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# E Health preface

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### **Attachment tables**

Attachment tables are identified in references throughout this preface by an 'EA' suffix (for example, table EA.3). A full list of attachment tables is provided at the end of this preface, and the attachment tables are available from the Review website at [www.pc.gov.au/gsp](http://www.pc.gov.au/gsp).

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. Broadly defined, 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.

Health services in Australia are delivered by a variety of government and non-government providers in a range of service settings (box E.1). This Report primarily concentrates on the performance of public hospitals (chapter 10), primary and community health services (including general practice) (chapter 11) and

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the interactions among different service mechanisms for dealing with two health management issues: mental health and breast cancer (chapter 12). These services are selected for reporting as they:

- make an important contribution to the health of the community
- reflect government priorities, for example, they fall within the National Health Priority Areas
- represent significant components of government recurrent expenditure on health care
- have common objectives across jurisdictions.

Major improvements in reporting in the Health preface this year include:

- inclusion of the following measures to align this Report with National Healthcare Agreement (NHA) and National Indigenous Reform Agreement (NIRA) indicators
  - reporting data for the net growth in the health workforce for selected professions
  - reporting data for the proportion of people who accessed health services by health status
  - reporting data on health risk factors, such as rates of risky alcohol consumption, smoking and obesity, for states and territories (previously only national data were reported)
  - reporting data on the incidence of selected cancers
  - reporting infant (0–1 year), child (1–4 year) and total infant and child (0–4 year) mortality (previously only infant mortality was reported)
  - reporting data for potentially avoidable deaths
  - reporting data for low birth weight babies by Indigenous status of mother
- expansion of time series data reporting in some attachment tables.

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

The Australian, State, Territory and local governments spent \$63.1 billion (expressed in 2008-09 dollars) on selected health services, including public hospitals, medical services (including payments to general practitioners [GPs] and other specialist practitioners), community and public health, medications and public dental services in 2008-09. These areas of health care activity accounted for 83.8 per cent of government recurrent health expenditure in 2008-09 (table EA.4).

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Total public health expenditure by Australian, State and Territory governments on breast cancer screening was \$175 million in 2008-09 (table 12A.6). This includes funding by the Australian Government to states and territories through the Public Health Outcome Funding Agreements (PHOFAs). This funding mechanism will change for future years with funding under the NHA from 2009-10. Government recurrent expenditure on specialist mental health services was estimated to be around \$5.6 billion in 2008-09 (tables 12A.28 and 12A.29). Some of this expenditure was on psychiatric care provided by public (non-psychiatric) hospitals (chapters 10 and 12).

Estimates of government expenditure on health care provision exclude high level residential aged care services and patient transport services (ambulance services including pre-hospital care, treatment and transport services). These services are not covered in the health chapters in this Report, but are reported separately in chapter 9 ('Emergency management') and chapter 13 ('Aged care services').

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### Box E.1 Some common health terms

**Community health services:** health services for individuals and groups delivered in a community setting, rather than via hospitals or private facilities.

**General practitioners:** medical practitioners who, for the purposes of Medicare, are vocationally registered under s.3F of the *Health Insurance Act 1973* (Cwlth), hold fellowship of the Royal Australian College of General Practitioners or equivalent, or hold a recognised training placement.

**Medicare:** covers Australian Government funding of private medical and optometric services (the Medicare Benefits Schedule [MBS]); selected medications (under the Pharmaceutical Benefits Scheme [PBS]); and public hospital funding (NHA), aimed at providing public hospital services free of charge to public patients.

**Primary health care:** services that:

- provide the first point of contact with the health system
- have a particular focus on prevention of illness and/or early intervention
- are intended to maintain people's independence and maximise their quality of life through care and support at home or in local community settings.

**Public health:** an organised social response to protect and promote health, and to prevent illness, injury and disability. The starting point for identifying public health issues, problems and priorities, and for designing and implementing medical interventions, is the population (or subgroups). Public health is characterised by a focus on the health of the population (and particular at-risk groups) and complements clinical provision of health care services.

**Public hospital:** a hospital that provides treatment free of charge and accommodation to eligible admitted people who elect to be treated as public patients. It also provides services free of charge to eligible non-admitted patients and may provide (and charge for) treatment and accommodation services to private patients. Charges to non-admitted patients and admitted patients on discharge may be levied in accordance with the NHA (for example, charges for aids and appliances).

Other major areas of government involvement in health provision not covered in the health chapters, or elsewhere in the Report, include:

- public health programs, other than those for breast cancer and mental health
- funding for specialist medical practitioners.

Other government services — such as education, public housing, sanitation and water supply — also influence health outcomes. These are not formally part of Australia's health system and are not the subject of the health chapters. Education (chapters 4 and 5) and public and community housing (chapter 16) are included in other chapters of the Report.

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There is a complex relationship between health behaviours, health outcomes, and the socioeconomic and physical environment in which they occur. It has been well documented that Indigenous people are at higher risk of experiencing social and economic disadvantage, which may impact negatively on health behaviours and outcomes. It is a priority of the Steering Committee to improve reporting on the performance of government provided health care services for Indigenous people and for residents in regional and remote Australia.

The Council of Australian Governments (COAG) has agreed six National Agreements (NAs) to enhance accountability to the public for the outcomes achieved or outputs delivered by a range of government services, (see chapter 1 for more detail on reforms to federal financial relations). The NHA covers the area of Health, and health indicators in the NIRA establish specific outcomes for reducing the level of disadvantage experienced by Indigenous Australians. The agreements include sets of performance indicators, for which the Steering Committee collates annual performance information for analysis by the COAG Reform Council (CRC). Revisions have been made to the performance indicators reported in this preface to align with the performance indicators in the NAs.

COAG, with the exception of WA, agreed to establish the National Health and Hospitals Network (NHHN) in April 2010. Under the NHHN, from July 2011 the Australian Government becomes the majority funder of the health and hospitals system, including 60 per cent of the efficient price of public hospital services, capital, research and training, and 100 per cent of primary care equivalent outpatient services. The Australian Government will also assume full policy and funding responsibility for primary health care and aged care, including the Home and Community Care Program (except in Victoria and WA).

As part of the NHHN, the Australian Government and states/territories (except WA) have also agreed to a National Partnership Agreement on Improving Public Hospital Services, that will provide additional funding for capital, facilitation and reward funding for elective surgery and emergency departments, funding for a subacute beds guarantee and a flexible funding pool that can be utilised across all three areas.

The NHHN will establish an Independent Hospital Pricing Authority to set the national efficient price of all public hospital services, a National Performance Authority to report on public health sector performance, and the expansion of the Australian Commission on Safety and Quality in Health Care to set and monitor national quality and safety standards.

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## Profile of health services

This section provides a brief overview of Australian health services as a whole. More detailed descriptions of public hospitals, primary and community health services, and mental health and breast cancer services are provided in chapters 10, 11 and 12 respectively.

### Roles and responsibilities

The Australian Government's health services activities include:

- through the NHA and NHHN, to fund a large part of public hospital services
- providing rebates to patients for medical services provided by GPs and specialists and delivering public health programs
- funding the PBS
- funding high level residential aged care services
- funding private health insurance rebates
- funding improved access to primary health care, specialist services and infrastructure for rural and remote communities
- funding Indigenous-specific primary health
- promulgating and coordinating health regulations
- undertaking health policy research and policy coordination across the Australian, State and Territory governments
- funding hospital services and the provision of other services through the Department of Veterans' Affairs
- funding hearing services for eligible Australians through the Australian Government Hearing Services Program
- funding the Medicare Safety Net.

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

- public hospital services
- public health programs (such as health promotion programs and disease prevention)
- community health services
- public dental services

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- mental health programs
  - patient transport
  - the regulation, inspection, licensing and monitoring of premises, institutions and personnel
  - health policy research and policy development
  - specialist palliative care
  - the Home and Community Care (HACC) program
  - aged care.

Local governments are generally involved in environmental control and a range of community-based and home care services, although the exact nature of their involvement varies across jurisdictions. The non-government sector plays a significant role in the health system, delivering general practice and specialist medical and surgical services, dental services, a range of other allied health services (such as optometry and physiotherapy), private hospitals and high level residential aged care services.

## **Funding**

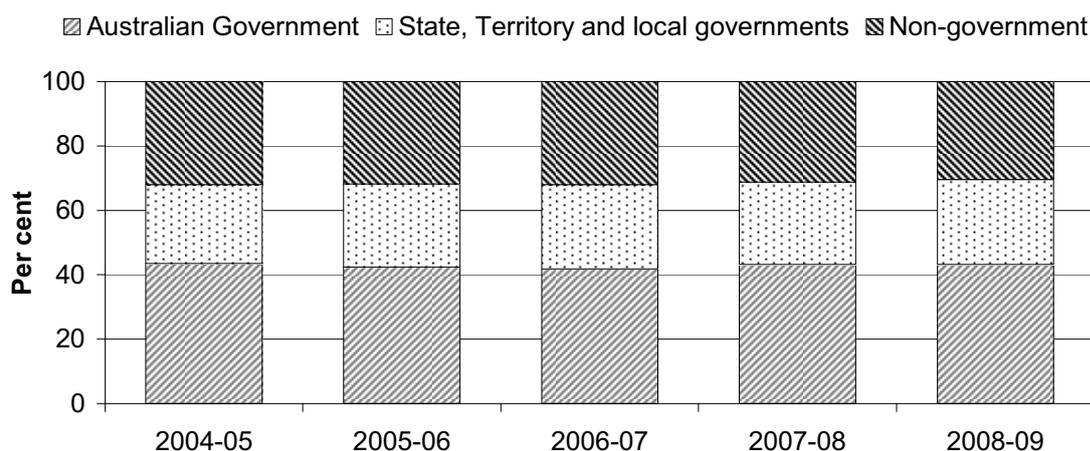
Funding the components of Australia's health care system is a complicated process. The Australian Government subsidises many of the services provided by the non-government sector (mostly through the MBS, the PBS, the private health insurance rebate and the Medicare Safety Net) and contributes funding to a number of nationally coordinated public health programs. It also provides funding under the NHA (formerly the Australian Health Care Agreements [AHCAs]) and the NHHN to the states and territories (except WA) for public hospital services.

State and Territory governments, through income raised by taxes and from both general and specific purpose payments received from the Australian Government, contribute funds to public health, community health services and public hospitals (through casemix and other payments), which in turn fund specialists (through limited fee-for-service or sessional arrangements). Private individuals, health insurance funds and other non-government institutions also contribute funding to a range of health care providers, both government and non-government.

In 2008-09, the Australian, State, Territory and local governments spent \$78.5 billion on total health services, which represents 69.6 per cent of total health expenditure. The Australian Government accounted for the largest proportion of health care expenditure — \$48.7 billion or 43.2 per cent of the total in 2008-09. State, Territory and local governments contributed \$29.8 billion or 26.4 per cent of

total health expenditure in that year (AIHW unpublished). These shares have remained relatively constant over the past 10 years. The remainder was paid by individuals, health insurance funds, workers compensation and compulsory motor vehicle third party insurance providers (figure E.1 and tables EA.1 and EA.7).

**Figure E.1 Total health expenditure, by source of funds (2008-09 dollars)<sup>a, b, c, d</sup>**



<sup>a</sup> Includes recurrent and capital expenditure. <sup>b</sup> Includes expenditure on high level residential aged care (reported in chapter 13) and ambulance services (reported in chapter 9). <sup>c</sup> Expenditure by Australian Government and non-government sources has been adjusted for tax expenditure in relation to private health incentives claimed through the taxation system. <sup>d</sup> 'Non-government' includes expenditure by individuals, health insurance funds, workers compensation and compulsory motor vehicle third party insurers.

Source: AIHW (unpublished) Health expenditure database; table EA.1.

## Size and scope of sector

Total expenditure (recurrent and capital) on health care services in Australia was estimated to be \$112.8 billion in 2008-09 (table EA.1). This total was estimated to account for 9.0 per cent of gross domestic product in 2008-09, a slight increase from the previous year (8.8 per cent) and an increase of 1.2 per cent from the 7.8 per cent of GDP in 1998-99 (AIHW 2010d). This indicates that health expenditure grew faster than the economy as a whole over the decade to 2008-09.

The growth of total health expenditure over the past decade was largely the result of increased expenditure by Australian, State, Territory and local governments, which grew proportionally faster than expenditure by non-government sources. Between 1998-99 and 2008-09, the average annual rate of growth in real expenditure was 5.3 per cent for the Australian Government, 6.7 per cent for State,

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Territory and local governments, and 4.6 per cent for non-government sources (table EA.1).<sup>1</sup>

The introduction of programs supporting private health insurance was a significant factor in the increase in expenditure by the Australian Government in the late 1990s. On 1 January 1999, the Australian Government replaced the Private Health Insurance Incentive Scheme with a 30 per cent rebate on private health insurance premiums. Australian Government expenditure on the rebate has increased each year from \$2.6 billion in 2004-05 to \$3.6 billion in 2008-09 in current prices (that is, not adjusted for inflation) (AIHW unpublished).

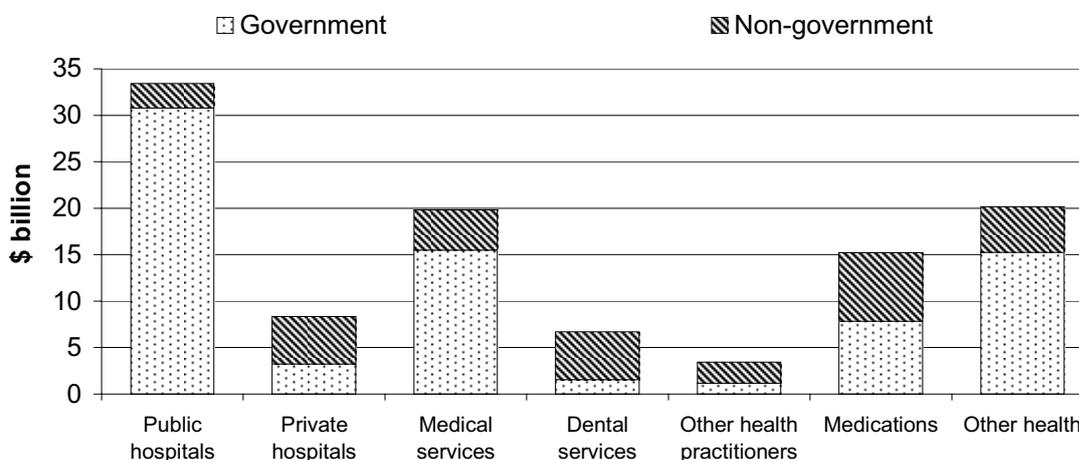
The Extended Medicare Safety Net, introduced in March 2004, has also contributed to increased Australian Government expenditure. Under the Medicare Safety Net, patients are reimbursed for 80 per cent of their out-of-pocket costs for medical treatment received in a non-hospital setting, once a certain threshold is reached in a calendar year. Total Medicare Benefits Schedule Extended Medicare Safety Net expenditure was \$414.1 million in the year ending 31 December 2008 (DoHA unpublished).

Public hospitals were the single largest item of recurrent health care expenditure by government and non-government sources in 2008-09. Total real expenditure on public hospitals (which excludes expenditure on community and public health services, dental and ambulance services and health research undertaken by public hospitals) was \$33.4 billion, of which governments paid \$30.8 billion (figure E.2). Public hospitals accounted for 40.9 per cent of government recurrent expenditure on health care services in 2008-09. Medical services accounted for \$15.5 billion of government expenditure (20.6 per cent of total recurrent health expenditure) and medications accounted for \$7.8 billion (10.4 per cent) (table EA.2).

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<sup>1</sup> There was a break in series due to differences in definitions of public hospital and public hospital services between 2002-03 and 2003-04.

**Figure E.2 Recurrent health expenditure, by area of expenditure, 2008-09<sup>a, b, c, d, e, f</sup>**



<sup>a</sup> Government funding of recurrent health expenditure has been adjusted for non-specific tax expenditure. <sup>b</sup> Almost all expenditure on medical services relates to services provided by practitioners on a fee-for-service basis, including those provided to private patients in hospitals. Excluded are the medical component of care provided to public hospital inpatients and outpatient medical services provided at public hospitals. <sup>c</sup> Medications include (but are not limited to) those provided under the PBS. <sup>d</sup> High level residential aged care services cover services to those residents requiring and receiving a level of care that falls within one of the four highest levels of care. These services are commonly classified as health services expenditure, but are discussed separately in this Report (chapter 13). <sup>e</sup> Government funding on other health practitioners includes DVA funding and DoHA hearing services (audiology component) which was previously included in 'other health'. <sup>f</sup> Other health comprises patient transport services, community health, public health, aids and appliances, other non-institutional health nec., administration and research.

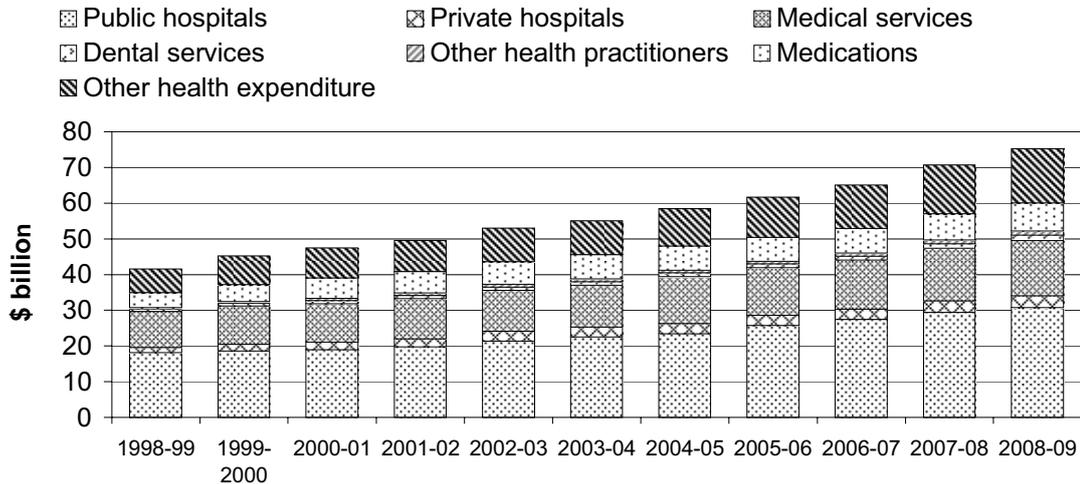
Source: AIHW (unpublished) Health expenditure database; tables EA.2 and EA.3.

The relative share of government recurrent health expenditure allocated to public hospitals has fallen from 43.7 per cent in 1998-99 to 40.9 per cent in 2008-09. This decline reflects the more rapid growth over the decade of government expenditure on private hospitals and medications (figure E.3 and table EA.2). The average annual growth rate of government real recurrent expenditure on private hospitals was 8.9 per cent between 1998-99 and 2008-09 (albeit from a relatively low base), compared with 6.3 per cent for medications and 5.4 per cent for public hospitals (table EA.2). Policy measures introduced over the decade that were aimed at restraining growth in government health expenditure included the restriction of Medicare provider numbers, initiatives to encourage the use of generic medication brands, and increases in co-payments for medications.

The high annual growth in expenditure on private hospitals meant it also grew as a proportion of government health care expenditure over the period 1998-99 to 2008-09. Government expenditure on private hospitals increased from 3.3 per cent of government health expenditure in 1998-99 to 4.3 per cent in 2008-09, and the

proportion of expenditure on medication also increased slightly, from 10.2 per cent to 10.4 per cent over the same period (table EA.2).

**Figure E.3 Government recurrent expenditure, by area of expenditure (2008-09 dollars)<sup>a, b, c, d, e</sup>**



<sup>a</sup> Medications include (but are not limited to) those provided under the PBS. <sup>b</sup> Almost all expenditure on medical services relates to services provided by practitioners on a fee-for-service basis, including those provided to private patients in hospitals. Excluded are the medical component of hospital care provided to public hospital inpatients, and outpatient medical services provided at public hospitals. <sup>c</sup> High level residential aged care is reported in chapter 13. <sup>d</sup> Other health comprises patient transport services, community health, public health, aids and appliances, other non-institutional health nec., administration and research. <sup>e</sup> Real (constant price) estimates have been calculated by applying the AIHW total health price index (table EA.7).

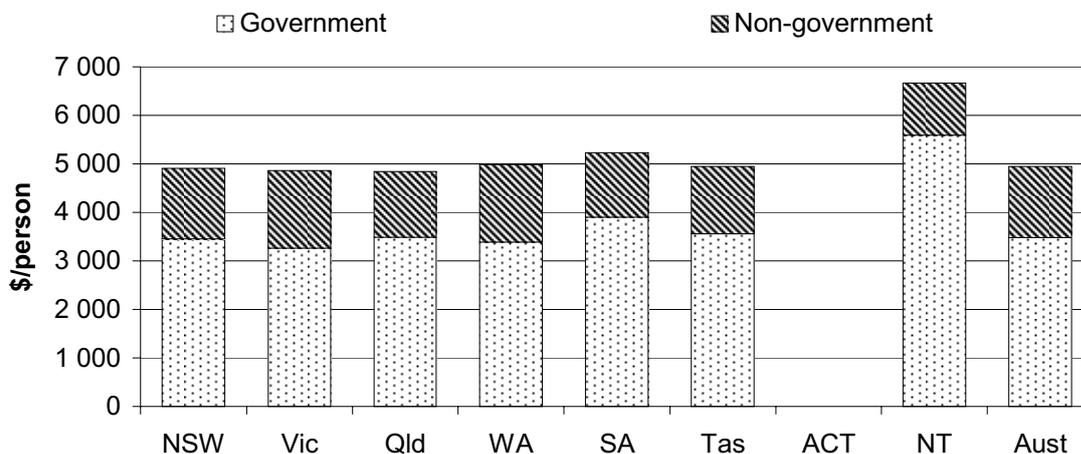
Source: AIHW (unpublished) Health expenditure database; table EA.2.

## Health expenditure per person

Health expenditure per person in each jurisdiction is affected by different policy initiatives and socioeconomic and demographic characteristics. Nationally, total health expenditure (recurrent and capital) per person in 2008-09 (expressed in 2008-09 dollars) was \$5212 (table EA.5). Total health expenditure per person in Australia increased from \$4528 in 2004-05 to \$5212 in 2008-09 (expressed in 2008-09 dollars) (table EA.5). The average annual growth rate in average health expenditure per person (expressed in 2008-09 dollars) from 2004-05 to 2008-09 was 3.6 per cent (table EA.5).

Government real recurrent health expenditure per person in Australia increased from \$2887 in 2004-05 to \$3477 in 2008-09 (expressed in 2008-09 dollars). Non-government recurrent expenditure per person in Australia rose from \$1325 in 2004-05 to \$1471 in 2008-09 (expressed in 2008-09 dollars) (figure E.4 and table EA.6).

**Figure E.4 Recurrent health expenditure per person, by source of funds, excluding high level residential aged care, 2008-09**  
a, b, c



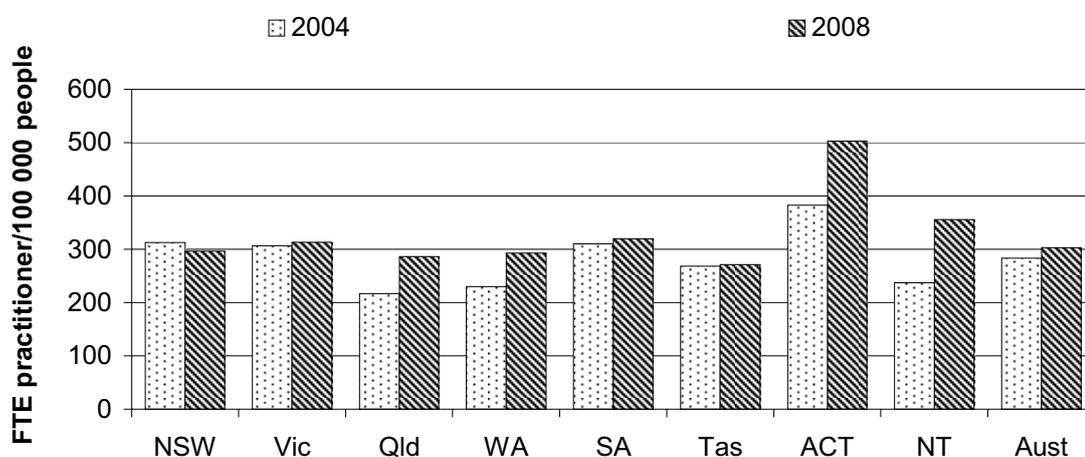
**a** Includes expenditure on ambulance services (reported in chapter 9). **b** Government expenditure includes expenditure by the Australian, State, Territory and local governments. **c** ACT per person figures are not calculated, as the expenditure numbers for the ACT include substantial expenditure for NSW residents, and the ACT population is not the appropriate denominator.

Source: AIHW (unpublished) Health expenditure database; table EA.6.

## Health workforce

In 2008, there were 68 689 registered medical practitioners in Australia working in medicine. A further 1742 were in the medical labour force but on extended leave or looking for work. The majority of employed practitioners working in medicine were clinicians (93.3 per cent), of whom 37.5 per cent were primary care practitioners (mainly general practitioners), 35.0 per cent were specialists, 13.8 per cent were specialists-in-training, 12.3 per cent were hospital non-specialists and 1.4 per cent were other clinicians (AIHW 2010b). The number of full time equivalent (FTE) practitioners per 100 000 people by jurisdiction is illustrated in figure E.5.

Figure E.5 **Employed medical practitioners**<sup>a, b</sup>

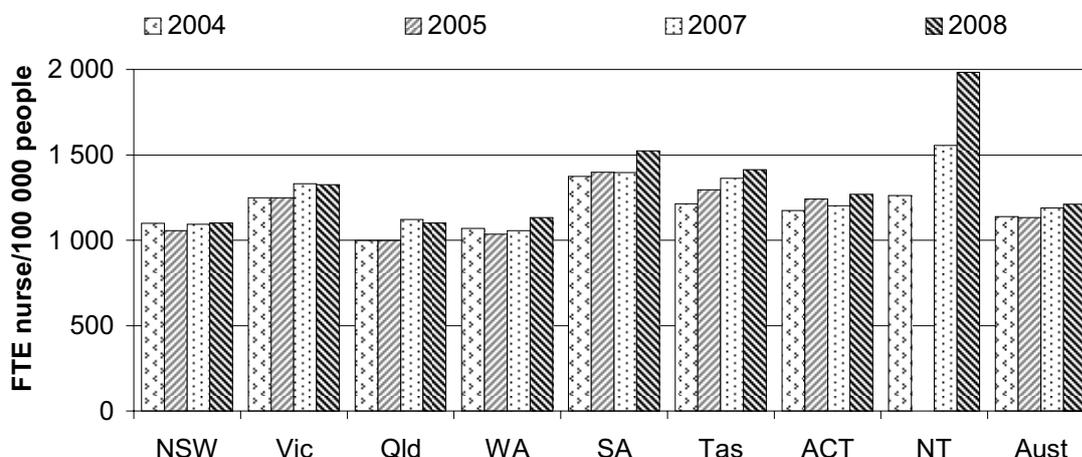


<sup>a</sup> FTE rate (FTE per 100 000 people) is based on standard full-time working week of 45 hours. <sup>b</sup> Number of 'employed medical practitioners' does not include medical practitioners on extended leave.

Source: AIHW (2010) *Medical Labour Force 2008*, AIHW Bulletin no. 82, AIHW Cat. no. AUS 131; AIHW (2006) *Medical Labour Force 2004*, AIHW Cat. no. HWL 39, National Health Labour Force Series no. 38; table EA.8.

The number of FTE nurses per 100 000 people by jurisdiction is illustrated in figure E.6. The national increase in the FTE nurse rate in Australia between 2004 and 2008 arose from both an increase in the number of nurses employed and an increase in average hours worked (AIHW 2010c).

Figure E.6 **Employed nurses**<sup>a, b, c</sup>

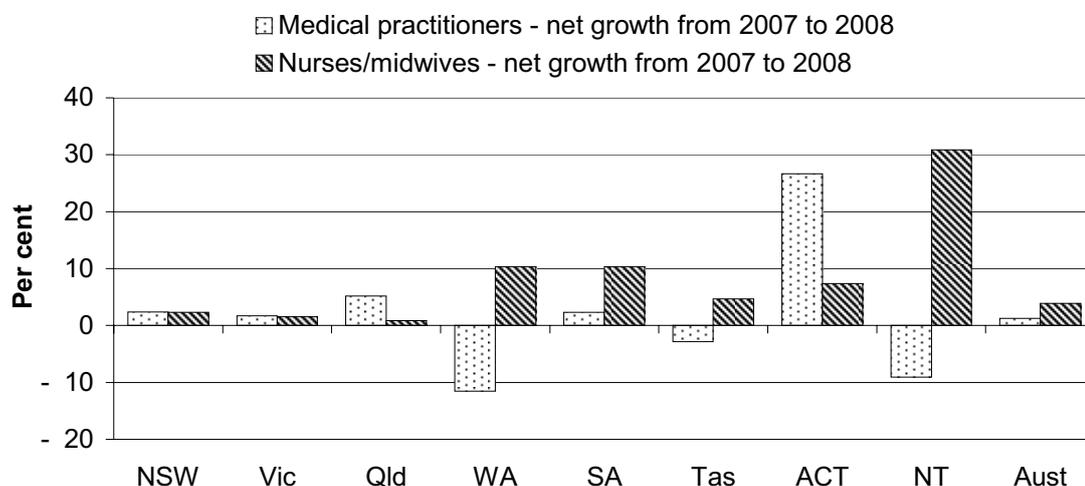


<sup>a</sup> FTE nurse rate (per 100 000 people) based on a 35-hour week. <sup>b</sup> Number of 'employed nurses' does not include nurses on extended leave. <sup>c</sup> Data for 2006 are not available.

Source: AIHW (2010) *Nursing and Midwifery Labour Force 2008*, AIHW Bulletin no. 81, AIHW Cat. no. AUS 130; AIHW (2009) *Nursing and Midwifery Labour Force 2007*, AIHW Cat. no. HWL 44, National Health Labour Force Series no. 43; AIHW (2008) *Nursing and midwifery labour force 2005*, AIHW Cat. no. HWL 40, National Health Labour Force Series no. 39; AIHW (2006) *Nursing and Midwifery Labour Force 2005*, AIHW Cat. no. HWL 38, National Health Labour Force Series no. 37; table EA.9.

The net growth of the health workforce can give an indication of the sustainability of the health system and its ability to respond and adapt to future needs. At the national level, the medical practitioners and nurse/midwife FTE health workforces grew from 2007 to 2008, although growth varied across states and territories. At the national level, the nursing workforce grew at a faster rate than the medical workforce (figure E.7). Health workforce growth from 2007 to 2008 by selected professions by clinical/non-clinical status are reported in table EA.11.

Figure E.7 **Net growth in health workforce, selected professions, 2007 to 2008<sup>a, b</sup>**



<sup>a</sup> Net growth measures the change in the FTE number in the workforce in the reference year compared to the year prior to the reference year. <sup>b</sup> FTEs calculated based on a 40-hour standard working week for medical practitioners and a 38-hour week for nurses/midwives.

Source: AIHW (unpublished) *Health Labour Force Surveys* (Medical (2007 and 2008)), AIHW (unpublished) *Nursing and Midwifery Labour Force Survey* (2007 and 2008); State and Territory registration board data; table EA.10.

## Overview of Indigenous health

The Steering Committee has placed a high priority on reporting on government services to Indigenous people. Data on health outcomes and the provision of health services for Indigenous people are included, where possible, in this Report. This overview is designed to assist interpretation of these data and provide a broader understanding of Indigenous health issues.

There is a complex relationship between health behaviours, health outcomes, and the socioeconomic and physical environment in which they occur. It has been well documented that Indigenous people are at higher risk of experiencing social and economic disadvantage, which may negatively affect health behaviours and outcomes. These patterns are reflected in Australian data on: mortality, life expectancy and birthweight (later in this preface); hospital separation rates; fetal, neonatal and perinatal death rates (chapter 10); and suicide (chapter 12).

A number of recent publications include more comprehensive data on the health status of Indigenous Australians, including health determinants and health care access, which significantly affect health outcomes. These include the *Aboriginal and Torres Strait Islander Health Performance Framework — 2008 Report*

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(DoHA 2008), *The Health and Welfare of Australia's Aboriginal and Torres Strait Islander Peoples* (Australian Bureau of Statistics [ABS] and AIHW 2008), *Overcoming Indigenous Disadvantage: Key Indicators 2009* (SCRGSP 2009), *National Aboriginal and Torres Strait Islander Social Survey, 2008* (ABS 2009d), *Expenditure on health for Aboriginal and Torres Strait Islander people 2006-07* (AIHW 2009), and *Australia's Health 2010* (AIHW 2010a).

## **Contributing factors**

Many Indigenous Australians live today in conditions of clear social and economic disadvantage, which, along with other geographic, environmental and cultural factors, may contribute to poor health.

Educational attainment levels are relatively low for the Indigenous population compared with all Australians. School retention rates for Indigenous school students remain considerably lower than those for non-Indigenous school students, although the disparity between the two groups is slowly lessening (ABS and AIHW 2008). In 2009, apparent retention rates for Indigenous full-time students were 90.9 per cent from years 7 or 8 to year 10 and 50.1 per cent to year 12. This compares with apparent retention rates for non-Indigenous students of 100.0 per cent to year 10 and 77.7 per cent to year 12. Apparent retention rates for Indigenous students from the beginning of secondary school to year 12 increased from 45.3 per cent in 2005 to 50.1 per cent in 2009, while the rate for non-Indigenous Australians remained steady at around 77 per cent (see chapter 4, table 4A.127).

Indigenous people have relatively low employment and income levels that may create financial barriers to accessing health services. Average weekly income for Indigenous people was \$549 in 2006, while the weekly income for non-Indigenous people was \$769 (see Statistical appendix tables AA.2, AA.7, AA.16 and AA.17). Between 2001 and 2006, for those aged 15–64 years the employment to population ratio increased for Indigenous people from 43 per cent to 48 per cent, and for non-Indigenous people from 68 per cent to 72 per cent. The gap remained around 25 percentage points. In the same time period, the unemployment rate for Indigenous people aged 15–64 years decreased from 20 per cent to 16 per cent. However, this was still three times the rate for non-Indigenous Australians of 5 per cent. This is similar to the rate ratios from the 2001 Census (20 per cent compared with 7 per cent) (SCRGSP 2009).

There are high imprisonment rates among Indigenous people. Indigenous prisoners represented 26 per cent of the total prisoner population in 2009-10 (see chapter 8, table 8A.1). After adjusting for age differences, Indigenous adults were 14 times as likely as non-Indigenous adults to be imprisoned in 2009-10 (see chapter 8,

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table 8A.4), compared to 10 times as likely in 2000 (SCRGSP 2009). The Indigenous juvenile detention rate increased by 27 per cent between 2001 and 2007. As at 30 June 2007, Indigenous juveniles were 28 times as likely as non-Indigenous juveniles to have been detained. High imprisonment rates may contribute to the poorer health status of Indigenous people (SCRGSP 2009).

There are close associations between socioeconomic factors and exposure to health risk factors. Indigenous Australians have relatively high rates for some health risk factors such as obesity, substance abuse and violence. In 2007-08, the age standardised rate of Indigenous people aged 18 years and over who were daily cigarette smokers was 45 per cent, compared to 18.9 per cent for non-Indigenous people aged 18 years and over (ABS unpublished). Indigenous adults were less likely than non-Indigenous adults to have consumed alcohol in the week prior to interview in 2004-05 (53 per cent compared with 36 per cent). Among those who drank alcohol, rates of long-term risky/high risk alcohol consumption were similar for Indigenous and non-Indigenous Australians after adjusting for age. However, Indigenous adults were twice as likely to consume alcohol at short-term risky/high risk levels at least once a week over the previous 12 month period. Hospitalisation rates for all alcohol-related conditions were higher for Indigenous people than non-Indigenous people in 2006-07 (SCRGSP 2009).<sup>2</sup>

Geographic distance to health services, particularly in remote and very remote areas, contributes to the health disadvantage of Indigenous people. In 2006, 417 (35 per cent) discrete Indigenous communities<sup>3</sup>, with a combined population of 25 486, were located 100 kilometres or more from the nearest Aboriginal Primary Health Care Centre and, of these, 92 (22 per cent) were larger communities with a population of 50 or more people. A total of 372 discrete Indigenous communities (31 per cent) were located 100 kilometres or more from the nearest other (State-funded) health centre and, of these, 90 (24 per cent) were larger communities. A total of 755 (64 per cent) discrete Indigenous communities were located 100 kilometres or more from the nearest hospital. On a population basis, 25 per cent of Indigenous people living in communities were 100 kilometres or more from the nearest hospital (ABS 2007).

Many Indigenous people live in inadequate and overcrowded housing, particularly in remote and very remote areas. Indigenous people were around five times as likely

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<sup>2</sup> Short term risk is the risk of harm associated with given levels of alcohol consumption on any one occasion. Long term risk is associated with regular daily patterns of alcohol consumption and defined by the average daily intake of alcohol over 7 days of the reference week.

<sup>3</sup> A geographic location, bounded by physical or cadastral (legal) boundaries, and inhabited or intended to be inhabited predominantly (that is, greater than 50 per cent of usual residents) by Indigenous people, with housing or infrastructure that is managed on a community basis.

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as non-Indigenous people to live in overcrowded housing in 2006. Overcrowding was highest in very remote areas (65.1 per cent) and lowest in major cities (15.1 per cent) (SCRGSP 2009). There were around 20 700 overcrowded Indigenous households (14 per cent), and 102 400 Indigenous people (27 per cent) living in overcrowded conditions in 2006 (ABS and AIHW 2008). There has been some improvement in housing overcrowding, with the proportion of Indigenous people living in overcrowded housing falling from 31 per cent to 27 per cent between 2001 and 2006 (SCRGSP 2009).

## **Expenditure**

It is not always possible to make accurate estimates of health expenditure for Indigenous people, and their corresponding service use. For example, Indigenous status is not always clearly stated or recorded. For many publicly funded health services there is incomplete information available about service users and, in particular, their Indigenous status.

For privately funded services, this information is frequently unavailable. For those services that do collect information on Indigenous status the data are not always accurate. This may be because Indigenous identification is voluntary and not all Indigenous patients choose to identify as Indigenous and some providers may not optimise collection of data on Indigenous status.

The scope and definition of health expenditure also have some limitations. For the Indigenous health expenditure data presented below, health covers those services that are directed mainly towards improving health and/or reducing the effects of illness or injury. This is a relatively narrow definition which excludes a number of supportive ‘welfare’ services and the impact of living conditions on health, for example, housing, sanitation and nutrition. There are also other (non-health) agency contributions to health expenditure (such as those incurred within education departments and prisons) that are not included.

Indigenous health expenditure can also be difficult to identify, as the majority of health expenditure on Indigenous people is allocated through mainstream health programs — admitted and non-admitted patient services, community health services, medical and medications health services, and public health services. The definition of health expenditure has changed and no longer includes expenditure on high care residential aged care, which is now classified as welfare expenditure.

The most recent estimates of health services expenditure for Indigenous people are for 2006-07 (AIHW 2009). The ratio of Indigenous to non-Indigenous health and high care residential aged care expenditure per person in 2006-07 was 1.25. This

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means that \$1.25 was spent per person on health for Indigenous people for every dollar spent for non-Indigenous people.

The average Indigenous/non-Indigenous total health expenditure per person ratio increased between 2004–05 and 2006–07 from 1.17 to 1.25. The increase can be explained by growth in expenditure for Indigenous people in areas such as public hospital services and Medicare funded medical services (AIHW 2009).

The major feature of the difference in total health expenditure per person between Indigenous and non-Indigenous people is the reliance of Indigenous people on public hospitals and community health services. Although Indigenous people used few private hospital services, as their private insurance membership was low, overall hospital expenditure (public and private hospital) per Indigenous person was 72 per cent higher than for non-Indigenous people (AIHW 2009, table E.1). Spending on community health services was six and a half times that for non-Indigenous people. In contrast, per person expenditure on medical services, medications and dental services was half or less than that for non-Indigenous people (table E.1). This is partly because Indigenous people have much lower incomes compared to non-Indigenous people and, like many low income people, use more public hospital services and less private specialist medical services. Approximately 70 per cent of Indigenous households are in the lowest two household income quintiles (AIHW 2009).

The difference between average health expenditure on Indigenous and non-Indigenous people reflects, among other things, the differences in the average costs of providing goods and services to the two populations. For example, a higher proportion of Indigenous people live in remote and very remote regions in Australia where the costs of providing health goods and services are higher than for those people who live in capital cities or inner regional areas.

**Table E.1 Expenditure on health and high care residential aged care services for Indigenous and non-Indigenous people, 2006-07**

| Area of expenditure                      | Expenditure (\$ million) |                 |                 | Indigenous share (%) | Expenditure per person (\$) |                | Ratio       |
|--|--------------------------|-----------------|-----------------|----------------------|-----------------------------|----------------|-------------|
|  | Indigenous               | Non-Indigenous  | Total           |                      | Indigenous                  | Non-Indigenous |             |
| Total hospital services                  | 1 483.1                  | 33 687.6        | 35 170.7        | 4.2                  | 2 838.3                     | 1 654.6        | 1.72        |
| Public hospital services <sup>a</sup>    | 1 450.9                  | 26 565.3        | 28 016.2        | 5.2                  | 2 776.6                     | 1 304.8        | 2.13        |
| Admitted patient services <sup>b</sup>   | 1 123.5                  | 20 817.0        | 21 940.5        | 5.1                  | 2 150.0                     | 1 022.4        | 2.10        |
| Non-admitted patient services            | 327.4                    | 5 748.3         | 6 075.7         | 5.4                  | 626.5                       | 282.3          | 2.22        |
| Private hospitals <sup>c</sup>           | 32.3                     | 7 122.3         | 7 154.5         | 0.5                  | 61.7                        | 349.8          | 0.18        |
| Patient transport services               | 115.9                    | 1 672.4         | 1 788.3         | 6.5                  | 221.8                       | 82.1           | 2.70        |
| Medial services                          | 220.8                    | 16 544.5        | 16 765.3        | 1.3                  | 422.6                       | 812.6          | 0.52        |
| Medicare services                        | 193.2                    | 13 441.1        | 13 634.3        | 1.4                  | 369.7                       | 660.2          | 0.56        |
| Other                                    | 27.6                     | 3 103.4         | 3 131.0         | 0.9                  | 52.9                        | 152.4          | 0.35        |
| Dental services                          | 72.9                     | 5 676.2         | 5 749.1         | 1.3                  | 139.5                       | 278.8          | 0.50        |
| Community health services                | 620.1                    | 3 706.2         | 4 326.4         | 14.3                 | 1 186.7                     | 182.0          | 6.52        |
| Other professional services              | 22.3                     | 3 250.8         | 3 273.1         | 0.7                  | 42.8                        | 159.7          | 0.27        |
| Public health                            | 110.9                    | 1 700.2         | 1 811.0         | 6.1                  | 212.2                       | 83.5           | 2.54        |
| Medications                              | 129.4                    | 12 481.0        | 12 610.3        | 1.0                  | 247.5                       | 613.0          | 0.40        |
| Aids and appliances                      | 21.0                     | 3 004.6         | 3 025.6         | 0.7                  | 40.3                        | 147.6          | 0.27        |
| Research                                 | 32.1                     | 2 317.0         | 2 349.1         | 1.4                  | 61.5                        | 113.8          | 0.54        |
| Health administration                    | 75.7                     | 2 294.0         | 2 269.7         | 3.2                  | 144.8                       | 112.7          | 1.29        |
| Other health services (nec) <sup>d</sup> | 5.5                      | 141.9           | 147.4           | 3.7                  | 10.5                        | 7.0            | 1.51        |
| <b>Total health</b>                      | <b>2 909.7</b>           | <b>86 476.4</b> | <b>89 386.1</b> | <b>3.3</b>           | <b>5 568.5</b>              | <b>4 247.3</b> | <b>1.31</b> |

(Continued on next page)

**Table E.1 (Continued)**

| Area of expenditure                                     | Expenditure (\$ million) |                 |                 | Expenditure per person (\$) |                |                | Ratio       |
|---|--------------------------|-----------------|-----------------|-----------------------------|----------------|----------------|-------------|
|   | Indigenous               | Non-Indigenous  | Total           | Indigenous share (%)        | Indigenous     | Non-Indigenous |             |
| High care residential aged care                         | 66.7                     | 6 305.1         | 6 371.8         | 1.0                         | 127.6          | 309.7          | 0.41        |
| <b>Total health and high care residential aged care</b> | <b>2 976.4</b>           | <b>92 781.5</b> | <b>95 757.9</b> | <b>3.1</b>                  | <b>5 696.1</b> | <b>4 557.0</b> | <b>1.25</b> |

<sup>a</sup> Public hospital services exclude dental services, community health services, patient transport services, public health and health research undertaken by the hospital. <sup>b</sup> Admitted patient expenditure estimates allow for Indigenous under-identification, except for Tasmania. <sup>c</sup> Include State/Territory government expenditure for services provided for public patients in private hospitals (\$249.5 million). <sup>d</sup> Other health services (not elsewhere classified) include expenditure on health services such as family planning.

Source: AIHW (2009) *Expenditure on Health for Aboriginal and Torres Strait Islander Peoples 2006-07*, Cat. no. HWE 48, Health and Welfare Expenditure Series no. 39, Canberra.

In 2006-07, governments provided 93.4 per cent of the total funding for Indigenous health care spending and 68.2 per cent of the health care funding for non-Indigenous people. For Indigenous health spending, the states and territories contributed around \$1.5 billion or 51.4 per cent of total funding, and around \$1.2 billion or 42.0 per cent of total funding came from the Australian Government. Non-government sources contributed around \$193 million, or 6.6 per cent of total funding (table E.2).

**Table E.2 Total funding for health and high care residential aged care for Indigenous and non-Indigenous people, 2006-07**

| Source of funding   | Amount (\$ million) |                 |                 |                      |
|---|---------------------|-----------------|-----------------|----------------------|
|   | Indigenous          | Non-Indigenous  | Total           | Indigenous share (%) |
| State and Territory governments                                     | 1 495.8             | 20 861.6        | 22 357.4        | 6.7                  |
| Australian Government   | 1 220.7             | 38 107.3        | 39 328.1        | 3.1                  |
| Direct Australian Government  | 720.5               | 24 869.4        | 25 589.9        | 2.8                  |
| Indirect through Australian State/Territory governments             | 487.4               | 9 406.4         | 9 893.8         | 4.9                  |
| Indirect through non-government <sup>a</sup>                        | 12.8                | 3 831.5         | 3 844.3         | 0.3                  |
| <i>All governments</i>  | <i>2 716.5</i>      | <i>58 968.9</i> | <i>61 685.4</i> | <i>4.4</i>           |
| Non-government  | 193.2               | 27 507.5        | 27 700.7        | 0.7                  |
| <b>Total health</b>   | <b>2 909.7</b>      | <b>86 476.4</b> | <b>89 386.1</b> | <b>3.3</b>           |
| Australian Government funded high care residential aged care        | 43.8                | 4 769.3         | 4 813.1         | 0.9                  |
| Non-government funded high care residential aged care               | 22.9                | 1 535.7         | 1 558.6         | 1.5                  |
| <i>Government funded health and high care residential aged care</i> | <i>2 760.3</i>      | <i>63 738.2</i> | <i>66 498.5</i> | <i>4.2</i>           |
| <b>Total health and high care residential aged care</b>             | <b>2 976.4</b>      | <b>92 781.4</b> | <b>95 757.9</b> | <b>3.1</b>           |

<sup>a</sup> 'Indirect through non-government' data include private health insurance rebates of \$3073 million for all Australians, Special Purpose Payments (SPPs) covering high specialised drugs in private hospitals and other payments.

Source: AIHW (2009) *Expenditure on Health for Aboriginal and Torres Strait Islander Peoples 2006-07*, Cat. no. HWE 48, Health and Welfare Expenditure Series no. 39, Canberra.

On a per person basis, the level of funding from Australian State and Territory governments, was much higher for Indigenous people than for non-Indigenous people (table E.3). The average amount of funding was \$5199 per Indigenous person and \$2896 per non-Indigenous person.

In 2006–07, Australian Government funding for health services was around 25 per cent more per person for Indigenous people than for non-Indigenous people. State and Territory governments funding was almost three times as much per person for Indigenous people as for non-Indigenous people (table E.3).

**Table E.3 Funding per person for health and high care residential aged care for Indigenous and non-Indigenous people, 2006–07**

| <i>Source of funding</i>  | <i>Funding per person (\$)</i> |                       |              |
|---|--------------------------------|-----------------------|--------------|
|   | <i>Indigenous</i>              | <i>Non-Indigenous</i> | <i>Ratio</i> |
| State and Territory governments                                     | 2 862.5                        | 1 024.6               | 2.79         |
| Australian Government   | 2 336.2                        | 1 871.7               | 1.25         |
| Direct Australian Government  | 1 378.8                        | 1 221.5               | 1.13         |
| Indirect through Australian State/Territory governments             | 932.8                          | 462.0                 | 2.02         |
| Indirect through non-government <sup>a</sup>                        | 24.5                           | 188.2                 | 0.13         |
| <i>All governments</i>  | <i>5 198.7</i>                 | <i>2 896.3</i>        | <i>1.79</i>  |
| Non-government  | 369.8                          | 1 351.0               | 0.27         |
| <b>Total health</b>   | <b>5 568.5</b>                 | <b>4 247.3</b>        | <b>1.31</b>  |
| Australian Government funded high care residential aged care        | 83.9                           | 234.2                 | 0.36         |
| Non-government funded high care residential aged care               | 43.7                           | 75.4                  | 0.58         |
| <i>Government funded health and high care residential aged care</i> | <i>5 282.6</i>                 | <i>3 130.5</i>        | <i>1.69</i>  |
| <b>Total health and high care residential aged care</b>             | <b>5 696.1</b>                 | <b>4 557.0</b>        | <b>1.25</b>  |

<sup>a</sup> 'Indirect through non-government' data include private health insurance rebates (\$147.1 per Australian in 2006-07). This category also includes SPPs which cover highly specialised drugs provided in private hospitals, along with other payments.

Source: AIHW (2009) *Expenditure on Health for Aboriginal and Torres Strait Islander Peoples 2006-07*, Cat. no. HWE 48, Health and Welfare Expenditure Series no. 39, Canberra.

## Indigenous health workforce

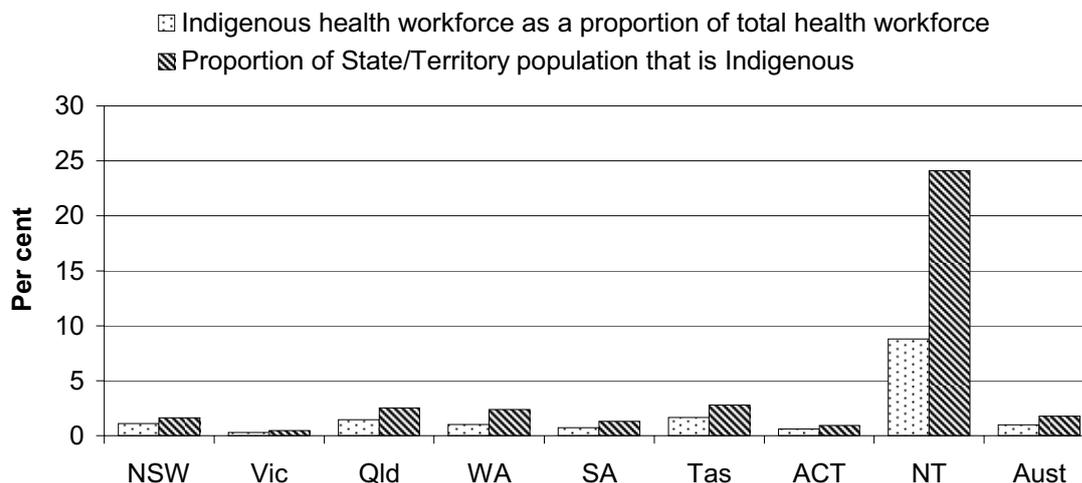
Indigenous people aged 15 years and over were under-represented in almost all health-related occupations in 2006 (ABS and AIHW 2008). This can potentially contribute to Indigenous peoples' reduced access to health services. One patient satisfaction survey found that the presence of an Indigenous doctor at a community health centre was one of the main reasons for Indigenous people attending the clinic. In addition, the number of Indigenous patients attending the clinic increased markedly following the arrival of the Indigenous doctor and other changes in the service designed to make it more welcoming. Patients reported that an Indigenous doctor was 'more understanding of their needs' (DoHA 2008).

In 2006, Indigenous people accounted for 1.0 per cent of the health workforce, but comprised 1.8 per cent of the total population (aged 15 years and over). Indigenous health workers are under-represented in each State and Territory (figure E.8). There have, however, been some improvements over time with increases in the number of

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Indigenous Australians in the health workforce as a proportion of the total health workforce (DoHA 2008).

**Figure E.8 Indigenous health workforce as a proportion of total health workforce, by jurisdiction, 2006<sup>a, b</sup>**

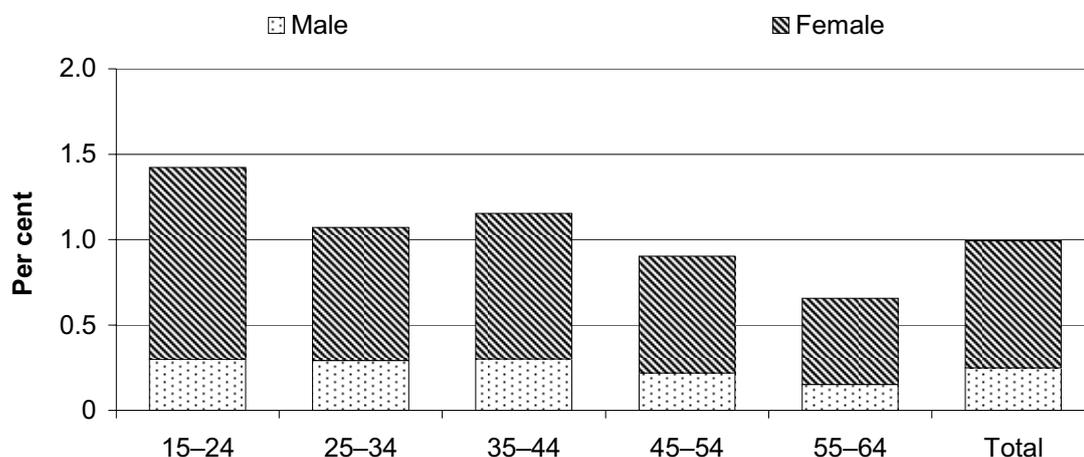


<sup>a</sup> Aged 15 years and over. <sup>b</sup> Australian total data include other territories.

Source: ABS (unpublished), ABS (2007) *2006 Census of Population and Housing*, Canberra; table EA.12.

For younger age-groups, Indigenous people make up a higher proportion of the health workforce — 1.4 per cent of the workforce aged 15–24 years and 1.1 per cent of the workforce aged 25–34 years. Indigenous females represented a higher proportion of the health workforce than Indigenous males across all age-groups (figure E.9).

Figure E.9 **Indigenous health workforce as a proportion of total health workforce, by age-group and sex, 2006<sup>a</sup>**



<sup>a</sup> Total includes data for the 65 plus age group.

Source: ABS (unpublished), 2006 Census of Population and Housing; table EA.13.

#### *Indigenous health workforce by occupation*

In 2006, there were 103 Indigenous people working as medical practitioners and 1446 Indigenous people working as nurses (table E.4). After nursing, Indigenous people in the health workforce were most commonly employed as Aboriginal and Torres Strait Islander health workers (965 people) (table EA.15). Aboriginal and Torres Strait Islander health workers may be employed as specialists in areas such as alcohol, mental health, diabetes, eye and ear health, sexual health, or generalist members of primary care teams, or hospital liaison officers (table EA.15). These data are from the 2006 Census of Population and Housing. Data for 2007 on the proportion of medical practitioners and nurses/midwives that were Indigenous are available from the AIHW Health Labour Force Surveys and are reported in table EA.16.

**Table E.4 Proportion of the health workforce that is Indigenous, by occupation groupings, 2006<sup>a</sup>**

|  | NSW          | Vic        | Qld          | WA         | SA         | Tas        | ACT        | NT         | Aust <sup>b</sup> |              |
|--|--------------|------------|--------------|------------|------------|------------|------------|------------|-------------------|--------------|
|  | %            | %          | %            | %          | %          | %          | %          | %          | %                 | no.          |
| Occupation groupings <sup>c</sup>  |              |            |              |            |            |            |            |            |                   |              |
| Medical practitioners  | 0.2          | 0.1        | 0.2          | 0.1        | 0.2        | 0.5        | 0.3        | 0.6        | 0.2               | 103          |
| Medical imaging workers  | 0.2          | 0.1        | 0.3          | –          | 0.4        | –          | –          | –          | 0.2               | 19           |
| Dental workers   | 0.8          | 0.2        | 1.2          | 0.4        | 0.4        | 0.9        | 0.8        | 1.9        | 0.7               | 203          |
| Nursing workers  | 0.9          | 0.3        | 0.9          | 0.5        | 0.4        | 1.3        | 0.4        | 1.9        | 0.7               | 1 446        |
| Pharmacists  | –            | 0.1        | 0.2          | 0.2        | –          | –          | –          | –          | 0.1               | 13           |
| Allied health workers  | 0.8          | 0.2        | 0.9          | 0.7        | 0.8        | 1.1        | 0.6        | 4.2        | 0.7               | 454          |
| Complementary therapists   | 0.5          | 0.3        | 0.8          | 0.8        | 0.3        | 3.1        | –          | –          | 0.5               | 87           |
| Other health workers   | 2.3          | 0.7        | 3.4          | 2.8        | 2.0        | 3.7        | 1.3        | 27.2       | 2.4               | 3 145        |
| <b>Total Indigenous health workforce as proportion of total health workforce</b> | <b>1.1</b>   | <b>0.3</b> | <b>1.4</b>   | <b>1.1</b> | <b>0.8</b> | <b>1.7</b> | <b>0.6</b> | <b>8.8</b> | <b>1.0</b>        | <b>..</b>    |
|  | no.          | no.        | no.          | no.        | no.        | no.        | no.        | no.        | no.               | no.          |
| <b>Total Indigenous health workforce</b>   | <b>1 933</b> | <b>456</b> | <b>1 472</b> | <b>563</b> | <b>354</b> | <b>216</b> | <b>51</b>  | <b>422</b> | <b>5 470</b>      | <b>5 470</b> |

<sup>a</sup> Proportions exclude persons who did not state their Indigenous status. <sup>b</sup> Includes Other Territories (Christmas Island, Cocos (Keeling) Islands, and Jervis Bay Territory). <sup>c</sup> Occupation groupings are based on those used in AIHW Health and Community Services Labour Force, 2006. .. Not applicable. – Nil or rounded to zero.

Source: ABS (unpublished), 2006 Census of Population and Housing, Cat. no. 2068.0; table EA.14.

## Self-assessed health

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 people reported their health as either good, very good or excellent (ABS 2009d). There was a significant decline in Indigenous people reporting their health as fair or poor from 2001 (down from 26 per cent in 2001 to 22 per cent in 2008) (ABS 2009b).

Indigenous people were less likely than non-Indigenous people to report very good or excellent health and the difference between the two populations was greatest in the older age groups (DoHA 2008). Taking into account differences in age structure between the Indigenous and non-Indigenous populations, Indigenous people overall were almost twice as likely to report their health as fair or poor than non-Indigenous Australians in 2004-05 (ABS 2006). Indigenous females were more likely to report their health as fair or poor than Indigenous males (24 per cent compared with 19 per cent) (DoHA 2008).

Data from the National Health Survey 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 (tables EA.17 and EA.18). There was little difference between the percentages of Indigenous and non-Indigenous people reporting excellent/very good/good health status who accessed health services or between Indigenous and non-Indigenous people reporting fair/poor health status who accessed health services in 2004-05 (figure E.10). The proportion of people who accessed health services by health status, remoteness and SEIFA are reported in tables EA.21–EA.24.

**Figure E.10 Proportion of people who accessed health services by health status and Indigenous status, 2004-05<sup>a, b, c, d, e</sup>**



<sup>a</sup> Rates are age standardised by State/Territory to the 2001 estimated resident population (5 year ranges from 15+). <sup>b</sup> Persons who accessed at least one of the health services noted in tables EA.19 and EA.20 in the last two weeks or were admitted to hospital in the last 12 months. <sup>c</sup> Limited to people aged 15 years or over. <sup>d</sup> Total persons accessing any of the selected health services. Components may not add to total because persons may have accessed more than one type of health service. <sup>e</sup> 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.19 and EA.20.

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## Data quality

Good quality data are needed to assess the effectiveness of programs and to evaluate policies designed to improve health services and outcomes for Indigenous people. Despite recent improvements, the quality of estimates of Indigenous health information is limited by problems with the underlying data. Some of the problems associated with Indigenous health data are outlined in (ABS 2009a), and (ABS and AIHW 2008) including:

- Indigenous people are not always accurately or consistently identified in administrative health data collections (such as hospital records and birth and death registrations) because of variation in definitions, different data collection methods and inaccurate or incomplete recording of Indigenous status. Data on hospital separations, mortality and disease notifications are therefore likely to be underestimated for the Indigenous population.
- Inconsistent data definitions and differences in the accuracy of identifying Indigenous people have led to problems making comparisons between jurisdictions, and over time.
- Problems in accurately estimating the Indigenous population; there is an undercount of the Indigenous population in the Census, particularly in remote areas, and there are data quality problems with the births and deaths statistics used to adjust Census data to produce population estimates and projections.

As part of the development of the Aboriginal and Torres Strait Islander Health Performance Framework, key priorities for data development have been identified to support an ongoing work program of data improvements.

The ABS has implemented a program of three yearly Indigenous household surveys with sample sizes designed to support the production of reliable State and Territory level data, so every three years, some health status and health risk factors are measured. Every six years, and in parallel with the National Health Survey, more detailed Indigenous health status information is collected, together with health service use, health actions, health-related aspects of lifestyle and other health risks. This also enables Indigenous to non-Indigenous comparisons for relevant variables. Other health-related surveys, which may include an Indigenous identifier, do not necessarily provide reliable data on Indigenous people because of small sample size, limited geographic coverage or survey design.

Experimental estimates of the Indigenous population are re-based by the ABS every five years following availability of new Census data. Therefore, revisions may be required to various rates and rate ratios used in previous editions of the report where

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those rates data are to be carried forward in new reports. The Indigenous population estimates and projections are re-based for this Report.

In July 2009, COAG endorsed a \$46.4 million package of Indigenous data development over 4 years as part of *the Integrated Strategy for Closing the Gap in Indigenous Disadvantage*.

## Health risk factors

There are a number of behaviours that are risks to health outcomes, for example, dietary habits and exercise, or other factors such as high body mass, smoking, and alcohol consumption. The National Health Survey 2007-08 collected data on these risk factors (ABS 2009b), which are presented in this section. Selected health outcomes such as life expectancy and mortality are presented in the next section. 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. Smoking has been identified as a cause of lung cancer and a range of other chronic diseases. Nationally, the age standardised rate of lung cancer was 43.3 new cases per 100 000 people in 2007. Bowel cancer, which has been linked to diet, occurred at a rate of 62.4 new cases per 100 000 people in 2007 (tables EA.37 and EA.38). Other cancers such as melanoma are also preventable. The incidence of these cancers for 2007, along with breast and cervical cancer, are reported in tables EA.37–39.

### *Body mass*

Being overweight or obese increases the risk of an individual developing, among other things, heart disease, stroke and Type 2 diabetes. The National Health Survey 2007-08 reported measured Body Mass Index (BMI). BMI is calculated as weight (kg) divided by the square of height (m). BMI values are grouped according to World Health Organization (WHO) and National Health and Medical Research Council (NHMRC) guidelines. Among adults, a BMI of less than 18.5 is considered underweight, a BMI of 18.5 to less than 25 is considered normal weight, 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).

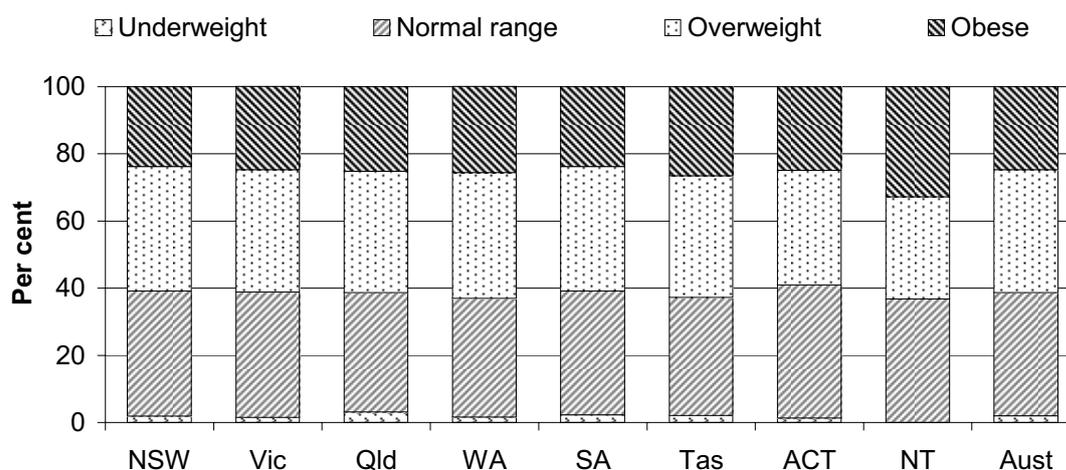
Over a third of Australians' measured BMI was in the overweight range and almost a quarter were obese in 2007-08 (figure E.11). The percentage of people who were obese tended to be higher in remote (35.0 per cent) and outer regional areas (31.3 per cent), than in major cities (22.5 per cent) and inner regional areas

(27.6 per cent) (table EA.25). RSEs and 95 per cent confidence intervals for rates of obesity for adults and children, by remoteness, in 2007-08 are presented in table EA.26.

The percentage of people who were obese tended to be higher in older age groups, peaking at age 70–74 for males (34.2 per cent) and at age 55–64 for females (33.4 per cent). There was a slightly higher percentage of obese males (25.6 per cent) than females (24.0 per cent) (table EA.27). RSEs and 95 per cent confidence intervals for rates of obesity for adults and children, by sex and age, in 2007-08 are presented in table EA.28.

Nationally, there were almost twice as many obese Indigenous adults (33.6 per cent) as non-Indigenous adults (17.7 per cent) (table EA.29). RSEs and 95 per cent confidence intervals for the proportion of adults and children in BMI categories, in 2007-08 are presented in table EA.31.

**Figure E.11 Proportion of adults in BMI categories, 2007-08<sup>a, b, c, d</sup>**



<sup>a</sup> Adults are defined as persons aged 18 years and over. Children are defined as persons aged 5–17 years.  
<sup>b</sup> Obesity for adults is defined as BMI equal to or greater than 30. Obesity for children is defined as BMI (appropriate for age and sex) that is likely to be 30 or more at age 18 years. <sup>c</sup> Measured persons only.  
<sup>d</sup> Rates are age standardised by State and Territory, to the 2001 Estimated Resident Population (5 year ranges from 18 for adults, selected ranges from 5–17 for children).

Source: ABS (unpublished), *National Health Survey 2007-08*; table EA.30.

Diet and exercise are also important behaviours that can reduce health risks and improve health outcomes. The NHMRC Australian dietary guidelines recommend a minimum of two serves of fruit per day for adults and five serves of vegetables (NHMRC 2003). A serve of fruit is approximately 150 grams of fresh fruit or 50 grams of dried fruit while a serve of vegetables is approximately 75 grams. Around half of Australians surveyed in the National Health Survey were consuming

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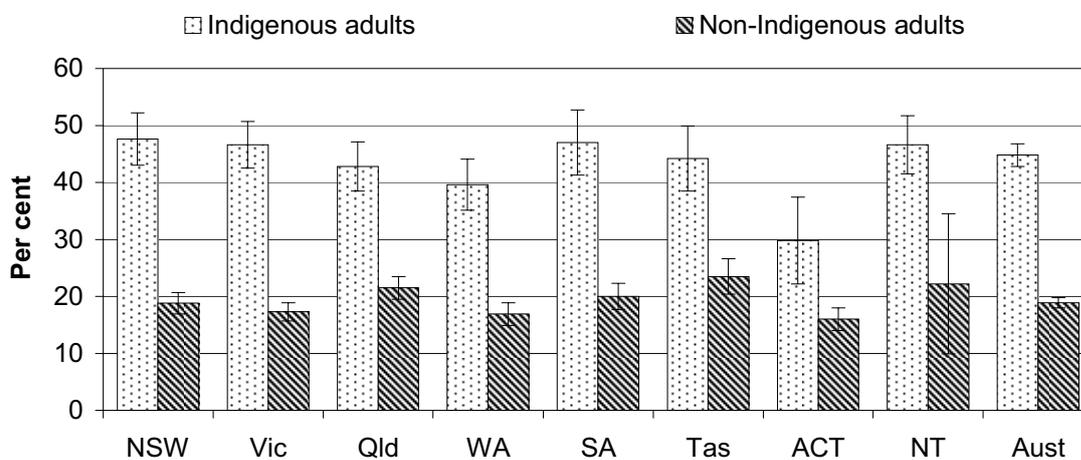
the recommended two or more serves of fruit per day in 2007-08 and only 8.8 per cent were consuming the recommended five or more serves of vegetables per day. Over a third of all Australians surveyed in the National Health Survey were sedentary in the two weeks prior to interview in 2007-08, with a further 36.9 per cent undertaking a low level of exercise, 21.6 per cent a moderate level of exercise and 6.2 per cent a high level of exercise (NHMRC 2003).

### *Smoking*

Smoking is an important risk factor for heart disease, stroke and lung cancer. These were the three leading causes of death in Australia in 2007 (ABS 2010a). Smoking is responsible for around 80 per cent of all lung cancer deaths and 20 per cent of all cancer deaths (DoHA 2009).

Daily smokers accounted for 19.1 per cent of the population in 2007-08. Nationally, Indigenous people had higher age standardised rates of daily smoking (44.8 per cent) than non-Indigenous people (18.9 per cent). There were some variations in the age standardised rates of smoking among the jurisdictions (figure E.12 and table EA.33). Daily smokers accounted for 27.3 per cent of the population in remote geographical areas, gradually decreasing as remoteness of residence decreases, accounting for 25.7 per cent of the population in outer regional areas, 20.1 per cent in inner regional areas and 17.6 per cent in major cities (table EA.32).

**Figure E.12 Proportion of adults who are daily smokers, by Indigenous status, 2007-08<sup>a, b, c, d</sup>**



<sup>a</sup> Rates are age standardised by State and Territory, to the 2001 Estimated Resident Population (10 year ranges from 18–55 years and over). <sup>b</sup> Data for Indigenous people are based on the ABS *National Aboriginal and Torres Strait Islander Social Survey, 2008*. <sup>c</sup> Data for non-Indigenous people are based on the ABS *National Health Survey, 2007-08*. <sup>d</sup> 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 2007-08*; table EA.33.

### Alcohol consumption

Excessive long term alcohol consumption increases the risk of heart disease, stroke, liver cirrhosis and some types of cancers. Further, it can contribute to injury and death through accidents, violence, suicide and homicide and also to financial problems, family breakdown, child abuse and neglect.

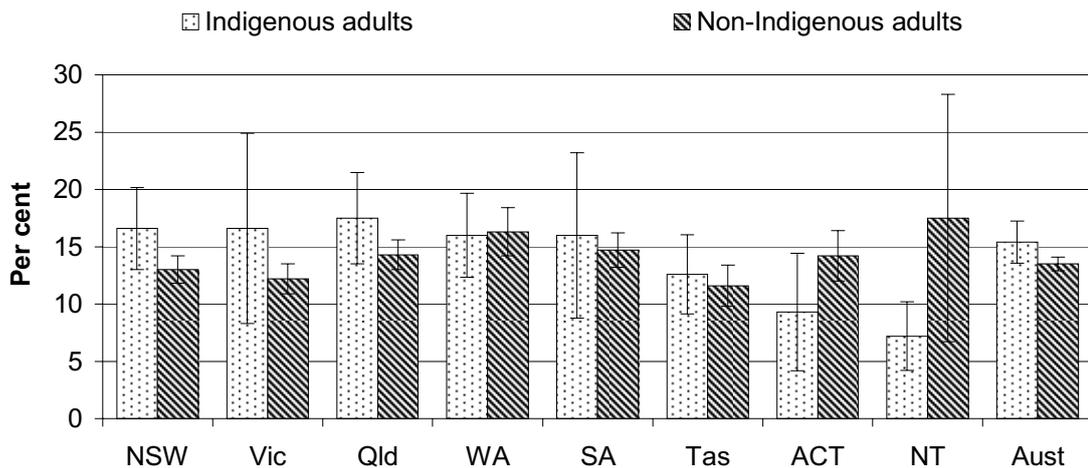
In the National Health Survey 2007-08 the ABS derived long term risk levels from the average daily alcohol consumption by people aged 15 years and over based on the most recent three drinking days in the week prior to interview (ABS 2009b). The ABS used the NHMRC Australian alcohol guidelines of 2001 which defined risky alcohol consumption as more than 50 millilitres and up to 75 millilitres per day for males and more than 25 millilitres and up to 50 millilitres per day for females. High risk consumption was defined as more than 75 millilitres per day for males and 50 millilitres per day for females (NHMRC 2001). The NHMRC has since developed new guidelines. These include, for healthy men and women, drinking no more than two standard drinks on any day. This reduces the lifetime risk of harm from alcohol-related disease or injury (NHMRC 2009).

Nationally, 13.1 per cent of Australian adults were at risk of long term harm from alcohol in 2007-08. The age standardised rates varied among jurisdictions

(table EA.34). Nationally, the age standardised proportion of adults at risk of long term harm from alcohol was higher for Indigenous people (15.4 per cent) than for non-Indigenous people (13.5 per cent) in 2004-05. There were some variations in the age standardised rates for proportion of Indigenous adults at risk of long term harm from alcohol among jurisdictions (figure E.13 and table EA.36).

Adults who are at risk of long term harm from alcohol accounted for 26.0 per cent of the population in remote geographical areas, and this percentage gradually decreased as remoteness of residence decreased in 2007-08. Adults who are at risk of long term harm from alcohol accounted for 15.8 per cent of the population in outer regional areas, 14.9 per cent of the population in inner regional areas and 11.8 per cent in major cities (table EA.35).

**Figure E.13 Proportion of adults at risk of long term harm from alcohol, by Indigenous status, 2004-05<sup>a, b, c, d</sup>**



<sup>a</sup> Rates are age standardised by State and Territory, to the 2001 Estimated Resident Population (10 year ranges from 0). <sup>b</sup> Risky/high risk alcohol consumption in the long term. <sup>c</sup> 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. <sup>d</sup> The ACT Indigenous estimate should be treated with caution.

Source: ABS (unpublished) *National Aboriginal and Torres Strait Islander Social Survey*, 2008; ABS (unpublished) *National Health Survey*, 2007-08; table EA.36.

## Framework for measuring the performance of the health system

Government involvement in health services is predicated on the desire to improve the health of all Australians and to ensure equity of access (box E.2). Governments provide a variety of services in different settings to fulfil these objectives.

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Measuring the equity, effectiveness and efficiency of Australia's health system is a complex task. It must account for the performance of a range of services (such as prevention and medical intervention) and service providers (such as community health centres, GPs and public hospitals), and account for the overall outcomes generated by the health system. The appropriate mix of services — including the prevention of illness and injury, and medical treatment (prevention versus medical intervention) — and the appropriate mix of service delivery mechanisms (community-based versus hospital-based) play an important role in determining outcomes. Other relevant factors are external to the health system, such as the socioeconomic and demographic characteristics of the population, available infrastructure and the environment.

### **Box E.2 Overall objectives of the health system**

Government involvement in the health system is aimed at efficiently and effectively protecting and restoring the health of the community by:

- preventing or detecting illness through the provision of services that can achieve improved health outcomes at relatively low cost
- caring for ill people through the use of appropriate health and medical intervention services
- providing appropriate health care services that recognise cultural differences among people
- providing equitable access to these services
- achieving equity in terms of health outcomes.

Primary prevention strategies are implemented before the diagnosis of an illness and generally aim to:

- reduce a person's risk of getting a disease or illness by increasing protective factors
- delay the onset of illness.

Medical intervention strategies are implemented after a diagnosis.

The former National Health Performance Committee developed the National Health Performance Framework to guide the reporting and measurement of health service performance in Australia. A number of groups involved in health performance indicator development have adopted this framework for use within specific project areas and in publications. The National Health Performance Framework was reviewed by the National Health Performance Committee and a revised framework was agreed by the National Health Information Standards and Status Committee in 2009.

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In the 2004 Report, the Steering Committee sought to align the general Review framework with the National Health Performance Framework as far as possible, for application to government health services, and has again sought to align with the revised National Health Performance Framework for this Report. Complete alignment was not possible, given the different terms of reference of the two committees. The performance framework for health services in this Report thus reflects both the general Review framework and the National Health Performance Framework. It differs from the general Review framework (see chapter 1) in two respects. First, it includes three subdimensions of quality — safety, responsiveness and continuity — and, second, it includes an extra dimension of efficiency — sustainability (figure E.14). These additions are intended to address the following key performance dimensions of the health system in the National Health Performance Framework that were not explicitly covered in the general Review framework:

- *safety*: the avoidance, or reduction to acceptable levels, of actual or potential harm from health care services, management or environments, and the prevention or minimisation of adverse events associated with health care delivery
- *responsiveness*: the provision of services that are client oriented and respectful of clients' dignity, autonomy, confidentiality, amenity, choices, and social and cultural needs
- *continuity*: the provision of uninterrupted, timely, coordinated healthcare interventions and actions across programs, practitioners and organisations
- *sustainability*: the capacity to provide infrastructure (such as workforce, facilities and equipment), be innovative and respond to emerging needs (NHPC 2001).

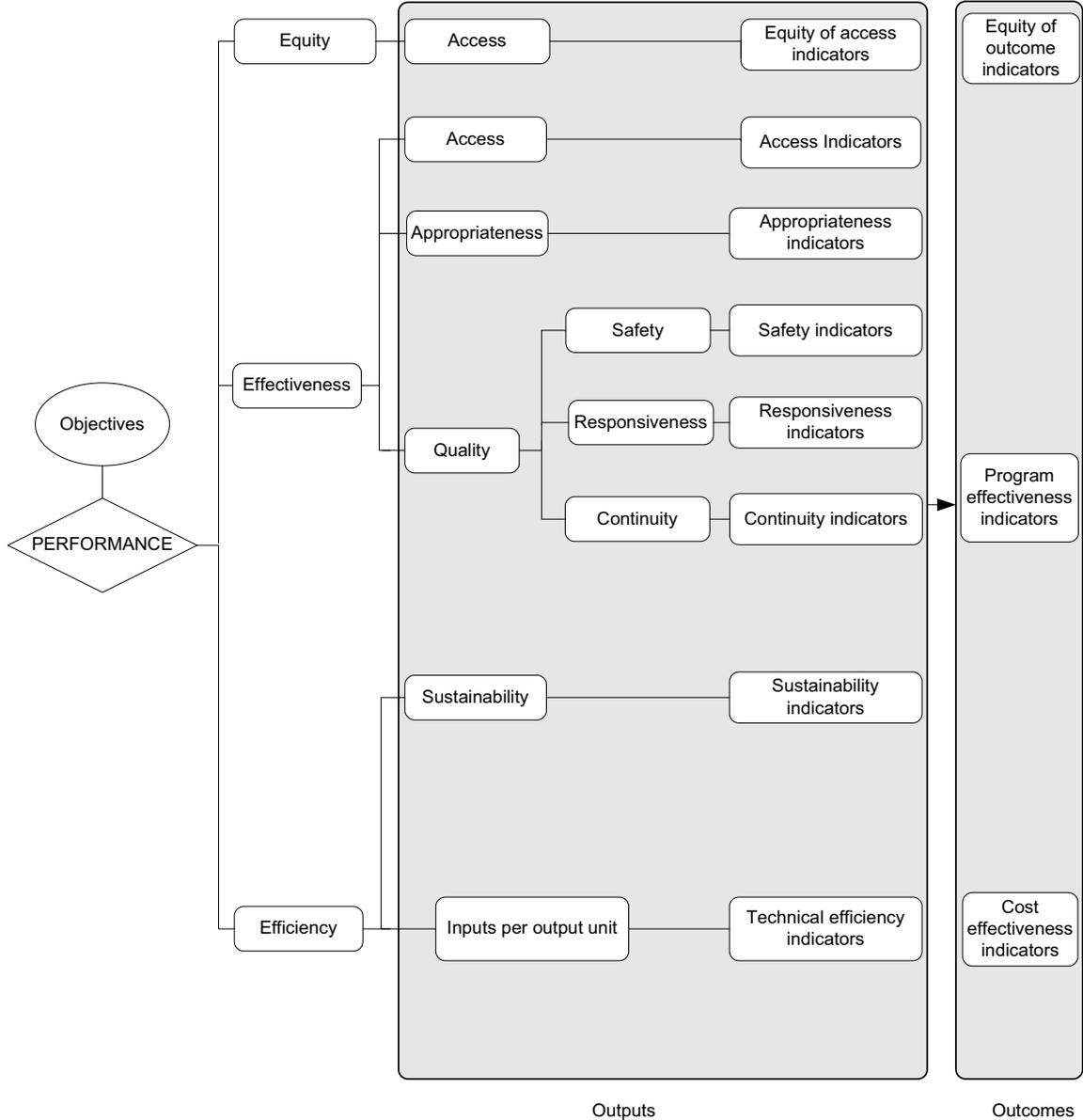
Alignment with the revised National Health Performance Framework this year has meant that when compared to previous reports, the capability dimension is no longer included in the framework and the sustainability dimension is now reported under efficiency rather than effectiveness.

Other aspects of the Steering Committee's framework of performance indicators are defined in chapter 1. The Steering Committee has applied this performance framework to health services in two ways.

- It has developed detailed performance indicator frameworks for public hospitals (chapter 10) and primary and community health services (chapter 11).
- It has developed specific frameworks to examine the appropriate mix of services and service delivery mechanisms for two health management issues: breast cancer and mental health (chapter 12).

The Report’s statistical appendix contains data that may assist in interpreting the performance indicators presented in this chapter. These data cover a range of demographic and geographic characteristics, including age profile, geographic distribution of the population, income levels, education levels, tenure of dwellings and cultural heritage (including Indigenous and ethnic status) (appendix A).

**Figure E.14 Performance indicator framework for health services**



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## **Selected indicators of health outcomes**

It is difficult to isolate the effect of health care services on the general health of the population. Socioeconomic factors (such as residential location, income levels and employment rates) and the provision of non-health care government services (such as clean water, sewerage, nutrition, education and public housing) each contribute to overall health outcomes. The outcomes and effectiveness of health services are also influenced by population factors external to governments' control, including geographic dispersion, age and ethnicity profiles, and socioeconomic status. Appendix A summarises some of the demographic and socioeconomic factors that can influence health outcomes and government expenditure.

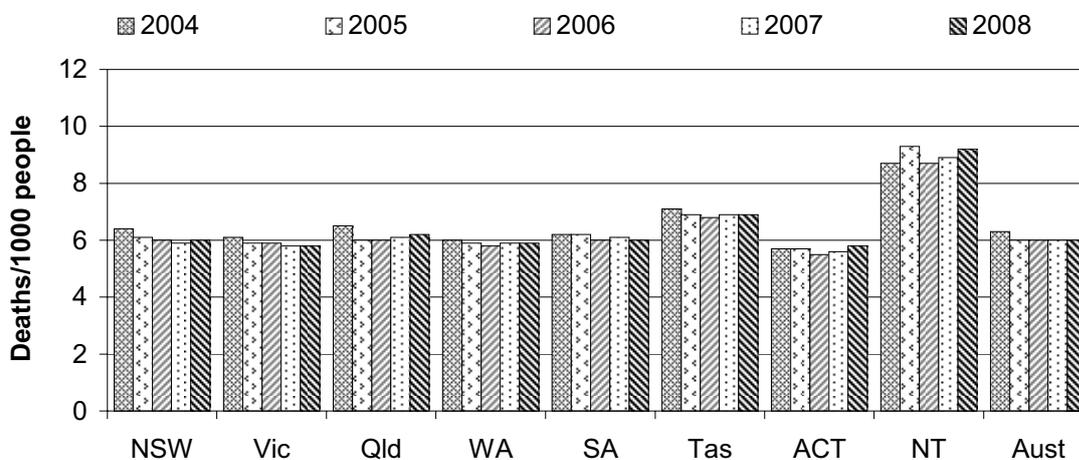
Data on health outcomes presented in this preface include mortality rates (for infants and all people), causes of death, life expectancy at birth, median age at death and birthweight. Where possible, data are presented for Indigenous people as well as the Australian population as a whole.

### **Mortality rates**

Most components of the health system can influence mortality rates, although there may be a delay of decades between the action and the effect. A public health campaign to reduce smoking by young people, for example, may reduce premature deaths due to smoking-related conditions some years in the future. Factors external to the health system also have a strong influence on mortality rates.

There were 143 900 deaths in Australia in 2008 (ABS 2009a), which translated into an age standardised mortality rate of 6.0 deaths per 1000 people (figure E.15). Death rates over the last 20 years have declined for all states and territories (ABS 2009a).

Figure E.15 Mortality rates, age standardised<sup>a, b, c, d</sup>



<sup>a</sup> Deaths are based on year of registration of death. <sup>b</sup> Deaths per 1000 standard population. Standardised death rates use total persons in the 2001 Australian population as the standard population. <sup>c</sup> Death rates data for 2007 have been revised. <sup>d</sup> Australian totals includes all states and territories.

Source: ABS (2009) *Deaths 2008*, Australia, Cat. no. 3302.0, AusInfo, Canberra; table EA.40.

### Indigenous mortality rates

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.

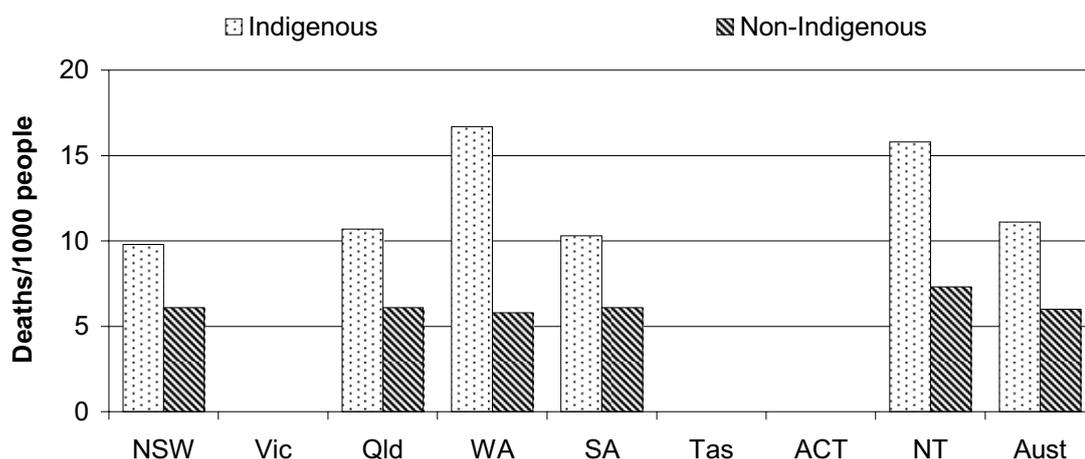
Due to the relatively small number of Indigenous deaths and the consequent volatility in annual mortality rates, data are presented for the five year period 2004–2008. To improve the comparability of age-related mortality rates, indirect age standardisation methods have been used for both the Indigenous and total population rates.

NSW, Queensland, WA, SA and the NT are currently generally considered to have the best coverage of death registrations for Indigenous people (ABS 2009c).<sup>4</sup> For these five jurisdictions combined, the overall rates of mortality for Indigenous people were nearly twice as high as mortality rates for non-Indigenous people based on data for 2004–2008 (figure E.16 and table EA.40). Due to identification

<sup>4</sup> The term ‘coverage’ refers to the number of Indigenous deaths registered as a percentage of the number of expected deaths based on experimental Indigenous population estimates and projections from the 2006 Census.

completeness issues, mortality rates presented here are likely to be under-estimates of the true mortality of Indigenous Australians (ABS and AIHW 2008).

**Figure E.16 Mortality rates, age standardised, by Indigenous status, five year average, 2004–2008<sup>a, b, c, d</sup>**



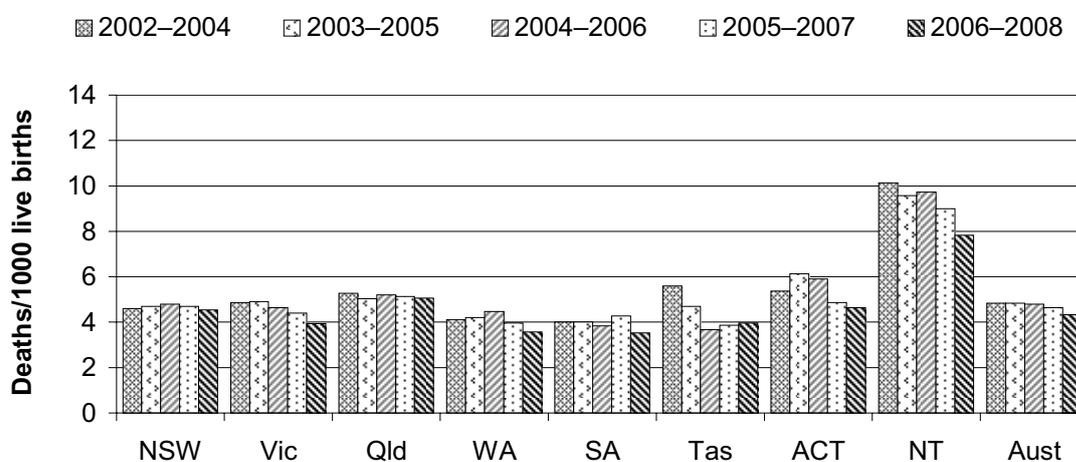
<sup>a</sup> Deaths are based on year of registration of death. <sup>b</sup> Deaths per 1000 standard population. Standardised death rates use total persons in the 2001 Australian population as the standard population. <sup>c</sup> The unusually high Indigenous mortality rate for WA in 2008 is under investigation by the ABS. <sup>d</sup> 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 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.

Source: ABS (unpublished) *Deaths Australia, 2008*; table EA.40.

### *Infant and child mortality rates*

The infant mortality rate is defined as the number of deaths of children under 1 year of age in a calendar year per 1000 live births in the same year. Infant mortality rates are presented as an average over three years to reduce the volatility inherent in the annual rates due to small numbers of deaths and annual fluctuations. The infant mortality rate in Australia declined from an average of 4.8 deaths per 1000 live births over the period 2002–2004 to 4.3 deaths per 1000 live births over the period 2006–2008 (figure E.17). For the period 2007–2009, the infant mortality rate was an average of 4.2 deaths per 1000 live births (table EA.42).

Figure E.17 Infant mortality rate, three year average<sup>a, b</sup>



<sup>a</sup> Infant deaths per 1000 live births. <sup>b</sup> Data for Australia include all states and territories.

Source: ABS (2009) *Deaths Australia, 2008, Australia*, Cat. no. 3302.0, Canberra; table EA.41.

The child mortality rate is defined as the number of deaths of children between one and four years of age in a calendar year per 100 000 of the population. Child mortality rates are presented as an average over three years to reduce the volatility inherent in the annual rates due to small numbers and annual fluctuations. The Australian child mortality rate was 21.0 deaths per 100 000 of the population in 2007–2009. The mortality rate for infants and children combined (those aged 0 to 4 years) was 105.9 deaths per 100 000 of the population in 2007–2009 (table EA.42).

#### *Indigenous infant and child mortality rates*

For WA, SA and the NT, longer-term trends suggest that the mortality rate for Indigenous infants decreased by 47 per cent between 1991 and 2006 (ABS 2009a). Despite this significant improvement, infant mortality rates for Indigenous children are still markedly higher than for non-Indigenous children in Australia.

For the period 2005–2009, the average infant mortality rate for Indigenous children was higher (8.9 deaths per 1000 live births) than for non-Indigenous children (4.2 deaths per 1000 live births) (table EA.43). For the same period, the average child mortality rate for Indigenous children was also higher (56.1 deaths per 100 000 of the population) than for non-Indigenous children (20.3 deaths per 100 000 of the population) (table EA.44). The combined infant and child average child mortality rate for Indigenous children was 234.7 deaths per 100 000

of the population compared to 103.7 deaths per 100 000 of the population for non-Indigenous children (table EA.45).

## Major causes of death

The most common causes of death among Australians in 2008 were: diseases of the circulatory system (including heart disease, heart attack and stroke), cancers and diseases of the respiratory system (including influenza, pneumonia and chronic lower respiratory diseases) (tables E.5 and EA.46). In 2008, malignant neoplasms (cancers) were the underlying cause of death in 30 per cent of all registered deaths and ischaemic heart disease was the underlying cause in a further 16 per cent of deaths (ABS 2010a).

**Table E.5 Age standardised mortality rates by major cause of death (deaths per 100 000 persons), 2008<sup>a, b</sup>**

|   | <i>NSW</i> | <i>Vic</i> | <i>Qld</i> | <i>WA</i> | <i>SA</i> | <i>Tas</i> | <i>ACT</i> | <i>NT</i> | <i>Aust</i> |
|---|------------|------------|------------|-----------|-----------|------------|------------|-----------|-------------|
| Certain infectious and parasitic diseases   | 10.3       | 6.3        | 6.8        | 6.5       | 8.7       | 6.1        | 8.2        | 28.2      | 8.2         |
| Neoplasms   | 178.0      | 182.3      | 188.5      | 175.6     | 184.5     | 205.7      | 167.8      | 229.6     | 182.1       |
| Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism | 1.9        | 2.2        | 1.7        | 2.8       | 2.7       | 2.0        | 1.4        | 1.0       | 2.1         |
| Endocrine, nutritional and metabolic diseases   | 21.4       | 25.9       | 26.4       | 26.2      | 24.4      | 32.4       | 22.4       | 83.5      | 24.7        |
| Mental and behavioural disorders  | 25.4       | 26.6       | 22.4       | 25.0      | 25.9      | 32.8       | 29.5       | 42.9      | 25.5        |
| Diseases of the nervous system  | 22.2       | 25.3       | 24.0       | 29.9      | 27.8      | 26.9       | 34.7       | 24.9      | 24.8        |
| Diseases of the eye and adnexa  | –          | –          | –          | 0.1       | 0.1       | –          | –          | –         | 0.1         |
| Diseases of the ear and mastoid process   | –          | –          | –          | –         | –         | –          | –          | –         | –           |
| Diseases of the circulatory system  | 205.2      | 185.3      | 207.2      | 183.7     | 190.3     | 221.5      | 186.9      | 214.9     | 197.6       |
| Diseases of the respiratory system  | 48.0       | 45.1       | 47.5       | 43.0      | 45.1      | 57.5       | 35.5       | 88.4      | 46.8        |
| Diseases of the digestive system  | 20.5       | 20.5       | 20.4       | 21.2      | 19.9      | 24.7       | 19.6       | 40.9      | 20.7        |
| Diseases of the skin and subcutaneous tissue  | 2.1        | 1.3        | 1.3        | 1.6       | 1.3       | 1.3        | 1.1        | 2.9       | 1.6         |
| Diseases of the musculoskeletal system and connective tissue  | 4.8        | 4.4        | 4.7        | 5.1       | 4.1       | 8.0        | 9.8        | 8.2       | 4.8         |

(Continued on next page)

**Table E.5 (Continued)**

|   | <i>NSW</i>   | <i>Vic</i>   | <i>Qld</i>   | <i>WA</i>    | <i>SA</i>    | <i>Tas</i>   | <i>ACT</i>   | <i>NT</i>    | <i>Aust</i>  |
|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Diseases of the genitourinary system  | 13.8         | 12.6         | 13.4         | 11.8         | 14.9         | 12.3         | 14.4         | 38.2         | 13.5         |
| Pregnancy, childbirth and the puerperium  | –            | –            | 0.1          | –            | –            | –            | –            | –            | –            |
| Certain conditions originating in the perinatal period                                  | 3.2          | 2.3          | 3.1          | 1.4          | 2.0          | 2.1          | 5.6          | 4.4          | 2.7          |
| Congenital malformations, deformations and chromosomal abnormalities                    | 2.8          | 2.7          | 3.4          | 2.1          | 2.6          | 2.0          | 1.1          | 2.6          | 2.8          |
| Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified | 5.3          | 3.3          | 9.2          | 5.1          | 3.2          | 3.3          | 3.9          | 8.2          | 5.4          |
| External causes of morbidity and mortality  | 34.9         | 37.3         | 41.0         | 47.0         | 39.5         | 49.3         | 37.3         | 100.1        | 39.2         |
| <b>Total</b>  | <b>600.1</b> | <b>583.5</b> | <b>621.1</b> | <b>588.3</b> | <b>596.9</b> | <b>688.0</b> | <b>579.2</b> | <b>919.3</b> | <b>602.5</b> |

<sup>a</sup> Age standardised to the Australian population as at 30 June 2001. <sup>b</sup> Australian total includes 'Other territories'. – Nil or rounded to zero.

Source: ABS (2010) *Causes of Death Australia, 2008*, Cat. no. 3303.0, Canberra; table EA.46.

### *Causes of death for Indigenous people*

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 2004–08. In particular, Indigenous people died: from endocrine, metabolic and nutritional disorders at a rate of up to 6.3 times that for non-Indigenous people; from kidney diseases at a rate of up to 5.1 times that for non-Indigenous people; from digestive diseases at a rate of up to 4.7 times that for non-Indigenous people; and from infectious and parasitic diseases at a rate of 3.2 times that for non-Indigenous people (tables E.6 and EA.47).

**Table E.6 Age standardised mortality rate ratios of Indigenous to non-Indigenous people by major cause of death, 2004–2008<sup>a, b, c, d, e, f</sup>**

|  | <i>NSW</i> | <i>Qld</i> | <i>WA</i>  | <i>SA</i>  | <i>NT</i>  | <i>Total</i> <sup>g</sup> |
|--|------------|------------|------------|------------|------------|---------------------------|
| Circulatory diseases                           | 2.0        | 2.2        | 3.7        | 2.6        | 3.9        | 2.5                       |
| Neoplasms (cancer)                             | 1.2        | 1.5        | 1.9        | 1.2        | 1.7        | 1.5                       |
| External causes of morbidity and mortality     | 1.6        | 2.0        | 3.7        | 3.1        | 2.7        | 2.6                       |
| Endocrine, metabolic and nutritional disorders | 3.0        | 6.6        | 9.3        | 4.5        | 7.4        | 6.3                       |
| Respiratory diseases                           | 2.2        | 2.2        | 4.7        | 2.7        | 4.2        | 3.0                       |
| Digestive diseases                             | 3.3        | 3.8        | 7.1        | 4.0        | 5.9        | 4.7                       |
| Kidney Diseases                                | 2.7        | 4.4        | 6.8        | 4.0        | 11.3       | 5.1                       |
| Conditions originating in the perinatal period | 1.5        | 2.0        | 3.1        | 2.6        | 3.1        | 2.1                       |
| Infectious and parasitic diseases              | 1.9        | 3.3        | 5.1        | 2.4        | 4.4        | 3.2                       |
| Nervous system diseases                        | 1.2        | 1.1        | 2.4        | 2.2        | 3.1        | 1.6                       |
| Other causes <sup>h</sup>                      | 1.6        | 1.9        | 4.4        | 1.7        | 3.0        | 2.3                       |
| <b>All causes</b>                              | <b>1.7</b> | <b>2.2</b> | <b>3.6</b> | <b>2.3</b> | <b>3.4</b> | <b>2.5</b>                |

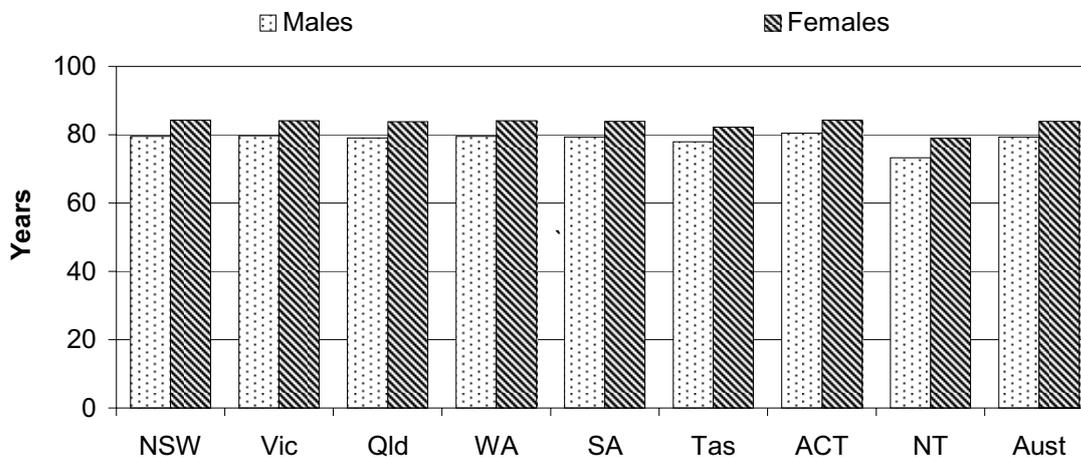
<sup>a</sup> Age standardised to the Australian population as at 30 June 2001. <sup>b</sup> Rate ratio is the crude Indigenous rate divided by the non-Indigenous rate. <sup>c</sup> Although most deaths of Indigenous people are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these data are likely to underestimate the Indigenous 'all causes' mortality rate. <sup>d</sup> Data are reported individually by jurisdiction of residence for NSW, Queensland, WA, SA and the NT only. These five states and territories are considered to have acceptable levels of Indigenous identification in mortality data. <sup>e</sup> Data are presented in five-year groupings due to the volatility of small numbers each year. <sup>f</sup> Non-Indigenous estimates are available for census years only. In the intervening years, Indigenous population figures are derived from assumptions about past and future levels of fertility, mortality and migration. In the absence of non-Indigenous population figures for these years, it is possible to derive denominators for calculating non-Indigenous rates by subtracting the Indigenous population from the total population. Such figures have a degree of uncertainty and should be used with caution, particularly as the time from the base year of the projection series increases. <sup>g</sup> Total includes only those five states and territories of residence that are considered to have acceptable levels of Indigenous identification in mortality data (NSW, Queensland, WA, SA and the NT). <sup>h</sup> 'Other causes' consist of all conditions excluding the selected causes displayed in the table.

Source: ABS (unpublished) *Causes of Death Australia, 2008*, Cat. No. 3301.0; table EA.47.

## 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 2009a). It has risen steadily in each decade since, reaching 79.3 years for males and 83.9 years for females in 2007–2009 (figure E.18).

**Figure E.18 All Australians average life expectancy at birth, 2007–2009<sup>a</sup>**



<sup>a</sup> Figures for Australia include 'other territories'.

Source: ABS (unpublished) *Deaths, Australia*, 2009, Cat. no. 3302.0, Canberra; table EA.48.

### *Indigenous life expectancy*

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 (figure E.19 and table EA.49). In the same time period, life expectancy at birth for non-Indigenous males was 78.7 and for non-Indigenous females was 82.6 years (figure E.19 and table EA.49).

Figure E.19 **Estimated life expectancies at birth, by Indigenous status and sex, 2005–2007 (years)<sup>a, b, c</sup>**



<sup>a</sup> 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. <sup>b</sup> Life tables are constructed separately for Males and Females. Life tables were not constructed for Persons, therefore life expectancy estimates for Persons are a weighted combination of Male and Female life expectancies. <sup>c</sup> Australian total includes all states and territories.

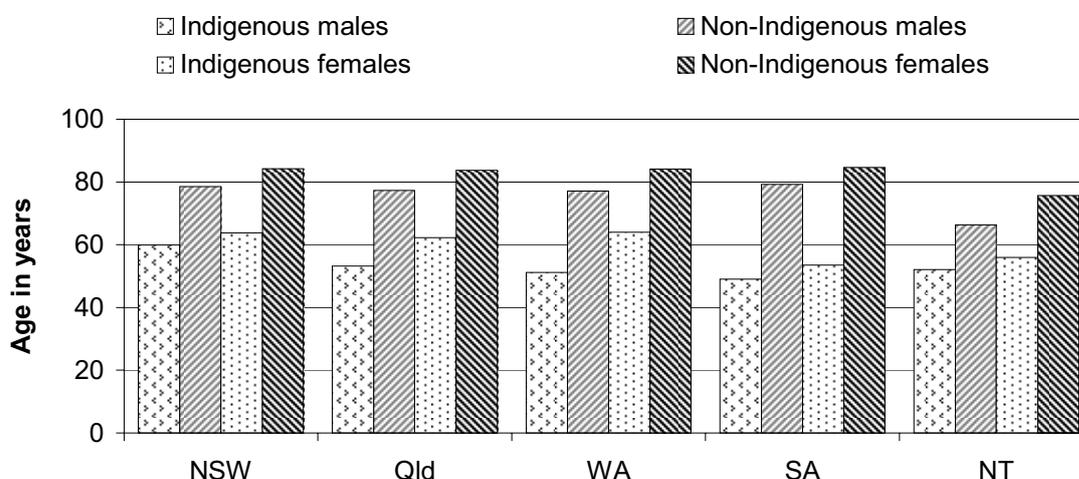
Source: ABS (2009), *Experimental Life Tables for Aboriginal and Torres Strait Islander Australians 2005–2007*, Australia, Cat. no. 3302, Canberra; table EA.49.

## Median age at death

The median age at death represents 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. Comparisons of the median age at death for Indigenous and non-Indigenous people 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 it falls significantly in older age groups. The median age of death for Indigenous people is, therefore, likely to be an underestimate.

For all Australian males and females in 2008, the median age at death was 78.1 and 84.0 years of age, respectively (figure E.20 and table EA.50). In the jurisdictions for which data were available for Indigenous people the median age at death for male Indigenous Australians was between 49.0 and 59.9 years of age. The median age at death for female Indigenous Australians was between 53.5 and 64.0 years of age (figure E.20 and table EA.50).

Figure E.20 Median age at death, by sex and Indigenous status, 2008<sup>a, b</sup>



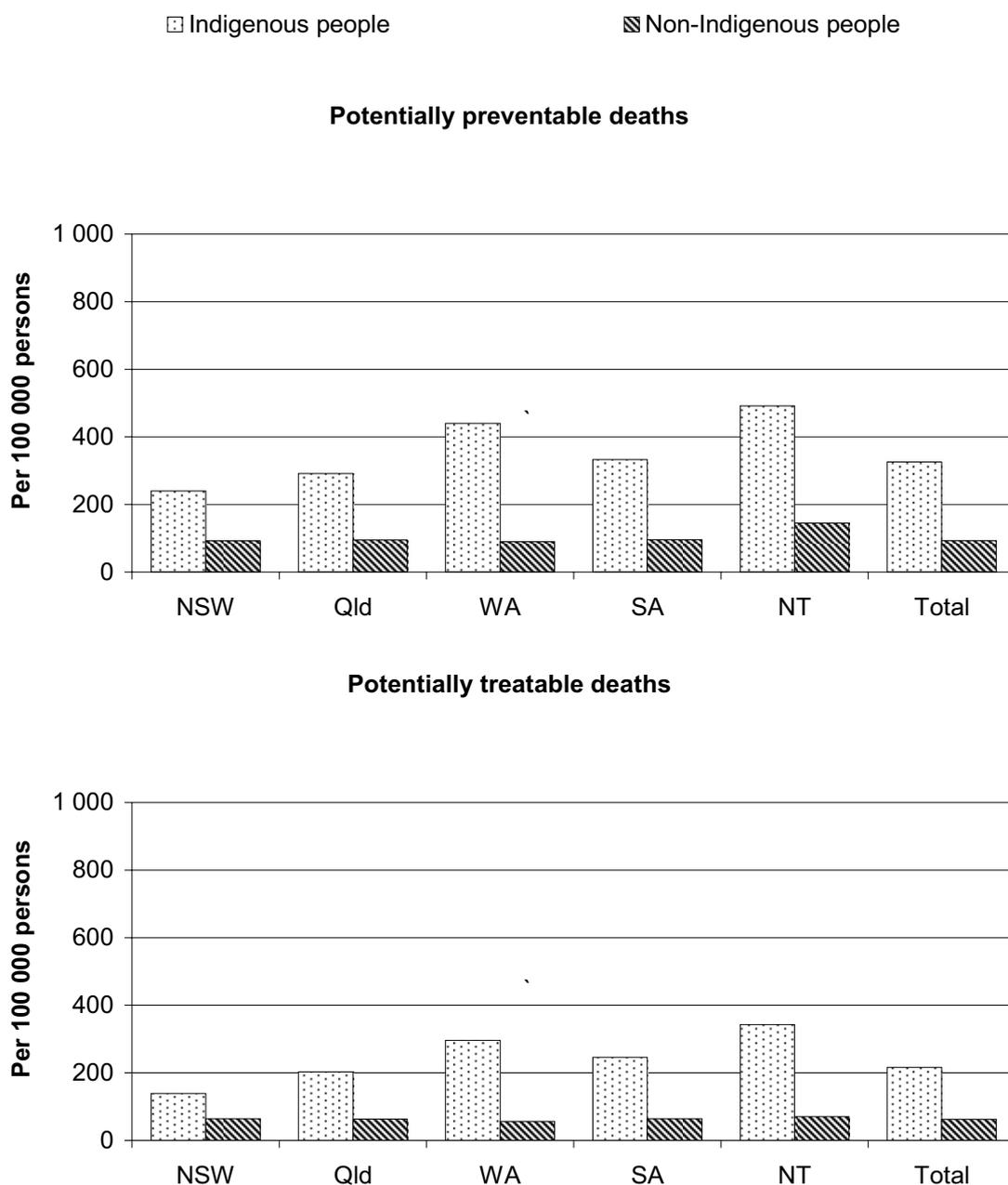
<sup>a</sup> Median age at death by Indigenous status is not available for Victoria, Tasmania and the ACT due to data quality issues. <sup>b</sup> The accuracy of Indigenous mortality data is variable as a result of varying rates of coverage across jurisdictions and age groups, and of changes in the estimated Indigenous population caused by changing rates of identification in the Census and births data.

Source: ABS (2009) *Deaths Australia, 2008*, Cat. no. 3302.0, AusInfo, Canberra; table EA.50.

### Potentially avoidable deaths

Potentially avoidable deaths comprise potentially preventable deaths (deaths amenable to screening and primary prevention, such as immunisation) and deaths from potentially treatable conditions (deaths amenable to therapeutic interventions). Avoidable deaths reflect the effectiveness of the current preventative health activities in the health sector. Indigenous people had significantly higher death rates from potentially avoidable, both preventable and treatable deaths. Nationally, for Indigenous people there were 541.6 potentially avoidable deaths per 100 000 people aged under 75 years over the period 2004–2008, comprising 325.9 potentially preventable deaths per 100 000 people and 215.6 treatable deaths per 100 000 people. Nationally, for non-Indigenous people there were 156.0 potentially avoidable deaths per 100 000 people aged under 75 years over the period 2004–2008, comprising 93.3 potentially preventable deaths per 100 000 people and 62.7 treatable deaths per 100 000 people (figure E.21 and table EA.52). Single year data are presented in table EA.51.

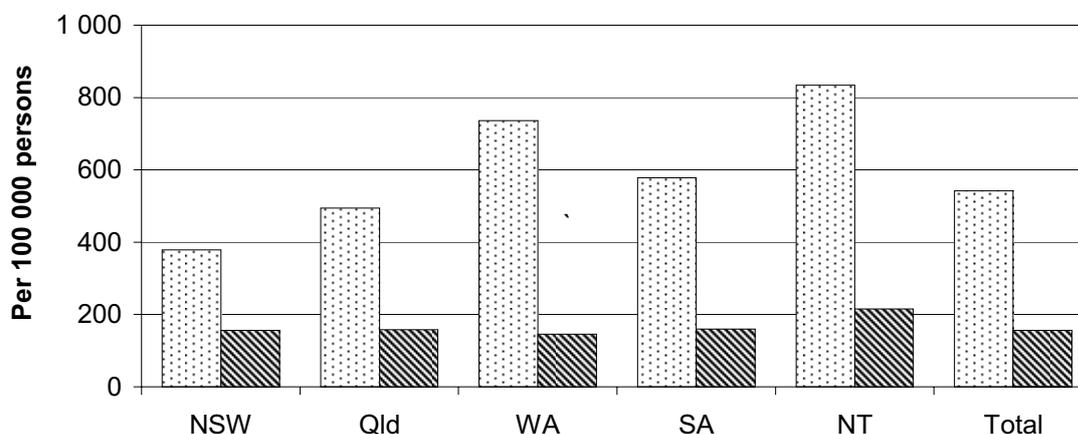
Figure E.21 **Age standardised mortality rates of potentially avoidable deaths, under 75 years, by Indigenous status, 2004–08<sup>a, b, c, d, e, f</sup>**



(Continued on next page)

Figure E.21 (Continued)

All potentially avoidable deaths



<sup>a</sup> Age standardised to the Australian population as at 30 June 2001. <sup>b</sup> Data are reported by jurisdiction of residence for NSW, Queensland, WA, SA and the NT only. These five states and territories are considered to have adequate levels of Indigenous identification in mortality data. <sup>c</sup> Data are presented in five-year groupings due to the volatility of small numbers each year. <sup>d</sup> Total includes only those five states and territories of residence that are considered to have acceptable levels of Indigenous identification in mortality data (NSW, Queensland, WA, SA and the NT). <sup>e</sup> 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. <sup>f</sup> 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, 2008*, Cat. no. 3303.0; table EA.52.

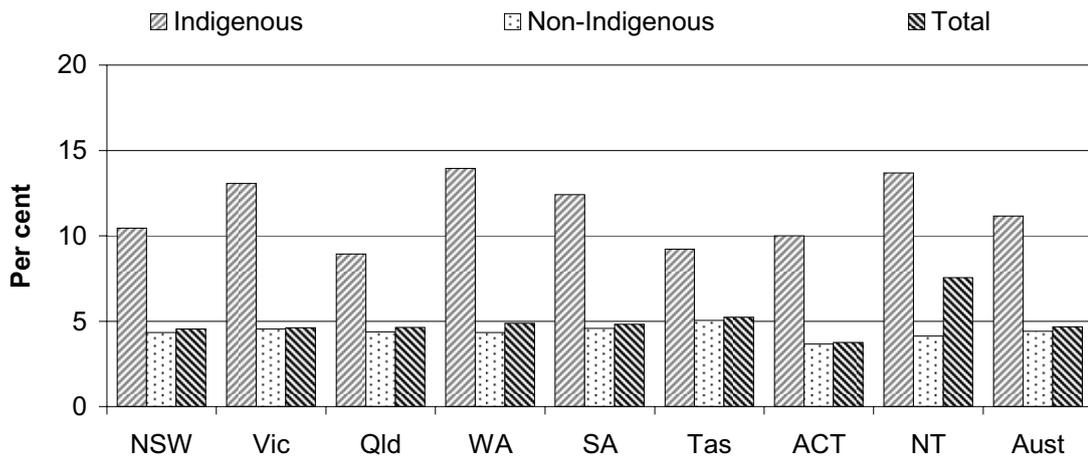
### Birthweight of babies

The birthweight of a baby is an important indicator of its health status and future wellbeing. In 2008, 92.0 per cent of liveborn babies in Australia weighed between 2500 and 4499 grams (Laws and Sullivan 2010). The average birthweight for all live births was 3377 grams in 2008 (table EA.53). The average birthweight for liveborn babies of Indigenous mothers was 3196 grams in 2008 (table EA.54). This was 189 grams lighter than the average of 3385 grams for liveborn babies of non-Indigenous mothers (Laws and Sullivan 2010).

Babies' birthweight 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 (Laws and Sullivan 2010). In 2008, 6.1 per cent of all liveborn babies in Australia weighed less than 2500 grams. This included 1.0 per cent of babies who weighed less than 1500 grams (table EA.53).

Among live babies born to Indigenous mothers in 2008, the proportion with low birthweight was over twice that of those born to non-Indigenous mothers (figure E.22). The number and proportion of live-born singleton babies of low birthweight for the period 2006–2008 are presented in table EA.56.

**Figure E.22 Proportion of live-born singleton babies of low birthweight, by maternal Indigenous status, 2008<sup>a, b, c, d</sup>**



<sup>a</sup> Low birthweight is defined as less than 2500 grams. <sup>b</sup> Disaggregation by State/Territory is by place of usual residence of the mother. <sup>c</sup> Data excludes Australian non-residents, residents of external territories and where State/Territory of residence was not stated. <sup>d</sup> Excludes stillbirths and multiple births. Births were included if they were at least 20 weeks gestation or at least 400 grams birthweight.

Source: AIHW (unpublished) National Perinatal Data Collection; table EA.55.

## Future directions

The Steering Committee intends to replace this preface with a Health sector summary and continue to expand reporting on the characteristics of the Health sector. In particular, developments that span various health services, such as Indigenous health reporting, will be considered. Ongoing investigation of cross-cutting issues might allow improved reporting for health services as a whole.

Each chapter (public hospitals, primary and community health and health management issues) contains a service specific section on future directions in performance reporting. The aim of this section is to provide an insight into other related and overarching developments on reporting in the health sector.

Improving reporting on Indigenous health is a priority across all of the health chapters. This work is informed by the Aboriginal and Torres Strait Islander Health Performance Framework and by National Healthcare Agreement reporting.

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## COAG developments

### *Report on Government Services alignment with National Agreement reporting*

Further alignment between the Report and NA indicators might occur in future reports as a result of developments in NA reporting.

### *Outcomes from review of Report on Government Services*

COAG endorsed recommendations of a review of the Report in December 2009. Those recommendations implemented during 2010 are reflected in this Report.

Further recommendations will be reflected in future Reports, including implementation of Independent Reference Group and Steering Committee recommendations arising from the 'Review of the general performance indicator framework' and the 'Review of the performance indicators and their associated measures'. The 2012 Report and later editions will continue:

- lengthening time series data in attachment tables
- developing data quality information documents for performance indicators
- developing mini-case studies.

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## List of attachment tables

Attachment tables are identified in references throughout this preface by an 'EA' suffix (for example, table EA.3). Attachment tables are provided on the Review website ([www.pc.gov.au/gsp](http://www.pc.gov.au/gsp)). Users without access to the website can contact the Secretariat to obtain the attachment tables (see contact details on the inside front cover of the Report).

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