E Health sector overview

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| Attachment tables |
| Attachment tables are identified in references throughout this Indigenous Compendium by an ‘A’ prefix (for example, in this sector overview, table EA.1). As the data are directly sourced from the 2013 Report, the Compendium also notes where the original table, figure or text in the 2013 Report can be found. For example, where the Compendium refers to ‘2013 Report, p. E.1’, this is page 1 of the Health sector overview of the 2013 Report, and ‘2013 Report, table EA.1’ is table 1 of attachment EA of the 2013 Report. A list of attachment tables referred to in the Compendium is provided at the end of this chapter, and the full attachment tables are available from the Review website at www.pc.gov.au/gsp. |
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The Health sector overview in the *Report on Government Services 2013*   
(2013 Report) provides an introduction to the Public hospitals (chapter 10), Primary and community health (chapter 11), and Mental health management (chapter 12) chapters of this Report. It provides an overview of the health sector in Australia, presenting contextual and cross-sector information as well as high level performance information. Data are reported for Indigenous people for a subset of the performance indicators reported in that sector overview — those data are compiled and presented here.

Major improvements in reporting in health this year are identified in each of the service-specific health chapters.

Health services are concerned with promoting, restoring and maintaining a healthy society. They involve illness prevention, health promotion, the detection and treatment of illness and injury, and the rehabilitation and palliative care of individuals who experience illness and injury. The health system also includes a range of activities that raise awareness of health issues, thereby reducing the risk and onset of illness and injury.

### Indigenous data in the Health sector overview

The Health sector overview in the 2013 Report contains the following information on Indigenous Australians:

* babies born of low birth weight
* birthweights, live births, Indigenous mothers, 2010
* proportion of live-born singleton babies of low birthweight, by maternal Indigenous status, 2010

1. prevalence of risk factors to the health of Australians

* rates of obesity for adults, by Indigenous status, 2004-05
* proportion of adults who are daily smokers, by Indigenous status, 2007-08
* proportion of adults at risk of long term harm from alcohol (2001 NHMRC guidelines), by Indigenous status, 2004-05

1. selected potentially preventable diseases

* incidence of selected cancers, by Indigenous status, 2009
* age standardised rate of heart attacks, people 25 years and over, by Indigenous status, 2007 to 2010

1. potentially avoidable deaths

* age standardised mortality rates of potentially avoidable deaths, under 75 years, by Indigenous status, NSW, Queensland, WA, SA, NT, 2006–2010
* mortality and life expectancy
* estimated life expectancies at birth, by Indigenous status and sex 2005–2007
* median age at death, 2011
* mortality rates, age standardised for all causes (per 1000 people), 2007–2011
* infant and child mortality, NSW, Queensland, WA, SA, NT, 2007–2011
* age standardised mortality rates by major cause of death, 2006–2010

1. profile of employed health workforce

* employed health workforce, by state and territory of principal practice, 2011
* Indigenous health workforce, 2011
* persons employed in selected health-related occupations, 2011

1. access to services compared to need

* proportion of people who accessed health services by health status, by Indigenous status, 2004-05.

### Policy context

All levels of government in Australia fund, deliver and regulate health services, with most of the activity performed by the Australian, State and Territory governments. The Australian Government’s health services activities include:

1. funding improved access to primary health care, including Indigenous‑specific primary health, specialist services and infrastructure for rural and remote communities

State and Territory governments contribute funding for, and deliver, a range of health care services (including services specifically for Indigenous Australians) such as:

1. community health services
2. mental health programs
3. specialist palliative care
4. public hospital services
5. public dental services
6. patient transport
7. health policy research and policy development
8. public health (such as health promotion programs and disease prevention)
9. the regulation, inspection, licensing and monitoring of premises, institutions and personnel.

**Profile of health sector**

Detailed profiles for the services within the health sector are reported in chapters 10, 11 and 12, and cover health service funding and expenditure as well as the size and scope of the individual service types.

*Descriptive statistics*

Descriptive statistics for the health sector are included in this section. Additional descriptive data for each jurisdiction are presented in 2013 Report,   
tables EA.5–EA.6.

In 2010-11, direct expenditure on health services to Indigenous Australians made up $4.7 billion (5.1 per cent of the total expenditure (recurrent and capital) on health care services in Australia), and 19 per cent of all government expenditure on services to Indigenous Australians (box E.1).

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| Box E.1 Government health expenditure for Indigenous Australians |
| The 2012 *Indigenous Expenditure Report* (SCRGSP 2012) is the second in a series that provides estimates of expenditure on government services to Indigenous Australians. It provides information on the levels and patterns of expenditure on targeted and mainstream services for Indigenous Australians across 86 expenditure categories (including Health), mapped to the COAG National Indigenous Reform Agreement building blocks.  The report estimates that government direct expenditure on health services for all Australians was $92.8 billion in 2010‑11. Direct expenditure on health services to Indigenous Australians made up $4.7 billion (5.1 per cent) of the total, and 19 per cent of all government expenditure on services to Indigenous Australians.  • State and Territory governments provided $3.1 billion (66 per cent) of direct Indigenous expenditure — the Australian Government provided the remaining 34 per cent, plus significant indirect expenditure ‘to’ and ‘through’ the State and Territory governments  • most Indigenous expenditure related to mainstream services (74 per cent, $3.5 billion) — but Indigenous specific (targeted) expenditure (such as Indigenous child and maternity health services and the Remote Aboriginal Health Services Program) accounted for $1.2 billion (26 per cent) of direct health expenditure.  In total, $2.02 was spent per Indigenous person in the population for every dollar spent per non‑Indigenous person. Indigenous expenditure per person was:  • *higher for public and community health services (a ratio of $4.89 to 1)* — which includes expenditure on Aboriginal Community Controlled Health Organisation services  • *lower for health care subsidies and support (a ratio of $0.66 to 1)* — which includes expenditure on Medicare rebates, pharmaceutical benefits subsidies (such as the PBS) and private health insurance rebates.  In addition to the Indigenous Expenditure Report, detailed information on health expenditure (including by the non-government sector) and drivers of health costs are available from Expenditure on Health for Aboriginal and Torres Strait Islander People 2008‑09 (AIHW 2011a). The AIHW methodology is similar to the Indigenous Expenditure Report methodology, but undertakes the estimation of expenditure at a more detailed level. This provides greater scope for analysis at lower levels, and also allows the case-mix characteristics of health services to be reflected more precisely in the aggregated estimates. |
| *Source*: SCRGSP (2012); AIHW (2011). |
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### Social and economic factors affecting demand for services

There is a complex relationship between social and economic factors and demand for health services.

It has been well documented that people who experience social and economic disadvantage are at risk of negative health outcomes. Compared with those who have social and economic advantages, disadvantaged Australians are more likely to have shorter lives (AIHW 2010). Those who are disadvantaged tend to have greater health risks such as smoking more and higher rates of obesity (SCRGSP 2009). Burden‑of‑disease studies indicate greater burden among people who are relatively disadvantaged in society (Begg et al. 2007). Those who are disadvantaged are more likely to report their health as fair or poor than those that do not suffer the same disadvantage as measured by the Socio Economic Indexes for Areas (SEIFA)   
(2013 Report, table EA.50).

Indigenous Australians are generally less healthy than other Australians, die at much younger ages, and have more disability and a lower quality of life (AIHW 2010 and tables EA.32–EA.34). Many Indigenous Australians live in conditions of social and economic disadvantage. Indigenous Australians have low employment and income levels when compared to non-Indigenous Australians   
(see statistical appendix 2013 Report, table AA.2, tables AA.23–AA.25, and AA.34–AA.36, and SCRGSP 2011). Indigenous Australians have relatively high rates for many health risk factors and are more likely to smoke and to consume alcohol at risky levels (ABS 2006a and SCRGSP 2011). Indigenous Australians are more likely to live in inadequate and overcrowded housing (SCRGSP 2011) and in remote areas with more limited access to health services. In 2006, 51 992 Indigenous Australians were living in discrete Indigenous communities that were 100 kilometres or more from the nearest hospital (ABS 2007).

### Service-sector objectives

Government involvement in health services is predicated on the desire to improve the health of all Australians and to ensure equity of access and the sustainability of the Australian health system. Box E.2 presents the overall objectives of the health system as summarised for this Report, which are consistent with the objectives outlined in the National Healthcare Agreement (MCFFR 2012). Governments provide a variety of services in different settings to fulfil these objectives.

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| Box E.2 Overall objectives of the health system |
| Government involvement in the health system is aimed at efficiently and effectively improving health outcomes for all Australians and ensuring the sustainability of the Australian health system, achieving the following outcomes:   * Australians are born and remain healthy * Australians receive appropriate high quality and affordable primary and community health services * Australians receive appropriate high quality and affordable hospital and hospital related care * Australians have positive health care experiences which take account of individual circumstances and care needs * Australians have a health system that promotes social inclusion and reduces disadvantage, especially for Indigenous Australians * Australians have a sustainable health system. |
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### Sector performance indicator framework

This sector overview is based on a sector performance indicator framework (figure E.1). This framework is made up of the following elements:

1. Sector objectives — three sector objectives are a précis of the key objectives of the health system and reflect the outcomes in the NHA (box E.2).

* Sector-wide indicators — seven sector-wide indicators relate to the overarching service sector objectives identified in the NHA.
* Information from the service-specific performance indicator frameworks that relate to health services. Discussed in more detail in chapters 10, 11 and 12, the service-specific frameworks provide comprehensive information on the equity, effectiveness and efficiency of these services.

This sector overview provides an overview of relevant performance information. Chapters 10, 11 and 12 and their associated attachment tables provide more detailed information.

Figure E.1 Health services sector performance indicator framework

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| Figure E.1 Health services sector performance indicator framework  More details can be found within the text surrounding this image. |

*Source*: 2013 Report, figure E.3, p. E.10.

### Sector-wide performance indicators

This section includes high level indicators of health outcomes. Many factors are likely to influence outcomes — not solely the performance of government services. However, these outcomes inform the development of appropriate policies and delivery of government services.

#### Babies born of low birth weight

‘Babies born of low birth weight’ is an indicator of governments’ objective that Australians are born and remain healthy (box E.3). The birth weight of a baby is an important indicator of its health status and future wellbeing. Low birth weight babies have a greater risk of poor health and dying, require a longer period of hospitalisation after birth, and are more likely to develop significant disabilities (Goldenberg & Culhane 2007).

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| Box E.3 **Low birth weight of babies** |
| Babies’ birth weight is defined as low if they weigh less than 2500 grams, very low if they weigh less than 1500 grams and extremely low if they weigh less than 1000 grams (Li et al. 2011).  A low or decreasing number of low birth weight babies is desirable.  Factors external to the health system also have a strong influence on the birth weight of babies. Some factors contributing to low birth weight include socioeconomic status, size of parents, age of mother, number of babies previously born, mother’s nutritional status, smoking and alcohol intake, and illness during pregnancy (Li et al. 2011).  Data reported for this indicator are comparable.  Information about data quality for this indicator/measure is at www.pc.gov.au/gsp/reports/rogs/2013. |
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In 2010, 91.9 per cent of liveborn babies in Australia weighed between 2500 and 4499 grams (Li et al. 2012). The average birth weight for all live births was 3369 grams in 2010 (2013 Report, table EA.8).

Nationally, the average birth weight for liveborn babies of Indigenous mothers was 3190 grams in 2010 (table EA.9). Among live-born singleton babies born to Indigenous mothers in 2010, the proportion with low birth weight was over twice that of those born to non‑Indigenous mothers (figure E.2).

Figure E.2 Proportion of live-born singleton babies of low birthweight, by maternal Indigenous status, 2010a, b, c, d, e

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| Figure E.2 Proporation of live-born singleton babies of low birthweight by maternal indigenous status -2010  More details can be found within the text surrounding this image. |

a Low birth weight is defined as less than 2500 grams. b Disaggregation by State/Territory is by place of usual residence of the mother. c Data excludes Australian non-residents, residents of external territories and where State/Territory of residence was not stated. d Excludes stillbirths and multiple births. Births were included if they were at least 20 weeks gestation or at least 400 grams birth weight. e Birth weight data on babies born to Indigenous mothers residing in the ACT and Tasmania should be viewed with caution as they are based on small numbers of births.

*Source*: AIHW (unpublished) National Perinatal Data Collection; table EA.10; 2013 Report, figure E.4, p. E.12.

#### Prevalence of risk factors to the health of Australians

‘Prevalence of risk factors to the health of Australians’ is an indicator of governments’ objective that Australians are born and remain healthy (box E.4).

A number of behaviours create risks to health outcomes; for example, lack of exercise, smoking, excessive alcohol consumption, sun exposure and unhealthy dietary habits. Health services are concerned with promoting, restoring and maintaining a healthy society. An important part of this activity is reducing health risk factors through activities that raise awareness of health issues to reduce the risk and onset of illness and injury.

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| Box E.4 **Prevalence of risk factors to the health of Australians** |
| ‘Prevalence of risk factors to the health of Australians’ is defined by the following measures:   * Prevalence of overweight and obesity — the number of people with a Body Mass Index (BMI) in the categories of either overweight or obese, as a percentage of the population. BMI is calculated as weight (kg) divided by the square of height (m). BMI values are grouped according to World Health Organization and National Health and Medical Research Council guidelines.   Among adults, a BMI of 25 to less than 30 is considered overweight and a BMI of 30 and over is considered to be obese (WHO 2000; NHMRC 2003).  Children are defined as people aged 5–17 years. For children, obesity is defined as BMI (appropriate for age and sex) that is likely to be 30 or more at age 18 years.   * Rates of current daily smokers — number of people aged 18 years or over who smoke tobacco every day as a percentage of the population aged 18 years or over. * Risk of alcohol related harm over a lifetime — people aged 18 years or over assessed as having an alcohol consumption pattern that puts them at risk of long-term alcohol related harm, as a percentage of the population aged 18 years or over.   ‘Lifetime risk of alcohol related harm’ is defined according to the 2009 National Health and Medical Research Council guidelines: for males and females, no more than two standard drinks on any day. This has been operationalised as: for both males and females, an average of more than 2 standard drinks per day in the last week.  Rates for all three measures are age standardised.  A low or decreasing rate is desirable for each health risk factor.  Data reported for this indicator are comparable.  Information about data quality for this indicator/measure is at www.pc.gov.au/gsp/reports/rogs/2013. |
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*Prevalence of overweight and obesity*

Being overweight or obese increases the risk of an individual developing, among other things, heart disease, stroke and Type 2 diabetes. In 2011-12, over a third of Australians’ measured BMI was in the overweight range and over a quarter were obese (2013 Report, table EA.12).

Nationally, there were almost twice as many obese Indigenous adults (33.6 per cent) as non‑Indigenous obese adults (17.7 per cent) in 2004‑05 (table EA.16).

*Rates of current daily smokers*

Smoking is an important risk factor for heart disease, stroke and lung cancer. These were the three leading causes of death in Australia in 2009 (ABS 2012a). Smoking is responsible for around 80 per cent of all lung cancer deaths and 20 per cent of all cancer deaths (HealthInsite 2011).

Nationally, Indigenous Australians had higher age standardised rates of daily smoking (44.8 per cent) than non‑Indigenous Australians (18.9 per cent) in 2007‑08 (table EA.19).

*Levels of risky alcohol consumption*

The National Health and Medical Research Council (NHMRC) reports that excessive long term alcohol consumption increases the risk of heart disease, diabetes, liver cirrhosis and some types of cancers. It can contribute to injury and death through accidents, violence, suicide and homicide, and also to financial problems, family breakdown, and child abuse and neglect (NHMRC 2009).

Nationally, the age standardised proportion of adults at risk of alcohol related harm over a lifetime (2001 NHMRC guidelines) was slightly higher for Indigenous Australians (15.4 per cent) than for non‑Indigenous Australians (13.5 per cent) in 2004-05, although results varied across jurisdictions (table  EA.22).

*Selected potentially preventable diseases*

‘Selected potentially preventable diseases’ is an indicator of governments’ objective that Australians are born and remain healthy (box E.5).

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| Box E.5 **Selected potentially preventable diseases** |
| ‘Selected potentially preventable diseases’ is defined by the following measures:   * Incidence of selected cancers — incidence of selected cancers of public health importance. * For melanoma, lung and bowel cancer, the measure is defined as the number of new cases in the reported year expressed as a directly age standardised rate. * For breast and cervical cancer in females, the measure is defined as the number of new cases in women in the reported year expressed as a directly age standardised rate.   Calculated separately for each type of cancer.   * Incidence of heart attacks — the number of deaths recorded as acute coronary heart disease deaths plus the number of non-fatal hospitalisations for acute myocardial infarction or unstable angina not ending in a transfer to another acute hospital, as a percentage of the total population. * Prevalence of type 2 diabetes — the number of people recorded as having Type 2 diabetes as a percentage of the total population.   A low or decreasing rate is desirable for each incidence/prevalence rate.  Data reported for this indicator are comparable.  Information about data quality for this indicator/measure is at www.pc.gov.au/gsp/reports/rogs/2013. |
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*Incidence of selected cancers*

Nationally, the age standardised rate of lung cancer was 43.2 new cases per 100 000 people in 2009. Bowel cancer, which has been linked to diet, occurred at a rate of 61.0 new cases per 100 000 people in 2009 (2013 Report, table EA.23). Other cancers such as melanoma are also preventable. The incidence of these cancers for 2009, along with breast and cervical cancer, are reported in 2013 Report, figure E.8. 2013 Report, Tables EA.24–26 report the incidence of the selected cancers by remoteness, SEIFA IRSD quintiles and Indigenous status.

*Incidence of heart attacks*

Nationally, the rate of heart attacks was 443.1 new cases per 100 000 people in 2010 (2013 Report, table EA.28). The incidence of heart attacks was greater for Indigenous Australians (table EA.27). Caution should be taken in interpreting these data as they have been estimated using an algorithm that is under AIHW development. It should be considered an interim measure until current validation work is complete.

*Potentially avoidable deaths*

‘Potentially avoidable deaths’ is an indicator of governments’ objective that Australians are born and remain healthy (box E.6). Avoidable deaths reflect the effectiveness of current and past preventative health activities.

Indigenous Australians had significantly higher death rates from potentially avoidable deaths (preventable and treatable) over the period 2006–2010, comprising higher potentially preventable deaths per 100 000 people and higher treatable deaths per 100 000 people (figure E.3 and table EA.30). Single year data for all Australians are presented in 2013 Report, table EA.29.

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| Box E.6 **Potentially avoidable deaths** |
| ‘Potentially avoidable deaths’ is defined as potentially preventable deaths (deaths amenable to screening and primary prevention, such as immunisation) and deaths from potentially treatable conditions (deaths amenable to therapeutic interventions) for those aged less than 75 years per 100 000 people aged less than 75 years.  A low or decreasing potentially avoidable death rate is desirable.  Most components of the health system can influence potentially avoidable death rates, although there can be decades between the action and the effect. Factors external to the health system also have a strong influence on potentially avoidable death rates.  Data reported for this indicator are comparable.  Information about data quality for this indicator/measure is at www.pc.gov.au/gsp/reports/rogs/2013. |
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Figure E.3 Age standardised mortality rates of potentially avoidable deaths, under 75 years, 2006–2010a, b, c, d, e, f, g, h

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| Figure E.9 - Key (Indigenous - Non Indigenous)Figure E.3 Age standardised mortality rates of potentially avoidable deaths, under 75 years, 2006-2010 - Potentially preventable deaths   More details can be found within the text surrounding this image. Figure E.3 Age standardised mortality rates of potentially avoidable deaths, under 75 years, 2006-2010 - potentially treatable deaths.   More details can be found within the text surrounding this image. Figure E.3 Age standardised mortality rates of potentially avoidable deaths, under 75 years, 2006-2010 - all potentially avoidable deaths.   More details can be found within the text surrounding this image. |

a Standardised death rates (SDRs) are expressed per 1000 or 100 000 persons. SDRs in this table have been calculated using the direct method, age-standardised by 5 year age groups to less than 75 years. b Avoidable mortality has been defined in the Public Health Information Development Unit’s report, *Australian and New Zealand Atlas of Avoidable Mortality* (2006), and in reports by NSW Health and the Victorian Department of Human Services as mortality before the age of 75 years, from conditions which are potentially avoidable within the present health system. c Data based on reference year. See data quality statements for a more detailed explanation. d Data are reported by jurisdiction of residence for NSW, Queensland, WA, SA and the NT only. Only these five states and territories have evidence of a sufficient level of Indigenous identification and sufficient numbers of Indigenous deaths to support mortality analysis. e Care should be taken when interpreting deaths data for Queensland as they are affected by recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators. See data quality statements for a more detailed explanation. f Total includes data for NSW, Queensland, WA, SA and the NT only. g Preventable deaths are those which are amenable to screening and primary prevention such as immunisation, and reflect the effectiveness of the current preventative health activities of the health sector. h Deaths from potentially treatable conditions are those which are amenable to therapeutic interventions, and reflect the safety and quality of the current treatment system.

*Source*: ABS (unpublished) *Causes of Deaths, Australia, 2010*, Cat. no. 3303.0; table EA.30; 2013 Report, figure E.9, p. E.24.

*The mortality and life expectancy of Australians*

‘The mortality and life expectancy of Australians’ is an indicator of governments’ objective that Australians are born and remain healthy (box E.7).

Comparing mortality and life expectancy data across populations, including cause, age, sex, population group and geographical distribution, provide important insights into the overall health of Australians (AIHW 2012). Trends over time in mortality and life expectancy data can signal changes in the health status of the population, as well as provide a baseline indicator for the effectiveness of the health system.

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| Box E.7 **The mortality and life expectancy of Australians** |
| ‘The mortality and life expectancy of Australians’ is defined by the following measures:   * ‘Life expectancy’ — the average number of additional years a person of a given age and sex might expect to live if the age-specific death rates of the given period continued throughout his/her lifetime.   A high or increasing life expectancy is desirable.   * ‘Median age at death’ — the age at which exactly half the deaths registered (or occurring) in a given time period were deaths of people above that age and half were deaths below that age.   A high or increasing median age at death is desirable.   * ‘Mortality rates’ — the number of deaths compared to the total population (expressed as a rate). Rates are provided for: * Australian mortality rate — age standardised mortality per 1000 people * infant and child mortality rates — the number of deaths of children under one year of age in a calendar year per 1000 live births in the same year (infant mortality rate) and the number of deaths of children between one and four years of age in a calendar year per 100 000 children (child mortality rate) * mortality rates by major cause of death — age standardised deaths, by cause of death compared to the total population (expressed as a rate).   A low or decreasing mortality rate is desirable.  Most components of the health system can influence the mortality and life expectancy of Australians, although there can be decades between the action and the effect. Factors external to the health system also have a strong influence.  Data reported for this indicator are comparable.  Information about data quality for this indicator/measure is at www.pc.gov.au/gsp/reports/rogs/2013. |
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*Life expectancy*

The life expectancy of Australians improved dramatically during the twentieth century and so far during the twenty‑first century. The average life expectancy at birth in the period 1901–1910 was 55.2 years for males and 58.8 years for females (ABS 2011). It has risen steadily in each decade since, reaching 79.7 years for males and 84.2 years for females in 2009–2011 (2013 Report, figure E.10).

The life expectancies of Indigenous Australians are considerably lower than those of non‑Indigenous Australians. ABS experimental estimates indicate a life expectancy at birth of 67.2 years for Indigenous males and 72.9 years for Indigenous females born from 2005 to 2007. In the same time period, life expectancy at birth for non-Indigenous males was 78.7 years and for non‑Indigenous females was 82.6 years (figure E.4 and table EA.32).

Figure E.4 Estimated life expectancies at birth, by Indigenous status and sex, 2005–2007 (years)**a,** **b,** **c**

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| Figure E.4 Estimated life expectancies at birth, by Indigenous status and sex, 2005-2007 (years)   More details can be found within the text surrounding this image. |

a Indigenous estimates of life expectancy are not available for Victoria, SA, Tasmania or the ACT due to the small number of Indigenous deaths in these jurisdictions. b Life tables are constructed separately for Males and Females. c Australian total includes all states and territories.

*Source*: ABS (2009) *Experimental Life Tables for Aboriginal and Torres Strait Islander Australians   
2005–2007*, Australia, Cat. no. 3302, Canberra; table EA.32; 2013 Report, figure E.11, p. E.27.

*Median age at death*

The median age at death in 2011 was 78.5 years of age for Australian males and 84.5 years of age for Australian females (table EA.33).

Comparisons of the median age at death for Indigenous and non‑Indigenous Australians are affected by different age structures in the populations and by differences in the extent of identification of Indigenous deaths across jurisdictions and across age groups. Identification of Indigenous status for infant deaths is high, but falls significantly in older age groups. The median age of death for Indigenous Australians is, therefore, likely to be an underestimate.

Caution should be taken when comparing median age at death between Indigenous and non-Indigenous populations. Coory and Baade (2003) note that:

1. the relationship between a change in median age at death and a change in death rate depends upon the baseline death rate. So comparison of trends in median
2. changes in the median age at death of public health importance might be difficult to distinguish from statistical noise.

In the jurisdictions for which data were available for Indigenous Australians, the median age at death for male Indigenous Australians was 55.4 years of age. The median age at death for female Indigenous Australians was 58.5 years of age   
(figure E.5 and table EA.33).

Figure E.5 Median age at death, by sex and Indigenous status, 2011**a, b**

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| Figure E.5 Median age at death, by sex and Indigenous status, 2011.  More details can be found within the text surrounding this image. |

a Victoria, Tasmania and the ACT are excluded due to small numbers of registered Indigenous deaths. b The accuracy of Indigenous mortality data is variable as a result of varying rates of coverage across jurisdictions and age groups, and of changes in the estimated Indigenous population caused by changing rates of identification in the Census and births data.

*Source*: ABS (2012) *Deaths Australia, 2011*, Cat. no. 3302.0, Canberra; table EA.33; 2013 Report,   
figure E.12, p. E.28.

*Mortality**rates*

There were 146 932 deaths in Australia in 2011 (ABS 2012b), which translated into an age standardised mortality rate of 5.6 deaths per 1000 people (2013 Report, figure E.13). Death rates over the last 20 years have declined for all states and territories (ABS 2012b).

*Mortality rates — Indigenous*

Data on Indigenous mortality are collected through State and Territory death registrations. The completeness of identification of Indigenous Australians in these collections varies significantly across states and territories so care is required when making comparisons.

For the period 2007–2011, NSW, Queensland, WA, SA and the NT have been assessed as having adequate identification of Indigenous deaths for mortality analysis. For these five jurisdictions combined, the overall rates of mortality for Indigenous Australians were nearly twice as high as mortality rates for non‑Indigenous Australians based on data for 2007–2011 (figure E.6 and table EA.34). Due to identification completeness issues, mortality rates presented here are likely to be under-estimates of the true mortality of Indigenous Australians (ABS and AIHW 2008).

Data on longer-term trends for WA, SA and the NT suggest that the mortality rate for Indigenous infants decreased by 62 per cent between 1991 and 2010 (AHMAC 2012). Despite this significant improvement, infant mortality rates for Indigenous children are still markedly higher than for non-Indigenous children in Australia.

For the period 2007–2011, the average infant mortality rate for Indigenous infants (less than one year) was higher than for non-Indigenous infants in the jurisdictions (NSW, Queensland, WA, SA and NT) for which there were data available (table EA.37). For the same period, the average child mortality rate for Indigenous children (1–4 years) was also higher for these jurisdictions (table EA.37). The combined infant and child average mortality rate for Indigenous infants and children (0–4 years) was 211.9 deaths per 100 000 of the infant and child population in NSW, Queensland, WA, SA and NT. This compared with 95.4 deaths per 100 000 of the infant and child population for non‑Indigenous infants and children (table EA.37).

Figure E.6 Mortality rates, age standardised, by Indigenous status, five year average, 2007–2011**a, b, c, d**

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| Figure E.6 Mortality rates, age standardised by Indigenous status, five year average, 2007-2011  More details can be found within the text surrounding this image. |

a Deaths are based on year of registration of death. b Deaths per 1000 population. Standardised death rates use total people in the 2001 Australian population as the standard population. c Calculations of rates for the Indigenous population are based on *ABS Experimental Projections, Aboriginal and Torres Strait Islander Australians 1991 to 2009* (ABS Cat. no. 3238.0, low series, 2001 base). There are no comparable population data for the non-Indigenous population. Calculations of rates for comparison with the Indigenous population are derived by subtracting Indigenous population projections from total Estimated Resident Population (ERP) and should be used with care, as these data include deaths and population units for which Indigenous status were not stated. ERP used in calculations are final ERP based on 2006 Census. d Total includes NSW, Queensland, SA, WA, and NT combined, based on State or Territory of usual residence. Victoria, Tasmania and the ACT are excluded due to small numbers of registered Indigenous deaths.

*Source*: ABS (unpublished), *Deaths Australia, 2011*; table EA.34; 2013 Report, figure E.15, p. E.31.

*Mortality rates — by major cause of death*

The most common causes of death among Australians in 2010 were cancers, diseases of the circulatory system (including heart disease, heart attack and stroke), and diseases of the respiratory system (including influenza, pneumonia and chronic lower respiratory diseases) (2013 Report, tables E.1 and EA.38).

In the jurisdictions for which age standardised death rates are available by Indigenous status (NSW, Queensland, WA, SA and the NT), death rates were significantly higher for Indigenous Australians than for non‑Indigenous Australians in 2006–10. For these jurisdictions the leading age-standardised cause of death for Indigenous Australians was circulatory diseases followed by neoplasms (cancer) (tables E.1 and EA.39).

Compared to non‑Indigenous Australians, Indigenous Australians died at higher rates from ‘endocrine, metabolic and nutritional disorders’, ‘kidney diseases’, ‘digestive diseases’, and ‘conditions originating in perinatal period’ (tables E.1 and EA.39).

Table E.1 Age standardised Indigenous mortality rate (deaths per 100 000 people) compared to non‑Indigenous rate, by major cause of death, 2006–2010**a, b, c**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Rate difference — Indigenous rate less non‑Indigenous rate | | | | | |  | Rate ratio — Indigenous rate divided by non‑Indigenous rate | | | | | |
|  | NSW | Qld | WA | SA | NT | Total |  | NSW | Qld | WA | SA | NT | Total |
| Circulatory diseases | 137.3 | 130.4 | 235.0 | 117.8 | 194.6 | 151.4 |  | 1.7 | 1.6 | 2.3 | 1.6 | 2.2 | 1.8 |
| Cancer | 49.5 | 70.5 | 88.8 | 31.3 | 80.1 | 67.5 |  | 1.3 | 1.4 | 1.5 | 1.2 | 1.4 | 1.4 |
| External causes | 19.1 | 26.9 | 97.1 | 56.4 | 70.6 | 47.4 |  | 1.6 | 1.7 | 3.4 | 2.5 | 2.1 | 2.3 |
| Endocrine and other disordersd | 38.1 | 115.2 | 142.1 | 44.0 | 176.3 | 96.3 |  | 2.9 | 6.2 | 6.9 | 2.8 | 7.0 | 5.4 |
| Respiratory diseases | 55.9 | 45.2 | 80.6 | 56.8 | 106.1 | 64.1 |  | 2.1 | 1.9 | 2.9 | 2.2 | 2.9 | 2.3 |
| Digestive diseases | 20.8 | 33.9 | 52.4 | 35.9 | 69.6 | 37.7 |  | 2.0 | 2.7 | 3.6 | 2.8 | 3.7 | 2.9 |
| Kidney diseases | 11.9 | 23.3 | 45.3 | 34.9 | 68.9 | 29.2 |  | 2.0 | 3.2 | 5.4 | 3.6 | 6.8 | 3.6 |
| Conditions originating in perinatal period | 1.6 | 3.0 | 3.4 | np | 7.9 | 3.3 |  | 1.5 | 2.0 | 2.8 | np | 4.2 | 2.2 |
| Infectious and parasitic diseases | 10.1 | 15.3 | 21.9 | np | 34.4 | 16.8 |  | 2.0 | 3.3 | 4.0 | np | 3.9 | 2.9 |
| Nervous system diseases | -0.6 | -2.6 | 13.8 | 9.8 | 7.5 | 2.6 |  | 1.0 | 0.9 | 1.5 | 1.4 | 1.3 | 1.1 |
| Other causes | 19.6 | 30.6 | 81.8 | 43.6 | 79.8 | 42.6 |  | 1.4 | 1.8 | 3.0 | 2.0 | 2.6 | 2.0 |
| **All causes** | **363.4** | **491.9** | **862.2** | **445.4** | **895.5** | **558.8** |  | **1.6** | **1.8** | **2.5** | **1.7** | **2.4** | **1.9** |

a All causes of death data from 2006 onward are subject to a revisions process — once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2006 (final), 2007 (final), 2008 (final), 2009 (revised), 2010 (preliminary). See Cause of Death, Australia, 2010 (cat. no. 3303.0) Explanatory Notes 35-39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009. b Age standardised death rates enable the comparison of death rates between populations with different age structures by relating them to a standard population. The current ABS standard population is all persons in the Australian population at 30 June 2001. Standardised death rates (SDRs) are expressed per 100 000 persons. SDRs in this table have been calculated using the direct method, age standardised by 5 year age group to 75 years and over. Rates calculated using the direct method are not comparable to rates calculated using the indirect method. c Data are reported by jurisdiction of residence for NSW, Queensland, WA, SA and the NT only. Only these five states and territories have evidence of a sufficient level of Indigenous identification and sufficient numbers of Indigenous deaths to support mortality analysis. d Endocrine, metabolic and nutritional disorders. **np** not published.

*Source*: ABS (unpublished) *Causes of Death Australia, 2010* cat. No. 3301.0; table EA.39; 2013 Report,   
table E.2, p. E.33.

#### Profile of employed health workforce

‘Profile of employed health workforce’ is an indicator of governments’ objective that Australians have a sustainable health system (box E.8).

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| Box E.8 Profile of employed health workforce |
| ‘Profile of employed health workforce’ is defined by three measures:   * the full time equivalent employed health workforce divided by the population * the proportion of the full time equivalent employed health workforce under the age of 45 * the net growth in the full time equivalent employed health workforce.   High or increasing rates in the health workforce measures can give an indication of the sustainability of the health system and its ability to respond and adapt to future needs.  Data reported for this indicator are comparable.  Information about data quality for this indicator/measure is at www.pc.gov.au/gsp/reports/rogs/2013. |
|  |
|  |

Nationally, 1.6 per cent of people employed in health-related occupations were Indigenous in 2011. Within health related occupations in 2011, the occupations with the highest percentage of Indigenous Australians were health and welfare support officers, which includes the occupation Indigenous Health Workers   
(tables EA.44–EA.46).

#### Access to services compared to need by type of service

‘Access to services compared to need by type of service’ is an indicator of governments’ objective that Indigenous Australians and those living in rural and remote areas or on low incomes achieve health outcomes comparable to the broader population (box E.9).

Results from the 2007‑08 National Health Survey indicate that the majority of Australians (85 per cent) aged 15 years or over reported their health as either good, very good or excellent (ABS 2009b). In the 2008 National Aboriginal and Torres Strait Islander Social Survey, 78 per cent of Indigenous Australians reported their health as either good, very good or excellent (ABS 2009a).

The latest available data comparing the health outcomes of Indigenous and non‑Indigenous Australians are from the National Aboriginal and Torres Strait Islander Health Survey 2004‑05 (ABS 2006a) and National Health Survey 2004‑05 (ABS 2006b).

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| Box E.9 Access to services compared to need by type of service |
| ‘Access to services compared to need by type of service’ is defined as the number of people aged 15 years or over who accessed a particular health service in the past 12 months (for hospital admissions) or 2 weeks (for other health services) divided by the population aged 15 years or over, expressed as a percentage. Rates are age standardised and calculated separately for each type of service and by categories of self‑assessed health status. Service types are: admitted hospitalisations, casualty/outpatients, GP and/or specialist doctor consultations, consultations with other health professional and dental consultation. Self-assessed health status is categorised as excellent/very good/good and fair/poor and are reported by Indigenous status, remoteness and Socio Economic Indexes for Areas (SEIFA).  High or increasing rates of ‘access to services compared to need by type of service’ are desirable, as are rates for those in disadvantaged groups being close to the rates for those who are not disadvantaged.  Data reported for this indicator are comparable.  Data quality information for this indicator/measure is under development. |
|  |
|  |

The surveys show that Indigenous Australians were less likely than non-Indigenous Australians to report very good or excellent health and the difference between the two populations was greatest in the older age groups. Taking into account differences in age structure between the Indigenous and non‑Indigenous populations, Indigenous Australians overall were almost twice as likely to report their health as fair or poor than non‑Indigenous Australians in 2004‑05 (ABS 2006b).

Data from the surveys show that 41.8 per cent of Australians who reported their health status as being excellent/very good/good accessed health services in 2004-05, while health services were accessed by 62.6 per cent of people who reported their health status as being fair/poor (2013 Report, table EA.47). There was little difference between the percentages of Indigenous and non-Indigenous Australians reporting excellent/very good/good health status who accessed health services or between Indigenous and non-Indigenous Australians reporting fair/poor health status who accessed health services in 2004-05 (figure E.7).

Figure E.7 Proportion of people who accessed health services by health status and Indigenous status, 2004-05**a,** **b,** **c,** **d,** **e**

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| --- |
| Figure E.7 Proportion of people who accessed health services by health status and Indigenous status, 2004-05  More details can be found within the text surrounding this image. |

a Rates are age standardised by State/Territory to the 2001 estimated resident population (5 year ranges from 15+). b People who accessed at least one of the health services noted in tables EA.19 and 2013 Report, EA.20 in the last two weeks or were admitted to hospital in the last 12 months. c Limited to people aged 15 years or over. d Total people accessing any of the selected health services. Components may not add to total because people may have accessed more than one type of health service. e Estimates with RSEs between 25 per cent and 50 per cent should be used with caution. Estimates with RSEs greater than 50 per cent are considered too unreliable for general use.

*Source*: ABS (unpublished) *National Health Survey*, 2004-05; ABS (unpublished) *National Aboriginal and Torres Strait Islander Health Survey*, 2004-05; tables EA.48; 2013 Report, figure E.19, p. E.39.

### Service-specific performance indicator frameworks

Indigenous reporting on service-specific performance indicator frameworks for public hospitals (chapter 10), primary and community health (chapter 11) and mental health management (chapter 12) are in the subsequent chapters of this Compendium.

### Cross cutting and interface issues

Many determinants affect Australian’s health (AIHW 2010). They include the delivery of an efficient, effective and equitable health service, but also factors such as individuals’ and communities’ social and economic conditions and background.

Major improvements in health outcomes therefore depend on strong partnerships between components of the health system and relationships between the health sector and other government services including:

1. *Early childhood, education and training services* play an important role in shaping a child’s development, which has consequences for overall health and wellbeing in later life (AIHW 2011a).

* Good health is critical to a child’s educational development. Impaired hearing, malnutrition, poor general health, including poor eyesight, anaemia, skin diseases, and sleep deprivation have been identified as having adverse effects on the educational attainment of Indigenous children (AMA 2001).

### List of attachment tables

Attachment tables for data within this sector overview are contained in the attachment to the Compendium. These tables are identified in references throughout this chapter by a ‘EA’ prefix (for example, table EA.1 is table 1 in the Health sector overview attachment). Attachment tables are on the Review website (www.pc.gov.au/gsp).

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| **Table EA.9** | Birthweights, live births, Indigenous mothers, 2010 |
| **Table EA.10** | Proportion of live-born singleton babies of low birthweight, by maternal Indigenous status |
| **Table EA.16** | Rates of obesity for adults, by Indigenous status, 2004-05 |
| **Table EA.19** | Proportion of adults who are daily smokers, by Indigenous status, 2007-08 |
| **Table EA.22** | Proportion of adults at risk of long term harm from alcohol (2001 NHMRC guidelines), by Indigenous status, 2004-05 |
| **Table EA.26** | Incidence of selected cancers, by Indigenous status |
| **Table EA.27** | Age standardised rate of heart attacks, people 25 years and over, by Indigenous status, 2007 to 2010 |
| **Table EA.30** | Age standardised mortality rates of potentially avoidable deaths, under 75 years, by Indigenous status, NSW, Queensland, WA, SA, NT, 2006–2010 |
| **Table EA.32** | Estimated life expectancies at birth, by Indigenous status and sex, 2005–2007 (years) |
| **Table EA.33** | Median age at death (years) |
| **Table EA.34** | Mortality rates, age standardised for all causes (per 1000 people) |
| **Table EA.35** | Infant mortality rate, three year average (per 1000 live births) |
| **Table EA.37** | All causes infant and child mortality, by Indigenous status, NSW, Queensland, WA, SA, NT, 2007–2011 |
| **Table EA.39** | Age standardised mortality rates by major cause of death, by Indigenous status, 2006–2010 |
| **Table EA.43** | Employed health workforce, by Indigenous status and state and territory of principal practice |
| **Table EA.44** | Indigenous health workforce, by State/Territory, 2011 |
| **Table EA.45** | Indigenous health workforce, by sex, 2011 |
| **Table EA.46** | Indigenous persons employed in selected health-related occupations, 2011 |
| **Table EA.48** | Proportion of people who accessed health services by health status, by Indigenous status, 2004-05 |

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