night; and
- 27% of club members (18–30 years) are driving home after five or more drinks.

Operating since 2000, Good Sports is a free and voluntary program reaching more than 5,400 local sporting clubs from 70 sporting codes and about 1.5 million Australians. Case studies and process evaluations have shown that Good Sports is easy to implement, responsive to clubs’ needs and well regarded by committees and members. There are indications that involvement in the program is associated with less risky drinking and related harms (such as drink driving) while a four-year, randomised controlled trial found the program significantly lowered the proportion of people in clubs drinking at risky levels.

A KPMG independent economic analysis found the program currently saves the community approximately $9.7 million per annum and, with further growth, benefits would grow to $21.5 million by 2016–17. KPMG estimates it currently prevents nearly 1,000 assaults, road accidents and falls. For every dollar invested in developing a club to top accreditation, it’s estimated that there is a $3.10 benefit.

Given its success, the ADF is currently testing an adapted program that focus on new issues (Healthy Eating, Healthy Minds), new audiences (junior clubs, professional clubs and remote Indigenous communities), new ICT-based delivery platforms and long-term sustainability.

**North Clare Australian Rules Football Club**

In an attempt to break the traditional relationship between football and alcohol, North Clare Football Club saw an opportunity to join the Good Sports program and set themselves apart as ‘the family club’. It’s a move that’s paid off.

As well as achieving the top Good Sports accreditation, North Clare has seen:

- a new partnership with a local taxi company to reduce drink driving;
- after matches, a mandatory sports drink consumed before an alcoholic drink;
- Responsible Service of Alcohol training for dozens of club members;
- removal of beer company logo on jumpers;
- clear 3D displays of the number of standard drinks in each bar item sold;
- more non-alcoholic options and free water; and
- education activities with the local community – including media, police & road safety group.

Good Sports won the 2013 ACOSS/HESTA Community Sector Organisation Award and the Australian Parliament Sports Club Community Sports Award for Sustainable Sport in 2011.

For more information visit: [www.goodsports.com.au](http://www.goodsports.com.au)
### Case Study 18: Good Sports

**Building Healthy Sports Clubs and Strong Communities**

The key aim of the Australian Drug Foundation’s (ADF) Good Sports program is to reduce harmful drinking by supporting community sporting clubs that serve or consume alcohol to introduce progressively stronger alcohol management practices and policies. Clubs move through three accreditation levels over three to five years. Community sports clubs are high-risk environments for risky drinking and alcohol-related harm, particularly following a sporting event. A national survey of sports clubs found:

- 1 in 5 people consume 7 or more drinks in one night; and
- 27% of club members (18–30 years) are driving home after five or more drinks.

Operating since 2000, Good Sports is a free and voluntary program reaching more than 5,400 local sporting clubs from 70 sporting codes and about 1.5 million Australians. Case studies and process evaluations have shown that Good Sports is easy to implement, responsive to clubs’ needs and well regarded by committees and members. There are indications that involvement in the program is associated with less risky drinking and related harms (such as drink driving) while a four-year, randomised controlled trial found the program significantly lowered the proportion of people in clubs drinking at risky levels.

A KPMG independent economic analysis found the program currently saves the community approximately $9.7 million per annum and, with further growth, benefits would grow to $21.5 million by 2016–17. KPMG estimates it currently prevents nearly 1,000 assaults, road accidents and falls. For every dollar invested in developing a club to top accreditation, it’s estimated that there is a $3.10 benefit.

Given its success, the ADF is currently testing an adapted program that focuses on new issues (Healthy Eating, Healthy Minds), new audiences (junior clubs, professional clubs and remote Indigenous communities), new ICT-based delivery platforms and long-term sustainability.

**North Clare Australian Rules Football Club**

In an attempt to break the traditional relationship between football and alcohol, North Clare Football Club saw an opportunity to join the Good Sports program and set themselves apart as ‘the family club’. It’s a move that’s paid off.

As well as achieving the top Good Sports accreditation, North Clare has seen:

- A new partnership with a local taxi company to reduce drink driving;
- After matches, a mandatory sports drink consumed before an alcoholic drink;
- Responsible Service of Alcohol training for dozens of club members;
- Removal of beer company logo on jumpers;
- Clear 3D displays of the number of standard drinks in each bar item sold;
- More non-alcoholic options and free water; and
- Education activities with the local community – including media, police & road safety group.

Good Sports won the 2013 ACOSS/HESTA Community Sector Organisation Award and the Australian Parliament Sports Club Community Sports Award for Sustainable Sport in 2011.

For more information visit: www.goodsports.com.au
Enabling Infrastructure

The role of policy leadership, governance and resourcing in enabling preventive health practice was discussed earlier in this chapter in relation to health reform in Australia in recent years and national funding agreements. Other critical elements that underpin the preventive health practice described in this chapter including public health surveillance, research, evaluation and preventive health workforce capacity. Without these ‘key ingredients’ the science, data and capability that support good practice cannot continue, or continue to be developed in a learning environment.

Preventive health surveillance, monitoring and evaluation

Australia is well served with national data infrastructure and collection processes though the challenges of sustainability, timeliness, resourcing and efficient utilisation are ongoing. The Australian Bureau of Statistics (ABS) and Australian Institute of Health and Welfare (AIHW) produce regular reports and online resources that track and analyse trends and patterns in risk factors and related chronic diseases. While these are usually whole-of-population focused, there has been increasing attention to, and investment in, reports on areas of priority including Aboriginal and Torres Strait Islander health such as through biannual Health Performance reports.33

The introduction of the Australian Health Survey as an expansion of the previous triennial National Health Surveys, including a biomonitoring component, adds significant value to the health intelligence capability in Australia. In addition, the planned update of the Burden of Disease study for Australia (to be completed over 2013–16) will provide information critical to guiding investment priorities for prevention. States and territories also have their own data collections for monitoring and surveillance and for tracking progress in particular programs such as through the measurement of knowledge, attitudes and behaviours of people. Longitudinal studies on specific cohorts such as the ‘45 and Up Study’34 and Growing Up in Australia: The Longitudinal Study of Australian Children35 add richness to our understanding of population health.

Preventive health planners, policy makers and practitioners are also seeking to integrate data from other sectors e.g. public transport usage, alcohol-related community violence, alcohol sales data, location of tobacco retail outlets, purchasing patterns and food advertising trends to understand and measure factors that impact on health and wellbeing. For example, the Australian Early Development Index36 collected through Australian schools is highlighting areas where children have increased risks and fewer protective factors and where enhanced responses may be beneficial.

Health service data such as potentially preventable admissions to hospitals or use of community services inform priorities for the service-area population and for groups at risk and for areas of higher need. There is a growing demand for information on small geographical areas (see chapter 4 for an example).
Data are also used to assist with evaluation of policy-driven changes such as smoking rates post price increases and to monitor progress and report on performance. With significant investments in surveillance and other data systems, largely from governments but also from non-government organisations, there are ongoing challenges to ensure efficient and effective use of resources.

These include:

• development of a more systematic approach to the funding, planning and utilisation of prevention-related surveillance data and strong governance to oversee this work;
• enhancing the use of data to establish inter-relationships or measure the uptake and effectiveness of interventions;
• continuing to develop standard tools to collect information and definitions on such things as, behaviour, changes in settings, introduction and implementation of policies, reach and effectiveness of programs;
• collecting complementary and consistent data at national and state/territory levels and minimising the delay between data collection and feedback;
• advocating for de-identified ehealth data (e.g. height and weight) to be available for multiple uses beyond the clinical setting;
• better understanding the community’s views about how data is and should be used; and
• expanding efforts to link a range of data within health and beyond.
The Commonwealth Government’s Indigenous Chronic Disease Package (ICDP) commenced in 2009 and is an ongoing commitment of around $260m per annum across three priority areas: tackling chronic disease risk factors; earlier detection, improved management and follow-up of chronic disease in primary health care; and expansion of the Aboriginal and Torres Strait Islander workforce and increased capacity of the health workforce to deliver effective care.

The Sentinel Sites Evaluation (SSE) was a place-based monitoring and formative evaluation designed to provide feedback to government and stakeholders on progress, barriers and enablers to successful implementation. The evaluation was undertaken by the Menzies School of Health Research and involved 24 sentinel sites across Australia with varying degrees of intensity of data collection and analysis. Administrative and program data was collected and analysed for all 24 sites and 16 of the sites also involved the collection of clinical indicator data and key informant interviews. Eight of the sites (called ‘case study sites’) included community focus groups.

The SSE brought several critical features to the monitoring and formative evaluation of this major national program. The ‘site’ based approach allowed local service delivery system capacity issues to come into focus in a way that is not often found in the evaluation of national programs. It highlighted the way that, though the ICDP had been designed for its various measures to work as a ‘package’, the complementary nature of its elements were not always well understood at the local level. The sentinel sites approach is quite different to the use of vignettes or case studies of local practice that are commonly found in national evaluations. The difference arises because the unit of analysis for the whole evaluation was a series of sites which could be compared and contrasted along various dimensions of system capacity and development and were also tracked over time. It enabled a level of analysis of local context that provided rich explanation of the observed differences across sites.

From this platform, ‘realist’ evaluation thinking was used to answer the questions ‘what works, for whom, and under what circumstance?’ Factors such as local organisations’ history of involvement in and commitment to Aboriginal and Torres Strait Islander health, the quality of leadership, and the availability of enabling physical infrastructure and workforce supports were identified as key. More than this, the evaluation helped to foster a ‘systems’ thinking approach to how the package of measures might be better supported and implemented to achieve its outcomes.
Preventive Health Research and Evaluation

Preventive health research informs policy and practice so that the most effective preventive health action can be taken. The National Health and Medical Research Council (NHMRC) and the Australian Research Council (ARC) are the major national research funders of preventive health research, with considerable additional funding coming from non-government organisations, state and territory governments, health promotion foundations and private industry.

The National Preventive Health Research Strategy (2013–2018) has been launched to guide national action to build the capabilities and infrastructure for today’s challenges and to support accessible knowledge exchange. The knowledge exchange facilitates shared understanding of policy needs, research design and interpretation of results. It is particularly important to foster stronger partnerships between researchers, policy makers and practitioners for this exchange. Partnership funding from NHMRC or ARC helps such groups work together to ensure research is relevant to the needs of policy and practice. A significant recent development is the establishment of an NHMRC Partnership Centre Systems Perspectives on Preventing Lifestyle-Related Chronic Health Problems led by the Sax Institute, NSW.

There is growing interest in the role of academic institutions as ‘knowledge brokers’ to help others understand evidence e.g. looking at the extent to which intervention research has resulted in large-scale population programs and policies, the factors which influence the process, and patterns of research uptake. The Cochrane Public Health Group produces and disseminates systematic reviews of population-level public health interventions to support evidence-informed decision-making. Relevant research and knowledge are being developed within each state and territory while their funding allows widespread engagement of researchers in policy and practice-relevant research.

**CASE STUDY 20:**

**Numbers matter – understanding the impact of alcohol-related policy changes in Western Australia**

With changes underway and proposed to licensing laws, information on what impact outlet density has on health and other social outcomes is of great interest to governments and licensing authorities. Studies in Western Australia have aimed to measure this and found that there is more harm where there are more sales outlets (hotels/taverns/pubs). The studies found that for every 10% increase in the number of outlets in an area, hospital admissions for injuries caused by assaults rose 0.6%. Further, a 10% increase in the number of packaged liquor outlets (bottle shops) was associated with a 0.8% rise in assault-related injuries as well as a 1.9% rise in chronic disease admissions (e.g. alcoholic liver disease, alcohol-caused mental disorders, alcoholic gastritis).

Another study on the public health and safety impact of the policy decision to extend trading hours in Perth, WA, showed violent assaults in and around hotels which had extended hours rose some 70% while drink driver-related road accidents (where the driver last drank at a hotel with late trading) increased by approximately 49%. 

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Professor Don Nutbeam identified in the Review of Public Health Research Funding in Australia that public health intervention research, particularly dissemination studies in order to scale-up interventions, are important for connecting research to improved health outcomes.37

Milat et al assessed the proportion and type of published public health intervention research papers in physical activity and falls prevention in three time periods: 1988–1989, 1998–1999 and 2008–2009.38 They found that intervention studies represent only a modest proportion of all published studies on these topics.

The Australian National Preventive Health Agency applied a similar analysis to NHMRC funding for research into the social determinants of health. The NHMRC awarded 459 grants39 to projects described with a reference to the socio-economic aspects of health, with expenditure of $239 million from 2000–2012 for this category. The database includes fellowships and postgraduate scholarships. NHMRC supports health and medical research through grant application and peer review processes and does not typically allocate funds for specific research topic areas. Research topics are investigator initiated and devised, and the process of peer review identifies and awards funding to the best research through open competition. The investigator initiated nature of the process means that the number of applications in any given area of health and medical research will vary from year to year. The level of competition and total funding available within the relevant scheme will then determine success rates in particular topic areas.

Of the 459 projects funded, 236 (51.4 %, $146 million) are identified to be about primary prevention. Twenty of these are about protection from hazards (communicable disease and environmental health) and a further fifteen projects are for oral health. The remaining 201 projects cover links of social factors to chronic disease risk factors, age and gender-based populations, mental health, health systems for prevention and socioeconomic determinants of health in general. About twenty per cent of the prevention projects included in the database are indigenous-specific projects.

Of the 236 prevention projects, 181 (76.6 %) are descriptive and 55 (23.3%) are intervention research. Of the 46 indigenous projects, 29 are descriptive and 17 are intervention research. Awarded funding increased from 2005 to 2009 with about 20% of this awarded to intervention research. The proportion of intervention research projects has increased gradually over the twelve years. Preventive health research activity involving socio-economic determinants has dropped from a peak of 88 active projects in 2008 (Figure 3.2).

Milat et al adapted a model for progression of research from understanding the problem to roll-out of an intervention from Nutbeam and Bauman’s Evaluation in a Nutshell – A practical guide to evaluation of health promotion programs.40 Applying their model to the 55 intervention research projects, 44 are testing for efficacy, 11 are for testing for replicability and none are about testing for dissemination of an intervention.
Thus, NHMRC funding is going to social determinants research projects which mostly help define the problems, not devise solutions. Of the intervention research occurring, most is about early efficacy establishment, with little on transfer to like populations and none on the later implementation issues for addressing population problems. The data on what applications are being made to funding bodies are confidential and not available to determine success rates within these categories. There may be relevant intervention research funded by other health research funders or that may be categorised as economic, educational or social research and thus funded elsewhere. There could be several reasons why more intervention research is not funded, but incentives, capacity and infrastructure support for this research should be explored.

**FIGURE 3.2 PREVENTIVE HEALTH RESEARCH INVOLVING SOCIO-ECONOMIC ASPECTS – NUMBER OF ACTIVE PROJECTS BY TYPE AND YEAR**

**Workforce and training**

The importance of a skilled workforce for effective implementation of health promotion and prevention programs and projects must not be underestimated. A national *Audit of the Preventive Health Workforce in Australia*, funded by the Australian Government through the NPAPH, was undertaken in 2010–11. The study found that the ‘preventive health workforce’ is a workforce to manage rather than plan and historically comprises different forms of labour and different professional groups, with few demarcation lines and an established practice of drawing on appropriate experience from non-health sectors. The audit report identifies and examines the workforce required to deliver the settings-based initiatives funded through the National Partnership Agreement on Preventive Health (Healthy Workers, Healthy Children and Healthy Communities) and proposes options to ensure sufficient capacity within the sector to support the roll out of activities and programs. The study also proposed a draft set of competencies congruent with the work envisaged by the NPAPH.
Emphasis is placed on organisational change, program management, facilitation skills, leadership and coordination that enables engagement with others so that prevention is seen as a responsibility shared across business groups within an entity such as government and across sectors. Efforts are underway in Australia to move health promotion towards becoming a registered profession. As part of this process, a set of core competencies has been developed by the Australian Health Promotion Association for practitioners, organisations, employers, and educators.

On a broader scale, solving health workforce issues across the entire system is the remit of Health Workforce Australia (HWA). HWA is collating data on selected allied health professionals including those with significant preventive health responsibilities such as dietitians, pharmacists, oral and mental health workers, hygienists and opticians. Other preventive health practitioners come with professional skills in diverse areas including public health, health science, social science and teaching.

Further, HWA has included projects that inform the development of policies and strategies to strengthen and sustain the Aboriginal and Torres Strait Islander health workforce and is examining the challenges of attraction and retention in rural areas.

**CASE STUDY 22:**

**Tailoring tertiary education in alcohol and other drugs for Indigenous Australians**

Indigenous Australians have a right and desire to be involved in delivering preventive and therapeutic healthcare. In recent years, universities and other institutions have strived to find more appropriate ways to provide effective, accessible education.

After receiving feedback that Aboriginal clinicians were keen to receive further training in managing alcohol and other drug problems, staff at the University of Sydney sourced external start-up funding to establish a course. A national steering committee of largely Indigenous clinicians and educators advised us that we needed to develop accredited courses that lead to career development options. Flexible entry must acknowledge prior learning; and teaching should be block release, so that mature age students can travel to university to participate and still meet family, community, cultural and financial responsibilities. Learning should be practical and relevant; while academic skills are important (e.g. to ensure graduates can access the ever-changing evidence base), all learning must relate clearly to the needs of workplace and community. Many talented individuals have had past education impacted on by family or community ill health or disruption, and many have experienced poor quality schooling or teachers telling them they would never succeed; as a result, step-wise and supported learning with confidence building is a priority. Learning should be small group and interactive.

The resulting Graduate Diploma Indigenous Health (Substance Use) and associated Masters and Graduate Certificate programs were formed in 2008 and now accept cohorts every second year. Students come from around Australia and so far 34 students have graduated, six with masters. Teaching staff have learned a huge amount from students, who are mostly mature age clinicians. The students’ enthusiasm for learning provides ongoing inspiration. Working with graduates and other Indigenous clinicians, the *Handbook for Aboriginal Alcohol and Drug Work* was produced to make the evidence base more accessible and relevant to students, and also to Indigenous clinicians and community members Australia-wide.
CASE STUDY 23:
Infrastructure for health promotion in NSW

NSW has a comprehensive approach to ensuring that the right infrastructure is in place to support coordinated action on preventive health.

Service Level Agreements with Local Health Districts include key performance indicators for priority prevention program areas like obesity. The Ministry of Health leads a complementary data collection and monitoring system and this has proven particularly successful in raising visibility and driving progress.

In 2011 the Office of Preventive Health was launched to support the implementation of priority state-wide preventive health programs. The Office supports the Local Health District-based workforce with a specific focus on obesity prevention.

NSW has established a number of research centres such as the Physical Activity, Nutrition and Obesity Prevention Research Group at the University of Sydney and the Healthy Built Environments Program at the University of New South Wales. The Ministry of Health and local health districts use the research generated to help develop and evaluate evidence-based policies and programs.

Workforce development strategies include formal state-wide networks for staff working on tobacco control and healthy weight initiatives. The networks discuss challenges and share information about policy developments. The research centres also increase workforce capacity by delivering innovative education.

NSW draws upon the expertise of the Ministerial Advisory Committee on Preventive Health. The Committee includes population health, chronic disease management, primary care and Aboriginal health specialists. In 2012 it advised on an integrated state-wide model for type-2 diabetes prevention.

In Summary

This chapter has highlighted the range of sophisticated and diverse policy, regulatory and social marketing interventions that have been implemented in Australia. The partnerships and infrastructure that support these are robust and continue to develop. The next chapter outlines how Australia’s prevention efforts are supported and enhanced by the role of the many primary care professionals within communities around Australia who further strengthen and support our prevention and health promotion efforts.
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Chapter 3: Prevention On The Ground


Local government’s role in prevention

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Local governments across Australia have a long history in promoting and protecting health in a whole range of areas including monitoring food safety, immunisation, sanitation and checking water quality. Increasingly local government has become aware that while they may not be funded to work in the illness sector, they have always shaped the health and well being of their communities as they have a significant influence on how communities are planned.

We now know that the real determinants of health are beyond individual lifestyles, important as these are. They include things like access to housing, transport, health services, work, unemployment, addiction, early life experience and social exclusion to name just a few. As the level of government closest to the people, the infrastructure and services councils provide can directly promote and enhance the health of a community.

Further, as the land use planner of a community, councils ensure there are open spaces for people to use, with shade and seating, playgrounds, ovals, swimming pools, walking and cycling paths and sporting facilities, libraries, art and cultural programs and general community activities for its residents. Councils provide programs and service for babies through to the elderly. Social programs and places for people to interact with their neighbours ensure a good level of mental well being, connecting us to our community so we feel that we belong and are valued.

Councils across Australia have been developing plans in partnership with ratepayers for more than a decade and these plans cover more than ‘roads, rates and rubbish’. They address the broad social end economic determinants of health that impact on our communities, describe our important role, and demonstrate how local councils promote health through programs and importantly shaping the environment to make the healthy choice the easy choice for all residents and visitors. Councils are involved in health promotion and when this is well understood good decisions for the community can be made into great ones.

There are many excellent examples of health promotion programs that are conducted by councils with funding from other levels of government. Research and evidence increasingly shows that localised programs are the most useful, where residents are able to have input and are valued participants.

Evaluation is the key to improvement and much can be learnt from sharing experiences with others. Local government is very good at this. We are not taking on new roles in health promotion, we are being strategic by acknowledging that what we build, and the services we offer will impact on the health and well being of our community and we need to consider this with every decision that we make.
Schools provide a platform for effective preventive health action

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Australia is right to be concerned that as recently as 2011 under 75% of 20 to 24 year olds from our most disadvantaged groups had attained their Year 12 certificate or its equivalent. The consequences are significant for those individuals throughout their lives, and our society. The national debate around this issue would have us believe that, as far as schools can intervene to assist, the solution lies with teacher quality, national curriculum and improved National Assessment Program – Literacy and Numeracy (NAPLAN) results. Important as these are, the evidence is that there is more to the story. Put simply, healthier students are better learners. Evidence collected through projects such as the Australian National University School Climate Project make it clear that health and wellbeing are essential for success at school. More specifically, we know that “connection to school” correlates positively with academic achievement. Health and wellbeing must therefore be part of the fundamental mission of schools.

Thanks to Australian initiatives which have been evaluated, like MindMatters and the Gatehouse Project, we do know how to intervene effectively in school settings. We know that building the capacity of school communities to promote the social and emotional health and wellbeing of students will reduce the consumption of alcohol, tobacco and marijuana, whilst contributing to improved learning outcomes.

The next Commonwealth State education funding agreement offers a timely opportunity to incentivise all schools to implement evidence-based interventions, and the new national Health and Physical Education Curriculum, can help equip students with the capabilities to maintain their health and wellbeing throughout their lives.

These are important policy levers. But alone they are not enough. The bipartisan school autonomy agenda means that increasingly school leaders will have the flexibility to allocate resources; so it is critical that they, and their school boards and councils are armed with the information they need to make the right choices about the initiatives they should invest in.

School leaders have the responsibility and capacity to set both the priority to address health and wellbeing, and the implementation approach to achieve this goal. This must be “whole-of-school” to be effective; that is, the school’s policies and procedures, its planning and organisation, its performance measures and reporting framework, and the development of its staff must support, rather than hinder, the outcomes we are seeking. We need our school leaders to be strategic.

Once the whole-of-school framework and strategy are in place, an impressive range of agencies and programs that offer valuable health education can be assembled and targeted in partnership with the school for effective delivery. A school Health and Wellbeing implementation team tasked to ensure that these resources are coherent with curriculum, and integral to the school’s strategic direction, can ensure real health goals are met within the school environment.

The ‘crowded curriculum’ is a valid concern – and curriculum content only continues to expand! But the health and wellbeing of our children and young people are core to their learning, and to both the national education and health agendas. Strong school leadership backed by expert health partners is essential to success. Let’s hope that the opportunities provided in 2013 are embraced!
Prevention of chronic disease — creating evidence for action

Health and medical research is a cornerstone of our ability to maintain our life expectancy and quality of life. Critical to this is the prevention of the chronic diseases that have become associated with our modern lifestyles. These diseases pose an enormous challenge for our future health. There are growing numbers of people in our communities whose health, employment, family and social life are adversely affected by obesity, harmful consumption of alcohol and smoking.

Health and medical research has already provided important evidence about the effects of obesity, smoking and hazardous drinking. Indeed, it is over 50 years since the Royal College of Physicians published its report on the epidemiological evidence for the harm done by smoking.

Fifty years on, there is stronger public support for the need to reduce the prevalence of smoking in our communities, despite a drop from its historical highs in the middle of the twentieth century. There is clearly a need for us to understand to the same extent the social, economic and environmental reasons for hazardous drinking, poor diet and physical inactivity and to continue to work to prevent the health consequences of smoking.

Research will provide the evidence as to how the health system, individuals and communities can prevent the onset of these chronic diseases. Health and medical research will also help us to understand how the primary healthcare system and public health can help prevent chronic disease.

It will provide the evidence to enable an understanding of which indirect and population-wide interventions are effective and for which people, as it is patently clear that there is neither a ‘silver bullet’ nor a ‘one size fits all’ solution to these contemporary and significant health challenges.

The strength of National Health and Medical Research Council (NHMRC) lies in its national and global partnerships and leadership.

Investment in research across all four pillars of clinical, health services, biomedical and public health research must continue, through NHMRC and also through the Australian National Preventive Health Agency’s research funding program. However, research evidence must also be translated into practice.

This is why NHMRC has established the research translation faculty to ensure that Australia’s world leading health and medical research system is supported by the more effective and accelerated translation of health and medical research into improved policy and practice. It will draw on the significant pool of scientific knowledge of its members and on the experience that they have in positions in health policy and practice.

Initially, the Faculty will focus on the key activity of identifying the most significant gaps between research evidence and health policy and practice in NHMRC’s Major Health Issues and the National Health Priority Areas and on developing a compelling case for NHMRC as to how to address those gaps.

Possible actions for addressing a gap might include advice to government about health policy, clinical or public health guidelines and/or identifying opportunities for collaboration with strategic partners.

NHMRC is committed to funding the best research and to developing expert, evidence based advice for Australia. Through the 2012–15 triennium, we are committed to achieving our strategic priorities together with Governments at all levels, professional bodies and national and international partnerships. Through these initiatives, we will see further success in preventing chronic disease across our communities and seeing a healthy Australia.
Preventive health matters for consumers

JENNI MACK
CHAIR, CHOICE

CHOICE empowers, protects and helps consumers and recognises the importance of using a range of preventive health interventions from educating and motivating consumers to regulation and legislation.

The benefits of preventive health are often articulated in economic terms but CHOICE cares about preventive health because consumers care about preventive health. Consumers want to be able to make decisions that will enhance their chances of a long and healthy life—and they want government to provide an environment in which the health consequences of day-to-day decisions are clear.

Creating this environment requires a few key elements. It requires a public health system with strong links to research; a commitment to consumer advocacy; and government agencies with the ability to employ a range of policy and regulatory responses.

The importance of these elements is demonstrated by our work over many years to achieve a better front-of-pack labelling system for food:

- The need for improved labelling in relation to sodium, saturated fat and sugar has been identified by research that demonstrates alarming increases in preventable diseases linked to nutrition;
- consumer research has indicated that information on the nutritional analysis of food is important to consumers;
- consumer advocacy and public health groups have used this research to build the case for reform;
- the Department of Health and Ageing has facilitated a process involving consumer, public health and industry groups, to develop a new voluntary system; and
- the delivery of a social marketing campaign to inform consumers about the new system will be important.

CHOICE recognises how important health literacy is in assisting consumers to understand information about health; to access different parts of the health system including preventive services and to manage their own health including chronic conditions. Informed consumers of health services will demand and expect providers to focus on prevention and be responsive to the literacy levels of the consumer.

The community will be stronger if our health system supports prevention. That will be good for government, good for the economy, and good for consumers who want to protect and improve their own health.
CHAPTER 4: PRIMARY HEALTH CARE: SUPPORTING PREVENTION
PRIMARY HEALTH CARE IS WHERE PREVENTIVE HEALTH BEGINS
Chapter 4: PRIMARY HEALTH CARE: SUPPORTING PREVENTION

Prevention starts in the community where people are born, grow up, raise their families, work and age. In and amongst these communities are primary health care providers, leaders that are trusted and influential both in their place of practice and as members of the community. This is the setting where preventive health begins and where it continues and is supported throughout life (see also Figure 3.1, Chapter 3). The opportunities for, and evolving roles of, this sector at an individual, community and systems level are the focus of this chapter.

More than 88% of the Australian population visit a general practitioner (GP) at least once a year. Combined with the care and interactions that people have with other primary care disciplines such as physiotherapy, occupational therapy, dietetics, pharmacy, psychology, chiropody and naturopathy, people accept, and expect, that primary health care providers play a role in preventive care. Individuals with risk factors for chronic conditions frequently present in general practice, providing an opportunity for preventive interventions across the health care continuum. Primary care providers play a critical role in secondary prevention and as such are central to managing and reducing the burden of chronic disease on individuals, workplaces, secondary and tertiary health care systems and the economy more broadly.

This role has long been recognised and is a key principle of international declarations on primary health care. As far back as 1978 the Declaration of Alma Ata emerged from a conference on primary health care in the old United Socialist Soviet Republic (USSR). This declaration noted, amongst other things, that primary health care should:

- Address the main health problems in the community, providing promotive, preventive, curative and rehabilitative services accordingly; and
- Include at least: education concerning prevailing health problems and the methods of preventing and controlling them; promotion of food supply and proper nutrition, an adequate supply of safe water and basic sanitation; maternal and child health care including family planning; immunization against the major infectious diseases, prevention and control of locally endemic diseases; appropriate treatment of common diseases and injuries and provision of essential drugs.

In the Australian context the National Primary Health Care Strategy (2010) succinctly made the case for primary care – as the frontline of health service and health information provision for Australians – to play a role in prevention:

Australia’s health care system faces significant challenges due to the growing burden of chronic disease, an ageing population, workforce pressures and unacceptable inequities in health outcomes and access to service. Chronic diseases place an enormous demand on the health system, with more than 50 percent of consultations with GPs attributed to people with a chronic condition such as heart disease, cancer or diabetes.

The strategy includes a recommendation that primary health care be reoriented to increase the focus on preventive health. More recently, the guidelines for Medicare Locals, the new primary health care organising structures, identify a list of functions for these entities including supporting the implementation of initiatives that improve the prevention and management of disease in general practice and primary health care.
The challenge now is to find further practical ways for clinicians and health planners to realise these ambitions and to make gains in health outcomes by having the primary health care sector effectively and efficiently engaged in the evolving preventive health system. As described in the previous chapter, there are many partners and players in prevention, including across sectors. Thus roles must be defined and monitored to ensure efficiency and effectiveness against the goal of improving the health and wellbeing of all of the population.

**Defining primary health care**

While many definitions of primary health care exist, the simplest descriptions involve some combination of:

- The first level of care or the entry point to the health care system for most people, and
- An approach to health care that is concerned with continuing care, accessibility, community involvement and collaboration.

Put even more simply, primary care could be viewed as people-centred health care that is based in the community rather than in a hospital.6

The characteristics that distinguish primary health care from acute or single-issue care include: a focus on health needs (rather than specific episode of illness and treatment), an enduring relationship between care provider and person/carer, comprehensive person-centred care, a general responsibility for health along the life cycle, and an approach that involves people as partners in their own health and that of their community.7 Primary health care also recognises the impact of the range of determinants (including social determinants) of ill-health and seeks to address these where possible and appropriate to do so.

**The primary health care sector in Australia**

**Primary health care workforce**

Approximately 25% of Australia’s health professionals work in primary care, defined as those employed in general practice medical services and community-based dental, allied health, pharmacy and nursing services. These include: 8

- 25,000 GPs9 with nine out of ten in the 7,000 general practices;10 more than 400 GPs work in Aboriginal community-controlled health services;
- 13,900 community nurses10 and 10,700 practice nurses; more that 60% of general practices have a practice nurse;11
- More than 90,000 registered allied health practitioners in Australia12 of which 38% work in community and primary care settings;
- 1,000 Aboriginal Health Workers with 45% of these in Queensland or the Northern Territory;13 and
- 19,200 pharmacists; 11,900 dentists and 27,000 dental workers; 26,700 complementary therapists (or alternative health practitioners); 80 to 85% of these providers operate in primary care settings.14
Primary health care infrastructure

The primary health care sector in Australia has undergone significant change over the past two decades, and there is some blurring of the boundary between the primary care and acute care (or hospital) sectors. Similarly, the boundary has blurred within the primary care sector between services traditionally funded by the Commonwealth government and those funded by state and territory governments.

As outlined in the description of workforce, a large segment of the primary care infrastructure is private clinical practice, although funded from a mix of public and private sources (see also figure 1.5 in Chapter 1). Other key aspects of the infrastructure include:

- **Medicare** provides Commonwealth Government-subsidised rebates for episodic medical care and, increasingly, planning and management of chronic conditions (e.g. diabetes, mental health), screening (e.g. cervical cancer), and general practice systems (e.g. recall systems) and staff including nurses and allied health workers.

- **State government services and programs** target ‘well health’ (e.g. baby clinics), population groups (e.g. Indigenous peoples, women, youth, migrants), and specialised services such as family planning, alcohol and drug treatment services, and mental health programs. State/territory governments also fund or provide public health initiatives, including immunisation, health promotion, cancer screening, community nursing, environmental health, food standards and hygiene, and (in some jurisdictions) local public health units. The scope and depth of these initiatives vary across jurisdictions and also within individual communities.

- **Local government health-related services** undertaken by councils vary considerably across jurisdictions, but can include municipal health planning, childhood immunisation and maternal and child health centres. Local government also provides other prevention-related services and infrastructure including sport and recreation facilities (including cycle ways and walking trails), in addition to traditional services such as urban planning, road safety and traffic calming measures, food safety inspections and municipal waste management.

- **Aboriginal community-controlled health services** provide comprehensive and culturally appropriate primary care to Aboriginal and Torres Strait Islander communities in more than 150 locations across Australia. Communities operate the services through locally elected Boards of Management and provide a wide range of clinical and preventive health programs.

- **Medicare Locals** are an organisational structure for primary health care including coordination and management of service gaps at a local level. The Council of Australian Governments mandated the creation of these new regional primary health care organisations to drive improvements in primary health care and identify and address health needs and service gaps in their local communities. The preparation and maintenance of local population health plans – including understanding the health status, service utilisation issues, at-risk populations and unmet needs, infrastructure and influences on health in their local community – sets the scene for funding decisions and priorities for local action.
Non-government organisations such as the National Heart Foundation and the Cancer Council play a critical role in health and community care through the provision of programs and services, consumer advocacy, information and referral, and carer and home help services. They exist at local, regional, state/territory and national levels, and focus on a diverse range of issues including disability, specific diseases or conditions, and population groups e.g. women, migrants, youth or Indigenous peoples. Many disease-specific and community organisations receive limited public funding and rely on donations, product sales and fundraising for a significant proportion of their revenue.

Private health insurance funds are traditionally limited to providing rebates to their members for the cost of private allied health and complementary services. However, there is a newly emerging role for health funds, as they provide healthy lifestyle services, including health risk assessments, chronic disease management and lifestyle modification coaching and support.

Workforce prevention and healthcare providers such as the Australian Defence Force provide prevention and healthcare services within their workplace setting. Screening and other preventive health programs are becoming more common among large private sector employers.

A framework for delivering prevention through primary health care

The potential for primary health care to support and extend preventive health efforts occurs in a number of ways and at a number of levels. The potential is based on a recognition of the social and environmental influences on health and of the importance of local partnerships between health providers and services and a range of other organisations and settings, including government agencies at all levels, schools, workplaces and businesses, community groups and media.15

Primary health care can play a role in prevention at any one or all of three levels:

- Individual – between the primary care provider and their client/patient
- Population – within and for a local community, including employers and workplaces
- System – addressing the health and social systems within and beyond the local community that affect health services and health status.16

Organisations and the interrelationships between individuals and community-based professionals link these levels. Action is possible solely within each level or across more than one. For example, primary care providers can reinforce messages designed to support people taking preventive action at an individual level and/or refer individuals to services that support dietary changes or increased physical activity. Primary care providers can advocate for changes to workplaces or community environments to help make the healthy choices easier to adopt. At the system level, advocacy and advice to governments, and support for policy, program and regulatory change, assists to support informed decisions that in turn support individual and community level change.

The actions that Medicare Locals take to enact health promotion and disease prevention may traverse all three levels. Whether they do depends on their capacity for leadership and their assessment of the population’s health and needs; the priorities identified by the Medicare Local’s primary health care providers and populations in consultation with each other; and on the available resources and capacity of providers and partners.
Prevention at the individual level

Primary care providers have a tremendous opportunity to deliver and support preventive health care action given their wide community reach and contact with individuals through clinical care settings.

A key framework for understanding the ways in which prevention can be implemented at the individual level is depicted in the diagram below. This continuum has been developed to support primary care providers to identify the actions that a primary health care provider can take to support their clients to improve their health (Figure 4.1). This model is known as the 5As approach and is outlined below.

**FIGURE 4.1: THE 5AS FOR MANAGING BEHAVIOURAL RISK FACTORS IN CLINICAL CARE**

**ASK**

- **ASSESS**
  - Risks + Readiness to change
  - Health literacy

**ADVISE**

- Motivational Counselling and education

**AGREE**

- Collaborative goal setting

**ASSIST**

- Referral education and support small group sessions

**ARRANGE**

- GP follow up

**Source:** Harris, M.17

Assessment

Primary health care providers assess individual risk factors (figure 4.2). The timing of the assessments and the strategies recommended are informed by scientific evidence.
### FIGURE 4.2. RECOMMENDATIONS FOR ASSESSMENT OF INDIVIDUAL RISK FACTORS

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Smoking:</strong></td>
<td>Smoking status should be assessed for those presenting to primary care over 10 years of age ideally at each consultation.</td>
</tr>
<tr>
<td><strong>Nutrition:</strong></td>
<td>Every 2 years providers should ask about number of portions of fruit and vegetables and amount of saturated fat eaten per day.</td>
</tr>
<tr>
<td><strong>Alcohol:</strong></td>
<td>Every 2-4 years, providers should ask about the quantity and frequency of alcohol intake aged 15 years and over.</td>
</tr>
<tr>
<td><strong>Physical activity:</strong></td>
<td>Every 2 years, information about the current level and frequency of physical activity can be reviewed and advice given.</td>
</tr>
<tr>
<td><strong>Weight:</strong></td>
<td>Every 2 years, body mass index (BMI = weight in kg divided by height in metres²) and waist circumference should be measured. Those people who have BMI over 25 are considered overweight and those over 30 are considered obese. For children and adolescents BMI percentile charts should be used to monitor growth.</td>
</tr>
<tr>
<td><strong>Blood pressure:</strong></td>
<td>Blood pressure should be measured for all adults from 18 years of age at least every two years.</td>
</tr>
<tr>
<td><strong>Cholesterol:</strong></td>
<td>Adults should have their fasting blood lipids assessed starting at 45 years of age, every five years.</td>
</tr>
</tbody>
</table>

Adapted from: Royal Australian College of General Practitioners

The primary health care sector uses key tools to assess a patients’ risk of developing heart disease or diabetes such as the Absolute Cardiovascular Risk Assessment and the Australian Type 2 Diabetes Risk Assessment (AUSDRISK) Tool.

Primary care providers are also well placed to assess individual’s health literacy. Health literacy is the knowledge and skills that help individuals to gain access to, understand, and use information in ways which promote and maintain good health. Primary health care providers can screen for health literacy (figure 4.3) and develop the skills necessary to support patients by matching their communication style with their health literacy level (see also Box 1). Key communication skills include understanding the need to provide patients with three to five key points, being specific and repeating key points, drawing pictures, using illustrations or demonstrating with models, and confirming that their clients understand what they need to know.
A number of the barriers to accessing and fully benefiting from primary health care relate to health literacy. Health literacy can be described as “the ability to make sound health decisions in the context of everyday life. It enables people to increase their control over their health, their ability to seek out health information, to navigate complex systems, take responsibility and participate effectively in everyday life.”

Limited health literacy is a pervasive and independent risk factor for poor health outcomes and, as such, health services need to take it seriously and identify and respond in order to help people reduce risk factors, improve uptake of treatment and support effective self-management.

About 40% of Australians have adequate to high levels of health literacy leaving 60% who require assistance. Assessing health literacy can be difficult. Screening questions are available but there is little agreement on the best choice. Primary health care providers can support all patients by, for example, limiting advice to between three and five key points, being specific and repeating key points, drawing pictures or diagrams, using illustrations or demonstrating with models, and confirming that patients understand what they need to know.

The American National Patient Safety Foundation also encourages the use of the Ask Me 3 technique. Ask Me 3 promotes three simple but essential questions that patients can ask their providers in every health care interaction:

1. What is my main problem?
2. What do I need to do?
3. Why is it important for me to do this?

It is not clear to what extent health services are encouraging and supporting consumers to use this technique but it is an area for potential development, especially in relation to the prevention and better management of chronic diseases.
Advise/Agree (Brief interventions)

Primary health care providers also provide advice about individual risk factors (figure 4.4).

FIGURE 4.4. RECOMMENDATIONS FOR BRIEF INTERVENTIONS FOR INDIVIDUAL RISK FACTORS

<table>
<thead>
<tr>
<th><strong>Smoking cessation:</strong></th>
<th>Everyone presenting to primary care who smokes, regardless of the amount they smoke, should be offered smoking cessation advice. Brief counselling interventions, nicotine (chewing gum, tablets, patches etc.) and prescribed medicines have been shown to help people to quit.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Alcohol:</strong></td>
<td>Brief advice given to people with risky levels of drinking has been shown to help them to reduce their alcohol consumption by about 6 standard drinks per week.</td>
</tr>
<tr>
<td><strong>Physical activity:</strong></td>
<td>All adults should be advised to participate in 30 minutes of moderate activity on most, preferably all, days of the week (at least 2.5 hours per week).</td>
</tr>
<tr>
<td><strong>Diet:</strong></td>
<td>Brief advice to reduce saturated fat and sodium and increase fruit and vegetable portions (2+5 portions).</td>
</tr>
<tr>
<td><strong>Weight:</strong></td>
<td>People who are overweight or obese should be offered individual lifestyle education. Weight loss of 5% of body weight can confer significant benefits in terms of prevention of chronic disease. This may be achieved with a diet that provides 2500 kJ energy less than that required to stay the same weight together with increased physical activity (60 minutes of moderate intensity 5 days per week) supported by behavioural counselling.</td>
</tr>
</tbody>
</table>

Assist (Refer)

To assist people improve their health, primary health care has a role in referring people to other services and programs. It is recognised that for diet, physical activity and weight, brief interventions, where people are given advice and simple strategies are often not enough to achieve and maintain changes in behaviours or health. Referral to programs that often consist of at least six sessions over several months help people achieve and sustain long term changes.

Interventions are delivered in a number of ways, including through group and individual education programs, telephone or internet. These programs utilise the skills of professionals, including practice nurses, dietitians, exercise physiologists, psychologists, health educators and peer educators, and are provided by different organisations (health, non-health, private and public).
Increasingly, lifestyle education and coaching programs are being provided by telephone, internet, SMS text and social media. Telephone counselling has been shown to support changes to and maintenance of diet and physical activity behaviours. Internet-based interventions on behaviour change have been shown to be effective.

**Arrange**

Maintenance of lifestyle change is difficult. Programs that help people to prevent and deal with relapses in alcohol and smoking have been effective, whereas many people regain any weight lost within one year following an intervention. Trials that appear to be more successful in achieving and sustaining weight loss have been those which are of longer duration.

Australian primary health care providers have been found to assess at least some of their clients’ behavioural and physiological risk factors most of the time. It is estimated that about half of those assessed by their GP to be at risk of heart disease are offered brief advice or management in primary health care. The rates of brief advice for quitting smoking are higher. Support is still needed to encourage more GPs to assess health risk and where indicated, give advice about ways to reduce risk. Increasing practitioner skills and people’s expectations about the role of their primary care provider, making the time available in consultations and providing additional incentives, tools and support will continue to increase the rate of assessment and brief advice given to Australians who visit their general practitioner.

The provision of health checks for specific high-risk age or population groups provide more comprehensive assessments and interventions. These improve the frequency of the assessment and management of the lifestyle risk factors in primary care. There is also evidence that these are taken up by low socioeconomic groups at the same or better rate as for high socioeconomic groups. Targeted health checks that offer specific evidence based preventive interventions for those at-risk may deliver more effective and efficient health outcomes than checks for those at low risk that may not have the same health gains.

Many primary care providers refer people who are overweight or obese to more intensive interventions and this can present some challenges. Only a small proportion of people who are at risk of chronic disease are referred to and attend other providers or services for more intensive interventions. It is recognised that referral may be more successful if those identified as being at risk are ‘ready for change’, the referral process is coordinated and barriers such as cost are reduced. It is often easier to refer people with chronic disease (who are generally older, in poorer health and may be eligible for access to subsidised private referral) to public hospital services or private allied health providers. Successful referral is more difficult for those at risk of chronic disease. Typically, as with other programs that address risk factors, barriers also exist. There are, for example, waiting lists for public allied health services, which delay entry into programs, limited availability at suitable times and places and often a reluctance among some people to be referred, especially to group programs.
CASE STUDY:
Disease prevention through a referral program\textsuperscript{56}

Sydney South West Medicare Local in partnership with Exercise and Sports Science Australia coordinates the Healthy Eating Activity and Lifestyle (HEAL™) program, a National Program Grant recipient under the Commonwealth’s Healthy Communities Initiative. HEAL™ is designed to assist adults who are overweight or obese, those at risk of developing cardiovascular disease or type 2 diabetes and those who have type 2 diabetes. HEAL™ offers eight weekly group sessions comprising an hour of supervised low to moderate intensity physical activity followed by a one hour healthy lifestyle education class. Individual health consultations to assess health status, fitness, measure progress, plan an appropriate exercise program and provide ongoing support are also provided at the start of the program and after the eight weeks of classes.

As at December 2012, HEAL™ was available in 70 local government areas across Australia including in all capital cities and in a broad network of rural and remote areas. A total of 271 facilitators have been trained and 198 cycles of the HEAL™ program had commenced involving more than 1900 participants. HEAL™ has been successfully delivered to arrange of traditionally hard-to-reach target groups including Aboriginal Australians; culturally and linguistically diverse population groups, refugee and migrant communities, people living with a mental illness, young mothers, older Australians and unemployed people.

The HEAL™ program has proven to be highly effective. Baseline and post program data collected from more than 1000 participants to December 2012 shows statistically significant improvements in all health variables measured including reductions in waist circumference body mass, systolic and diastolic blood pressures, daily sitting time, increases in physical activity and daily serves of fruit and vegetables.

Improving the communication and coordination between different members of the health care team has a significant impact on the effectiveness of preventive care interventions in primary care.\textsuperscript{57,58,59} The expansion of the number and roles of practice nurses provides an opportunity for this to be developed within the practice. Effort is needed to ensure that both formal and informal communication is improved within primary care services. Creating teamwork across providers who work in different locations and organisations is more difficult,\textsuperscript{60} and while the Personally Controlled Electronic Health Record (see Box 2) should help communication between providers, greater linkages between services are needed to streamline care pathways and feedback loops.
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**Box 2: The Personally Controlled Electronic Health Records (PCEHR)**

The PCEHR is an opt-in system, rolled out in phases from July 2012, that allows health practitioners and hospitals to view and share relevant health information about registered individuals, such as individual clinical events (visits to GPs, medical specialists or allied health providers), medications, test results, hospital discharge summaries, allergies and vaccinations.

For more information see: [www.eHealth.gov.au](http://www.eHealth.gov.au)

Medicare Locals provide assistance to primary health care services to improve the quality of the preventive care provided. They support education and training for providers, help develop and implement more integrated information systems (including the PCEHR) and develop better referral networks and services. Practice support is most effective when provided locally by teams who identify the barriers in the local context. Facilitation of support that involves the entire primary health care team is best placed to improve the quality of care.

**Prevention at the community level**

Through organisational structures, such as Medicare Locals, primary health care providers have an opportunity to play a leadership role in improving the health of the community while supporting individuals in their efforts to live well and prevent chronic disease.

In the case of Medicare Locals, these organisations do not have all the responsibility for planning and service delivery but they do have a critical role in advocating, communicating, influencing and forging strategic partnerships to ensure the individual can navigate and receive effective and comprehensive service. While the settings and lead entity for specific preventive health activities will vary according to any given health issue, target population or regional requirements, the primary health care organisation and/or players can ensure the partnerships and pathways are integrated and easily navigated.

To be most effective, individual preventive care is complemented by, and linked to, community based programs and resources that support healthy living outside the context of individual health care. This involves working with appropriate partners at individual, organisational, community and state levels to provide more tailored interventions for particular populations. Approaches to improving the health of communities are most effective when they involve local communities and are tailored to local needs. These strategies can increase access to skills and resources that enable people to adopt more health promoting actions and improve health literacy. Developing relationships within communities takes time and often needs to start in addressing priority issues identified by the community. Multilevel strategies are more effective than single strategies, including building linkages between primary health care and other services and developing community awareness.
Medicare Locals and other primary care organisations such as Victoria’s Primary Care Partnerships have developed local collaborations with state health, local councils, non-government and community organisations and Aboriginal organisations to support preventive health, especially for diabetes prevention, chronic disease self-management and physical activity. Community-based preventive programs can be brokered through coordinators, or internet or telephone-based services, or jointly owned and operated by partner organisations such as a Medicare Local and the Local Hospital Network or non-government organisations (NGOs). Medicare Locals can also provide forums for improving links, for example between general practice, private allied health, state community health services and Aboriginal community-controlled health services.

At the community level Medicare Locals, together with their primary care partners, have a role in working with public health and health promotion units, as well as with other sectors such as local councils, industry and community organisations to create supportive environments that promote health68 – both the physical and the social aspects of our surroundings where people live, their local community, their home and the built environments within which they live, work and play (see Box 3). This is especially important in promoting opportunities for physical activity in schools, workplaces, recreation-facilities and in the planning of neighbourhoods. For example Medicare Locals are working with local councils and the Healthy Communities Initiative to establish exercise referral programs and facilities for physical activity. Others have seized opportunities to work with programs in schools, preschools and child care centres to promote healthy diet and physical activity such as the ’Romp and Chomp’ program for preschool children.69

Communities can be supported to work together to prevent illness and promote health. This is particularly important in prevention with disadvantaged populations.70 In the United States, the Centers for Disease Control and Prevention program WISEWOMAN successfully developed partnerships between clinical services and NGOs (such as the heart and stroke foundations), local government and local community organisations (including church groups) in the delivery of preventive programs.71 This has allowed the programs to reach those most in need, and helped to ensure the programs have sustained for almost two decades.

In Australia preventive action at the community level must also aim to reduce factors leading to health inequity. Just how well a particular program or plan addresses these equity issues can be assessed through the use of an Equity Focused Health Impact Assessment. This Assessment provides a flexible but structured approach to identifying, determining and seeking to improve the possible impacts of a plan on vulnerable population groups and is already being used by some Medicare Locals in their planning for after-hours medical care.72 For example better educated and informed people may be more likely to benefit from community education or awareness raising programs. This may be addressed by tailoring the approach to the needs of groups who might otherwise miss out.
The Australian Government’s Disease Prevention and Health Promotion in Medicare Locals Program, managed by the Australian National Preventive Health Agency, is providing funding support to Medicare Locals to partner with health services, local councils, researchers and other organisations to deliver and evaluate preventive health initiatives. The seven initiatives funded under the Program are:

The Metro North Brisbane Medicare Local Health Promotion Navigator Project increases awareness of lifestyle risk factors and interventions available to local community members, including through development of a web application that provides interactive screening tools to identify risk of cardiovascular disease, diabetes and kidney disease. The application will have the capability to link disadvantaged clients in outlying areas to local health professionals and lifestyle modification programs on completion of online assessment.

The Wide Bay Medicare Local Active By Community Design – ABCD: the Building Blocks for a Healthy Community engages local communities to create healthy public places and environments that promote active living and increase usability of local parks and open community spaces. Local employment and skills training groups and other community organisations will provide labour to develop trails and paths, sporting fields, open spaces for free play and active play equipment for park users to be physically active.

The Inner West Sydney Medicare Local consortium with Eastern Sydney Medicare Local Literacy Gap in Health Among Target Population (LIGHT) project addresses low health literacy, as a significant barrier to risk factor reduction and chronic disease prevention, among disadvantaged inner Sydney communities. Primary care providers will be given the tools to identify patients with low health literacy to develop the skills needed to communicate more effectively with these groups about improving lifestyle risk factors for chronic diseases.

The Western Sydney Medicare Local Western Sydney Diabetes Prevention Program is developing a strong, sustainable primary prevention alliance between key partners in Western Sydney, focused on a “whole of system approach” to increasing protective behaviours amongst high risk populations and reducing the prevalence of type 2 diabetes. The program will include targeted community, workforce and general practice-based screening and a range of lifestyle modification options.

The Northern Adelaide Medicare Local Northern Respiratory Partnership – Creating better pathways for COPD and Asthma prevention project is implementing an integrated approach to prevention across the health care continuum through the region’s acute care, primary health care services and population health programs, with the aim of reducing the impact of unmanaged chronic diseases and associated risk factors, using smoking and its impact on preventable asthma and COPD as a model. The project will test a partnership approach as a model for addressing common issues of concern by concentrating effort amongst all partners for a minimum of two years (using smoking, asthma and COPD as the issues to target).
The Great South Coast Medicare Local Healthy Great South Coast project aims to: reduce weight and establish sustained lifestyle changes in at-risk adult participants; increase awareness of healthy lifestyle behaviours; improve integration between primary health care and settings (specifically workplaces and schools) for preventive activity; and improve the effectiveness of partnership approaches for preventive health.

The ACT Medicare Local Resource and Education About Diabetes for Refugees (READ) is improving lifestyle and chronic disease self-management in refugees with low literacy by developing an Australian-specific multi-level prevention approach suitable for application across other languages and health issues. Activities will include training of community workers, development of appropriate audio-visual resources, and referral to lifestyle modification programs.

For more information visit: [www.anpha.gov.au](http://www.anpha.gov.au)

Prevention at the Systems Level

The role of primary health care in enabling and supporting prevention effort across and within health systems was recognised in Australia’s first National Primary Health Care Strategy. Released in 2010, the strategy outlined key building blocks for strengthening primary health care in the context of a health system and four priority directions to stretch across these including an increased focus on prevention.

The Strategy provides a strong impetus for the development of more integrated and systematic approaches to preventive care based on evidence, especially for the lifestyle risk factors and including a focus on health literacy (the knowledge and skill that people need to maintain their own health). The Strategy envisaged that local primary health care organisations, now established as Medicare Locals, would be accountable for planning, delivering and reporting on health promotion and preventive health programs. These programs are aimed at improving the health of local communities, including disadvantaged groups who may use preventive care less frequently.

Into the future, the documentation of initiatives and evaluations undertaken by regional primary care organisations such as Medicare Locals will further inform how primary care can evolve to better support and lead community level prevention. More evidence of what works will inform the evolution of policies and programs that can strengthen the models available to deliver successful prevention. Workforce development strategies and financing systems that provide incentives for primary care providers to spend time developing and delivering preventive health programs may evolve over time if regional primary care providers document the systems barriers faced by the sector in making time for prevention activities.
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Improving access and services to disadvantaged and ‘hard to reach’ population groups

While disadvantaged populations often experience poorer health, they may also be less likely to receive appropriate preventive care. GPs working in socioeconomically disadvantaged areas tend to have less time for consultations and be less likely to offer planned preventive care. Many people living in disadvantaged areas are likely to have poorer health literacy and thus have less capacity to take up preventive care. Therefore reducing health risks such as smoking and obesity in these areas is likely to be more difficult.

Aboriginal and Torres Strait Islanders are at greater risk of chronic disease and have high rates of obesity, smoking, hazardous alcohol consumption and poor diet, yet are also more likely to miss out on opportunities for preventive care. Although annual health checks for Aboriginal people are funded under Medicare and there is a package of incentives to support better chronic disease prevention, some challenges remain. This is despite the significant efforts in recent years to address the barriers to utilisation and culturally-tailored delivery. Aboriginal community-controlled health services have been established and developed over the past 40 years to deliver a holistic and culturally appropriate approach to primary care with allied health professionals, including Aboriginal Health Workers, closely involved in patient care.

CASE STUDY:
Partnerships to address needs in a remote Indigenous community

The Northern Territory Medicare Local aims to close the health equity gaps at Utopia (a remote Aboriginal community in Central Australian also known as Urapuntja) by strengthening community capacity, supporting social networks, strengthening partnerships with government and non-government organisations, and reducing the burden of chronic disease. It advocates continued and increased support for this and other remote communities in providing food security and supply of sustainably cheaper fresh fruit and vegetables and healthy food choices through commercially viable models with active community participation. The purpose of the Utopia Community Gardens initiative is to address the factors that lead to chronic disease, by increasing access to affordable and healthy food items through development of community gardens, and assisting the community to prepare healthy meals using a community-based approach such as a community kitchen model.

For more information see: www.ntml.org.au/programs

Refugees are also identified as having high rates of long term illness, often complicated by psychological problems, poor health literacy and poor knowledge of the Australian health care system. Less than half of new arrivals receive Medicare funded health assessments\textsuperscript{80} and many asylum seekers have no access to primary care,\textsuperscript{81} missing out on opportunities for prevention and early intervention until they have already developed chronic disease.

A summary of the barriers that inhibit and limit the delivery of preventive care in disadvantaged communities is at Figure 4.5.

**FIGURE 4.5. BARRIERS TO PREVENTIVE CARE**

<table>
<thead>
<tr>
<th>Client/Patient barriers</th>
<th>Practitioner/Practice barriers</th>
<th>Local health system barriers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language, culture and literacy</td>
<td>Workload – demand on clinicians</td>
<td>Access to referral programs – cost of transport, location, availability, waiting time, delay in entry into programs, coordination of entry/referral</td>
</tr>
<tr>
<td>Openness of patients to disclosure of risk factors and barriers</td>
<td>Clinician’s attitude to referral and belief in effectiveness of available services</td>
<td>Waiting time for public services</td>
</tr>
<tr>
<td>Knowledge and attitudes to health</td>
<td>Access to GP – bulk billing</td>
<td>Workforce availability of nurses and health educators</td>
</tr>
<tr>
<td>Priority given to health vs. other priorities</td>
<td>Funding for nurses to do prevention GP based funding</td>
<td></td>
</tr>
<tr>
<td>Social factors, family stress, unemployment</td>
<td>Co-morbidity – depression and other physical conditions</td>
<td></td>
</tr>
</tbody>
</table>

Adapted from: Mei Yi Liew (2011)\textsuperscript{82}

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**Research and evaluation**

There continue to be gaps in knowledge about the most effective way to support prevention messages and deliver preventive care in primary health care. These include gaps in knowledge about the most effective interventions for families with young children and adolescents, interventions for disadvantaged patients with low health literacy and how to support the maintenance of behaviour change especially in relation to diet, physical activity and weight. At the local level, there is need for further research into how effective partnerships can be developed to deliver preventive care and to link clinical care with population health initiatives. At the system level there is need for further research to evaluate the effectiveness of funding and financing models and ways to develop integrated preventive care between providers, patient enrolment, the optimal use of information technology including decision support and the PCeHR to support joined up preventive care and how to provide equity of access to preventive care.
Further research is also required to better understand the skills and contributions of a multidisciplinary team for preventive activities in primary health care, and while the important role of practice nurses is not in doubt, further work is required to identify how GPs and practice nurses might work together and with allied health professionals to prevent chronic disease. The Medicare Locals will be partnering with researchers to both evaluate their programs and initiatives and to further develop and disseminate new knowledge about how best to deliver preventive activities in primary care.

**In Summary**

Chronic disease prevention and management is essential to the health and productivity of Australian communities. Given the leadership role primary health care providers have in their communities and their regular, trusted contact with individuals, new models will need to be developed to enhance community health outcomes. Investment in developing and evaluating new models of prevention in community-settings needs to continue to draw on the extensive expertise of this sector. Primary care practitioners all play an important role in encouraging community-level prevention initiatives as well as in identifying and assessing at-risk patients and offering brief interventions and long-term follow up.

Sole provider models are not sufficient. Regional structures to support all primary care providers to work together and take advantage of co-location, better referral pathways and professional development networks will assist in enabling significant and sustained change. Many individuals need support to act on prevention messages and change entrenched behaviour especially in the case of weight loss or smoking cessation. More intensive and/or regular and accessible (financially and/or geographically) support is often required from a range of providers and services including community-based programs. More broadly, there is an ongoing need to forge partnerships at the regional level between health services, state health programs and services, local government and NGOs to achieve better integration and health outcomes.

There has been much investment in moving towards more joined-up services to reduce risk factors and support better community health outcomes. The transition towards a more accessible and effective primary health care system is a key plank of recent health reform. The establishment of primary care organisations such as Medicare Locals provides an opportunity for further work to be undertaken to better understand the barriers to preventive care and activity in local communities. This work will assist in developing and refining new approaches that better utilise the skills and leadership within the primary health care sector and thereby better support local prevention initiatives. These ongoing strategies to reorient primary health care to better support prevention need to be combined with ongoing system level improvements to funding, workforce and information systems.

The role of primary health care in supporting and extending preventive care for the individual, and in contributing to preventive health interventions at the community and systems level, is an evolving picture. With the great potential for primary health care providers to play a leadership role in the communities in which they work, and often live, and the priority of prevention for the Medicare Local organising structures, it is expected that these roles should develop, and deliver enhanced outcomes, rapidly. A comprehensive approach to the concept of delivering health promotion and disease prevention support, involving multiple partners in the community, along with systems support and support to practitioners to deliver supportive individual consultations, will be critical. Close attention to the needs and opportunities for care delivery and prevention support amongst disadvantaged community members is especially important to ensure the benefits are enjoyed by all.
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Improving access to specialist care in the community

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The National Health Reforms create an opportunity to incorporate specialist services into primary care settings, particularly through Medicare Locals and GP superclinics. The RACP recommends that a new model of care is needed to systematically and regularly place specialists in the community healthcare setting. New funding models are also needed to enable out of hospital care by specialists and the RACP is currently undertaking economic modelling.

Access to specialist care is imperative to improve early diagnosis, commence appropriate management and reduce disease progression. Specialist care is traditionally viewed as a hospital service; however specialist services need to be redistributed so that patients in the early stages of long term illness are managed well before hospitalisation is required and disease progression causes significant morbidity.

Specialist services could be more accessible within the community and ambulatory care settings through increased collaboration with primary care. A well organised referral service in the community could see a reduction in the number of unplanned emergency department presentations and hospital admissions. Coordinated care with general practitioners, nurses and allied health practitioners and medical specialists has the potential to reduce the length of stay by cooperatively continuing care in the community. There are well established examples in several states which can serve as models for further development.

There are examples where these model care projects are working and serving their communities well. The Inala Indigenous Health Service outside Brisbane is a primary health care clinic which functions as a general practice which provides paediatric, ophthalmic, endocrinology, cardiology and hepatology services. Physicians from the Calvary Mater Hospital in Newcastle provide services across the Hunter New England District, including a GP clinic in Mungindi, and an Aboriginal Medical Service in Moree, as well as through ‘Hospital in the Home’ which offers follow up and alternatives to admission. There is also a new ‘inreach’ service for aged care and state run facilities.

These services provide models on how specialist care can be delivered outside the hospital, before hospitalisation is required. Supporting these services can reduce the need for hospital based care. Increasing access to medical, nursing and allied health services in the community can support the patient and family in their home setting, with reduced healthcare costs and greater satisfaction.
Too often, preventive health and research on public health loses out in the priorities for health funding and medical research dollars. The reasons lie in the nature of health and health insurance systems, but also public health advocates often fail to make adequate and valid claims of value for money.

Health systems objectives include – better health, better health equity, individuals being confident that quality health services are accessible when needed, and value for money – and inevitably these are in some tension. This is addressed by the political process. The problem for preventive health advocates, besides the greater political influence of medical interest groups, is the impact of the different processes the government undertakes in setting the funds available for these objectives.

Governments recognise the public good involved in activities that improve population health but which individuals would not wholly fund, allocating moneys through the budget process in response to proposals from internal and external health advisers. The onus is on those who propose the measures to Cabinet to demonstrate value for money over and above other proposals.

Governments address equity and access to services mostly by interventions into the health insurance field. Here funds are allocated in response to direct demands from the public and service providers rather than in response to proposals from health advisers. As a rule, insurers reimburse some or all of patients’ costs for services and medications. The numbers and costs of these are growing inexorably.

The ‘moral hazard’ involved in these insurance arrangements is challenging health systems. It is in the interests of both patients and providers to take advantage of someone else paying the bill. Doctors (and other providers) want to do the best for their patients and keep their professional independence. The costs, however, fall mostly to government and private insurers. The challenge for government is to manage the steady increase in demand and to ensure value for money.

The result of these different funding arrangements is an overall process heavily weighted to health and medical services rather than public health.

Some advocates respond to this by proposing that preventive health measures will ‘save money’ on services. Sadly, any savings made by prevention are absorbed by continual pressure and demand for new forms of treatment. This is not because the preventive measures do not work or do not represent value for money. Playing this savings card, however, promotes the dangerous idea of having one single aggregated line of funding for health. A single government funder may be a sensible reform but public health measures need some protection from the growing demand for treatment and services.

Public health measures often deliver value in terms of improved population health outcomes (and often health equity) which is in excess of what equivalent spending on services would deliver. The case must be made that prevention works and delivers value for money. This has been easier to show in reducing communicable diseases, but the challenge now is to reduce the burden of noncommunicable ill-health. The benefits of public health investments, especially through effecting demonstrable changes in behaviour, are difficult to prove. Other benefits are sometimes exaggerated, presented in almost meaningless terms of huge amounts of money added to the economy.
The full costs of the measures are not always identified including the costs of regulation to individuals and businesses; and legitimate community debate about public goods versus private freedoms may be ignored. Yet a clear case may well be validly made.

There is a strong case for more research and better evaluation of preventive health measures, and particularly for testing more targeted interventions aimed at higher risk populations as improved diagnostics allow higher risk groups to be better and earlier identified. Most people may happily accept the ‘costs’ of greater regulation if the benefits were more evident. The value for money – the return on the investment – may be far greater than acceding to another uncontrolled expansion of insured services.
FEATURE ESSAY:
THE ECONOMIC VALUE OF PREVENTION
FEATURE ESSAY
THE ECONOMIC VALUE OF PREVENTION*

* This essay was prepared by Professor Alan Shiell, Professor Penelope Hawe and Associate Professor Stephen Jan from the Economics of Prevention unit of the NHMRC Partnership Centre for Better Health: established on the theme of *Systems Perspectives on Preventing Lifestyle-Related Chronic Health Problems*. This Centre is jointly governed and funded to the value of $20.6 million over five years from 2013 by NHMRC, the Australian National Preventive Health Agency, NSW Health Administration Corporation (NSW Health), the ACT Health Directorate (ACT Health), the Hospitals Contribution Fund (HCF) of Australia and the HCF Research Foundation. The views expressed in this essay are those of the authors.

Economics is the science of resource allocation. Applied to disease prevention, economics looks at how the allocation of resources (e.g. money, time, technology, knowledge, infrastructure, personnel) creates pathways to prevent disease and improve health by using resources efficiently, effectively and equitably. This spans what individuals do to prevent disease and also what third parties, including governments, can do.

Economic analysis throws light on the ‘private world’ of personal lifestyle choice, as well as the societal and public policy choices available to governments and industry. So while a person can consciously choose options every day to maximise health and wellbeing – like vaccinating their children, eating nutritious food and cycling to work, governments influence the ‘choice architecture’ by making healthier options more or less available (free health care, price incentives, bike paths). Economic analysis therefore can make recommendations on the ‘value for money’ not just of prevention programs such as media campaigns to communicate health risks but also about broader public investment strategies such as the building of more footpaths across a city (and their potential to reduce heart disease). In many cases, it is more effective and a better use of resources (i.e. more cost-effective) to invest at the environment/policy level than to attempt to persuade people to take on healthier behaviours. But how strong a role a government takes in disease prevention and health protection is a matter of societal opinion, not just economics.

Economics is a discipline which began with the analysis of the ‘free’ or ‘ideal’ commodity market, where fully informed individuals make decisions about what they wish to give up/part with (resources) in order to gain what they want. If they make a poor choice, they bear the consequences. But health and health care is not a free market situation. Individual health is not entirely under individual control. People’s health is determined in part by where they live, irrespective of how much they decide to exercise, eat well or avoid smoking. Regardless of whether you decide to vaccinate your own child, he/she may catch measles, before being vaccinated, from a child from a family that has chosen not to vaccinate. Besides, in countries such as Australia, in today’s world, no one bears the full cost of their individual health care when they become sick, even if they are medically insured. Health care is subsidised by the state. The full costs are borne by a society that is constantly making choices about whether to invest in more hospitals, education, employment, environmental conservation and so on.

The economics of disease prevention is automatically made more complicated by the fact that health is affected by ‘public goods’ (like clean air and water) and not just products or behaviours that can be chosen individually. Even more challenging is the evidence accumulating in the last 20 years that investments in education, employment and housing yield tangible and quantifiable health benefits as side effects. This means that the full extent of the disease prevention budget is spread across a range of government portfolios and not merely contained within the health portfolio. Indeed the ‘off-site’ disease prevention effort may be even more significant and effective than the relatively small (but vital) preventive programs operating within the health domain.
This chapter addresses some of the typical questions asked of economists about disease prevention. We look first at how much is spent on prevention in Australia. We examine the evidence of whether this spending is bringing about a sufficiently good return. “Best buys” in prevention are highlighted, drawing on the evidence of cost-effectiveness in prevention and paying special attention to the interest in commodity taxation and price subsidisation. We conclude by listing some of the new frontiers in the economics of prevention, in particular the unprecedented opportunities for intersectoral and system-level work, to move prevention forward with the assistance of economic evidence.

**KEY QUESTIONS**

**What does Australia spend on prevention?**

Australia spends less within the health sector on prevention than most other OECD countries (Table 1). In 2010-11, spending on prevention and public health by national, state and territory governments was $1.95 billion, equivalent to $85 per person. This was just 1.7% of total health spending and less than 0.2% of gross domestic product. Spending fell slightly from the previous year: a consequence of planned reductions in the human papillomavirus (HPV) vaccination program following the initial phase of providing free vaccination access to several age cohorts.

**TABLE 1: A COMPARISON OF SPENDING ON PREVENTION AND PUBLIC HEALTH BY OECD COUNTRY**

<table>
<thead>
<tr>
<th>Country</th>
<th>Spending on prevention as % of all health care expenditure</th>
<th>Spending on prevention as % of GDP</th>
<th>Per capita spending on prevention ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>Rank</td>
<td>Value</td>
</tr>
<tr>
<td>New Zealand</td>
<td>6.96</td>
<td>1</td>
<td>0.74</td>
</tr>
<tr>
<td>Canada</td>
<td>6.55</td>
<td>2</td>
<td>0.75</td>
</tr>
<tr>
<td>Finland</td>
<td>5.18</td>
<td>3</td>
<td>0.46</td>
</tr>
<tr>
<td>Slovakia</td>
<td>5.04</td>
<td>4</td>
<td>0.45</td>
</tr>
<tr>
<td>Netherland</td>
<td>4.46</td>
<td>5</td>
<td>0.54</td>
</tr>
<tr>
<td>Hungary</td>
<td>4.35</td>
<td>6</td>
<td>0.34</td>
</tr>
<tr>
<td>Slovenia</td>
<td>3.64</td>
<td>7</td>
<td>0.33</td>
</tr>
<tr>
<td>USA</td>
<td>3.48</td>
<td>8</td>
<td>0.61</td>
</tr>
<tr>
<td>Sweden</td>
<td>3.41</td>
<td>9</td>
<td>0.33</td>
</tr>
<tr>
<td>Germany</td>
<td>3.13</td>
<td>10</td>
<td>0.36</td>
</tr>
<tr>
<td>Korea</td>
<td>3.09</td>
<td>11</td>
<td>0.22</td>
</tr>
<tr>
<td>Estonia</td>
<td>2.72</td>
<td>12</td>
<td>0.17</td>
</tr>
<tr>
<td>Norway</td>
<td>2.42</td>
<td>13</td>
<td>0.23</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>2.41</td>
<td>14</td>
<td>0.18</td>
</tr>
</tbody>
</table>
Spending on prevention as % of all health care expenditure | Spending on prevention as % of GDP | Per capita spending on prevention ($US)
--- | --- | ---
Switzerland | 2.37 | 0.27 | 124.63 |
Denmark | 2.22 | 0.25 | 99.28 |
France | 2.06 | 0.24 | 81.48 |
Portugal | 2.02 | 0.22 | 55.15 |
Belgium | 1.97 | 0.21 | 78.09 |
Poland | 1.93 | 0.14 | 26.78 |
Austria | 1.70 | 0.19 | 74.41 |
Australia | 1.70 | 0.16 | 79.96 |
Iceland | 1.49 | 0.14 | 49.09 |
Italy | 0.44 | 0.04 | 12.98 |

Source: GAO Report to Congressional Requesters, adapted to include data from Australia

Note that prevention spending in sectors outside of health such as in road safety, the environment and sport and recreation are not considered in Table 1. Infrastructure spending that delivers health benefits from housing, education and clean water is also not included. The estimates also exclude spending by individuals (e.g. gym memberships). Spending on prevention in the USA, for example, has been estimated to be three times as large as that suggested by the OECD accounting conventions that underpin Table 1. How a more accurate estimate of spending on prevention might affect Australia’s comparative position is unknown.

Is prevention good value for money?

Yes, but certainly not always. In 2003, the consultants Applied Economics examined the value of Australia’s past investment in five major prevention programs: tobacco control, coronary heart disease, HIV/AIDS, vaccination against measles, and road trauma. The report looked back over thirty years to quantify the public spending on these programs. The team also quantified the impact on death rates and disease rates and the effect on health care costs. This was one of the first major investigations of return on investment for prevention in Australia.

The results were impressive. Between 1974 and 1995, smoking prevalence among men was reduced from 45% to 27%, and among women from 30% to 23%. More than 17,000 lives had been saved by 1998. Program spending on tobacco cessation over this period amounted to $200 million, but the subsequent savings in health care costs were estimated to be twice this amount: a financial return on investment to government of $2 for every $1 spent. The social dividend was far greater. After valuing the improvement in longevity and quality of life in monetary terms, the benefits of reducing tobacco use amounted to more than $9 billion. The social value of Australia’s tobacco cessation effort remained in excess of $2 billion even under the most conservative assumptions about the share of health gains to be attributed to government intervention.
The other programs also were concluded to yield substantial social dividends: worth $9.3 billion in the case of coronary heart disease; $3.15 billion in the case of HIV/AIDS; $8.5 billion in the case of measles; and $8.7 billion in the case of road traffic accidents. Measles vaccination and HIV reduction (at least for some population sub-groups) also resulted in net savings to government, most notably by reducing demand for health care. For the other programs, there was a net cost to government but the social return, in terms of the value of increased life expectancy and quality of life, was substantial.

Methodologically, the scale and nature of the study meant that a number of assumptions had to be made to fill gaps in the evidence. It remains a useful exercise however, if only because it was the first to try such quantification and subject the methods to scrutiny.12

Putting a monetary value on life

Economic analyses require quantification in dollar terms of both the resources spent on programs and policies and their health and other benefits.

To do this economists interview, survey and lead people through progressively more risky scenarios to find out what things matter most to the community. Specifically, economists look at the value people place on small reductions in the risk of death through examining the price they pay for additional safety equipment such as airbags in cars, or the premium paid to live in a healthier environment. Monetary values can also be inferred, for instance, from the time people spend to take a safer route across a busy road.

Example: if people are found to spend $1,000 on a device that reduces their risk of dying in a car accident by 0.1%, then economists can infer from this that the value of life is $1 million (that is $1000 divided by 0.1%).

The Australian Government’s Office of Best Practice Regulation oversees the preparation of Regulatory Impact Statements in fields such as occupational health and safety and in transport safety. They use a “statistical life” (i.e. based on theoretical exercises) valued at $3.5 million, whenever new regulations or changes to existing regulations are considered.13,14

What are some of the ‘best buys’ in prevention in terms of health outcomes per unit cost?

Thirty years ago it would have been impossible to answer this question. There were only a handful of studies that had examined the economic value of health promotion.15 Fortunately there is now a large and growing economic evidence base informing prevention practice.16,17 The results of some of this evidence is displayed in Table 2. The information in the table is a selection of studies taken from a registry of cost-effectiveness studies from around the world maintained by Tufts University (USA) chosen to display wide variation in performance.18
Cost effective analysis compares two or more programs or policies in terms of their cost and ability to improve health, as measured by a common measure of health outcome (e.g. in vaccinating children, in reducing smoking, cases prevented, lives saved or life years saved).

But to compare programs that may be diverse, a common measure of effect is required. The number of extra years a person has added to their life is an obvious, but crude, measure as a person may be alive but quite ill. This led to the development of health measures that combined quality and quantity of life. The Quality-Adjusted Life-Year (QALY) and its close ally the Disability-Adjusted Life-Year (DALY) are two examples that quantify health by assigning a weight to each additional year of life according to its quality or degree of disability experienced. Both QALYs and DALYs are widely used to make decisions such as which drugs will be subsidised by the Australian Pharmaceutical Benefits Scheme, and which treatments are recommended for use in the National Health Service in the UK.

**TABLE 2** SELECTED PUBLIC HEALTH INTERVENTIONS RANKED BY THEIR COST-EFFECTIVENESS

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Cost/QALY</th>
</tr>
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<tbody>
<tr>
<td>Condom distribution HIV prevention</td>
<td>Cost-saving</td>
</tr>
<tr>
<td>National tobacco campaign</td>
<td>Cost-saving</td>
</tr>
<tr>
<td>Taxation to reduce salt intake</td>
<td>Cost-saving</td>
</tr>
<tr>
<td>Walking program to prevent depression</td>
<td>$450</td>
</tr>
<tr>
<td>Suicide prevention program for US indigenous population</td>
<td>$580</td>
</tr>
<tr>
<td>Minimal anti-smoking intervention in primary care</td>
<td>$2,100</td>
</tr>
<tr>
<td>HPV vaccination plus screening versus screening alone</td>
<td>$2,400</td>
</tr>
<tr>
<td>Minimal lifestyle intervention to prevent cardio-vascular disease</td>
<td>$4,500</td>
</tr>
<tr>
<td>Universal pertussis booster in adolescents</td>
<td>$9,800</td>
</tr>
<tr>
<td>Low calorie diet versus usual care in people with obesity</td>
<td>$26,000</td>
</tr>
<tr>
<td>Exercise referral in primary care for sedentary people</td>
<td>$33,000</td>
</tr>
<tr>
<td>Social support to promote physical activity</td>
<td>$35,000</td>
</tr>
<tr>
<td>Intensive lifestyle intervention in people at high risk of diabetes</td>
<td>$57,000</td>
</tr>
<tr>
<td>Universal vs targeted screening for fetal alcohol syndrome</td>
<td>$61,000</td>
</tr>
<tr>
<td>Low calorie diet plus orlistat versus diet alone in people with obesity</td>
<td>$84,000</td>
</tr>
<tr>
<td>Sexual behaviour education in women at high-risk of HIV</td>
<td>$130,000</td>
</tr>
</tbody>
</table>

*Source: Tufts CEA database (all figures are $US 2011 prices)*
Public health interventions are presented in a rank-based order, according to cost-effectiveness. The table shows the price that must be paid to obtain the equivalent of one year of life in full health (that is cost per quality-adjusted life-year or QALY).

All of the interventions featured in Table 2 are better at promoting health than the unspecified alternative to which they were originally compared. The cost/QALY figure in the table is not the cost of each intervention, but is the difference between the cost of the intervention and the cost of its comparator, divided by the difference in their effectiveness measured in QALYs. The table is essentially a menu of things that can be done to prevent disease and promote health, with the options ranked by the price that must be paid for a unit of good health. Programs and policies at the top of the table are so cost effective that they promote health and save money.

A large amount of the global research on the cost effectiveness of preventive interventions emanates from Australia. Dalziel and Segal modelled the cost-effectiveness of ten interventions designed to promote healthy weight through better nutrition including diet, counselling, media campaigns and lifestyle education and support. While none of the interventions reduced net public sector costs, many promoted health at a cost/QALY that would put them in the ‘very cost-effective’ range. Using a similar approach, Segal and colleagues extended this work to include efforts to increase physical activity, reduce tobacco and alcohol use, and address multiple risk factors. The majority of the interventions evaluated promoted health at a reasonable cost per year of healthy life gained.

On a larger scale, the Assessing Cost-Effectiveness (ACE) study reported on the cost-effectiveness of 150 interventions, of which 123 were preventive. ACE was a collaboration among economists, epidemiologists, and public health researchers from Deakin University and the University of Queensland. The authors took what was known about the effectiveness of a range of interventions of interest to decision makers and used a standardised approach to model their cost-effectiveness.

The results support all that has been said thus far. Some of the preventive interventions examined have the potential to promote health and reduce costs, others promote health at a reasonable cost and represent good value for money by current yardsticks, and yet others are not good buys at all.

Overall, 43 of the 123 preventive interventions modelled would improve health outcomes and reduce costs if implemented as modelled. A further 31 interventions were rated as very cost-effective (cost/DALY < $10,000). Implementing the top 20 interventions would cost $4.6 billion over 30 years ($700 million in the first year, $300 million in the second year, and lesser amounts in subsequent years), but would generate cost-offsets (i.e. potential savings) to the value of $11 billion. The program would pay for itself within 10 years, and more than 1 million years of healthy life would be gained as a result. Best buys included taxation (increasing tobacco excise, and introducing volumetric taxes on alcohol and taxes on unhealthy food), regulation (including imposing mandatory limits on salt content in processed foods), clinical interventions (including use of a generic polypill), and health promotion (extending the sun-smart campaign). The evidence supporting the taxation of junk foods was, however, described as not very robust. We return to the issue of taxation as prevention policy further in the essay.
There are several insights from the cost-effectiveness literature in prevention.

<table>
<thead>
<tr>
<th>Insight</th>
<th>Comment</th>
</tr>
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<tbody>
<tr>
<td><strong>The cost of prevention varies and so does the cost effectiveness.</strong></td>
<td>Some prevention is inexpensive. Some is expensive. Some things are good value for money. Others are not. The same situation applies in health care.</td>
</tr>
<tr>
<td><strong>Cost effectiveness depends on the intervention to which a program or policy is compared.</strong></td>
<td>This is true for all fields where cost effectiveness is used.</td>
</tr>
<tr>
<td><strong>No particular disease or intervention type is more likely to be cost-effective in all cases.</strong></td>
<td>Two examples in Table 2 feature the use of condoms to prevent HIV/AIDS. One appears at the top of the table, saving money and improving health, while the other sits at the bottom with a cost per QALY gained of US$130,000. The first is a social marketing campaign that included the distribution of free condoms. The program cost US$34 million, but led to a 30% increase in condom use that translated into 170 fewer cases of HIV. The second program was a more intensive, group-based program providing safe-sex education to women at high risk of infection. The program was not especially expensive but neither was it very effective.</td>
</tr>
<tr>
<td><strong>Interventions tackling environmental determinants of health that benefit whole populations are just as likely to be cost-effective as individualised interventions that target people at high risk.</strong></td>
<td>Chokshi and Farley compared the cost-effectiveness of environmental interventions such as regulatory limits on the availability of tobacco, to two different sorts of individualised programs: those delivered in clinical settings such as by primary care physicians providing wellness visits, and those delivered in non-clinical settings, such as needle and syringe exchange programs. Almost one-half (46%) of the environmental interventions included in the Tufts database were found to improve health and cost less than the potential savings in health care spending that would follow implementation. Another 42% would improve health at a cost that was less than $50,000/QALY, which is a commonly accepted bench-mark for deciding what is and is not cost-effective. Compared with either sort of individualised approach (between which there was little difference), a higher proportion of environmental interventions was deemed to be cost-effective.</td>
</tr>
</tbody>
</table>
Insight | Comment
---|---
**Cost-effectiveness ranking tables identify better and worse 'buys', but the decision about what threshold is considered good value for money is still in a sense arbitrary.**

In the USA, a value of US $50,000/QALY is used to separate interventions deemed to be good value for money from those that are not.\(^{27}\) The UK is a little more circumspect pointing to a range of factors other than cost/QALY that influence decisions whilst nonetheless acknowledging that interventions with a cost/QALY less than US$25,000 would be hard to reject, and that ‘special reasons’ would be needed before interventions costing more than US$40,000/QALY would be deemed cost-effective.\(^{28}\)

In the face of these differences, the ACE (Assessing Cost-Effectiveness) study in Australia, a large National Health and Medical Research Council (NHMRC)-funded initiative to evaluate more than 120 preventive health interventions adopted a pragmatic approach and categorised activities with a cost/DALY of less than $10,000 as very cost-effective, those costing between $10,000 and $50,000 as cost-effective, and those costing more than this as not cost-effective.\(^{29}\)

**Cost-effectiveness analysis does not examine how fairly the costs and benefits are shared among Australians (i.e. equity).**

The distribution of health gains is usually ignored in evaluations of cost-effectiveness, not least because of the complexities of doing so.\(^{30}\) These difficulties are extensively reviewed in the literature.\(^{31,32,33}\) Note however, that the ACE study considered the distributional impact of each of the interventions it evaluated.\(^{34}\)

Economists have been at the forefront of efforts to clarify how we conceptualise equity, and to improve how we measure it.\(^{35,36}\)

The persistent and substantial difference in health outcomes between Indigenous and non-Indigenous Australians has also prompted economists to be more imaginative. This includes relaxing the decision cut-off points (i.e. the cost/QALY thresholds) in recognition of the higher costs associated with developing and delivering services to remote and regional Indigenous communities\(^{37,38}\) or assigning higher values to the outcomes accruing to Aboriginal people given the policy commitments such as ‘Close the Gap’.\(^{39,40}\)

Efforts have also been made to apply this thinking to achieving equitable health care resource allocation directly through policy initiatives, such as the NSW Health Department’s Resource Allocation Formula which was used to allocate funding fairly among geographic regions in the state.\(^{41}\) A feature of the formula was an additional weighting assigned to Aboriginal populations to reflect the specific disadvantages of this population and the additional costs involved in overcoming them.
Are commodity taxation and price subsidisation as promising as they seem for prevention?

The answer is possibly not, when the full effects and ramifications are considered. But the question is well worth investigating further in the Australian context.

The logic of using taxes (or their corollary, price subsidies) as prevention policy is simple: increase the price of something by adding a tax and you discourage consumption. Lower the price by providing a subsidy and you encourage consumption.

The strongest evidence comes from tobacco, where taxes have been shown to have had a dramatic effect on tobacco use around the world. Recent debate has focused on taxing junk foods such as sugar-sweetened soft drinks. A number of countries such as Hungary, France and Denmark have introduced such measures, although Denmark has since repealed its measures and is also scaling back other so-called ‘sin-taxes’.

The evidence of the potential effectiveness of such taxes is inconclusive and based largely on modelling studies that tend to extrapolate consumer responses to price changes observed in highly controlled settings to entire populations. Most empirical studies look only at the impact on a single food group and fail to examine substitution effects and thus the impact on total diets.

The picture is even more complicated by the fact that changes in tax affect not just the price of goods, but also the amount of residual income that a person has available for everything else they need to purchase. The extent to which consumption is responsive to changes in price may also vary by economic and socio-demographic status. The economics of such taxes tends to focus less on issues of cost-effectiveness, since by definition these tend to be revenue generating, and more on the potential distortionary and allocative effects of changes in price. A tax may for instance simply encourage consumers to switch to other unhealthy products. The recent increase in the excise levied on pre-mixed spirits (alcopops), for example, succeeded in reducing demand for the product (and for alcohol overall) but the net effect on alcohol consumption was partially offset by an increase in sales of unmixed spirits.

Taxes on the sale of goods also tend to be regressive (their impact falls greatest on people with less income), and if demand for the good in question is both inversely related to income and a little sticky in respect to changes in its price, then the policy can mean that those who are least able to afford it end up paying more in tax, with little impact on their consumption. The regressive effects of taxation can then be amplified if the additional tax revenues are not used thoughtfully. A recent letter to the New England Journal of Medicine illustrates some of the pitfalls in using tax as public health policy. This proposed a tax on soft drinks to be introduced in the USA as a means of tackling obesity, with the proceeds of the tax earmarked for interventions such as subsidies to farmers’ markets and building bicycling and walking trails. Given the likely socio-economic differences between the groups most likely to be paying the soft drink tax and those most likely to visit farmers’ markets etc., it is possible that such a proposal would redistribute resources from the poor to the well off, and from the unhealthy to healthy.

In New Zealand a similar argument plays out in reverse as some anti-poverty advocates argue against a proposal to exempt fresh fruit and vegetables from the GST, (in Australia such foods are already exempt) on the grounds that the price difference would do very little to encourage consumption among people on low incomes, and the tax relief would predominantly benefit the middle and upper
classes that purchase the most fresh fruit and vegetables. Their preferred approach is to maintain the GST tax base and use the revenue generated to provide additional income supplementation to people on low income, addressing the affordability of fresh food directly.\textsuperscript{49}

Taxes also drive a wedge between price and cost, which can distort consumer choices and means that people who would otherwise enjoy the product in question, and use it responsibly, are discouraged from doing so. This impairment in the ability of people to choose what they want is a form of economic cost, referred to as ‘deadweight loss’ by economists, which ought to feature in evaluations of taxation policy.\textsuperscript{50} The counter argument to this particular concern is that some choices are distorted already by market failure. Environmental tobacco smoke and the harms caused to others by people intoxicated by alcohol are notable examples. In such circumstances, taxation can be used to gain a better balance between the private benefits of consumption and the social costs to all. Volumetric tax on alcohol is an example (see Box 1).

**BOX 1:**

**Volumetric taxes on Alcohol**

Currently, the rate of excise duty levied on alcoholic drinks varies according to the type of beverage (wine, beer and spirits) rather than the amount of alcohol (the active ingredient that contributes to social cost). The tax rate is lowest on wines and highest on spirits. Switching from the current regime to one where alcohol is taxed uniformally according to the alcohol content would reduce price distortions and, depending on how the policy was implemented, could improve health without increasing the deadweight loss.

Byrnes and colleagues report on the results of a modeling exercise designed to evaluate the effect of a number of volumetric taxation policy scenarios.\textsuperscript{51,52}

Each of the options considered is predicted to improve health and reduce health care costs. A revenue-neutral option reduces the deadweight loss, has a modest effect on consumption, and leads to a very small improvement in health. Introducing a volumetric tax that maintains the current deadweight loss, would reduce overall alcohol consumption by 3\%, generate additional tax revenues that more than offset the costs of the change, and lead to an improvement in health of 21,000 DALYs. Lifting the level of taxes to that levied on spirits has the biggest health gain (170,000 DALYs), the biggest positive impact on government revenue, but it also increases the deadweight loss.

Introducing a tiered structure such as that recommended by the Preventative Health Taskforce, which would impose one rate on beers and wines and a second, higher rate on spirits, is possibly more expedient politically.\textsuperscript{53} It would have a substantial impact on alcohol consumption (and therefore health) but it too increases the deadweight loss.
DISCUSSION: Future Opportunities

The methods and evidence on the economics of prevention are undergoing a major transformation of focus, to parallel the expansion in scope in the field of disease prevention and health promotion.

Health promotion and disease prevention grew out of patient education and for the large part reproduced the individual or group level *modus operandi* of clinical care, with health information and skill-building replacing technological intervention. Group and educational level programs remain common and not surprisingly the vast majority of the economic evaluation literature reflects a similar focus.\(^5\) Disease prevention and health promotion then made a shift to a stronger policy and system level focus of intervention.\(^5\) This called for a style of health economics with corresponding flexibility. Expanding areas of economic research in health include the methods of intervening in complex systems,\(^5\) the use of differential weightings in valuing the health outcomes for different population groups to account for equity\(^5,\)\(^5\) and the opportunities and challenges of using tax and commodity price regulation to lever behaviour change.\(^5\) A number of key developments are in the immediate future of economics in prevention policy which we now outline.

**Intersectoral collaboration on the economics of health and consensus on a few common metrics**

The World Health Organization’s (WHO) Commission on the Social Determinants of Health\(^6\) had one clear message. There will be more health and more health equitably distributed if countries take the trouble to invest in sectors that generate the primary conditions for health—such as education, housing and employment. But this creates a methodological challenge: how to devise metrics to evaluate health gains in sectors, which ordinarily would measure success in terms of economic activity.

The Quality Adjusted Life Year (QALY) is transportable between prevention and treatment in the health sector, but it is an insensitive way to assess the benefits of early childhood education or a community garden for instance, where benefits extend beyond health outcomes. For examples such as these there are other economic methods (like asking people to estimate values according to what they would be willing to pay) that may suffice.

We foresee a future where collaborations among labour market economists, agricultural economists and health economists among others, systematically review and develop the metrics on hand to evaluate the health and other benefits of resource allocation decisions across our national economy.

A useful starting point might be productivity and production. Ill health reduces economic production in a number of ways: through premature mortality of working age people, through lower labour market participation rates, and through time off work during short-term episodes of sickness. By comparing the consequences of a preventive intervention with the counter-factual of no prevention, one can estimate the impact that illness has on labour participation rates and days at work.\(^5\)
Some economists are hesitant about including the impact on production in economic evaluations of health interventions, worried that this might allow biases believed to exist in labour markets to influence health decision-making. Economic theory suggests that wage rates reflect the value of a person’s contribution to economic life. However, wage rates for women are still not equal to those paid to men for equal work. Similar differences exist in the labour market experiences of other social groups. Other things being equal, if production benefits were included in economic evaluations the results would give priority to interventions that improved the health of men over those that improved the health of women. Irrespective of whether or not one believes that the difference in wages is a true reflection of the difference in economic value rather than evidence of discrimination against women, it is questionable whether Australians would agree with the implications that follow for health decision-making.

The expedient solution (adopted by the Pharmaceutical Benefits Advisory Committee for example) is for economic evaluations to report their results in two ways, one that includes the consequences for production and one that excludes them, so that decision makers can proceed in full knowledge of the implications.

Production refers to the value of total output, usually measured over the course of one year. Productivity relates total output to the units of input required to produce it. It is possible that as production goes up, productivity goes down. Indeed, economic theory would predict this, if the source of the growth in production is an increase in the use of a particular input (such as the number of people being hired). Changes in productivity have been the single most important factor behind the long-term increase in Australia’s standard of living over the past four decades. It is a separate question, whether prevention can contribute to Australia’s economic wellbeing by increasing the productivity of the Australian workforce. There is some evidence to support this idea, at least in middle and low income countries. It has proved harder to demonstrate the relationship between health and productivity in Australia, however. A Productivity Commission working paper suggests that a relationship might exist. Using wage rates as a proxy for productivity the report found that people in the workforce with a chronic disease or disability were anywhere between 1% and 5.4% less productive than their healthier colleagues, depending on their gender and diagnosis. Women with cancer were 1% less productive than women without cancer, while men with a long-term injury were 5.4% less productive. For the big preventable chronic diseases (diabetes and cardiovascular disease) the differences in productivity between people with and without health problems were each less than 2%. The difference is modest, but possibly important given the number of people with chronic disease who are gainfully employed and the scope to promote their health that we reviewed earlier.
Comprehensive area and system-level interventions accompanied by full capture and economic evaluation of multiple and multiplied effects

Many countries are currently conducting large-scale cluster trials of interventions changing the roles and responsibilities of local government to derive a greater public health benefit.64 In Australia, bold approaches to refashion the core practices of prevention are being carried from the investment of $932.7 million under the National Partnership Agreement on Preventive Health.65

A glimpse into the potential of such interventions is seen in the evaluation of a microfinance and health education intervention to reduce HIV and gender violence in rural South Africa.66 In addition to reporting the cost/DALY averted from the reduction in HIV transmission, the evaluation also sought to assess the wider transformational effect of the intervention on the lives of the women and the health workers involved. Spin-off effects included changes in the way the local police dealt with cases of sexual violence. Health clinics also became more responsive to the needs of women, and in return benefited from an increase in volunteering. The communities touched by the intervention were also more receptive to subsequent initiatives and activities, and had the necessary community support structures in place, which reduced the transaction costs involved in starting new programs.67

Economic evaluators need to take opportunities like this to hone new methods and count benefits far beyond those seen in the health system, so as to foster wider constituencies of support for comprehensive system-level interventions.

In 2006, the Canadian Institutes of Health Research catalysed the Population Health Intervention Research Initiative for Canada to create broad expertise and support for transformational change processes in prevention (both knowledge production and knowledge use in policy and practice). Part of the strategy is to coax university and non-government based researchers who analyse large secondary data sets and advise on government economic policy to adapt their methods for health research.68

Similar action could help Australia redress the gap in knowledge on the cost-effectiveness of interventions, tackling the ‘upstream’ determinants of health, where the potential to reduce inequalities in health is greatest. Less than 10% of the existing economic evidence relates to social, economic or environmental interventions. The remaining 90% describes interventions tackling biological or behavioural risk factors (such as an individual’s cholesterol levels or blood pressure, or their diet and alcohol intake).16 The imbalance is unfortunate, as where investments have been made in tackling primary health determinants, such as in the quality of experience in early childhood, the economic and social benefits have been outstanding.6

Collaborative work in the economic evaluation of interventions with upstream health determinants will also start to reveal the wider footprint and investment cost of the ‘real’ prevention system; that is, the routine investments in early childhood, recreation, environmental management and so on that are serving multiple purposes. This will start to redress the inadequacies in Table 1, which, as mentioned, only count as prevention investments those made in the health sector.
Transparency and better understanding of the economics that underpins public policy

Horror is often expressed in the community when it is apparent that public policy, of necessity, puts a monetary value on a life and decisions are made, say, to delay the spending on road engineering in favour of a water treatment plant or school. But lack of public understanding of, and engagement with, this issue is not inevitable.

The transformational opportunity for prevention in the 21st century is to embed prevention across a co-ordinated intersectoral system. This goes hand in hand with a wiser and more informed public about the science and consequences of resource allocation and the vital role of community values in driving decision-making. In the UK, the National Institute of Health and Clinical Excellence established formal structures for engaging members of the public in deliberative processes that are used to guide resource allocation decisions.69 There are also other means of achieving similar ends, such as citizens’ juries which is a forum by which members of the public are asked to deliberate on high level principles for the allocation of scarce health sector resources.70

Associated with this is the opportunity to explain and explore the role of government in disease prevention. The evidence suggesting that it may be more effective (and cost-effective) for governments to devise policy rather than persuade individuals to act responsibly was noted earlier in this essay. The effectiveness of gun control restrictions in Australia is a case in point. It largely accepted that more restrictive or coercive actions such as regulation and legislation that limit the freedom of the individual are to be used only in circumstances where there is clear potential for one person’s actions to harm others. The role of government beyond this is debated and could be better tied to evidence, than simply to views with ideological origins.

A number of paths are available. There is some interest in the UK in a concept called ‘nudging’.71 It comes from the field of behavioural economics and is used extensively in marketing (such as product placement in supermarkets). The idea is that people have “limitations” (sic) in their cognitive ability, meaning that people fail to optimise their own wellbeing, even as they themselves would define it. A nudge steers an individual’s choice in a particular direction, all the while leaving open the option of doing something different. Others are uncomfortable with this view and point instead to government’s responsibility to promote more substantial ways to make a difference to health and wellbeing, by tackling inequalities, for example.72 These inequalities mean that without government intervention there is no level playing field in personal choice as the intergenerational transmission of health inequalities has shown.73

Regardless of how a society and government fashions its collective views on the ethics of intervention, it is possible for the economic evidence to be more extensive and stronger, so as to be of better use. But patience is required. The time frames between action and effect in prevention are typically longer than for other policy options. Honest disagreement and academic debate about some of the subtleties of the economics of prevention (e.g. what ought to count as a benefit, what discount rate to use, whether or not to include production gains and losses, whose values should guide decisions etc.) can mistakenly suggest a lack of consensus that can be exploited to undermine confidence in the science. The increasing use and complexity of decision-analytic models to evaluate interventions is making some analyses hard to communicate. Acting on the results of these models either requires a degree of trust in the analysis on the part of the decision-maker, or, as is the case with the PBAC, an extensive and expensive process of interrogating and questioning the model (model busting) before a decision is made.74
In this new future, some agencies and sectors will find themselves incurring costs in order to secure benefits that lie outside their official remits (as currently defined). Education for example will usually carry the costs of early child development, while the return on investment is enjoyed primarily by social welfare and legal agencies. The incentives for inter-agency or inter-departmental collaboration are constrained by organisational structures and budget allocations.

These issues are surmountable but require some care in navigation if we are to build an accountable, participatory prevention system. The opportunity is history-making.

Endnotes

A. Given the lifetime of taxes a smoker may pay via cigarette prices, there is evidence that smokers effectively pay for their end of life treatment costs in the health system. But such calculations do not include basic infrastructure like hospital building costs and the costs of training health workers that underpin the ability of the system to provide treatment.

B. A monetary value was also assigned to the health benefits to allow a single summary estimate of benefit to be calculated that was directly comparable with the estimate of costs. The analysts valued every life saved at $1 million, and each year of healthy life gained by people who avoided chronic disease at $60,000. Valuing life in this way remains contentious but it has become a useful input into policy in transport, the environment and health.

C. A market wage rate, or an equivalent price for unpaid labour such as volunteer time and household duties, is then used to value the time lost from work. Analysts take one of two approaches to the valuation step. The first, the human capital approach, assumes that workers who leave the workforce through premature mortality or chronic disease are not replaced and the production is lost forever. The alternative, the friction cost method, assumes that when there is spare capacity in an economy (i.e. unemployment), then the worker will be replaced in a short period of time. Production is lost but only in the transition period. The two approaches are equivalent to each other in an economy that is fully employed. In both cases, the result is an estimate of lost production, though this is often referred to incorrectly as lost productivity.

D. The authors of the report add an important rider however. Their results are subject to two sorts of bias that each work in opposite directions. One suggests that the effect of chronic disease on productivity is understated because the analysis does not include the effect that one person’s ill-health has on the production of any team they happen to be part of. The other suggests the opposite, that the results overstate the impact on productivity because the analysis cannot remove completely the effect of extraneous things that were unmeasured that might drive both health and wage rate. Unfortunately, the authors are unable to disentangle the two sorts of bias, or provide any insight into which is likely to dominate.

E. The best known of these is the Perry preschool intervention in Michigan that took place in the 1960s. The children involved in this project have been followed up now for over 40 years providing rare and excellent data on the long-term cost-effectiveness of the intervention. Over that period of time, children who received the intervention required less special education, completed more years of schooling and were more likely to graduate from school. They had fewer teen pregnancies, fewer arrests and they spent less time in jail. They continue to enjoy higher median incomes and are less reliant on welfare payments than children who were not part of the program. While the program was a drain on the public purse in its first few years, it started to pay for itself primarily through reductions in the costs of school support, policing and the judiciary. In later years, program beneficiaries contributed more back into the public purse through increased tax payments. At the forty-year follow up, the total return on investment exceeded $16 for every $1 originally invested.
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The case for balance in policy and action

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We moderns mostly misunderstand the foundations of health. Cocooned in cities and suburbs, we are largely disconnected from the sources of our food, water, energy generation and from nature-at-large. Add to that the naïve ‘break-through’ perspective of most media health reporters and the prevailing neoliberal assumption of individual freedom and responsibility and, hey presto, we see ‘health’ as a matter of personal choices, genes, and access to health-care. Yet the really important determinants of a community’s overall level of health reside in the wider environmental and social conditions, the source of the essentials for healthy life and community cohesion.

This has great implications for the scope of ‘preventive health’? Currently we concentrate, for understandable reasons, on several perennial causes of serious disease in Australia – obesity, smoking and risky drinking. While this entails a core of essentially individual-focused ways of modifying personal behaviour, the strategies now range more widely than in the ‘Life, Be In It’ 1980s. They include upgrading bicycle paths, plain packaging for cigarettes, healthier school canteen fare and (largely unsuccessful) attempts to constrain the advertising by processed food manufacturers (who view self-regulation as the solution). Meanwhile, much modern biomedical science seeks to personalise health care, including the lure of genetic barcoding. This may be important for some individuals, but it is not a public health strategy.

Meanwhile, various large-scale social, demographic and environmental changes, including urban expansion, increasing mobility of infectious-disease microbes in this geographic region, and the growing threats from human-induced climate change and its extremes pose increasing risks to Australia’s future health. Shifts in human ecology, in ways of living and relating, are the main determinants of levels of population health and disease. Indeed this brings an even larger-framed understanding than does the important but constricted ‘social determinants’ concept, which pays little attention to the wider environmental influences on health.

Finally, there is the wisdom of our elders. The eminent virologist, René Dubos, warned us decades ago of ‘the mirage of health’. A population, he argued, could never achieve universal health; the natural world is not like that – health levels vary between individuals. Rather, we should seek to live in accord with humans’ basic biological, psychological and social needs, the product of long evolutionary experience in natural environments predating the onset of farming, settlements, energy-dependent industry, urbanisation and consumerism. To reattain those health-supporting aspects of daily life, individuals must swim against a powerful cultural tide. The real task is for society at large to turn that tide. Gro Harlem Brundtland, when Director of WHO, often reminded governments that: ‘Every Minister is a Health Minister.’ (Yet, still, our new national preventive health agency is closeted within the health sector.)

The key policy need is to address both the systemic causes of changes in rates of disease in populations, and the behavioural and circumstantial causes of individual cases within the population. Both strategies are important; each plays a different role. Good long-term population health requires a balance across a broad front of policy and practice.
Using technology to deliver better prevention for all — lessons from mental health

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In Australia today more than 97% of people are online and more that 88% have a mobile phone. By 2016, many rural Australians will have better high speed internet access than those in capital cities and by 2021 almost all Australians will have access to very fast broadband speeds. As a consequence, technology will continue to transform the way in which live, work and play. This is particularly true for young people who are the first generation to grow up in a web and mobile enabled world and in many cases see it as their preferred way of connecting with each other, accessing information and seeking help.

At the same time, tackling mental ill-health is one of the health challenges of our time. Mental illness affects one in four people, is a major cause of disability and impacts on Australia’s productivity. With 75% of mental illness emerging before the age of 25, and suicide the leading cause of death for young people, they are a key audience for preventative health messages and a target group for prevention and early intervention services. With less than 30% of young people accessing a service when experiencing a mental health difficulty, there is still much that needs to be done to reach, connect and help young people experiencing mental health difficulties. Given that some of these young people will also have issues with alcohol, tobacco and obesity, changing help-seeking patterns for those with a mental health difficulty will likely have a broader impact on health outcomes for young people overall.

While not the whole solution, online services provide an extraordinary opportunity to bridge this gap in a number of ways. First, social media provides scalable and cost effective way to reach and engage young people. Facebook for example, offers the opportunity to target people using demographic information such as age, location and gender. This allows us to get the right information to the right person at low cost. It also offers opportunities for health information to be passed on and endorsed by peers in a safe and credible way. Second, the emergence of smartphones enables people to input, store and monitor their own health data, whether it be exercise patterns, sleep or stress. Thus mobile phones are becoming a vital tool for mental health self-management and an important way in which we can cost effectively improve mental health and related health risk factors for the whole community. Third, technology based mental health services - such as the one that we manage ReachOut.com – provide 24/7 mental health services at low cost to large numbers of people. As an example of this, every minute 2 young people access ReachOut.com, and through this service they are able to find help, information, tools to manage their own mental health and directions to seek further help within their community if needed.

As we move further into the 21st century we will continue to be presented with amazing opportunities to deliver services in new and different ways. The next decade alone will enable a shift to very high speed broadband and likely 6G mobile services. To make the most of these opportunities will require a commitment to innovation and openness to delivering services differently than we have in the past. Should we do this, the internet and mobile phones offer exciting opportunities to help all Australians achieve the best overall and mental health and wellbeing they possibly can.

For more information see: www.inspire.org.au
CHAPTER 5:
THE CHALLENGES AHEAD
THERE ARE CHALLENGES BUT AUSTRALIA HAS THE SKILLS AND EXPERIENCE TO ACHIEVE BETTER HEALTH FOR ALL
CHAPTER 5
THE CHALLENGES AHEAD

In 2007, an article in the Medical Journal of Australia asked “what would it take for Australia to become the healthiest country in the world?” 1 Considering international comparisons of mortality rates as an indicator for premature and preventable deaths, the analysis concluded Australia could still do much to reduce mortality rates, that health inequalities are sizeable, increasing and greatest for preventable conditions and younger age groups.

The aspirational theme of this article was picked up by the National Preventative Health Taskforce, appointed by then Health Minister Nicola Roxon in 2008. In 2009 the Taskforce developed a roadmap for action, Australia: The Healthiest Country by 2020 2, aimed at all parts of the Australian community, not just governments. The Taskforce’s roadmap presented a comprehensive approach with seven strategic directions:

1. Share responsibility – develop strategic partnerships;
2. Act early and throughout life;
3. Engage communities;
4. Influence markets and develop coherent policies;
5. Reduce inequity;
6. Contribute to the Close the Gap target to reduce the life-expectancy gap between Indigenous and non-Indigenous Australians; and
7. Refocus primary health care towards prevention.

The data and work presented, and issues discussed, in this State of Preventive Health report indicate that much has been achieved, or is underway, in each of these strategic areas. The National Partnership Agreement on Preventive Health marked a significant commitment by all Australian governments to enhanced efforts, and resource commitments, for preventive health action targeting chronic disease risk. With resources targeting children, workplaces and local government areas, resourcing for a national preventive health research fund and the establishment of the Australian National Preventive Health Agency as the ‘infrastructure’ to drive and support coordinated action, there has been significant progress. The establishment of Medicare Locals as an organising tool for coordinated primary care, and with a core objective to support prevention, is also contributing along with commitments to address chronic disease for Indigenous Australians, and targeted efforts to tackle Indigenous smoking.

But as is often the case in concluding a Report such as this, there are words of caution, emerging issues not yet addressed, and areas of weakness to be acknowledged and dealt with. Many are already ‘on-the-radar’ others need to be brought to the fore. The discussion that follows considers some of the challenges ahead as well as the emerging areas of innovation and national conversation that give us cause to invigorate and continue efforts.
Environments change – people change them and change with them

The widespread uptake of tobacco consumption via cigarettes was a phenomenon of the 20th century. In a relatively short period of time, propelled by industry, cigarettes became affordable, promotion was widespread, and there was nowhere that you couldn’t smoke. There was an ashtray on every table, in every car and in the arms of airplane seats. The environment changed to enable smoking and by 1945, after years of trending upwards, nearly three quarters of Australian men were smokers.

Yet, in one of the great success stories of recent public health history, this trend was turned around (see Figure 2.12, Chapter 2). As has been mentioned several times in this Report, comprehensive, multi-faceted, and sustained effort has now changed the ‘norm’ around tobacco consumption. All levels of government took steps to change the environments - through laws, regulations, taxation and education - that enabled and normalised smoking. From Buga-Up (an ‘underground’ group of public health activists in the early 1980s that defaced tobacco promotion billboards with satirical messages about health impacts) to the Cancer Council and Heart Foundation, public health groups advocated for change and provided education. Initiatives were researched, monitored and shared, efforts became mutually reinforcing and momentum was gained. As one federal health minister often said about tobacco control, show me something that is working and I’ll want to do more of it.

The environments that enable alcohol consumption have also changed in the past 50 years. Alcohol in Australia is more affordable than ever. Accessibility has grown and promotion is widespread. Alcohol is available in local supermarkets, the opening hours of pubs and clubs have increased and alcohol is usually available in restaurants and cafes. Alcohol promotions can be found everywhere, littered through media channels and promoted heavily at sporting venues. And while the majority of Australians drink alcohol responsibly and in moderation, where harmful alcohol consumption occurs affordability and accessibility encourage rapid and sustained consumption. This rapid consumption in settings that exacerbate the risk of adverse outcomes such as injury and violence particularly affects young people and at-risk communities. Awareness of the risks – short and long term – can be changed and if young people and their mentors influence norms by making drunken behaviour unacceptable then gradually, as the normality of smoking changed, so can the norms around harmful alcohol use (see also Box 1).
As an integral part of Australian culture and social-life, sport has long been a highly-valued platform for product promotion. From airlines to telecommunications, insurance, sporting apparel, food, beverage and automobiles, a key part of the marketing strategy for most leading brands includes some promotion through sporting venues, teams and individual players and the associated broadcast/media arrangements. As an equally integral part of Australian culture and social life, alcohol promotion is ubiquitous through Australia’s sporting life from local sport clubs to the professional.

In 2010, the Australian Government extended the National Binge Drinking Strategy with a $25 million measure aimed at reducing the exposure of young people to alcohol promotion. The Australian National Preventive Health Agency has implemented this measure through a sponsorship program that has removed, or precluded, alcohol sponsorship from 16 national sporting organisations.* As a sponsor, the Agency is able to promote the Be the Influence – Tackling Binge Drinking initiative through stadium signage, uniform insignia, stadium announcements and programs, social media and associated websites. Importantly, prominent stars from each of the sports are acting as ambassadors to promote the Be the Influence – Tackling Binge Drinking message through traditional and social media channels that directly reach young people.

As a result, now more than one million young Australians are participating and watching sport which is free from alcohol promotion. Be The Influence – Tackling Binge Drinking is a positive message that has been actively promoted across the sports with a presence at more than 850 sporting events and promoted to more than 680,000 people through event activations (up to June 2013). The message also utilises the social and digital networks across the sports and through athlete ambassadors.

This preventive health initiative has fuelled a conversation in sport, between sport and government and industry, and with the community, about alcohol sponsorship in sport, the role of sport in promoting good health and the influence sport has, and could have, on the health of young Australians.

*Athletics Australia, Australian University Sport, Australian Baseball League, Australian Canoeing, Australian Paralympic Committee, Basketball Australia, Cycling Australia, Equestrian Australia, Football Federation Australia, Hockey Australia, Netball Australia, Skateboarding Australia, Sailing Australia, Swimming Australia, Triathlon Australia, Volleyball Australia.
Australia has now become one of the world’s fattest nations with significant costs already in the health and hospital systems from entirely preventable diseases and much higher costs to come. On the assumption that 63% of Australian adults have not become overweight and obese through a sudden collective loss of willpower, or an epidemic of decreased personal responsibility, it has to be acknowledged that a number of environmental and other systemic and societal factors are contributing i.e. it wasn’t always like this (see Figure 2.5, Chapter 2). The growth in the prevalence of overweight and obesity was off a low base in the 1960s and 1970s (<10% of the population) and has been steady and significant since then. Max Dupain’s iconic images of Sydney bathers from the 1930s and 1950s (see below), remind us of a time when the ‘norms’ were different.

Just as the factors that encouraged and supported tobacco consumption changed rapidly in the early 20th century to facilitate widespread take-up, so have the environments that have enabled weight gain in the latter part of the 20th century. Safe, ‘yummy’ (i.e. high salt, high fat and/or high sugar) food is easy-to-get, relatively quick-and-easy to prepare, widely and readily promoted, and affordable to most, often more so than fresh, non-processed food. Most homes have a car or two and their use is usually more convenient than a bus (and the associated walk to and from the bus-stop) and quicker than a walk or bike-ride. Backyards are smaller and not so easy to kick a ball in. Screens vie for attention – televisions with multiple channels that need to be surfed, computers and phones that absorb us 24/7 and all the other electronic devices that tend to keep bums planted on seats.

Again, just as the norms around tobacco use have changed, so can the “obesogenic” environments that have emerged in the past 50 years. Examining the causes of obesity and strategies available to governments has become a high global priority. But the inconvenient truth about obesity levels is that the causes are complex, and so are effective solutions. Just as with tobacco control efforts, bold steps will need to be taken accompanied by research to ensure the evidence about what works can be developed and utilised. Ultimately, of course, governments will decide the policy direction and what mix of pricing and taxation, education, consumer disclosure and other preventive measures are utilised. The optimal selection, and the evidence-base that underpins the different options will change over time and researchers and practitioners must work to enable that process both in its creation, dissemination and user-readiness.
Continuing the quest for improved health and wellbeing

For most people, there is an instinctive quest for good health and wellbeing and a desire for it to be relatively ‘easy’ to achieve throughout the life course from early-childhood through education, working life, leisure time to an older age. The modern market-place reflects the desire for ‘easy’ health – 10-minute workouts and miracle diets appeal to the desire for better health and wellbeing with ease.

The scientific practice of preventive health – from research to policy and programs – has to recognise these parameters and aim to deliver solutions that benefit the consumer with ease. The hand of government can assist with this. From the regulations that ensure safe food and clean air to fiscal measures such as fines that are associated with reducing exposure to second-hand tobacco smoke and speeding on roads, the cost benefit analyses show such interventions can readily deliver health to consumers with a net benefit to the population. But, as the population health challenges of our time continue to evolve, the quest to improve practice and achieve population health improvements with ease must also continue. The opportunities for achieving this are many.

Joined-up policy

The nature of health – as a physiological and emotional state – and many of its determinants lie well beyond the proximate risk factors and disease causing agents such as bacteria or viruses (see Figure 1.3 Chapter 1). Thus, as has been demonstrated throughout this Report, many of the policy, program and intervention options available to influence health and wellbeing lie well outside the health sector. Government is a key area for this cross-cutting, or multi-sectoral, approach to be practised. The philosophy of ‘joined-up-government’ is a way of organising such thinking when solutions do not lie readily in the boundaries of a jurisdiction, portfolio, department or ministry. While instinctively sound, the practice can be extremely difficult when the boundaries of workplace culture, financing, and in some cases, regulatory mechanisms, are very real. Strong leadership, resourced planning, innovative funding models and accountability are some of the ingredients necessary.

In the case of health practice, a ‘health in all policies’ approach has been adopted in one Australian jurisdiction as an integral part of government (see Box 2). In practice, the intention is that a ‘health lens analysis’ be applied to all policy and program-related planning and practice and that the potential to realise health gains for the population, and minimise measures that could be detrimental, are accounted for. Importantly, the practice aims to enable particular consideration to be given to those factors that contribute to, and exacerbate, the inequities in health status such as education, employment and housing.
Chapter 5: The Challenges Ahead
State of Preventive Health Report 2013

BOX 2:
South Australia’s Health in All Policies approach

The South Australian Health in All Policies (HiAP) initiative is an approach to working across government to better achieve public policy outcomes and improve population health and wellbeing.

Health in All Policies is based on the understanding that health is influenced by a wide range of social, economic, political, cultural and environmental determinants. The concept originated in Europe and has been applied, in various forms, in a number of countries. The South Australian approach seeks to build strong inter-sectoral relationships across government and facilitate joined-up policy work of mutual benefit to the health sector and the partnering sector.

The ‘Health Lens Analysis’ identifies interactions and synergies between government policy and strategy, and the health and wellbeing of the population, are identified. A variety of methodologies (e.g. economic modelling and evidence reviews) are used to develop evidence-based recommendations for the policy area under consideration. To date, the HiAP approach has been applied to a number of policy areas of importance to South Australia including: regional migrant settlement, active transport, urban planning, determinants of obesity, education, and mobility (drivers’ licensing).

Indications from preliminary evaluations are positive, with policy makers supportive of the process, evidence of an increasing focus on health in the development of policies, and ongoing central government support. Findings from an NHMRC funded evaluation will provide a clearer picture of long-term outcomes.

For more information see www.sahealth.sa.gov.au/wps/wcm/connect/public+content/sa+health+internet/health+reform/health+in+all+policies

Integrated collaborative research

Just as a joined-up policy approach works across and within government, so can a research system that connects researchers with policy-makers and involves them in a knowledge creation process that is shared and iterative from the start. The National Preventive Health Research Strategy (2013-2018) released in June 2013 provides a roadmap for approaching such research. It outlines a model (Figure 5.1) for research that has better integration of sectors and professions throughout the research process – not just in a linear fashion that produces results, publishes, disseminates via a symposium or two and then hopes for the best regarding real-life utilisation in programs and policies.

The operation of this model is a social and political exercise with many players involved in the research process from problem recognition to interpretation of results. For research to influence policy it has to be transformed into knowledge-for-policy by a personal interaction between players to add interpretation and context within the policy process (being invested with meaning and power). Good examples of such research exist and the results – anecdotal and proven – are widely recognised as proving to be more effective in a more-timely manner (see Box 3 for one such example).
FIGURE 5.1: MODEL FOR PREVENTIVE HEALTH RESEARCH: BUILDING BLOCKS FOR COLLABORATION AND INTEGRATION

Source: Australian National Preventive Health Agency 7
Hunter New England Population Health, a unit of the Hunter New England Local Health District of NSW Health, and the University of Newcastle School of Medicine and Public Health have been collaborating since the early 1990s to develop, trial and implement evidence-based population approaches to health promotion. The two organisations have taken on a number of collaborative projects and in each case work with the community and relevant organisations such as the NSW Ministry of Health, other universities, police, health services, schools, local businesses and childcare providers.

The partnership model allows programs to be developed based on best available evidence and identified service delivery needs. As research is targeted to address community problems in real world contexts the findings have a much greater chance of being used to inform health policy and practice. Government service delivery benefits from the collaboration through high quality research input over the life of the project including the application of scientific methods to intervention development and evaluation. However, local communities are the real winners with greater evidence about population health interventions and services that are more likely to lead to improved population health outcomes. Researchers and service delivery practitioners involved in the partnership move between academic and government settings which increases understanding, collaboration and skills development. The policy and research agendas have become more closely linked through the collaborative work of the institutions. As a result the collaboration has made important contributions to building research translation capacity, with the 12 PhD students and 4 externally funded Research Fellows currently conducting strategic population-based translational research as part of the collaboration.

This approach is applied across all the work within Hunter New England Population Health. Projects undertaken to date include the adoption of an intelligence-based approach to reducing alcohol-related harms associated with licensed premises and sports clubs, translating evidence-based recommendations for smoking cessation care into routine clinical practice using a computer-based and other systems approaches, and childhood obesity prevention programs focussed on schools, childcare services and other community organisations.
Emerging knowledge, changing practice – that’s the nature of science

Just as the evidence base for cancer treatments and the clinical response to stroke or heart disease is an ever-evolving science, so is the science of chronic disease prevention. Policy makers and practitioners must acknowledge this, contribute to it, and embrace changing knowledge as the marker of a rigorous science not of confusion or weakness. The discussion of integrated research outlined ways that researchers and practitioners are seeking to improve the efficiency with which new knowledge translates into improved practice.

There are many areas where evolving knowledge and science may affect preventive health practice. Knowledge about the association between alcohol and an increased risk of some cancers is rapidly developing and has reached a point where it needs to be conveyed to the population. Similarly, a body of knowledge about the effects of alcohol on the brain development of adolescents and young adults has emerged and the implications for policy will need to be considered. The impacts of climate change on human health are much discussed and the subject of intense monitoring – when and how these might affect preventive health practice is yet to be determined but could emerge rapidly at some point.

Another emerging area of practice is around the concept of ‘choice architecture’ whereby decisions can be influenced by how the options available are presented. This has been developed as the concept of ‘nudge’ theory in the field of behavioural economics that enforces the proposal that healthy choices can be made easier and more likely by the way in which the options are presented while not limiting the consumer’s choices. A classic food example is how items are presented in a vending machine – the healthy options can be presented at eye height and across more slots while unhealthy choices such as sugary-drinks can be placed in the bottom row with limited slots. Importantly, choice architecture recognises that wherever the options are placed, a ‘choice’ is made. The concept was expounded on in a volume by Thaler and Sunstein and has been the subject of high-level government interest in the UK and USA and more recently in Australia, though not without some concern from public health advocates about the ability for this approach to make the substantial changes that are needed.

An important area of scientific work in recent years has been around the area of epigenetics – the recognition that environments and behavioural choices, especially in early life and for the foetus during pregnancy, influence the ways the genetic code expresses itself including in relation to chronic disease risk and incidence in later life. The relationships are complex but improved understandings of the processes should enhance efforts to prevent chronic diseases such as heart disease, type 2 diabetes, cancer and mental illness (see also Box 4). Will epigenetics research detract from, enhance or fundamentally change the behavioural and environmental changes preventive health practitioners seek? Early indications are this knowledge will only enhance the importance of pursuing improved health in a comprehensive, population-focused manner, not only for the benefit of the individual and current generation but also because of the potential impact on future generations.
BOX 4:
Chronic disease risk transmitted from childhood

A major study in the United States of America is comparing adult health status to childhood experiences, particularly maltreatment, decades earlier. The Adverse Childhood Experiences study is a collaboration between the Centers for Disease Control and Prevention and the American health insurer, Kaiser Permanente’s Health Appraisal Clinic in San Diego.

More than 17,000 people covered by the health insurer – largely middle-aged, middle-class Americans - and undergoing a comprehensive physical exam chose to provide detailed information about their childhood experiences of abuse, neglect and family dysfunction. The study’s findings suggest that certain experiences are major risk factors for the leading causes of illness and death as well as poor quality of life. Enrolled in the late 1990s, the study participants continue to be tracked and the body of knowledge about these relationships continues to grow.

Source (and for more information): [www.cdc.gov/ace](http://www.cdc.gov/ace)

The systems approach – an emerging area of practice

For some years public health practitioners have contemplated approaches to practice that better recognise, and account for, the complexity of factors that impact on the health of the individual and community. As discussed elsewhere in this Report, these factors lie both within and beyond the health sector, even in its broadest terms, and are connected by the individual’s daily passage through education, work, play, stress, illness, relationships, etc. This system of complexity is a living system in which persons act in various settings and thus, the prevention system response needs to be dynamic.
A systems approach to preventive action enables responsibility for health-promoting environments and services across a broad range of players and their corresponding contributions. It seeks to both understand and harness the dynamic complexity that makes preventive health challenges so formidable and the needed response so innovative. Box 5 describes some contemporary practice of a systems approach to prevention.

**BOX 5:**

**Healthy Together Victoria: why a prevention system approach?**

Broad trends in overweight and obesity, unhealthy eating and insufficient physical activity suggest that historic health promotion approaches have had little detectable impact at the broader population level. Discrete, non-systemic, diffused and program-orientated efforts to prevent disease and promote health are too often associated with modest or negligible population effects. Victoria is using the opportunity presented by the National Partnership Agreement on Preventive Health to encourage a whole-of-systems approach and develop the building blocks of a prevention system.

The Healthy Together Communities (HTC) initiative has significant enabling infrastructure and offers support for 14 local government areas (grouped into 12 HTCs). This intensive systems’ intervention is building a new preventive health workforce, improving access to healthy living programs and enhancing local implementation of state-level policies and initiatives.

By taking a prevention systems approach Victoria is supporting the co-production of multi-agency (private & public), multi-faceted health promotion policy and practice at many different community levels. It is also investing in the building blocks of a prevention system to establish capacity and leadership for systems change. This includes new resources and better alignment of existing resources. The HTC initiative is supporting a shift away from less effective approaches to those that have the potential for greater population impact by elevating and emphasising four key operating processes: systems engagement, system assessment, adaptation and system activation.

Underpinning the Victorian model is an overarching evidence-informed theory that enables better understanding of both the complexity that causes the public health issues we face and the characteristics of prevention systems that might hold the solution.

**Reaching all, redressing inequity**

As has been recognised at multiple points in this Report, there is a perverse and unacceptable inequity in the distribution of poor health and in many cases, the associated prevalence of risk factors associated with poor health (e.g. tobacco consumption and obesity) in Australia. This inequity exists along income gradients and between rural and urban areas (independent of income status), migrant and non-migrant population groups and between Australians living with a disability and those that do not. Most significantly, there is a yawning gap between the health status, and associated life expectancy, of non-Indigenous and Indigenous Australians (thus the phrase ‘close the gap’). The underlying causes of these gaps are multiple, complex and intertwined. They range from language...
and health literacy barriers, to a lack of culturally appropriate (and thus effective) services and less access to, and utilisation of, primary health care services and health-enabling programs along with the social and economic environments that play such an important role in health such as housing, education and income.

The data presented in Chapter 2 described some of this inequity and examples of practice throughout Chapter 3 highlighted some of the efforts to address, and reach, those at risk. The health disadvantage experienced by some population groups is often compounded by the disadvantage experienced in other parts of life. Preventive health efforts must work across sectors to both redress this disadvantage and, the risk associated with disadvantaged settings. Additionally, efforts must account for the practical realities of these situations to ensure programs are designed and delivered in a way that ensures reach and salience.

Practitioners and programs often speak of ‘hard-to-reach’ groups referring to both the physical environments in which people live, work and play and the individual characteristics of a person that make traditional, population-targeted activities, less likely to have effect. These characteristics can include language barriers, disability, daily routines and cultural barriers to service or program utilisation. The reality is that hard-to-reach means just that. Research, policies and programs have to work harder (and often invest more) to fully understand and address the environments and risk that contribute to these inequities. Additionally, as risk factor and disease prevalence decline in some population groups (and across the population as a whole), careful monitoring and research will be needed to determine if methods need to be changed or adapted to reach those still, or newly, at risk.

Harnessing Technology

There are few parts of modern life that are not impacted on, and for the most part improved, by the utilisation of technology, particularly the ‘smart’ (interactive) technology on mobile devices. In the area of health and wellbeing, websites and apps abound: from monitoring health and providing informed feedback to advising on alcohol consumption, supporting smoking quit attempts and providing coaching support for healthy eating and physical activity. This technology offers the appeal of mass reach for relatively low cost while still providing individually-tailored outputs that improve effectiveness.

The use of technology for health is not new. From the late 1990s websites revolutionised the availability of health information and provided ready access to online self-assessment, cognitive behavioural online tools, interactive internet-based counselling, the numbers for phone help lines and interactive mapping services to help people locate health-related services (see feature article in this Report on the Inspire Foundation’s ReachOut website).

The Australian Communications and Media Authority has reported that in May 2012 there were 8.67 million smartphone users (>50% of Australians 18-64 years) in Australia and that in June 2012 an estimated 4.5 million Australians downloaded at least one mobile app. This volume of users and activity, and the inexorable desire for ‘health’ should ensure the market delivers solutions in this domain. However, a role for governments and public funding will need to be considered where a significant burden of risk or disease lies amongst economically and socially disadvantaged population groups that may face barriers – financial, language, literacy – to the use of ‘marketing-winning’ products. The My QuitBuddy smartphone app launched by the Australian Government’s National Tobacco Campaign in May 2012 is one such example (see Box 6).
BOX 6:  
*The Quit Now: My QuitBuddy* quit smoking app

The National Tobacco Campaign has created a quit smoking app for smartphone users that can be downloaded from iTunes or Google Play at no cost. The *Quit Now: My QuitBuddy* is a personalised interactive app with quit tips, daily motivational messages, and countdown to quitting reminders to support smokers through every step of their quitting experience. Those using the app can record their quitting goals in pictures, words or audio messages. There is a panic button that provides them with a range of distractions from cravings including an interactive game.

One year on from its launch on World No Tobacco Day on 31 May 2012, the app had been downloaded nearly 200,000 times.

The app keeps a record of days, hours and minutes smoke-free, how many milligrams of tar have been avoided, number of cigarettes not smoked, and how much money the user has saved from not smoking. People can call the Quitline 13 7848 or a buddy directly from the app, or post a note on the community board to share with others trying to quit – thousands of posts have been received such as: “14 days today and feeling very proud if myself. It has taken 24 years to feel how good life can be without smokes. No going back now.”

Early analysis of data on the use of the *My QuitBuddy* app indicates that around 40% of smokers using the app report they are remaining smoke-free.
Working with industry

While the market that provides technology, as described above, is an important example of where the market will work to support health improvements, other examples and opportunities exist. Food and beverage, fitness and health insurance industries, to name a few, have an immense role in health and are integral to improving health (as distinct from pharmaceutical, medical device and health service solutions to ill health or the tobacco industry which has no claims to contributing to good health or wellbeing).

Industry’s role in marketing and producing products that do little to enhance health and wellbeing must also be recognised. While the theory of mutual interest and constructive engagement exists, the inherently opposing outcomes sought have to be acknowledged and dealt with. Put simply, in most cases preventive health measures seek directly, or indirectly, to have the individual consume less food/alcohol/tobacco while the business model of any industry is quite rightly to increase sales and profit margins.

The Director-General of the World Health Organization, Dr Margaret Chan, addressed the 8th Global Conference on Health Promotion in June 2013 and an extract of that speech is cited earlier in this volume. Beyond that extract, Dr Chan went on to say:

*Efforts to prevent noncommunicable disease go against the business interests of powerful economic operators. In my view, this is one of the biggest challenges facing health promotion.*

*….. it is not just Big Tobacco anymore. Public health must also contend with Big Food, Big Soda and Big Alcohol. All of these industries fear regulation, and protect themselves by using the same tactics.*

Industry engagement, sometimes painful and difficult, can occur to make gains that might not otherwise be realised in the shorter term. In recent years the Food and Health Dialogue has involved industry, public health and government in a process that has resulted in significant gains in salt reduction in some areas of the food supply (reference case study 6, Chapter 3). This is an example of where a collaborative process has enabled the creation of a level-playing-field that allows salt-reduction to occur without disadvantaging any one party in the quest for market share (as dictated by the salt = tastiness = sales equation).

In response to the recommendation of the Blewett review of food labelling that all alcohol products should carry a warning label about consumption during pregnancy, governments asked industry to act voluntarily to do this and provided a two-year period for implementation from December 2011.13 At a meeting of food regulation ministers from all Australian jurisdictions and New Zealand in June 2013 it was agreed that a review of actions by industry would be conducted and some preparations initiated for regulation should that be found to be necessary. Another important announcement from this meeting related to the adoption of a front-of-pack labelling scheme for Australia which will harness the role of industry to support consumers to make informed, and healthy, food choices (see Box 7). Future editions of this Report should detail progress made for both important preventive health measures.
Public health specialists and consumers have long called for processed food to carry labelling that informs the consumer about the inherent ‘healthiness’ of the food as determined by key ‘risk’ nutrients such as saturated fat, sodium, and sugars as well as ‘positive’ nutrients such as calcium and fibre.

In December 2011, Ministers from Australian jurisdictions responsible for food-related regulation agreed to support Recommendation 50 of Labelling Logic: Review of Food Labelling Law and Policy, namely that an interpretive Front-of-Pack Labelling (FoPL) system should be developed. Ministers proposed to undertake a collaborative design process with industry, public health and consumer stakeholders, with a view to reaching a broad consensus on a possible approach to interpretive FoPL.

The subsequent process, through 2012-13, involved a number of committees and working groups with membership from across the respective interest groups, an intensive series of meetings, consultations and specialist inputs, including advice from technical experts and consumer research.

On 14 June 2013, the Ministers agreed to a FoPL system that would be implemented by a voluntary industry led code of practice administered by a tripartite Code Administration Committee with oversight from a tripartite (government, industry and public health/consumer) FoPL Overview and Advisory Committee to oversight monitoring, evaluation, social marketing and education; and

Ministers agreed that a self-regulatory scheme should be trialled for two years. If, following evaluation, a voluntary system is found to be unsuccessful, a mandatory approach would be required. Implementation will be supported by a government led social marketing campaign and a monitoring and evaluation plan to review the effectiveness of the FoPL system over time.

A sample of the label that will start appearing on packaged foods from January 2014.
It’s time and it takes time

The nature of chronic disease is such that the causes and physiological changes that create disease usually build up over a long period of time. Clogged arteries, lung disease and damaged livers do not occur suddenly as is the case with a lot of disease caused by infectious agents. Removing or reducing risk factors such as smoking can reverse, in some cases and with some conditions, the likelihood of disease but this also takes a significant period of time. In the case of risk associated with obesity and overweight, the loss of weight is also a process that done safely, takes a long time.

While seemingly obvious, the practical reality for those funding, designing and implementing policies and programs aimed to reduce chronic disease incidence and prevalence is that there will be significant time-lags between when action starts and when results – at a population level – start to be seen. While smoking rates have been declining for over 30 years now, the incidence of lung cancer and other conditions associated with smoking have only recently started to reflect this reversal while for some conditions and some population groups this is yet to occur (see Box 8).

The health of populations reflects the situation, behaviours and experiences of individuals. While a virulent flu strain or other infectious agent can affect and infect a population within days and weeks and potentially, just as quickly, be reversed with appropriate control measures including vaccination, the course and impacts of chronic disease occur over lifetimes. This presents significant challenges for maintaining political engagement and funding and for ensuring the policy options adopted are the right ones for long-term sustainable gain as opposed to a short-term ‘flash’ of colour and movement on the issue.

Insightful monitoring, with interim indicators, can support the reporting of early results that are helpful to maintain support. Strong leadership and the ambition for a legacy beyond the term of a government, or a particular job, is also necessary. Good data, modelling and analyses that give realistic projections on future disease burdens and costs are also necessary and remain surprisingly hard to acquire (see Feature Essay in this Report). And finally, thoughtful advocacy and engagement with all partners is critical to developing the will-to-act (it’s time) and for maintaining a long-term vision (it takes time).
### BOX 8: Lung cancer trends in Australia

In Australia, tobacco smoking continues to be the major cause of cancer, accounting for about 20-30% of cancer cases. Tobacco smoking is also the largest single cause of lung cancer – the fifth most commonly reported cancer – responsible for about 90% of lung cancers in males and 65% in females.

Figure 5.2 shows the incidence of lung cancer, in Australia, from 1982 to 2007 and the projected incidence to 2020. It is likely that the different rates for males and females reflects their different tobacco smoking histories. Lung cancer rates for men have been falling since the 1980s owing to a decline in smoking rates since the middle of the 20th century. Smoking rates for women however, peaked much later than in males—around the mid 1970s. Unfortunately for many women, the deleterious long-term effects of smoking are yet to be realised due to the long lag time between the onset of smoking and the development of lung cancer. As lung cancer can take up to 20 years to develop from the onset of smoking, this most likely explains why lung cancer rates for women continue to rise.

#### FIGURE 5.2: INCIDENCE RATE (AGE-STANDARDISED) OF LUNG CANCER, AUSTRALIA, 1982 TO 2007 AND PROJECTED INCIDENCE RATE (AGE-STANDARDISED) OF LUNG CANCER, AUSTRALIA, 2007 TO 2020

<table>
<thead>
<tr>
<th>Year</th>
<th>Male ASR</th>
<th>Female ASR</th>
<th>Projected Male ASR</th>
<th>Projected Female ASR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1982</td>
<td>90</td>
<td>30</td>
<td></td>
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<td>1994</td>
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<tr>
<td>2020</td>
<td>2.5</td>
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</tbody>
</table>


A bigger picture?

Australia's preventive health effort, by name, has been largely focused on harmful alcohol use, tobacco consumption and obesity. With good reason when the burden of preventable chronic disease, and the associated risk factors, is considered. Yet the inability, in some cases, to account for and work with the associated factors, and emerging knowledge, limits the effectiveness of some measures and the completeness of a comprehensive approach.

Good mental health is integral to the wellbeing preventive health seeks to achieve and undoubtedly impacts on, and is affected by, the course of chronic disease. Poor mental health, and the range of conditions this encapsulates, is an independent risk factor associated with obesity, harmful alcohol use and tobacco. The relationships are complex and beyond the scope of this Report to outline. However as efforts progress to reduce tobacco use, harmful alcohol use and obesity, particularly in disadvantaged population groups, a better understanding of, and accounting for, the role of mental health will be needed.

Death and disability associated with injury continues to be a major cause of disease burden in Australia. Significant prevention efforts have successfully reduced childhood-related injuries but for adolescents and young adults, some at-risk and disadvantaged population groups, and the elderly, there is still room for large prevention gains. Harmful alcohol use is closely associated with many injuries and some at-risk groups, particularly young people and vehicles and street and venue-based violence. Alcohol is also closely related to the injuries associated with domestic violence and there is some growing concern about the possible relationship with some proportion of the injuries sustained by the elderly. Injury prevention initiatives can tend to be initiated independent of more comprehensive approaches that would address underlying causes (such as harmful alcohol use) limiting the options for cultural and environmental changes that are often needed.

Oral health is integral to good health and wellbeing. Poor oral health can cause disability and is associated with chronic disease risk. Oral and chronic diseases share many common risk factors such as poor diet, tobacco and alcohol consumption and risk can be reduced through changes in diet, smoking cessation, reduced consumption of alcohol and sugar-sweetened beverages, as well as access to fluoridated water, use of preventive therapies and changes in oral health behaviour. There is also a growing body of evidence around the relationship between oral infections and the inflammation that is related to chronic disease, including cardiovascular disease, type 2 diabetes and rheumatoid arthritis.17

Other major areas of Australia's preventive health effort include melanoma prevention through the major cultural change that has occurred over a generation around 'sun-smart' and, early-detection screening programs which while not primary prevention, do contribute significantly to the prognosis for some chronic disease diagnoses.

Recently, in Australia, there has been renewed media attention and public concern on emerging areas of illicit drug use, particularly in relation to synthetic drugs sold over the internet and in unregistered market spaces. Following the exposure, and intense community discussion of, the largely unregulated and poorly understood use of performance enhancing drugs across many sports in Australia, as this State of Preventive Health report is released, public and government attention to these emerging forms and trends of 'illicit' drug use is intensifying. In relative terms, the prevalence of use, risk and burden of disease from illicit drugs remains extremely low compared to the harms and disease and/
or injury burden associated with alcohol and tobacco use in Australia. However, the concentration of use and risk amongst young people will mean high levels of parental, community and government concern are ongoing.

Internationally, similar countries to Australia have organised their preventive health efforts in different ways and with different combinations of conditions and risk factors. The American National Prevention Strategy of June 2011 encapsulates tobacco, illicit drugs, food, physical activity, mental health, reproductive and sexual health, injury and violence. New Zealand recently restructured its preventive-health related infrastructure and created the Health Promotion Agency with a remit that includes alcohol, immunisation, mental health, gambling, sun safety, nutrition and physical activity. The Public Health Agency of Canada has an equally broad remit.

**Conclusion**

Efforts to reduce the burden of chronic disease on the individual, their family, community and the health care services that support them, is often stated as a desire to delay and compress the period of disability and/or disease that ultimately ends life.

From 2013, global efforts to achieve this are being ramped up, and monitored, through the adoption of the WHO’s Global Plan of Action for noncommunicable diseases. This plan of action commits countries to report regularly on progress to respective goals. Future editions of this biannual Report will provide a suitable forum for dissemination and discussion of Australia’s progress against its goals and in supporting this global effort.

The pursuit of good health for all Australians is complex and at the core of Australian values that dictate a ‘fair go’ for all. This Report has predominantly focused on the proximate risks and actions that occur within the scope of a preventive health system as it lies alongside of, complements, and completes, a health care system. The more comprehensive and complex picture beyond the sector is acknowledged (Chapter 1).

The chronic disease-related health challenges Australia faces are immense and far from solved. The need to continue working to reduce disease risks and burden must be continued and ramped up if Australia’s economy and health system is to continue to deliver high quality services and outcomes, including prevention. Importantly, considering the pervasive ambition of most Australians to lead healthy happy lives, and the enormous amount of capacity, experience, knowledge and good-will that exists amongst the partners and stakeholders that play a role in delivering preventive health, there is good reason to believe that with sufficient resourcing and leadership, much more can be achieved. Australia may yet become the healthiest country.
References


## ACRONYMS

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>ABS</td>
<td>Australian Bureau of Statistics</td>
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<tr>
<td>ACE</td>
<td>Assessing Cost Effectiveness</td>
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<tr>
<td>ACT</td>
<td>Australian Capital Territory</td>
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<tr>
<td>AHMAC</td>
<td>Australian Health Ministers’ Advisory Council</td>
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<tr>
<td>AHS</td>
<td>Australian Health Survey</td>
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<tr>
<td>AIDS</td>
<td>Acquired immune deficiency syndrome</td>
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<tr>
<td>AIHW</td>
<td>Australian Institute of Health &amp; Welfare</td>
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<tr>
<td>ANPHA</td>
<td>Promoting a Healthy Australia (the Australian National Preventive Health Agency)</td>
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<tr>
<td>ARC</td>
<td>Australian Research Council</td>
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<tr>
<td>BCA</td>
<td>Business Council of Australia</td>
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<tr>
<td>BMI</td>
<td>Body Mass Index</td>
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<tr>
<td>COAG</td>
<td>Council of Australian Governments</td>
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<td>CRC</td>
<td>Council of Australian Governments’ Reform Council</td>
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<tr>
<td>DALY</td>
<td>Disability-adjusted life years</td>
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<td>DoHA</td>
<td>Department of Health and Ageing (Australian Government)</td>
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<tr>
<td>FaHCSIA</td>
<td>Department of Families, Housing, Community Services &amp; Indigenous Affairs (Australian Government)</td>
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<td>GBD</td>
<td>Global Burden of Disease</td>
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<td>GST</td>
<td>Goods and Services Tax</td>
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<td>HCF</td>
<td>The Hospitals Contribution Fund of Australia Limited</td>
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<td>HEAL</td>
<td>Healthy Eating Activity and Lifestyle Program</td>
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<tr>
<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
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<td>HPV</td>
<td>Human Papilloma Virus</td>
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<td>HTC</td>
<td>Healthy Together Communities</td>
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<td>IWG</td>
<td>Implementation Working Group (NPAPH)</td>
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<td>MBS</td>
<td>Medicare Benefits Schedule</td>
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<td>NCDs</td>
<td>Noncommunicable Diseases</td>
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<tr>
<td>Acronym</td>
<td>Full Form</td>
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<td>NDSHS</td>
<td>National Drug Strategy Household Survey</td>
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<td>NGOs</td>
<td>Non-Government Organisations</td>
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<td>National Health and Medical Research Council</td>
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<td>NHS</td>
<td>National Health Survey</td>
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<td>NPAPH</td>
<td>National Partnership Agreement on Preventive Health</td>
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<td>NSW</td>
<td>New South Wales</td>
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<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
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<td>OPAL</td>
<td>Obesity Prevention and Lifestyle Program</td>
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<td>PBS</td>
<td>Pharmaceutical Benefit Scheme</td>
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<td>PCeHR</td>
<td>Personally Controlled electronic Health Record</td>
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<td>PHIDU</td>
<td>Public Health Information Development Unit (University of Adelaide)</td>
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<td>QALY</td>
<td>Quality-adjusted life years</td>
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<td>SCoH</td>
<td>Standing Council on Health</td>
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<td>USA</td>
<td>United States of America</td>
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<td>WHO</td>
<td>World Health Organization</td>
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</table>
State of Preventive Health 2013 is a comprehensive overview of the health challenges facing Australians, particularly in relation to chronic disease, and the associated risk factors including tobacco consumption, harmful alcohol use and obesity.

The Report includes a range of case-study examples of preventive health practice across Australia and provides a detailed look at the role primary health care services play in supporting and extending population-focused prevention efforts, as well as an overview of the challenges of looking at the economics of prevention.