

# **TRACKER BY SOCIO- ECONOMIC STATUS**

## **TECHNICAL APPENDIX**

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## About us

The Mitchell Institute for Education and Health Policy at Victoria University is one of the country's leading education and health policy think tanks and trusted thought leaders. Our focus is on improving our education and health systems so more Australians can engage with and benefit from these services, supporting a healthier, fairer and more productive society.

The Australian Health Policy Collaboration is led by the Mitchell Institute at Victoria University and brings together leading health organisations and chronic disease experts to translate rigorous research into good policy. The national collaboration has developed health targets and indicators for preventable chronic diseases designed to contribute to reducing the health impacts of chronic conditions on the Australian population.

## Acknowledgments

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# Introduction

This technical paper is a companion and reference tool for the publication *Australia's Health Tracker by Socioeconomic Status* (Harris et al., 2017).

## Indicators

The indicators that are used in the report cards are drawn from *Targets and Indicators for Chronic Disease Prevention in Australia* (McNamara et al., 2015). In considering targets and indicators, the Australian Health Policy Collaboration and colleagues used Australian Institute of Health and Welfare criteria. The criteria state that chronic disease indicators must:

- be relevant;
- be applicable across population groups;
- be technically sound (valid, reliable, sensitive (to change over time) and robust);
- be feasible to collect and report,
- lead to action (at various population levels, for example, individual, community, organization/agency);
- be timely; and
- be marketable.

The most recent data were used for the report cards. Some of the indicator data are as recent as 2014-15, and other data is from 2011/12.

The available recent data have limitations. We do not have regular, comprehensive health surveillance in Australia that includes anthropometric, biomedical and environmental measures. The Australian Health Survey (Australian Bureau of Statistics, 2012) carried out in 2011-12 was the most comprehensive Australian survey ever undertaken in this regard. Particularly relevant to the report cards are the biomedical measures from the 2011-12 survey (Australian Bureau of Statistics (ABS), 2013), such as cholesterol, diabetes biomarkers and salt intake. The more recent National Health Survey (Australian Bureau of Statistics (ABS), 2015) did not involve collection of blood and urine samples so the resulting survey data does not include such a comprehensive set of measures. Lack of such measures reduces the ability to track and address these health risk factors in the report cards (and elsewhere).

## Better Data for Better Decisions

The Australian Health Policy Collaboration's *Better Data for Better Decisions* is a sequential report to the policy roadmap, *Getting Australia's Health on Track* (Lindberg et al., 2016) outlining the case for an Australian Health Survey. The policy paper discusses the urgent and future need for, and cost-benefits of, a comprehensive approach to population health surveillance that includes valuable biomedical data (Calder et al., 2018).

## Targets

*Targets and Indicators for Chronic Disease Prevention in Australia* (McNamara et al., 2015) used 2025 as the target year for most chronic disease prevention targets and 2010 as the baseline year. This is consistent with the approach specified by the WHO *Action Plans*.

Where possible we have used 2010 data as the baseline in the report cards. This works well for some data sources (e.g., the Australian School Students Alcohol and Drugs survey, for which there is a 2010 report). But in other areas (e.g., the National Nutrition Survey, which occurred in 1995 and again in 2011-12) data are available for years either before or after 2010.

## Validation

The data included in the report cards were reviewed and validated by working group members. The Public Health Information Development Unit (PHIDU) at Torrens University assisted in analysis and locating data that were not readily available. PHIDU is cited where applicable. The Mitchell Institute takes responsibility for the final publication, its contents and data as reported.

Table 1 Targets and indicators proposed for implementation in Australia by 2025

FRAMEWORK ELEMENT	PROPOSED MEASURES TO REACH TARGETS	PROPOSED AUSTRALIAN INDICATORS
<b>Mortality and Morbidity</b>		
<b>Premature mortality from noncommunicable disease</b>	1. 25% reduction in the overall mortality from cardiovascular diseases, cancer, chronic respiratory diseases and diabetes	<ul style="list-style-type: none"> <li>• <b>Unconditional probability of dying between ages of 30 and 70 years from cardiovascular diseases, cancer, diabetes, or chronic respiratory diseases</b></li> <li>• Age-standardised rates of unplanned admission for patients aged between 30 and 70 years admitted to hospital with a primary diagnosis of cardiovascular diseases, cancer, diabetes, or chronic respiratory diseases</li> <li>• Age-standardised rates of unplanned readmission for patients aged between 30 and 70 years admitted to hospital with an initial primary diagnosis of cardiovascular diseases, cancer, diabetes, or chronic respiratory diseases</li> </ul>
	a. 25% reduction in the overall mortality from cardiovascular diseases and diabetes	<ul style="list-style-type: none"> <li>• <b>Unconditional probability of dying between ages of 30 and 70 from cardiovascular diseases</b></li> <li>• Unconditional probability of dying between ages of 30 and 70 from diabetes</li> <li>• Age-standardised average blood pressure among patients with chronic kidney disease, and percent of adults aged 18 years or more with elevated blood pressure (<math>\geq 140/90</math> mmHg)</li> </ul>
	b. 25% reduction in the overall mortality from chronic respiratory diseases	<ul style="list-style-type: none"> <li>• <b>Unconditional probability of dying between ages of 30 and 70 from chronic obstructive pulmonary disease</b></li> <li>• <b>Unconditional probability of dying between ages of 30 and 70 from asthma</b></li> </ul>
	c. Elimination of asthma deaths in adults aged under 65 years	<ul style="list-style-type: none"> <li>• Percent of patients aged 30-70 years who are readmitted within 28 days of discharge following a hospital admission related to asthma or COPD</li> </ul>
	d. 25% reduction in the overall mortality from cancer	<ul style="list-style-type: none"> <li>• <b>Unconditional probability of dying between ages of 30 and 70 from cancer</b></li> <li>• One-year survival rates for individuals diagnosed with the following cancers (individual indicators): lung, breast, colorectal, cervix, melanoma and prostate</li> </ul>
	e. Reduction in the national suicide rate by 10% by 2020 <sup>3</sup>	<ul style="list-style-type: none"> <li>• The suicide rate as an age-standardised rate per 100,000 population</li> </ul>
<b>Behavioural risk factors</b>		
<b>Harmful use of alcohol</b>	<p>2. At least 20% relative reduction in the harmful use of alcohol, with regard to:</p> <ul style="list-style-type: none"> <li>• Per capita consumption; and</li> <li>• Heavy episodic drinking; and</li> <li>• Alcohol-related morbidity and mortality</li> </ul>	<ul style="list-style-type: none"> <li>• Apparent consumption of pure alcohol per capita (aged 14+), based on excise data, import clearances and sales data from Australian produced wine.</li> <li>• Heavy episodic drinking: Proportion of the population (aged 15+) reporting monthly or more frequent episodes of drinking where 5 or more standard drinks were consumed in a single occasion</li> <li>• Heavy episodic drinking among adolescents: Proportion of the adolescent (12-17 yo) population reporting at least one drinking occasion where 5 or more standard drinks were consumed in the previous week.</li> <li>• Long-term risky drinking: Proportion of the population (aged 15+) reporting average alcohol consumption of more than two standard drinks per day over the past year. (gender split)</li> <li>• Emergency department presentations: Presentations for injury (S &amp; T ICD-10 codes) to Australian Emergency Departments (excluding Tasmania) at any of the following times: Fridays, 22:00 to 23:59; Saturdays, 0:00 to 3:59; 22:00 to 23:59; Sundays, 0:00 to 3:59 and 18:00 to 23:59). Rate per 100,000 population. (gender and age (&lt;30, 30+))</li> <li>• Hospital admissions for alcohol use disorders: Hospital admissions with primary diagnoses of ICD-9-CM codes; 291.0-291.9, 303.0-303.9, 305.0 and ICD-10-AM codes; F10.0-F10.9. Rate per 100,000 population. (gender split)</li> <li>• Alcoholic liver disease deaths: Mortality rates with primary cause of alcoholic liver cirrhosis (ICD-9-CM codes: 571.0, 571.1, 571.2, 571.3 ICD-10-AM codes: K70.0, K70.1, K70.2, K70.3, K70.4 and K70.9) (gender split)</li> </ul>

<b>Physical inactivity</b>	3. A 10% relative reduction in prevalence of insufficient physical activity	<ul style="list-style-type: none"> <li>• Prevalence of insufficiently physically active children and adolescents aged 5–17 years defined as less than 60 minutes of activity daily</li> <li>• Prevalence of insufficiently physically active adults aged 18+ is based on a physical activity recommendation of 150 minutes from five or more sessions per week. (Updated guidelines have removed the sessions requirement and thus the baseline prevalence and WHO target will need to be updated according to estimates based on the new guidelines.)</li> </ul>
<b>Salt/sodium intake</b>	4. A 30% relative reduction in mean population intake of salt/sodium	<ul style="list-style-type: none"> <li>• Age-standardised mean population intake of sodium expressed as salt grams per day</li> </ul>
<b>Tobacco use</b>	5a. Reduce smoking to 5% prevalence or less	<ul style="list-style-type: none"> <li>• <b>Adults: Age-standardised prevalence of daily smokers aged 14 years and older from National Drug Strategy Household Survey (NDSHS) (also group 1)</b></li> <li>• Adolescents: daily smoking prevalence (in the seven days prior to the survey) for adolescents aged 12–17 years</li> </ul>
	5b. Reduce smoking rates of adults over 18 years with a mental illness by 30% by 2020* and 60% by 2025	<ul style="list-style-type: none"> <li>• The proportion of the population with mental illness who report being smokers compared with the smoking rates for the population without mental illness</li> </ul>
<b>Biological risk factors</b>		
<b>Raised blood Pressure</b>	6. A 25% relative reduction in the prevalence of raised blood pressure	<ul style="list-style-type: none"> <li>• <b>Age-standardised average blood pressure and percent of adults aged 18 years or more with elevated blood pressure (<math>\geq 140/90</math> mmHg) (also group 1)</b></li> </ul>
<b>Diabetes and obesity</b>	7. Halt the rise in obesity	<ul style="list-style-type: none"> <li>• <b>Age-standardised prevalence of normal weight, overweight and obesity class I, II, III in persons 18 years or older (also group 1)</b></li> <li>• <b>Prevalence of normal weight, overweight and obesity in children and adolescents (also group 1)</b></li> <li>• Age-standardised proportion of total energy intake from discretionary foods in persons aged 18 years or older and in children (2–17 years)</li> <li>• Prevalence of breastfeeding and exclusive breastfeeding</li> </ul>
	8. Halt the rise in new diabetes	<ul style="list-style-type: none"> <li>• Age-standardised incidence and prevalence of diabetes in persons 25–65yrs</li> </ul>
<b>Additional indicators</b>		
		<ul style="list-style-type: none"> <li>• Age-standardised average total cholesterol levels for adults aged 18 years or more, and percent with total cholesterol <math>\geq 5.0</math> mmol/L</li> </ul>
<b>Mental ill-health</b>	9. Improve employment rates of adults over 18 with mental illness, and participation rates of young people with mental illness in education and employment, halving the employment and education gap by 2025	<ul style="list-style-type: none"> <li>• Participation rates by people with mental illness of working age in employment: general population</li> <li>• Participation rates by young people aged 16–30 with mental illness in education and employment: General population</li> </ul>

Note: Indicators in bold were regarded as core by the mortality & morbidity working group or were nominated by multiple groups. Extracted from the *Targets and indicators for chronic diseases prevention in Australia (2019)*.

\*WHO set targets and indicators relevant to mental health in the *WHO Global Mental Health Action Plan 2013-2020*, which contains six global targets and indicators for achievement by 2020.

## Indicators and data sources

The data are available at [www.atlasesaustralia.com.au/aphc](http://www.atlasesaustralia.com.au/aphc) or linked through *Australia's Health Tracker by Area* at [www.mitchellinstitute.org.au](http://www.mitchellinstitute.org.au).

There are more indicators available online than appear in the report card.

Indicators available online include:

- Risk factors
  - obese persons
  - overweight or obese persons
  - obese males
  - overweight or obese males
  - obese females
  - overweight or obese females
  - high blood pressure
  - harmful use of alcohol
  - current smokers
  - male current smokers
  - female current smokers
  - high blood cholesterol
  - no or low exercise
- Screening
  - Bowel screening participation, persons
  - Bowel screening participation, females
  - Bowel screening participation, males
  - Bowel screening outcomes – positive test result, persons
  - Bowel screening outcomes – positive test result, females
  - Bowel screening outcomes – positive test result, males
- Illness
  - Diabetes
- Deaths
  - Deaths from cardiovascular diseases, persons aged 30 to 69 years
  - Deaths from cancers, persons aged 30 to 69 years
  - Deaths from lung cancer, persons aged 30 to 69 years
  - Deaths from breast cancers, females aged 30 to 69 years
  - Deaths from colorectal (bowel) cancer, persons aged 30 to 69 years
  - Deaths from respiratory system diseases, persons aged 30 to 69 years
  - Deaths from diabetes, persons aged 30 to 69 years
  - Deaths from suicides, persons aged 0 to 74 years

The data available to download from *Australia's Health Tracker by Area* include data for capital cities and the rest of states/territories for screening and early deaths.

Rate ratios between the highest and lowest quintile are calculated for each indicator.

Notes on the data sources for indicators are available at: [http://www.atlasesaustralia.com.au/ahpc/data\\_notes.pdf](http://www.atlasesaustralia.com.au/ahpc/data_notes.pdf)

## Calculating early death numbers

Using the data available for early deaths, the gaps in death rates for each disease were calculated by subtracting the number of deaths of quintile 1: least disadvantaged from the other four quintiles.

This produced a total number of additional deaths for people in the lower four quintiles:

	Total deaths 2010-2014	Deaths above least disadvantaged benchmark
Deaths from cardiovascular diseases, persons aged 30 to 69 years	32,984	13,529
Deaths from cancers, persons aged 30 to 69 years	76,821	17,631
Deaths from respiratory system diseases, persons aged 30 to 69 years	9,304	4,914
Deaths from diabetes, persons aged 30 to 69 years	4,073	2,353
Deaths from suicides, persons aged 0 to 74 years	11,756	3,056

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