Measuring performance to improve health

Performance measurement is integral to improving services provided by governments and other providers. What is measured reflects what is important to governments, to service providers, to the funders of the services (including taxpayers), as well as to consumers and other stakeholders. Benefits of performance measurement include:

- It improves accountability and transparency of service provision and can be used to create incentives for improved service delivery
- Using the same measures over time can provide information on the effectiveness of changes to policies or new practices or programs
- It can encourage ongoing performance improvements in service delivery by highlighting quality improvements and innovation and examples of poor performance that can be improved
- It provides the community with an understanding of their health and the quality of their health system.

National health performance reporting

In Australia, national public reporting of measured performance of various components of the health system is undertaken by a number of organisations under nationally agreed arrangements.

The arrangements, outlined here, are accompanied by:

- reporting on state and territory performance by state and territory governments and others
- reporting by private organisations such as private hospital groups and organisations involved in accrediting health service providers
- international reporting, such as by the Organisation for Economic Co-operation and Development.

The Australian Bureau of Statistics (ABS) also reports on health-related national performance in its *Measures of Australia's progress* series of reports (ABS 2013i).

The national arrangements are also accompanied by activities undertaken by health service providers to measure and monitor performance within their organisations to improve clinical outcomes and the appropriateness of services. These activities are related to, but not considered to be, performance reporting, and in recent years have been supported by the Australian Commission on Safety and Quality in Health Care (ACSQHC). As part of its work to lead and coordinate improvements in safety and quality in health care across Australia, the Commission undertakes and facilitates the development of safety- and quality-related indicators for use in such local monitoring. For example, it has supported the development of outcomes indicators for hospital and day procedure services (ACSQHC 2013a).

The national arrangements for health performance reporting in Australia comprise the National Healthcare Agreement, National Partnership Agreements, the Review of Government Service Provision, the National Health Reform Agreement and associated Performance and Accountability Framework, and the National Health Performance Framework. These reporting arrangements focus on particular purposes and use specific indicator frameworks and performance indicators, which have been developed to support the implementation or monitoring of each of the national agreements.

National Healthcare Agreement

The overall aim of the National Healthcare Agreement (NHA) is to improve health outcomes for all Australians and the sustainability of the health system. It also defines the objectives and the roles and responsibilities of the Australian Government and the states and territories in delivering health services. The NHA was agreed by the Council of Australian Governments (COAG) in 2008 and last updated in 2012.

The NHA sets out performance indicators and benchmarks to provide evidence of how governments are progressing against their commitments (COAG Reform Council 2013a). In 2012, the NHA performance indicator framework was updated and now contains 33 performance indicators and 7 performance benchmarks across 4 outcome areas (better health, better health services, social inclusion and Indigenous health, and sustainability of the health system).

The COAG Reform Council* reports annually to COAG on governments' performance using the agreed performance indicators and benchmarks (COAG Reform Council 2013b).

National Partnership Agreements

There are 2 health-related National Partnership Agreements between the Commonwealth and the states and territories that currently involve national health performance reporting.

The National Partnership Agreement on Improving Public Hospital Services aims to achieve better health outcomes by driving improvements in public hospital service delivery. In particular, it aims to facilitate improved access to elective surgery, emergency department services and sub-acute care. It incorporates performance indicators, benchmarks and targets on access to elective surgery and emergency department care (see Chapter 8 'Elective surgery waiting times' and 'Emergency departments').

The National Partnership Agreement on Essential Vaccines aims to improve the health and wellbeing of Australians through the cost-effective delivery of immunisation programs under the National Immunisation Program. It has 4 outcomes on reducing vaccine-preventable diseases and 4 performance benchmarks on increasing vaccination coverage.

The COAG Reform Council* reports annually on the progress of states and territories against the specified indicators or benchmarks for each agreement (COAG Reform Council 2013c, 2013d).

*On 13 May 2014 the Australian Government announced plans to abolish the COAG Reform Council.

Review of Government Service Provision

The Review of Government Service Provision was established in 1993 by heads of government (now COAG) to provide information on the equity, efficiency and effectiveness of Australian government services and to promote ongoing performance improvement. National health performance information is released with information on other government services in the annual *Report on government services* (RoGS). The 2014 edition of RoGS included chapters on public hospitals, primary and community health, and mental health management.

The RoGS publications are based on performance indicators set against a framework that reflects the review's focus on outcomes, consistent with government demand for outcome-oriented performance information. This information is supplemented by information on outputs, grouped under 'equity', 'effectiveness' and 'efficiency' headings (SCRGSP 2014).

National Health Reform Agreement

The National Health Reform Agreement between the Australian Government and the state and territory governments aims to improve health outcomes for all Australians and enhance the sustainability of the Australian health system. Under the agreement, the National Health Performance Authority (NHPA) was established to report information on the performance of local health care organisations (public and private hospitals, Local Hospital Networks and Medicare Locals, or primary health care organisations) to inform consumers, empower clinicians and service providers to drive improvements, and increase transparency and accountability (NHPA 2013).

The NHPA's public reporting is underpinned by the Performance and Accountability Framework (PAF), which was agreed by COAG in 2011. This Framework includes 48 performance indicators under the domains of equity, effectiveness, and efficiency. It includes 17 hospitals indicators and 31 indicators for primary health care organisations. The data for these indicators are released through the *MyHospitals* and *MyHealthyCommunities* websites, respectively (NHPA 2013).

The ACSQHC also has performance reporting-related roles under the Agreement, formulating and monitoring safety and quality standards, and reporting publicly on the state of safety and quality, including performance against national standards. The Commission's most recent report was structured around 3 questions that reflect aspects of other performance reporting frameworks: Will my care be safe? Will I get the right care? Will I be a partner in my care? (ACSQHC 2013b).

The National Health Performance Framework

The National Health Performance Framework (NHPF) was developed in 2001 by the National Health Performance Committee under the auspices of the Australian Health Ministers' Advisory Council (AHMAC) (AIHW 2012c; NHPC 2002). The NHPF was designed as an enduring framework—it is not linked to any particular agreement nor was it designed to support performance reporting relating to a specific policy agenda. Instead, it serves as a general support for performance assessment, planning and benchmarking in the health sector. It is consistent with health performance frameworks used internationally (International Organization for Standardization 2010; OECD 2013) so can support comparisons of Australia's performance internationally.

The NHPF provides a conceptual framework to understand and evaluate the health of Australians and the health system. It has 14 health dimensions grouped under 3 domains: health status, determinants of health, and health system performance (Table 9.1).

A set of indicators was developed to populate the dimensions of the NHPF and, since 2008, at the request of Health Ministers, the AIHW has reported on these National Health Performance Indicators biennially in *Australia's health*. The indicator set was most recently revised and agreed by Health Ministers in 2009. The indicators were developed so that they meaningfully reflect the dimensions of the framework and were practical to implement in terms of cost effectiveness, timeliness and availability of quality data. There are 40 indicators across the 14 dimensions of the 3 domains (tables 9.2, 9.3 and 9.4).

Table 9.1: National Health Performance Framework (2nd edition)

Health status			
How healthy are Australians? Is it the same for everyone? Where are the best opportunities for improvement?			
Health conditions	**Human function**	**Wellbeing**	**Deaths**
Prevalence of disease, disorder, injury or trauma, or other health-related states.	Alterations to body structure or function (impairment), activity limitations and restrictions in participation.	Measures of physical, mental and social wellbeing of individuals.	Mortality rates and measures of life expectancy.
Determinants of health			
Are the factors determining good health changing for the better? Where and for whom are these factors changing? Is it the same for everyone?			
Environmental factors	**Community and socioeconomic**	**Health behaviours**	**Biomedical factors**
Physical, chemical and biological factors such as air, water and soil quality.	Community factors such as social capital, support services, and socioeconomic factors such as housing, education, employment and income.	Attitudes, beliefs, knowledge and behaviours such as patterns of eating, physical activity, smoking and alcohol consumption.	Genetic-related susceptibility to disease; and other factors such as blood pressure, cholesterol levels and body weight.

continued

Table 9.1 (continued): National Health Performance Framework (2nd edition)

Health system performance		
How does the health system perform? What is the level of quality of care across the range of patient care needs? Is it the same for everyone? Does the system deliver value for money and is it sustainable?		
Effectiveness	**Continuity of care**	**Safety**
Care, intervention, or action provided is relevant to the client's needs and based on established standards. Care, intervention or action achieves desired outcome.	Ability to provide uninterrupted, coordinated care or service across programs, practitioners, organisations and levels over time.	The avoidance or reduction to acceptable limits of actual or potential harm from health-care management or the environment in which health care is delivered.
Accessibility	**Responsiveness**	**Efficiency & sustainability**
People can obtain health care at the right place and right time irrespective of income, physical location and cultural background.	Service is client oriented. Clients are treated with dignity and confidentiality, and encouraged to participate in choices related to their care.	Achieving desired results with the most cost-effective use of resources. Capacity of the system to sustain workforce and infrastructure, to innovate and respond to emerging needs.

Source: Adapted from AIHW 2012c.

How the NHPF indicators are presented here

The performance indicators are presented in 3 sections, 1 for each of the NHPF domains—health status, determinants of health, and health system performance.

Each section includes a summary table listing the indicators that are included, and whether there has been a favourable or unfavourable trend over time. For a trend to be 'favourable' or 'unfavourable' it must include:

- at least 5 consecutive years of data
- at least 3 pieces of comparable information
- progressive change over the period.

A favourable trend is noted when the indicator has moved in the desired direction. For example, life expectancy should increase and waiting times for elective surgery should decrease. A trend is considered unfavourable if it moves in the opposite of the desired direction. For indicators where the measure does not appear to have changed over the time period or where the result of that analysis is not clear, the trend is described as 'no change/trend unclear/no trend'. For indicators where there are insufficient data to support trend analysis, the trend is described as 'no data'.

Summary information on each indicator is presented on subsequent pages. Where there is more information in an article or snapshot in *Australia's health 2014*, the material on the indicator provides a reference.

Limitations of the NHPF performance indicators

As noted above, the indicators for the NHPF were last reviewed and endorsed by Health Ministers in 2009. With the passage of time, some limitations have become evident for a number of the NHPF performance indicators, because of a lack of appropriate high-quality data, and changes in policies and priority areas for monitoring meaning that the usefulness of some indicators has reduced.

For some indicators no new data are available, so data are included that are older, and may have been included in previous editions of *Australia's health*. For example, data for the indicator on *Health literacy* were sourced from the ABS Adult Literacy and Life Skills Survey. This survey last included questions on health literacy in 2006 (ABS 2008a). For the indicator *Proportion of people with mental illness with a GP care plan*, the cost of sourcing updated data from the ABS was judged by AIHW as being too high, so older data are reported.

The indicator *Survival following an acute coronary heart disease event* has not been reported because the AIHW has judged that due to changes in the methodology used to identify acute coronary events, it is no longer appropriate to report on the indicator.

Due to changes in treatment patterns and people with diabetes using other avenues for care, the AIHW has judged that it is no longer appropriate to report on the *Proportion of people with diabetes who complete a GP annual cycle of care*, as this could result in a misleading picture of the current management of people with diabetes.

The AIHW will review the NHPF performance indicators in 2014–15 in consultation with AHMAC committees and other stakeholders for future editions of *Australia's health*.

Where do I go for more information?

For another example of national health performance reporting, see Healthcare 2011–12: comparing performance across Australia for the data reported for indicators under the National Healthcare Agreement (COAG Reform Council 2013a). Performance information for hospitals and for Medicare Locals are reported on the NHPA's *MyHospitals* website www.myhospitals.gov.au and *MyHealthyCommunities* website www.myhealthycommunities.gov.au, respectively. For information on international comparisons of health, see Chapter 9 'International comparisons'.

Health status

This domain covers the health status of Australia's population, and is measured in terms of health conditions, human function, wellbeing and deaths. The key questions asked are:

- How healthy are Australians?
- Is it the same for everyone?
- Where are the best opportunities for improvement?

The indicators included are shown in Table 9.2.

Table 9.2: Indicators of NHPF domain—health status

Trend legend	✔	✗	~	..
	Favourable	Unfavourable	No change/trend unclear/ no trend	No data

Indicator	Trend
Health conditions	
Incidence of heart attacks	✔
Incidence of selected cancers	
bowel	~
melanoma	~
lung cancer	~
female breast cancer	~
cervical	~
Incidence of sexually transmitted infections and blood-borne viruses	
syphilis	✗
HIV	✗
hepatitis B	✔
hepatitis C	✔
chlamydia	✗
gonococcal infection	✗
Incidence of end-stage kidney disease	~
Hospitalisation for injury and poisoning	✗
Human function	
Severe or profound core activity limitation	~
Wellbeing	
Psychological distress	~
Self-assessed health status	~
Deaths	
Infant/young child mortality rate	
infants (<1 year)	✔
Indigenous infants (<1 year)	✔
children aged 1–4 years	✔
Life expectancy	
all males	✔
all females	✔
Indigenous males	✔
Indigenous females	✔

Incidence of heart attacks

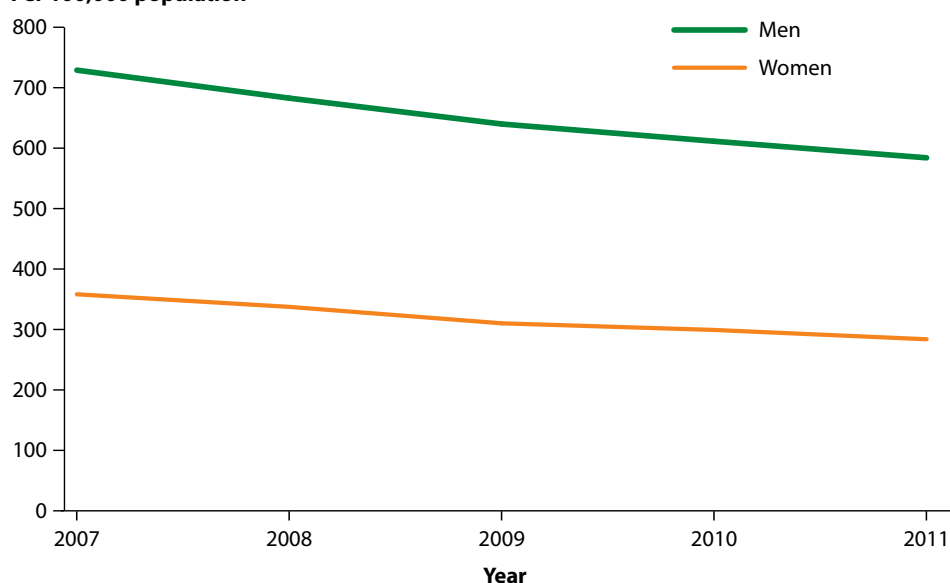**NHPF domain:** Health status.

NHPF dimension: Health conditions.

More information available on this topic: Chapter 4 'Coronary heart disease'.

Definition: Number of deaths from coronary heart disease plus the number of non-fatal hospitalisations for heart attacks and unstable angina, per 100,000 population.

Figure 9.1

Per 100,000 population

Notes

1. Rates have been age-standardised to the Australian Estimated Resident Population as at 30 June 2001.

2. Deaths registered in 2009 and earlier are based on the final version of cause of death data; deaths registered in 2010 and 2011 are based on revised and preliminary versions, respectively, and are subject to further revision by the ABS; deaths data for 2010 have not been adjusted for the additional deaths arising from outstanding registrations of deaths in Queensland in 2010.

Sources: AHIW National Hospital Morbidity Database, AIHW National Mortality Database.

Trends in age-standardised rates of heart attacks, among people aged 25 and over, Australia, 2007–2011

- In 2011, an estimated 69,900 people aged 25 and over had a heart attack, almost two-thirds (63%) of whom were men.

- The age-standardised heart attack rate was 427 per 100,000 people in 2011—a 20% decline from the 534 per 100,000 people in 2007.

- Since 2007, heart attack rates among Indigenous adults have fallen, but have remained at least twice as high as among other Australians (age-standardised rates of 1,077 and 421 per 100,000 population, respectively, in 2011) in the 5 jurisdictions with adequate identification of Indigenous deaths (New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only).

Data limitations/issues

In 2012, the method for calculating rates of heart attack was revised to reflect changes in diagnostic techniques and clinical practice. Therefore, rates presented in this report are not comparable with previously published rates on heart attacks in Australia.

Incidence of selected cancers

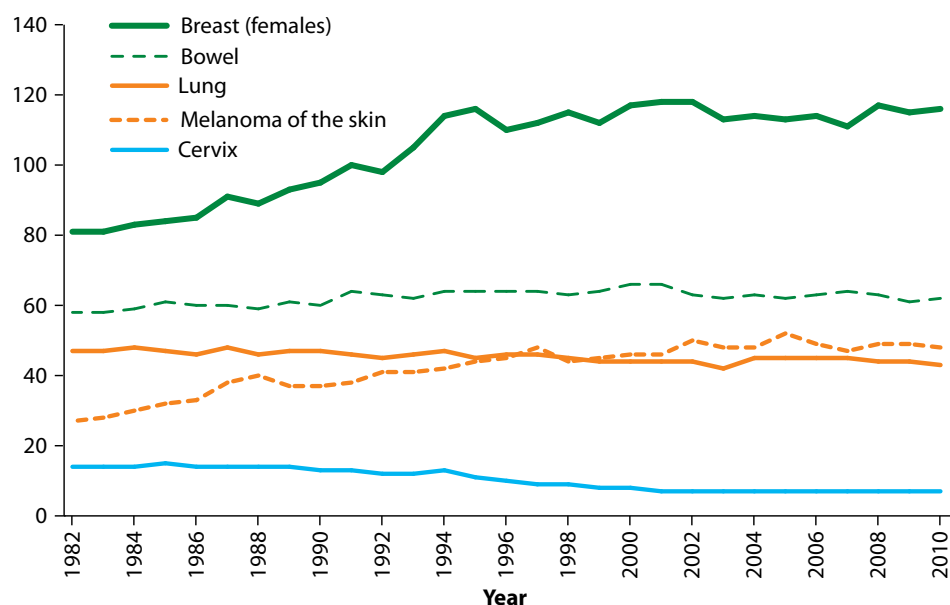**NHPF domain:** Health status.

NHPF dimension: Health conditions.

More information available on this topic: Chapter 4 'Cancer in Australia'.

Definition: The number of new cases of breast cancer in females, bowel cancer, melanoma of the skin, lung cancer and cervical cancer. Presented as age-standardised numbers per 100,000 population (per 100,000 females for breast and cervical cancers).

Figure 9.2

New cases per 100,000 population

Source: AIHW Australian Cancer Database 2010.

Incidence of selected cancers, Australia, 1982–2010

- Between 1982 and 2010, incidence rates for lung cancer and bowel cancer remained steady overall, although there were differences by sex:
  – lung cancer incidence fell among males (from 85 to 56 new cases per 100,000) and rose among females (from 18 to 32 new cases per 100,000)
  – bowel cancer incidence was steady among females, with 52 new cases per 100,000, and after an initial rise among males (1982–1996) stabilised at 76 new cases per 100,000 per year to 2010.
- The incidence of melanoma rose between 1982 and 2001, and then remained stable at around 49 new cases per 100,000 people each year to 2010. This trend was similar for males, but for females rates remained stable from earlier (1997).
- The incidence of breast cancer (females only) rose between 1982 and 1993, and then remained stable at around 115 per 100,000 females each year to 2010.
- The incidence of cervical cancer (females only) fell between 1982 and 2000, and then remained stable at around 7 per 100,000 females each year to 2010.
- In 2004–2008, data from New South Wales, Queensland, Western Australia and the Northern Territory shows that the incidence of:
  – lung cancer was nearly twice as high, and cervical cancer (females only) was nearly 3 times as high among Indigenous Australians as among non-Indigenous Australians
  – breast cancer (females only) and bowel cancer were each around 20% lower among Indigenous Australian as among non-Indigenous Australians
  – melanoma of the skin was around 70% lower among Indigenous Australians as among non-Indigenous Australians.

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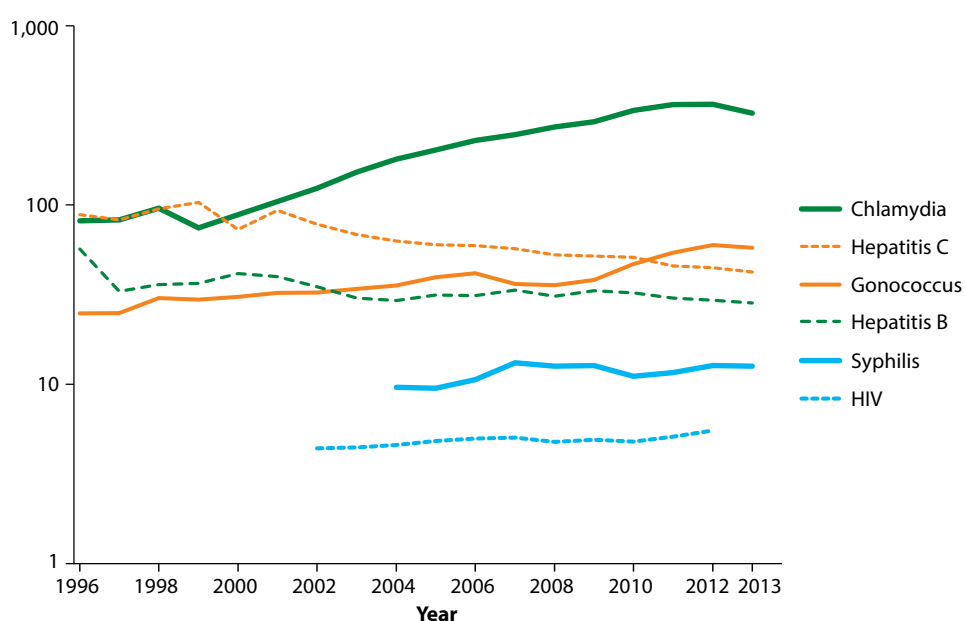## Incidence of sexually transmitted infections and blood-borne viruses

NHPF domain: Health status.

NHPF dimension: Health conditions.

Definition: The number of new cases of syphilis, HIV, hepatitis B, hepatitis C, chlamydia and gonococcal infections.

Figure 9.3

Notifications per 100,000 population (log scale)

Note: Data are presented using a log scale.

Sources: National Notifiable Diseases Surveillance System; The Kirby Institute 2013.

Notification rates of sexually transmissible infections and blood-borne viruses, Australia, 1996–2013

- While chlamydia and gonococcal infection rates fell slightly in 2013, the rate of new cases has risen fivefold for chlamydia and threefold for gonococcal infections since 1994 when national notification began.
- The rate of new syphilis infections has risen from 9.6 per 100,000 people in 2004 to 12.6 in 2013.
- Notification rates of hepatitis B and hepatitis C have fallen since 2001.
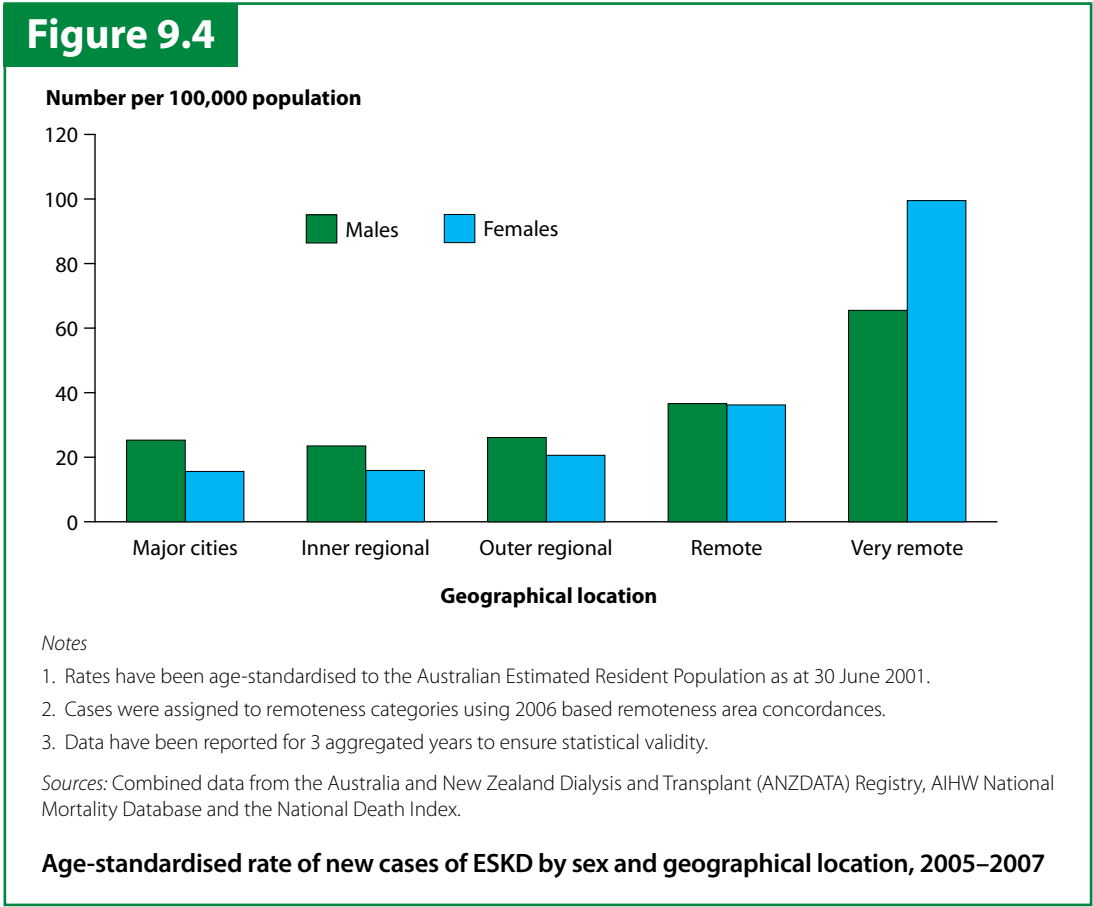- The rate of HIV diagnosis per 100,000 people has risen by 25% from 4.4 in 2002 to 5.5 in 2012.

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Incidence of end-stage kidney disease

NHPF domain: Health status.

NHPF dimension: Health conditions.

More information available on this topic: Chapter 4 'Chronic kidney disease'.

Definition: Number of new cases of treated end-stage kidney disease (ESKD) plus number of individuals who died with an *underlying cause of death* of renal failure or an *associated cause of death* of chronic renal failure, end-stage, and did not receive dialysis or transplant treatment (untreated cases), per 100,000 population.

Figure 9.4

Number per 100,000 population

Notes

1. Rates have been age-standardised to the Australian Estimated Resident Population as at 30 June 2001.

2. Cases were assigned to remoteness categories using 2006 based remoteness area concordances.

3. Data have been reported for 3 aggregated years to ensure statistical validity.

Sources: Combined data from the Australia and New Zealand Dialysis and Transplant (ANZDATA) Registry, AIHW National Mortality Database and the National Death Index.

Age-standardised rate of new cases of ESKD by sex and geographical location, 2005–2007

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- In 2010, there were 4,800 new cases of ESKD, equating to an age-standardised rate of 20 per 100,000 population, with the rate higher among males than females (24 compared with 16 per 100,000 population).

- ESKD incidence rates among Indigenous Australians were 7 times that of non-Indigenous Australians (age-standardised rate of 95 and 14 per 100,000 population, respectively, in 2007–2010) in the 5 jurisdictions with adequate identification of Indigenous deaths (New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only).

- ESKD incidence rates were substantially higher in *Very remote* areas; with age-standardised rates in *Very remote* areas twice the *Remote* rate, and nearly 4 times the rate of other areas in 2005–2007. This finding is strongly linked to the relatively high proportion of the population who are Aboriginal and Torres Strait Islander people in *Remote* and *Very remote* areas of Australia.

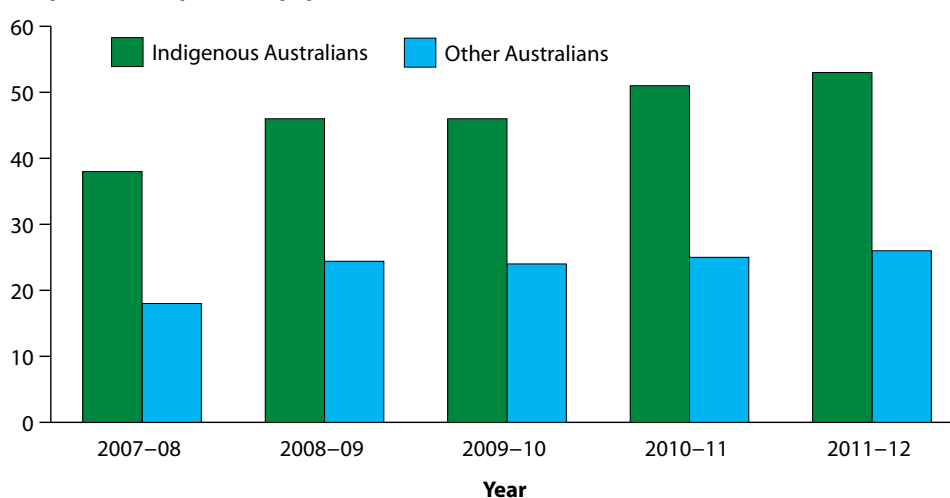## Hospitalisation for injury and poisoning

NHPF domain: Health status.

NHPF dimension: Health conditions.

More information available on this topic: Chapter 4 'Injuries'.

Definition: The number of hospitalisations with a principal diagnosis of injury or poisoning. This is presented as a number per 1,000 people (age-standardised).

Figure 9.5

Hospitalisations per 1,000 population

Note: Excludes data for Tasmania and the Australian Capital Territory, and private hospitals in the Northern Territory.
Sources: AIHW 2009, 2010, 2011, 2012a, 2013b.

Hospitalisations for injury and poisoning, by Indigenous status, 2007–08 to 2011–12

- In 2011–12, the age-standardised rate of hospitalisations due to injury was 26.2 hospitalisations per 1,000 population. This has slightly increased over the last 5 years (from 24.1 hospitalisations per 1,000 population).

- The most common principal diagnoses for injury hospitalisations were *Injuries to upper and lower limbs* (45% of all hospitalisations) and *Complications of medical and surgical care* (18%).

- The age-standardised rate of hospitalisations due to injury for Indigenous Australians was about twice that for other Australians. *Injuries to the head and neck* was the reason for 26% of hospitalisations for Indigenous Australians compared with 16% for other Australians.

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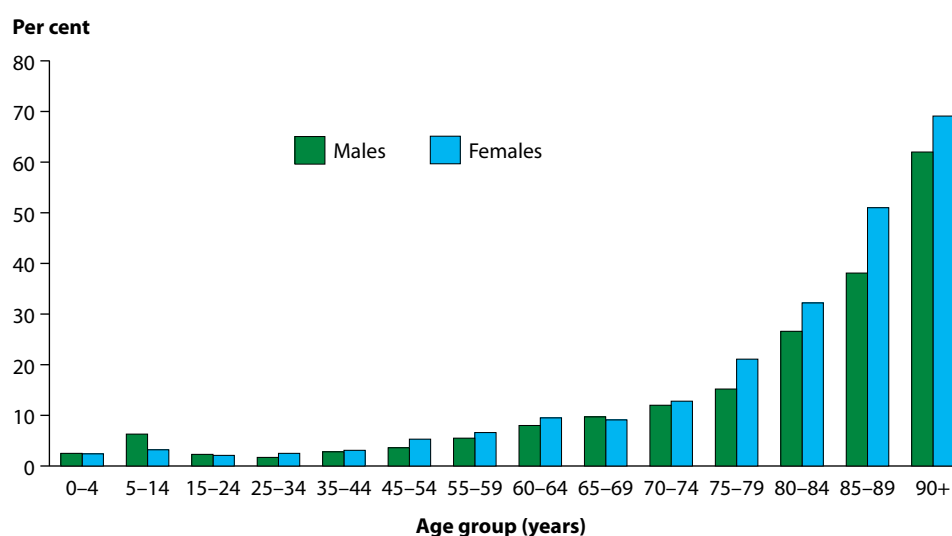
Severe or profound core activity limitation

NHPF domain: Health status.

NHPF dimension: Human function.

More information available on this topic: Chapter 1 'Who we are'.

Definition: The percentage of people who sometimes or always need help with core activities of daily living (mobility, self-care or communication).

Figure 9.6

Per cent

Source: ABS 2013e.

People with severe or profound core activity limitation, by age and sex, 2012 (per cent)

- In 2012, 1.4 million people—6.1% of the population—had a severe or profound core activity limitation (ABS 2013e).
- Females (6.7%) were more likely than males (5.4%) to have a limitation of this type.
- After adjusting for differences in population age structures, the rates remained broadly constant between 2003 (age-standardised rate of 6.2%) and 2012 (5.8%).
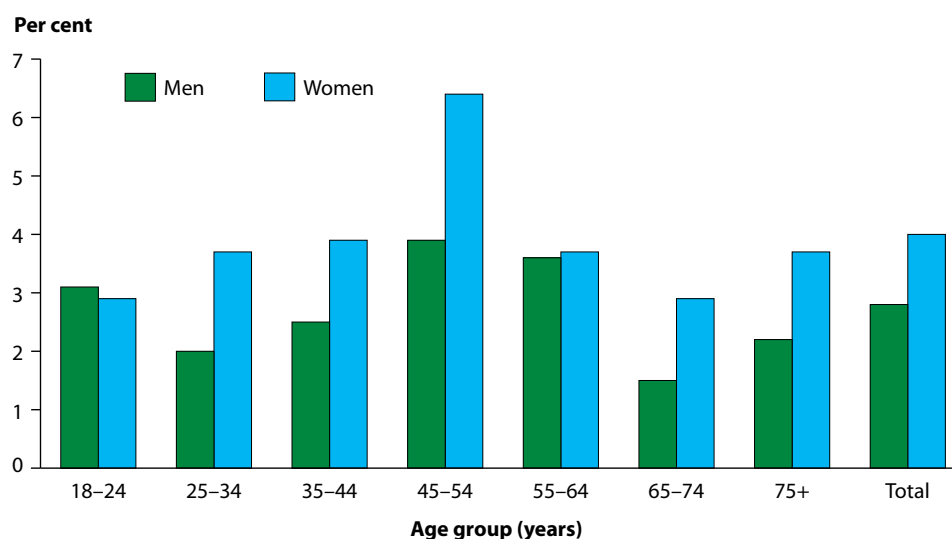
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Psychological distress

NHPF domain: Health status.

NHPF dimension: Wellbeing.

More information available on this topic: Chapter 4 'Mental health in Australia'.

Definition: The proportion of adults with very high levels of psychological distress as measured using the Kessler Psychological Distress Scale—10 items (K10). (The K10 is a scale of non-specific psychological distress based on 10 questions about negative emotional states in the 4 weeks before being interviewed.)

Figure 9.7

Per cent

Source: AIHW analysis of ABS 2012c: data cube Table 4.

Adults with very high levels of psychological distress, by age and sex, 2011–12

- In 2011–12, 3.4% of adults had very high levels of psychological distress (ABS 2012c).

- Women (4.0%) were more likely than men (2.8%) to have very high levels of distress.

- Women aged 45–54 had the highest rate of psychological distress (6.4%).

- Rates were similar in 2007–08, with 4.1% of women and 2.8% of men having very high levels of psychological distress (ABS 2009a).
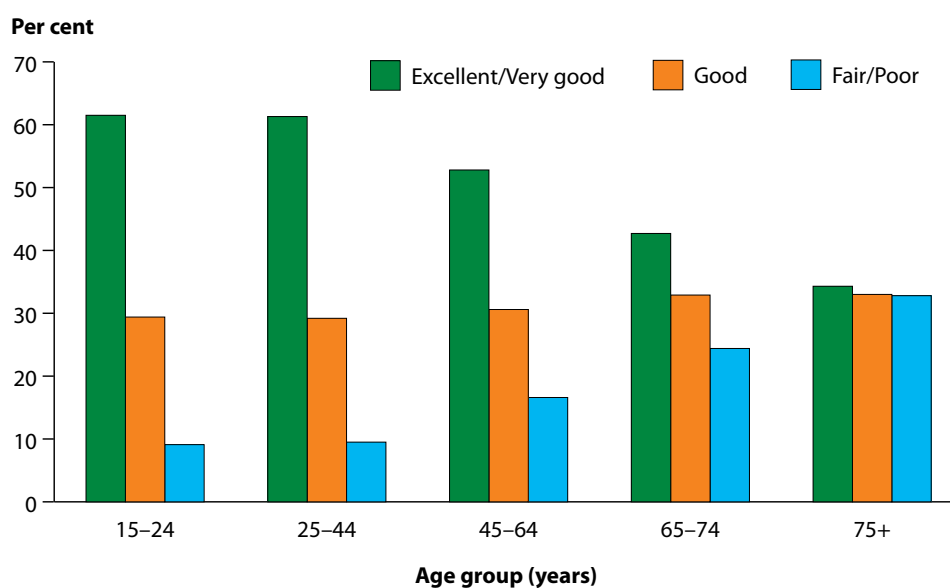
Self-assessed health status

NHPF domain: Health status.

NHPF dimension: Wellbeing.

More information available on this topic: Chapter 3 'Are we getting healthier'.

Definition: The percentage of persons 15 and over who self-assess their health as excellent or very good.

Figure 9.8

Self-assessed health status, by age group, 2011–12

Source: ABS 2013b.

- In 2011–12, 55% of Australians aged 15 or over described their health as excellent or very good (ABS 2013b).

- Patterns in self-assessed health status were similar for males and females; 55% of males described their health as excellent or very good compared with 56% of females.

- Younger people were more likely than older people to rate their health as excellent or very good—62% of people aged 15–24 compared with 34% of people aged 75 or over.

- The proportion of people who described their health status as excellent or very good has not changed since 1995.

Infant/young child mortality rate
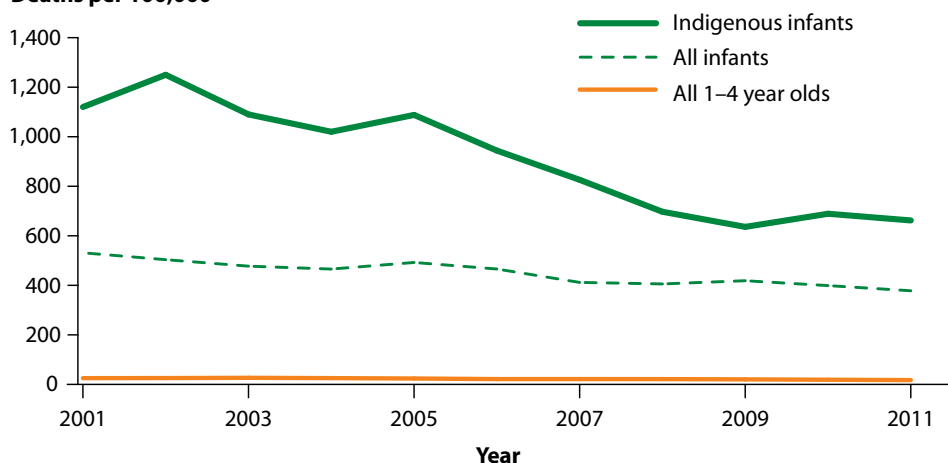
NHPF domain: Health status.

NHPF dimension: Deaths.

More information available on this topic: Chapter 6 'How healthy are Australian children?'

Definition: The number of deaths of infants (those aged under 1) divided by the number of live births, and the number of deaths of young children (those aged 1–4) divided by the population of the same age.

Figure 9.9

Deaths per 100,000

Legend:
— Indigenous infants
--- All infants
— All 1–4 year olds

Notes

1. Indigenous infant mortality includes data for NSW, Qld, WA, SA and NT only. These 5 jurisdictions have been included because there are sufficient levels of identification and numbers of deaths to support mortality analysis. They do not represent an Australian figure.
2. Deaths registered in 2009 and earlier are based on the final version of cause of death data; deaths registered in 2010 and 2011 are based on revised and preliminary versions respectively, and are subject to further revision.
3. Data for 2010 have been adjusted for the additional deaths arising from outstanding registrations of deaths in Queensland in 2010.

Sources: AIHW National Mortality Database; ABS unpublished data.

Infant and child mortality, 2001–2011

- Infant mortality has fallen substantially, from 531 deaths per 100,000 in 2001 to 378 deaths per 100,000 live births in 2011—a decrease of about 29%.

- Mortality rates for Indigenous infants have also fallen substantially, from 1,120 deaths per 100,000 in 2001 to 660 per 100,000 live births in 2011—a decrease of about 41% since 2001; however, the rate remains much higher than the overall Australian rate.

- The 2011 mortality rate for children aged 1–4 was 17.3 per 100,000 population—31% lower than in 2001.
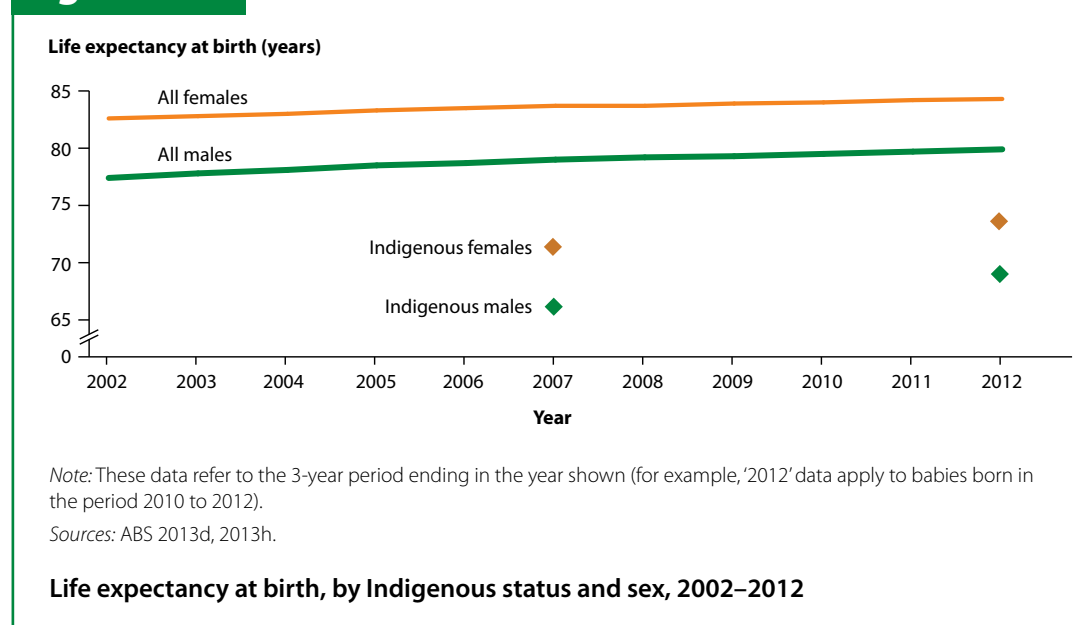
Life expectancy

NHPF domain: Health status.

NHPF dimension: Deaths.

More information available on this topic: Chapter 3 'Life expectancy'.

Definition: The number of years that a baby born in a given year can expect to live, if age-specific death rates do not change.

Figure 9.10

Life expectancy at birth (years)

Note: These data refer to the 3-year period ending in the year shown (for example, '2012' data apply to babies born in the period 2010 to 2012).
Sources: ABS 2013d, 2013h.

Life expectancy at birth, by Indigenous status and sex, 2002–2012

- Life expectancy for a boy born in Australia between 2010 and 2012 was 79.9 years, and for a girl 84.3 years (ABS 2013d).

- Over the last decade, the overall life expectancy at birth increased by 2.5 years for males and 1.7 years for females.

- Life expectancy for Indigenous boys born between 2010 and 2012 was estimated to be 10.6 years lower than that for non-Indigenous boys (69.1 years compared with 79.7), and for Indigenous girls 9.5 years lower than non-Indigenous girls (73.7 compared with 83.1) (ABS 2013h).

- Since 2005–2007, Indigenous life expectancy at birth for boys increased by 1.6 years and for girls by 0.6 years. Over the same period, the gap between Indigenous and non-Indigenous life expectancy narrowed by 0.8 years for males and 0.1 years for females.

Determinants of health

This domain covers the broad factors that can influence the health of an individual or a population. The key questions asked are:

- Are the factors determining good health changing for the better?
- Where and for whom are these factors changing?
- Is it the same for everyone?

The indicators included are shown in Table 9.3.

Table 9.3: Indicators of NHPF domain—health determinants

Trend legend	✔	✗	~	..
	Favourable	Unfavourable	No change/trend unclear/ no trend	No data

Indicator	Trend
Environmental factors	
Children exposed to tobacco smoke in the home	✔
Water quality	~
Community and socioeconomic	
Proportion of people with low income	~
Proportion of babies born with low birthweight	~
Health literacy	..
Educational attainment for selected school years and adults	✔
Health behaviours	
Proportion of adults who are daily smokers	✔
Proportion of adults at risk of long-term harm from alcohol	~
Fruit and vegetable intake	~
Physical inactivity	..
Biomedical factors	
Proportion of persons obese and overweight	✗

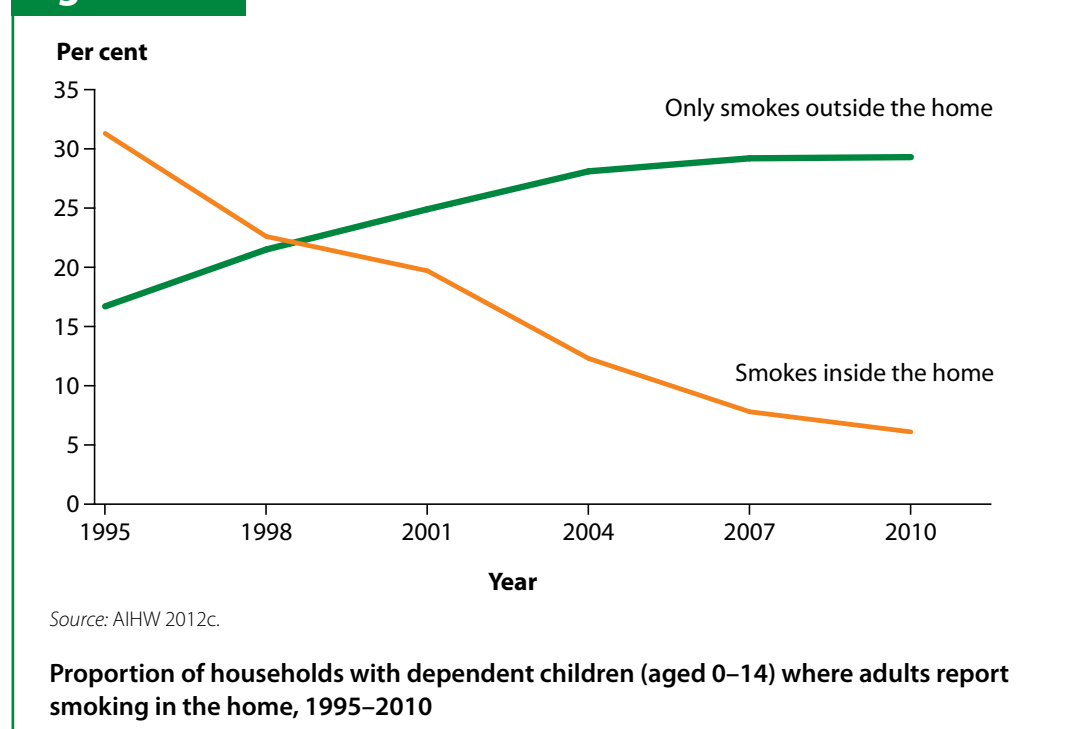## Children exposed to tobacco smoke in the home

NHPF domain: Determinants of health.

NHPF dimension: Environmental factors.

More information available on this topic: Chapter 5 'Tobacco smoking'.

Definition: The percentage of households with dependent children (aged 0–14) where adults report smoking inside the home.

Figure 9.11

Source: AIHW 2012c.

Proportion of households with dependent children (aged 0–14) where adults report smoking in the home, 1995–2010

- In 2010, 6% of households with children included a person who smoked inside the home.
- This proportion has fallen dramatically since 1995 (31%).
- The proportion of smokers restricting their smoking to outside the home environment has almost doubled since 1995.
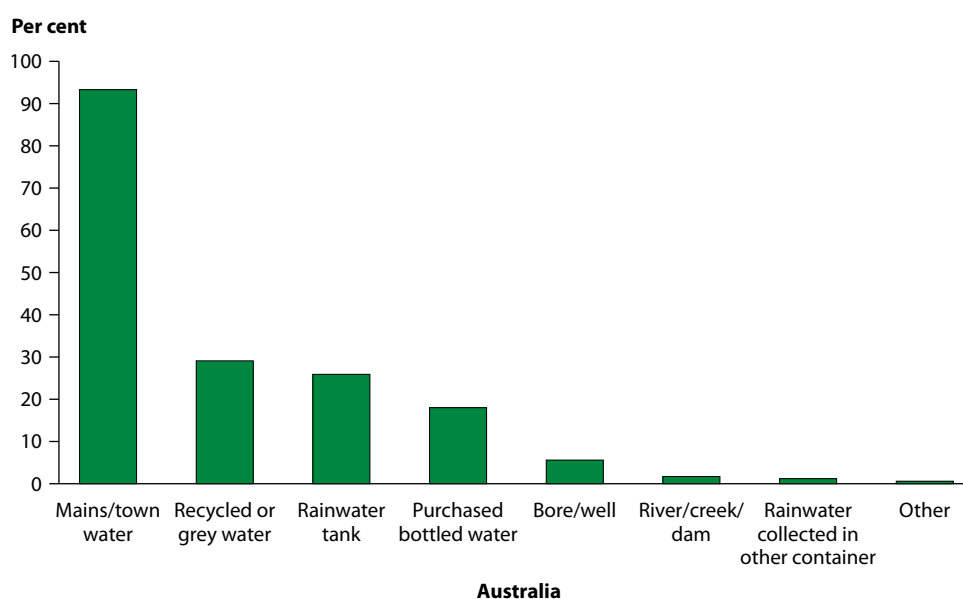
22

Water quality

NHPF domain: Determinants of health.

NHPF dimension: Environmental factors.

Definition: The percentage of households connected to mains or town water.

Figure 9.12

Per cent

Sources of water for Australian households, 2013

Note: Households may have more than 1 source of water.
Source: ABS 2013f.

- In March 2013, more than 8 million Australian households (93%) used mains or town water as a source of water (ABS 2013f).

- Nearly all households in capital cities used mains or town water (99%) compared with 84% of households outside the capital cities. The proportions were the same in 2010.

- Water utilities providing services to more than 10,000 households are regularly tested to ensure compliance with national water quality standards. In 2012–13, more than 95% of assessed utility providers recorded full compliance, compared with 82% in 2007–08 (National Water Commission 2014).

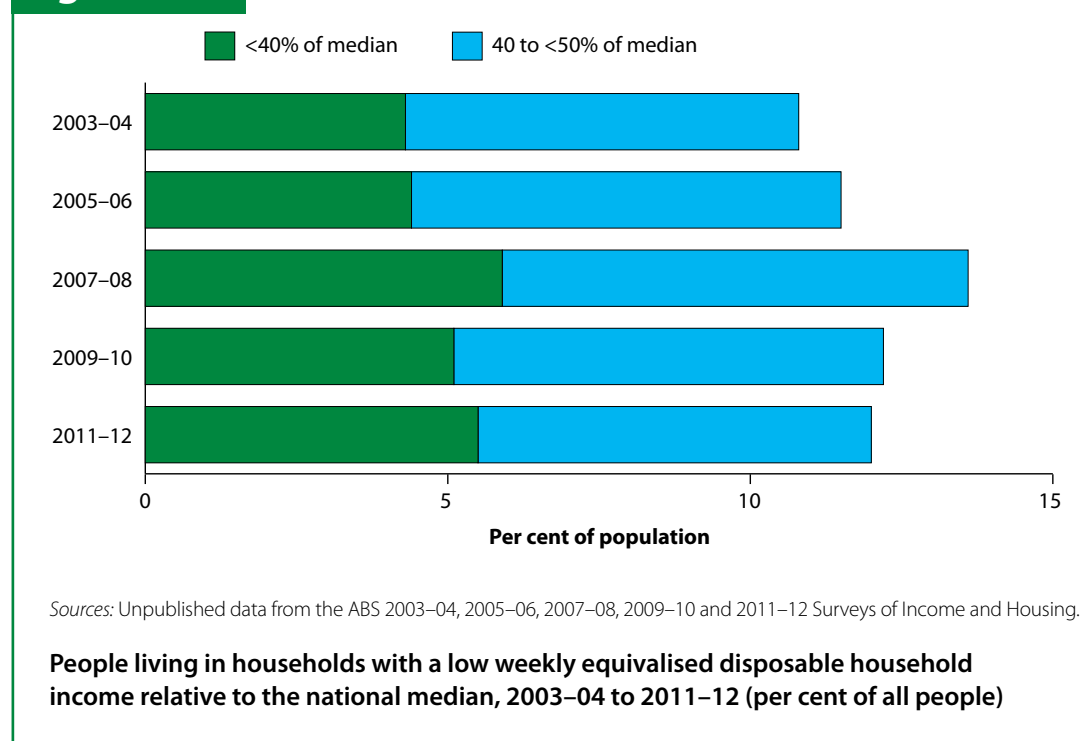## Proportion of people with low income

NHPF domain: Determinants of health.

NHPF dimension: Community and socioeconomic.

More information available on this topic: Chapter 1 'Who we are'.

Definition: There are numerous ways to measure low income. The method chosen for this indicator is to consider people living in households with an equivalised disposable household income (that is, after-tax income, adjusted for the number of people in the household) that is less than 50% of the national median. These data are presented as a percentage of all people.

Figure 9.13

Sources: Unpublished data from the ABS 2003–04, 2005–06, 2007–08, 2009–10 and 2011–12 Surveys of Income and Housing.

People living in households with a low weekly equivalised disposable household income relative to the national median, 2003–04 to 2011–12 (per cent of all people)

- In 2011–12, the median equivalised disposable household income was $790 per week (ABS 2013g).

- In 2011–12, about 2.7 million people lived on less than half the median equivalised household income (that is, less than $395 per week), including nearly 1.2 million living on less than 40% of the median ($316).

- The proportion of people living in low-income households (12.0% in 2011–12) has moved closer to the rate recorded in 2003–04 (10.8%), following a peak at 13.6% in 2007–08.
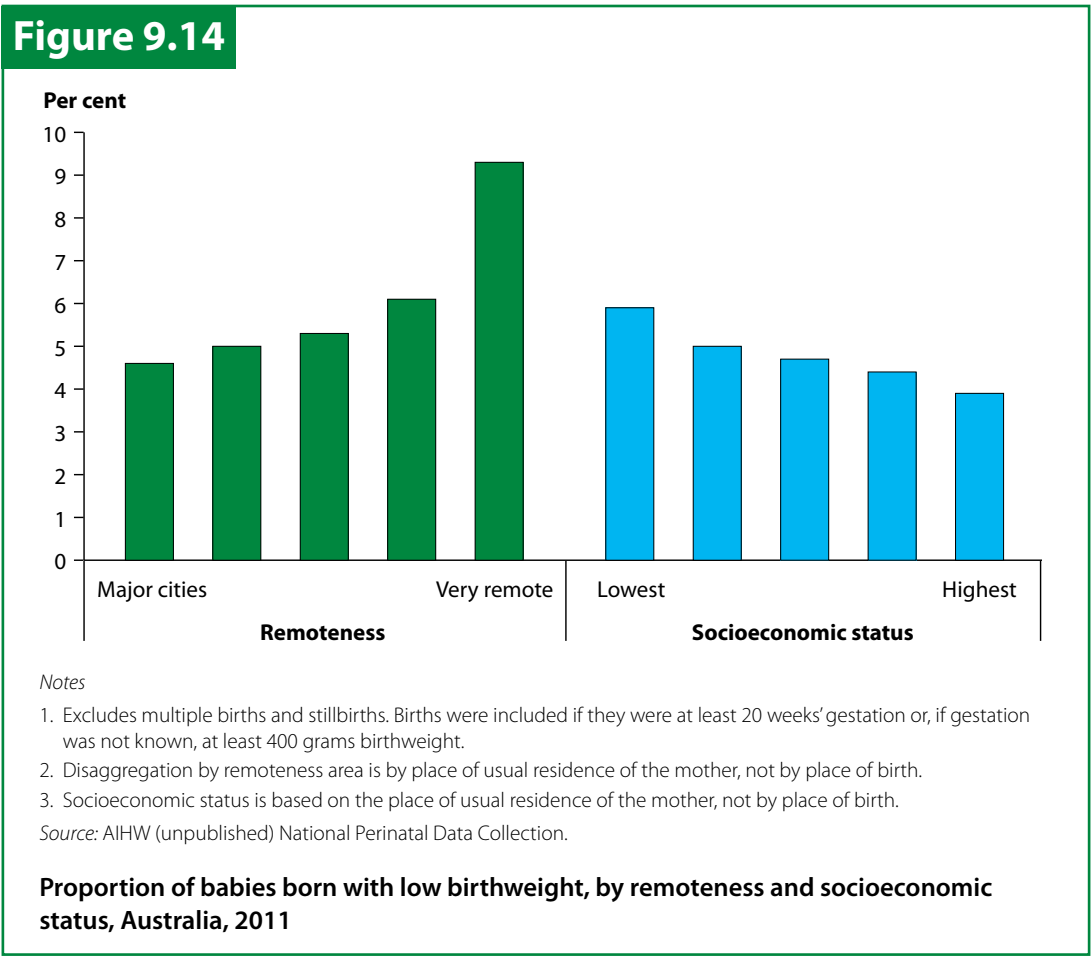
24

Proportion of babies born with low birthweight

NHPF domain: Determinants of health.

NHPF dimension: Community and socioeconomic.

More information available on this topic: Chapter 6 'Australia's babies'.

Definition: Percentage of liveborn singleton babies born with a birthweight of less than 2,500 grams.

Figure 9.14

Per cent

Notes

1. Excludes multiple births and stillbirths. Births were included if they were at least 20 weeks' gestation or, if gestation was not known, at least 400 grams birthweight.
2. Disaggregation by remoteness area is by place of usual residence of the mother, not by place of birth.
3. Socioeconomic status is based on the place of usual residence of the mother, not by place of birth.

Source: AIHW (unpublished) National Perinatal Data Collection.

Proportion of babies born with low birthweight, by remoteness and socioeconomic status, Australia, 2011

- In 2011, 4.8% of live singleton babies (13,985) were of low birthweight.
- The rate has not changed markedly over the past 10 years.
- The proportion of low birthweight babies increases with increasing levels of remoteness, with the proportion in *Very remote* areas being almost twice that in *Major cities*. The proportion of low birthweight babies was higher for mothers living in the lowest socioeconomic status (SES) areas compared with those living in the highest SES areas.
- The proportion of low birthweight babies of Aboriginal and Torres Strait Islander mothers was 12.6%, which was twice that of babies of non-Indigenous mothers (6%).
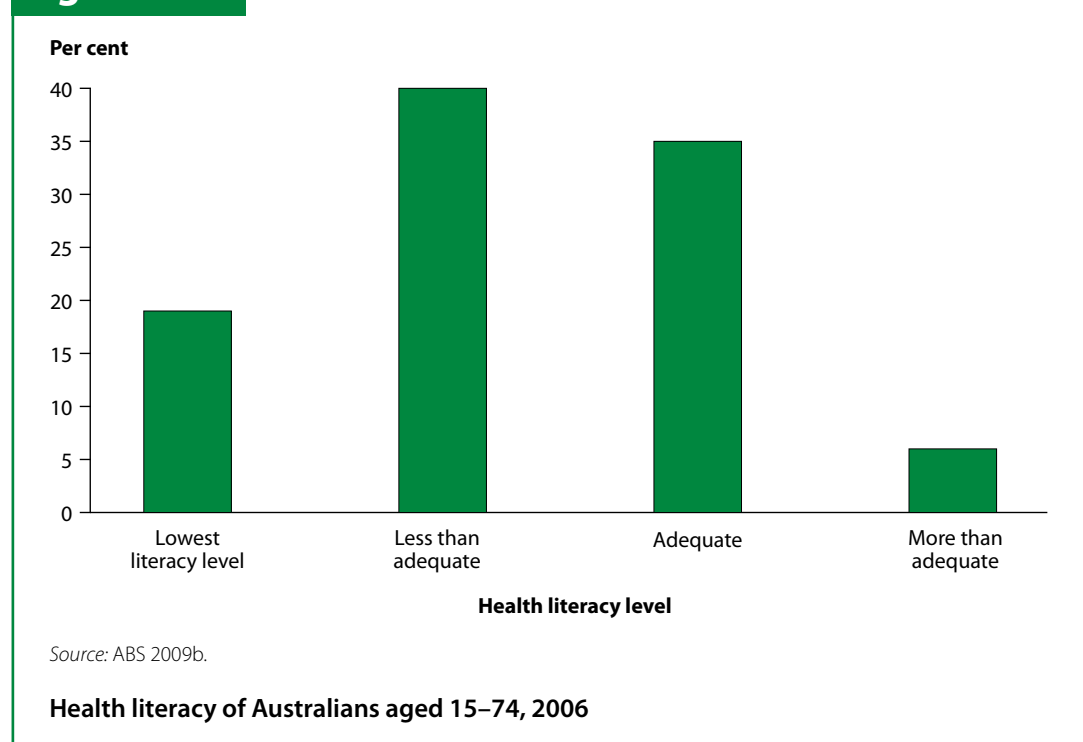
Health literacy

NHPF domain: Determinants of health.

NHPF dimension: Community and socioeconomic.

Definition: Percentage of 15–74 year olds with health literacy above the minimum level regarded as necessary for understanding and using information relating to health issues.

Figure 9.15

Per cent

Source: ABS 2009b.

Health literacy of Australians aged 15–74, 2006

- In 2006, 41% of Australians aged 15–74 were assessed as having adequate or better health literacy skills (ABS 2009b).

- The proportion of people with adequate or better health literacy (41%) was lower than other types of literacy: prose (54%), document (53%) and numeracy (47%).

- It has been estimated that people with low levels of individual health literacy are between 1.5 and 3 times more likely to experience an adverse health outcome (DeWalt et al. 2004 cited in ACSQHC 2013c).

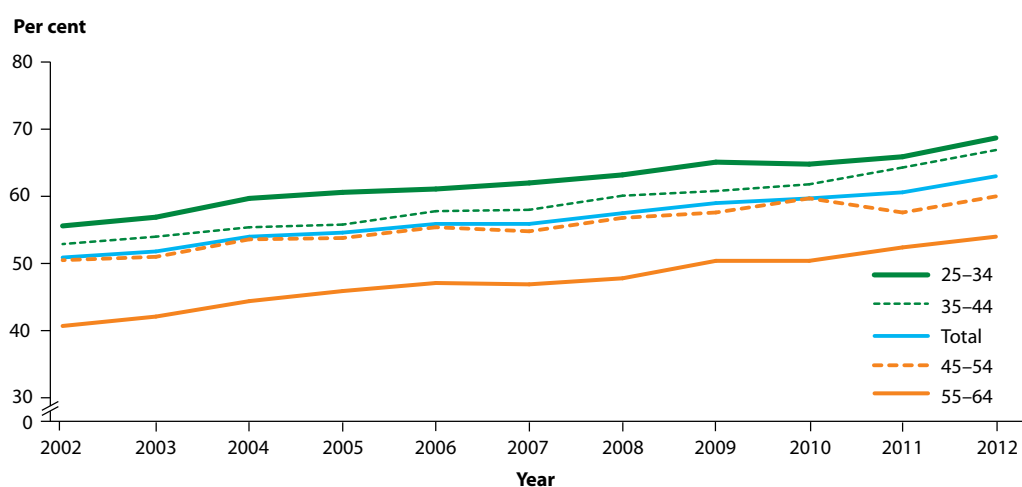## Educational attainment for selected school years and adults

NHPF domain: Determinants of health.

NHPF dimension: Community and socioeconomic.

More information available on this topic: Chapter 1 'Who we are'.

Definition: The percentage of people aged 25–64 with a non-school qualification (diploma, certificate or degree).

Figure 9.16

Source: ABS 2008b, 2012a, 2012b; AIHW 2013a.

People aged 25–64 with a non-school qualification, by age, 2002–2012 (per cent of population)

- More than two-thirds (67%) of people aged 25–64 had a non-school qualification in 2012—this is up from 54% in 2002.

- While more men (68%) than women (65%) had a non-school qualification in 2012, the gender gap has narrowed over the past decade. In 2002, 59% of men and 50% of women had a non-school qualification.

- Men aged 55 to 64 are much more likely than women of the same age to hold higher qualifications (63% and 52% respectively). The size of the gender gap declined by age and, indeed, was reversed for the youngest age group, with more women than men aged 25–34 having a non-school qualification (73% and 71% respectively).

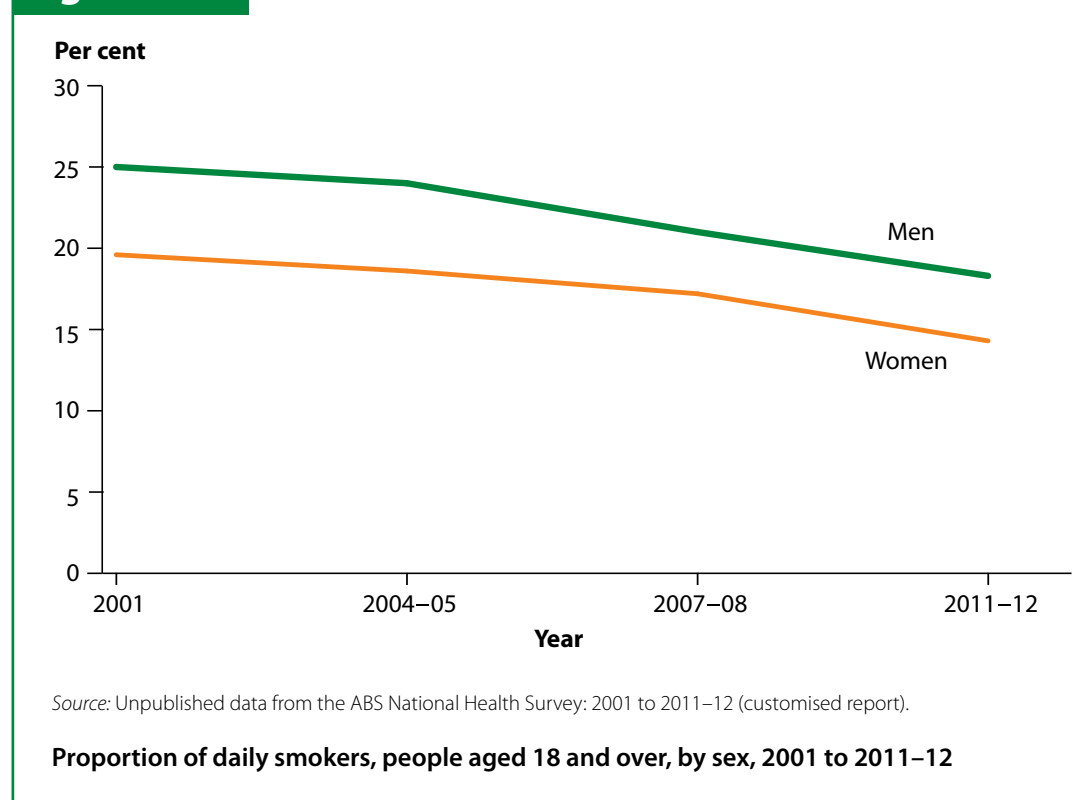## Proportion of adults who are daily smokers

NHPF domain: Determinants of health.

NHPF dimension: Health behaviours.

More information available on this topic: Chapter 5 'Tobacco smoking'.

Definition: Adults (aged 18 and over) who smoke tobacco (manufactured or roll-your-own) every day. Presented as an age-standardised percentage.

Figure 9.17

Per cent

Source: Unpublished data from the ABS National Health Survey: 2001 to 2011–12 (customised report).

Proportion of daily smokers, people aged 18 and over, by sex, 2001 to 2011–12

- Daily smoking rates have fallen since 2001, when 25% of men and 20% of women smoked daily.
- In 2011–12, 16% of adults were daily smokers; men were more likely to smoke daily than women (18% compared with 14%).

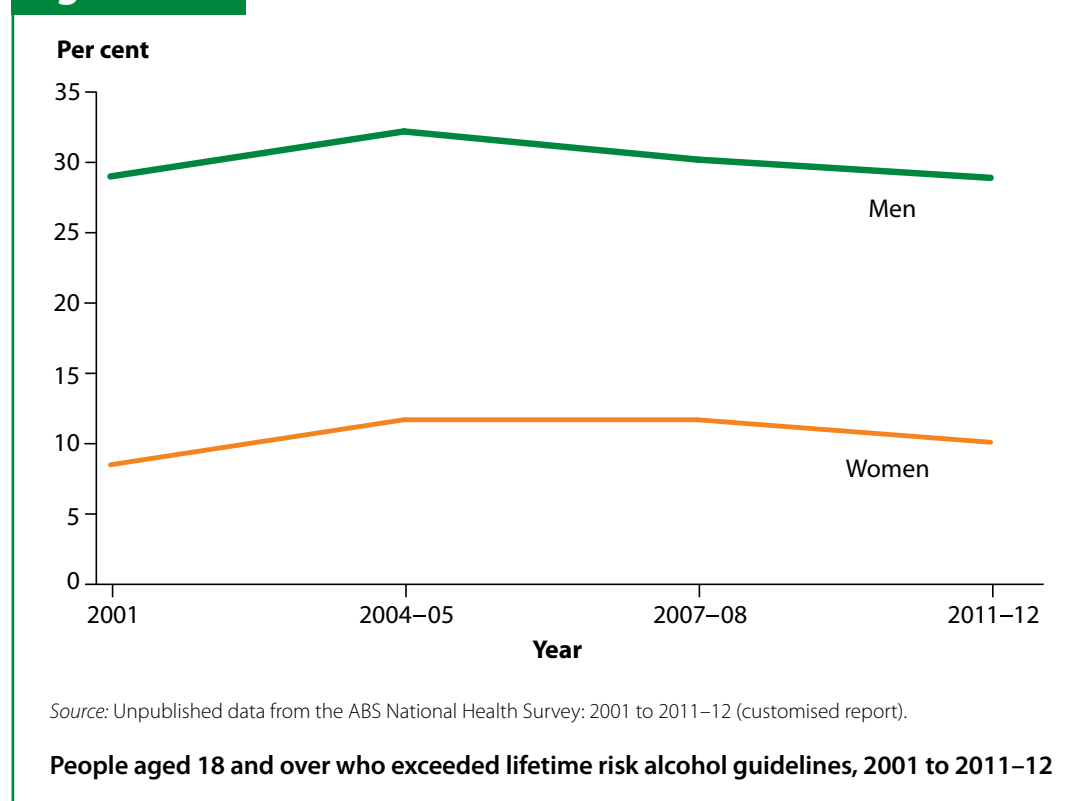## Proportion of adults at risk of long-term harm from alcohol

NHPF domain: Determinants of health.

NHPF dimension: Health behaviours.

More information available on this topic: Chapter 5 'Alcohol risk and harm'.

Definition: People aged 18 and over whose alcohol consumption pattern puts them at risk of lifetime alcohol-related harm (consumed more than 2 standard drinks per day on average) according to 2009 National Health and Medical Research Council guidelines. Presented as an age-standardised percentage.

Figure 9.18

Per cent

Source: Unpublished data from the ABS National Health Survey: 2001 to 2011–12 (customised report).

People aged 18 and over who exceeded lifetime risk alcohol guidelines, 2001 to 2011–12

- In 2011–12, nearly 1 in 5 adults (19.5%) consumed more than 2 standard drinks per day on average, exceeding the lifetime risk guideline.

- Men were almost 3 times as likely as women to consume alcohol at risky levels: 29% for men and 10% for women.

- Rates of risky alcohol consumption have fluctuated since 2001, peaking in 2004–05 and declining to levels similar to 2001 in 2011–12.

Fruit and vegetable intake

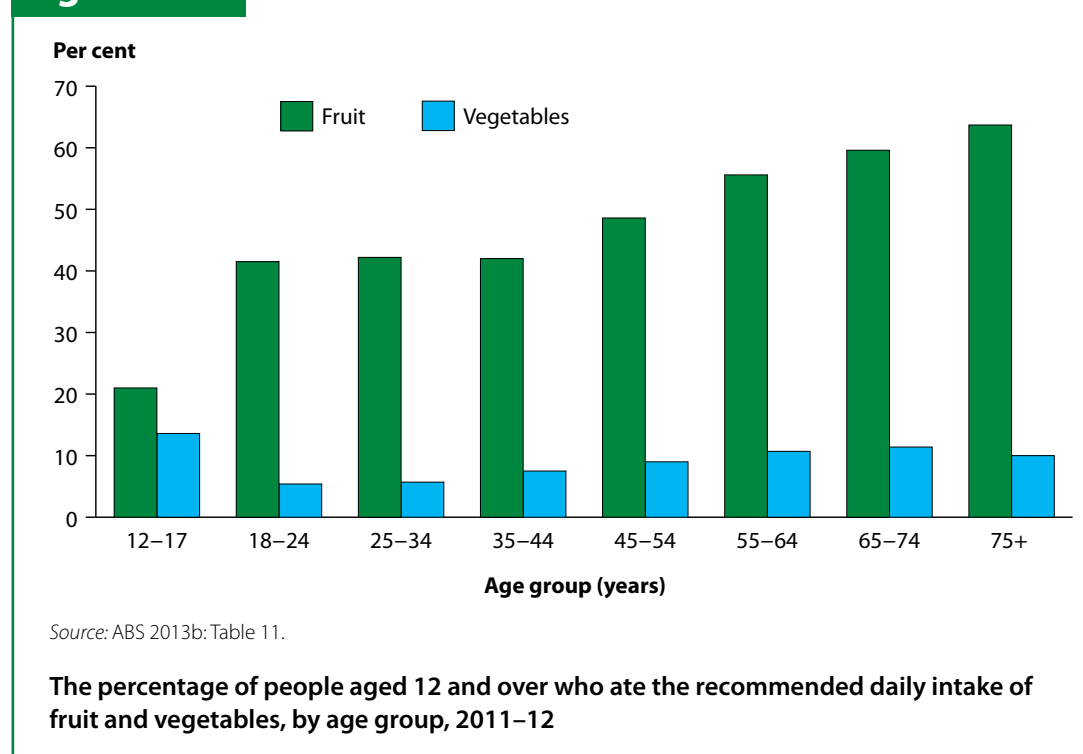**NHPF domain:** Determinants of health.

NHPF dimension: Health behaviours.

Definition: The percentage of people aged 12 and over eating sufficient serves of fruit and vegetables each day to obtain a health benefit.

Based on the NHMRC 2003 guidelines (NHMRC 2003), the recommended daily intake for people aged 18 and over is at least 2 serves of fruit and 5 serves of vegetables. For children aged 12–17, the recommended daily intake is at least 3 serves of fruit and 4 serves of vegetables. One serve is approximately 150 grams of fresh fruit, 50 grams of dried fruit, half a cup of cooked vegetables, or 1 cup of salad vegetables; beverages are not included.

Note that new Australian dietary guidelines were released in early 2013 (NHMRC 2013); national data based on these new guidelines were not available at the time of writing.

Figure 9.19

Source: ABS 2013b: Table 11.

The percentage of people aged 12 and over who ate the recommended daily intake of fruit and vegetables, by age group, 2011–12

- In 2011–12, 46% of people aged 12 and over ate sufficient serves of fruit and only 9% ate sufficient serves of vegetables, based on the NHMRC guidelines (ABS 2013b).

- Sufficient fruit intake was highest in the 75-and-over age group. Sufficient vegetable intake was highest in the 12–17 age group.

- Among those aged 12 and over, females were more likely to eat sufficient fruit and vegetables than males (6% compared with 4%).

- Among those aged 12 and over, the proportion of people who ate sufficient fruit was 48% in 2007–08, and 45% in 2011–12 (age-standardised). The proportion of people who ate sufficient vegetables was 9% in both 2007–08 and 2011–12 (age-standardised) (ABS 2009a).
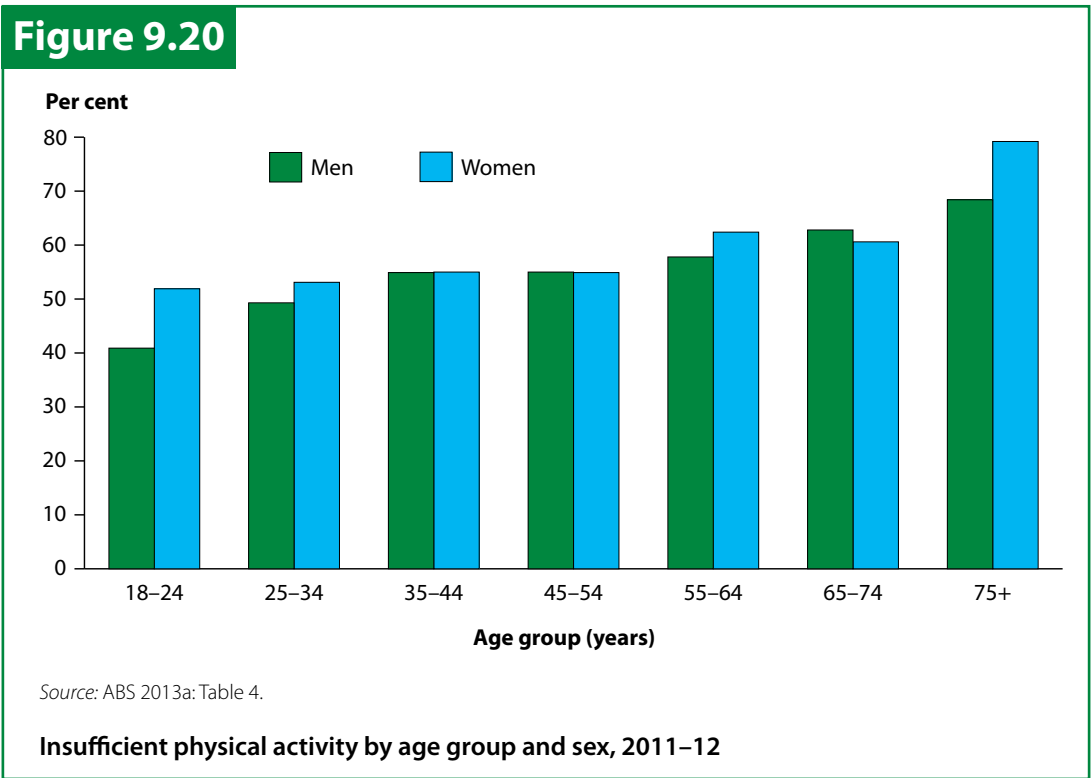
31

Physical inactivity

NHPF domain: Determinants of health.

NHPF dimension: Health behaviours.

More information available on this topic: Chapter 4 'Chronic disease—Australia's biggest health challenge'.

Definition: The percentage of adults who did not participate in sufficient regular physical activity to gain a health benefit. The recommended minimum level of activity is 150 minutes per week of walking or other moderate or vigorous activity, over at least 5 sessions (DHAC 1999).

Figure 9.20

Source: ABS 2013a: Table 4.

Insufficient physical activity by age group and sex, 2011–12

- In 2011–12, 56% of adults were not sufficiently active to meet the recommended minimum level of activity (ABS 2013a).

- Insufficient activity levels increased with age, from 46% of those aged 18–24, to 74% of those aged 75 and over.

- Overall, women were more likely to be insufficiently active than men (58% compared with 54%).

- Insufficient physical activity was more common in areas with the lowest socioeconomic status than in areas with the highest status (65% compared with 48%).

- There was a small decrease in the age-standardised proportion of adults who were not sufficiently active, mostly in younger adults, from 62% in 2007–08 to 56% in 2011–12 (ABS 2011, 2013a) but without comparable data from additional points in time it is not clear whether this represents a favourable trend.

- The physical activity recommendation for children aged 2–4 is 180 minutes or more per day, and for children aged 5–17 it is 60 minutes or more per day (Department of Health 2013b). In 2011–12, 30% of children aged 2–17 met the physical activity guidelines (31% of males, 28% of girls).

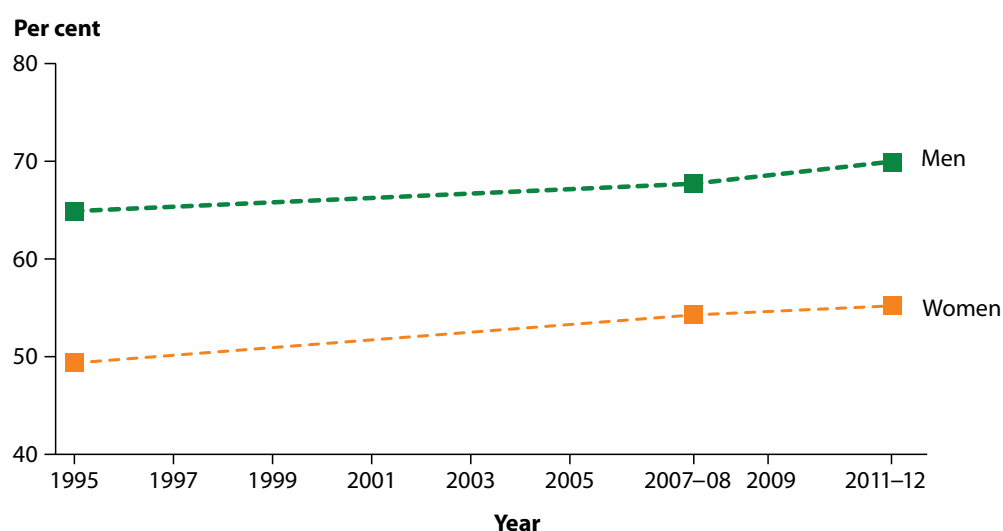## Proportion of persons obese and overweight

NHPF domain: Determinants of health.

NHPF dimension: Biomedical factors.

More information available on this topic: Chapter 4 'Chronic disease—Australia's biggest health challenge', Chapter 6 'Childhood overweight and obesity'.

Definition: Proportion of people who are overweight or obese. Body mass index (BMI) is a measure that classifies a person as overweight, obese, normal weight or underweight, based on their weight and height. Overweight is defined as a BMI of 25 or over but less than 30, and obesity is defined as a BMI of 30 or more.

Figure 9.21

Source: ABS 2009a: Table 17; ABS 2013b: Table 5.

Age-standardised rate of overweight or obesity, people aged 18 and over, by sex, 1995 to 2011–12

- In 2011–12, the majority of Australian adults (63%) were either overweight or obese (ABS 2013b).

- Overweight and obesity have risen over time, after adjusting for differences in the age structure, from 57% in 1995 to 63% in 2011–12. For males, the rate rose from 65% to 70%, and for females it rose from 49% to 55%.

- Among adults, overweight and obesity were highest in the 65–74 age group (75%) and lowest in the 18–24 age group (36%).

- More men were overweight than women (42% compared with 28%). Obesity rates were the same for men and women (28%).

- Women who lived in areas with the lowest socioeconomic status (SES) were more likely to be overweight or obese than women living in areas with the highest SES. In contrast, overweight and obesity rates for men did not vary by SES areas.

- In 2011–12, 26% of children aged 5–17 were overweight or obese compared with 25% in 2007–08 and 21% in 1995.

Health system performance

This domain covers the major services and interventions undertaken by the health system. The key questions asked are:

- How does the health system perform?
- What is the level of quality of care across the range of patient care needs?
- Is it the same for everyone?
- Does the system deliver value for money and is it sustainable?

The indicators included are shown in Table 9.4.

Table 9.4: Indicators of NHPF domain—health system performance

Trend legend	✔	✗	~	..
	Favourable	Unfavourable	No change/trend unclear/ no trend	No data

Indicator	Trend
Effectiveness	
Unsafe sharing of needles	~
Immunisation rates for vaccines in the national schedule	
1 year	~
2 years	~
5 years	✔
Adults	~
Selected potentially preventable hospitalisations	~
Survival following acute coronary heart disease event	**Not reported**
Survival of people diagnosed with cancer (5 year relative rates)	✔
Potentially avoidable deaths	✔
Safety	
Adverse events treated in hospitals	~
Falls resulting in patient harm in care setting	~
Continuity of care	
Proportion of people with diabetes with a GP annual cycle of care	**Not reported**
Proportion of people with asthma with a written asthma action plan	..
Proportion of people with mental illness with a GP care plan	..

Table 9.4 (continued): Indicators of NHPF domain—health system performance

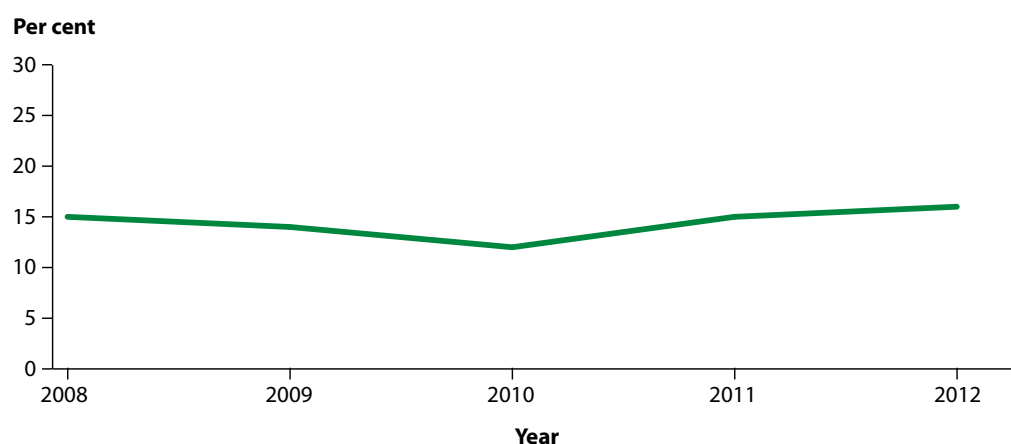| Indicator	Trend
Accessibility	
Bulk-billing for non-referred (GP) attendances	✔
Selected potentially avoidable GP-type presentations to emergency departments	~
Waiting time for elective surgery	✗
Waiting time for emergency department care	✔
Cancer screening rates	
breast	~
cervical	~
bowel	. .
Differential access to hospital procedures	. .
Proportion of pregnancies with an antenatal visit in the first trimester	. .
Efficiency and sustainability	
Net growth in health workforce	
medical practitioners	✔
nurses and midwives	✔
Cost per case mix-adjusted separation for acute and non-acute care episodes	~

Unsafe sharing of needles

NHPF domain: Health system performance.

NHPF dimension: Effectiveness.

More information available on this topic: Chapter 5 'Illicit drug use—current and future issues'.

Definition: The percentage of injecting drug users participating in surveys carried out at needle and syringe programs, who report sharing needles and syringes in the last month.

Figure 9.22

Per cent

Note: Based on people participating in surveys carried out at needle and syringe programs who were tested for HIV or hepatitis C.

Source: The Kirby Institute 2013.

Injecting drug users who report using needles and syringes after someone else in last month (per cent), 2008–12

- In 2012, 16% of participants reported using needles and syringes after someone else in the month before the survey.
- This proportion fluctuated slightly between 2008 and 2012, reaching a low of 12% in 2010 and a high of 16% in 2012.

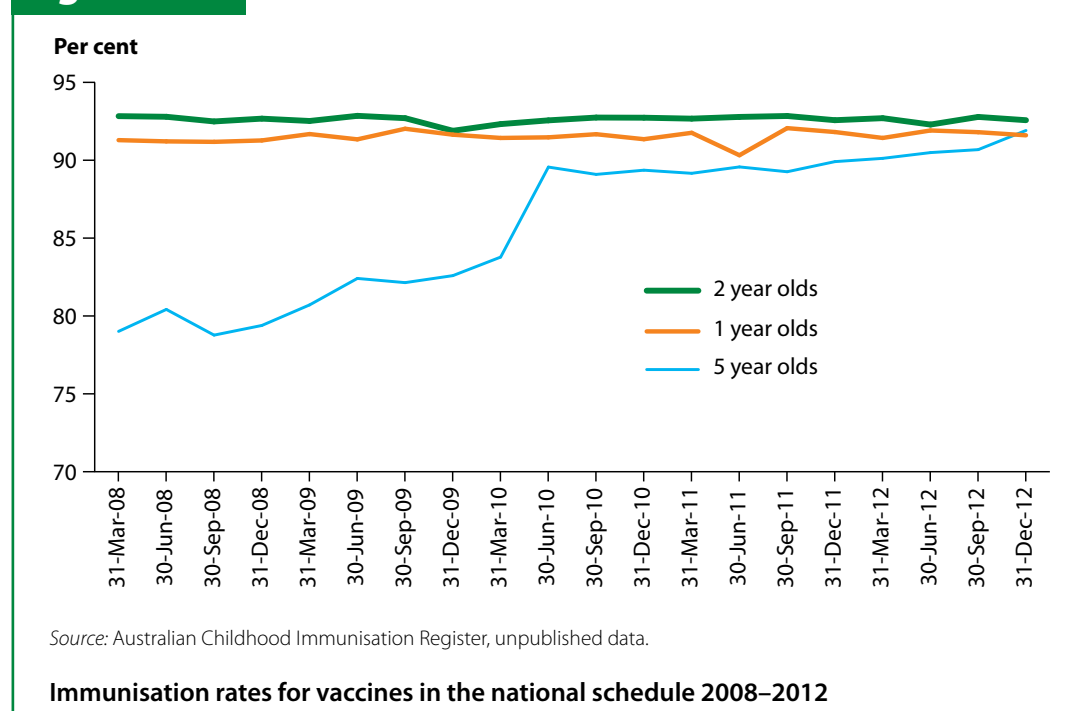## Immunisation rates for vaccines in the national schedule

NHPF domain: Health system performance.

NHPF dimension: Effectiveness.

More information available on this topic: Chapter 4 'Immunisation and vaccine preventable diseases'.

Definition: The proportion of 1, 2 and 5 year olds who have been assessed as fully immunised according to the Australian Childhood Immunisation Register.

Figure 9.23

Per cent

Source: Australian Childhood Immunisation Register, unpublished data.

Immunisation rates for vaccines in the national schedule 2008–2012

- As at December 2012, the proportion of children assessed as being fully immunised was 90% or higher for each of these age groups.
- Between March 2008 and December 2012, the immunisation rates have been relatively stable for children aged 1 and 2.
- For children aged 5 there was a significant increase in vaccination coverage, with rates rising from 79% in March 2008 to around 92% in 2012. This follows a change in eligibility rules for incentive payments, to an earlier age cut-off.

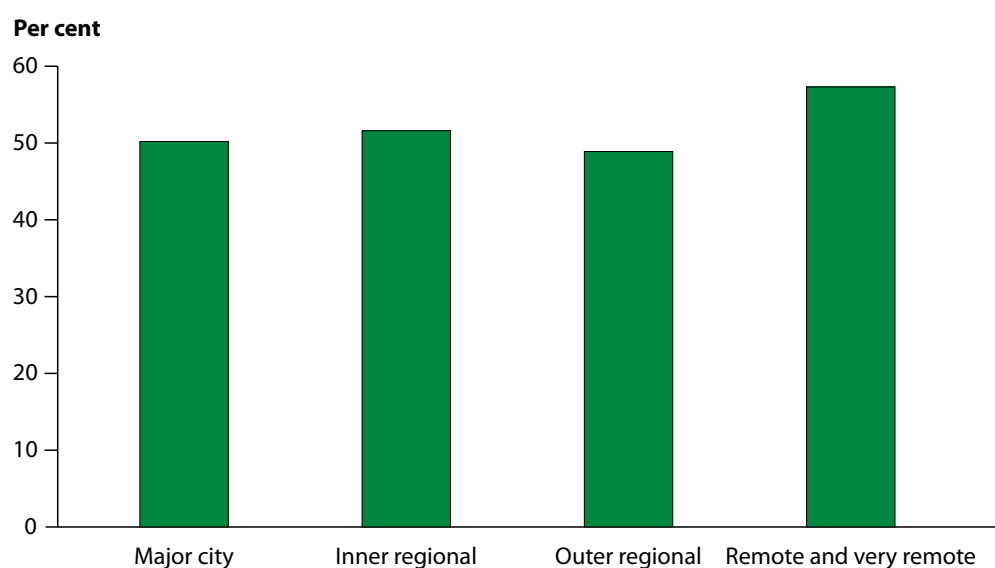## Immunisation rates for vaccines in the national schedule

NHPF domain: Health system performance.

NHPF dimension: Effectiveness.

More information available on this topic: Chapter 4 'Immunisation and vaccine preventable diseases'.

Definition: Proportion of people aged 65 or over who have been vaccinated for influenza and pneumococcal disease.

Figure 9.24

Per cent

Source: SCRGSP 2010.

Proportion of older adults vaccinated against influenza and pneumococcal disease by remoteness area, 2009

- In 2009, 51% of Australian adults aged 65 and over reported they were immunised against pneumococcal disease and influenza.

- Vaccination rates for influenza and pneumococcal disease were highest in *Remote and very remote* areas (57%) but generally similar for *Major cities* (50%), *Inner regional* (52%) and *Outer regional* areas (49%).

- Between 2006 and 2009, vaccination rates for influenza and pneumococcal disease fell among those aged 65 and over, from 59% to 51%.
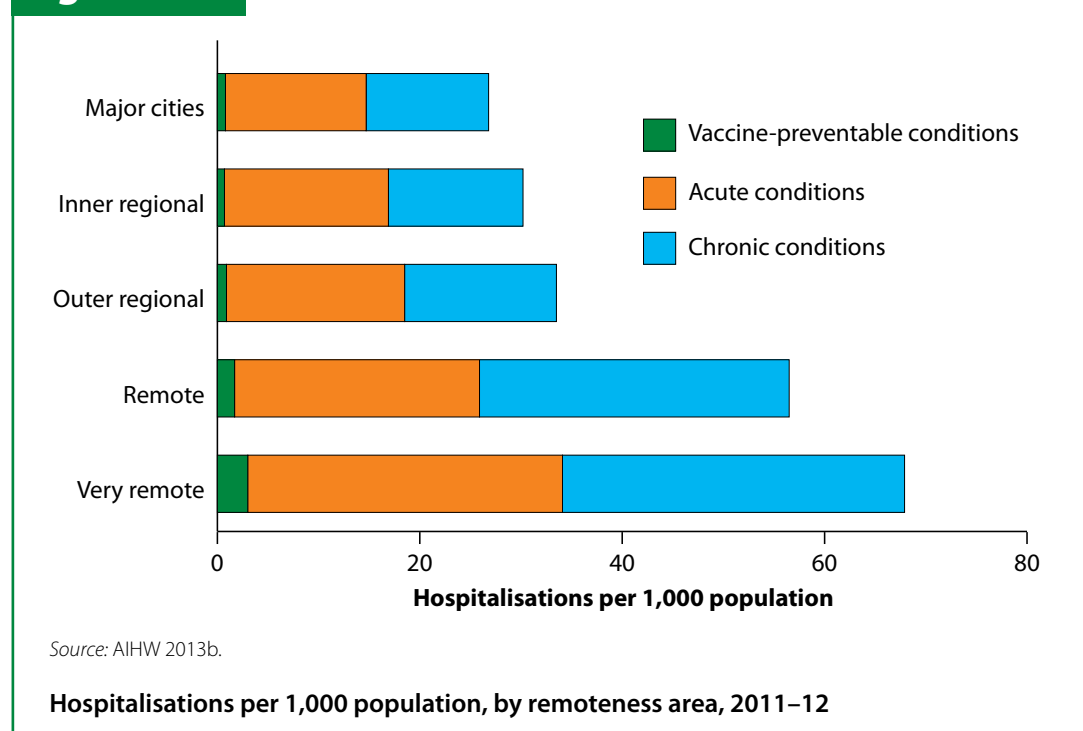
Selected potentially preventable hospitalisations

NHPF domain: Health system performance.

NHPF dimension: Effectiveness.

Definition: Hospitalisations thought to have been avoidable if timely and adequate non-hospital care had been provided, either to prevent the condition occurring, or to prevent the hospitalisation for the condition. They are categorised as vaccine-preventable diseases (for example, measles), acute conditions (for example, ear, nose and throat infections) and chronic conditions, such as diabetes.

Figure 9.25

Hospitalisations per 1,000 population, by remoteness area, 2011–12

Source: AIHW 2013b.

- In 2011–12, there were an estimated 28.6 potentially preventable hospitalisations (PPHs) per 1,000 population. This rate decreased by an annual average of almost 4% in total from 2007-08. However, some of this may have been due to changes to the practices for classifying and reporting diabetes as an additional diagnosis relevant to hospital care.

- PPHs accounted for 7.3% of all hospital separations (9.4% of public hospital separations and 4.2% of private hospital separations).

- For 2011–12, the rate of PPHs was highest for residents of *Remote* and *Very remote* areas (56 and 67 per 1,000 population, respectively) and lowest for residents of *Major cities* (27 per 1,000 population).

- The rate of PPHs fell as the level of socioeconomic advantage rose.

Survival following an acute coronary heart disease event

NHPF domain: Health system performance.

NHPF dimension: Effectiveness.

More information available on this topic: Chapter 4 'Coronary heart disease'.

Definition: People aged 40–90 who survive an acute coronary heart disease event (heart attack).

In 2012, the AIHW revised the methodology for estimating the incidence of acute coronary events due to changes in clinical and treatment patterns and diagnostics. The revised method includes both acute myocardial infarction and unstable angina hospitalisations and has been restricted to acute coronary heart disease deaths. These fundamental changes to the definition particularly affect survival rates and could result in a misleading picture of heart attack-related survival rates—few people die from unstable angina and the number of fatal events would be substantially reduced, likely resulting in an increase in survival rates compared with the previous methodology. Further validation work and consultation are needed to assess the appropriateness of estimating survival rates based on the revised incidence methodology. Hence, the indicator on survival following acute coronary heart disease has not been reported in *Australia's health 2014*.

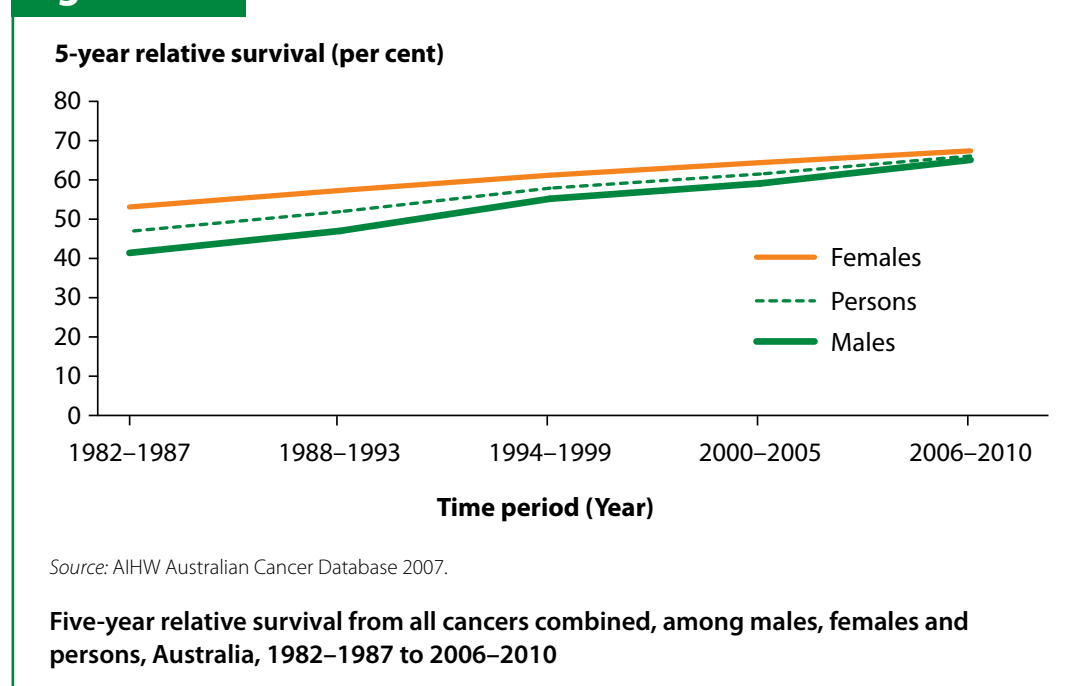## Survival of people diagnosed with cancer (5-year relative rates)

NHPF domain: Health system performance.

NHPF dimension: Effectiveness.

More information available on this topic: Chapter 4 'Cancer in Australia'.

Definition: The percentage of people diagnosed with cancer who survived for at least 5 years after diagnosis, relative to people in the general population.

Figure 9.26

5-year relative survival (per cent)

Source: AIHW Australian Cancer Database 2007.

Five-year relative survival from all cancers combined, among males, females and persons, Australia, 1982–1987 to 2006–2010

In 2006–2010:

- Five-year relative survival for all cancers combined was 66%, and was slightly higher among females (67%) than among males (65%).

- Five-year relative survival decreased with increasing remoteness. It was highest for people living in *Major cities* of Australia (67%) and lowest for people living in *Remote* and *Very remote* areas (63%).

- Five-year relative survival was highest for people living in the least disadvantaged areas (71%) and lowest for people living in the most disadvantaged areas (63%).

- Between 1982–1987 and 2006–2010, 5-year survival from all cancers combined rose from 47% to 66%. The increase in survival was evident for both males and females.
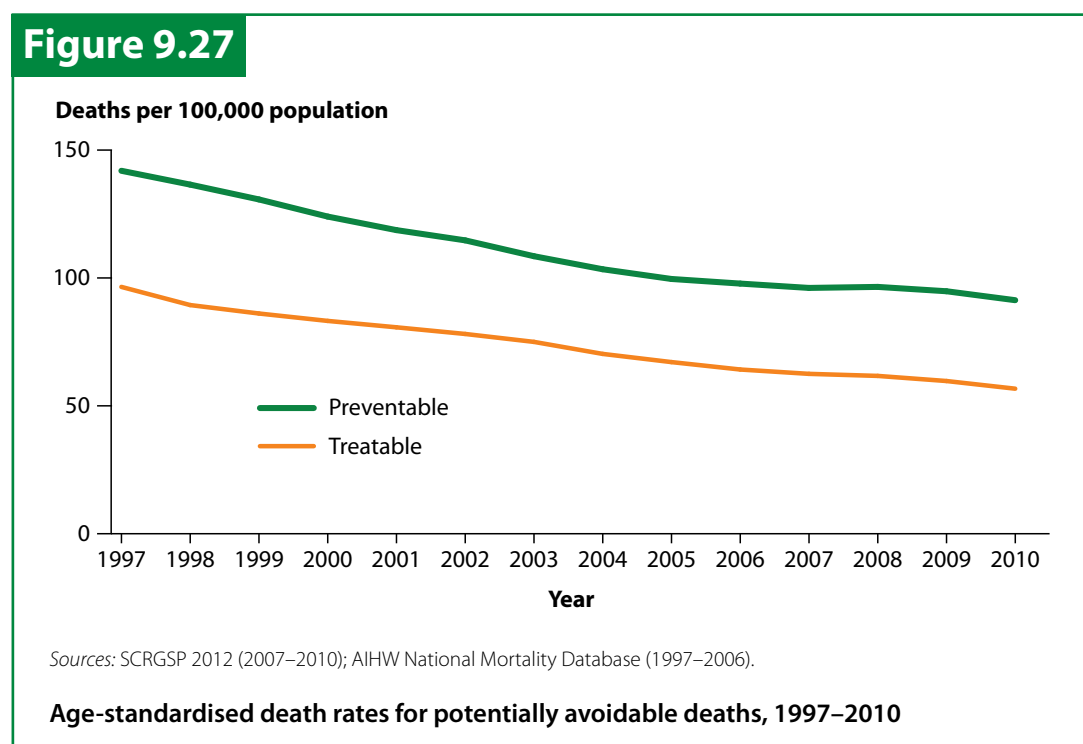
Potentially avoidable deaths

NHPF domain: Health system performance.

NHPF dimension: Effectiveness.

Definition: The number of deaths each year of people aged under 75 that are potentially avoidable within the present health system. Divided into preventable deaths (those amenable to primary prevention or screening) and deaths from potentially treatable conditions (those amenable to therapeutic interventions) (SCRGSP 2012). Deaths due to some external causes, such as suicide and road accidents, are included as potentially preventable. Data are presented as an age-standardised rate (per 100,000 population).

Figure 9.27

Deaths per 100,000 population

Sources: SCRGSP 2012 (2007–2010); AIHW National Mortality Database (1997–2006).

Age-standardised death rates for potentially avoidable deaths, 1997–2010

- In 2010, there were 32,919 potentially avoidable deaths in Australia; 62% were classified as potentially preventable and 38% as potentially treatable (SCRGSP 2012).

- The age-standardised rates were 91 per 100,000 population for potentially preventable deaths and 57 per 100,000 population for deaths from potentially treatable conditions.

- Preventable deaths fell by 36% between 1997 to 2010 (from 142 to 91 deaths per 100,000 population).

- Rates of deaths from treatable conditions fell by 41% from 1997 to 2010 (from 97 to 57 deaths per 100,000 population).
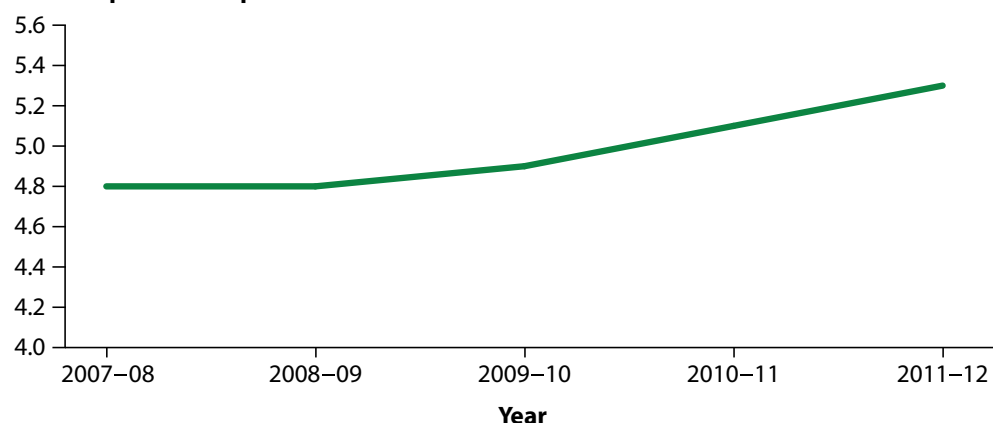
Adverse events treated in hospitals

NHPF domain: Health system performance.

NHPF dimension: Safety.

Definition: The number of hospitalisations involving an adverse event. This is presented as a number per 100 hospitalisations.

Figure 9.28

Number per 100 hospitalisations

Sources: AIHW 2009, 2010, 2011, 2012a, 2013b.

Hospitalisations with an adverse event per 100 hospitalisations, all hospitals, 2007–08 to 2011–12

- Adverse events are defined as incidents in which harm resulted to a person receiving health care. They include infections, falls resulting in injuries and problems with medication and medical devices, and some may be preventable.

- From 2007–08 to 2011–12, hospitalisations with adverse events increased from 4.8 to 5.3 per 100 hospitalisations. This does not necessarily mean that there has been an increase in adverse event rates, and may reflect increasing focus on the safety and quality of hospital care and good reporting of relevant data.

- Adverse events were more likely to occur in: overnight hospitalisations compared with same-day hospitalisations (10.3 and 1.6 per 100 hospitalisations); sub-acute and non-acute care hospitalisations compared with acute care hospitalisations (9.3 and 5.0 per 100 hospitalisations); and hospitalisations that were emergency admissions compared with hospitalisations that were non-emergency admissions (9.1 and 3.8 per 100 hospitalisations).
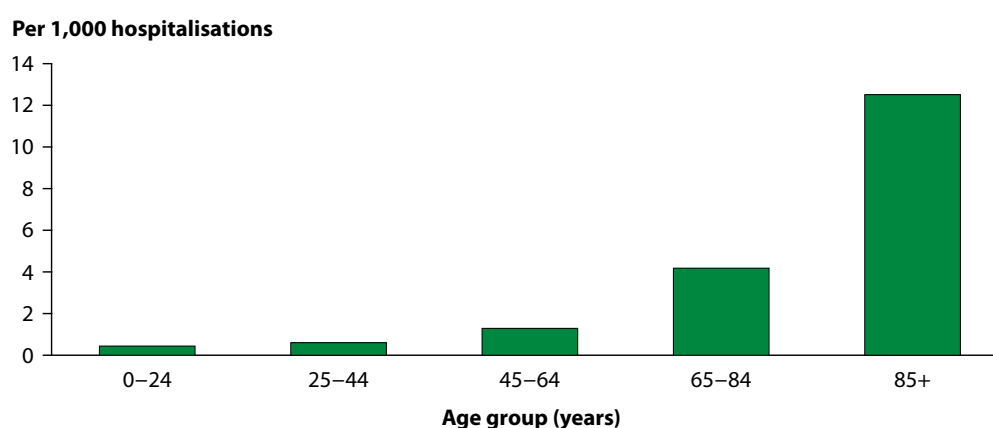
Falls resulting in patient harm in care setting

NHPF domain: Health system performance.

NHPF dimension: Safety.

Definition: The number of hospitalisations in which a patient was treated for a fall that occurred in a hospital. This is presented as a number, and a number per 1,000 hospitalisations.

Figure 9.29

Per 1,000 hospitalisations

Source: National Hospital Morbidity Database, 2011–12.

Hospitalisations for falls resulting in patient harm per 1,000 hospitalisations, by age group, 2011–12

- In 2011–12, there were about 25,000 hospitalisations in which a patient was treated for injuries sustained in a fall that occurred in a health service area, an overall rate of about 2.7 per 1,000 hospitalisations, up from 2.4 in 2009–10 and 2.5 in 2010–11.

- The rate ranged from 0.4 per 1,000 hospitalisations for children and young people aged up to 24 to 12.5 for patients aged 85 or older.

- More falls were reported by public hospitals (3.6 per 1,000 hospitalisations) than by private hospitals (1.4 per 1,000), and there were large variations in the rates reported among states and territories. The difference between the rates in public and private hospitals, in particular, may reflect differences in the types of patients treated.

- These rates may be underestimated, as the place of occurrence was not reported for about 27% of hospitalisations with a fall recorded. It is also possible that these rates may be overestimated, as falls that occurred in health-care settings other than hospitals are included. The increase in reported rates over recent years does not necessarily mean that there has been an increase in rates of falls, and may reflect increasing focus on the safety and quality of hospital care and good reporting of relevant data.

Proportion of people with diabetes who have a GP annual cycle of care

NHPF domain: Health system performance.

NHPF dimension: Continuity of care.

More information available on this topic: Chapter 4 'Chronic disease—Australia's biggest health challenge'.

Definition: The proportion of people with diabetes who received a Medicare Benefits Scheme-funded GP annual cycle of care.

This indicator underestimates and misrepresents the proportion of people who have a GP annual cycle of care. The indicator is based on MBS claims for the diabetes cycle of care item, however, not all GPs are eligible for or choose to make these claims, and many people with diabetes have these checks through other means. As a result, the data presented are incomplete and results in a misleading picture of the current management of people with diabetes. The AIHW has judged that it is no longer appropriate to report on the proportion of people with diabetes who complete a GP annual cycle of care indicator. Hence, this indicator has not been reported in *Australia's health 2014*.

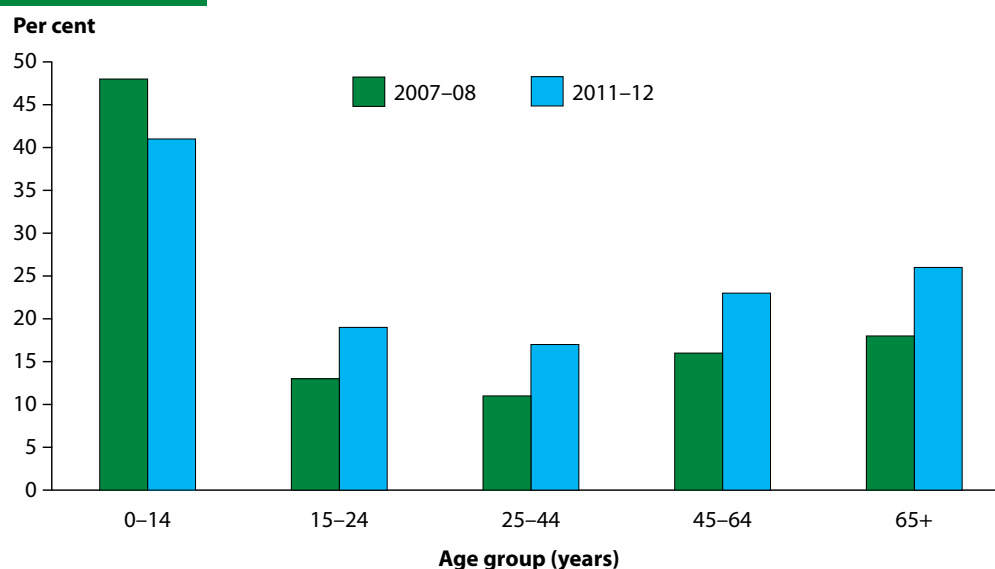## Proportion of people with asthma with a written asthma action plan

NHPF domain: Health system performance.

NHPF dimension: Continuity of care.

More information available on this topic: Chapter 4 'Chronic disease—Australia's biggest health challenge'.

Definition: The proportion of participants in the National Health Survey who reported having asthma, who said they had a written asthma action plan. An asthma plan is generally prepared for patients with asthma by a health-care professional and provides written instructions on how to recognise and respond to worsening asthma.

Figure 9.30

Per cent

Sources: ABS 2009a, 2013c.

Proportion of people with asthma who have a written asthma action plan, 2007–08 and 2011–12

- In 2011–12, 24% of people who reported asthma as a long-term condition also reported having a written asthma action plan.

- Among people with asthma, children aged 0–14 were the most likely to have a written asthma action plan (41%) and adults aged 25–44 were the least likely to have a written plan (17%).

- There was a small rise in the proportion of people with asthma who had a written plan, from 21% in 2007–08 to 22% in 2011–12. The rise was evident in all but the youngest age group. These changes were not statistically significant.

Proportion of people with mental illness with a GP care plan
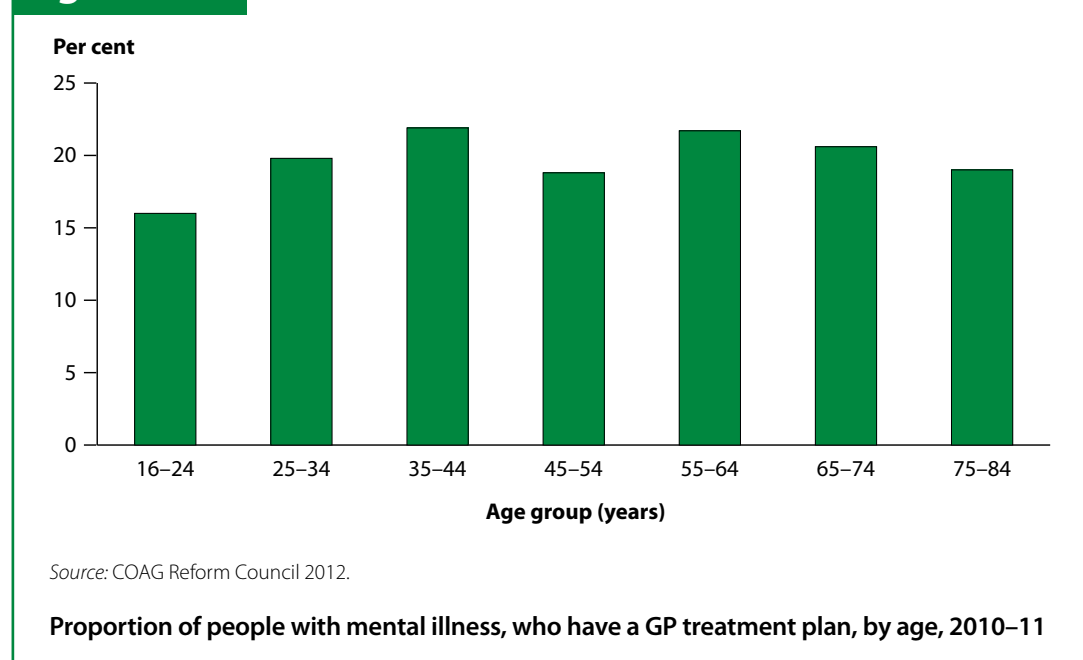
NHPF domain: Health system performance.

NHPF dimension: Continuity of care.

More information available on this topic: Chapter 8 'Mental health services at a glance'.

Definition: The number of people aged 16–84 with a GP mental health treatment plan, as a percentage of the estimated number of people aged 16–84 with mental illness.

Figure 9.31

Per cent

Source: COAG Reform Council 2012.

Proportion of people with mental illness, who have a GP treatment plan, by age, 2010–11

- In 2010–11, about 1 in 5 people (20%) with mental illness had a GP mental health treatment plan.
- Young people aged 16–24 were the least likely to have a treatment plan (16%).
- People living in the most disadvantaged areas were less likely to have a plan (17%) than people living in other areas (19–21%).
- The proportion of people with mental illness who have a GP mental health plan increased from 2008–09 to 2010–11 (from 16.8% to 19.9%) (COAG Reform Council 2012); however, data over a longer time period are required to determine whether this represents a favourable trend.
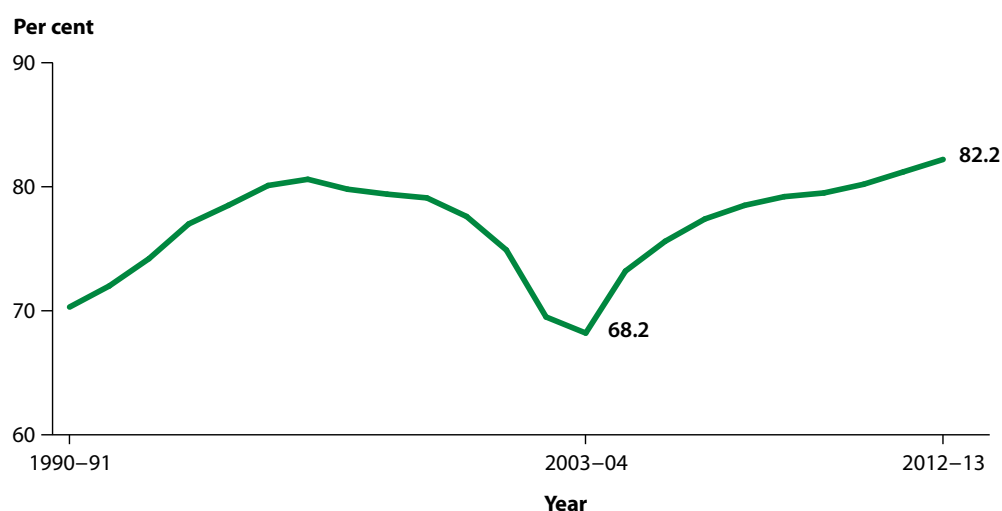
Bulk billing for non-referred (GP) attendances

NHPF domain: Health system performance.

NHPF dimension: Accessibility.

Definition: Percentage of non-referred attendances that were bulk-billed based on Medicare Benefits Scheme (MBS) services. This includes GP, vocationally registered GP, enhanced primary care and other non-referred GP services. Presented as a percentage of total annual GP attendances per financial year.

Figure 9.32

Source: Department of Health 2013a.

Bulk-billing rate for non-referred (GP) attendances, 1990–91 to 2012–13

- More than 128 million non-referred GP attendances were claimed through Medicare in 2012–13 and 82% of these services were bulk-billed.

- Bulk-billing rates varied across states and territories, from 55% in the Australian Capital Territory to 87% in New South Wales. In the remaining states: Victoria 82%, Queensland 82%, South Australia 81%, Western Australia 73%, Tasmania 76% and Northern Territory 77%.

- Bulk-billing rates for non-referred GP attendances have changed over time, and increased each year for the last decade to a record high in 2012–13 (82%). Since 1990–91, the lowest bulk-billing rate was recorded in 2003–04 (68%).

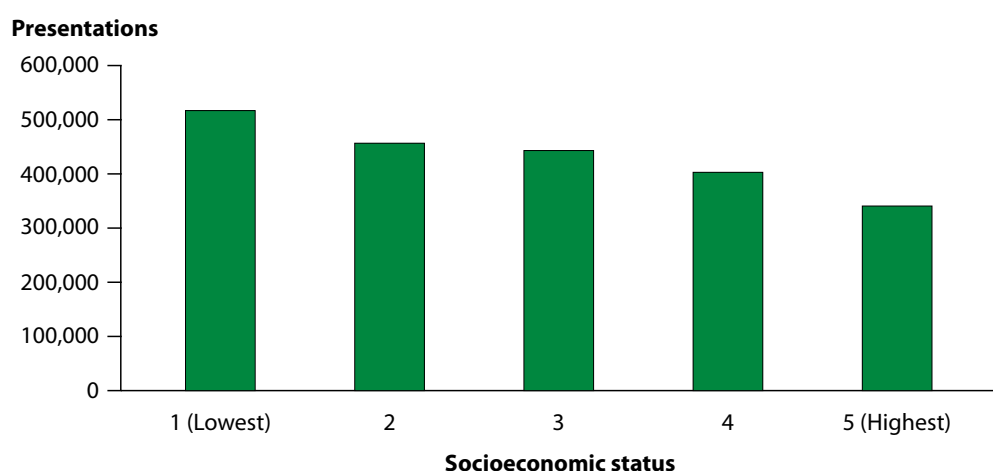## Selected potentially avoidable GP-type presentations to emergency departments

NHPF domain: Health system performance.

NHPF dimension: Accessibility.

More information available on this topic: Chapter 8 'Emergency departments: at the front line'.

Definition: The number of presentations to emergency departments in public hospitals that potentially could have been avoided through the provision of non-hospital health services.

Figure 9.33

Note: Socioeconomic status groups are based on the patient's usual residence, not the location of the hospital.
Source: AIHW 2013d.

Selected potentially avoidable GP-type presentations to public hospital emergency departments, by socioeconomic status, 2012–13

- For 2012–13, potentially avoidable GP-type presentations accounted for almost 2.2 million emergency department presentations (32% of total presentations). There were more than 1.6 million in *Principal referral and specialist women's and children's* hospitals and almost 570,000 in *Large* hospitals.

- Nationally, the number of these presentations to emergency departments was highest for patients living in areas classified as being the most socioeconomically disadvantaged (517,000 presentations, 24% of total) and the number was lowest for patients living in areas classified as being the least socioeconomically disadvantaged (340,000 presentations, 16% of total).

- These data are only for emergency departments in larger public hospitals that are mostly located in major cities, and patterns of presentations may be different in other public hospitals.

- The indicator is under review and time trends are therefore not presented; see Chapter 8 'Emergency departments: at the front line' for more information.
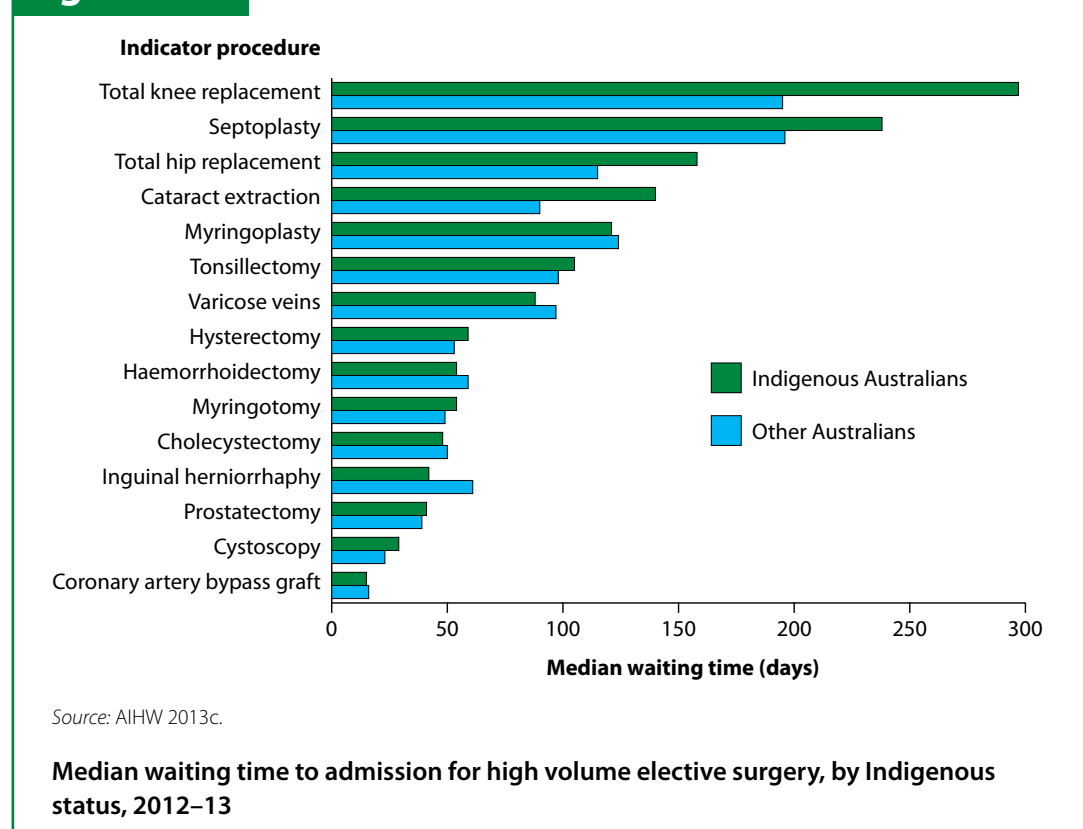
Waiting time for elective surgery

NHPF domain: Health system performance.

NHPF dimension: Accessibility.

More information available on this topic: Chapter 8 'Elective surgery waiting times'.

Definition: The median waiting times for elective surgery in public hospitals. Data are presented as a number of days.

Figure 9.34

Median waiting time to admission for high volume elective surgery, by Indigenous status, 2012–13

Source: AIHW 2013c.

- The median waiting time for elective surgery increased from 33 days in 2008–09 to 36 days in 2012–13. Over this period, the median waiting times for *Principal referral and specialist women's and children's* hospitals increased from 30 days to 35 days.

- In 2012–13, the median waiting time for Indigenous Australians (40 days) was higher than for other Australians (36 days).

- The high-volume procedure with the shortest median waiting time was *Coronary artery bypass graft* (16 days). *Septoplasty* (surgery to straighten the cartilage and bone between the nostrils) and *Total knee replacement* had the longest median waiting times (197 days and 196 days, respectively).

Waiting time for emergency department care

NHPF domain: Health system performance.
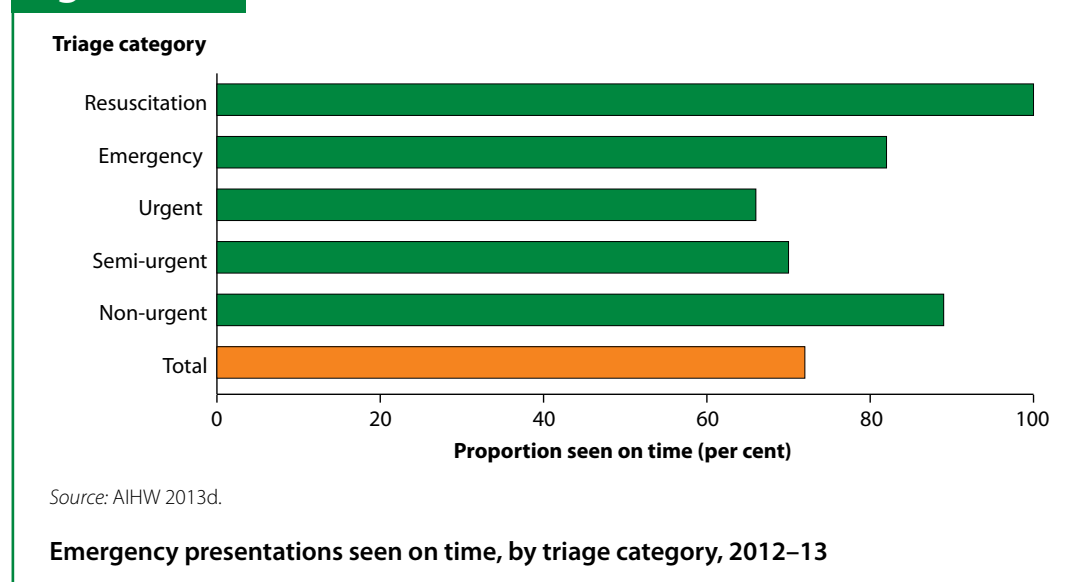
NHPF dimension: Accessibility.

More information available on this topic: Chapter 8 'Emergency departments: at the front line'.

Definition: Percentage of patients who were treated within national benchmarks for waiting times for each triage category in public hospital emergency departments. The national benchmarks are:

- *Resuscitation:* immediate (within seconds)
- *Emergency:* within 10 minutes
- *Urgent:* within 30 minutes
- *Semi-urgent:* within 60 minutes
- *Non-urgent:* within 120 minutes.

This is presented as a percentage.

Figure 9.35

Source: AIHW 2013d.

Emergency presentations seen on time, by triage category, 2012–13

- In 2012–13, 72% of patients were seen within the recommended time for their triage category. The proportion was higher than the 70% reported for 2008–09 to 2010–11 and the same as the 72% reported for 2011–12.

- Almost 100% of *Resuscitation* patients (those requiring treatment immediately) and 89% of *Non-urgent* patients were seen within the recommended waiting time.

- The proportion of presentations seen on time for Indigenous Australians (70%) was slightly lower than the proportion of presentations seen on time for other Australians (72%).
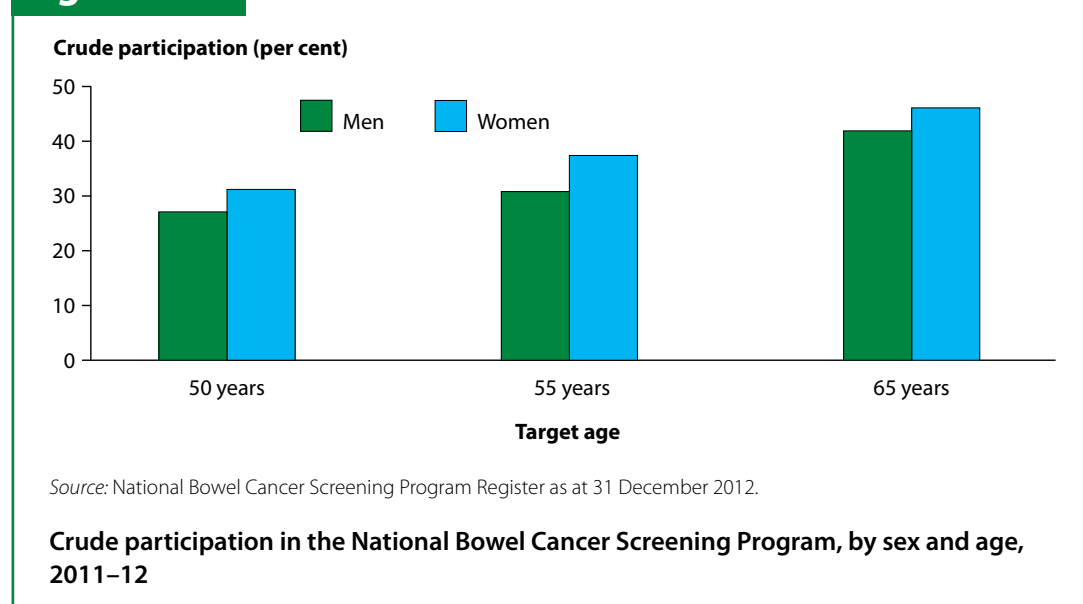
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Cancer screening rates

NHPF domain: Health system performance.

NHPF dimension: Accessibility.

More information available on this topic: Chapter 8 'Cancer screening in Australia'.

Definition: Proportion of the target population that participated in each of the 3 national cancer screening programs.

Figure 9.36

Crude participation (per cent)

Source: National Bowel Cancer Screening Program Register as at 31 December 2012.

Crude participation in the National Bowel Cancer Screening Program, by sex and age, 2011–12

- In 2011–12, 35% of National Bowel Cancer Screening Program (NBCSP) invitees aged 50, 55 and 65 participated in the program. The highest rate of participation was for people aged 65 (44%), while those aged 50 had the lowest (29%). Due to a series of adjustments to NBCSP target ages and changes to program procedures, time series data for the initial years of the program are not comparable, and may be misleading. These data are not presented here.

- In 2011–2012, 55% of women aged 50–69 participated in BreastScreen Australia, a rate similar to previous years. Participation was highest in *Outer regional* areas (59%) and lowest in *Very remote* areas (46%).

- In 2011–2012, 57% of women aged 20–69 participated in the National Cervical Screening Program (NCSP), a rate similar to previous years. Participation increased with increasing socioeconomic status, from 52% of women living in areas with the lowest socioeconomic status to 64% of women living in areas with the highest socioeconomic status.
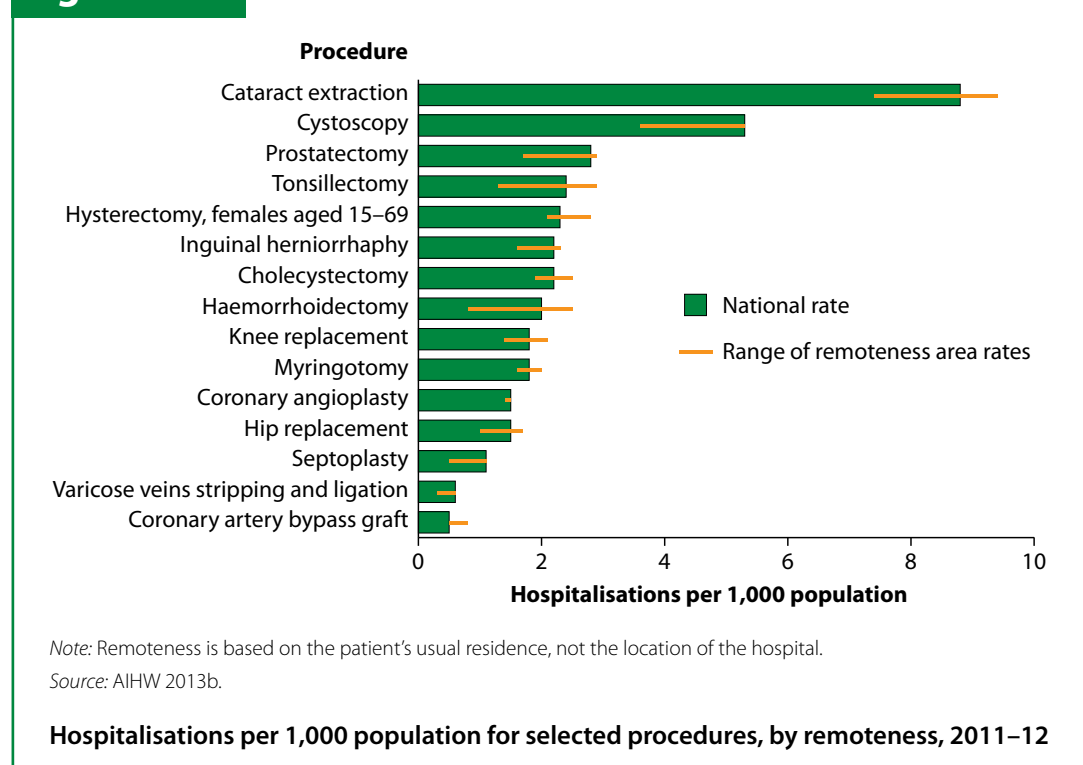
54

Differential access to hospital procedures

NHPF domain: Health system performance.

NHPF dimension: Accessibility.

Definition: The number of hospitalisations involving selected procedures per 1,000 population for selected population groups. Data are presented as a number per 1,000 population (age-standardised).

Figure 9.37

Note: Remoteness is based on the patient's usual residence, not the location of the hospital.
Source: AIHW 2013b.

Hospitalisations per 1,000 population for selected procedures, by remoteness, 2011–12

- The rates for the selected hospital procedures are presented as an indicator of accessibility for different population groups. Generally, the procedures were selected because of the frequency with which they are undertaken, because they are often elective and because alternative treatments are sometimes available.

- For almost all selected procedures, rates were highest in *Inner regional* areas and lowest in *Very remote* areas. Only 1 procedure, *Coronary artery bypass graft*, had higher rates in *Very remote* areas than other remoteness areas. The rate for *Cataract extraction* showed the most variation, ranging from 9.4 per 1,000 in *Inner regional* areas to 7.4 in *Very remote* areas.

- Variability in rates fell from 2008–09 to 2011–12 for *Coronary angioplasty* and *Varicose veins stripping and ligation* and remained stable for *Inguinal hernia*. There was no trend in variation for other procedures.

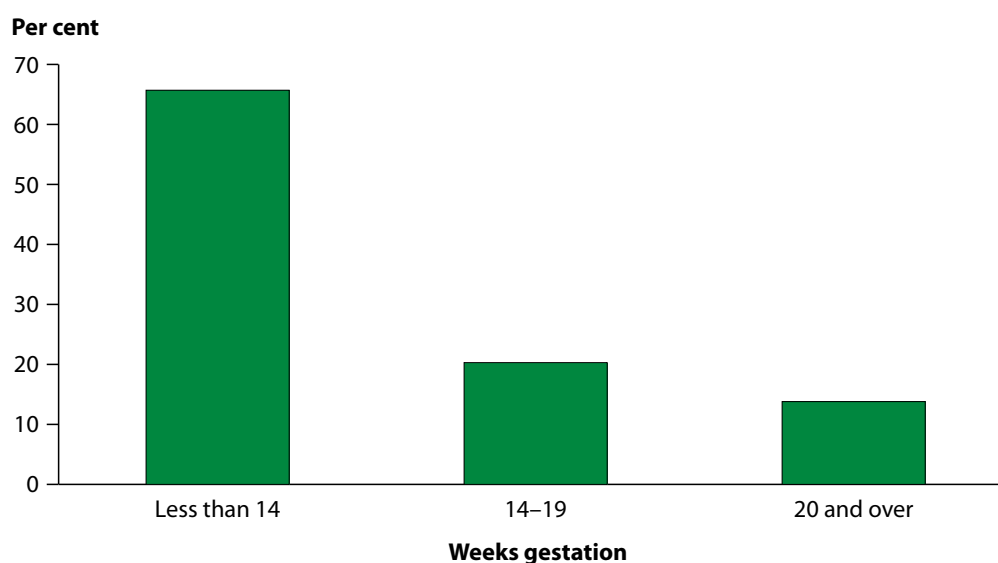## Proportion of pregnancies with an antenatal visit in the first trimester

NHPF domain: Health system performance.

NHPF dimension: Accessibility.

More information available on this topic: Chapter 6 'The health of mothers'.

Definition: Pregnant females who have a live birth who had at least 1 antenatal visit in the first 13 weeks of pregnancy. Presented as a percentage of all females who had a live birth.

Figure 9.38

Per cent

Source: Li et al. 2013.

Proportion of women who gave birth, by duration of pregnancy at first antenatal visit, Australia, 2011

- Of women who gave birth, 66% attended at least 1 antenatal visit in the first trimester (before 14 weeks' gestation). This was similar to 2010 (65%), the first year that national data was reported.

- About 14% attended their first antenatal visit at or after 20 weeks' gestation.
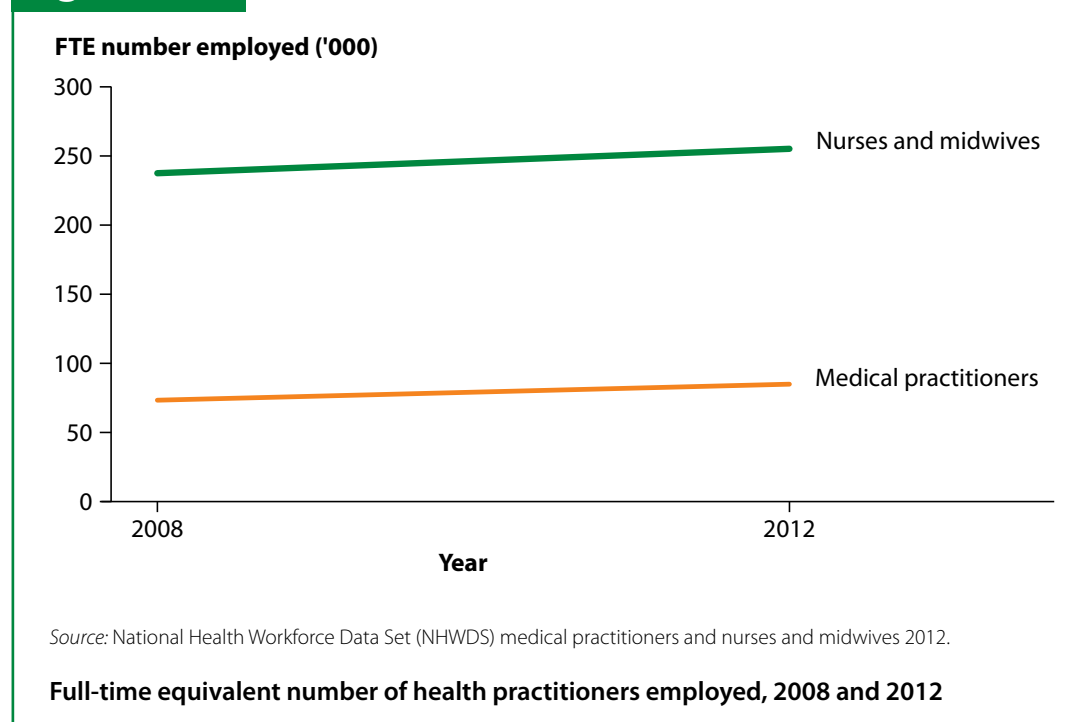
Net growth in health workforce

NHPF domain: Health system performance.

NHPF dimension: Efficiency and sustainability.

More information available on this topic: Chapter 2 'Who is the health workforce'.

Definition: The change over time in the full-time equivalent number of people employed in selected health workforce professions.

Figure 9.39

FTE number employed ('000)

Source: National Health Workforce Data Set (NHWDS) medical practitioners and nurses and midwives 2012.

Full-time equivalent number of health practitioners employed, 2008 and 2012

- The number of full-time equivalent medical practitioners employed rose by 16%, from 2008 to 2012. The full-time equivalent rate rose by 8.8%, from 344 to 374 per 100,000 population over the same period.

- In the same period, the number of full-time equivalent nurses and midwives employed rose by 7%. The rise in the full-time rate was 0.5%, from 1,118 per 100,000 population in 2008 to 1,124 in 2012.
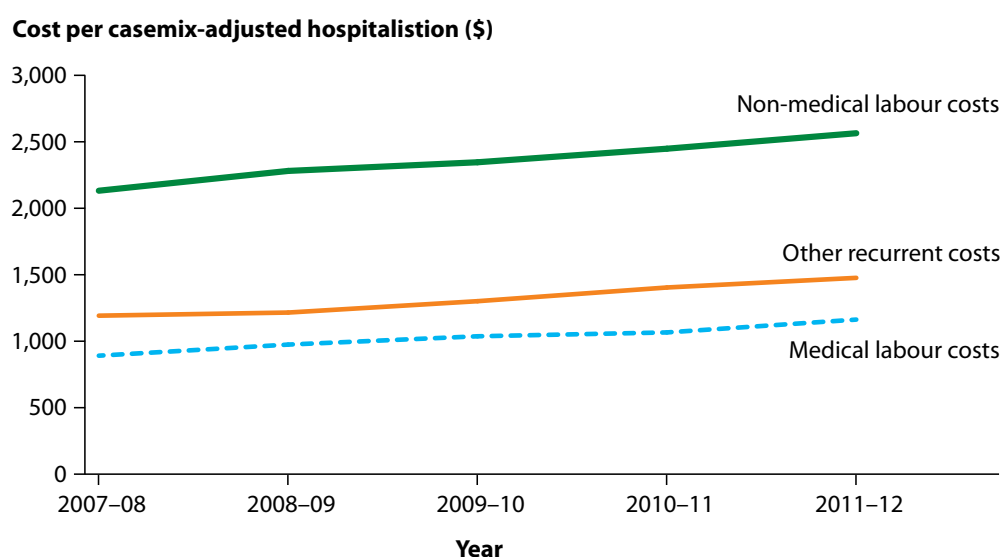
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Cost per casemix-adjusted separation for acute and non-acute care episodes

NHPF domain: Health system performance.

NHPF dimension: Efficiency and sustainability.

Definition: The average cost per hospitalisation for acute and non-acute care in selected public acute hospitals, adjusted for different hospital casemixes. Data are presented as dollars.

Figure 9.40

Cost per casemix-adjusted hospitalistion ($)

Note: data are not adjusted for inflation.
Source: AIHW 2013b.

Cost per casemix-adjusted separation, selected public acute hospitals, 2007–08 to 2011–12

- The average cost per hospitalisation is a measure of efficiency of the provision of admitted patient services. Patients with more complex conditions are likely to cost more than patients with less complex conditions. To compare the average cost per admitted patient across hospitals, it is necessary to adjust for the average complexity of patients treated in each hospital. This is called 'casemix adjustment'. Data for private hospitals are not available.

- In 2011–12, the average cost per casemix-adjusted hospitalisation was $5,204.

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- The average cost per casemix-adjusted hospitalisation has increased since 2007–08 by 23.5%, with an average rise of 5.4% annually (not adjusted for inflation). This compares to an average annual growth rate to the total health price of 2.0% and an average annual rate of change in prices throughout the national economy of 3.4%.
- In 2011–12, the average cost comprised:
  - $2,564 for non-medical labour expenditure (an average annual rise of 4.7% between 2007–08 and 2011–12)
  - $1,163 for medical labour expenditure (5.5%)
  - $1,477 for other recurrent expenditure (6.9%).

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