



Australian Government
Department of Health and Ageing

ABORIGINAL & TORRES STRAIT ISLANDER Health Performance Framework

2 0 1 2 R E P O R T



Figure 1

Aboriginal and Torres Strait Islander Health Performance Framework (HPF) Performance Measures

This figure shows the revised framework endorsed by the Australian Health Ministers' Advisory Council (AHMAC) in 2011. The numbering, structure and colour coding are reflected throughout this report.



Aboriginal and Torres Strait Islander Health Performance Framework 2012 Report

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Abbreviations

ABCD

Audit and Best Practice for Chronic Disease

ABS

Australian Bureau of Statistics

ACCHS

Aboriginal Community Controlled Health Service

ACHS

Australian Council of Healthcare Standards

ACT

Australian Capital Territory

AGPAL

Australian General Practice Accreditation Limited

AHF

Aboriginal Health Forum

AHMAC

Australian Health Ministers' Advisory Council

AIC

Australian Institute of Criminology

AIDS

Acquired Immune Deficiency Syndrome

AIHW

Australian Institute of Health and Welfare

AMSANT

Aboriginal Medical Services Alliance

APDC

Admitted Patient Data Collection

ARF

Acute Rheumatic Fever

ATSIHW

Aboriginal and Torres Strait Islander Health Worker

BBV

Blood Borne Virus

BEACH

Bettering the Evaluation and Care of Health

BMI

Body Mass Index

CAI

Computer Assisted Interview

CAP

National Drug Strategy Aboriginal and Torres Strait Islander Peoples' Complementary Action Plan 2003–2009

CATSI

Act Corporations (Aboriginal and Torres Strait Islander) Act 2006

CDEP

Community Development Employment Projects

CHINS

Community Housing and Infrastructure Needs Survey

COAG

Council of Australian Governments

COPD

Chronic Obstructive Pulmonary Disease

CPI

Consumer Price Index

DHS

Department of Human Services

DMFT

Decayed, Missing, Filled Teeth (Adult—permanent)

Dmft

decayed, missing, filled teeth (Infant—deciduous)

DoHA

Department of Health and Ageing

EQuIP

Evaluation and Quality Improvement Program

ESRD

End Stage Renal Disease

FASD

Foetal Alcohol Spectrum Disorder

FTE

Full Time Employment

GAS

Group A Streptococcal Bacterium

GDM

Gestational Diabetes Mellitus

GP

General Practitioner

GPA+

General Practice Accreditation Plus

GPMP

General Practitioner Management Plan

HIV

Human Immunodeficiency Virus

HPF

Aboriginal and Torres Strait Islander Health Performance Framework

HPV

Human Papilloma Virus

ICAP

Improving Care for Aboriginal and Torres Strait Islander Patients

ICDP

Indigenous Chronic Disease Package

IHD

Ischaemic Heart Disease

LHNs

Local Hospital Networks

MBS
Medicare Benefits Scheme/Schedule

NACCHO
National Aboriginal Community Controlled Health Organisation

NAGATSIHID
National Advisory Group on Aboriginal and Torres Strait Islander Health Information and Data

NAPLAN
National Assessment Program – Literacy and Numeracy

NATSIHEC
National Aboriginal and Torres Strait Islander Health Equality Council

NATSIHON
National Aboriginal and Torres Strait Islander Health Officials Network

NATSIHS
National Aboriginal and Torres Strait Islander Health Survey

NATSINSAP
National Aboriginal and Torres Strait Islander Nutrition Strategy and Action Plan

NATSIS
National Aboriginal and Torres Strait Islander Survey

NATSISS
National Aboriginal and Torres Strait Islander Social Survey

NBCSP
National Bowel Cancer Screening Program

NHMRC
National Health and Medical Research Council

NHS
National Health Survey

NSFATSIH
National Strategic Framework for Aboriginal and Torres Strait Islander Health

NSW
New South Wales

NT
Northern Territory

OATSIH
Office for Aboriginal and Torres Strait Islander Health

ORIC
Office of the Registrar of Indigenous Corporations

OSR
OATSIH Services Reporting

PATS
Patient Assistance Travel Schemes

PBS
Pharmaceutical Benefits Scheme

PIP
Practice Incentives Program

QIC
Quality Improvement Council

Qld
Queensland

RACGP
Royal Australian College of General Practitioners

RHD
Rheumatic Heart Disease

SA
South Australia

SAR
Service Activity Reporting data

SCRGSP
Steering Committee for the Review of Government Service Provision

SEIFA
Socio-Economic Indexes for Areas

SIDS
Sudden Infant Death Syndrome

SLA
Statistical Local Area

STI
Sexually Transmissible Infection

TAFE
Technical and Further Education

TCA
Team Care Arrangement

VAED
Victorian Admitted Episodes Dataset

VEMD
Victorian Emergency Minimum Dataset

VET
Vocational Education and Training

VII
Voluntary Indigenous Identifier

WA
Western Australia

WAACHS
Western Australia Aboriginal Child Health Survey

WHO
World Health Organization

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Executive Summary

Background

This is the fourth report against the *Aboriginal and Torres Strait Islander Health Performance Framework (HPF)* and the first report based on the revisions to the framework endorsed by the Australian Health Ministers' Advisory Council (AHMAC) in 2011 (see Figure 1).

The HPF was designed to measure the impact of the National Strategic Framework for Aboriginal and Torres Strait Islander Health (NSFATSIH) and will be an important tool for developing the new National Aboriginal and Torres Strait Islander Health Plan. The HPF monitors progress in Aboriginal and Torres Strait Islander health outcomes, health system performance and the broader determinants of health. The health of Aboriginal and Torres Strait Islander peoples is improving for a number of measures, although there remain many areas where further concerted effort will be needed to achieve improvements in health outcomes.

Data quality limitations hamper our ability to monitor Indigenous health and the performance of the health system (see Technical Appendix). Initiatives to improve data quality have been introduced in recent years, and are yielding results. However, caution is still required in interpreting these findings. Note: this report includes revised mortality data for the period 2007, 2008 and 2009 due to revisions in the WA mortality data for this period.

Council of Australian Governments (COAG) Targets

In December 2007, COAG agreed to a partnership between all levels of government to work with Aboriginal and Torres Strait Islander peoples to close the gap in Aboriginal and Torres Strait Islander disadvantage. During 2008 and 2009 new National Partnership Agreements were developed covering areas such as Indigenous early childhood, health, education and employment. The information in this report mainly relates to the period leading up to these agreements and for many of these initiatives it is still too early for the health outcome data to reflect the impact of this work. Since the introduction of the *National Partnership on Closing the Gap*

in *Indigenous Health Outcomes* there has been a significant increase in health assessments and chronic disease management items claimed through Medicare. Given that two thirds of the current gap in health outcomes is due to chronic disease, these improvements in the detection and management of chronic disease are important.

COAG set six targets in 2008 including:

Closing the life expectancy gap within a generation

- The gap in life expectancy at birth between Aboriginal and Torres Strait Islander peoples and other Australians for 2005–07 was estimated at 11.5 years for males and 9.7 years for females.
- In the absence of new data on life expectancy (due to be released in late 2013), mortality rates provide an indication of progress. The graph below shows mortality rates from 1998 to 2010 and an indicative trajectory of

mortality rates required to reach the target by 2031. This graph shows there has been a significant decline in Indigenous mortality rates in the last decade, however Indigenous rates are currently twice the non-Indigenous rate and this decline would need to accelerate to reach the target.

Halving the gap in mortality rates for Indigenous children under five within a decade

- In 2008, the Aboriginal and Torres Strait Islander child mortality rate was 213 per 100,000 compared to 101 per 100,000 for non-Indigenous children. This makes the baseline gap 112 per 100,000. Note: the 2008 baseline has been revised since the last report due to revisions in the WA mortality data.
- The graph below shows child mortality rates from 1998 to 2010 and indicative trajectories required to meet the target by 2018. The 2009 and 2010 rates are within the range required to meet the target.

Figure 2
Total mortality rates by Indigenous status, NSW, Qld, WA, SA and the NT, 1998-2031

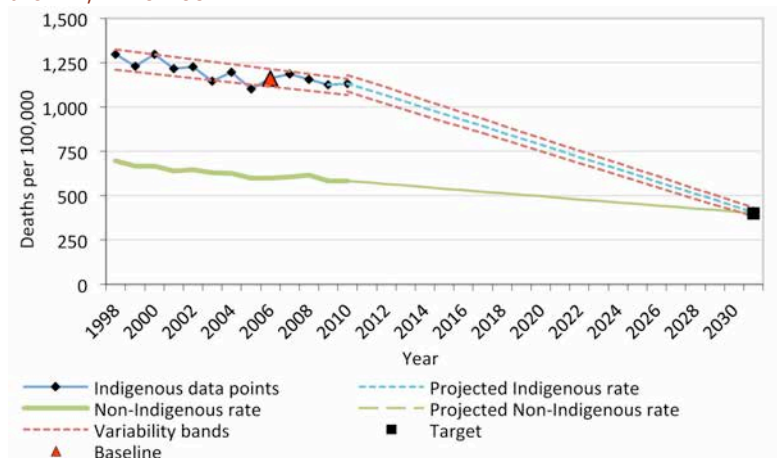
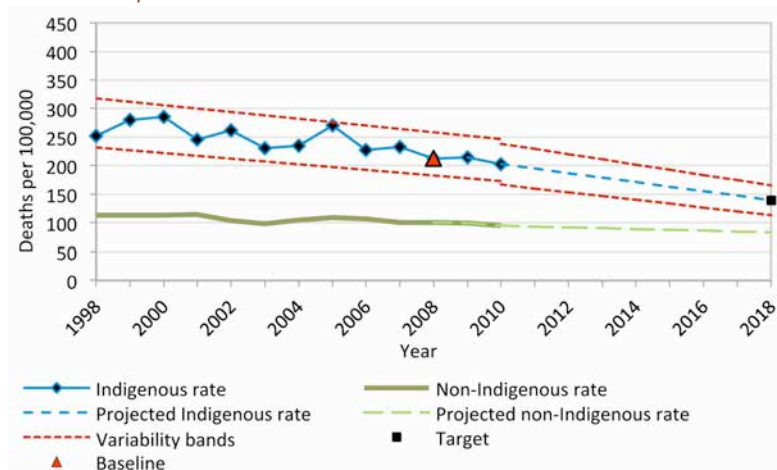


Figure 3
Child mortality rates by Indigenous status, NSW, Qld, WA, SA and the NT, 1998-2018



Tier 1: Health Status and Outcomes

Improvements

Mortality

- Analysis of mortality rates between 1991 and 2010 show a significant decline in the Aboriginal and Torres Strait Islander mortality rate (33%) for people living in WA, SA and the NT combined, and a significant narrowing of the gap with non-Indigenous Australians in both absolute (35%) and relative (8%) terms. Changes in the methods and quality of Indigenous identification in deaths data and population estimates have affected this trend.

Avoidable mortality

- This analysis also finds a significant decline in Indigenous deaths due to avoidable causes in WA, SA and the NT combined, down 24% between 1997 and 2010, and a narrowing of the gap. A detailed study of avoidable mortality in the NT found major declines in conditions amenable to medical care, but only marginal change for potentially preventable conditions, e.g., smoking related (Li et al. 2009a).

Circulatory disease

- Deaths caused by circulatory disease—the most common cause of death for Indigenous Australians—declined by 41% between 1997 and 2010. This rate of decline was faster than for non-Indigenous Australians and the gap narrowed. A study of acute myocardial infarction in the NT between 1992 and 2004 found an improvement in survival for Aboriginal people both pre-hospital and after hospital admission, despite an increase in incidence over this period (You et al. 2009).

Respiratory disease

- Respiratory disease deaths decreased significantly from 1997 to 2010 and the gap has also narrowed.

Infant and child mortality

- Analysis of infant mortality rates between 1991 and 2010 show a 62% decline for Aboriginal and Torres Strait Islander infants and a significant narrowing of the gap in both absolute (67%) and relative (35%) terms. There was also a significant decline in the mortality rate for Indigenous children

aged 0–4 years and a narrowing of the gap.

Continuing concern

Chronic disease contributes to two-thirds of the health gap between Aboriginal and Torres Strait Islander peoples and non-Indigenous Australians.

- The majority (68%) of deaths in 2006–10 were due to chronic diseases (e.g., circulatory disease, cancer, diabetes, respiratory disease, kidney disease, etc.).
- During 2006–10 the leading causes of death were circulatory disease (26%); neoplasms (including cancer) (19%); external causes (including suicide and transport accidents) (15%); endocrine, metabolic and nutritional disorders (including diabetes) (9%); and respiratory diseases (8%).
- Deaths from circulatory disease have decreased significantly in both the short-term and long-term and the gap has narrowed. However, in 2006–10 Aboriginal and Torres Strait Islander rates were still 1.7 times the rate for non-Indigenous Australians.
- There has been no improvement in the mortality rate due to diabetes.

Cancer

- The gap between the two populations for deaths due to cancer is widening. There has been a significant improvement in cancer death rates for other Australians and no significant change for Indigenous Australians. Research has found disparities in stage of diagnosis and treatment (including lower rates of surgery, chemotherapy and radiotherapy) and lower survival rates for Indigenous Australians.

Kidney disease

Aboriginal and Torres Strait Islander mortality rates for kidney disease increased by 89% between 2001 and 2010 (NSW, Qld, WA, SA and the NT combined). This increase was at a faster rate than for non-Indigenous Australians and the gap has widened.

- The incidence of Indigenous Australians with end stage renal disease commencing renal replacement therapy has increased by more than 96% since 1991, and is 7 times the rate for other Australians.

Injury

- External causes such as suicide and transport accidents accounted for 15% of Indigenous deaths in 2006–10. Indigenous Australians died from suicide and transport accidents at two and three times the rate of non-Indigenous Australians respectively.
- There has been no improvement over time in death rates due to external causes.
- Hospitalisation rates for injury and poisoning are twice as high for Indigenous Australians as the corresponding rates for non-Indigenous Australians.

Disability

- Half of Indigenous Australians aged 15 years and over had a disability or long-term health condition in 2008. Approximately 8% had a profound or severe core activity limitation. Indigenous Australians aged 15 years and over were 1.4 times as likely as non-Indigenous Australians to have a disability or long term health condition (non-remote areas).

Low birthweight

- For babies born to Aboriginal and Torres Strait Islander mothers, the low birthweight rate increased by 11% between 1991 and 2009 and the gap widened. However, more recent trends in low birthweight from 2000 to 2009 have found a significant decline for both singleton births (7%) and total Indigenous births (6%). Analysis of these data has found a strong relationship between smoking during pregnancy and low birthweight. There was no relationship found between teenage births and low birthweight for Indigenous mothers.

Eye health

- In 2008, approximately 9% of Indigenous adults had low vision and 2% were blind. Of those adults with vision impairment, the most common causes were refractive error (54%), cataract (27%), diabetic retinopathy (12%) and trachoma (2%).

Tier 2: Determinants of Health

Improvements

Access to functional housing

- In 2008, 99% of Aboriginal and Torres Strait Islander households reported that they had working facilities for washing people, 94% reported working facilities for washing clothes/bedding, 94% reported working facilities for storing/preparing food and 98% reported working sewerage systems.
- This varied considerably by remoteness, with 21% of Aboriginal and Torres Strait Islander peoples in very remote communities reporting a lack of working facilities for the storage and preparation of food.

Education

- There was a slight reduction in the gap between Indigenous and non-Indigenous students at or above the national minimum standard in reading between 2008 and 2011. In 2011, small declines in the gap for numeracy were also found for Years 3, 5 and 9 but an increase in the gap was seen for Year 7.

Employment

- The employment rate for Indigenous Australians increased from 44% to 54% between 2001 and 2008. The definition of 'employment' in the 2008 NATSISS included CDEP participation (6%).

Continuing concern

Smoking

- In 2008, 47% of Aboriginal and Torres Strait Islander peoples aged 15 years and over smoked. This was a small but potentially important improvement from 2002, when the rate was estimated to be 51%.
- In 2009, 52% of Indigenous Australian women smoked during pregnancy, 3.7 times as high as the rate for non-Indigenous Australian pregnant women. Smoking rates did not decline by age for Indigenous mothers as they did for non-Indigenous mothers.
- In 2008, an estimated 65% of Aboriginal and Torres Strait Islander children aged 0–14 years lived in households with a current daily smoker compared with 32% of non-Indigenous children.

Physical activity

- There has been a noticeable shift toward lower levels of physical activity. In 2004–05, 47% of Aboriginal and Torres Strait Islander peoples aged 15 years and over in non-remote areas reported being 'sedentary'. This increased from 37% in 2001 and was one and a half times the rate for other Australians.

Nutrition

- In remote areas, 20% of Indigenous people aged 12 years and over reported no usual daily fruit intake and 15% reported no usual daily intake of vegetables. The corresponding proportions in non-remote areas were 12% and 2% respectively.
- Aboriginal and Torres Strait Islander peoples aged 12 years and over were twice as likely to report no usual daily fruit intake and 7 times as likely to report no daily vegetable intake as non-Indigenous Australians in this age group (ABS 2006b).

Overweight and obesity

- Rates of overweight and obesity increased between 1995 and 2004–05. Among Aboriginal and Torres Strait Islander peoples aged 15 years and over in non-remote areas, rates increased from 51% to 60%. Aboriginal and Torres Strait Islander adults were nearly twice as likely to be obese as non-Indigenous Australians.

Risky/high risk alcohol consumption

- In 2008, 46% of Aboriginal and Torres Strait Islander peoples aged 15 years and over reported drinking at low risk levels and 35% had abstained from drinking alcohol in the 12 months prior to the survey. A further 17% reported drinking at chronic risky/high risk levels in the past 12 months, representing no significant change since 2002 (15%).

Overcrowding in housing

- Approximately 25% of Aboriginal and Torres Strait Islander peoples live in overcrowded households. Overcrowding rates are significantly higher in remote areas than in non-remote areas.

Education

- Despite some improvements in literacy and numeracy, the proportion of Indigenous students achieving the reading, writing and numeracy

benchmarks in Years 3, 5, 7 and 9 remain below the corresponding proportions for all students.

Unemployment

- The unemployment rate for Aboriginal and Torres Strait Islander peoples increased between 2001 and 2008 from 7% to 11%. Unemployment rates continue to remain higher than corresponding rates for non-Indigenous Australians.

Low income and the distribution of income

- In 2008, 49% of Aboriginal and Torres Strait Islander peoples were in the bottom 20% of mean equivalised household incomes. The corresponding rate in 2006 was 40%.

Community safety

- Aboriginal and Torres Strait Islander peoples are more likely to experience exposure to violence, child abuse and neglect, and contact with the criminal justice system (including imprisonment) than other Australians.

Transport

- Fewer Indigenous households in non-remote areas (50%) had ready access to motor vehicles (i.e., garaged or parked at or near their dwelling) compared with non-Indigenous households (85%).
- In 2008, 10% of Aboriginal and Torres Strait Islander peoples aged 15 years and over reported transport/distance as the reason they did not access services. Transport/distance was a bigger issue for those living in remote areas (19%) than those living in non-remote areas (7%).

Tier 3: Health System Performance

Improvements

Chronic disease detection and management

There has been a significant increase in a range of Medicare Benefits Schedule (MBS) services claimed by Aboriginal and Torres Strait Islander peoples for identifying and managing chronic disease since the introduction of the Indigenous Chronic Disease Package under the *National Partnership on Closing the Gap in Indigenous Health Outcomes*.

- Although the number of health assessments provided each year has been increasing steadily, the increase is significantly greater since July 2009 than in previous years (see Figure 4 below).
- There has also been an increase in the number of GP management plans and team care arrangements claimed by Indigenous Australians through Medicare over this period. Rates are higher for these services for Indigenous Australians than non-Indigenous Australians. There has also been a corresponding increase in a range of allied health items linked to health assessments and management plans/team care arrangements including a number of other allied health services and dental services (with 98% of these dental services bulk billed).

Access to prescription medicines

The *National Partnership Agreement on Closing the Gap in Indigenous Health Outcomes* has increased access to pharmaceuticals. Up to 30 June 2012,

150,005 eligible Aboriginal and Torres Strait Islander patients have benefited from the Closing the Gap Pharmaceutical Benefits Scheme (PBS) Co-payment Measure and 5,127 (96%) pharmacies have participated in the measure. A prescription volume of 2,729,929 has been dispensed since the measure commenced in July 2010.

Increased availability of Indigenous-specific services

- Australian Government Indigenous-specific health program expenditure increased from \$115 million in 1995–96 to \$624 million in 2010–11, a growth in real terms of 265%. There has been a 96% increase in episodes of care delivered through Aboriginal and Torres Strait Islander primary health care services (from 1.22 million in 1999–2000 to 2.5 million in 2010–11).

Usual source of care

- Having a usual primary care provider is associated with good communication between the patient and provider, greater trust in the health care provider, improved preventive care and better health outcomes. Statistics from 2004–05 indicate that 91% of Indigenous Australians usually went to the same GP or Aboriginal medical service.
- In 2008, 80% of Aboriginal and Torres Strait Islander peoples aged 15 years and over agreed that their doctor could be trusted.

Antenatal care

- The proportion of Aboriginal and Torres Strait Islander women accessing antenatal care at least once during

pregnancy has increased in NSW, Qld and SA combined between 1998 and 2009. In 2009, 97% of Aboriginal and Torres Strait Islander women accessed antenatal care at least once during their pregnancy.

Immunisation coverage for children

- Immunisation rates are high for Indigenous children. By 2 years of age, coverage rates are close to those for other Australian children (92.3% of Indigenous children compared with 92.6% for other children).

Resources

- On a per capita basis, average health expenditure for Aboriginal and Torres Strait Islander peoples in 2008–09 was \$1.39 for every \$1.00 spent per non-Indigenous Australian. This has increased since 1995–96 where the rate was \$1.08 per \$1.00.

Continuing concern

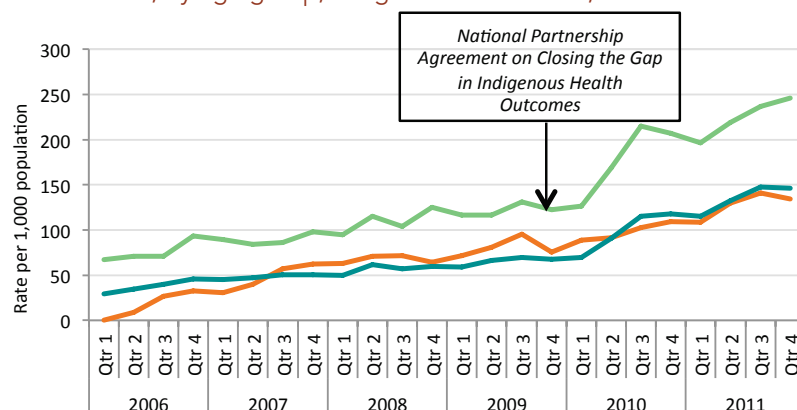
Barriers to accessing health care

- In 2008, 26% of Aboriginal and Torres Strait Islander peoples aged 15 years and over reported problems with accessing health services. Access issues were higher in remote areas (36%) than non-remote areas (23%). Of those who had problems accessing health services, close to 20% reported having problems accessing dentists, followed by doctors (10%), hospitals (7%) and Aboriginal and Torres Strait Islander health workers (6%).
- Selected potentially preventable hospitalisation rates for Aboriginal and Torres Strait Islander peoples were five times the non-Indigenous rate during the period July 2008 to June 2010.
- Aboriginal and Torres Strait Islander peoples had lower rates of hospitalisations with a procedure recorded compared with non-Indigenous Australians, and they also had lower rates of elective surgery.
- Discharge from hospital against medical advice was five times the rate for Indigenous Australians compared with non-Indigenous Australians.

Aboriginal and Torres Strait Islander health workforce

- In 2006, 1.2% of the Indigenous population was employed in health-related occupations compared with 3% of the non-Indigenous population. The occupations with the

Figure 4
Rate per 1,000 persons receiving Medicare Benefits Schedule Health Assessments, by age group, Indigenous Australians, 2006 to 2011



largest gap between Indigenous and non-Indigenous Australians were nurses, medical practitioners and allied health professionals.

- Aboriginal and Torres Strait Islander peoples are also under-represented in training for various health professions. Improving participation in training for health professions is a key priority across a broad range of disciplines including medicine, nursing, allied health and Aboriginal health workers.
- Health workforce issues also extend to ensuring there is an effective workforce to support improved Aboriginal and Torres Strait Islander health. The HPF finds recruitment and retention issues relevant to both Indigenous-specific health services and mainstream services.
- In 2010–11 there was a decline in full time equivalent GPs as remoteness increased, with 70% based in major cities and 0.5% in very remote areas.

Antenatal care

- Antenatal care for Indigenous women occurs later and less frequently than for non-Indigenous women. In 2009, in NSW, Qld, SA and the NT, 56% of mothers had their first antenatal session in the first trimester of the pregnancy, compared with 75% of non-Indigenous mothers.

Resources

- The additional rate of expenditure per person for Indigenous Australians compared to other Australians (39%) is lower than the disparity in illness and mortality (200%).
- In non-remote areas, 15% of Indigenous Australians were covered by private health insurance compared with 51% for the rest of the population. The most common reason that Indigenous Australians did not have private health insurance was that they could not afford it (65%). Lower rates of private health insurance contribute to reduced access to services, in particular dental, allied health, specialist services and private hospitals. In the two years to June 2008, 6% of hospitalisations with a procedure recorded for Indigenous Australians occurred in private hospitals compared with 50% for non-Indigenous Australians.

Access to prescription medicines

- In 2008–09, average expenditure on pharmaceuticals per Aboriginal and/or

Torres Strait Islander person was around 44% of the amount spent per non-Indigenous person (\$315 compared with \$710). In 2001–02, per person pharmaceuticals expenditure was estimated to be 33% of the amount spent on non-Indigenous Australians. This suggests that the gap in spending between Indigenous and non-Indigenous Australians is closing.

Access to health care

- In 2004–05, 42% of Aboriginal and Torres Strait Islander peoples reported accessing health care in the previous two weeks (or 12 months for hospital admissions). This rate is similar to the non-Indigenous rate, but lower than expected given the greater burden of illness experienced by Aboriginal and Torres Strait Islander peoples.
- Aboriginal and Torres Strait Islander peoples were twice as likely to visit casualty/outpatients in a hospital and half as likely to see a dentist in 2004–05. Barriers to accessing care included cost, cultural competence, transport and availability.
- Expenditure estimates show higher rates for Indigenous Australians for public hospital use and community health services and lower rates for medical services through the MBS (including GP services), dental services, and medications compared with non-Indigenous Australians.
- In 2006, the health occupation with the largest number of Indigenous Australians was nursing (1,449), followed by nursing support and personal care workers (974), and Aboriginal and Torres Strait Islander Health Workers (966).

Life course

There is a substantial body of evidence that the experience of the child in utero, at the time of birth and in infancy and childhood has the potential to impact on health throughout life (Eades 2004; Barker 1993; Power et al. 2000). Therefore a life course approach is critical for building a platform for a long and healthy life (Griew et al. 2007; Weeramanthri et al. 1999). Providing children with a positive sense of themselves as Aboriginal and Torres Strait Islander children, and building on their knowledge of Aboriginal language and culture provides a strong foundation in lifelong learning and resilience (Eades 2004). Close contact with the extended family is viewed as essential for

developing a strong sense of identity (Williamson et al. 2010). Strong cultural attachment is associated with positive outcomes on a range of socioeconomic indicators including health status, education and employment (Dockery 2011).

Contemporary thinking about chronic disease management has moved beyond the concept of individual episodes of care for a patient, to the development of long term relationships with them, their family, and their community (Zwar et al. 2006). A number of reports identify the importance of family and carers to Aboriginal and Torres Strait Islander patients, and their involvement in decision-making, including in the areas of population health, primary health care, cardiac rehabilitation and secondary prevention, diabetes prevention and management, and palliative care (NHMRC 2005; Griew et al. 2007; Broomhead et al. 2008; McGrath 2008). Working collaboratively with and learning from Aboriginal and Torres Strait Islander patients, families, interpreters, cultural mentors, Aboriginal Health Workers and other co-workers has also been identified as critical (NHMRC 2005).

Family-centred primary health care approaches move beyond providing care to the individual patient, to seeing them as embedded in a family and taking a life course approach (Griew et al. 2007). Studies have identified that Aboriginal and Torres Strait Islander concepts of family are important to consider (Walker et al. 2008) and that engaging with Aboriginal and Torres Strait Islander patients and families in a respectful and culturally competent way is a key success factor for preventative health and health care service delivery (Griew et al. 2007). These approaches aim to support people to proactively manage their health across the life course.

Maternal health

Maternal health is one of the priority areas of reform identified by COAG. Antenatal care provides opportunities to address health risks and support healthy behaviours throughout pregnancy and into the early years of childhood. Access to antenatal care is high for Indigenous women, and similar to that for non-Indigenous women, but often occurs later in the pregnancy and less frequently. Indigenous mothers who attended at least one session of antenatal care were less likely to have

low birthweight babies (11%) than those who did not attend (40%). The likelihood of a mother having a low birthweight baby decreased in line with an increase in the number of antenatal visits. Low birthweight babies are also associated with later commencement of antenatal care. Similar relationships are evident with pre-term births and perinatal mortality.

Smoking increases the risk of adverse events in pregnancy (such as miscarriage, ectopic pregnancy, preterm labour and antepartum haemorrhage), and is also associated with poor perinatal outcomes (such as low birthweight), and respiratory illnesses (such as bronchitis or pneumonia) during the child's first year of life (see measure 2.21). In 2009, Aboriginal and Torres Strait Islander mothers were 3.7 times as likely to smoke during pregnancy as non-Indigenous mothers, and unlike other Australian mothers, the high rates persist across geographic areas and age groups. Smoking during pregnancy for both Indigenous and non-Indigenous mothers is associated with higher prevalence of pre-term birth and a higher proportion of low birthweight babies. Smoking is also associated with a higher rate of perinatal deaths, which occur for Indigenous mothers at 1.5 times the rate of non-Indigenous mothers (see measure 1.21). Reducing smoking continues to be a priority, now being addressed through the *Indigenous Tobacco Control Initiative* and the *National Partnership Agreement on Closing the Gap in Indigenous Health Outcomes* (see measure 2.15).

For Aboriginal and Torres Strait Islander mothers, teenage pregnancies were not associated with an increased risk of giving birth to a low birthweight baby.

Childhood (0–14 years)

Improving the health, social, and environmental factors of babies and young children is likely to have positive flow-on effects for the remainder of the life cycle. International studies have found that programs that intervene in the first six to eight years of life are more successful at improving developmental outcomes than later interventions (Griew et al. 2007). Most data are currently only available for the combined age group of 0–14 years.

Research has found a strong link between attachment to traditional culture and positive effects on both wellbeing and socioeconomic outcomes

(Dockery 2011). The measure of community functioning (see measure 1.13) finds that in 2008 the majority of Indigenous children aged 0–14 years attended a cultural event in the last 12 months (70%), 47% recognised their homelands, 42% spent time with an Indigenous elder, 76% slept well and 74% of children aged 4–14 years spent at least 60 minutes every day being physically active. Informal learning activities were undertaken with most children aged 0–14 years (94%). Most children in this age group (71%) also cleaned their teeth once or twice per day.

Immunisation is highly effective in reducing illness and death caused by vaccine-preventable diseases. Immunisation coverage is high for Indigenous children, and by 2 years of age, the immunisation coverage (92.3%) was similar to other Australian children (92.6%) (see measure 3.02). Gaps in immunisation still exist in younger and older children.

Although the prevalence of ear disease is significantly higher for Aboriginal and Torres Strait Islander children (approximately 3 times the rate for other children), levels of access to treatment are similar to those of other Australian children. Hospitalisations for ear disease—specifically, the rate of myringotomy procedures in hospital (incision in eardrum to relieve pressure caused by excessive build-up of fluid)—for Indigenous children was lower than for non-Indigenous children (1.4 per 1,000 compared with 1.7 per 1,000). General practitioners managed ear problems at a similar rate for both populations in data collected between April 2006 and March 2011.

The National Indigenous Eye Health Survey found that approximately 1.5% of Aboriginal and Torres Strait Islander children had low vision and 0.2% blindness. Trachoma rates are very high in some Indigenous communities. Data on trachoma in children in 240 at-risk communities in NT, SA, and WA found a prevalence of 12% for those aged 1–4 years, 13% for those aged 5–9 years and 11% for those aged 10–14 years.

Data on dental health show that a lower proportion of Indigenous children had no decayed, missing or filled teeth compared with non-Indigenous children in each age group 5 to 15 years (see measure 1.11). Dental disease in childhood is readily treated but

Aboriginal and Torres Strait Islander children do not have ready access to dental care with cost and geography being significant barriers.

Hospitalisation rates for respiratory disease (see measure 1.04) for Indigenous children aged 0–4 years were around twice those for non-Indigenous children. Between 1998–99 and 2009–10 there has been a significant decline (25%) in hospitalisation rates for Indigenous children for respiratory disease and a narrowing of the gap.

A much higher proportion of Aboriginal and Torres Strait Islander children aged 0–14 years live in households with a regular smoker compared to other Australian children, particularly households where smoking occurs indoors. The proportions have fallen slightly over time, but at a slower rate than for other Australian children, and therefore, the disparities remain.

A study of school students aged 12–15 years in 2008 found that 23% of Indigenous students reported smoking in the last 12 months and 12% were current smokers. Approximately 5% of total students were current smokers. Around 27% of Indigenous students had never consumed alcohol while 23% had consumed alcohol in the past week. Around 23% of Indigenous students reported they had used illicit substances with cannabis being the most common (20%) (White et al. 2009).

The proportion of Aboriginal and Torres Strait Islander students achieving the reading, writing and numeracy benchmarks in Years 3, 5, 7 and 9 remain below the corresponding proportions of non-Indigenous students. There have been improvements in the gap for reading and for numeracy (except Year 7), however other measures have not shown significant progress.

Youth (15–24 years)

Young people in this age group do not use primary health care services frequently, however the lifestyle factors leading to chronic diseases in later life are often established in this age group. Studies have found that empowering families and communities to work with youth on preventative health and to develop a positive sense of themselves are important in providing a strong foundation for long and healthy lives (Eades 2004; Williamson et al. 2010).

The measure of community functioning (see measure 1.13) finds that in 2008 two thirds (66%) of Aboriginal and Torres Strait Islander youth recognised their homelands, 63% had attended a cultural event in the last 12 months, 78% had family or friends they could confide in, 89% felt able to have a say with family and friends most or all the time, and 96% had contact with family or friends outside of the household at least once per week. The majority of Indigenous young people had participated in sport or social activities in the preceding three months (90%). Most young people felt safe at home during the day (93%) and after dark (77%). Sixty-two per cent had no disability or long-term health condition.

Education is a key factor in improving health and wellbeing. The pathways between education and health are complex and are interrelated with employment, income, psycho-social resources such as a sense of control, and practical skills which allow individuals to better manage their health (Griew et al. 2007).

Education involves more than the formal schooling system. Aboriginal and Torres Strait Islander culture depends for its continued existence on social practices, which are themselves educational (Educational Determinants of Aboriginal Health Group 2004; Bell et al. 2007). Aboriginal land management is an example where scientific learning combines with intergenerational transmission of Aboriginal knowledge (Davies et al. 2010).

When determining the impact of education on Aboriginal and Torres Strait Islander health outcomes, the quality and cultural appropriateness of mainstream education also needs to be considered (Dunbar et al. 2007). Over time there have been improvements in the proportion of Indigenous students remaining in school to Year 10 and Year 12, although Indigenous retention rates remain lower than for other students (see measure 2.05). The Vocational Education and Training (VET) sector also provides large numbers of Aboriginal and Torres Strait Islander peoples with non-school education training opportunities. During 2010, there were approximately 13,900 course completions in the VET sector by Indigenous Australians aged 15 years and over. This constitutes 3.8% of the Indigenous population aged 15 years and

over compared with 2.1% of the non-Indigenous population aged 15 years and over.

Aboriginal and Torres Strait Islander youth experience a number of challenges compared to non-Indigenous Australian youth including higher rates of poor health (see measure 1.17). They are also three times as likely to report high or very high levels of psychological distress (comparisons are for 18–24 year olds) (see measure 1.18), less likely to be employed (see measure 2.07), more likely to be sedentary (see measure 2.18), and more likely to be a current smoker (see measure 2.15). Aboriginal and Torres Strait Islander youth have higher rates of contact with the criminal justice system (see measure 2.11). In 2009–10, an average of 201 Indigenous youth aged 10–18 years were on remand each day compared with 232 non-Indigenous youth. Disproportionate representation of Indigenous youth in contact with the criminal justice system impacts on a range of areas including physical health and the social and emotional well-being of families and communities (see measure 1.18).

In this age group, males made up 70% of deaths during the period 2006–10. Deaths due to external causes such as suicide and transport accidents were the leading cause of death in this age group. A study of suicide in British Columbia between 1987 and 2000 found that First Nation communities that took steps to preserve their heritage and culture, and worked to control their futures were more successful in insulating their youth against suicide risk (Chandler et al. 2008).

Adults (25–54 years)

Premature mortality from chronic diseases, such as circulatory disease, cancer, diabetes and respiratory diseases is a major concern in this age group. In the 25–34 year age group, deaths due to external causes (including suicide and transport accidents) were the leading cause of death. In the 35–54 age groups chronic diseases were the leading causes of death.

In 2008, 72% of Aboriginal and Torres Strait Islander peoples aged 15 years and over recognised their homelands, 62% identified with a clan or language group, 89% felt able to have a say with family and friends some, most or all of the time and 94% had contact with family or friends outside the household at least once per week.

The proportion of Indigenous Australians aged 15–64 years who were employed increased from 44% in 2001 to 54% in 2008 (see measure 2.07). However unemployment rates remain higher than the corresponding rates for non-Indigenous Australians (about 4 times as high). Many adults are seeking to improve their knowledge, skills and qualifications, with 33% intending to study in the future.

54 years and older

Leadership is a theme within the measure of community functioning (see measure 1.13) used to describe strong vision and direction from Elders (both male and female) in family and community and strong role-models who have time to listen and advise. Statistics included in the 2008 NATSISS to describe this theme were limited to data on children: 42% of children aged 3–14 years had spent time with an Indigenous leader or Elder in the week prior to being surveyed. The role of Elders in providing leadership to support healthy families and communities is vital and better measurement of this is needed.

Home ownership increased with age, from 22% in the 18–34 year age group to 36% in the 55 year and over age group. These rates are below those for non-Indigenous home ownership (65% of adults).

Aboriginal and Torres Strait Islander peoples are less likely than non-Indigenous Australians to report 'very good' or 'excellent' health (see measure 1.17), this difference between the two populations was greatest in the older age groups. Self-assessed health status correlates with a range of other measures, such as reported long-term health conditions, recent health related actions, and the presence of a disability.

Older people with a reduced degree of functional capacity require a range of services. Aged care is frequently provided in combination with basic medical services, prevention, rehabilitation or palliative care services. The age for accessing home and community care programs has been adjusted to take account of the younger age at which Aboriginal and Torres Strait Islander peoples may begin to suffer from serious chronic illness.

Social Determinants

The origins of health behaviours are located in a complex range of environmental socioeconomic, family and community factors. 'Inequities in health, avoidable health inequalities, arise because of the circumstances in which people grow, live, work, and age, and the systems put in place to deal with illness. The conditions in which people live and die are, in turn, shaped by political, social, and economic forces' (Commission on Social Determinants of Health 2008).

A number of studies have found that between one-third and one-half of the health gap between Aboriginal and Torres Strait Islander peoples and non-Indigenous Australians is associated with differences in socioeconomic status such as education, employment and income (Booth et al. 2005a; DSI Consulting Pty Ltd et al. 2009).

Measures such as community functioning (1.13) show that Aboriginal and Torres Strait Islander peoples draw strength from a range of health determinants such as connectedness to family, land, culture and identity. Analysis of 2008 NATSISS data has found a clear association between cultural attachment and positive socioeconomic outcomes and wellbeing (Dockery 2011). A ten-year study of Aboriginal and Torres Strait Islander peoples in Central Australia identified that connectedness to culture, family and land, and opportunities for self-determination were likely to be associated with lower mortality and morbidity rates in homelands residents compared to other Indigenous NT residents. The study also found that the conventional measures of employment, income, housing and education did not account for this difference (Rowley et al. 2008).

The literature provides evidence that racism is a determinant and driver of inequalities in health (McDermott 2012; Harris et al. 2006). There are a number of pathways from racism to ill health, including: reduced access to societal resources such as education, employment and medical care; inequitable exposure to risk factors, stress and cortisol dysregulation affecting mental health, immune, endocrine, cardiovascular and other physiological systems; and injury from racially motivated assault. Longitudinal and cross sectional studies both

nationally and internationally have found a strong association between experiences of racism and ill health and psychological distress, mental health conditions, and risk behaviours such as substance use (Gee et al. 2009; Paradies 2006a). The 2008 NATSISS found that 27% of respondents reported experiencing racism. Other studies have found self-reported experiences of racism among Aboriginal and Torres Strait Islander peoples range from 16–97% depending on the aspects of racism researched (Paradies 2011). Analysis of the 2004–05 NATSIHS data found that after accounting for a range of contributing factors, racism was significantly associated with poor self-assessed health status, psychological distress and substance use (Paradies 2007).

Analysis of the 2004–05 NATSIHS show that Aboriginal and Torres Strait Islander peoples in the highest income quintiles were more likely than those in the lowest quintile to visit a dentist and less likely to be admitted to hospital in the last 12 months or visit casualty/outpatients or a doctor in the last two weeks. A similar

pattern was found for education, labour force status and housing tenure.

Evidence from general population studies shows that modifiable risk factors act, in various combinations, to increase the risks for adverse health outcomes such as ischaemic heart disease, stroke, diabetes and some cancers. Health behaviours also affect biological risk factors such as high body mass, high cholesterol levels and hypertension. Other health behaviours such as infant breastfeeding, adequate diet and physical exercise have a protective impact on health. The figures below show strong associations between key social factors and health behaviours, highlighting the importance of understanding the underlying social context.

Current smoker status

Figures 5 and 6 show that a higher proportion of Aboriginal and Torres Strait Islander peoples who had completed Year 12 do not smoke (71%) compared to those whose highest year of schooling was Year 9 or below (42%). This relationship was also apparent for income. Similarly, those who were

Figure 5
Relationship between highest year of school completed and risk factors, Indigenous Australians, 2004–05

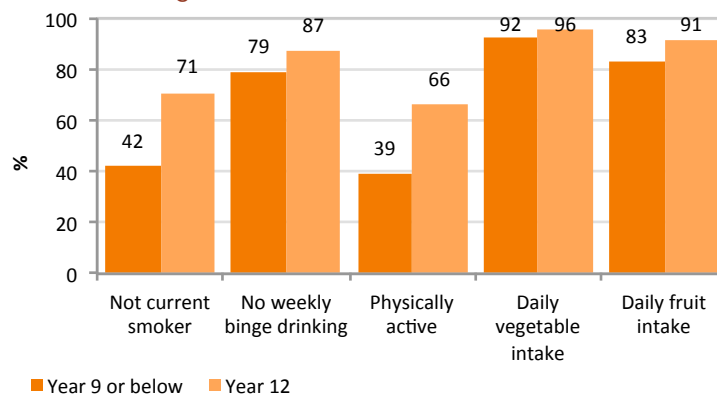


Figure 6
Relationship between income and risk factors, Indigenous Australians, 2004–05

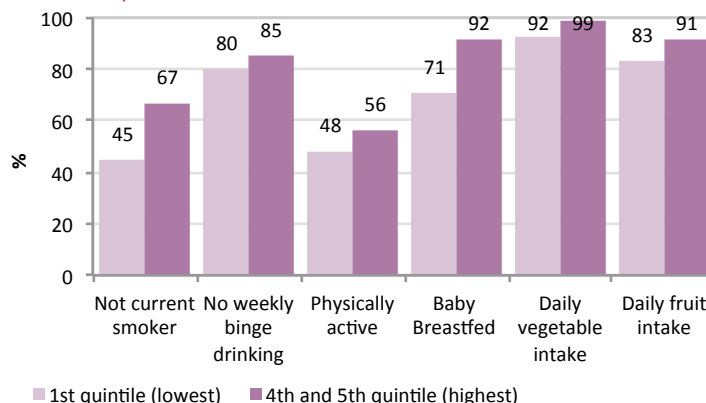
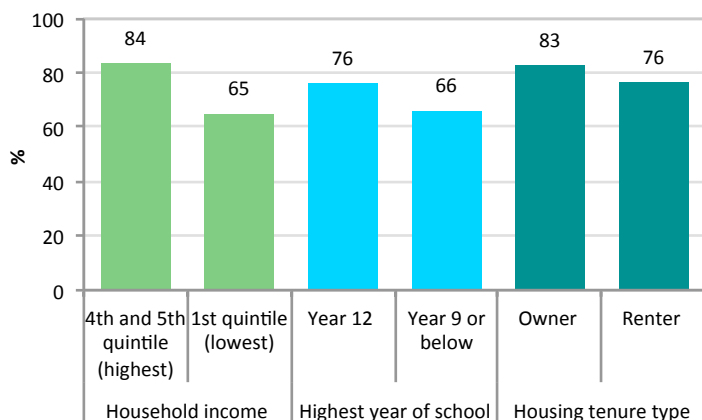


Figure 7
Relationship between social determinants of health and self-assessed health status of good/excellent, Indigenous Australians, 2008



employed were more likely to not smoke (59%) than those who were unemployed (24%). These relationships were also similar for the non-Indigenous population.

Alcohol consumption

As reported for measure 2.16, 46% of Aboriginal and Torres Strait Islander peoples were low risk drinkers and 35% had abstained from drinking alcohol in the last 12 months, while 17% reported drinking at chronic risk/high risk levels. Those who had completed Year 12 were less likely to report short-term risky/high risk drinking at least once per week in the last 12 months compared with those whose highest year of schooling was Year 9 or below.

Physical activity

In 2004–05, 7% of Indigenous Australians aged 15 years and over reported 'high' levels of physical activity, 18% 'moderate', 28% 'low' and 47% 'sedentary'. Those who had completed Year 12 were less likely to be sedentary than those whose highest year of schooling was Year 9 or below (see Figure 5).

Dietary behaviours

Indigenous Australians are twice as likely to report no usual daily fruit intake and 7 times as likely to report no daily vegetable intake as non-Indigenous Australians (see measure 2.19). Associations with socioeconomic status

are also evident. Aboriginal and Torres Strait Islander peoples in the highest quintile of equivalised income were more likely to report daily fruit and vegetable intake.

Self-assessed health status

In 2008, 84% of Indigenous Australians in the highest household income quintiles reported good/excellent health status,

compared with 65% of those in the lowest quintile. Approximately 76% of those who had completed Year 12 reported good/excellent health status, compared with 66% of those who had completed Year 9 or below (see measure 1.17). In 2004–05, those who did not smoke, those who reported high levels of physical activity and those who reported daily fruit and vegetable intake were more likely to report good/excellent health status (see Figure 8).

Heart/circulatory conditions

In 2004–05, those who reported high physical activity levels and those who were not overweight/obese were more likely to not have heart/circulatory problems (see Figure 9).

Diabetes

Those who were overweight/obese were more likely to have diabetes than those who were not.

Figure 8
Relationship between risk factors and self-assessed health status of good/excellent, Indigenous Australians, 2004–05

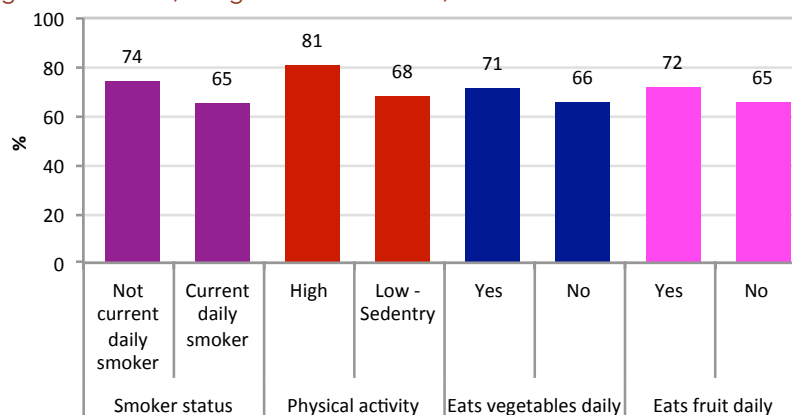
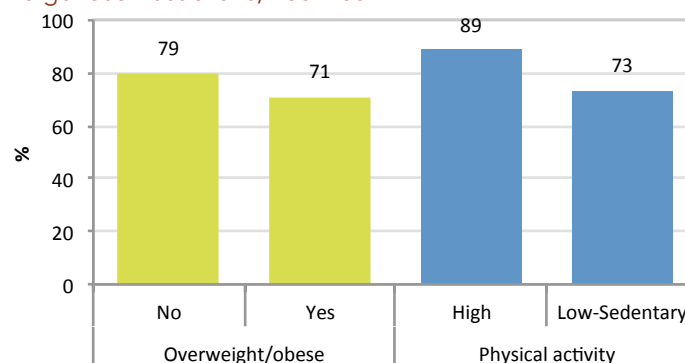


Figure 9
Relationship between risk factors and not having heart/circulatory disease, Indigenous Australians, 2004–05



Introduction

This is the fourth report against the *Aboriginal and Torres Strait Islander Health Performance Framework (HPF)*. In 2011, the framework was reviewed and revised. This report is based on the revised framework (see Figure 1). Details of changes to the framework are provided in Appendix 1.

The HPF comprises three tiers:

Tier 1—Health status and outcomes

Measures the prevalence of health conditions including disease or injury, human function, life expectancy and wellbeing, and deaths.

Tier 2—Determinants of health

Measures the determinants of health including socioeconomic factors, environmental factors and health behaviours.

An important feature of the HPF is that it recognises sustainable health gain will require not only an efficient, effective and equitable health system, but also timely contributions from other sectors. The HPF tracks changes in key measures outside of the health sector to provide a better context for interpreting changes in health outcomes and to provide a basis for constructive intersectoral dialogue.

Tier 3—Health system performance

Measures health system performance including effectiveness, responsiveness, accessibility, continuity, capability and sustainability.

The HPF covers the entire health system, including Indigenous-specific services and programs, and mainstream services. It includes performance measures across the full continuum, from inputs, processes, outputs, and intermediate outcomes to final outcomes. This enables short to medium-term measures of progress to be included, and accommodates the different stages of development of services and systems. The statistics in this report are the latest available but some are several years old and therefore may not reflect the impact of recent action.

Monitoring the performance of health services and governments in their stewardship role is critical. In doing this, attention should be given to assessing not only the level of access to appropriate care but the personal experiences of Aboriginal and Torres

Strait Islander peoples as active partners in managing their health.

Reporting against the HPF is designed to:

Promote accountability

- The HPF measures government achievement against commitments to improve the health of Aboriginal and Torres Strait Islander peoples.

Inform policy

- The HPF informs the development of policy in Aboriginal and Torres Strait Islander health and in whole of government action on the determinants of health.

Inform research

- The HPF provides a valuable tool for those involved in research relating to Aboriginal and Torres Strait Islander health.

Foster informed debate

- The HPF is a key resource to support and encourage informed public debate around Aboriginal and Torres Strait Islander health.

Structure of this report

- The report is structured according to the revised framework presented in Figure 1.
- An overview of existing national strategies and policies are included in the introductory section of this report.
- The main body of the report includes data and policy analysis for each tier of the framework incorporating analyses of each of the 68 measures. It contains:
 - a discussion of why the measure is important,
 - a presentation of the results relating to the measure, and
 - an outline of the implications of the findings for policy development/action.
- The material presented on each measure is succinct, and in some cases only touches on the major features of complex issues. Additional data analyses supplementing this report are available on the Australian Institute of Health and Welfare website at www.aihw.gov.au/indigenous/publications.cfm

Data limitations

There are well-documented problems with the quality and availability of data

about Aboriginal and Torres Strait Islander health. These limitations include the quality of data on all key health measures — including mortality and morbidity, uncertainty about the size and composition of the Aboriginal and Torres Strait Islander population, and a paucity of available data on other health issues such as access to health services (see Technical Appendix for details). The following should be noted when interpreting the data analysis:

Under-identification

- Under-identification of Aboriginal and Torres Strait Islander people is the main issue in most administrative data collections. Under-identification is a major problem in hospital and mortality data collections, particularly for some states and territories.
- The under-identification of Aboriginal and Torres Strait Islander people in administrative data collections is due to various factors. These include:
 - whether the question about Indigenous status is asked in the first instance,
 - issues about consistency in the way the question is asked and recorded, and
 - differing responses by the person involved depending on the situation.
- Decisions on which data to include have been based on the most recent evaluations (see the Technical Appendix). Work is underway to improve data quality. In future, some measures will have more comprehensive data available.

Coverage by jurisdictions

- Due to the under-identification issues described above, for some data collections the analysis has been limited to jurisdictions where better data quality is known to exist. For the current period of reporting, some measures presented in this report are based on an analysis of data for selected jurisdictions only. For example, mortality data are currently only published for NSW, Qld, SA, WA and the NT. Longer-term mortality trends (i.e., from 1991) are limited to SA, WA and the NT, as these jurisdictions have been shown to have adequate coverage for these earlier years. However, most jurisdictions now have at least a decade of mortality data that are considered adequate for

analysis. Note: WA mortality data in the years 2007, 2008 and 2009 have recently been revised. This has resulted in revisions to data previously published in the HPF.

Uncertainty in Indigenous population estimates

- Measuring the size of the Indigenous population is not easy. The Aboriginal and Torres Strait Islander Census count has varied considerably over the last two decades. Cohort analysis from one Census to the next show that these changes are not entirely due to demographic factors such as births, deaths, migration and immigration. The estimates of the population projections and backcast estimates are based on a series of informed assumptions around life expectancy. The population is used as the basis of rate calculations and trends and this uncertainty affects many of the statistics in this report including analysis of progress.

Inconsistencies in the Indigenous status question

- A standard Indigenous status question has been developed and endorsed nationally (AIHW 2010h). However, the standard question and categories are still not used in data collections across all jurisdictions. For example, in the national perinatal data, Indigenous status is currently based on the mother (missing 30% of babies with an Indigenous father and non-Indigenous mother). A question on the Indigenous status of the baby is currently being incorporated into the data collection.

Data quality limitations remain a significant impediment to fully understanding the health of Aboriginal and Torres Strait Islander peoples and the performance of the health system. One significant initiative is the introduction of the Voluntary Indigenous Identifier (VII) in the Medicare database in 2002. Since then participation has gradually increased. By 1 May 2012, 339,310 people (59% of the total estimated Indigenous population) had identified with Medicare as being Aboriginal, Torres Strait Islander, or both. From 2010, the VII data have been considered to be of sufficient quality to use as the basis for calculating statistics about Indigenous Australians' use of Medicare.

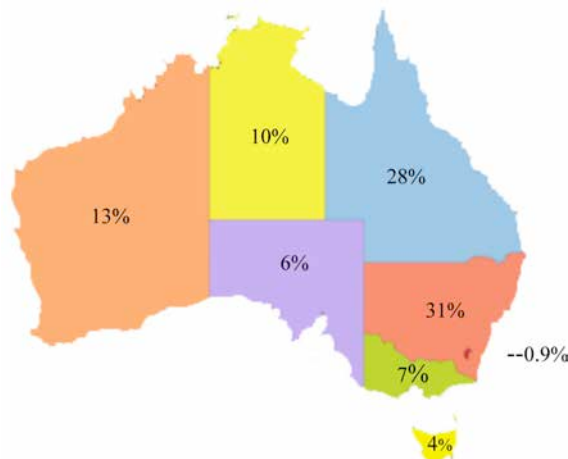
Demographic context

The preliminary estimate resident Aboriginal and Torres Strait Islander population of Australia as at 30 June 2011 was approximately 670,000 people (ABS 2012). Overall, Indigenous Australians represent 3% of the Australian population, although this proportion varied from region to region. It ranged from 30% of the population of the Northern Territory to 0.9% of the population of Victoria.

When the data are analysed as a proportion of the Indigenous population, the results show that 31% of all Aboriginal and Torres Strait Islander peoples lived in NSW, 28% lived in Qld, 13% in WA and 10% in the NT.

and early childhood programs, along with effective interventions helping young adults to adopt healthy lives, there is an opportunity to temper the emergence of chronic illnesses and their devastating consequences in this group of younger people. While it is vital that the focus is on ensuring improvement of health for Aboriginal and Torres Strait Islander peoples across their life course, it is important to take account of demographic composition in planning for resource requirements and service delivery for Aboriginal and Torres Strait Islander peoples.

Figure 10
Aboriginal and Torres Strait Islander population by state and territory, 2011 (preliminary)



Source: Preliminary ABS population estimates based on the 2011 Census (ABS 2012)

In 2006, around 75% of Indigenous Australians lived in regional and metropolitan areas. While only 15% of Indigenous Australians lived in very remote areas, they made up a large proportion of Australians living in very remote areas (48%) (see Table 2). Note: 2011 Census estimates are not yet available by remoteness.

The age structure of the Aboriginal and Torres Strait Islander population is significantly younger than the non-Indigenous population (see Figure 11) which means that service delivery must be adequately resourced for children and young people, as well as developed and delivered in culturally competent ways. The younger age structure also represents a tremendous opportunity. With well-designed and competently delivered antenatal care

Table 1

Preliminary estimated resident population by jurisdiction and Indigenous status, 2011

	Number of Indigenous population by jurisdiction population	Indigenous population % by jurisdiction ^(a)	Number of total population by jurisdiction ^(b)	Indigenous population as % of jurisdiction population
New South Wales	208,364	31.0	7,211,468	2.9
Victoria	47,327	7.0	5,534,526	0.9
Queensland	188,892	28.0	4,474,098	4.2
South Australia	37,392	6.0	1,638,232	2.3
Western Australia	88,277	13.0	2,352,215	3.8
Tasmania	24,155	4.0	511,195	4.7
Northern Territory	68,901	10.0	231,331	29.8
Australian Capital Territory	6,167	0.9	367,752	1.7
Australia	669,736	100.0	22,323,933	3.0

a) See Figure 10

b) Indigenous plus non-Indigenous

Source: Preliminary ABS population estimates based on the 2011 Census (ABS 2012)

Table 2

Estimated resident population by remoteness area and Indigenous status, 2006

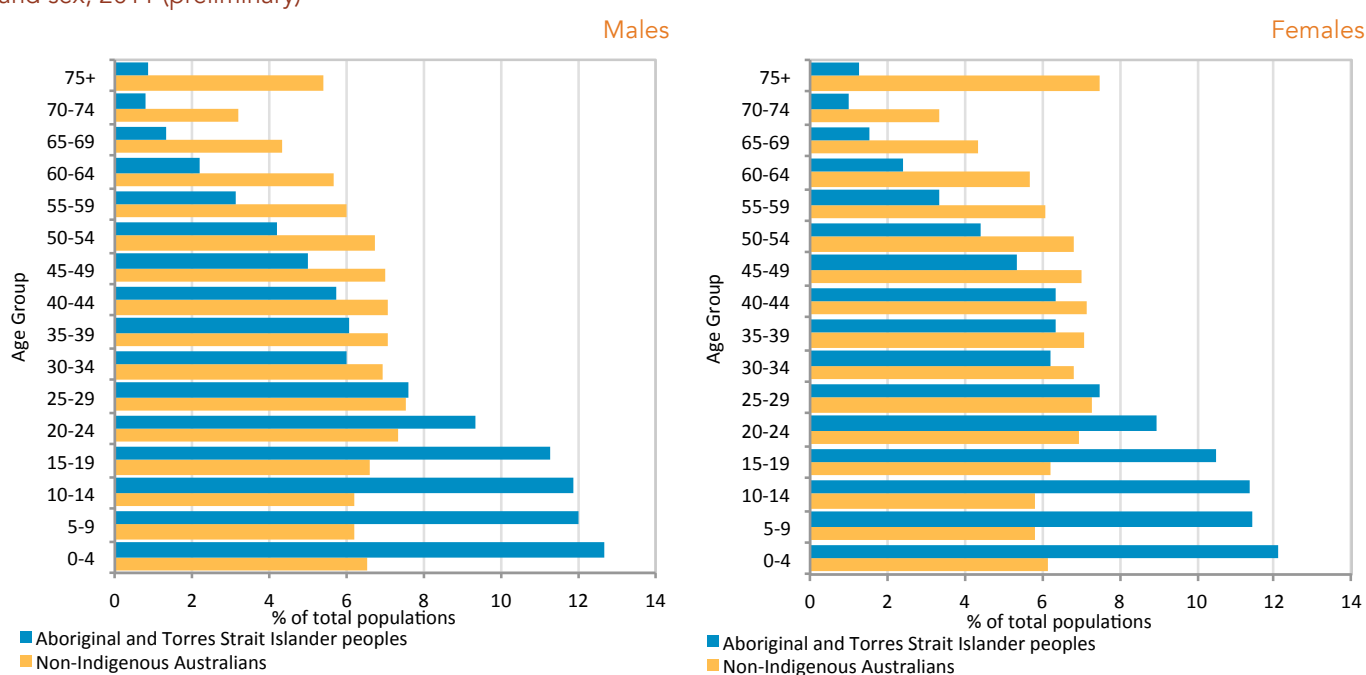
	Number of Indigenous Australians	Indigenous as % of total population	Indigenous as % of total Indigenous population
Major cities	165,804	1.2	32.1
Inner regional	110,643	2.7	21.4
Outer regional	113,280	5.8	21.9
Remote	47,852	15.2	9.3
Very remote	79,464	47.4	15.4
Australia	517,043	2.5	100.0

Source: AIHW analysis of ABS population estimates based on 2006 Census

Note: 2011 Census estimates for remoteness not yet available

Figure 11

Age distribution of Aboriginal and Torres Strait Islander peoples and non-Indigenous Australians, by Indigenous status and sex, 2011 (preliminary)



Source: Preliminary ABS population estimates based on the 2011 Census (ABS 2012)

National Health Policies and Strategies

In July 2003, all Australian governments endorsed the *National Strategic Framework for Aboriginal and Torres Strait Islander Health 2003–2013* (NSFATSIH). The key goal of the NSFATSIH is: 'To ensure that Aboriginal and Torres Strait Islander peoples enjoy a healthy life equal to that of the general population that is enriched by a strong living culture, dignity and justice' (NATSIC 2003).

The new National Aboriginal and Torres Strait Islander Health Plan is currently being developed and is due to be finalised in 2013. The evidence in the HPF has informed the development of the new Health Plan and also the COAG initiatives outlined below.

In December 2007, COAG agreed to a partnership between all levels of government to work with Aboriginal and Torres Strait Islander peoples to close the gap in Indigenous disadvantage. In recognition that outcomes for Indigenous Australians remain well below those of non-Indigenous Australians, COAG agreed to six targets:

- closing the life expectancy gap within a generation (see measure 1.19)
- halving the gap in mortality rates for Indigenous children under five within a decade (see measure 1.20)
- ensuring all Indigenous four year olds in remote communities have access to early childhood education within five years
- halving the gap for Indigenous students in reading, writing and numeracy within a decade (see measure 2.04)
- halving the gap for Indigenous people in Year 12 attainment or equivalent attainment rates by 2020 (see measure 2.05)
- halving the gap in employment outcomes between Indigenous and non-Indigenous Australians within a decade (see measure 2.07)

COAG has also identified seven building blocks that need to be addressed in a coordinated fashion if the targets above are to be achieved.

These building blocks reflect the need for a whole of government approach, and emphasise the influence that social, economic and environmental factors have on overall health outcomes.

The building blocks are:

- early childhood
- education and supporting school attendance
- access to primary health care
- economic participation and active welfare
- healthy home environments
- safety and freedom from violence leadership and governance

In November 2008, COAG agreed to sustained engagement and effort by all governments over the next decade and beyond to achieve the Close the Gap targets for Indigenous Australians. The *National Indigenous Reform Agreement* (NIRA) sets out the policy framework for Closing the Gap in Indigenous disadvantage. The COAG commitment also included targeted initiatives for Indigenous Australians of \$4.6 billion across early childhood development, health, housing, economic participation and remote service delivery through a number of associated National Partnership Agreements (COAG 2008b). Health-related Agreements include:

- The *National Partnership Agreement on Indigenous Early Childhood Development*—with joint funding of \$564 million over six years to June 2014, to address the needs of Indigenous children in their early years.
- The *National Partnership Agreement on Closing the Gap in Indigenous Health Outcomes*—with funding of \$1.6 billion over four years to June 2013, centred on five priority areas:
 - tackling smoking
 - providing a healthy transition to adulthood
 - making Indigenous health everyone's business
 - delivering effective primary health care services
 - better coordinating the patient journey through the health system.

This Agreement acknowledges that to overcome Aboriginal and Torres Strait Islander health disadvantage, a holistic life stage approach is required that

builds sustainable social change and embeds system reform. As part of this Agreement, the Australian Government committed to an Indigenous Chronic Disease Package that aims to reduce chronic disease risk factors; encourage earlier detection and better management of chronic disease in primary health care services; improve follow-up care; and increase the capacity of the primary care workforce to deliver effective health care to Aboriginal and Torres Strait Islander peoples across Australia.

The objectives of this agreement will be supported by the successful implementation of other Aboriginal and Torres Strait Islander initiatives including early childhood reforms, broader health system changes and measures to address the underlying social determinants of poor health.

- The *National Partnership Agreement on Remote Service Delivery*—which commits governments to work together with Indigenous communities to improve Aboriginal and Torres Strait Islander peoples' access to government services, including early childhood, health, housing and welfare services in selected remote communities.
- Since July 2012, the *Stronger Futures in the Northern Territory National Partnership Agreement* has replaced the *National Partnership Agreement on Closing the Gap in the Northern Territory*. This 10 year agreement includes \$713.5 million investment to continue with successful initiatives to improve the health and wellbeing of Aboriginal and Torres Strait Islander peoples in the NT.

In November 2008, COAG also signed the *National Healthcare Agreement* committing \$60.5 billion over five years. This affirmed the agreement of all governments that Australia's health system should:

- be shaped around the health needs of individual patients, their families and communities;
- focus on the prevention of disease and injury and the maintenance of health, not simply the treatment of illness;
- support an integrated approach to the promotion of healthy lifestyles, prevention of illness and injury, and

- diagnosis and treatment of illness across the continuum of care; and
- provide all Australians with timely access to quality health services based on their needs, not ability to pay, regardless of where they live in the country.

In August 2011, COAG endorsed the *National Health Reform Agreement* and the *National Partnership Agreement on Improving Public Hospital Services*. As a result of these agreements, the Commonwealth will contribute to the efficient growth funding for hospitals commencing at 45% from 1 July 2014, and increasing to 50% from 1 July 2017. A guaranteed additional \$16.4 billion will be provided by the Commonwealth for public hospital services up until 2019–20. This funding is additional to that which the Commonwealth would have otherwise provided.

Since 1 July 2012, hospitals' funding is based on the services they provide. This 'Activity Based Funding' is underpinned by a set of nationally

efficient prices determined by the Independent Hospital Pricing Authority. New agreed targets have begun to reduce elective surgery waiting lists and improve treatment times in emergency departments.

The Australian governments developed these reforms to ensure that the health system is put on a more financially sustainable footing, with an increasing share of public hospital costs being met by the Commonwealth into the future, more locally responsive planning and management of health services, an increased focus on safety and quality, and better publicly available information on the performance of health services. In combination, these reforms will improve timely access for people to high quality care, both in and out of hospital.

Under the National Health Reform Agreement, the Commonwealth is working collaboratively with states and territories to achieve a better integrated primary health care system

through the development of a National Primary Health Care Strategic Framework. The Framework will be completed by December 2012 and will complement state-specific plans for primary health care services (to be negotiated between the Commonwealth and individual states/territories), due by July 2013.

The *Aboriginal and Torres Strait Islander Health Performance Framework* (HPF) is being used to inform the development of these policies and also in monitoring progress in closing the gap in Aboriginal and Torres Strait Islander disadvantage. The HPF recognises that an effective, efficient and equitable health system is an essential component for any whole of government effort that seeks to address Aboriginal and Torres Strait Islander health. In addition, action is required in areas such as education, employment, transport and housing to achieve sustainable health gains.

Tier 1

Health status and outcomes

Health conditions

- 1.01 Low birthweight
- 1.02 Top reasons for hospitalisation
- 1.03 Injury and poisoning
- 1.04 Respiratory disease
- 1.05 Circulatory disease
- 1.06 Acute rheumatic fever and rheumatic heart disease
- 1.07 High blood pressure
- 1.08 Cancer
- 1.09 Diabetes
- 1.10 Kidney disease
- 1.11 Oral health
- 1.12 HIV/AIDS, hepatitis and sexually transmissible infections

Human Function

- 1.13 Community functioning
- 1.14 Disability
- 1.15 Ear health
- 1.16 Eye health

Life Expectancy and Wellbeing

- 1.17 Perceived health status
- 1.18 Social and emotional wellbeing
- 1.19 Life expectancy at birth

Deaths

- 1.20 Infant and child mortality
- 1.21 Perinatal mortality
- 1.22 All causes age-standardised death rates
- 1.23 Leading causes of mortality
- 1.24 Avoidable and preventable deaths

Tier 1: Health Status and Outcomes provides measures of current estimates and recent trends in the health status of Aboriginal and Torres Strait Islander peoples on a range of health issues. These measures show the gap in the prevalence or incidence of health conditions between Aboriginal and Torres Strait Islander peoples and non-Indigenous Australians and discuss whether the gap is widening or narrowing over time. Tier 1 shows which health conditions cause the highest

morbidity and mortality in the Aboriginal and Torres Strait Islander population. Measures of Health Status and Outcomes are closely related to Tier 2: Health Determinants and Tier 3: Health System Performance. Improvements in the measures shown by Tier 1 depend on changes in the immediate and underlying determinants of health which are reported in Tier 2, and in the access to, and the effectiveness of, health system performance reported in Tier 3. Improvements in Tier 1 measures will

occur only as Aboriginal and Torres Strait Islander peoples are able to live healthier lives and are able to use high quality health services according to need. Readers are encouraged to consider the implications for policies and programs in light of the measures of Health Status and Outcomes as these provide a better understanding of Health Determinants (Tier 2) and Health System Performance (Tier 3).

1.01 Low birthweight

Why is it important?:

Low birthweight (new-born babies weighing less than 2,500 grams) is associated with premature birth or sub-optimal intrauterine environments (foetal growth retardation). Low birthweight infants are at a greater risk of dying during the first year of life, and are prone to ill-health in childhood.

Low birthweight is a risk factor for neurological and physical disabilities. Children with extremely low birthweight (less than 1,000 grams) are more likely to have psycho-social problems, difficulties at school, and, when they become teenagers, lower achievement on intellectual measures, particularly arithmetic (AIHW 2011f).

Low birthweight babies may also be more vulnerable to illness throughout childhood and into adulthood. Evidence indicates that low birthweight is associated with an increased risk of Type 2 diabetes and high blood pressure (AIHW 2011f), higher mortality from cardiovascular and renal diseases in adulthood (White et al. 2010a), and from pulmonary causes in both childhood and adulthood (Hoy et al. 2010).

Risk factors include maternal smoking, socioeconomic disadvantage, the weight and age of the mother, the number of babies previously born to the mother, the mother's nutritional status, excessive alcohol consumption, poor antenatal care, illness during pregnancy, multiple births and the duration of pregnancy (see measure 2.21) (SIMC 2004; AMA 2005b; AIHW 2011f; Eades et al. 2008; ABS & AIHW 2008).

Findings:

In the period 2007–09, low birthweight was twice as common among babies born to Aboriginal and Torres Strait Islander mothers as among those with a non-Indigenous mother (12% compared with 6%). For babies born to Aboriginal and Torres Strait Islander mothers, the low birthweight rate increased by 11% between 1991 and 2009, and the gap between low birthweight rates has also increased. However, more recent trends in low birthweight from 2000 to 2009 have found a significant decline in the proportion of babies born to Aboriginal and Torres Strait Islander mothers with

low birthweight for both singleton births (7%) and total Indigenous births (6%). In 2009, the mean birthweight for infants born to Aboriginal and Torres Strait Islander mothers was 3,183 grams compared with 3,381 grams for infants born to other Australian mothers.

A multivariate analysis of perinatal data for the period 2006–08 has shown that for Aboriginal and Torres Strait Islander mothers, 33% of all low birthweight births can be attributed to smoking during pregnancy, compared with 13% for other Australian mothers. Smoking during pregnancy accounted for 24% of the gap in low birthweight births between Indigenous and other mothers. A study in Qld found that 76% of Aboriginal and Torres Strait Islander mothers who gave birth to a low birthweight singleton baby at full-term reported smoking during pregnancy (Khalidi et al. 2012).

Overall, maternal age, particularly teenage pregnancy, was not a significant contributor to the total burden of low birthweight among babies with Indigenous mothers (accounting for 1.2%). However, other Australian mothers in the younger age groups were at increased risk of giving birth to a low birthweight baby. These results may reflect the higher smoking rates for other Australian mothers in the under 20 and 20–24 year age groups, whilst Indigenous mothers had consistently high smoking rates for all age groups (see measure 2.21).

Maternal socioeconomic status (being outside the least disadvantaged quintile) did not increase the risk of Aboriginal and Torres Strait Islander mothers giving birth to a low birthweight baby and contributed only 3% to the total Indigenous low birthweight burden. However, this same factor was a larger component of the total burden for other mothers (11%). Other factors, such as state or territory of birth, number of previous births, or remoteness area had no significant impact on low birthweight outcomes for Indigenous mothers.

International rate comparisons should be treated with caution because of differences in methods used to classify and collect data, and the quality and reliability of data in each country. The low birthweight rate among babies born to American Indian and Alaska Native mothers is approximately 43% higher than those of other Americans; and in

New Zealand, rates are 50% higher for babies born to Maori mothers compared with other New Zealand babies. In Canada, the main birthweight problem among Aboriginal peoples is high birthweight (4,000 grams and over), linked with maternal diabetes (Smylie et al. 2010). In 2009, the proportion of high birthweight live-born babies born to Indigenous mothers in Australia was 8%. This compared with 12% of babies born of high birthweight to non-Indigenous mothers.

Implications:

Recent trends are promising. Analysis of the perinatal data suggests that the largest potential improvements in low birthweight outcomes for Aboriginal and Torres Strait Islander mothers will result from lowering rates of smoking during pregnancy. Approximately 24% of low birthweight among Indigenous mothers could be prevented if the smoking rate for Indigenous mothers during pregnancy was reduced to that of other mothers.

Analysis of the perinatal data shows that an increase in antenatal visits is associated with a decreased likelihood of low birthweight (see measure 3.01). Research also confirms that appropriate antenatal care and a healthy environment for the mother can improve the chances that the baby will have a healthy birthweight (Herceg 2005). While improvements in health services such as antenatal and acute care for pregnant women are important to reduce the occurrence of pre-term delivery and improve foetal growth during pregnancy, the reasons for premature delivery are not well understood. In addition to these health service improvements other factors are important such as health promotion and early intervention to support reductions in smoking, improving the nutrition and health of young women, nutrition during pregnancy, educational attainment and support for strong families and communities.

Australian governments are investing in a range of initiatives aimed at improving child and maternal health. In October 2008, COAG agreed to the *National Partnership Agreement on Indigenous Early Childhood Development* with joint funding of \$564 million over six years. This includes Australian Government funding to state and territory governments for sexual health and young parent programs and support for 85 New

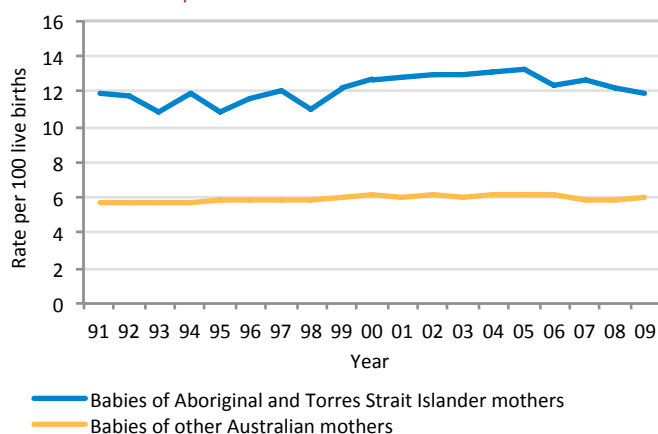
Directions: Mothers and Babies Services which provide Aboriginal and Torres Strait Islander families with access to antenatal care; practical advice and assistance with parenting; and health checks for children. In addition, one of the aims of *Healthy for Life* is to improve access to antenatal, postnatal and child health care. This program aims to improve pregnancy, birth and child health outcomes (including birthweight) and reduce the incidence of illness among Aboriginal and Torres Strait Islander babies and children. Data drawn from this program show a decline in the proportion of low birthweight Indigenous babies in the program and an increase in the number and proportion of

Indigenous women who made an antenatal visit before 13 weeks of pregnancy. States and territories invest heavily in the area of Indigenous early childhood. For example, the Aboriginal Family Birthing Program in SA has improved engagement with antenatal care in the first trimester, assisted in early identification of complications, reduced rates of preterm births, increased breastfeeding rates and reduced rates of caesarean births.

The Department of Health and Ageing is currently developing new *National Evidence-Based Antenatal Care Guidelines* on behalf of all Australian governments. The Guidelines are designed to cover the antenatal care of

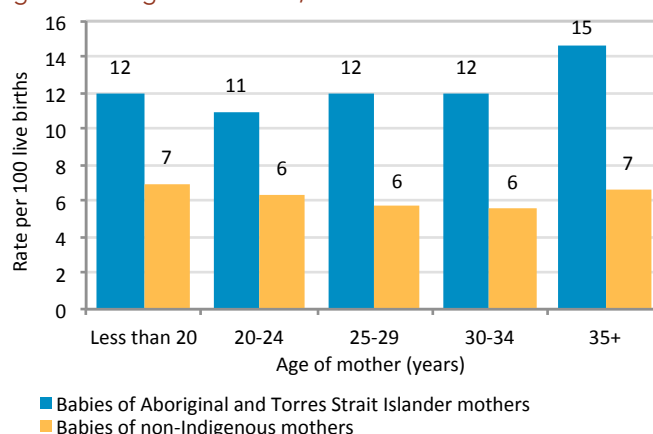
healthy pregnant women, and present recommendations based on the clinical evidence for a wide range of care. Module 1 of the Guidelines covers the first trimester of pregnancy and provides advice on over 20 topic areas including tobacco smoking, alcohol and nutritional supplements. The Guidelines have been developed with input from the Working Group for Aboriginal and Torres Strait Islander Women’s Antenatal Care. They will aim to provide culturally appropriate guidance and information for the health needs of Aboriginal and Torres Strait Islander pregnant women and their families.

Figure 12
Low birthweight babies per 100 live births, by Indigenous status of mother, 1991–2009



Source: AIHW analysis of National Perinatal Statistics Unit (NPSU) National Perinatal Data Collection

Figure 13
Low birthweight babies per 100 live births, by maternal age and Indigenous status, 2008–09



Source: AIHW analysis of National Perinatal Statistics Unit (NPSU) National Perinatal Data Collection

Table 3
Low birthweight babies per 100 live births, by Indigenous status of mother and state/territory of residence, 2007–09

Jurisdiction	Babies of Indigenous mothers	Babies of non-Indigenous mothers
New South Wales	11.5	5.6
Victoria	13.4	6.2
Queensland	10.7	6.0
Western Australia	15.0	5.7
South Australia	13.6	6.2
Tasmania	10.0	6.5
Australian Capital Territory ^(a)	13.1	5.2
Northern Territory	13.8	5.5
Australia	12.3	5.9

a) ACT proportions are influenced by small numbers

Source: AIHW analysis of National Perinatal Statistics Unit (NPSU) National Perinatal Data Collection

1.02 Top reasons for hospitalisation

Why is it important?:

Hospitalisation rates indicate two main issues: the occurrence in a population of serious acute illnesses and conditions requiring inpatient hospital treatment; and the access to and use of hospital inpatient treatment by people with such conditions (see also measure 3.05). Hospitalisation rates for a particular disease do not directly indicate the level of occurrence of that disease in the population. For diseases that usually do not cause serious enough illness to require admission to hospital, a high level of occurrence will not be reflected in a high level of hospitalisation. Hospitalisation rates are based on the number of hospital episodes rather than on the number of individual people who are hospitalised. A person who has frequent admissions for the same disease is counted multiple times in the hospitalisation rate for that disease. For example, each kidney dialysis treatment is counted as a separate hospital episode, so that each person receiving three dialysis treatments per week contributes approximately 150 hospital episodes per year. Therefore, it is especially important to separate hospitalisation rates for dialysis from rates for other conditions. Each hospitalisation involves a principal diagnosis (i.e., the problem that was chiefly responsible for the patient's episode of care) and additional diagnoses where applicable (i.e., conditions or complaints either coexisting or arising during care). This report focuses on the principal diagnosis for each hospitalisation. Analysis of additional diagnoses is available from <http://www.aihw.gov.au>. Rates of hospitalisation are also impacted by the availability of primary care services (see measure 3.06) and other alternative services.

Findings:

During the two years to June 2010, there were an estimated 380,000 hospital admissions for Aboriginal and Torres Strait Islander peoples (excluding dialysis). After adjusting for differences in the age structure of the two populations, the hospitalisation rate (excluding dialysis) for Aboriginal and Torres Strait

Islander peoples in the two years to June 2010 was 435 per 1,000 population compared with 305 per 1,000 population for non-Indigenous Australians (i.e., 1.4 times as high).

Hospital episodes of care involving dialysis accounted for 44% of all hospitalisations for Aboriginal and Torres Strait Islander peoples (compared with 12% for non-Indigenous Australians). The hospitalisation rate for dialysis among Indigenous Australians was 11 times the rate of non-Indigenous Australians (see measure 1.09). Injury and poisoning was the second leading cause of hospitalisation (8%), followed by pregnancy and childbirth (7%), diseases of the respiratory system (6%) and diseases of the digestive system (5%).

In jurisdictions with adequate data quality (NSW, Victoria, Qld, WA, SA and the NT) the highest hospitalisation rates were in WA and SA (481 and 478 per 1,000 population) and the lowest in Victoria (342 per 1,000 population). Hospitalisation rates were highest in remote areas, lower in very remote areas and lowest in major cities. For non-Indigenous Australians, rates were similar across geographic areas.

Hospitalisation rates for Aboriginal and Torres Strait Islander peoples have increased significantly over both the long-term (1998–99 to 2009–10 for Qld, WA, SA and the NT combined) and the short-term (2004–05 to 2009–10 for NSW, Victoria, Qld, WA, SA and the NT combined). In the long term trend, hospitalisation rate increases for non-Indigenous people have kept pace with increases in the rates for Indigenous people.

Admissions to hospital are higher for Aboriginal and Torres Strait Islander peoples across all age groups below 65 years, although the differences are less pronounced for children aged 5–14 years.

Implications:

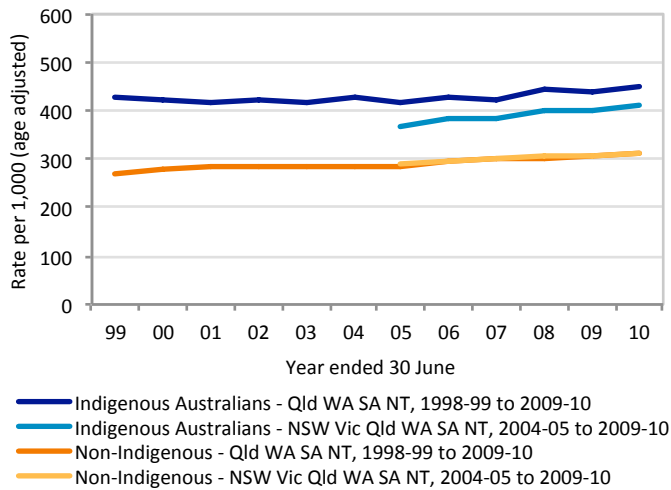
In the two-year period to June 2010, there were approximately 258,600 hospital episodes for Aboriginal and Torres Strait Islander peoples for dialysis treatment in the six jurisdictions analysed. Dialysis episodes for Aboriginal and Torres Strait Islander peoples are increasingly reflecting the very high and rising number of Aboriginal and Torres Strait Islander peoples with kidney failure, and the low number of Aboriginal

and Torres Strait Islander patients receiving kidney transplants (see measure 1.09). Excluding dialysis, the greatest differences between hospitalisation rates for Indigenous and non-Indigenous people are for episodes of care due to injury and respiratory conditions.

The 40% higher overall hospitalisation rate for Aboriginal and Torres Strait Islander peoples is less than expected given the much greater occurrence of disease and injury and much higher mortality rates in this population (see measure 1.22). Until the incidence of many health problems is reduced, hospitalisation rates for Aboriginal and Torres Strait Islander peoples are likely to increase. Reductions in hospitalisations will eventually occur through concerted action to reduce the incidence and prevalence of the underlying conditions, and in preventing or delaying complications, through more comprehensive primary health care.

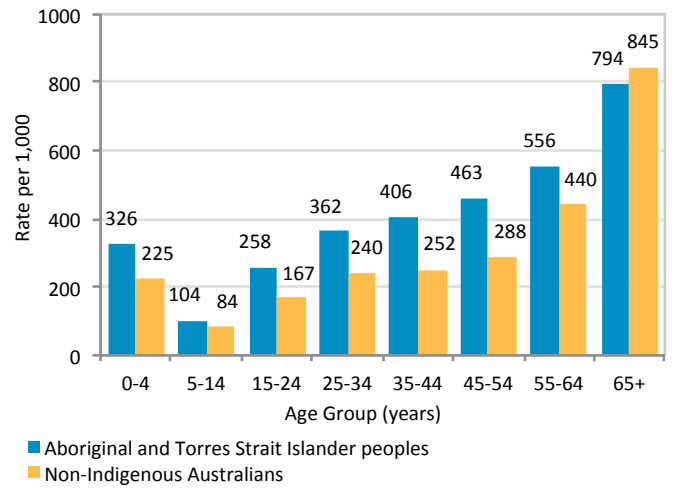
The *National Partnership Agreement on Closing the Gap in Indigenous Health Outcomes* with funding of \$1.6 billion over four years aims to assist in reducing avoidable hospitalisations of Aboriginal and Torres Strait Islander peoples through the prevention, early detection and management of chronic disease. This Agreement is centred on five priority areas: tackling smoking, providing a healthy transition to adulthood, making Indigenous health everyone's business, delivering effective primary health care services and better coordinating the patient journey through the health system. Achievement of the objectives of this Agreement will be influenced and supported by the successful implementation of other Indigenous-specific initiatives including early childhood reforms, broader health system changes, improvements in identification of Indigenous patients and measures to address the underlying social determinants of poor health.

Figure 14
Age-standardised hospitalisation rates (excluding dialysis) by Indigenous status



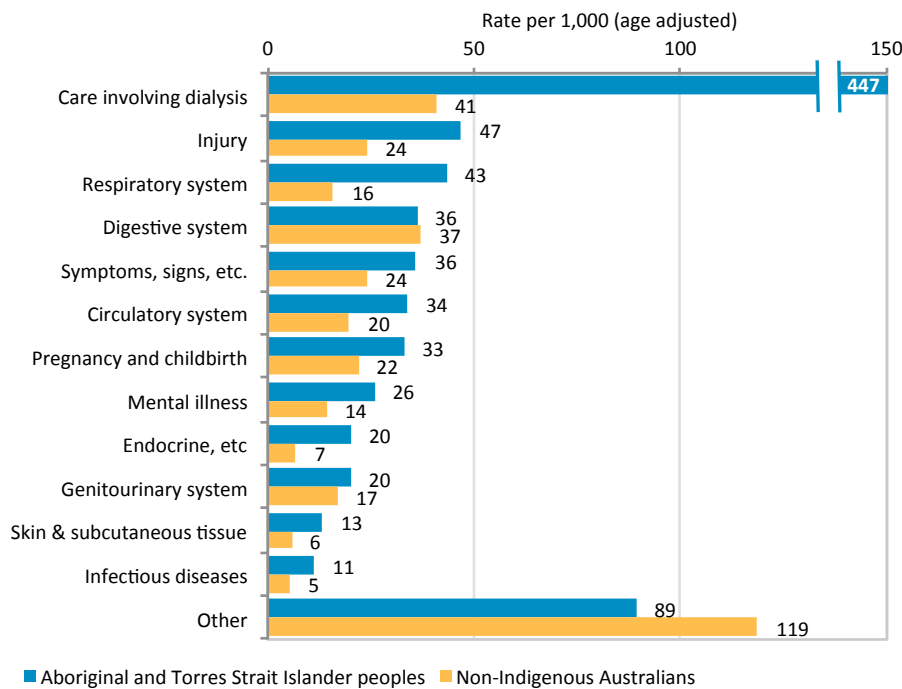
Source: AIHW analysis of National Hospital Morbidity Database

Figure 15
Age-specific hospitalisation rates (excluding dialysis) by Indigenous status, NSW, Victoria, Qld, WA, SA and the NT, July 2008–June 2010



Source: AIHW analysis of National Hospital Morbidity Database

Figure 16
Age-standardised hospitalisation rates by principal diagnosis and Indigenous status, NSW, Victoria, Qld, WA, SA and the NT, July 2008–June 2010



Source: AIHW analysis of National Hospital Morbidity Database

1.03 Injury and poisoning

Why is it important?:

Injury and poisoning is responsible for 15% of the health gap between Indigenous and non-Indigenous Australians (Vos et al. 2007). Injuries can cause long-term disadvantage including: loss of the chance of a full life; the burden on caregivers for people with disabilities; decreased workplace productivity; and continuation of the cycle of grief among families, friends and communities.

Findings:

Hospitalisations for injury reflect hospital attendances for the condition rather than the extent of the problem in the community. Hospitalisations for injury and poisoning are the second most common reason for hospital admission for Aboriginal and Torres Strait Islander peoples (behind hospitalisation for dialysis). Hospitalisations for injury among Indigenous Australians occur at twice the rate of non-Indigenous Australians, accounting for 44,067 hospitalisations in the two years from July 2008 to June 2010.

For non-Indigenous Australians, hospitalisation rates for injury were much higher in the elderly (aged 65 years and over) than in younger age groups. This mainly reflects higher rates of falls for elderly people. Among non-Indigenous people aged less than 65 years, injury hospitalisation rates for males were higher than for females. Injury hospitalisation rates had a very different pattern for Indigenous Australians: injury had a much greater impact on the young and middle-aged; and rates peaked in early adult age groups. Rates varied across jurisdictions, with the highest rates in WA and the NT.

Between 1998–99 and 2009–10 for Qld, WA, SA and the NT combined, the hospitalisation rate for injury and poisoning for Aboriginal and Torres Strait Islander peoples showed no change. During this period the non-Indigenous hospitalisation rate for injury and poisoning increased by 9%. Between 2004–05 and 2009–10, based on data from the above jurisdictions and also NSW and Victoria, the Aboriginal and Torres Strait Islander hospitalisation rate for injury and poisoning increased by

14%. This was greater than the increase for non-Indigenous Australians (9%).

Assault is the leading cause of injury requiring hospitalisation for Aboriginal and Torres Strait Islander peoples and was responsible for 21% and 28% of injury hospitalisations for males and females respectively in the two years to June 2010. Hospitalisation rates for injuries caused by assault are much higher for Aboriginal and Torres Strait Islander men (8 times as high) and women (34 times) than for non-Indigenous men and women. Indigenous Australians are also more likely to be re-admitted to hospital as a result of interpersonal violence than other Australians (Meuleners et al. 2008; Berry et al. 2009). Hospitalisation rates for Aboriginal and Torres Strait Islander peoples for other causes of injury are between 1.1 and 3.2 times as high as those for non-Indigenous Australians. Other leading causes of injury include accidental falls (18%), exposure to inanimate mechanical forces (12%), complications of medical care (12%) and transport accidents (9%).

BEACH survey data collected from April 2006 to March 2011 suggest that 5% of all problems managed by GPs among Indigenous Australians were for injury. Overall the management rate was slightly higher for Indigenous Australians (72 per 1,000 encounters) compared with other Australians (67 per 1,000 encounters). The most common injuries managed among Indigenous Australians were musculoskeletal and skin injuries.

Over the period 2006–10, in the five jurisdictions with adequate data for reporting (NSW, Qld, WA, SA and the NT combined), the third most common cause of death among Indigenous Australians was external causes (injury and poisoning). Indigenous Australians died from external causes (including injury) at twice the rate of other Australians. The most common type of external cause of mortality among Indigenous Australians was intentional self-harm (491 deaths), followed by transport accidents (463 deaths), assault (178 deaths) and accidental poisoning (167 deaths). Indigenous Australians died from intentional self-harm and transport accidents at two and three times the rate of non-Indigenous Australians respectively. Indigenous Australians died from assault at nine times the rate of other Australians.

Implications:

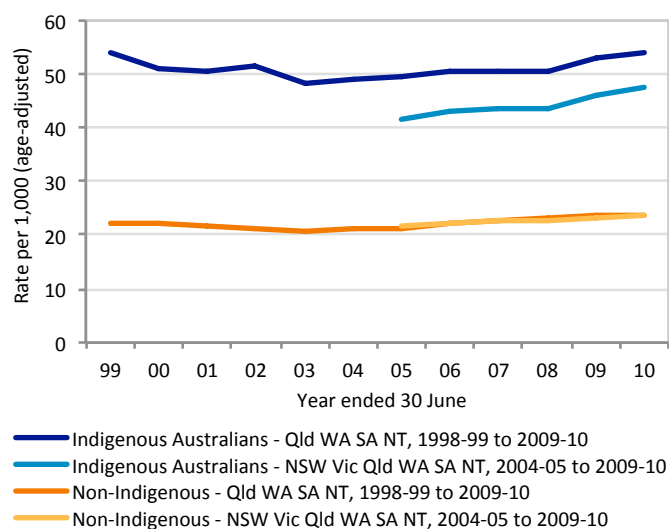
Intentional self-harm is the leading cause of death from external causes, followed by transport-related accidents. The relatively high rates of intentional self-harm highlight the need for interventions focused on social and emotional wellbeing (see measure 1.16). Assault is the most important injury prevention issue in relation to hospitalisations, followed by accidental falls.

There is a need to ensure that injury prevention efforts are based on evidence, that they are culturally appropriate, and that they build on resilience. Such efforts should also address systemic issues that reduce people's capacity to make health-enhancing choices and the likelihood that they will do so (Anderson 2008; Ivers et al. 2008; Berger et al. 2009; Berry et al. 2009).

The *Indigenous Family Safety Agenda* (July 2010) and the *National Aboriginal and Torres Strait Islander Safety Promotion Strategy* (July 2005) address injury prevention and safety promotion issues specific to Indigenous communities, including intentional and unintentional injury, violence, alcohol-related injuries, self-harm and harm to others. The *National Injury Prevention and Safety Promotion Plan 2004–2014* provides a whole of society, systems, and population health approach which focuses on encouraging the development of partnerships, and investing in prevention and safety promotion initiatives specific to Aboriginal and Torres Strait Islander peoples, rural and remote populations, and throughout different stages of life.

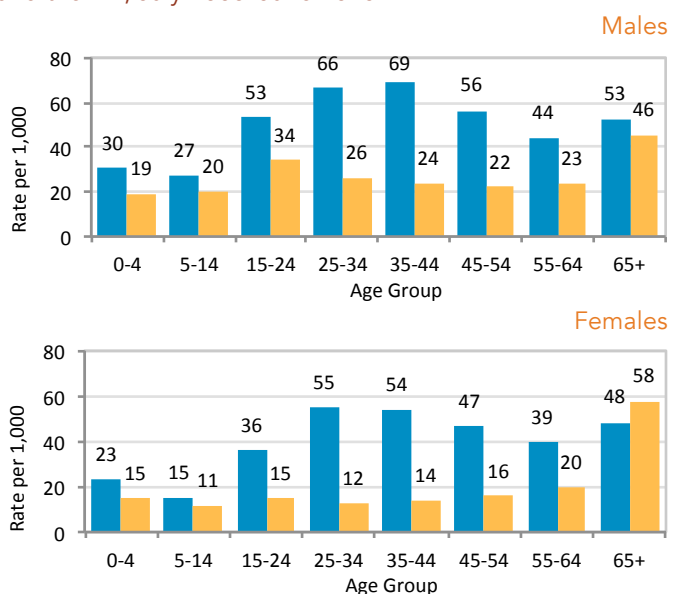
An objective of the *National Road Safety Strategy 2011–2020* is to ensure Indigenous people have substantially improved access to graduated driver licensing and to vehicles with high safety ratings. As a priority, the strategy calls for the implementation of programs that help Indigenous learner drivers gain more driving practice; and for road safety education programs that are locally relevant and culturally appropriate.

Figure 17
Age-standardised hospitalisation rates for injury and poisoning, by Indigenous status



Source: AIHW analysis of National Hospital Morbidity Database

Figure 18
Age-specific hospitalisation rates for injury and poisoning, by Indigenous status and sex, NSW, Victoria, Qld, WA, SA and the NT, July 2008–June 2010



Source: AIHW analysis of National Hospital Morbidity Database

Table 4
Age-standardised hospitalisations for external causes of injury and poisoning for Aboriginal and Torres Strait Islander peoples by sex and external cause, NSW, Victoria, Qld, WA, SA and the NT, July 2008–June 2010

External Cause:	Males			Females			Persons		
	%	Rate ^(a)	Ratio	%	Rate ^(a)	Ratio	%	Rate ^(a)	Ratio
Assault	21.0	10.9	7.5*	28.0	10.6	34.4*	24.1	10.7	12.2*
Falls	18.1	10.3	1.5*	18.2	9.3	1.2*	18.1	9.9	1.3*
Exposure to inanimate mechanical forces	14.8	6.5	1.5*	8.8	3.0	2.2*	12.2	4.7	1.7*
Complications of medical and surgical care	9.8	7.5	1.7*	14.1	7.4	1.9*	11.6	7.4	1.8*
Transport accidents	11.5	5.2	1.4*	6.7	2.4	1.5*	9.4	3.8	1.5*
Intentional self-harm	5.0	2.6	2.9*	8.7	3.2	2.1*	6.6	2.9	2.4*
Other accidental exposures	7.4	3.7	1.1*	5.1	2.1	1.2*	6.4	2.9	1.1*
Exposure to animate mechanical forces	4.7	2.0	2.1*	2.9	1.0	2.3*	3.9	1.5	2.1*
Exposure to electric current/smoke/ fire/animals/nature	3.4	1.5	2.3*	2.8	0.9	2.7*	3.2	1.2	2.5*
Accidental poisoning by and exposure to noxious	1.9	0.9	2.0*	2.4	0.8	2.1*	2.1	0.9	2.1*
Other external causes	2.1	1.1	3.4*	2.1	0.8	3.0*	2.1	0.9	3.2*
Total	100	52.2	1.9*	100	41.6	2.1*	100	46.9	2.0*
Total number of hospitalisations for injury or poisoning:	24923			19144			44067		

a) Per 1,000 persons, directly age-standardised using the Australian 2001 standard population.

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the p<.05 level.

Source: AIHW analysis of National Hospital Morbidity Database

Table 5
Age-standardised hospitalisations for external causes of injury and poisoning for Aboriginal and Torres Strait Islander peoples by sex and jurisdiction, July 2008–June 2010

	Male			Female			Persons		
	Number	Rate	Ratio	Number	Rate	Ratio	Number	Rate	Ratio
New South Wales	6399	42.5	1.6*	4225	30.1	1.6*	10624	36.3	1.6*
Victoria	1216	37.2	1.4*	805	27.4	1.4*	2021	32.4	1.4*
Queensland	6862	49.1	1.7*	4612	34.8	1.7*	11474	41.9	1.7*
Western Australia	4651	67.4	2.6*	4145	63.1	3.3*	8796	65.2	2.9*
South Australia	1672	63.2	2.5*	1447	52.9	2.8*	3119	57.6	2.6*
Northern Territory	4123	68.0	2.3*	3910	61.8	3.3*	8033	64.7	2.7*
Tasmania	289	14.9	0.7	225	12.7	0.9	514	13.8	0.8
Australian Capital Territory	141	24.9	1.2	116	23.5	1.4*	257	24.6	1.3*
NSW, Vic, Qld, WA, SA, NT^(b)	24923	52.2	1.9*	19144	41.6	2.1*	44067	46.9	2.0*

a) Per 1,000 persons, directly age-standardised using the Australian 2001 standard population. b) Total excludes Tasmania and the ACT

* Represents results with statistically significant differences in the Indigenous/other comparisons at the p<.05 level.

Source: AIHW analysis of National Hospital Morbidity Database

1.04 Respiratory disease

Why is it important?:

Aboriginal and Torres Strait Islander peoples experience considerably greater mortality and morbidity from respiratory diseases such as asthma, chronic obstructive pulmonary disease (COPD), pneumonia and invasive pneumococcal disease than other Australians. Chronic respiratory diseases were responsible for 9% of the total disease burden among Indigenous Australians in 2003. COPD and asthma caused 43% and 38% of this burden respectively. The burden from chronic respiratory diseases in Indigenous Australians occurred at a rate 2.5 times that of the total Australian population (Vos et al. 2007).

High rates of pneumonia are associated with factors such as respiratory diseases; poor living conditions; malnutrition; and smoking and alcohol misuse. Young children and those in older age groups are most at risk. Indigenous children in the NT have rates of radiologically confirmed pneumonia that are among the highest in the world (O'Grady et al. 2010). Although hospitalisation statistics reflect admissions to hospital rather than the prevalence or incidence of pneumonia in the community, they are a measure of the occurrence of severe pneumonia requiring acute care.

Asthma can impact on physical functioning and attendance at school and work. It commonly coexists with other chronic conditions and is often associated with low socioeconomic status and poorer quality of life. The mortality rate due to asthma in Australia is high on an international scale. Deaths due to asthma occur in all age groups, but the risk of dying from asthma increases with age. Asthma is more common among Indigenous Australians than other Australians, particularly adults, and Indigenous Australians have a higher risk of dying from asthma than other Australians (AIHW 2011b).

COPD is a serious lung disease that mainly affects older people and is often difficult to distinguish from asthma. It is characterised by chronic obstruction of lung airflow that interferes with breathing. In 2007–08, people aged 55 years and over with COPD were nearly twice as likely (20%) to be a current

smoker than those without the disease (11%) (AIHW 2011b).

Findings:

Between 2006 and 2010, respiratory disease caused 8% of deaths among Indigenous Australians in NSW, Qld, WA, SA and the NT combined. This was around twice the non-Indigenous rate. For respiratory deaths among Indigenous Australians, 55% were attributed to COPD, 6% to asthma, and 21% to pneumonia and influenza. There has been a significant decline in respiratory disease mortality rates among Indigenous Australians since 1997, and also a significant decline in the gap.

Between July 2008 and June 2010, there were an estimated 35,343 hospitalisations for respiratory disease among Aboriginal and Torres Strait Islander peoples in the six jurisdictions with data of adequate quality. These episodes accounted for 6% of all hospitalisations for Indigenous Australians. After adjusting for differences in the age structure of the two populations, the hospitalisation rate for respiratory disease was 2.7 times as high for Aboriginal and Torres Strait Islander peoples as it was for non-Indigenous Australians. The greatest rate difference occurred in the younger (0–4 years) and older (55–64 and 65 years and over) age groups.

Rates of hospitalisations among Indigenous Australians for respiratory disease vary across the jurisdictions, from 26 per 1,000 in Victoria to 62 per 1,000 in the NT. Rates in remote areas were three times the rates in major cities for Indigenous Australians but rates were similar across geographic areas for non-Indigenous Australians. Over the last twelve years the hospitalisation rate for respiratory disease for Indigenous Australians fell significantly. Rates for Aboriginal and Torres Strait Islander children aged 0–4 years over the same period also declined significantly and the gap has narrowed.

In the period July 2008 to June 2010, hospitalisation for pneumonia was more common for Aboriginal and Torres Strait Islander peoples than non-Indigenous Australians. Pneumonia (23%) was the most common type of respiratory disease for which Indigenous Australians were hospitalised. This was followed by COPD (13%) and asthma (11%). Between 2009–11 there were 683 notifications of invasive pneumococcal disease for

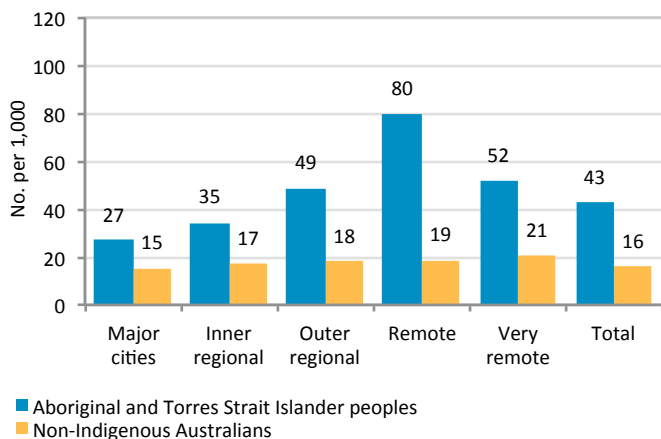
Aboriginal and Torres Strait Islander peoples, representing 13% of all cases notified that year. Among people aged 55 years and over, hospitalisations for COPD were higher for Indigenous Australians than for other Australians, and cancer was commonly listed as an associated diagnosis (AIHW 2011b).

In 2004–05, the self-reported prevalence of asthma was higher among Aboriginal and Torres Strait Islander peoples than non-Indigenous Australians. The rate for Aboriginal and Torres Strait Islander children was 14%, compared with 11% for non-Indigenous children. After adjusting for differences in the age structure of the two populations, Indigenous Australians aged 15 years and over were 1.6 times as likely as non-Indigenous people to have asthma. Asthma was reported almost twice as often by Indigenous people living in non-remote areas (17%) as in remote areas (9%).

Implications:

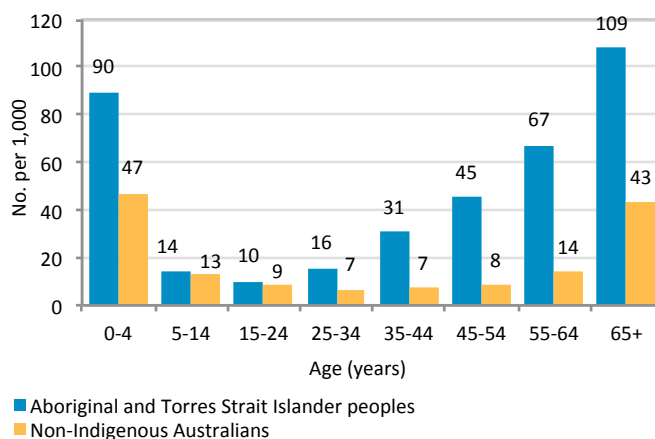
Both mortality rates and hospitalisation rates for respiratory disease have fallen, suggesting that the impact of respiratory disease on Aboriginal and Torres Strait Islander peoples has reduced in recent years. This finding provides encouragement that progress is being achieved, and that further improvements are possible. Rates of invasive pneumococcal disease in the general community have fallen since 2002, which appears to reflect the introduction and extension of pneumococcal vaccination since 2001 (see measure 3.02) (Roche et al. 2008). Improved influenza and pneumococcal vaccination coverage will be important in further reducing the burden of acute respiratory illness and death. However, hospitalisation for respiratory disease was 2.7 times as common for Indigenous Australians than other Australians and mortality rates were double. Therefore, respiratory disease remains an important public health issue. Initiatives addressing smoking, immunisation, living conditions, overcrowding, chronic disease and access to health care are likely to contribute to improvements in respiratory disease.

Figure 19
Age-standardised hospitalisation rates for respiratory disease by Indigenous status and remoteness, NSW, Victoria, Qld, WA, SA and the NT, July 2008 to June 2010



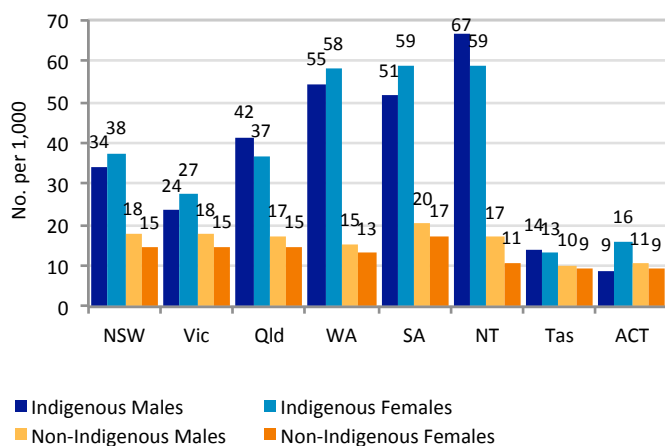
Source: AIHW analysis of National Hospital Morbidity Database

Figure 20
Age-specific hospitalisation rates for respiratory disease, by Indigenous status, NSW, Victoria, Qld, WA, SA and the NT, July 2008 to July 2010



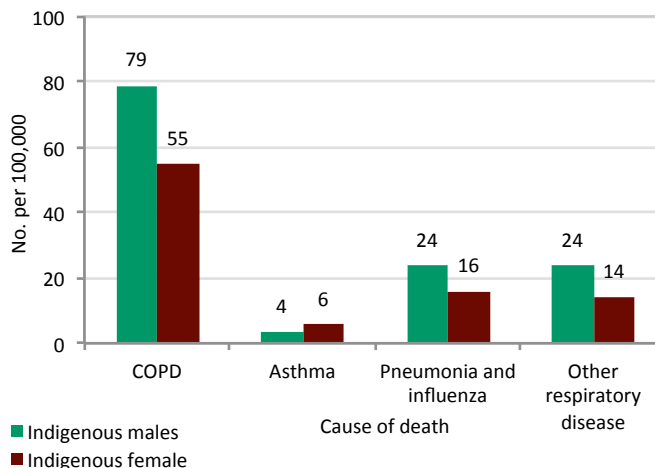
Source: AIHW analysis of National Hospital Morbidity Database

Figure 21
Age-standardised hospitalisation rates for respiratory disease, by Indigenous status, sex, and jurisdiction, July 2008 to June 2010



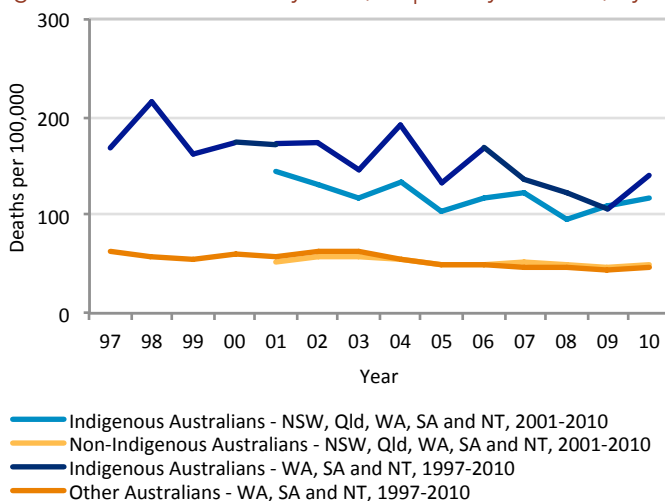
Source: AIHW analysis of National Hospital Morbidity Database

Figure 22
Deaths of Indigenous Australians from respiratory disease, by sex, NSW, Qld, WA, SA and the NT, 2006–10



Source: ABS and AIHW analysis of ABS Mortality Database

Figure 23
Age-standardised mortality rates, respiratory diseases, by Indigenous status



Source: ABS and AIHW analysis of ABS Mortality Database

1.05 Circulatory disease

Why is it important?:

Circulatory disease is a major cause of morbidity and mortality in older Australians. In recent decades, Australian mortality rates from circulatory disease have fallen considerably, due to factors such as reduced smoking rates and improved treatment of high blood pressure and ischaemic heart disease (IHD). However, recent trends, such as increased levels of obesity and diabetes, threaten to slow or reverse these improvements. Circulatory disease is more common among Indigenous Australians and tends to occur at much younger ages. Circulatory disease accounts for 17% of the burden of disease in Indigenous Australians (Vos et al. 2007) and 26% of mortality (see measure 1.23). Smoking levels are high among Indigenous adults (see measure 2.18), although evidence shows a small reduction in the most recent period. Levels of physical inactivity, obesity, diabetes and high blood pressure are much higher than for non-Indigenous Australians. Additionally, low socioeconomic status is associated both with greater risk of developing circulatory disease and with lower chance of receiving appropriate treatment (Beard et al. 2008; Cunningham 2010).

Findings:

In 2006–10, circulatory disease was the leading cause of death among Indigenous Australians, with a death rate 1.7 times that of non-Indigenous Australians (see measure 1.23). Studies have found that Indigenous Australians are more likely to experience major coronary events and are also more likely to die from them (You et al. 2009; AIHW 2006a).

There has been a 41% decline in the mortality rate for Aboriginal and Torres Strait Islander peoples between 1997 and 2010 and a significant narrowing of the gap. A study in the NT between 1992 and 2004 found an increase in incidence of acute myocardial infarction and at the same time an improvement in survival both prior to and after hospital admission (You et al. 2009).

In 2004–05, approximately 12% of Aboriginal and Torres Strait Islander peoples reported having a diagnosed

circulatory condition. After adjusting for differences in the age structure of the two populations, Indigenous Australians were 1.2 times as likely to report having circulatory disease as non-Indigenous Australians and almost twice as likely to have coronary heart disease (Penm 2008). The greatest disparities were in the 25–54 year age groups. There was no change in self-reported levels of circulatory disease between 2001 and 2004–05. Indigenous Australians living in remote areas reported higher rates of circulatory disease than those in non-remote areas (14% compared with 11%). Self-reported rates of circulatory disease were also higher for Indigenous females (15%) compared with males (11%). Main conditions reported were hypertension (7%), coronary heart disease (1%), heart failure (1%) and rheumatic heart disease (0.7%) (Penm 2008).

In 2004–05, Aboriginal and Torres Strait Islander peoples were more likely to report having circulatory disease if they were unemployed (28%) than if they were employed (23%). Circulatory diseases were also associated with low or sedentary exercise levels, overweight/obesity and high cholesterol.

BEACH survey data collected from April 2006 to March 2011 suggest that approximately 8% of problems managed by GPs among Aboriginal and Torres Strait Islander peoples were for circulatory conditions. After adjusting for differences in the age structure of the two populations, rates for the management of hypertension and cardiac check-ups were similar to those for other Australians, yet the management rate for ischemic heart disease was twice as high.

For the two years to June 2010, after adjusting for differences in the age structure of the two populations, the circulatory disease hospitalisation rate for Aboriginal and Torres Strait Islander peoples was 1.7 times that of non-Indigenous Australians. Between 1998–99 and 2009–10, the hospitalisation rate for Indigenous Australians for circulatory disease was stable, but decreased by 13% for non-Indigenous Australians. Hospitalisation rates were higher for Indigenous males (38 per 1,000) than Indigenous females (31 per 1,000).

IHD was the most common type of circulatory disease hospitalisation for Indigenous Australians (43%). Diabetes was a common comorbidity. Among those hospitalised for coronary heart disease, Indigenous Australians were nearly half as likely to receive coronary procedures such as coronary angiography and revascularisation procedures (see measures 3.06). A study in the NT found that they were also less likely to receive in-patient cardiac rehabilitation, prescription of statins on discharge, and were more likely to die in the two years after discharge (Brown 2010). A study in NSW found that patients admitted to smaller more remote hospitals without on-site angiography had increased risk of short-term and long-term mortality (Randall et al. 2012).

Implications:

Circulatory disease problems were managed by GPs at similar rates for both Indigenous Australians and other Australians. Hospitalisation rates for circulatory disease were higher among Indigenous Australians but they were less likely to receive coronary procedures when in hospital than non-Indigenous Australians. High rates of mortality due to circulatory disease indicate a failure in the areas of prevention, diagnosis and early detection, early treatment, chronic disease management, treatment and rehabilitation.

Approaches that are culturally competent, family-centred, and encourage partnerships with Aboriginal and Torres Strait Islander people to work collaboratively across the continuum of prevention and care, have been identified as key points for success (NHMRC 2005).

The *National Partnership Agreement on Closing the Gap in Indigenous Health Outcomes* includes a focus on preventive health, primary health care and specialist care. Initiatives are being implemented to improve specialist care for Aboriginal and Torres Strait Islander peoples with chronic diseases, including programs to support primary care providers to better coordinate chronic disease management, and increase access to specialist and multidisciplinary team care.

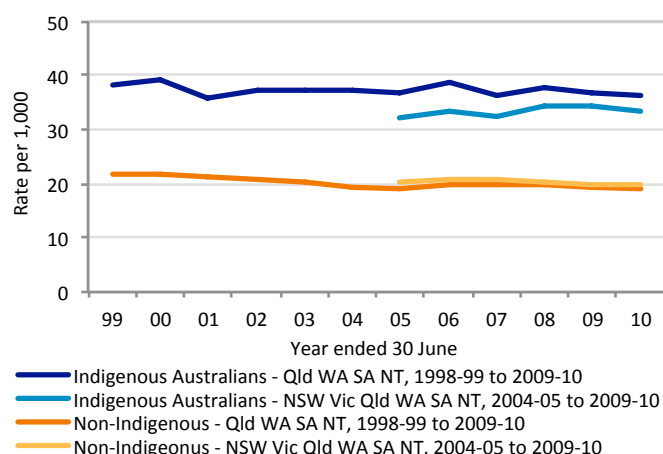
A study in the NT of avoidable mortality for Indigenous Australians between 1985 and 2004 found significant improvement

associated with conditions amenable to medical care and marginal improvement for conditions responsive to preventative measures. The study noted the reduction of mortality from stroke and hypertensive disease were consistent with improved drug therapies, improved intensive care, dedicated 'stroke units'

and surgical procedures (Li et al. 2009a). Under the Health and Hospitals Fund 2011 Regional Priority Round, more than \$6 million is being provided in Darwin to establish an Integrated Cardiac Network Service. This service will link Darwin, Alice Springs, Tennant Creek, Katherine and Gove, to better diagnose

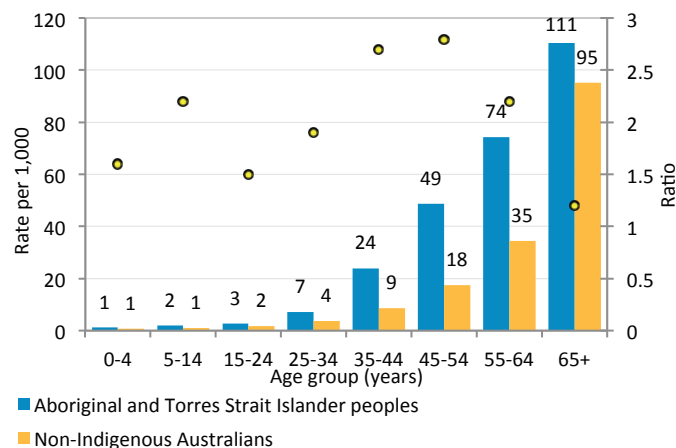
and manage cardiac disease in the NT Indigenous population. Also, well-equipped cardiac care outreach and rehabilitation services will be linked to diagnose and manage coronary artery disease, rheumatic heart disease, arrhythmias and heart failure.

Figure 24
Age-standardised hospitalisation rates for circulatory disease, by Indigenous status



Source: AIHW analysis of National Hospital Morbidity Database

Figure 25
Age-specific hospitalisation rates for circulatory disease, by Indigenous status, NSW, Victoria, Qld, WA, SA and the NT, July 2008–June 2010



Source: AIHW analysis of National Hospital Morbidity Database

Table 6
Age-standardised hospitalisations for circulatory disease by principal diagnosis for Aboriginal and Torres Strait Islander peoples by sex, NSW, Victoria, Qld, WA, SA and the NT, July 2008–June 2010

Principal Diagnosis	Males			Females			Persons		
	%	Rate ^(a)	Ratio	%	Rate ^(a)	Ratio	%	Rate ^(a)	Ratio
Ischaemic heart disease	47.0	17.1	1.9*	38.7	12.1	3.1*	43.0	14.4	2.3*
Pulmonary and other heart disease	29.1	11.9	1.6*	31.4	10.3	1.9*	30.2	11.0	1.7*
Cerebrovascular disease	7.6	3.5	1.8*	8.8	3.3	2.2*	8.2	3.4	2.0*
Rheumatic fever and heart disease	2.7	0.4	4.8*	5.5	0.9	8.3*	4.0	0.7	6.8*
Hypertension disease	2.1	0.6	2.7*	3.4	1.0	3.0*	2.7	0.9	2.9*
Other diseases of the circulatory system	11.5	4.0	0.7*	12.2	3.2	0.7*	11.9	3.6	0.7*
Total	100.0	37.5	1.5*	100.0	30.7	1.9*	100.0	33.9	1.7*

(a) Per 1,000 persons, directly age-standardised.

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the p<.05 level.

Source: AIHW analysis of National Hospital Morbidity Database

Table 7
Age-standardised hospitalisations for circulatory disease for Aboriginal and Torres Strait Islander peoples by sex and jurisdiction, July 2008–June 2010

	Males			Females			Persons		
	Number	Rate ^(a)	Ratio	Number	Rate ^(a)	Ratio	Number	Rate ^(a)	Ratio
New South Wales	2,675	35.3	1.5*	2,300	27.5	1.8*	4,975	31.1	1.6*
Victoria	510	29.6	1.1*	415	21.1	1.2*	925	24.8	1.2*
Queensland	2,754	42.2	1.8*	2,620	36.0	2.2*	5,374	38.9	1.9*
Western Australia	1,490	37.5	1.6*	1,382	33.4	2.3*	2,872	35.5	1.9*
South Australia	506	34.3	1.5*	539	32.5	2.2*	1,045	33.4	1.8*
Northern Territory	1,427	37.3	1.9*	1,310	29.4	2.4*	2,737	33.0	2.0*
Tasmania	120	15.5	1.0	85	8.7	1.0	205	12.1	1.0
Australian Capital Territory	43	29.1	1.7*	33	16.7	1.5	76	22.3	1.6*
NSW, Vic, Qld, SA, NT^(b)	9,362	37.5	1.5*	8,566	30.7	1.9*	17,928	33.9	1.7*

a) Per 1,000 persons, directly age-standardised. (b) Australia total excludes Tasmania and the ACT

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the p<.05 level.

Source: AIHW analysis of National Hospital Morbidity Database

1.06 Acute rheumatic fever and rheumatic heart disease

Why is it important?:

Acute rheumatic fever (ARF) is a disease caused by an auto-immune reaction to an infection with the bacterium group A streptococcus (GAS). ARF is a short illness, but can result in permanent damage to the heart—rheumatic heart disease (RHD). A person who has had ARF once is susceptible to repeated episodes, which can increase the risk of RHD. Following an initial diagnosis of RHD, patients require long-term treatment, including long-term antibiotic treatment to avoid further infections that may damage the heart (Steer et al. 2009).

ARF and RHD are associated with environmental factors such as poverty and poor living conditions. The incidence of ARF and the prevalence of RHD among Aboriginal and Torres Strait Islander peoples living in some remote areas have been reported as being among the highest in the world (AIHW 2004a).

ARF and RHD are now rare diseases in populations with good living conditions and easy access to quality medical care (Parnaby et al. 2010). Yet Aboriginal and Torres Strait Islander peoples will remain at risk of ARF/RHD while socioeconomic disadvantage and barriers to accessing health care persist.

The Northern Territory Rheumatic Heart Disease Program currently provides the strongest source of data on ARF and RHD, although additional data are gradually emerging from Qld and WA with the development of register and control programs in those states. A number of smaller, geographically limited studies have also been conducted.

Findings:

Acute rheumatic fever

In the period 2007–10, there were 226 new or recurrent cases of ARF in the NT. The majority (approximately 98%) were for Aboriginal and Torres Strait Islander peoples. ARF is largely restricted to older children and young adults: among Aboriginal and Torres Strait Islander peoples, 61% of cases occurred in children aged 5–14 years, with a further

24% in the 15–24 years age group. Females comprised 63% of all cases of ARF in 2007–10 (139 females, 82 males).

Outside the NT, a study of ARF incidence in North Qld over the period 2004–09 showed an increase in notifications but fewer recurrences, suggesting enhanced awareness of the disease (Hanna et al. 2010).

A recent study identified twenty-six admissions for ARF to a paediatric hospital in Sydney between 2000–08. The majority of these cases were Pacific Islander and Aboriginal and Torres Strait Islander children from suburban Sydney. This suggests that ARF is not exclusively a disease associated with remote areas. The authors found that 69% of the children with this disease were from families in the two most disadvantaged quintiles of socioeconomic advantage/disadvantage. Additionally, barriers to timely diagnosis were identified in 81% of children, including delayed presentation and delayed referral (Smith et al. 2011).

Rheumatic heart disease

In December 2010, there were 1,379 Aboriginal and Torres Strait Islander people recorded as having RHD in the NT. The prevalence of RHD in Indigenous people was higher in the Top End of the NT compared with Central Australia (29 versus 18 per 1,000 persons). Females comprised 66% of Indigenous Australians in the NT with RHD. After adjusting for differing population age structures, the prevalence of RHD was 32 times as high among Aboriginal and Torres Strait Islander peoples as it was among non-Indigenous residents of the Top End of the NT, and 16 times as high in Central Australia. Between 2006 and 2010 there was a 53% decline in RHD in the NT.

A recent study of patients with RHD living in five communities around Katherine in the NT found that around two-thirds of patients were receiving ongoing secondary preventive treatment in accordance with guidelines: 56% of patients received prophylactic penicillin injections; 63% received echocardiograms and 59% had a specialist review (Stewart et al. 2007).

Implications:

The NT is the only jurisdiction in which there is information about trends over time for ARF. The incidence of ARF among Indigenous Australians is apparently lower in North Qld than in the

NT, but is still far higher than for other Australians.

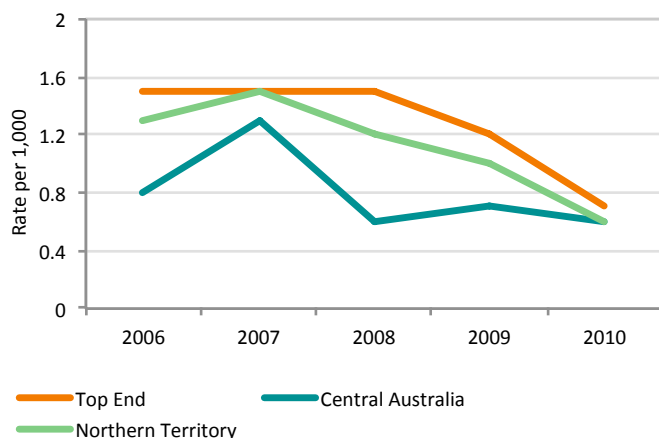
Interventions that focus on improving housing, socioeconomic circumstances and health care will be important for preventing and managing these conditions.

Improved access to appropriate treatment for pharyngitis/tonsillitis is likely to reduce the rate of ARF. Although it has been suggested that GAS skin infections may be a risk factor for ARF, particularly in Australia, there is currently insufficient evidence to justify recommending skin health programs exclusively for the prevention of ARF. More research is needed on the association between GAS skin infections and ARF (RHDAustralia et al. 2012).

There is considerable scope for the secondary prevention of ARF/RHD through the implementation of disease registers and control programs, education of patients and their families, treatment with penicillin prophylaxis, and regular clinical review and access to specialists and hospital care. There is evidence that current practice could be improved (Stewart et al. 2007).

RHD registers are a central element of secondary disease prevention programs to prevent recurrence of ARF and reduce the occurrence or severity of RHD. The Australian Government provided \$11.2 million over five years from 2007–08 for a *Rheumatic Fever Strategy* to help improve the detection and diagnosis of acute rheumatic fever and rheumatic heart disease, and improve access to the antibiotic injections that prevent repeated attacks of acute rheumatic fever. The strategy funds register and control programs in the NT, WA and Qld, and a national coordination unit, RHDAustralia. This unit supports the state-based programs to operate in accordance with best practice clinical guidelines, and is developing a performance monitoring system to improve the collection of data and reporting on incidence and prevalence. Control programs improve case-detection, and are the most effective way of improving compliance to treatment regimes and supporting clinical follow-up of people with RHD. The issues of improving care for those with advanced RHD, including surgical and other interventions also need to be considered (Maguire et al. 2012).

Figure 26
Rate of new rheumatic heart disease registrations for Aboriginal and Torres Strait Islander peoples, Top End of the NT and Central Australia, 2006-10



Source: AIHW analysis of Northern Territory Rheumatic Heart Disease Program

Table 8
Age-specific rheumatic heart disease prevalence (as at 31 December 2010) by age groups for Aboriginal and Torres Strait Islander peoples in the NT

Age group	Number	Per cent	Rate (a)	Ratio (b)
0-14	121	8.8	5.4	
15-24	305	22.1	24.1	120.1*
25-34	323	23.4	31.0	131.1*
35-44	290	21.0	34.6	80.6*
45-54	199	14.4	36.2	40*
55-64	93	6.7	33.7	21.8*
65+	48	3.5	25.8	6*
Total	1,379	100.0	25.7	27.3*

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the p<.05 level.

(a) Rate per 1,000 persons. Age-specific rates calculated using the 2006 estimated resident Indigenous population for the NT. Total is age-standardised to the 2001 Australian population.

(b) Ratio is the Indigenous rate divided by non-Indigenous rate

Source: AIHW analysis of Northern Territory Rheumatic Heart Disease Program

1.07 High blood pressure

Why is it important?:

High blood pressure, also referred to as hypertension, is a major risk factor for stroke, coronary heart disease, heart failure, kidney disease, deteriorating vision and peripheral vascular disease leading to leg ulcers and gangrene.

The National Heart Foundation of Australia defines high blood pressure as a systolic blood pressure greater than 140 mmHg and/or diastolic pressure greater than 90 mmHg and/or patient receiving medication for high blood pressure (NHF 2010). Major risk factors for high blood pressure include increasing age, poor diet (particularly high salt intake), obesity, excessive alcohol consumption, and insufficient physical activity (AIHW 2011c). A number of these risk factors are more prevalent among Aboriginal and Torres Strait Islander peoples (see measures 2.16, 2.18, 2.19 and 2.22).

High blood pressure is more common among Aboriginal and Torres Strait Islander peoples than non-Indigenous people and is a major contributor to the increased risk of heart attack, stroke and other circulatory diseases (AIHW 2002a). One study of Indigenous Australians living in urban WA found that, after controlling for other cardiovascular risk factors, those with high blood pressure were twice as likely to die or be hospitalised due to a cardiovascular event (Bradshaw et al. 2009). It is estimated that high blood pressure is responsible for 6% of the health gap between Aboriginal and Torres Strait Islander peoples and non-Indigenous Australians (Vos et al. 2009; Vos et al. 2007).

While for some people, the propensity to develop high blood pressure appears to be inherited, it can often be prevented or controlled by leading an active and healthy life, remaining fit, avoiding obesity and diabetes and, if necessary, taking regular medication (Passey et al. 2010). For those with high blood pressure, treatment with long-term medication can reduce the risk of developing complications, although, not necessarily to the levels of unaffected people (AIHW 2011c). Reducing the prevalence of high blood pressure is one of the most important means of reducing serious circulatory diseases, which are

the leading cause of death among Aboriginal and Torres Strait Islander peoples (see measure 1.23).

Findings:

No national data are currently available for the prevalence of high blood pressure in Australia. The 2012–13 Australian Health Survey will include measurement of blood pressure. For this report, three national data sources provide an indirect measure of the relative prevalence of high blood pressure among Aboriginal and Torres Strait Islander peoples compared with other Australians.

In the 2004–05 NATSIHS, self-reported rates of high blood pressure were 7% for Aboriginal and Torres Strait Islander peoples. After adjusting for differences in age structure, Indigenous males and females reported having high blood pressure at 1.4 and 1.6 times the rate of non-Indigenous males and females. There was no significant change in self-reported high blood pressure for Aboriginal and Torres Strait Islander peoples between 2001 and 2004–05. For Indigenous Australians, rates started rising at younger ages than for non-Indigenous Australians (25–34 years and over). Rates were higher in remote areas than non-remote areas for both Indigenous males and females. Self-reported data under-estimate prevalence as not everyone who has the condition will have been diagnosed.

An evaluation of adult health checks in one Indigenous health service found that 12% of participants presented with high blood pressure (Spurling et al. 2009). Another study in selected remote communities found rates of high blood pressure that were 3–8 times higher than in the general population (Hoy et al. 2007).

Most cases of high blood pressure are managed by GPs or medical specialists. When hospitalisation occurs it is usually due to cardiovascular complications resulting from chronic blood pressure elevation. During the two years to June 2010, hospitalisation rates for hypertensive disease were 2.9 times as high for Aboriginal and Torres Strait Islander peoples as for other Australians. Among Aboriginal and Torres Strait Islander peoples, hospitalisation rates started rising at younger ages with the greatest difference in the 55–64 year age group. This suggests that high blood pressure is more severe, occurs earlier, and is not controlled as well for

Indigenous Australians. As a consequence, severe disease requiring acute care in hospital is more common.

BEACH survey data collected from April 2006 to March 2011 suggest that high blood pressure represented 4% of all problems managed by GPs among Indigenous Australians. After adjusting for differences in the age structure of the two populations, rates for the management of high blood pressure among Indigenous Australians were similar to those for other Australians.

Implications:

Self-reported prevalence of high blood pressure was 1.5 times as high and hospitalisation rates were 2.9 times as high for Aboriginal and Torres Strait Islander peoples as they were for non-Indigenous Australians, but high blood pressure accounts for a similar proportion of GP consultations for each population. This suggests that Indigenous Australians are less likely to have their high blood pressure diagnosed and less likely to have it well controlled given the similar rate of GP visits and higher rate of hospitalisation due to cardiovascular complications.

Research into the effectiveness of quality improvement programs in Aboriginal and Torres Strait Islander primary health care services has demonstrated that blood pressure control can be improved by a well-coordinated and systematic approach to chronic disease management (e.g., (McDermott et al. 2004). Identification and management of hypertension requires access to primary health care with appropriate systems for the identification of Aboriginal and Torres Strait Islander clients and systemic approaches to health assessments and chronic illness management. Blood pressure is measured by two of the Essential Indicators for the *Healthy for Life Program* to aid in quality improvement of the incidence and management of chronic disease (see measures 3.04, 3.05 and 3.18).

The *National Partnership Agreement on Closing the Gap in Indigenous Health Outcomes* (COAG 2008c) comprises various reforms including a focus on preventive health and primary health care. The Commonwealth's contribution to the Agreement, the *Indigenous Chronic Disease Package*, includes measures that will help to increase the uptake of MBS-funded primary health care services by Aboriginal and Torres

Strait Islander peoples. There has been a significant increase in the uptake of MBS-listed adult health assessments since the program commenced in July 2009. Measurement of blood pressure is one of the key elements of an adult health assessment.

The Assessing the Cost-Effectiveness in Prevention (ACE-Prevention) study found that prescribing a polypill (containing a combination of blood pressure and cholesterol lowering drugs as well as aspirin and folate) has the potential to reduce the cardiovascular disease health

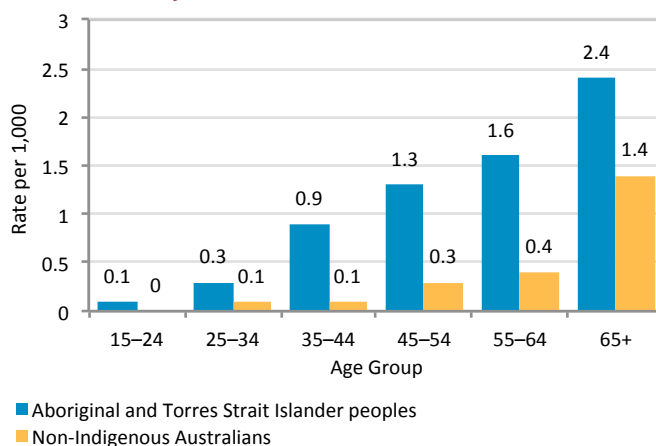
gap between Aboriginal and Torres Strait Islander peoples and non-Indigenous Australians (Vos et al. 2010).

Table 9
Aboriginal and Torres Strait Islander peoples reporting high blood pressure or hypertension, by sex and remoteness, 2001 and 2004–05

	2001	2004-05
Males	%	%
Remote	7	10
Non-remote	5	6
Total	6	7
Females		
Remote	10	10
Non-remote	7	7
Total	8	8

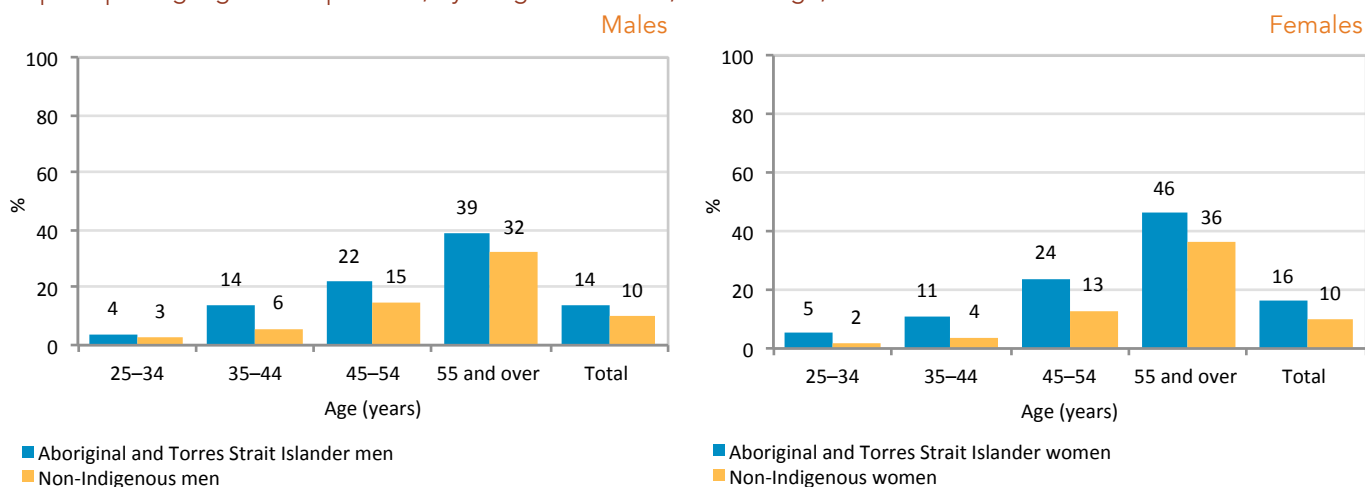
Source: ABS & AIHW analysis of 2001 NHS (Indigenous supplements) and 2004–05 NATSIHS

Figure 27
Age-specific hospitalisation rates for hypertensive disease, by Indigenous status and sex, NSW, Victoria, Qld, WA, SA and the NT, July 2008–June 2010



Source: AIHW analysis of National Hospital Morbidity Database

Figure 28
People reporting high blood pressure, by Indigenous status, sex and age, 2004–05



Note: Total is age-standardised.

Source: ABS & AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS

1.08 Cancer

Why is it important?:

Cancer was responsible for 8% of the total disease burden for Aboriginal and Torres Strait Islander peoples in 2003 (Vos et al. 2007). Cancer is a group of diseases in which abnormal cells are not destroyed by normal metabolic processes but instead proliferate and spread. These cells can form a malignant tumour which can invade and damage the area around it and spread to other parts of the body through the bloodstream or the lymphatic system. If the spread of these tumours is not controlled, they may result in death. The effectiveness of treatment and survival rates can vary between different cancers and patients.

Risk factors for high fatality cancers remain prevalent in the Aboriginal and Torres Strait Islander population, including smoking, risky drinking and poor diet (Condon et al. 2003). Aboriginal and Torres Strait Islander peoples have a higher incidence of fatal, screen-detectable and preventable cancers and are diagnosed at more advanced stages, and often with more complex co-morbidities (Cunningham et al. 2008a). Compared with non-Indigenous Australians diagnosed with the same cancer, Indigenous Australians are doubly disadvantaged because they are usually diagnosed later with more advanced disease, are less likely to have treatment, and often have to wait longer for surgery than non-Indigenous patients (Hall et al. 2004; Valery et al. 2006).

Findings:

Over the period 2004–08, in the four jurisdictions with data of adequate quality (NSW, Qld, WA and the NT combined), cancer incidence was slightly higher for Aboriginal and Torres Strait Islander peoples (459 per 100,000) than for non-Indigenous Australians (432 per 100,000). Cancer incidence among Aboriginal and Torres Strait Islander peoples varied across the four jurisdictions and by cancer type. Compared to non-Indigenous Australians, rates for lung cancer and cervical cancer were higher and rates for bowel cancer and breast cancer were lower. The mean age of diagnosis was lower for Indigenous males and females compared

to non-Indigenous males and females for all cancer types examined. The crude cancer survival rate for Indigenous Australians was lower for both Indigenous males (41%) and females (49%) compared to non-Indigenous males (52%) and females (59%). A study of cancer registry data in NSW found a large number of cases with missing Indigenous status. Once these were imputed, an additional 12–13% of cancer cases were identified for Indigenous Australians (Morrell et al. 2012).

Cancer was the second leading cause of death among Indigenous Australians, accounting for 19% of deaths, during the period 2006 to 2010, in NSW, Qld, WA, SA and the NT combined. Cancers of the digestive organs (including bowel) and respiratory organs (including lung) were the most common causes of cancer death among Indigenous Australians. After adjusting for differing population age structures, Indigenous Australians were 1.4 times as likely to die from cancer as non-Indigenous Australians. The largest gaps between the two populations were in cancers of the respiratory organs, particularly bronchus and lung cancer, followed by cancers of the digestive organs. Over the period 1997–2010 the gap increased between Indigenous and non-Indigenous cancer mortality rates due to a decline in the non-Indigenous rate and no significant change for Aboriginal and Torres Strait Islander peoples.

Research suggests that survival rates among non-Indigenous patients are up to 50% greater than those for Aboriginal and Torres Strait Islander patients within the first 12 months of diagnosis, dropping to a similar survival rate 2 years after diagnosis. There was no evidence that the rate of five year survival varied by remoteness or socioeconomic status for Indigenous Australians (Cramb et al. 2012). Analysis of 1991–2006 data found that Aboriginal and Torres Strait Islander women had, after adjusting for diagnostic period and socio-demographic factors, a risk of death from breast cancer 68% higher than other women with breast cancer (Cancer Australia 2012). A study on cancer survival in children found that Indigenous children were 1.6 times as likely to die within 5 years of diagnosis as other children and this remained significant following adjustment for place of residence, socioeconomic disadvantage and cancer group. Stage of diagnosis was similar for

both groups of children (Valery et al. 2011).

After adjusting for differences in the age structure of the two populations, BEACH survey data collected from April 2006 to March 2011 suggest that Aboriginal and Torres Strait Islander peoples were less likely to have cancer managed as a problem by GPs compared to non-Indigenous Australians (14 per 1,000 encounters compared to 25 per 1,000 encounters).

Implications:

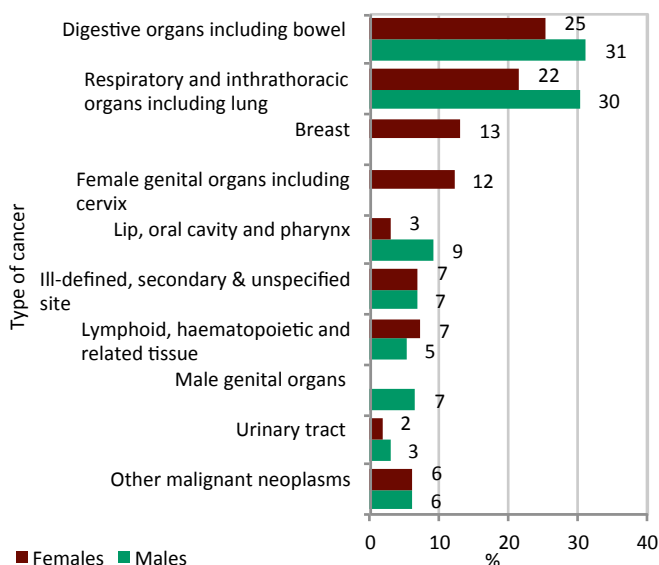
The lower survival rate for Aboriginal and Torres Strait Islander peoples from some cancers may be partly explained by factors such as lower likelihood of receiving treatment, later diagnoses, comorbidities, and greater likelihood of being diagnosed with cancers where the prospect of successful treatment and survival is poorer (Cunningham et al. 2008b; AIHW 2010e; Supramaniam et al. 2011).

The National Human Papillomavirus (HPV) Vaccination Program (established in 2007) aims to reduce the incidence of cervical cancer in Australia by preventing HPV infection that can lead to 70–80% of cervical cancers. Cervical screening remains vital as the current vaccine is not effective against all types of HPV that cause cervical cancer.

A study in WA (Thompson et al. 2011) made several recommendations to improve cancer outcomes for Aboriginal people. These include community education, establishment or improvement of support systems such as transport and accommodation, and changes to the health system to improve communication and care coordination.

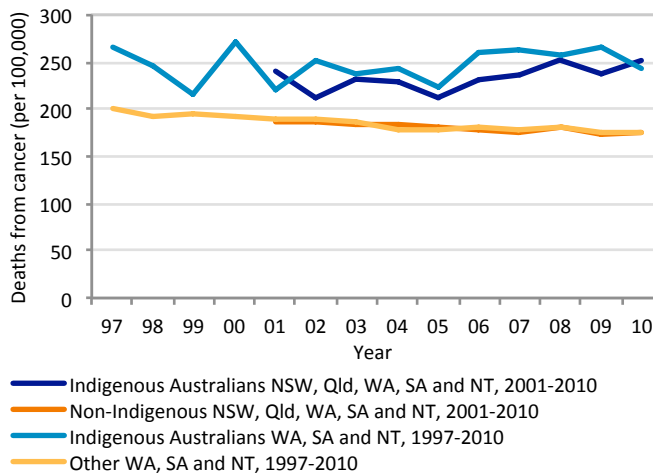
Cancer Australia, as the Government's national cancer control agency, works across all cancers and also focuses on populations which experience poorer outcomes, including Aboriginal and Torres Strait Islander peoples. For example, Indigenous Australians are identified as a priority target for Cancer Australia's *Priority-driven Collaborative Cancer Research Scheme* and the *Supporting people with cancer grant initiative*.

Figure 29
Deaths of Indigenous Australians from cancer, by sex, NSW, Qld, WA, SA and the NT, 2006–10



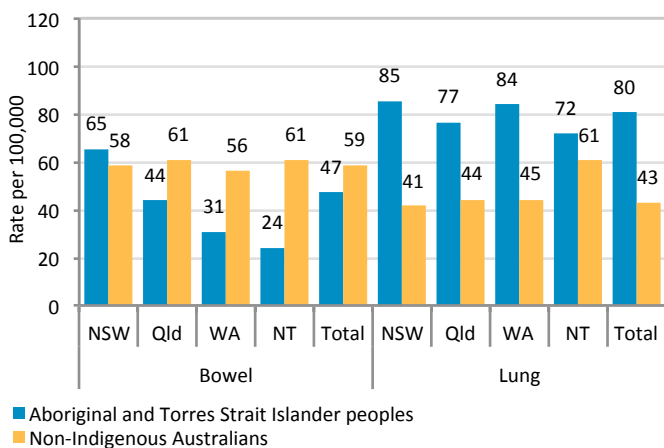
Source: ABS and AIHW analysis of ABS Mortality Database

Figure 30
Age-standardised mortality rates, cancer, by Indigenous status



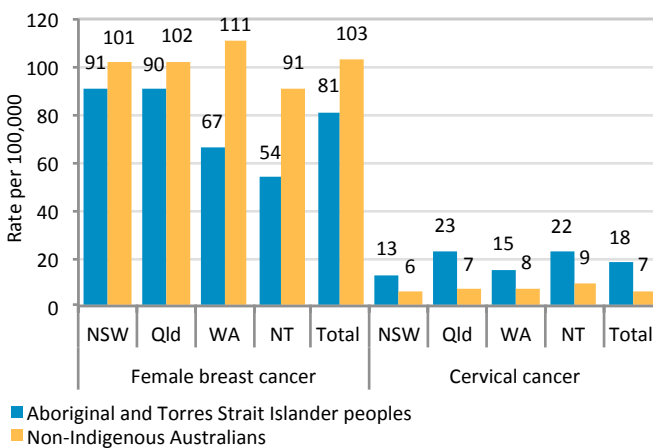
Source: ABS and AIHW analysis of ABS Mortality Database

Figure 31
Age-standardised incidence of bowel and lung cancer by state and territory and Indigenous status, NSW, Qld, WA and the NT, 2004–08



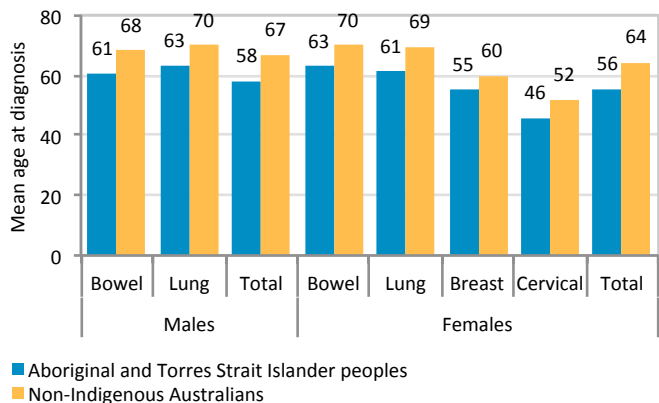
Source: AIHW Australian Cancer Database

Figure 32
Age-standardised incidence of breast and cervical cancer in females by state and territory and Indigenous status, NSW, Qld, WA and the NT, 2004–08



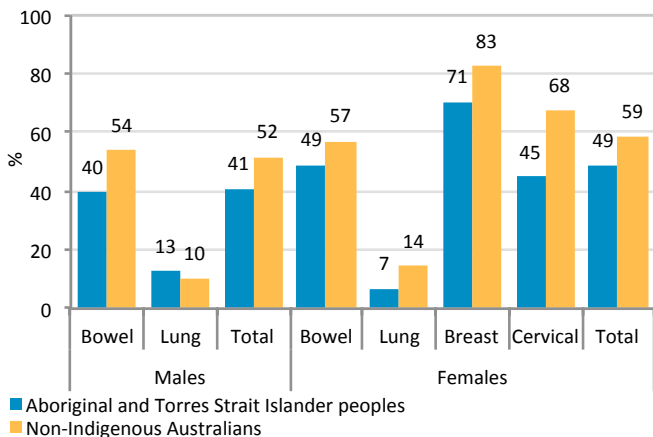
Source: AIHW Australian Cancer Database

Figure 33
Mean age at diagnosis, selected cancers by Indigenous status and sex, WA, Qld, NSW, and the NT, 2006–10



Source: AIHW Australian Cancer Database

Figure 34
Five-year crude survival for selected cancers by Indigenous status and sex, WA, Qld, NSW and the NT, 2006–10



Source: AIHW Australian Cancer Database

1.09 Diabetes

Why is it important?:

Diabetes is a long-term (chronic) condition in which blood glucose levels become too high because the body produces little or no insulin, or cannot use insulin properly. Over many years, high blood glucose levels can damage various parts of the body, especially the heart and blood vessels, eyes, kidneys and nerves, resulting in permanent disability, mental health problems, reduced quality of life and shortened life expectancy (AIHW 2008c). High blood glucose levels can cause complications for both the mother and baby during pregnancy. Diabetes is responsible for 12% of the health gap between Indigenous and non-Indigenous Australians (Vos et al. 2007). The prevalence of diabetes is higher among Indigenous Australians than non-Indigenous Australians in every socioeconomic status group, often by a considerable margin (Cunningham 2010). Prevention, early detection and better management of diabetes will be important in closing the gap in life expectancy.

There are several forms of diabetes. The most common form is Type 2, which accounted for 83% of all diabetes in Australia in 2004–05. It is more common in people who are physically inactive, have a poor diet, and are overweight or obese (AIHW 2008c). Type 2 diabetes is a significant contributor to morbidity and mortality for Aboriginal and Torres Strait Islander peoples. The Well Person's Health Check study (1998–2000) demonstrated that more than one-third of Aboriginal and Torres Strait Islander peoples with diabetes did not eat enough serves of fruit, more than 55% did not do enough exercise and a high proportion of Aboriginal and Torres Strait Islander males (48%) and females (36%) with diabetes smoked tobacco (McCulloch et al. 2003). Other factors such as heredity, low birthweight, intra-uterine factors and excessive alcohol consumption are also associated with increased risk of developing Type 2 diabetes.

Type 1 diabetes, the most common form of diabetes in children, is generally thought to be rare among Aboriginal and Torres Strait Islander peoples although misclassification problems with Type 2

diabetes make this difficult to ascertain (AIHW 2002b).

Findings:

Measuring population levels of diabetes is difficult given the high rate of undiagnosed diabetes. The 2012–13 Australian Health Survey will include blood tests for measuring diabetes prevalence. This information will be used in conjunction with self-reported data. For this report, indirect measures of diabetes prevalence are explored.

In 2004–05, 6% of Indigenous Australians reported diabetes or high sugar levels. Diabetes was almost twice as likely to be reported by Indigenous Australians in remote areas (9%) as non-remote areas (5%). After accounting for age differences between the two populations, Indigenous Australians were more than three times as likely as non-Indigenous Australians to report some form of diabetes. For Indigenous Australians, diabetes problems often start in younger age groups with higher rates of self-reported diabetes emerging from 25 years onwards. Diabetes or high sugar levels were reported for 32% of Indigenous Australians aged 55 years and over compared with 12% of non-Indigenous Australians. There was a statistically significant relationship between prevalence of diabetes and selected social determinants of health and risk factors such as unemployment, weight and diet.

In 2005–07, Aboriginal and Torres Strait Islander mothers were more likely to experience pre-existing diabetes affecting pregnancy (3 to 4 times the non-Indigenous rate) and to develop gestational diabetes mellitus (GDM) (twice the non-Indigenous rate). Indigenous mothers with pre-existing diabetes were more likely to deliver pre-term (32%), compared with Indigenous mothers with GDM (14%) and Indigenous mothers without diabetes (13%) (AIHW 2010d).

The prevalence of diabetes among Indigenous Australians in selected remote communities was 5 to 10 times as high as in the general community (Hoy et al. 2007; Kondalsamy-Chennakesavan et al. 2008; Zhao et al. 2008). A NSW study of young people aged 10–18 years found the incidence rate for Indigenous children to be 6 times the rate for non-Indigenous children (Craig et al. 2007). An analysis of the Fremantle Diabetes Study found diabetes

prevalence for Aboriginal people to be more than double the rate for non-Indigenous Australians, with average age at diagnosis 14 years younger (Davis et al. 2007). An 11-year prospective cohort study of 686 Indigenous Australians in a remote NT Indigenous community found that half of Indigenous men and 70% of Indigenous women were at risk of developing diabetes by age 60 (Wang et al. 2010a).

BEACH survey data collected from April 2006 to March 2011 suggest that 5% of all problems managed by GPs among Aboriginal and Torres Strait Islander peoples were for diabetes. Approximately 96% of problems managed for diabetes among Indigenous Australians were for Type 2 diabetes. After adjusting for differences in the age structure of the two populations, GPs managed diabetes problems among Indigenous patients at 2.6 times the rate that they did for other Australian patients.

In the period 2008–10, hospitalisations with a principal diagnosis of diabetes were four times as high for Indigenous Australians as for other Australians. Around 84% of hospitalisations for diabetes among Indigenous Australians were for Type 2 diabetes, 15% for Type 1 diabetes and a further 13% for diabetes during pregnancy. Hospitalisation rates for diabetes have increased significantly for both Indigenous and non-Indigenous Australians. Hospitalisation rates were higher for those living in remote areas (22 per 1,000 in remote areas and 19 per 1,000 in very remote areas) than in major cities (9 per 1,000). Complications of diabetes such as lower limb amputations have been found to be more common among Indigenous Australians than non-Indigenous Australians (Health WA 2008).

During the period 2006–10 in NSW, Qld, WA, SA and the NT combined, approximately 8% of Indigenous deaths were due to diabetes, and death rates from diabetes were 7 times the non-Indigenous rate.

Implications:

Diabetes is more common among Aboriginal and Torres Strait Islander peoples than other Australians, as measured by self-reported prevalence and GP consultations. Hospitalisations and death rates for diabetes are both high, pointing to possible issues in secondary prevention. Challenges for

decision makers include maintaining a policy emphasis on primary prevention (nutrition, physical activity, smoking, alcohol) whilst implementing strategies to achieve effective secondary prevention (such as primary care including allied health, and blood sugar control) and appropriate acute care to treat serious complications as they arise. Aboriginal and Torres Strait Islander peoples do not constitute a homogeneous group with respect to socioeconomic status or diabetes prevalence, and this diversity must be recognised in developing measures to redress Indigenous health disadvantage (Cunningham 2010). Family centred

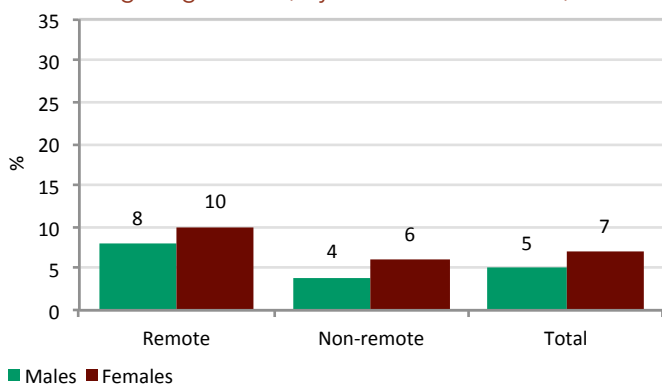
approaches that support the knowledge base for effective self management are recommended (Griew et al. 2007; NHMRC 2005).

The *National Partnership Agreement on Closing the Gap in Indigenous Health Outcomes* (COAG 2008c) sets priorities for preventive health measures designed to reduce the factors that contribute to chronic disease, and expanded access to and coordination of comprehensive primary health care to improve detection and management of chronic diseases.

The Diabetes Care Project pilot commenced on 1 July 2011, as part of National Health Reform. The pilot will

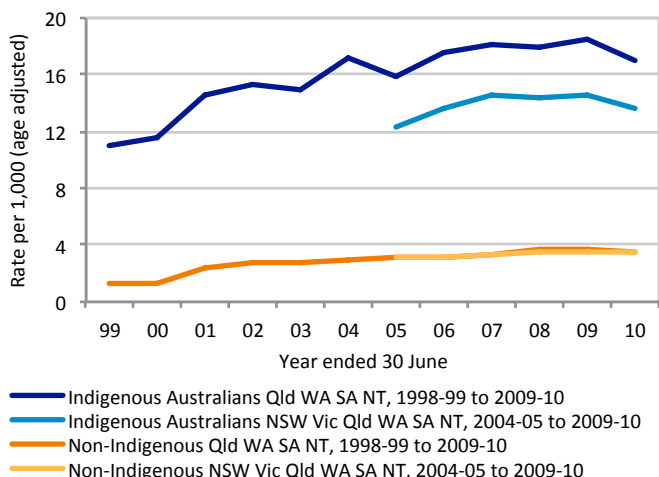
road-test revised care arrangements to confirm their practical design and make sure they achieve the best outcomes for people with diabetes. The *National Partnership Agreement on Preventive Health* (COAG 2008d) includes initiatives addressing lifestyle risks associated with chronic disease through healthy lifestyle programs in workplaces, communities, schools and early childhood settings. Programs focus on increasing physical activity, improving nutrition, decreasing harmful alcohol intake and smoking cessation.

Figure 35
Proportion of Indigenous Australians reporting diabetes/high sugar levels, by sex and remoteness, 2004–05



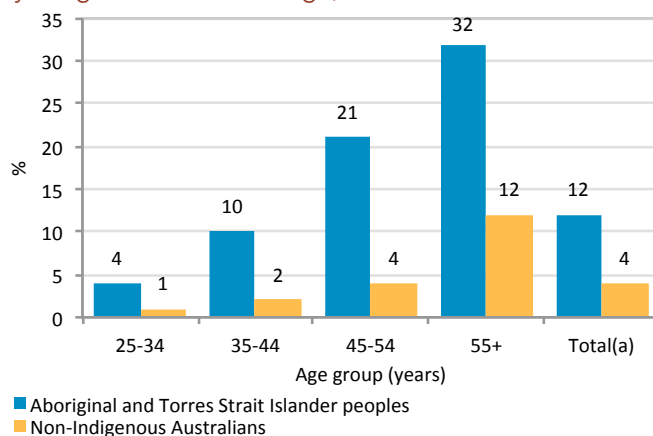
Source: ABS and AIHW analysis of 2004–05 NATSIHS

Figure 37
Age-standardised hospitalisation rates for diabetes, by Indigenous status



Source: AIHW analysis of National Hospital Morbidity Database

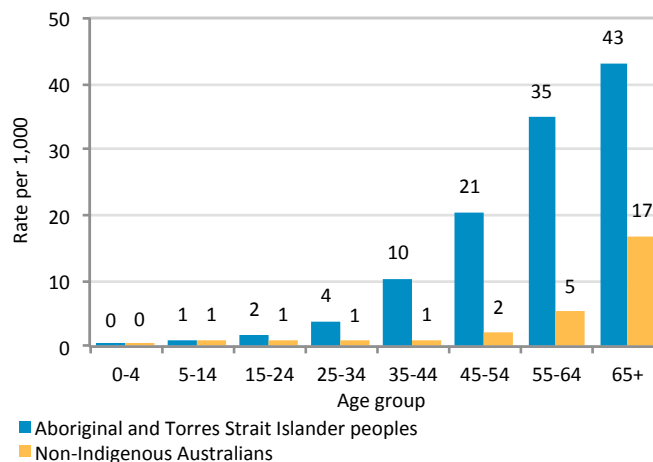
Figure 36
Proportion of persons reporting diabetes/high sugar levels, by Indigenous status and age, 2004–05



(a) Total is age-standardised

Source: 2004–05 NATSIHS and 2004–05 NHS

Figure 38
Age-specific hospitalisation rates for diabetes, by Indigenous status, NSW, Victoria, Qld, WA, SA and the NT, July 2008 to June 2010



Source: AIHW analysis of National Hospital Morbidity Database

1.10 Kidney disease

Why is it important?:

The kidneys can be permanently damaged by various acute illnesses (e.g., severe infections) or by progressive damage from chronic conditions such as elevated blood pressure and long-standing high blood sugar levels (untreated diabetes). If the kidneys cease functioning entirely (known as end stage renal disease, or kidney failure), waste products and excess water build up rapidly in the body. This can cause death within a few days or weeks unless a machine is used to filter the blood several times per week (renal dialysis) or a new kidney is provided by transplant. Renal failure was estimated to contribute 5% of the burden of disease for Aboriginal and Torres Strait Islander peoples (Vos et al. 2007).

Aboriginal and Torres Strait Islander peoples have very high levels of end stage renal disease (ESRD) due to a range of risk factors including low birthweight (see measure 1.01) (White et al. 2010a). Among non-Indigenous Australians, ESRD usually occurs in older age, but for Aboriginal and Torres Strait Islander peoples, it occurs more frequently in the middle adult years. Particular forms of kidney disease occur almost exclusively in Indigenous children in Australia and New Zealand (White et al. 2010a). Fewer Aboriginal and Torres Strait Islander patients receive kidney transplants, so most must have dialysis three times a week for the rest of their lives, impacting greatly on quality of life and social and emotional wellbeing (AIHW 2005a; McDonald et al. 2006; Devitt et al. 2008).

Findings:

In 2004–05, 2% of Aboriginal and Torres Strait Islander peoples reported that they had kidney disease (3% in remote areas and 1% non-remote areas). After adjusting for age differences in the two populations, this was 10 times the non-Indigenous rate.

During 2006–10, 3% of deaths among Aboriginal and Torres Strait Islander peoples (323) were due to kidney disease. After adjusting for the different age profiles of the two populations, this was 4 times the non-Indigenous rate. There has been a significant increase in kidney disease mortality rates for

Aboriginal and Torres Strait Islander peoples between 2001 and 2010 and a widening of the gap with non-Indigenous Australians.

Care involving dialysis was the leading cause of hospitalisation (44%) for Aboriginal and Torres Strait Islander peoples in the period July 2008 to June 2010. Hospitalisation for dialysis was 11 times the non-Indigenous rate. There were also 4,060 hospitalisations for Indigenous Australians during this period for chronic kidney disease. This was 5 times the non-Indigenous rate, with the greatest difference for diabetic nephropathy (11 times). Hospitalisation rates for dialysis and chronic kidney disease were highest in the NT (1,013 per 1,000) and lowest in NSW (194 per 1,000) and Victoria (195 per 1,000).

The incidence of patients commencing ongoing renal replacement treatment (dialysis or kidney transplantation) for ESRD is higher for Aboriginal and Torres Strait Islander peoples than non-Indigenous Australians. Between 2008 and 2010, there were 644 new Aboriginal and Torres Strait Islander patients registered as commencing ESRD treatment, accounting for 9% of all new registrations. The age-adjusted incidence rate of treated ESRD was 7 times as high for Aboriginal and Torres Strait Islander peoples as non-Indigenous people.

Aboriginal and Torres Strait Islander peoples commencing ESRD treatment are generally much younger than non-Indigenous Australians commencing ESRD treatment, with 62% aged less than 55 years compared with 30% of other Australians commencing ESRD treatment. ESRD incidence was higher for Aboriginal and Torres Strait Islander peoples in all adult age groups, with the greatest gap seen in the 55–64 year age group.

In the period 2008–10, incidence rates for Indigenous Australians were highest in the NT (151 per 100,000) and low in NSW/the ACT (29 per 100,000). ESRD incidence was higher in outer regional and remote areas than urban areas. For non-Indigenous Australians, there is little difference in ESRD incidence between jurisdictions or between urban, rural and remote areas.

The incidence of ESRD among Indigenous Australians has increased by 96% over the period 1991–2010. ESRD incidence for non-Indigenous Australians has also increased, but not as rapidly, therefore,

the gap has significantly increased. The increase in the incidence of ESRD in the Aboriginal and Torres Strait Islander population may reflect both real growth in the underlying disease, an increase in availability of kidney treatment and/or improved levels of identification of Aboriginal and Torres Strait Islander peoples in the registry.

ESRD patients require either a kidney transplant or dialysis to maintain the functions normally performed by the kidneys. In December 2010, there were 1,385 Indigenous Australians registered for ESRD. Of these, 87% were reliant on dialysis and only 13% had received a kidney transplant. In comparison, 53% of non-Indigenous Australians living with ESRD were reliant on dialysis and 47% had a kidney transplant. After adjusting for differences in the age structure of the two populations, Aboriginal and Torres Strait Islander peoples with ESRD were 15 times as likely as non-Indigenous Australians with ESRD to be reliant on dialysis.

Implications:

The very high level of ESRD among Aboriginal and Torres Strait Islander peoples is associated with the high rates of diabetes, high blood pressure and related diseases, low birthweight, and possibly the high rates of bacterial infections and glomerulonephritis in childhood (AIHW 2005a). These in turn are associated with barriers to accessing primary care and environmental determinants. Healthier nutrition and greater physical activity play a role, as well as early diagnosis and treatment of conditions associated with renal failure.

In response to increasing demand, some jurisdictions and communities have enhanced home or community-based dialysis services. A Mobile Dialysis Bus service offers respite dialysis to remote communities in the Northern Territory and Anangu Pitjantjatjara Yankunytjatjara (APY) Lands in South Australia, on a frequent basis. This is particularly important for remote communities, where people with ESRD often need to travel long distances, or else permanently relocate, in order to receive dialysis. Indigenous Australians have relatively poorer access to kidney transplants and addressing barriers is important (Cass et al. 2003; Yeates et al. 2009). A study of Australian nephrologists has found that, in the absence of robust evidence on predictors

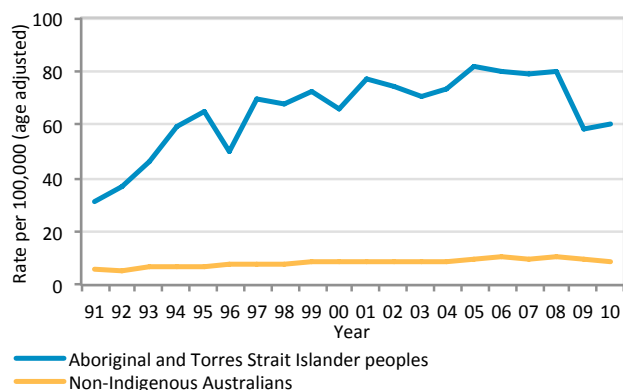
of post-transplant outcomes, decisions on which patients to refer for kidney transplantation are not based on systematic formal approaches. Instead, decisions may be influenced by factors such as kidney shortages, perceived compliance with dialysis as a predictor of compliance with transplant regimes (despite large differences in these regimes), and, anecdotal evidence

suggests, experiences with other Indigenous patients. This approach is currently leading to Indigenous patients being more commonly identified as ‘high-risk’ transplant candidates (Anderson et al. 2012).

A focus on improving primary prevention, detection and management is necessary to lessen the impact of ESRD on people with the condition and in

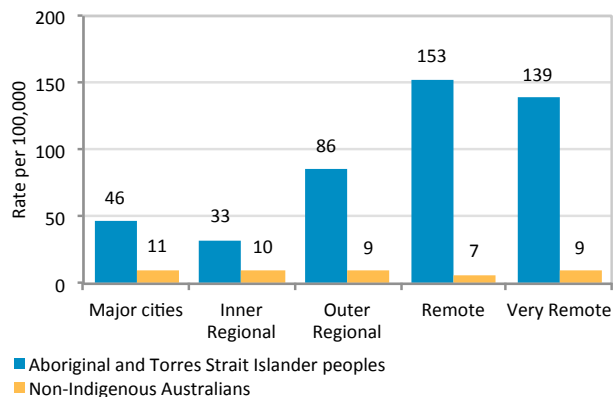
terms of the cost to the health care system and to Aboriginal and Torres Strait Islander peoples. The *National Partnership on Closing the Gap in Indigenous Health Outcomes* (COAG 2008c) sets a number of priorities aimed at chronic disease prevention, detection and management.

Figure 39
Age-standardised registration rates for end stage renal disease, by Indigenous status, 1991 to 2010



Source: AIHW analysis Australian and New Zealand Dialysis and Transplant Registry (ANZDATA)

Figure 41
Age-standardised incidence of end stage renal disease by Indigenous status and remoteness, 2008–10



Source: AIHW analysis of Australian and New Zealand Dialysis and Transplant Registry (ANZDATA)

Table 11
Incidence of end stage renal disease among Aboriginal and Torres Strait Islander peoples, by jurisdiction, 2008–10

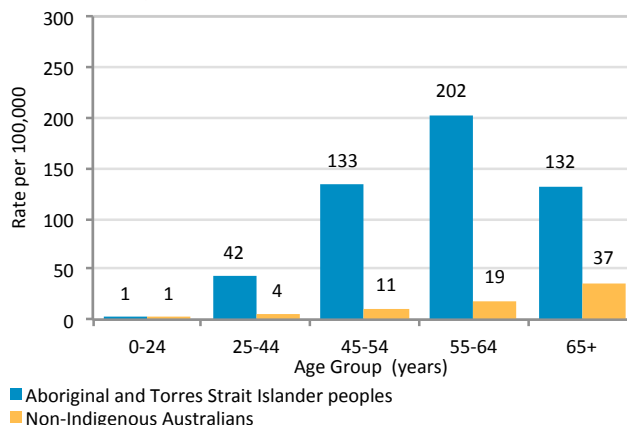
	Male			Female			Persons		
	No.	Rate ^(a)	Ratio	No.	Rate ^(a)	Ratio	No.	Rate ^(a)	Ratio
New South Wales / ACT	34	26	2	48	33	5	82	29	3
Victoria	10	n.p.	n.p.	12	n.p.	n.p.	22	38	4
Queensland	87	77	6	80	56	8	167	65	7
Western Australia	59	98	8	73	115	19	132	107	12
South Australia	26	129	10	26	98	16	52	110	12
Tasmania	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	3	7	1
Northern Territory	76	132	11	110	166	n.p.	186	151	15
Australia^(b)	292	70	6	349	72	11	641	71	7

n.p. refers to ‘not published’ as the rate is based on very small numbers. (a) Rate per 100,000 population (age-standardised).

(b) Australia total does not include Tasmania.

Source: AIHW analysis of Australian and New Zealand Dialysis and Transplant Registry (ANZDATA)

Figure 40
Incidence of end stage renal disease by Indigenous status and age group, 2008–10



Source: AIHW analysis of Australian and New Zealand Dialysis and Transplant Registry (ANZDATA)

Table 10
Total patients with end stage renal disease, by Indigenous status and treatment, 31 December 2010

Treatment	Number		Rate per 100,000 (age adjusted)		Ratio
	Indig.	Non-Indig	Indig.	Non-Indig	
Dialysis	1,208	9,382	428	29	15*
Transplant	177	8,232	58	34	1.7*
Total	1,385	17,614	485	63	7.7*

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the p<.05 level.

Source: AIHW analysis of Australian and New Zealand Dialysis and Transplant Registry (ANZDATA)

1.11 Oral health

Why is it important?:

Oral health refers to the health of tissues of the mouth, including muscle, bone, teeth, and gums. In relation to teeth, data are collected on the average number of decayed, missing and filled infant/deciduous (dmft) and adult/permanent (DMFT) teeth. The number of teeth with dental decay (termed 'caries') reflects untreated dental disease, while the number of missing and filled teeth reflects the history of dental health problems and treatment. Decayed teeth can cause illness and pain. The loss of permanent teeth can lead to chewing difficulties, discomfort while eating and subsequent nutritional problems and embarrassment. Although the evidence is not conclusive, poor dental health may impair speech and language development, and also exacerbate other chronic diseases (Jamieson et al. 2010).

Aboriginal and Torres Strait Islander peoples are more likely than other Australians to have lost all their teeth, have gum disease, and receive less caries treatment. They are less likely to have received preventive dental care and more likely to have untreated dental disease (Jamieson et al. 2010).

Gum disease is associated with increased age, poor oral hygiene, infrequent dental visits, smoking, low education and income levels, and certain medical conditions, especially diabetes. Research has found an association between periodontal disease and giving birth to pre-term and/or low birthweight babies; cardiovascular disease; and rheumatoid arthritis (NATSIHC 2003; Thomson et al. 2004) and with substance use, particularly inhalant use (Jamieson et al. 2010). Consumption of sugary drinks and a lack of fluoridation of water supplies in some communities have contributed to high levels of decayed teeth (Jamieson et al. 2010; Slack-Smith et al. 2009).

Findings:

In 2008, 32% of Indigenous children aged 0–14 years were reported to have teeth or gum problems. Approximately 15% had untreated cavities or dental decay and 16% had teeth filled because of dental decay. A further 7% had teeth pulled out due to dental decay. Cost and

lack of availability of services were barriers to accessing dental care.

For the four states for which reliable data were available (NSW 2007, SA 2008, the NT 2008 and Tasmania 2008), the mean number of decayed or missing teeth was higher for Indigenous children than other Australian children. dmft and DMFT scores among Aboriginal and Torres Strait Islander children were more than twice as high in all age groups. By 15 years of age, Indigenous children had 2.2 times the rate of decayed teeth and a 30% lower rate of filled teeth compared with non-Indigenous children. More recent data on hospitalisations for dental conditions (between July 2008 and June 2010) find that 9 per 1,000 Indigenous children aged 0–4 years were hospitalised for dental conditions compared with 4 per 1,000 population for other children. This indicates poor access to, and a large unmet need for, dental care in this age group. Hospitalisation rates for dental problems decline sharply after 14 years of age with Indigenous rates slightly lower than non-Indigenous rates. A study in WA found that there was a higher rate of emergency care and oral surgery for Indigenous patients indicating a higher burden of oral disease and late presentation (Kruger et al. 2010).

Indigenous children living in remote areas had the poorest level of oral health compared to those living in major cities. Non-Indigenous children in remote areas and cities had better oral health. In the general population, higher levels of socioeconomic disadvantage are associated with poorer oral health in children. There is a similar pattern for Indigenous children, but within each socioeconomic grouping, Indigenous children have poorer oral health than other Australian children (Jamieson et al. 2006).

Between 1 July 2007 and 3 June 2009, *Northern Territory Emergency Response* health checks included an assessment of dental health. Oral health problems were identified in over 40% of children who had a Child Health Check. At December 2011, of the 8,317 children who had had a dental check, over half the children were treated for previously untreated caries. Of the children who received a dental service between 1 January and 30 June 2011 for whom DMFT/dmft was reported, 82% had dental caries with an average of 4.5 caries per child. This is 23% higher than results reported in the

2006 Child Dental Health Survey for all children aged 6–12 years. A study in the NT examining both fluoride varnish and health promotion found significant reduction in tooth decay compared to the control communities over two years (Slade et al. 2011).

In 2004–06, the average number of decayed teeth was higher for Indigenous Australians aged 15 years and over (15 compared with 13 for non-Indigenous). A higher proportion of Indigenous persons aged 15 years and over had no natural teeth (8%) than non-Indigenous persons aged 15 years and over (6%).

Implications:

Available data indicate that dental health is worse for Indigenous Australians than other Australians, for both children and adults. These findings raise significant policy questions about access to dental services and population health measures to prevent dental disease and support oral health (see measure 3.14).

There has been an increase in MBS rebated dental care provided to Indigenous Australians since the introduction of the Indigenous Chronic Disease package, with 98% of claims bulk billed. In the 2009–10 Budget, the Australian Government announced a pilot project of \$11 million over four years for Indigenous mobile dental services in rural and regional areas. The objective of the program is to assess the effectiveness of mobile dental facilities in communities where dental services and facilities are scarce. In the 2012–13 Budget, the Australian Government also announced \$345.9 million over three years for public dental waiting lists, with funding directed to treating patients on waiting lists, providing services to around 400,000 adults including support to Indigenous Australians. An additional \$77.7 million over four years will be provided for relocation and infrastructure grants to encourage and support dentists to relocate and practice in more remote areas.

Under the Health and Hospitals Fund 2011 Regional Priority Round, the Royal Flying Doctor Service will receive funding for a mobile dental unit to provide dental services to people in the Pilbara and Kimberley regions who receive little or no dental care. In NSW an Aboriginal Oral Health Unit has been established to promote oral health and provide dental care. Four dental teams deliver services in Sydney and regional areas in

partnership with ACCHSs. The SA Government is also working in partnership with ACCHSs to provide ongoing oral health programs, including the provision of dental clinics in several

communities. Under the *Stronger Futures in the Northern Territory* package, funding will be allocated to continue the oral health program commenced under the *Northern Territory Emergency*

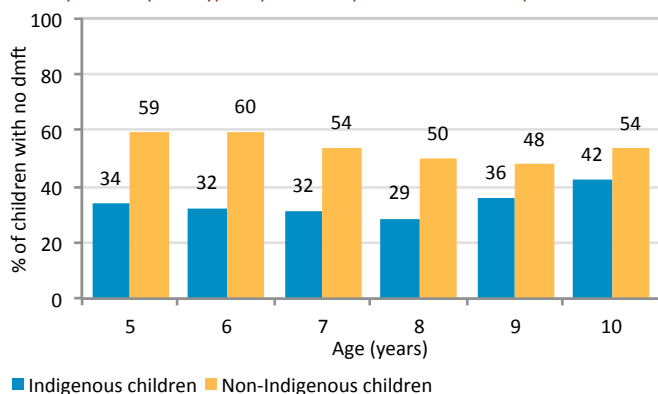
Response. The program will aim to achieve an integrated approach with a greater focus on preventive and health promotion activity including fluoride varnish.

Table 12
Number and proportion of Indigenous children aged 0–14 years^(a) with reported teeth or gum problems, by type of dental or gum problem, 2008

Type of teeth/gum problem	No.	%
Cavities or dental decay	27,089	15
Tooth or teeth filled because of dental decay	27,647	16
Teeth pulled out because of dental decay	12,203	7
An accident caused breakage or loss of teeth	7,474	4
Bleeding or sore gums	4,927	3
Other problems with teeth or gums	6,713	4
Total has teeth or gum problems ^(b)	57,056	32
Does not have teeth or gum problems	121,177	68
Total^(c)	178,233	100
Not known	3,581	..

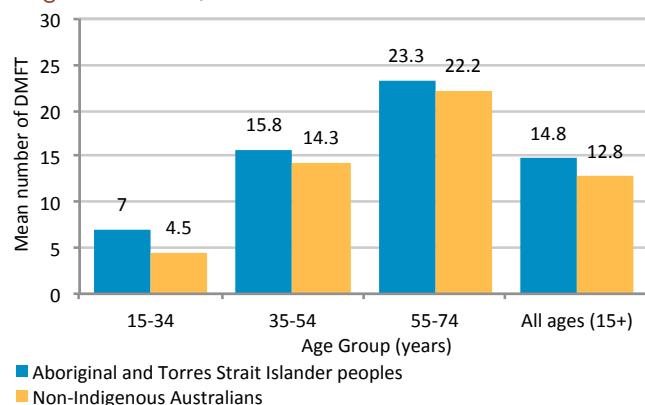
a) Excludes children who do not have teeth. (b) Total will be less than the sum of the components as a child can have more than one tooth or gum problem. (c) Excludes not known responses.
Source: AIHW analysis of 2008 NATSISS

Figure 43
Proportion of children aged 5–10 years with no decayed, missing or filled deciduous teeth, by age and Indigenous status, NSW (2007), SA, the NT, and Tasmania, 2008



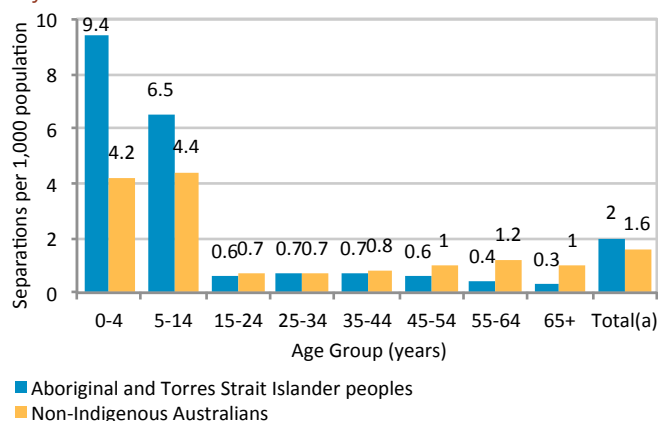
Source: AIHW analysis of Dental Statistics and Research Unit data

Figure 45
Mean number of decayed, missing or filled teeth by Indigenous status, 2004–06



Source: Roberts-Thomson & Do 2007

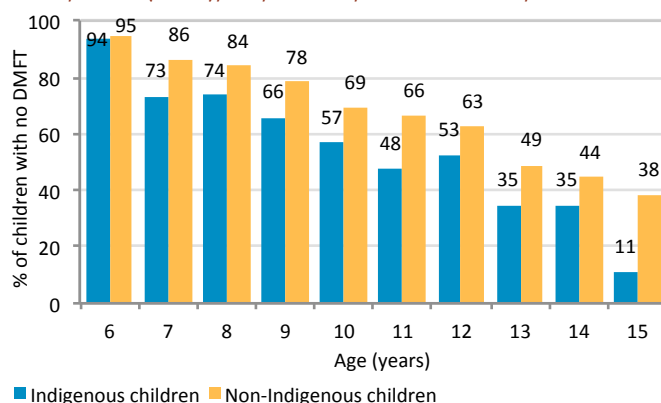
Figure 42
Age-specific hospitalisation rates for dental problems, by Indigenous status, NSW, Victoria, Qld, WA, SA and the NT, July 2008 to June 2010



a) Total is age-standardised

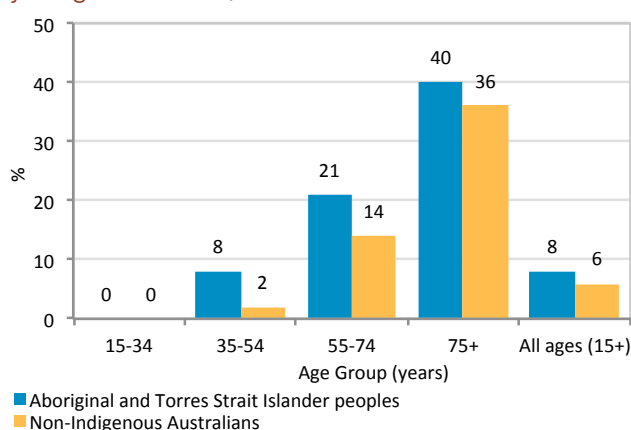
Source: AIHW analysis of National Hospital Morbidity Database

Figure 44
Proportion of children aged 6–15 years with no decayed, missing or filled permanent teeth, by age and Indigenous status, NSW (2007), SA, the NT, and Tasmania, 2008



Source: AIHW analysis of Dental Statistics and Research Unit data

Figure 46
Persons aged 15 years and over with complete tooth loss, by Indigenous status, 2004–06



Source: Roberts-Thomson & Do 2007

1.12 HIV/AIDS, hepatitis and sexually transmissible infections

Why is it important?:

Aboriginal and Torres Strait Islander peoples currently experience high notifications of bacterial sexually transmitted infections (STIs) (12%–48% of new cases); continued new cases of HIV; and high notification rates for hepatitis B and C.

Each of these infections can have potentially serious consequences. The impact of HIV/AIDS on life expectancy is well documented. Chronic hepatitis causes serious illness and can also progress to cirrhosis of the liver, cancer, and premature death (Couzos et al. 1999). STIs can also have serious long-term consequences, such as chronic abdominal pain or infertility in women after gonorrhoea and chlamydia, and heart and brain damage caused by syphilis (Bowden et al. 2002; Couzos et al. 1999). Several of these infections can cause miscarriage (Campbell et al. 2011).

Notification data reflect diagnosed cases for the condition rather than the extent of the problem in the population. These data exclude information from those people who have the condition but have not been diagnosed. Therefore notification rates reflect a range of issues including access to health care, improved screening programs for Indigenous Australians, the accuracy of the tests, whether there is systematic screening for conditions that are common but frequently asymptomatic, and people's decisions about seeking health care. For Indigenous Australians, the accuracy of Indigenous identification in the data is also an issue. Improved primary health care can lead to increased testing and a corresponding increase in notification rates.

Findings:

During the three years to 2011 there were approximately 19,000 notifications among Aboriginal and Torres Strait Islander peoples for chlamydia. After adjusting for differences in age structure, the notification rate was 4 times as high as for other Australians. Between 1994–96 and 2009–11, in WA, SA and the

NT combined, the notification rate for chlamydia tripled for Indigenous Australians and the gap between Indigenous Australians and other Australians widened.

For this same period, there were approximately 11,000 notifications for gonorrhoea among Aboriginal and Torres Strait Islander peoples. After adjusting for differences in age structure, rates were 27 times as high as for other Australians. Between 1994–96 and 2009–11 rates increased by 87% for Indigenous females (with no change detected for Indigenous males), while for other Australians there was a significant increase for males but no change for females.

There were also approximately 1,000 notifications for syphilis among Indigenous Australians over this period. After adjusting for differences in age structure, rates were 8 times as high as for other Australians. Between 1994–96 and 2009–11 the notification rate for syphilis decreased for Indigenous males and females while increasing for other Australian males (with no change detected for females). Rates were highest in the 35–44 year age group. The highest rate for each of these three bacterial STIs was in the NT.

During the three years to 2011 there were approximately 500 new notifications for hepatitis B and 700 for hepatitis C among Indigenous Australians. Rates were 4 and 3 times the non-Indigenous rates for hepatitis B and C respectively. Among Indigenous Australians, hepatitis B notification rates were highest in the older age groups (55 years and over) whereas for other Australians they were higher in the younger age groups (25–44 years). For hepatitis C, notifications were highest in the 25–44 age groups for both populations. Between 2006–08 and 2009–11 there was a significant decline in the hepatitis B notification rate for Indigenous Australians.

There have been no significant changes detected in the incidence of HIV infection for Aboriginal and Torres Strait Islander peoples between 1998–2000 and 2008–10. For the period 2008–10, the incidence of HIV was 5 per 100,000 for both Indigenous and other Australians. Sexual contact between men was the highest HIV risk for both populations; however injecting drug use represented

20% of Indigenous risk exposure, compared to 2% for others.

Between 1998–2000 and 2008–10, there was a significant decrease in the AIDS notification rate for other Australians during this period but no significant change was detected for Aboriginal and Torres Strait Islander peoples. In 2008–10, the rate of AIDS diagnosis was 0.5 per 100,000 for Indigenous Australians and 0.6 per 100,000 for other Australians.

Implications:

Bacterial STIs are a major health problem for Aboriginal and Torres Strait Islander peoples. High rates of STIs among Aboriginal and Torres Strait Islander peoples are affected by issues with access to services (see measure 3.14) and a younger, more mobile population with a lower socioeconomic status that may impact on health literacy.

Hepatitis B notifications have declined for Indigenous Australians since 2006–08. As at December 2011, hepatitis B vaccination rates were at 94% for both Indigenous and non-Indigenous children aged two years.

The rate of HIV/AIDS is similar between Aboriginal and Torres Strait Islander peoples and non-Indigenous Australians, although risk exposure patterns are different. Studies have found improvements in years of expected life for people with HIV with early access to antiretroviral treatments compared to the period when no treatment was available (Atkinson et al. 2009).

The *National Partnership Agreement on Indigenous Early Childhood Development*, with joint funding of \$564 million over six years, supports state and territory governments to provide sexual health and young parent programs that aim to encourage increased self confidence in making informed decisions about sexual and reproductive health.

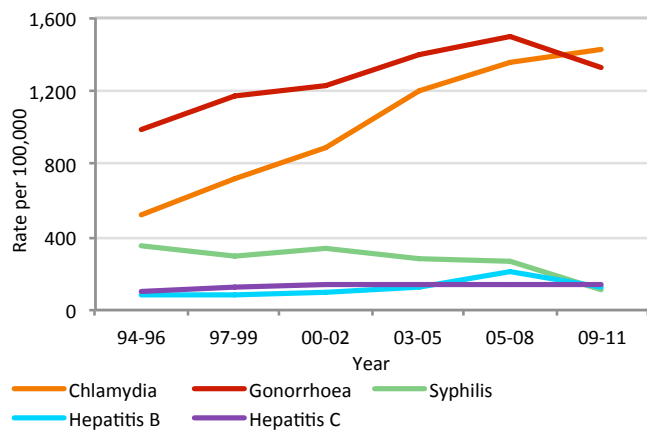
The third *National Aboriginal and Torres Strait Islander Blood Borne Viruses and Sexually Transmissible Infections Strategy 2010–2013* is one of a set of five national strategies aimed at reducing the transmission of STIs and blood borne viruses and the associated morbidity, mortality, personal and social impacts. Priority action areas include reducing hepatitis B infections and eliminating infectious syphilis, testing, treatment and follow-up for bacterial STIs in sexually active Indigenous young people (aged

15–30 years); increased primary prevention activities that seek to reduce the number of new cases of HIV and viral hepatitis among Indigenous Australians, with a focus on those who inject drugs; and competent and accredited

workforces consistent across all jurisdictions. Previous strategies have increased testing and may account for improvements in detection and increased rates. However, under-identification of Aboriginal and

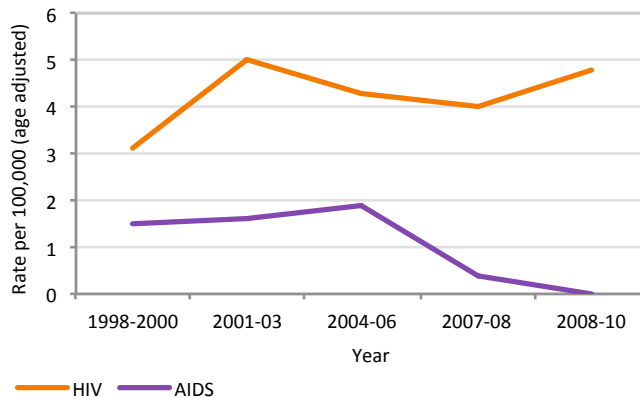
Torres Strait Islander peoples in notification systems and the volatility in small numbers means that caution should be used in interpreting trends in these data.

Figure 47
Notification rate for 5 infectious diseases, Aboriginal and Torres Strait Islander peoples, WA, SA and the NT, 1994–96 to 2009–11



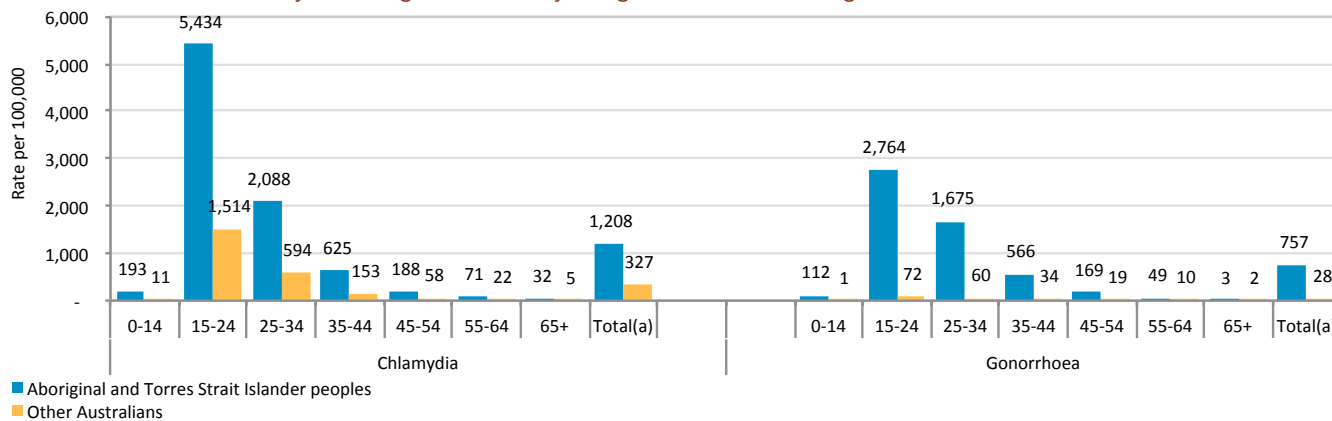
Source: AIHW analysis of National Notifiable Diseases Surveillance System

Figure 48
Notification rate for HIV and AIDS, Aboriginal and Torres Strait Islander peoples, NSW, Victoria, Qld, WA, SA and the NT, 1998–2000 to 2008–10



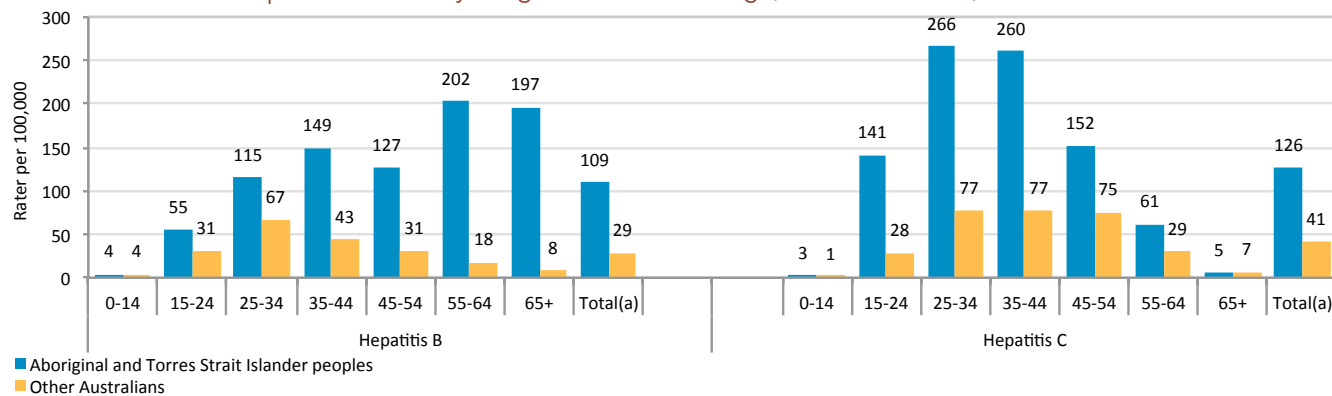
Note: NSW excluded from AIDS time trend
Source: AIHW analysis of National HIV and National AIDS registry data

Figure 49
Notification rate for chlamydia and gonorrhoea by Indigenous status and age, selected states^(b), 2009–11



a) Age-standardised (b) Chlamydia: Victoria, Qld, WA, SA, NT, and Tasmania. Gonorrhoea: Victoria, Qld, WA, SA, NT, Tasmania and ACT
Source: AIHW analysis of National Notifiable Diseases Surveillance System

Figure 50
Notification rates for hepatitis B and C by Indigenous status and age, selected states^(b), 2009–11



a) Age-standardised (b) Hepatitis B: WA, SA, NT, ACT and Tasmania. Hepatitis C: WA, SA, NT and Tasmania
Source: AIHW analysis of National Notifiable Diseases Surveillance System

1.13 Community functioning

Why is it important?:

Aboriginal and Torres Strait Islander peoples have long sought health outcomes encompassing the physical, social, cultural and emotional elements of life. This includes the ability to live proudly and freely as Aboriginal and Torres Strait Islander peoples. Functioning is about the things people achieve or experience, consistent with their account of wellbeing. The conversion of capabilities into functioning is influenced by the values and personal features of individuals, families and communities and by the environment in which they live. Hence it is likely that different cultures will give greater or lesser priority to different aspects of functioning (Office of Aboriginal Health et al. 2004).

To develop a picture of family and community functioning from Aboriginal and Torres Strait Islander peoples' perspectives, workshops drawing together participants from across Australia were held in 2008 and 2010. Participants at the workshops described the various elements of family and community life essential for high levels of functioning. The workshops identified a number of key themes and weighted these functionings according to their relative value. In 2010 there were six themes identified by Aboriginal and Torres Strait Islander participants and these have been used to analyse and present available data.

Participants were drawn from a number of jurisdictions and settings so the themes they identified appear to reflect widely held views among Aboriginal and Torres Strait Islander peoples. Independently of these workshops a review of relevant research has supported the association between the functionings identified by the workshops and the achievement of health and wellbeing.

Aboriginal and Torres Strait Islander peoples have sought, and continue to seek, a quality of life where racism ceases to be a barrier. Racism in any of its institutional, interpersonal and internalised settings can deter people

from achieving their full capabilities (Ziersch et al. 2011).

Findings:

Outlined below is a description of each of the six themes and the key findings for Aboriginal and Torres Strait Islander peoples, using data from the 2008 NATSISS:

Connectedness to country, land, and history; culture and identity

- *Being connected to country, land, family and spirit*
- *Strong and positive social networks with Aboriginal and Torres Strait Islander peoples*
- *Strong sense of identity and being part of a collective*
- *Sharing; giving and receiving; trust; love; looking out for others*

Data from the 2008 NATSISS show:

- 72% of Aboriginal and Torres Strait Islander peoples aged 15 years and over recognised their homelands.
- 62% identified with a clan or language group, up from 54% in 2002.
- 89% 'feel able to have a say with family and friends' some, most or all of the time. This is associated with excellent or very good self-assessed health status and low to moderate levels of psychological distress.
- 94% had contact with family or friends outside the household at least once per week.
- 75% had friends to confide in.
- 51% provided support to relatives outside the household.
- 63% had attended a cultural event in the last 12 months.

Resilience

- *Coping with the internal and external world*
- *Power to control options and choices*
- *Ability to proceed in public without shame*
- *Optimising what you have*
- *Challenge injustice and racism, stand up when required*
- *Cope well with difference, flexibility, accommodating*
- *Ability to walk in two worlds*
- *Engaged in decision-making*
- *External social contacts*

Data from the 2008 NATSISS show:

- 69% of Aboriginal and Torres Strait Islander peoples aged 15 years and

over reported that they did not avoid situations due to past discrimination.

- 80% agreed that their doctor could be trusted and 69% agreed that the local school could be trusted.
- 89% felt they were able to find general support from outside the household.
- 56% had provided support to someone outside their household in the last four weeks.
- 89% had participated in sport, social or community activities in the three months prior to the survey.
- 54% in non-remote areas knew someone in an organisation they would feel comfortable contacting.
- 44% of employed people said work allowed them to fulfil cultural responsibilities.

Leadership

- *Strong elders in family and community, both male and female*
- *Role models, both male and female*
- *Strong direction, vision*
- *The 'rock', someone who has time to listen and advise*

Data from the 2008 NATSISS show:

- 42% of children aged 3–14 years had spent time with an Indigenous leader or Elder in the last week. In remote areas this increased to 63%.

Additional data items which describe values of leadership would be useful in future social surveys.

Having a role, structure and routine

- Having a role for self: participation, contributing through paid and unpaid roles
- Capabilities and skills derived through social structures and experience through non-formal education
- Knowing boundaries and acceptable behaviours
- Sense of place – knowing your place in family and society
- Being valued and acknowledged
- Disciplined

Data from the 2008 NATSISS show:

- 78% of Aboriginal and Torres Strait Islander peoples had lived in only one dwelling in the last 12 months. This was associated with low to moderate levels of psychological distress and being employed.
- 73% were in households that had not experienced cash flow problems in the last 12 months.

- 86% were in households in which there had been no days without money for basic living expenses in the last two weeks.
- Most children aged 0–14 years (94%) had participated in informal learning activities with their main carer.

Feeling safe

- *Lack of physical and lateral violence*
- *Safe places*
- *Emotional security*
- *Cultural competency*
- *Relationships that can sustain disagreement*

Data from the 2008 NATSISS show:

- 75% had not experienced physical and/or threatened violence in the last 12 months.
- 80% felt safe at home alone after dark. This was associated with excellent or very good self-assessed health and low to moderate levels of psychological distress.
- In the five years prior to the survey, 97% of Aboriginal and Torres Strait Islander peoples had not been

incarcerated (91% had never been incarcerated in their lifetime).

The final theme, **Vitality** covers community infrastructure, access to services, education, health, income and employment.

Data from the 2008 NATSISS show:

- half of Aboriginal and Torres Strait Islander peoples aged 15 years and over had no disability or long-term health condition.
- 68% of those aged 15 years and over had experienced low/moderate levels of psychological distress in the four weeks before the survey.
- 76% of children aged 0–14 years did not have problems sleeping.
- 74% of children aged 4–14 years spent at least 60 minutes every day being physically active.
- 74% of people aged 15 years and over said they can easily get to places as needed. This was associated with feeling able to have a say with family and friends in the community and providing support to relatives.
- Many Aboriginal and Torres Strait Islander people were seeking to

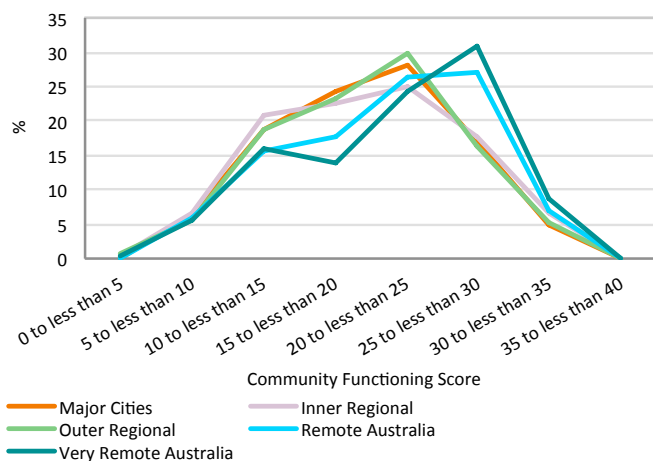
improve their knowledge, skills and qualifications, with 41% of those aged 15 years and over (who were not currently studying) intending to study in the future.

- Education was the main purpose of Internet use for children (54%), while 30% of those aged 5 years and over reported using the Internet for education or study.

Implications:

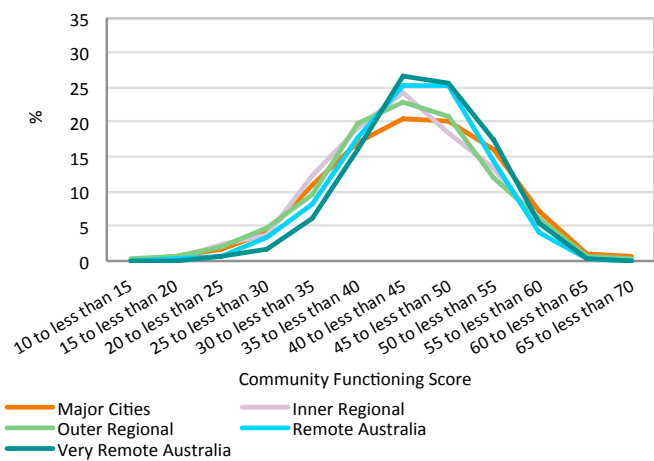
Community functioning for Aboriginal and Torres Strait Islander peoples should be assessed within a framework that reflects their own values. Community functioning scores present a national quantitative measure of functioning and suggest differences between remoteness, sex, age groups, and states and territories. Policy makers need to listen carefully to the voices of Aboriginal and Torres Strait Islander peoples when assessing community functioning and the approaches that will enhance functioning.

Figure 51
Community functioning score by remoteness, proportions, Indigenous Australians aged 0–14 years, 2008



Source: ABS and AIHW analysis of NATSISS 2008

Figure 52
Community functioning score by remoteness, proportions, Indigenous Australians aged 15 years and over, 2008



Source: ABS and AIHW analysis of NATSISS 2008

Table 13
Selected variables contributing to community functioning among Aboriginal and Torres Strait Islander peoples,
2008 and 2002

Community functioning theme and associated variables	2008 Number	2008(a) %	2002(a) %
Connectedness to family land and history, culture, identity			
Recognises homelands	234,383	72	70
Speaks an Aboriginal/Torres Strait Islander language	62,629	19	21
Attended Aboriginal and Torres Strait Islander cultural event in last 12 months	205,674	63	68
Identifies with clan group or language group	203,106	62	54
Feels able to have a say with family and friends some, most or all of the time	292,375	89	
Feels able to have a say within community on important issues some, most and all of the time	157,312	48	
Contact with family or friends outside household at least once per week	307,515	94	
Has friends can confide in	246,649	75	
Able to get support in time of crisis from outside household - from family member	261,506	80	
Provides support to relatives outside household	166,892	51	
Resilience			
Did not feel discriminated against in last 12 months	237,812	73	
Did not avoid situations due to past discrimination	225,507	69	
Can visit homelands	146,017	45	46
Involvement with Aboriginal/Torres Strait Islander organisation	59,516	18	26
Work allows for cultural responsibilities to be met (employed persons)	75,028	44	22
Household member(s) used strategies to meet basic living expenses in last 12 months	119,147	36	49
No community problems reported	84,327	26	25
Community problems reported, but less than three types	73,788	23	29
Theft not reported as a neighbourhood/community problem	192,535	59	57
Alcohol not reported as a neighbourhood/community problem	192,138	59	67
Illegal drugs not reported as a neighbourhood/community problem	208,039	64	68
Family violence not reported as a neighbourhood/community problem	245,938	75	79
Assault not reported as a neighbourhood/community problem	253,009	77	80
Sexual assault not reported as a neighbourhood/community problem	288,926	88	92
Total persons who reported a community problem	232,592	71	74
Agrees that most people can be trusted	118,975	36	
Agrees that their doctor can be trusted	260,777	80	
Agrees that the hospital can be trusted	204,189	62	
Agrees that police in the local area can be trusted	170,317	52	
Agrees that police outside the local area can be trusted	133,362	41	
Agrees that the local school can be trusted	224,734	69	
Knows someone in organisation that is comfortable contacting (non-remote areas)	132,011	54	
Felt able to find general support from outside the household	291,459	89	
Provided support to someone outside household in last 4 weeks	184,537	56	
Participated in sport/social/community activities in last 3 months	289,381	89	
Recreational or cultural group	46,263	14	
Community or special interest group activities	42,274	13	
Church or religious activities	49,393	15	24
Watched Indigenous TV	177,695	54	
Listened to Indigenous radio	85,682	26	

Table continued on next page

Table 13 (continued)

Selected variables contributing to community functioning among Aboriginal and Torres Strait Islander peoples, 2008 and 2002

Community functioning theme and associated variables	2008 Number	2008(a) %	2002(a) %
Leadership			
Child spent time with an Indigenous leader or elder in last week (3-14 years)	65,035	42	
Encouragement from elders and council would help child to complete Year 12 (2-14 years)	7,504	5	
Encouragement from elders and council would help child in secondary school to complete Year 12 (15-19 years)	3,251	5	
Structure and routine/having a role			
Can communicate with English speakers without difficulty (Indigenous language is main language spoken at home)	27,179	72	
Has lived in only one dwelling for the past year or longer	255,157	78	69
Child involved in informal learning activities with carer in last week (0-14 years)	180,736	94	
Feeling Safe			
Felt safe at home alone during the day	305,892	94	
Felt safe at home alone after dark	261,414	80	
Felt safe walking alone in local area after dark	172,047	53	
Not a victim of physical or threatened violence in the last 12 months	246,372	75	76
Indigenous culture taught at school	87,833	53	
Was taught Indigenous culture at school or as part of further studies	148,592	45	
Learnt about own Indigenous clan/language	55,947	17	
Child neither bullied nor treated unfairly at school because Indigenous	112,159	81	
Not incarcerated in the last 5 years	316,033	97	93
Never incarcerated	297,030	91	
Vitality			
Self-assessed health status excellent or very good	143,004	44	44
Has no disability or long term-health condition	164,157	50	64
Does not have an education restriction due to disability (15-64 years)	143,701	46	
Does not have an employment restriction due to disability (15-64 years)	126,681	41	
Low/ moderate level of psychological distress (5-11 K5 score)	221,717	68	
Employed (persons aged 15-64 years in the labour force)	167,416	54	
Year 12 highest year of school completed (excluding secondary school students)	66,220	22	18
Has a non-school qualification (25-64 years)	83,257	40	32
Living in a dwelling that has no major structural problems (all ages)	370,606	71	60
Household members used telephone(s) in last month	317,203	97	
Used computer in last 12 months	218,006	67	56
Used Internet in last 12 months	192,852	59	41
Has access to motor vehicles whenever needed	215,689	66	55
Can easily get to places needed	241,481	74	70
Equivalentised gross household income is within the 3rd quintile or above (persons in households with all income reported)	74,628	29	25
Total persons aged 15 years and over	327,101	100	

a) Unless otherwise indicated, proportions are of the estimated total Aboriginal and Torres Strait Islander population aged 15 years and over. Where another population is indicated, this has been used to calculate the proportion.

Source: ABS and AIHW analysis of NATSISS 2002 and 2008

1.14 Disability

Why is it important?:

Disability may be an impairment of body structure or function, a limitation in activities and/or a restriction in a person's participation in specific activities. A person's functioning or disability is conceived as an interaction between health conditions and environmental and personal factors. Aboriginal and Torres Strait Islander peoples are at greater risk of disability due to increased exposure to factors such as low birthweight, chronic disease, infectious diseases (e.g., otitis media), accidents and violence, mental health problems and substance use. Along with limited access to early treatment and rehabilitation services, these factors increase the risk of a person acquiring a disability. Such factors tend to be more prevalent in populations where there are higher rates of unemployment, lower levels of income, poorer diet and living conditions, and poorer access to adequate health care.

Findings:

In 2008, an estimated 162,900 (50%) of Indigenous Australians aged 15 years or over had a disability or a long-term health condition. Of these, 26,000 or 8% of the population aged 15 years and over had profound or severe core activity limitation, meaning that they always or sometimes needed assistance with at least one activity of everyday living (self-care, mobility or communication). The rates for males and females were similar. The proportions of Indigenous Australians with a disability or a long-term health condition were higher in older age groups, ranging from 35% of those aged 15–24 years to 78% of the 55 years and over age group.

Physical disabilities accounted for 33% of all disabilities reported by those aged 15 years and over, followed by sensory/speech disabilities (17%), and intellectual disabilities (8%).

Comparisons of disability among Indigenous Australians and other Australians are only available for non-remote areas. In these areas, Indigenous Australians aged 15 years and over were 1.4 times as likely to have a disability or a long-term health condition. The differences in rates were more

marked for profound/severe core activity limitation, with Indigenous Australians 2.2 times as likely as other Australians to have such a limitation.

The 2006 Census collected data on one element of disability (i.e., those reporting the need for assistance with core activities). In the 2006 Census, around 20,000 Indigenous Australians, 4% of the total Indigenous population (i.e., all age groups), were identified as needing assistance with a core activity (self-care, mobility or communication) some or all of the time. Rates were similar for males (4.5%) and females (4.1%). Slightly more Indigenous Australians living in non-remote areas needed assistance with a core activity compared with remote areas (4.1% versus 2.8%). Rates ranged from 3% of Indigenous Australians in the NT to 5% in NSW and Victoria. In 2006, Indigenous Australians were twice as likely to have a core activity need for assistance as non-Indigenous Australians. The number of Indigenous Australians with a core activity need for assistance was higher in all age groups. In 2006, 2% of Indigenous children aged 0–18 years had a core activity need for assistance, approximately 1.3 times as high as the rate for non-Indigenous children.

Ten per cent of Indigenous Australians who needed assistance with a core activity were living in a hospital, a residential care facility, hostel for the disabled or another non-private dwelling, compared with 19% of non-Indigenous Australians (ABS & AIHW 2008).

In 2009–10, Indigenous Australians used disability support services at higher rates than non-Indigenous Australians (28 per 1,000 compared to 13 per 1,000). Rates were highest in the NT (178 per 1,000) and lowest in the ACT (2 per 1,000). Rates were higher in non-remote areas (34 per 1,000) than remote areas (17 per 1,000). Intellectual disability was the most common disability group (9 per 1,000 population), followed by physical and psychiatric (both 4 per 1,000 population).

Eighty per cent of Indigenous Australians aged 15–64 years reporting core activity restrictions were not in the labour force, compared with 38% of those not reporting core activity restrictions (ABS & AIHW 2008). The median income for Indigenous Australians aged 15–64 years who needed assistance with a core activity was around 60% of the median

income for those who did not need assistance (ABS & AIHW 2008).

In 2006, the Census collected, for the first time, information on the number of carers aged 15 years or over in Australia. The median age of Indigenous carers was 37 years; 12 years less than the median age of non-Indigenous carers (49 years). After adjusting for differences in the age structures of the Indigenous and non-Indigenous populations, Indigenous Australians were 1.2 times as likely as non-Indigenous Australians to be caring for another person with a disability, a long-term illness or problems related to old age.

In 2008, serious disability was reported as a stressor for self, family or friends in the last 12 months by 7% of adults surveyed in the 2008 NATSISS.

Implications:

The high levels of disability among Aboriginal and Torres Strait Islander peoples are consistent with the levels of disease and injury, socioeconomic and environmental factors, health risk factors and lower access to health services relative to need. Factors during pregnancy have also been shown to raise the likelihood of intellectual disability in children (Leonard et al. 2008). Core activity restrictions occur earlier in life for Aboriginal and Torres Strait Islander peoples. Core activity restrictions are associated with a range of other social disadvantages including lower levels of educational attainment, lower levels of participation in the workforce and lower income.

In November 2008, COAG agreed to sustained engagement by all governments over the next decade and beyond to achieve the Close the Gap targets for Indigenous peoples. This included targeted initiatives for Indigenous Australians of \$4.6 billion across early childhood development, health, housing, economic participation and remote service delivery. The *National Indigenous Reform Agreement* sets out the policy framework for Closing the Gap in Indigenous disadvantage. These initiatives are targeted at many of the underlying issues impacting on high disability rates.

Through the *National Disability Agreement* all Australian Governments developed a National Indigenous Access Framework which aims to ensure the needs of Aboriginal and Torres Strait

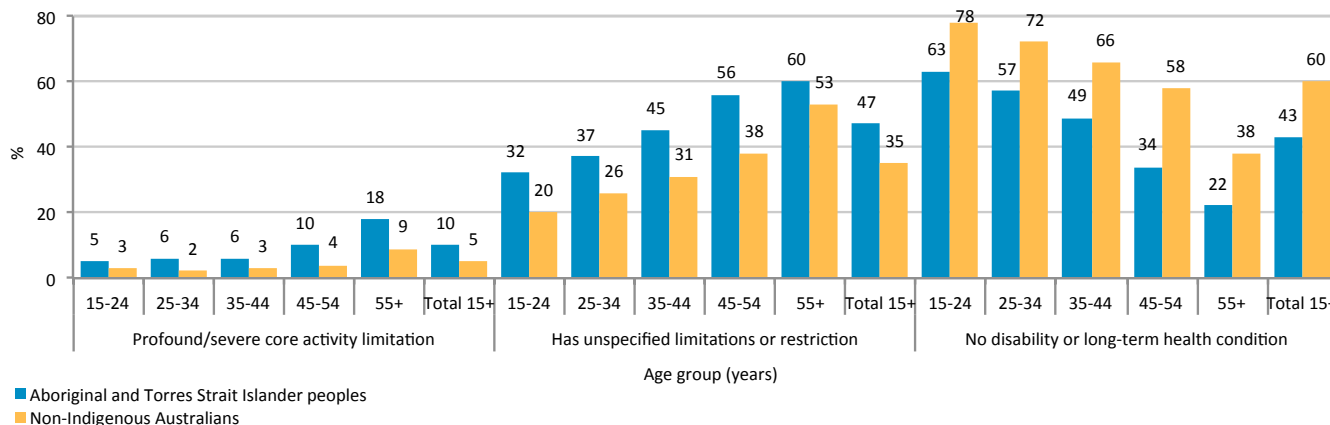
Islander peoples with disability are addressed through appropriate service delivery arrangements. The *National Disability Strategy* outlines a 10-year national policy framework to guide government activity across six key outcome areas and to drive future

reforms in mainstream and specialist disability service systems to improve outcomes for people with disability, their families and carers.

The Australian Government has committed \$1 billion to support the first

stage of a National Disability Insurance Scheme (NDIS). The funding will see an NDIS start in mid-2013 for around 10,000 people with significant and permanent disabilities in select locations.

Figure 53
Disability status by Indigenous status and age group, persons aged 15 years and over living in non-remote areas of Australia, 2008^(a)



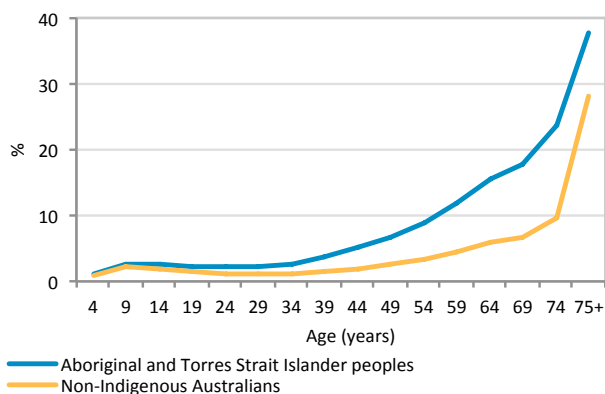
a) Totals are age-standardised
Source: AIHW analysis of 2008 NATSISS and 2007-08 NHS

Table 14
Disability type^(a), by age group, Indigenous persons aged 15 years and over, 2008

Disability type	15-24 years	18-24 years	25-34 years	35-44 years	45-54 years	55 years and over	Total (15+)	Total (18+)
	%	%	%	%	%	%	%	%
Sight, hearing, speech	10	10	13	17	27	31	17	18
Physical	19	22	26	35	47	59	33	35
Intellectual	9	9	6	6	10	6	8	8
Total with a disability or long-term health condition ^(b)	35	38	43	51	66	78	50	52
Total with no disability or long-term health condition	65	62	58	49	34	23	50	48
Total	100	100	100	100	100	100	100	100

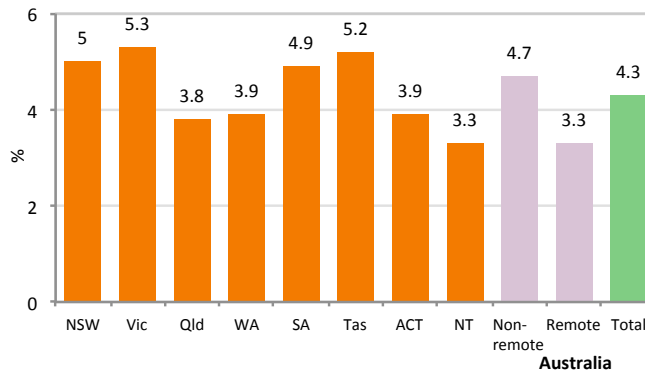
a) Excluding psychological disability; (b) Includes disability type not specified. Note that more than one disability type may be reported and thus the sum of the components may add to more than the total.
Source: AIHW analysis of 2008 NATSISS

Figure 54
Proportion of persons with core activity need for assistance, by Indigenous status and age group, 2006



Source: ABS & AIHW analysis of 2006 Census data

Figure 55
Proportion of Aboriginal and Torres Strait Islander peoples with core activity need for assistance, by jurisdiction and remoteness, 2006



Source: ABS & AIHW analysis of 2006 Census data

1.15 Ear health

Why is it important?:

Hearing loss among Aboriginal and Torres Strait Islander peoples is widespread and much more common than for non-Indigenous Australians. The most common causes of hearing loss among Indigenous Australians are disorders of the middle ear, specifically bacterial and viral infections leading to otitis media.

Hearing loss, especially in childhood, can lead to linguistic, social and learning difficulties and behavioural problems in school. Such differences may reduce educational achievements and have life-long consequences for employment, income, social success and contact with the criminal justice system (Williams et al. 2009). The negative effects are likely to be compounded for Indigenous children, many of whom have to adapt to an educational environment where the language and/or culture differs from that of their home (Australian Indigenous HealthInfoNet 2004).

Otitis media is an inflammation of the middle ear. Otitis media with effusion involves a collection of fluid that occurs within the middle ear space, and chronic suppurative otitis media is a perforation in the eardrum and active bacterial infection within the middle ear space which lasts several weeks or more. The World Health Organization regards a prevalence of chronic suppurative otitis media of greater than 4% as a massive public health problem requiring urgent action (WHO 2004a). Data from the NT on a subset of children receiving audiology services show that the rate of chronic suppurative otitis media was 12%. Several other studies have found that Aboriginal and Torres Strait Islander children living in remote communities experience severe and persistent ear infections. These occur earlier in life compared with non-Indigenous children (Morris et al. 2007; Gunasekera et al. 2009). The prevalence of otitis media is as high as 70% in some remote communities (Coates 2009).

Otitis media is thought to be more common and severe among Aboriginal and Torres Strait Islander peoples because of poverty, crowded housing conditions, inadequate access to water and to functioning sewerage and

waste-removal systems (increasing the risk of bacterial and viral infections), passive smoking, lower rates of breastfeeding, nutritional deficiencies and lack of access to primary health care and treatment.

Findings:

National survey data rely on self-report of conditions that have been diagnosed by a doctor and therefore may under-count the prevalence of conditions in the population. For example, the 2008 NATSISS found that 12% of Aboriginal and Torres Strait Islander children in the NT had ear/hearing problems, while ear disease was found in 30% of the 10,605 Aboriginal and Torres Strait Islander children tested in prescribed areas (remote areas and town camps) between July 2007 and 30 June 2009 as part of the *Northern Territory Emergency Response* (NTER). Of the nearly 5,000 children who received audiology services as part of the NTER, two-thirds had at least one middle ear condition, 53% were found to have hearing loss, 33% had hearing impairment and almost 12% had chronic suppurative otitis media. Data from programs specifically targeting otitis media in rural and remote areas such as the Deadly Ears Program in Qld show significantly higher prevalence than national survey data.

In the 2004–05 NATSIHS, 12% of Aboriginal and Torres Strait Islander peoples reported ear and hearing problems. Hearing loss was higher than for non-Indigenous Australians in all age groups from 0–54 years of age. In the 2008 NATSISS, 9% of Aboriginal and Torres Strait Islander children aged 0–14 years were reported to have ear/hearing problems, 3 times the rate for non-Indigenous children. Rates were higher in remote areas (10%) compared with non-remote areas (8%). The NT had the highest rate of child hearing problems and Victoria the lowest.

In 2004–05, ear/hearing problems were more common for children living in overcrowded households (15% versus 8%), those living in the most socioeconomically disadvantaged areas (15% versus 11% for the most advantaged areas) and those living in households with regular smokers (10% versus 8% without smokers).

Hospitalisation rates for all ear disease combined for Aboriginal and Torres Strait Islander peoples was around 1.3 times the non-Indigenous rate in the period

July 2008 to June 2010. While rates for Aboriginal and Torres Strait Islander children aged 0–4 years were less than those for non-Indigenous children, the rate for Indigenous children aged 5–14 years was twice as high. There has been no significant change in Indigenous hospitalisation rates for ear disease over the long term (since 1998–99), however there was an increase in recent years (2004–05 to 2009–10).

In 2009–10, the rate of myringotomy procedures (incision in the eardrum to relieve pressure caused by excessive fluid build-up) in hospital was lower for Indigenous Australians (1.4 per 1,000) than for non-Indigenous Australians (1.7 per 1,000), although the gap was smaller than in 2007–08. Indigenous Australians were 20% less likely to undergo this procedure (SCRGSP 2011a). In the period from July 2008 to June 2010, Indigenous children aged 0–14 years were hospitalised for tympanoplasty procedures (a reconstructive surgical treatment for a perforated eardrum) at 7.3 times the rate of other children.

BEACH survey data collected from April 2006 to March 2011 suggest that the rate of problems managed by GPs among Indigenous children aged 0–14 years were 1.1 times the non-Indigenous rate for otitis media/myringitis and 1.2 times the non-Indigenous rate for total diseases of the ear.

Implications:

Chronic ear disease causing serious hearing damage is common among Aboriginal and Torres Strait Islander peoples. Chronic suppurative otitis media occurs in some Aboriginal and Torres Strait Islander communities at levels described as a massive public health problem requiring urgent action (WHO 2004a).

The prevalence of ear disease is significantly higher for Aboriginal and Torres Strait Islander peoples, yet some levels of treatment by GPs for Indigenous children are similar to those for other Australian children. The rates of tympanoplasty procedures in hospitals were higher and myringotomy rates were lower than for other children. Evidence suggests that a comprehensive approach combining early treatment, management and referral, linkages with school screening programs, preventative (including nutritional), social, environmental and economic strategies

will be most successful in addressing the high rates of chronic otitis media.

Funding totalling \$58.3 million for eye and ear health initiatives has been allocated over four years from 2009 under the *Improving Eye and Ear Health Services for Indigenous Australians for Better Education and Employment Outcomes* measure. The measure aims to reduce the number of Aboriginal and Torres Strait Islander peoples suffering avoidable hearing loss, improve the coordination of hearing health care, and give Indigenous children a better start to education. Key activities include a national social marketing campaign – *Care for Kids’ Ears*; training of Aboriginal Health Workers in ear and hearing health; provision of ear and hearing equipment to primary health care services; funding to states and territories

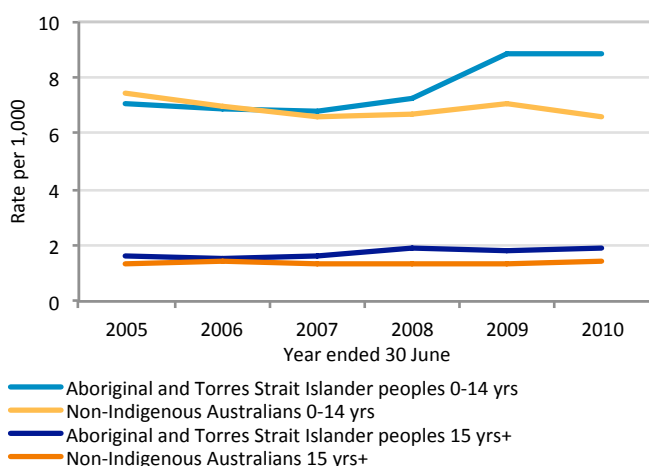
for additional ear surgery, Ear, Nose and Throat services and clinical leadership activities; updating and distributing the Recommendations for Clinical Care Guidelines on the Management of Otitis Media in Aboriginal and Torres Strait Islander Populations; and working with the Australian Medicare Locals Alliance to implement the updated Guidelines in general practice.

In Qld, the Deadly Ears Program has been established to address middle ear disease, including screening services, health promotion, training, and the delivery of allied health, clinical and surgical services.

In 2011–12 the Australian Government provided \$2.311 million for the Australian Hearing Specialist Program for Indigenous Australians (AHSPiA). AHSPiA is Australian Hearing’s outreach service,

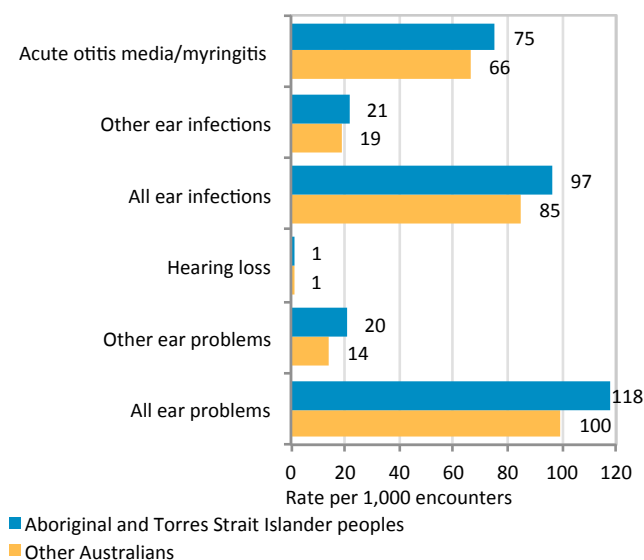
designed to meet the varying and complex audiological needs of clients in remote Indigenous communities. A further \$2.149 million was provided to Australian Hearing to provide hearing services for eligible Indigenous Australians over 50 years of age. In addition, the National Acoustics Laboratory has committed to a research project to establish the prevalence of spatial listening disorder among Indigenous Australian children in selected remote community schools in the NT, and selected primary schools in metropolitan Sydney. The disorder is thought to affect the listening and therefore learning ability of school aged children, and may be more prevalent in children with an existing hearing loss. This work is ongoing.

Figure 56 Age-standardised hospitalisation rates for diseases of the ear and mastoid process, by age and Indigenous status, NSW, Victoria, Qld, WA, SA and the NT, 2004–05 to 2009–10



Source: AIHW analysis of National Hospital Morbidity Database

Figure 57 Ear and hearing problems managed by GPs, by Indigenous status of patients aged 0–14 years, April 2006–March 2007 to April 2010–March 2011



Source: Family Medicine Research Centre, University of Sydney analysis of BEACH data

Table 15 Diseases of the ear and mastoid reported for Aboriginal and Torres Strait Islander children aged 0–14 years, by remoteness and sex, 1995^{a)}, 2001, 2004–05 and 2008

Remoteness status	1995			2001			2004-05			2008		
	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons
	%	%	%	%	%	%	%	%	%	%	%	%
Remote	n.a.	n.a.	n.a.	18	18	18	12	13	13	11	10	10
Non-remote	7	5	6	6	11	9	9	8	9	8	8	8
Total	n.a.	n.a.	n.a.	10	13	11	10	10	10	9	9	9

a) Data for the 1995 NATISHS available for non-remote areas only.

Source: ABS & AIHW analysis of 1995 and 2001 NHS (Indigenous supplements), 2004–05 NATSIHS and 2008 NATSISS

1.16 Eye Health

Why is it important?:

The partial or full loss of vision is the loss of a critical sensory function that has impacts across all dimensions of life. Vision loss and/or eye disease can lead to linguistic, social and learning difficulties and behavioural problems during schooling years, which can then lead to poor education outcomes and employment prospects. Visual impairment can affect health related quality of life and independent living (West et al. 2002). It is also found to increase the risk of mortality, earlier nursing home placement, falls, and the use of community support services (Vu et al. 2005; West et al. 1997; Weih et al. 2002; Lamoureux et al. 2004; Ivers et al. 2003; Wang et al. 2003).

In the 2004–05 NATSIHS almost one-third (30%) of Aboriginal and Torres Strait Islander peoples reported a long term eye condition (ABS 2006b). The most common eye health problems reported were short sightedness and then long sightedness, while the largest disparities between Indigenous and non-Indigenous Australians were for blindness, cataract, diabetic retinopathy and trachoma (Taylor et al. 2010b; ABS2006a).

Cataract is a degenerative condition in which the lens of the eye clouds over, obstructing the passage of light. Formerly the leading cause of blindness in developed countries, blindness from cataract is now rare due to a highly effective surgical procedure (McCarty et al. 2000; Taylor et al. 2005). Despite this advance, cataract remains a major cause of vision loss among Aboriginal and Torres Strait Islander peoples (Taylor et al. 2010a).

Diabetic retinopathy is damage to the blood vessels in the retina caused by complications of diabetes. Without treatment, diabetic retinopathy can progress to blindness. Although diabetic retinopathy often has no early symptoms, early diagnosis and treatment can prevent up to 98% of vision loss. The NHMRC recommends that Indigenous Australians with diabetes should have an eye examination every year (NHMRC 2008).

Trachoma is an eye infection that can result in scarring, in-turned eyelashes (trichiasis) and blindness. Australia is the

only developed country where trachoma is still endemic and it is found almost exclusively in remote and very remote Aboriginal and Torres Strait Islander populations. Trachoma is associated with living in an arid environment (including the impact of dust); lack of access to clean water for hand and face washing; overcrowding and low socioeconomic status (Taylor 2008).

Findings:

The 2008 National Indigenous Eye Health Survey included a sample of 2,883 Indigenous Australians. This survey's strength was that it was based on actual eye examinations and therefore avoided the problem of undiagnosed conditions. Note: 62% of the sample from this survey was in remote areas. This survey found that around 9% of Indigenous adults had vision impairment and 2% blindness. The study also found that around 1.5% of Indigenous children had low vision and 0.2% blindness. Of those adults with vision impairment, the most common causes were refractive error (54%), cataract (27%), diabetic retinopathy (12%) and trachoma (2%). Vision loss associated with cataract may be more common in very remote areas (5% inland and 4% coastal) compared with major cities (3%), although the sample size did not allow significant differences to be detected by remoteness. Vision loss associated with trachoma was only found in very remote areas, with higher rates inland (1.3%) than in coastal areas (0.4%). The leading causes of blindness for Indigenous adults found in this study were cataract, optic atrophy, refractive error, diabetic retinopathy and trachoma. Approximately 65% of Indigenous Australians who needed cataract surgery had been operated on, and a further 35% still required treatment. Of those who had diabetes, 20% reported having had an eye examination within the last year and 10% had visual impairment. The major differences in findings from this study compared to studies of non-Indigenous respondents are the higher proportions of vision impairment and blindness in the Indigenous adult population from cataract, diabetic retinopathy and trachoma; and better vision for Indigenous children, especially in remote areas (Taylor et al. 2009).

The 2004–05 NATSIHS included a representative sample of 10,044 Aboriginal and Torres Strait Islander

peoples, however this survey is limited to reporting on people's awareness of problems rather than any objective assessment of eye health problems. The survey found that one third of Indigenous Australians reported eye or sight problems. Long sightedness (16%) and short sightedness (10%) were the most common problems reported followed by partial/complete blindness (3%) and cataract (1%). After adjusting for differences in the age structure of the two populations, Indigenous Australians reported higher rates of cataract and partial/complete blindness than non-Indigenous Australians. In the 2008 NATSIHS 8% of Indigenous children aged 1–14 years were reported to have eye or sight problems.

A study from the Eastern Goldfields of WA found that 25% of Aboriginal and Torres Strait Islander peoples with diabetes showed signs of diabetic retinopathy and 75% of Aboriginal and Torres Strait Islander peoples with vision loss also had diabetes. Having diabetes increased the risk of vision loss from any cause by 8.5 times (Clark et al. 2010). A study of remote communities in Central Australia found myopia to be rare, especially in younger people; and a high prevalence of vision loss due to cataract and diabetic retinopathy. The study also noted the ongoing occurrence of trichiasis and vision loss from trachoma (Landers et al. 2010). In 2010, The National Trachoma Surveillance and Reporting Unit reported the prevalence of trachoma in children aged 11–14 years in 240 at-risk communities in the NT, SA, and WA combined as 11%. Prevalence of trachoma was 12% for those aged 1–4 years, 13% for those aged 5–9 years and 11% for those aged 11–14 years. Prevalence was 19% in SA, 12% in the NT and 9% in WA.

Based on the BEACH survey, eye problems were managed in 1% of GP consultations among Aboriginal and Torres Strait Islander patients during the period April 2006 to March 2011. Overall rates were similar to non-Indigenous with main differences in higher rates for trachoma and lower rates for refractive error. Hospitalisation rates for diseases of the eye (mainly cataracts) were lower for Aboriginal and Torres Strait Islander peoples than non-Indigenous Australians. Hospitalisations for eye diseases have increased for Indigenous Australians between 2004–05 and 2009–10 (NSW, Victoria, Qld, WA, SA and the NT). The

cataract surgery rates in 2009–10 were lower for Indigenous Australians nationally (6.4 per 1,000) compared with non-Indigenous Australians (8.7 per 1,000) (SCRGSP 2011a).

Implications:

Eye health can be affected by premature birth (see measure 1.01), diseases such as diabetes see (measure 1.09), smoking (see measure 2.15), injuries (see measure 1.03), and nutrition (see measure 2.19), as well as environmental factors, genetic factors and ageing. In addition, factors such as geographic isolation, economic disadvantage, a lack of transport and a lack of access to health services can limit the opportunities for prompt identification, management and treatment of eye health problems (OATSIH 2001).

It has been estimated that 94% of vision loss in the Aboriginal and Torres Strait Islander population is preventable or treatable (Taylor et al. 2010b). Among Aboriginal and Torres Strait Islander

peoples, the largest contributing factor in cataracts progressing to blindness is difficulty accessing cataract surgery (Taylor et al. 2010a).

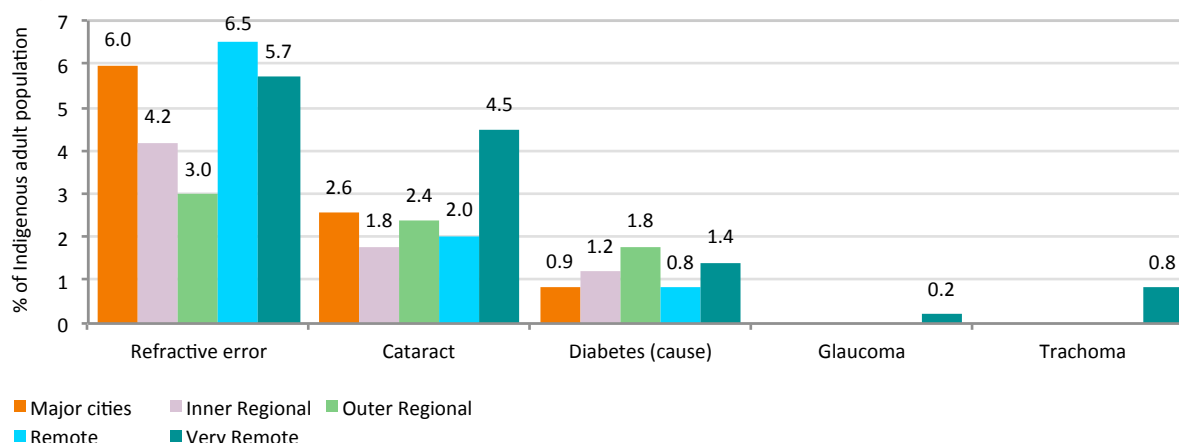
The *National Framework for Action to Promote Eye Health and Prevent Avoidable Blindness and Vision Loss* was endorsed by the Australian Health Ministers' Conference (AHMC) in 2005.

The 2009 *Improving Eye and Ear Health Services for Indigenous Australians for Better Education and Employment Outcomes* budget measure provides approximately \$25m over four years to improve the eye health of Aboriginal and Torres Strait Islander peoples. \$16m of this has been allocated to significantly expand the national effort to eliminate trachoma. Approximately \$6.5m has been provided to expand the number of Indigenous optometric services conducted under the Visiting Optometrists Scheme. In addition, funds under the measure have enabled the continuation of work to improve eye health under the Central Australia and

Barkly Integrated Eye Health Strategy, and to support the work being done by the Indigenous and Remote Eye Health Service (IRIS). These programs will positively impact on rates of Aboriginal and Torres Strait Islander eye health conditions requiring ophthalmic treatment. Funding for the measure is ongoing.

The Medical Specialist Outreach Assistance Program (MSOAP) Ophthalmology is currently in its second year of operation. The focus of this measure is on delivering additional cataract surgery in rural and remote locations, but also includes treatment for diabetic retinopathy. Funding for this expansion is \$5 million over four years. The Australia Society of Ophthalmologists is funded through the measure to identify and plan for services to be delivered through the MSOAP service providers.

Figure 58
Proportion of Indigenous adults with vision loss, by cause and remoteness, 2008



Source: National Indigenous Eye Health Survey, 2008

Table 16
Trachoma screening coverage and prevalence, at-risk communities, Indigenous children, by jurisdiction, 2010

	At-risk communities ^(a)			
	NT	SA	WA	Total
	Number			
Estimated Indigenous population at risk	30784	9503	18142	58429
Communities at-risk	86	71	83	240
Communities screened	64	11	75	150
Children examined for trachoma	4441	86	2250	6777
Children with active trachoma	526	16	208	750
	%			
Screening coverage	45	3	37	35
Active trachoma prevalence (1-14 years)	12	19	9	11
Trachoma prevalence 1-9 years	14	..	11	13

(a) Communities were classified as at-risk or not at-risk by jurisdictions. (..) Data not available due to small numbers

Source: National Trachoma Surveillance and Reporting Unit

1.17 Perceived health status

Why is it important?:

Self-assessed health status provides a measure of the overall level of a population's health based on individuals' personal perceptions of their own health. Health is recognised as having physical, mental, social and spiritual components. Therefore, the measurement of health must go beyond quantifying levels of morbidity and mortality. Part of this broader approach to measuring health is to ask people to assess the state of their own health.

Self-assessed health status is dependent on an individual's awareness and expectations regarding their health. It is influenced by various factors, including access to health services and health information, the extent to which health conditions have been diagnosed, and level of education (Delpierre et al. 2009). Social constructs of health also influence this assessment, such as the culturally distinct view of health and wellbeing held by Aboriginal and Torres Strait Islander peoples, the existing level of health within a community and judgments concerning the person's own health compared with others in their community.

Self-assessed health status correlates with measures of health, such as reported long-term health conditions, recent health-related actions, and the presence of disability. However, there are some inconsistencies in how Aboriginal and Torres Strait Islander people report their health status, particularly those for whom English is not their main language. Many Aboriginal and Torres Strait Islander people have rated their health as good or excellent despite significant health problems. Self-assessed health status is a useful measure of overall health status, but is not an objective measure and needs to be interpreted with some caution.

Findings:

In the 2008 NATSISS, 44% of Aboriginal and Torres Strait Islander peoples aged 15 years and over reported their health as being very good or excellent, 34% reported their health as being good, and 22% reported their health as being poor or fair. These proportions have remained

fairly stable since 2002. Older people were less likely than younger people to report very good or excellent health: 58% in the 15–24 years age group compared with 22% in the 55 years and over age group. Indigenous females were less likely than Indigenous males to report their health as being very good or excellent (41% compared with 47%).

Aboriginal and Torres Strait Islander peoples were less likely than non-Indigenous Australians to report very good or excellent health, and the difference between the two populations was greatest in the older age groups. After adjusting for differences in the age structure of the two populations, Aboriginal and Torres Strait Islander peoples were twice as likely as non-Indigenous Australians to report their health as fair or poor.

The proportion of Aboriginal and Torres Strait Islander peoples reporting fair or poor health was highest in SA and NSW (27% and 26% respectively), and lowest in the NT, Qld and the ACT (18%, 20% and 20% respectively).

Indigenous Australians (of all ages) living in remote areas were less likely to report their health as being fair or poor (30%) compared to those in non-remote Australia (24%). Biddle (2011) found that this result held after controlling for whether or not the person speaks a language other than English at home, suggesting that language differences in interpreting the question were not important. This supports the findings in Rowley et al. (2008) that living in remote communities can have a protective effect on health (see measure 2.14).

Aboriginal and Torres Strait Islander people reporting the presence of long-term health conditions are more likely to report their health as fair or poor. The proportion of Aboriginal and Torres Strait Islander peoples reporting fair or poor health increases with the number of health conditions reported. A similar pattern can be observed for non-Indigenous Australians.

Poorer perceived health status is associated with a range of determinants of health (see discussion in Executive Summary). For example, of Indigenous Australians reporting fair or poor health status, 62% were in the lowest income quintile compared with 3% in the highest quintile, 10% were unemployed compared with 35% who were employed and 47% had completed year 9 or below

compared with 14% who had completed Year 12.

Having excellent or very good self-assessed health status is associated with feeling safe, feeling able to have a say with family or friends and within the community, having contact with family or friends outside the household at least once a week, having friends to confide in, no community problems reported and agreeing that most people can be trusted (see measure 1.13).

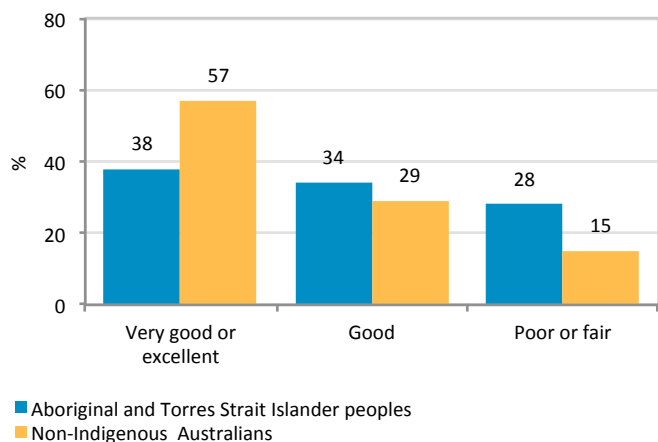
Implications:

Aboriginal and Torres Strait Islander people rate their own general health as poorer than that of other Australians across all adult age groups, although the disparities are narrower in the younger age groups. The differences between the two populations are large, which is consistent with other measures of overall health status.

Self-assessed health is one of very few measures of overall health status that are currently available for Aboriginal and Torres Strait Islander peoples throughout the country. The relative consistency of self-assessed health across all jurisdictions and across urban, rural and remote areas suggests that there may not be large variations in overall health status for Indigenous Australians across the country. This would be consistent with some other measures for which national data are available, such as low birthweight (see measure 1.01). However, other measures such as the prevalence of end stage renal disease indicate that there are very large differences in disease incidence between jurisdictions and across remoteness categories (see measure 1.09).

How an individual Aboriginal or Torres Strait Islander person assesses their own health status may also be influenced by how they perceive their health relative to other people, including other Aboriginal and Torres Strait Islander people, around them. There is a similar challenge to develop valid measures for comparing international variations in perceptions of health and health-related experiences (Murray et al. 2003; Salomon et al. 2003). Further research would be valuable to identify the specific issues impacting on perceived health for Aboriginal and Torres Strait Islander peoples.

Figure 59
Self-assessed health status (age-standardised proportion) by Indigenous status, persons aged 15 years and over, 2008



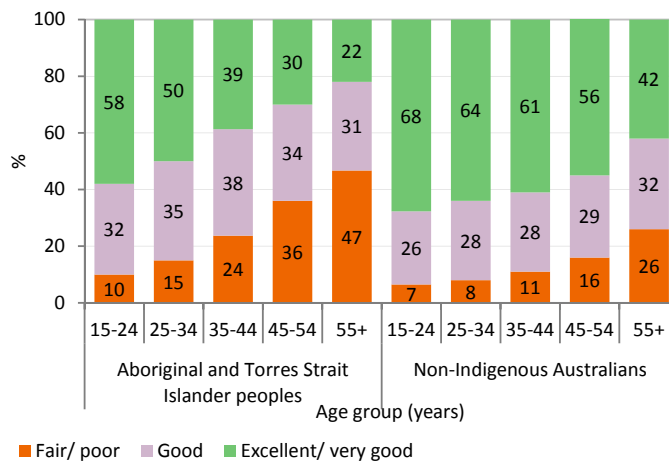
Source: ABS and AIHW analysis of 2008 NATSISS

Figure 61
Self-assessed health status, Indigenous Australians aged 15 years and over, by remoteness, 2008



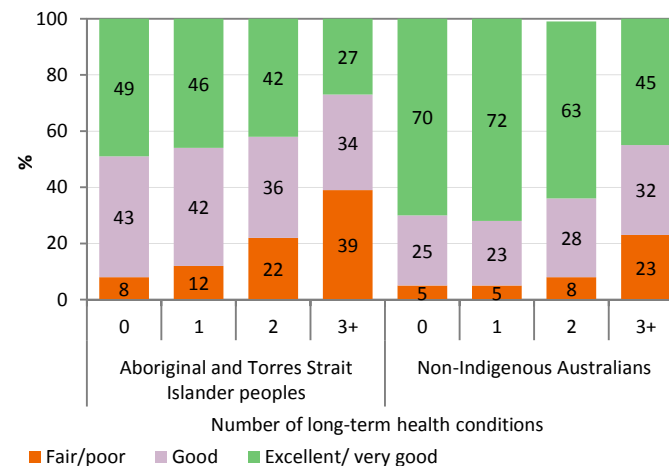
Source: ABS and AIHW analysis of 2008 NATSISS

Figure 60
Self-assessed health status by Indigenous status and age group, persons aged 15 years and over, 2008



Source: ABS and AIHW analysis of 2008 NATSISS

Figure 62
Self-assessed health status by Indigenous status and number of long-term health conditions, age-standardised, 2004-05



Source: ABS and AIHW analysis of 2004-05 NATSIHS and 2004-05 NHS

1.18 Social and emotional wellbeing

Why is it important?:

Social and emotional wellbeing is a holistic concept related to individual, family and community experience. For Aboriginal and Torres Strait Islander peoples, health is not just the physical wellbeing of the individual but the 'social, emotional and cultural wellbeing of the whole community' (SHRG 2004). The *Guidelines for Effective Approaches to Aboriginal and Torres Strait Islander Public Health* point out the impact of colonisation on Aboriginal and Torres Strait Islander peoples, including past policies and practices: 'This includes: loss of land, which was the economic and spiritual base for Aboriginal and Torres Strait Islander communities; loss of large numbers of people through wars, massacres, and epidemics; immense damage to traditional social and political structures, traditional languages, and belief systems; the ongoing impact of the relocation of peoples to missions and reserves; removal of children from their families; continued racism and exclusion; and immense socioeconomic deprivation' (NPHP 2006). Social, historical and economic disadvantage is interconnected with grief, loss and trauma, high rates of physical and mental health problems, adult mortality, suicide, child removals, incarceration rates and intergenerational trauma. Experience of discrimination also leads to psychological distress and has a negative impact on health (Paradies et al. 2008).

Indigenous Australians have higher levels of morbidity and mortality from mental illness, assault, self-harm and suicide than other Australians. These and many other measures indicate that a significant gap exists between the overall level of social and emotional wellbeing for Indigenous Australians and other Australians.

Findings:

The NATSISS collects information on a range of social issues relevant to the social and emotional wellbeing of Aboriginal and Torres Strait Islander peoples. This survey shows that Aboriginal and Torres Strait Islander peoples retain strong links to their traditional culture. In 2008, 62% of

Aboriginal and Torres Strait Islander peoples aged 15 years and over reported they identified with a clan or language group, 25% lived on traditional lands, and 63% had attended cultural events in the last 12 months. Family and community attachments are important factors in the lives of Indigenous Australians (see measure 1.13). Eighty-nine per cent reported that they could get support from outside the household in time of crisis. Approximately 89% also reported that they had been involved in social activities in the last three months. In 2008, approximately 38% of Indigenous people aged 15 years and over reported that they and/or a relative had been removed from their natural family. This was linked to higher rates of psychological distress.

Psychological distress

In 2008, 32% of Aboriginal and Torres Strait Islander peoples aged 18 years and over reported high levels of psychological distress. After adjusting for differences in the age structure of the two populations, this was 2.5 times the rate for non-Indigenous adults. Rates were higher across all age groups. Indigenous women (35%) were significantly more likely than Indigenous men (28%) to report high/very high levels of psychological distress and to have seen a health professional about their feelings. The proportions of people reporting high/very high levels of psychological distress did not differ significantly by age group or remoteness. Those who reported excellent/very good health in 2008 were less likely than those who reported fair/poor health to also report high levels of psychological distress (20% and 52% respectively). High/very high psychological distress levels were associated with lower income, lower education attainment and unemployment.

Life stressors

In 2008, Aboriginal and Torres Strait Islander peoples reported high levels of stressors in their lives, with 79% of people aged 18 years and over reporting that they, their family or close friends had experienced at least one stressor in the last 12 months. The most common stressors reported were the death of a family member or close friend (40%), serious illness or disability (33%), inability to get a job (23%), alcohol-related problems (21%), or mental illness (17%). People living in major cities tended to

experience a greater number of stressors on average (4.9) than those living in regional or remote areas (around 4.3). They were also more likely to have reported serious illness or disability, mental illness and/or involuntary loss of a job. Those living in remote areas tended to report death of a family member or close friend and overcrowding as stressors more often than those living in non-remote areas.

Research has shown that parental stress caused by factors such as unemployment and financial problems is associated with emotional or behavioural difficulties in children and decreased utilisation of health services for the child's needs (Ou et al. 2010; Strazdins et al. 2010).

Depression and racism

Research in the NT has found a significant association between interpersonal racism and depression among Aboriginal and Torres Strait Islander peoples after adjusting for socio-demographic factors. Lack of control, stress, negative social connections and reactions to racism such as feeling ashamed or powerless were each identified in the relationship between racism and depression (Paradies et al. 2012).

Social and emotional wellbeing of children

The Western Australia Aboriginal Child Health Survey (WAACHS) collected information on the social and emotional wellbeing of Aboriginal children during 2001 and 2002 (only a small number of Torres Strait Islander children participated in the survey). This survey found that a variety of health conditions, social circumstances and behaviours experienced by individuals, their carers and families are associated with the social and emotional wellbeing of Indigenous children (Zubrick et al. 2005). Using a well-established method to measure emotional and behavioural difficulties in children (the Strengths and Difficulties Questionnaire), 24% of Aboriginal children aged 4–17 years surveyed were assessed as being at high risk of clinically significant emotional or behavioural difficulties compared with 15% of all children. Aboriginal boys were twice as likely as Aboriginal girls to be at high risk of clinically significant emotional or behavioural difficulties. Those children living in areas of extreme isolation were less likely to be at risk than those living in urban areas.

Factors associated with high risk of clinically significant emotional or behavioural difficulties in Aboriginal children included the number of stressful events experienced by the family in the 12 months before the survey (such as illness, hospitalisation, death of a close family member, family break-up, arrests, job loss, financial difficulties), quality of parenting, family functioning and family care arrangements. Residential mobility, the physical health of the child (speech, hearing and vision problems), the physical health of the carer, and carer's use of mental health services were also associated with an increased risk of clinically significant emotional or behavioural difficulties in children.

Around one-fifth of children were living in families that functioned poorly (families with poor communication and decision making, poor emotional support, limited time spent together, and poor family cooperation). These children were over twice as likely to be at high risk of emotional and behavioural difficulties as children living in families with very good quality of parenting or very good family functioning. Those who had been subject to racism in the past six months were more than twice as likely to be at high risk of emotional and behavioural difficulties than those who had not experienced racism.

Suicidal behaviour of teenagers

In 2001–02, an additional survey was administered to young people aged 12–17 years in WA to measure rates of suicidal thoughts and suicide attempts. Suicidal thoughts were reported by around 1 in 6 (16%) of these young people in the 12 months prior to the survey. A higher proportion of Aboriginal girls reported they had seriously thought about ending their own life than Aboriginal boys (20% compared with 12%). Of those who had suicidal thoughts in the 12 months prior to the survey, 39% reported they had attempted suicide in the same period. The proportion of Aboriginal children who reported suicidal thoughts was significantly higher among those who smoked regularly, used cannabis, drank to excess in the six months prior to survey, were exposed to some form of family violence, or who had a friend who had attempted suicide.

Hospitalisation for mental health issues

In the period July 2008 to June 2010, mental health-related conditions were the principal reason for 7% of hospital

admissions (excluding dialysis) for Aboriginal and Torres Strait Islander peoples in the jurisdictions with adequate data quality (NSW, Victoria, Qld, WA, SA and the NT combined). Indigenous men were hospitalised for mental health-related conditions at 2.2 times the rate of other Australian males, and Indigenous females at 1.5 times the rate for other Australian females. Between 1998–99 and 2009–10 there was a 12% increase in hospitalisations for mental health related conditions for Indigenous females, with no significant increase for males. Since 2004–05, however, rates have increased significantly for both Indigenous males and females (9%).

The most common reasons for mental health-related hospitalisation were mental and behavioural disorders due to psychoactive substance use (36% of episodes); schizophrenia (25%); mood disorders (15%); and neurotic, stress-related disorders (14%). Indigenous hospitalisation rates for mental health-related issues were highest in the 25–44 year age groups. Rates were lowest in very remote areas. Rates varied between jurisdictions. The highest rates were for SA (45 per 1,000). In the NT, mental health-related hospitalisation rates were very low for both Indigenous Australians and other Australians (15 and 7 per 1,000 respectively).

Other services

BEACH survey data collected from April 2006 to March 2011 suggest that 11% of all problems managed by GPs among Indigenous patients were for mental health-related problems. Depression was the most frequently reported mental health-related problem managed by GPs for Indigenous Australians, followed by drug misuse, anxiety, alcohol use and then tobacco use. Depression was the most common mental health-related problem managed for other Australians.

Mortality for mental health issues

Deaths due to self-harm (suicide) accounted for 4% of Aboriginal and Torres Strait Islander deaths between 2006 and 2010 in the jurisdictions with adequate data quality (NSW, Qld, WA, SA and the NT combined). After adjusting for differences in the age structure of the two populations, the rate of suicide among Aboriginal and Torres Strait Islander peoples was twice that of non-Indigenous Australians. In addition,

mental health-related conditions accounted for a further 2.8% of deaths among Indigenous Australians, and the rate was 1.4 times the rate for non-Indigenous Australians.

Implications:

Data on this issue are incomplete, including for children. The policy response to social and emotional wellbeing problems needs to be multidimensional, and focus not only on mental health services. It needs to involve a wide range of stakeholders including Aboriginal and Torres Strait Islander families and communities, the health sector, housing, education, employment and economic development, family services, crime prevention and justice, and Aboriginal community controlled organisations. It needs to support culturally valid understandings of health, build on the strengths, resilience and endurance within Aboriginal and Torres Strait Islander communities and recognise the important historical and cultural diversity within communities (SHRG 2004). Recent suicide prevention studies have identified the need to focus on protective factors, such as community connectedness, strengthening the individual and rebuilding family, as well as culturally based programs that include traditional elements (Dudgeon et al. 2012; Tighe et al. 2012).

The Aboriginal and Torres Strait Islander Healing Foundation received funding of \$26.6 million over four years in the 2009–10 Budget to establish the Healing Foundation. The Healing Foundation focuses on grassroots healing initiatives, health promotion, education and skills training in the prevention and treatment of trauma, and building the evidence base on healing by evaluating and documenting best practice in health services. The Australian Government has committed to supporting the social and emotional wellbeing of the Stolen Generations, their families and communities through the Social and Emotional Wellbeing Program. This includes providing funding to eight Link Up services across Australia to provide counselling, family tracing and reunion services to members of the Stolen Generations.

The Fourth National Mental Health Plan: An agenda for collaborative government action in mental health 2009–2014 includes 34 actions aimed at improving

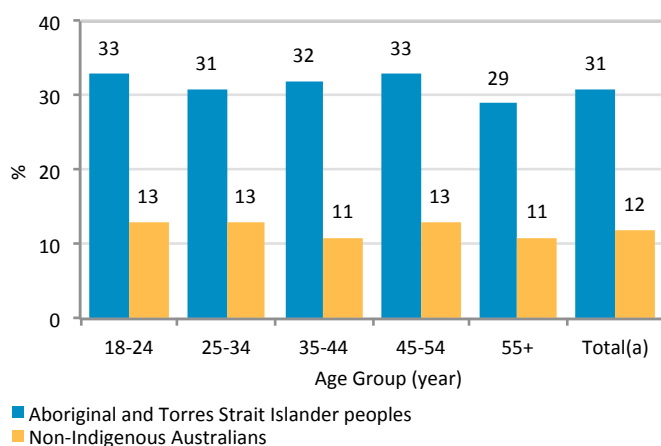
outcomes for people with mental disorders. The plan takes a whole of government approach, acknowledging that many of the determinants of good mental health are influenced by factors beyond the health system. Work to renew the social and emotional wellbeing framework is also underway. The *Mental health: Taking Action to Tackle Suicide* package includes \$30.2 million under the *Community prevention for high risk groups* measure that targets groups and communities at high risk of suicide, including Indigenous Australians. The Australian Government specifically committed \$6 million of these funds over four years from 2011–12 for community based suicide prevention activities targeting Indigenous Australians. The

Indigenous Suicide Prevention Advisory Group is guiding the approach to this expenditure and the development of the first national Aboriginal and Torres Strait Islander Suicide Prevention Strategy. Under the National Mental Health Program, \$1 million over 2011–12 and 2012–13 is being provided to expand the Empowerment Program to eight Indigenous urban, regional and remote localities around Australia. This project builds on the Kimberley pilot in 2011 in response to a rise in suicides in that region.

The *Targeted Community Care (Mental Health) Program (TCC)* provides community based mental health services to improve the capacity of individuals, families and carers affected by mental

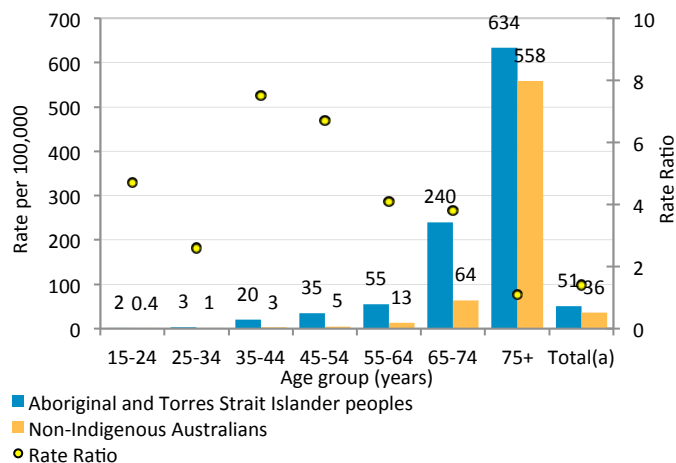
illness to participate socially and economically. Indigenous Australians are a key target group for the program. In the period 1 July to 31 December 2011, Indigenous people constituted 9.2% of total TCC clients. As part of the National Mental Health Reform Budget 2011–12 package an additional \$269.3 million will be invested in the TCC over five years. The Australian Government is also investing \$1.5 million over five years to fund a national survey and other activities to help build understanding of the wellbeing of Australian children aged 8 to 14 years. *National Health Reform* is also an important foundation for taking mental health forward.

Figure 63
Proportion of people reporting high or very high levels of psychological distress, by Indigenous status and age group, persons aged 18 years and over, 2008



a) Age-standardised
Source: AIHW analysis of the 2008 NATSISS and 2007–08 NHS

Figure 64
Mental health-related mortality rates per 100,000, by Indigenous status and age group, NSW, Qld, WA, SA and the NT, 2006–10



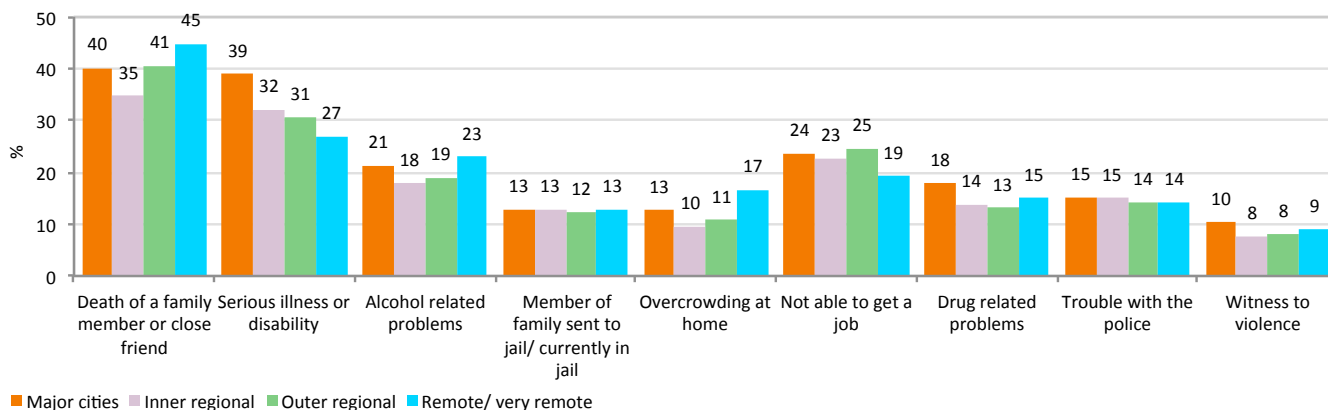
a) Age-standardised
Source: AIHW and ABS analysis of National Mortality Database

Table 17
Age-standardised hospitalisations of Indigenous Australians for top 4 principal diagnoses of mental health-related conditions, by type of condition and sex, NSW, Victoria, Qld, WA, SA and the NT, July 2008 to June 2010

	Males		Females		Total	
	Rate per 1,000	Ratio	Rate per 1,000	Ratio	Rate per 1,000	Ratio
Mental & behavioural disorders due to psychoactive substance use	12.5	4.0	7.3	3.4	9.8	3.7
Schizophrenia, schizotypal and delusional disorders	7.4	3.2	5.2	2.7	6.3	3.0
Mood disorders	3.5	1.0	4.8	0.7	4.2	0.8
Neurotic, stress-related disorders	2.9	1.2	3.9	1.3	3.4	1.3
Total mental health related conditions¹	28.9	2.2	24.6	1.5	26.7	1.8

¹Includes mental health related conditions in addition to those listed above. See Technical appendix.
Source: AIHW analysis of National Hospital Morbidity Database

Figure 65
Proportion of people reporting selected stressors, by remoteness area, Indigenous persons aged 18 years and over, 2008



Source: AIHW analysis of the 2008 NATSISS

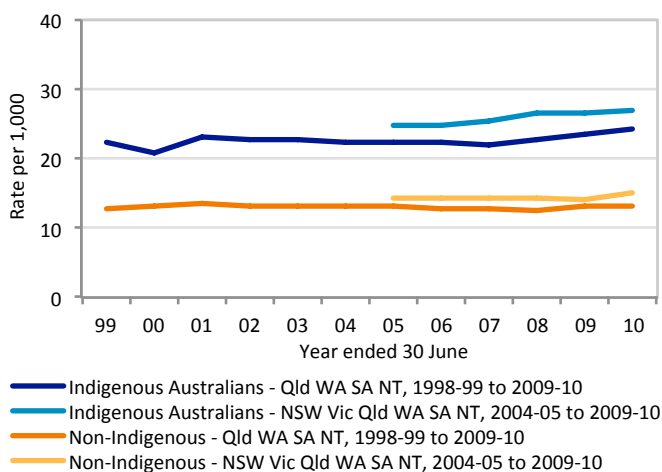
Table 18
Proportion of people who reported psychological distress, by level of psychological distress, by selected population characteristics, Indigenous persons aged 18 years and over, 2008

	Level of psychological distress:	
	Low/moderate	High/very high
	%	%
Total population:	66.7	31.7
Self-assessed health status		
Excellent/very good	78.1	20.3
Good	67.3	31.2
Fair/poor	46.7	51.7
Highest year of school completed:		
Year 9 or below	60.4	37.1
Year 10	69.3	29.9
Year 12	73.3	25.5

	Level of psychological distress:	
	Low/moderate	High/very high
	%	%
Personal income:		
1st quintile (lowest)	59.9	37.6
5th quintile (highest)	78.8	20.5
Housing:		
Owner	75.3	24.2
Renter	63.1	34.9
Employment status:		
Employed	74.3	24.7
Unemployed	53.7	45.9
Not in labour force	58.9	38.3

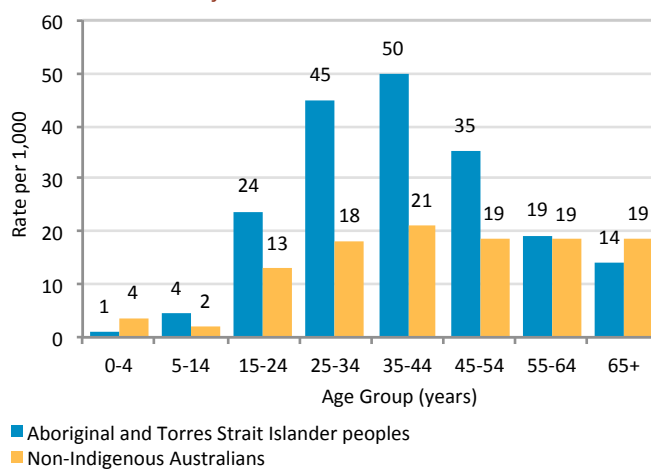
Source: AIHW analysis of the 2008 NATSISS

Figure 66
Age-standardised hospitalisation rates for mental health-related conditions, by Indigenous status



Source: AIHW analysis of National Hospital Morbidity Database

Figure 67
Age-specific hospitalisation rates for mental health-related conditions, by Indigenous status, NSW, Victoria, Qld, WA, SA and the NT, July 2008 to June 2010



Source: AIHW analysis of National Hospital Morbidity Database

1.19 Life expectancy at birth

Why is it important?:

Life expectancy at birth is an estimate of how long a person born today would live, on average, if current mortality rates in every age group remained constant throughout the person's life. It is a way to summarise current mortality rates in an easily understood measure to which most people can directly relate.

Life expectancy is widely viewed as a key measure of the health of populations. Closing the gap in life expectancy between Aboriginal and Torres Strait Islander peoples and other Australians has been adopted as a high level target by COAG, which aims to close the life expectancy gap within a generation (COAG 2008a).

Life expectancy is affected by many factors such as: socioeconomic status, including employment, income, education and economic wellbeing; the quality of the health system and the ability of people to access it; health behaviours such as tobacco and excessive alcohol consumption, poor nutrition and lack of exercise; social factors; genetic factors; and environmental factors including overcrowded housing, lack of clean drinking water and adequate sanitation.

In 2003, the Aboriginal and Torres Strait Islander Australian population made up 2.4% of the total Australian population but, despite its much younger age structure, carried 3.6% of the total population disease burden. The rate of burden increased at much younger ages for Aboriginal and Torres Strait Islander peoples and was also considerably higher for each age group compared with the total Australian population (Vos et al. 2007).

Findings:

In 2005–07, life expectancy for Aboriginal and Torres Strait Islander peoples was estimated to be 11.5 years lower than that of the non-Indigenous population for males (67.2 compared with 78.7 years) and 9.7 years lower for females (72.9 compared with 82.6 years). For the four jurisdictions with Aboriginal and Torres Strait Islander populations of sufficient size to calculate Indigenous life

expectancy estimates, the lowest were for those living in the NT and WA and the highest in NSW and Qld.

National trend data on life expectancy for Aboriginal and Torres Strait Islander peoples are not available due to changes in methods for estimating life expectancy, and the unknown and variable quality of the identification of Aboriginal and Torres Strait Islander peoples in mortality data in previous years. However, a study of mortality trends in the NT found that life expectancy at birth among Indigenous Australians in the NT has risen considerably between 1967 and 2006, increasing from 52.5 years for males and 53.9 years for females to around 60.2 years for males and 69.8 years for females. Over the same period, the gap between life expectancy for NT Indigenous females and NT non-Indigenous females narrowed due to a rapid improvement in the life expectancy of NT Indigenous females, while the gap between NT Indigenous males and NT non-Indigenous males widened due to the slow improvement in the life expectancy in NT Indigenous males (Wang et al. 2010b). Declines in infant mortality accounted for a large proportion of the increase in life expectancy for the NT Indigenous population between the late 1960s and mid-1980s, especially for males (Wilson et al. 2007). From the mid-1980s to the early 2000s, declines in mortality at ages 45 years and over were responsible for the majority of life expectancy gains for both Indigenous males and females in the NT.

A recent study in Qld has found a significant improvement in Aboriginal and Torres Strait Islander life expectancy between 2002–04 and 2005–07. The average annual gain in life expectancy at birth for females was 0.55 years, while for males it was 0.67 years. Adult mortality rates from ages 55 years and over were found to be the main driver of this improvement. Large gaps were found to still exist, particularly from ages 35 years and over (Health Statistics Centre 2012).

The gap in life expectancy between Aboriginal and Torres Strait Islander peoples and the rest of the population in Australia appears to be larger than in other countries where Indigenous peoples share a similar history of relatively recent European colonisation, such as Canada, New Zealand and the

United States. Caution must be used in comparing data with other countries due to variations in data quality and scope.

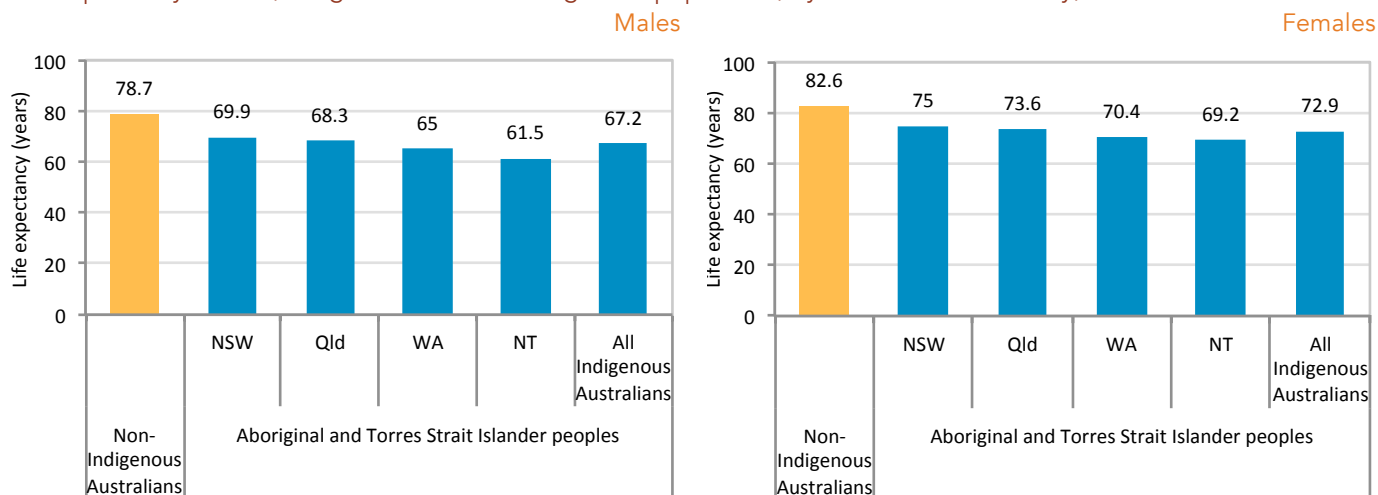
Implications:

The limited trend data available for the NT indicate that life expectancy is increasing for Aboriginal and Torres Strait Islander peoples, but slowly.

Mortality trends are encouraging (see measure 1.22). However, there are deficiencies in the data on which life expectancy is based. This limits the extent to which differences in life expectancy can be calculated for Aboriginal and Torres Strait Islander peoples living in different jurisdictions and different remoteness areas. More accurate measurement of life expectancy and the gap between Aboriginal and Torres Strait Islander peoples and non-Indigenous Australians is needed on a consistent basis to track progress over time.

The COAG commitment to close the life expectancy gap within a generation will require action addressing health, social, economic and environmental factors. The commitments governments have made in these areas are reflected in the *National Indigenous Reform Agreement* (COAG 2008b) and the related National Partnership Agreements.

Figure 68
Life expectancy at birth, Indigenous and non-Indigenous population, by sex and state/territory, 2005–07



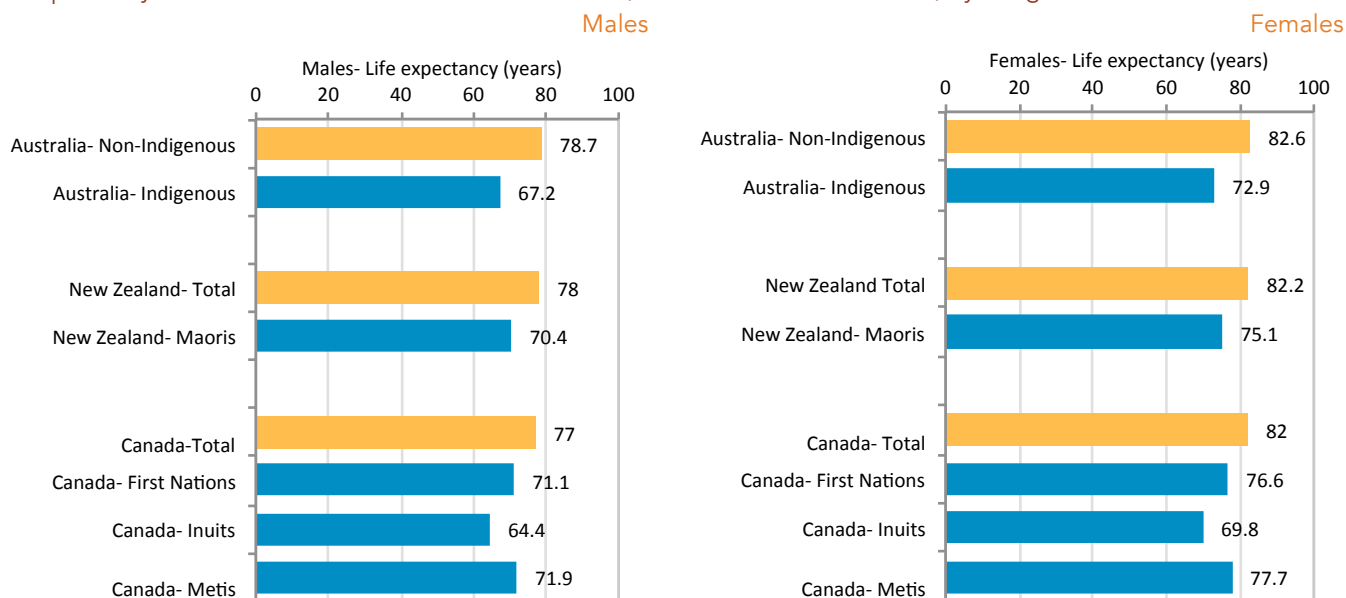
Source: ABS 2009a

Table 19
Life expectancy at birth, by Indigenous status and sex, selected states and territories, 2005–07

	Males		Females	
	Indig.	Non-Indig.	Indig.	Non-Indig.
New South Wales	69.9	78.7	75.0	82.5
Queensland	68.3	78.6	73.6	82.5
Western Australia	65.0	79.0	70.4	82.9
Northern Territory	61.5	75.7	69.2	81.2
Australia	67.2	78.7	72.9	82.6

Source: ABS 2009a

Figure 69
Life expectancy at birth for males and females in Australia, Canada and New Zealand, by Indigenous status



Life expectancy estimates for Aboriginal and Torres Strait Islander peoples and non-Indigenous Australians are for 2005–07 (ABS 2009a). Life expectancy estimates for Maoris and the total New Zealand population are for 2005–07. Life expectancy estimates for Canada are for 2001. First Nations refers to the total North American Indian population including both Registered Indians and Non-Status Indians. Registered Indians are individuals who are registered under the Indian Act. Métis refers to individuals with mixed Aboriginal and European ancestry. Inuit are the original inhabitants of Arctic Canada

1.20 Infant and child mortality

Why is it important?:

Infant mortality is the death of a child less than one year of age and is a long established measure of child health, as well as the overall health of the population and its physical and social environment. COAG has committed to halving the gap in mortality rates for Aboriginal and Torres Strait Islander children under 5 years by 2018. During the period 2006–10, infant mortality contributed 83% of mortality for children less than 5 years of age.

Improvements in Australia's infant mortality rates in the last 100 years were largely due to improved social and public health conditions such as sanitation and health education in the first half of the twentieth century, followed by the development of immunisation, and in more recent years by better treatment in neonatal intensive care and interventions for Sudden Infant Death Syndrome (SIDS).

In the Aboriginal and Torres Strait Islander population, dramatic reductions in post-neonatal infant mortality (such as in the NT in the 20 years up to the late 1980s), reflected improved access to primary health care (including antibiotics for acute infection) and earlier evacuation to hospital for severe illness.

Findings:

Reliable data on child mortality for Aboriginal and Torres Strait Islander peoples are available for NSW, Qld, WA, SA and the NT. In the period 2006–10, there were 645 deaths of Aboriginal and Torres Strait Islander children aged 0–4 years, and of these 533 were infant deaths (83%). The mortality rate for Aboriginal and Torres Strait Islander children aged 0–4 years was twice the non-Indigenous rate. The mortality rate for Indigenous infants was also twice the non-Indigenous rate (8 per 1,000 live births compared with 4 per 1,000 live births). Aboriginal and Torres Strait Islander infant mortality rates varied across jurisdictions, from 6 per 1,000 in SA, to 13 per 1,000 in the NT.

The most common causes of death for Aboriginal and Torres Strait Islander infants were conditions originating in the

perinatal period (50%) such as birth trauma, foetal growth, complications of pregnancy, and respiratory and cardiovascular disorders specific to the perinatal period. The second leading cause of death was congenital malformations accounting for 16% of infant deaths. The third most common cause was signs, symptoms and ill-defined conditions (14%). This category includes SIDS which accounted for 8% of infant deaths.

Data on long-term time-trends are available for WA, SA and the NT. For these three jurisdictions, the Aboriginal and Torres Strait Islander infant mortality rate declined between 1991 and 2010 by 62%, compared with a reduction of 43% for non-Indigenous infants. The gap between Indigenous Australians and non-Indigenous Australians closed significantly in both absolute (67%) and relative (35%) terms. Recent trends (2001–10) for NSW, Qld, WA, SA and the NT show a 46% decline in Indigenous infant mortality rates. Over this period the gap in rates between Indigenous and non-Indigenous Australians declined from around 6 to 4 infant deaths per 1,000 live births. Trends for children aged 0–4 years followed a similar pattern, although the decline in rates for Indigenous children was slower. Data on trends from 1967 to 2006 in the NT (the only jurisdiction with adequate data quality for this period) show an 81% fall in the Aboriginal and Torres Strait Islander infant mortality rate with rapid declines until the mid-1980s, followed by slower improvement over the past 20 years. There has been substantial improvement in the NT for both neonatal death rates (up to age 20 days) and post-natal death rates (from 28 days to one year) (Wang et al. 2010b).

International statistics show that indigenous infants in the US and New Zealand have higher mortality rates than infants in the general population but the gap is not as great as for Aboriginal and Torres Strait Islander infants. In New Zealand the infant mortality rate for Maoris was 6 per 1,000 live births compared with 4 per 1,000 for other New Zealanders in 2010. In the United States, the mortality rate for American Indians/Alaskan Natives was 9 per 1,000 live births compared with 7 per 1,000 live births for the total population in 2007.

Implications:

Both child and infant mortality rates for Aboriginal and Torres Strait Islander peoples are declining. While mortality for other Australian children is also declining, the gaps in mortality between Aboriginal and Torres Strait Islander and other Australian infants and children are reducing in both absolute and relative terms. Deaths during the neonatal period, which account for 63% of infant deaths, have also been significantly improving (see measure 1.21).

This significant improvement provides opportunities to understand which aspects of Aboriginal and Torres Strait Islander lives contributed and where the health system could be more effective in engaging with Aboriginal and Torres Strait Islander peoples and their families to support healthy pregnancies and childhood development.

Low birthweight among Aboriginal and Torres Strait Islander babies has also decreased in recent years (7% improvement between 2000 and 2009) (see measure 1.01).

Due to the small numbers involved it is not possible to detect statistically significant changes in specific causes of infant death. It may be that the improvements in infant mortality are related to improvements in acute care for seriously ill new-born babies and in post-natal factors such as nutrition and growth, environment and infectious diseases, immunisation coverage and access to primary health and acute care. A study of avoidable mortality in the NT between 1985 and 2004 found the largest improvements in deaths were for conditions amenable to medical care such as increased number of births in hospital, improved neonatal and paediatric care and the establishment of prenatal screening for congenital abnormalities (Li et al. 2009a). The long term study in the NT from 1967 found improvements in both neonatal deaths usually indicative of pregnancy related services and post-neonatal death (indicative of conditions) (Wang et al. 2010b).

In December 2007, COAG committed to closing the gap in Indigenous disadvantage, and in particular, to halving the gap in mortality rates for Aboriginal and Torres Strait Islander children less than 5 years of age by 2018. Australian governments are investing in a

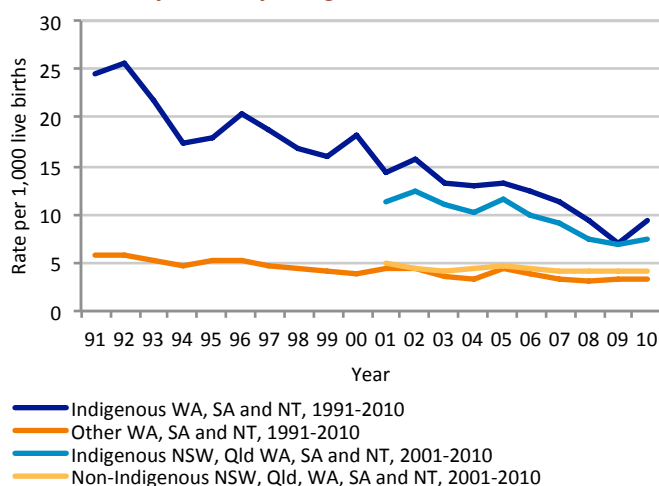
range of initiatives to improve child and maternal health. Through the *National Partnership Agreement on Indigenous Early Childhood Development*, the Australian Government provides funding to state and territory governments for sexual health and young parent programs and funds 85 *New Directions: Mothers and Babies Services* which provide Aboriginal and Torres Strait Islander families with access to antenatal care; practical advice and assistance with

parenting; and health checks for children.

Sids and Kids WA runs the *Reducing the Risk of SIDS in Aboriginal Communities* program to specifically target the high rates of SIDS among Indigenous infants. Aboriginal Coordinators educate and raise community awareness about preventative measures, such as safe sleeping practices. An evaluation of this program demonstrated the benefit of cultural security as an effective way to engage and empower hundreds of local

professionals and members of Aboriginal communities across the state. The study recommended surveying health behaviours in Indigenous communities related to sudden infant death including co-sleeping and smoking tobacco during pregnancy and/or in an infant's environment. Additional Australian research on the prevalence of risk factors and their link to the higher rate of SIDS in Aboriginal and Torres Strait Islander babies would be very useful.

Figure 70
Infant mortality rates, by Indigenous status



Source: ABS and AIHW analysis of ABS Mortality Database

Table 20
Infant mortality rates per 1,000 live births, by Indigenous status, NSW, Qld, WA, SA and the NT, 2006–10

Jurisdiction	Number of deaths		Rate per 1,000 live births		Ratio	Rate Difference
	Indig.	Non-Indig.	Indig.	Non-Indig.		
NSW	129	1,835	6.5	4.2	1.5	2.3
Qld	182	1,340	8.0	4.7	1.7	3.2
WA	94	416	8.3	3.0	2.8	5.3
SA	26	321	6.0	3.4	1.8	2.6
NT	102	43	13.1	3.8	3.4	9.3
Total of 5 jurisdictions	533	3,955	8.1	4.1	2.0	4.0

Source: ABS and AIHW analysis of ABS Mortality Database

Table 21
Causes of infant death by Indigenous status, NSW, Qld, WA, SA and the NT, 2006–10

Cause of death:	Number of deaths		Rate per 1,000 live births		Ratio	Rate difference
	Indig.	Non-Indig.	Indig.	Non-Indig.		
Certain conditions originating in the perinatal period	268	1,948	4.1	2.0	2.1	2.1
Congenital malformations	85	1,026	1.3	1.0	1.2	0.2
Signs, symptoms & ill-defined conditions	77	378	1.2	0.4	3.0	0.8
<i>SIDS (subcategory of Signs, symptoms etc)</i>	40	263	0.6	0.3	2.0	0.3
Injury & poisoning	24	120	0.4	0.1	3.0	0.2
Diseases of the respiratory system	21	95	0.3	0.1	3.3	0.2
Diseases of the circulatory system	16	74	0.2	0.1	3.2	0.2
Infectious and parasitic diseases	14	52	0.2	0.1	4.0	0.2
Other conditions	28	262	0.4	0.3	1.6	0.2
Total	533	3,955	8.1	4.0	2.0	4.1

Source: ABS and AIHW analysis of ABS Mortality Database

1.21 Perinatal mortality

Why is it important?:

The perinatal mortality rate includes foetal deaths (stillbirths) and deaths of live-born babies within the first 28 days after birth. Almost all of these deaths are due to factors during pregnancy and childbirth. Perinatal mortality reflects the health status and health care of the general population, access to and quality of preconception, reproductive, antenatal and obstetric services for women, and health care in the neonatal period. Broader social factors such as maternal education, nutrition, smoking, alcohol use in pregnancy, and socioeconomic disadvantage are also significant.

Findings:

Reliable data on foetal and neonatal deaths for Aboriginal and Torres Strait Islander peoples are only available for NSW, Qld, WA, SA and the NT. Based on the combined data for these jurisdictions for the period 2006–10, the perinatal mortality rate for Aboriginal and Torres Strait Islander babies was around 12 per 1,000 births compared with 8 per 1,000 births for other Australian babies. Foetal deaths (stillbirths) account for around 58% of perinatal deaths for Aboriginal and Torres Strait Islander babies and 66% of perinatal deaths for other Australian babies.

Due to small numbers, time series data for perinatal mortality are volatile. The perinatal mortality rate for Aboriginal and Torres Strait Islander peoples decreased by around 62% between 1991 and 2010—an average yearly decline of 0.9 deaths per 1,000 births. The perinatal mortality rate for other Australians also decreased, but by a smaller amount, so that the gap between Aboriginal and Torres Strait Islander peoples and other Australians decreased significantly in both absolute and relative terms over this period. Foetal deaths declined by 27% and neonatal deaths by 22%.

Estimated rates for perinatal mortality vary between jurisdictions from 5 deaths per 1,000 births to Aboriginal and Torres Strait Islander mothers in SA, to 21 per 1,000 births in the NT.

The most common causes of Aboriginal and Torres Strait Islander perinatal mortality were premature

birth/inadequate foetal growth (39%). In 35% of perinatal deaths, a group of conditions originating in the perinatal period including birth trauma and disorders specific to the foetus/newborn were contributing factors. Congenital malformations, deformations and chromosomal abnormalities were the third most common group of conditions (12%). The main conditions in the mother leading to perinatal deaths were complications of the placenta, cord and membranes (13%) followed by complications of pregnancy (12%). A higher proportion of neonatal deaths were due to disorders related to length of gestation and foetal growth (41%) and a lower proportion due to congenital malformations (17%) compared to non-Indigenous neonatal deaths (33% and 26% respectively).

Implications:

Reductions in perinatal mortality rates among Aboriginal and Torres Strait Islander peoples have occurred since the 1990s. Rates of low birthweight for Aboriginal and Torres Strait Islander babies have improved by 7% between 2000 and 2009 (see measure 1.01). A study of avoidable mortality in the NT between 1985 and 2004 found a significant improvement in mortality for conditions amenable to medical care for Indigenous Australians in the NT, including perinatal survival. The authors noted that a broad range of medical care improvements such as an increased number of births in hospital, improved neonatal and paediatric care, and the establishment of prenatal screening for congenital abnormalities have likely contributed to this improvement (Li et al. 2009a).

Due to the small numbers involved it is not possible to detect statistically significant changes in particular causes of perinatal deaths.

Enhanced primary care services and continued improvement in antenatal care have the capacity to support improvements in the health of the mother and baby. Australian governments are investing in a range of initiatives to improve child and maternal health. In October 2008, COAG agreed to the *National Partnership Agreement on Indigenous Early Childhood Development* with joint funding of \$564 million over six years. This includes Australian Government funding to state and territory governments for sexual health

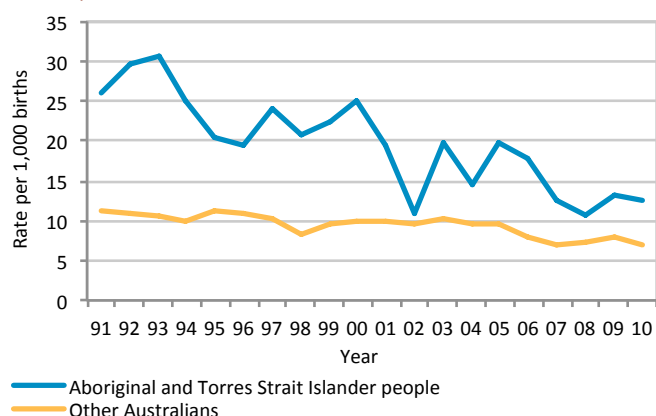
and young parent programs and support for 85 *New Directions: Mothers and Babies Services* which provide Aboriginal and Torres Strait Islander families with access to antenatal care; practical advice and assistance with parenting; and health checks for children. In addition, the *Australian Nurse Family Partnership Program*, with over 400 families enrolled in the program, provides sustained home visiting in three Indigenous communities and aims to improve pregnancy outcomes and childhood development, including reducing perinatal mortality, and to effect positive life course decisions.

State and territory governments provide a comprehensive range of services that aim to improve child and maternal health and prevent perinatal mortality. For example, in the ACT the Aboriginal Midwifery Access Program is provided through the Winnunga Nimmityjah Aboriginal Health Service. This program offers antenatal and postnatal care, community at home support, baby health checks, breastfeeding support, immunisations, and a range of women's health services.

The *Healthy for Life* program encourages behavioural change during pregnancy and includes the monitoring of maternal use of tobacco, alcohol and illicit drugs.

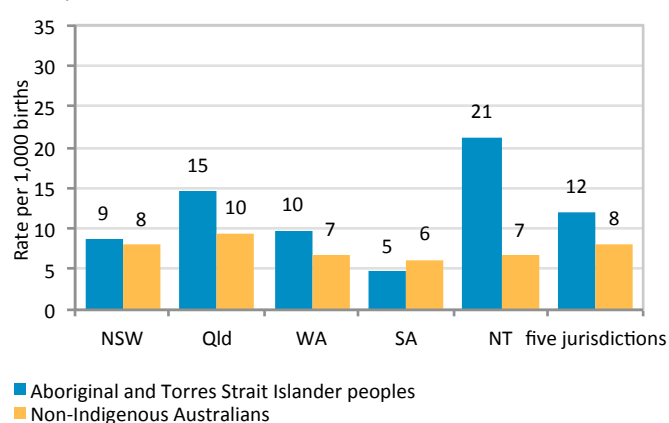
Improvements in social, environmental and behavioural factors are also needed to achieve healthy outcomes for mothers and their babies.

Figure 71
Perinatal mortality rate by Indigenous status, SA, WA and the NT, 1991–2010



Source: AIHW analysis of ABS Deaths Registration Database

Figure 72
Perinatal mortality rate by state/territory and Indigenous status, 2006–10



Source: AIHW analysis of ABS Deaths Registration Database

Table 22
Proportion of deaths for perinatal babies by underlying cause of death and Indigenous status, NSW, Qld, WA, SA and the NT, 2006–10

Cause of death:	Foetal deaths		Neonatal deaths		Perinatal deaths	
	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.
	%	%	%	%	%	%
Main condition in the fetus/infant:						
Disorders related to length of gestation and fetal growth	37.5	37.1	40.5	32.8	38.8	35.6
Other conditions originating in the perinatal period	48.9	44.7	15.1	18.9	34.8	35.8
Congenital malformations, deformations and chromosomal abnormalities	8.9	13.3	17.2	26.0	12.3	17.7
Respiratory and cardiovascular disorders	3.8	4.0	14.8	12.9	8.4	7.1
Infections	0.6	0.6	5.3	3.2	2.6	1.5
Other conditions	0.2	0.3	7.1	6.3	3.1	2.4
Main condition in the mother:						
Complications of placenta, cord and membranes	12.9	13.6	11.8	10.6	12.5	12.5
Maternal complications of pregnancy	9.7	9.7	14.5	16.0	11.7	11.9
Maternal conditions that may be unrelated to present pregnancy	8.5	4.8	6.5	4.9	7.7	4.8
Complications of labour and delivery and noxious influences transmitted via placenta or breast milk	3.4	3.1	3.0	4.9	3.2	3.7
Total deaths (Number)	472	5,290	338	2,779	810	8,069

Source: AIHW analysis of ABS Deaths Registration Database

1.22 All causes age-standardised death rate

Why is it important?:

The mortality rate of a population provides a summary measure of the overall health status of that population. However, it has some well-known limitations. There may be delays for many years before improvements in health status lead to reductions in mortality, and mortality statistics do not reflect the burden of illness in a population for diseases that do not necessarily result in death, such as arthritis and depression.

Despite these limitations, mortality rates are a useful measure with which to compare the overall health status of different populations and to monitor changes in overall health status of populations over time.

The all-causes mortality rate for Aboriginal and Torres Strait Islander peoples is several times higher than that for other Australians, indicating that the overall health status of Aboriginal and Torres Strait Islander peoples is worse than that of other Australians.

Findings:

During the period 2006–10, in those jurisdictions with adequate quality data (NSW, Qld, WA, SA, and the NT), 11,132 deaths were identified as those of Aboriginal and Torres Strait Islander peoples. After adjusting for age differences between the two populations, the all-cause mortality rate was 1.9 times as high for Aboriginal and Torres Strait Islander peoples than for non-Indigenous Australians (1151 versus 597 deaths per 100,000 population).

There was a 33% reduction in all-causes mortality rates for Aboriginal and Torres Strait Islander peoples between 1991–2010 in jurisdictions with adequate data quality for long-term trends (WA, SA and the NT). There was also a significant closing of the gap in mortality rates between Aboriginal and Torres Strait Islander peoples and other Australians over this period in both absolute and relative terms.

Current trends (2001–10), in the five jurisdictions with adequate data quality

(NSW, Qld, WA, SA, and the NT), show a 5% decline in all-cause mortality rates, including a significant decline for males but not females.

Most deaths for Aboriginal and Torres Strait Islander peoples occur in the middle age groups. Most deaths for the non-Indigenous population occur in the older age groups. Approximately 66% of Aboriginal and Torres Strait Islander deaths occur before the age of 65. The Aboriginal and Torres Strait Islander mortality rate was 5 times as high in the 35–44 years age range as the non-Indigenous rate. In absolute terms, the greatest gap was in the 65–74 year age group. In the period 2006–10, mortality rates ranged from 962 deaths per 100,000 in NSW to 1541 in the NT.

In 2010, there was a gradient in death rates by remoteness for the total Australian population, with higher rates in very remote areas compared to urban areas, particularly for infants. It is not yet possible to undertake this analysis by Indigenous status due to the variation in quality of Indigenous identification by remoteness area. As Indigenous Australians make up nearly half of the resident population of very remote areas, the higher death rates for Indigenous Australians nationally are likely to have an impact on the overall population death rates for those living in very remote areas (ABS 2011a).

Mortality rates are also available for other countries where Indigenous peoples share a similar history of relatively recent European colonisation, such as New Zealand and the United States. In New Zealand, the age-standardised all-cause mortality rate for the Maori population was 635 per 100,000 in 2010, compared with 385 per 100,000 for other New Zealanders. In the United States, the age-standardised all-cause mortality rate for American Indians/Alaska Natives was 442 per 100,000 in 2009, which was lower than the age-standardised all-cause mortality rate for non-Indigenous persons over this period (509 per 100,000). Caution must be used in comparing data with other countries due to variations in data quality, methods applied for addressing data quality issues and definitions for identifying Indigenous peoples.

Implications:

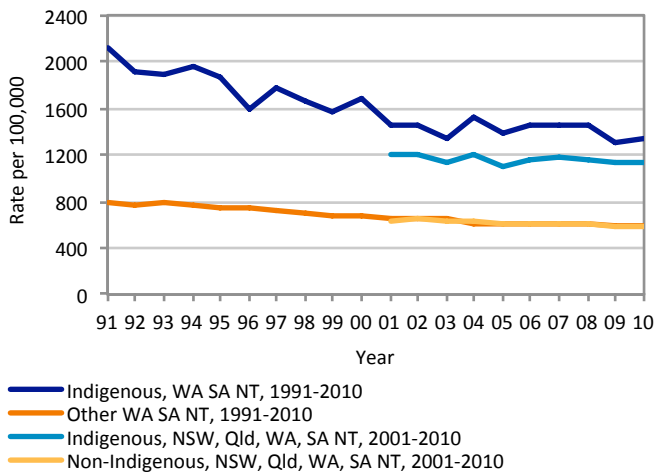
The very high mortality rates for Aboriginal and Torres Strait Islander peoples, particularly in early childhood

and the middle adult years, are an indication of the poor overall health status of Aboriginal and Torres Strait Islander peoples and reflect the high rates of chronic disease and injury.

There has been significant improvement in mortality rates for Aboriginal and Torres Strait Islander peoples in the past 20 years in the jurisdictions with adequate data for long-term analysis (WA, SA and the NT). There has also been a significant narrowing of the gap. The fact that improvements have occurred demonstrates that the severe health problems of Aboriginal and Torres Strait Islander peoples have been reduced to some extent and can be reduced further, and faster, with sustained and improved effort.

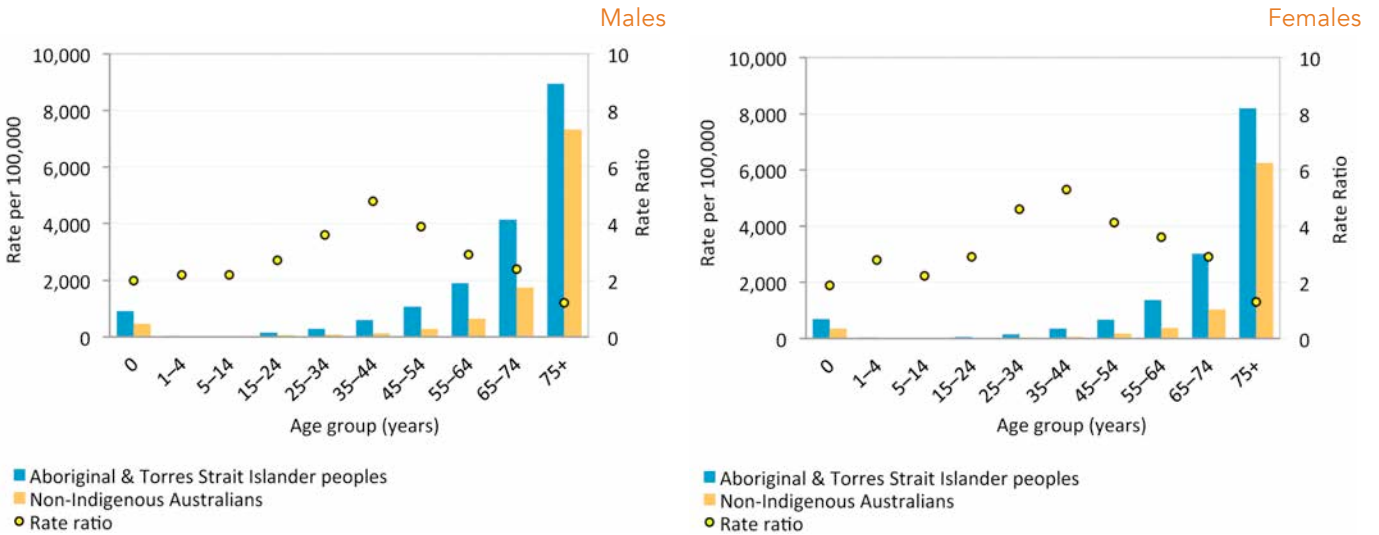
In December 2007, COAG agreed to a partnership between all levels of government to work with Aboriginal and Torres Strait Islander communities to achieve the target of closing the gap in Aboriginal and Torres Strait Islander disadvantage. To achieve this, COAG committed to six ambitious targets across a range of priority areas, one of which is to 'close the gap in life expectancy within a generation.' The *National Indigenous Reform Agreement (NIRA)* provides the overarching framework for working towards the six targets. The NIRA provides links to relevant National Agreements and Partnership Agreements established to address disadvantage across various social, economic and environmental dimensions. Through COAG, all governments have agreed to contribute to the \$1.6 billion *National Partnership Agreement on Closing the Gap in Indigenous Health Outcomes* with a focus on decreasing chronic disease.

Figure 73
Age-standardised all-cause mortality rates, by Indigenous status



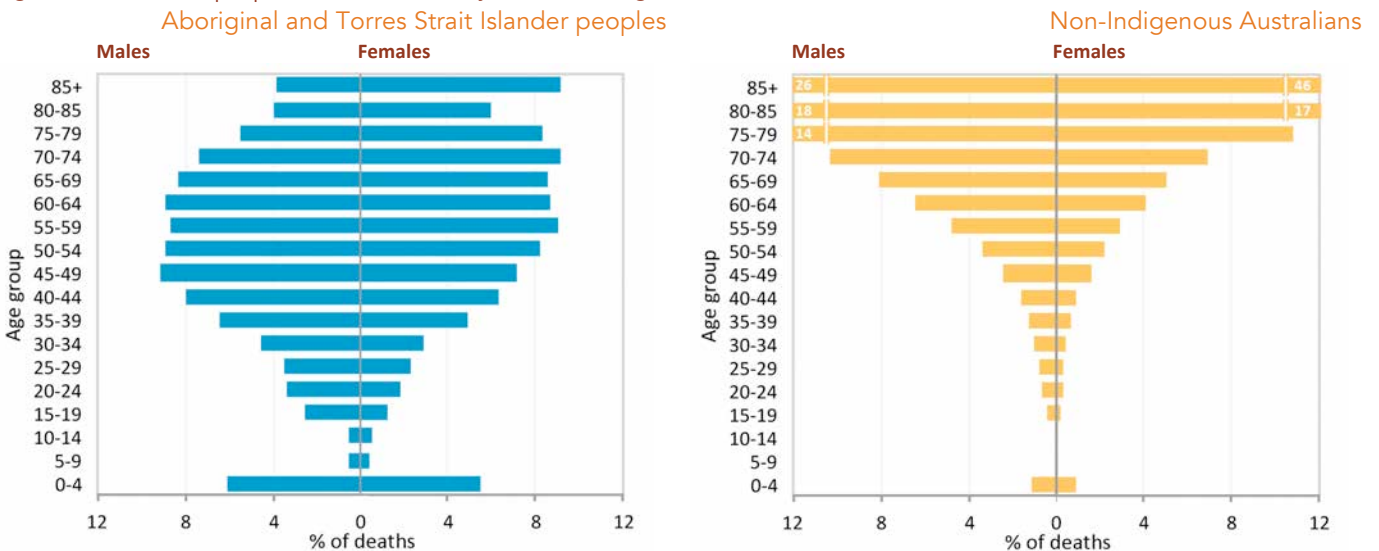
Source: ABS and AIHW analysis of ABS Mortality Database

Figure 74
Age-specific all-cause mortality rates per 100,000 and rate ratios, by Indigenous status and sex, NSW, Qld, WA, SA and the NT, 2006–10



Source: ABS and AIHW analysis of ABS Mortality Database

Figure 75
Age distribution of proportion of deaths, by sex and Indigenous status, NSW, Qld, SA and the NT, 2006–10



Source: AIHW and ABS analysis of National Mortality Database

Table 23
Age-standardised all-causes mortality rates, by Indigenous status, NSW, Qld, WA, SA and the NT, 2006–10

Jurisdiction	Number of deaths		Rate per 100,000 ^(a)		Ratio	Rate difference
	Indig.	Non-Indig.	Indig.	Non-Indig.		
NSW	2,903	231,732	962	598	1.6	363.4
Qld	3,031	125,074	1,089	597	1.8	491.9
WA	2,230	59,276	1,431	574	2.5	857.0
SA	710	61,226	1,060	615	1.7	445.4
NT	2,258	2,625	1,541	645	2.4	895.5
Total NSW, Qld, WA, SA & NT	11,132	479,933	1,151	597	1.9	554.0

a) Age-standardised

Source: ABS and AIHW analysis of ABS Mortality Database

1.23 Leading causes of mortality

Why is it important?:

Mortality rates are a useful measure of the overall health status of a population, particularly to compare one population with another or to measure improvements over time. The gap between the Aboriginal and Torres Strait Islander population and the rest of the Australian population for particular causes of death provides an indication of the prevention, prevalence and management of particular diseases for Aboriginal and Torres Strait Islander peoples, relative to the rest of the population. This provides a useful indication of the diseases that have a greater impact on Aboriginal and Torres Strait Islander peoples. However, some significant health problems will not be reflected in mortality statistics; many conditions that cause serious health problems may not be fatal (such as depression, arthritis and intellectual disability) and so do not appear as common causes of death. As health status and health services improve for Aboriginal and Torres Strait Islander peoples, it is anticipated premature mortality will reduce over time.

Findings:

During the period 2006–10, in the five jurisdictions with adequate quality data (NSW, Qld, WA, SA and the NT), the most common cause of death among Aboriginal and Torres Strait Islander peoples was circulatory diseases (26% of all deaths), followed by neoplasm (including cancer) (19%) and external causes (15%). Circulatory diseases were also the most common cause of death for other Australians followed by cancer. After adjusting for age, circulatory disease accounted for the largest gap in death rates (27% of the gap) followed by endocrine metabolic and nutritional disorders (including diabetes) (17%); neoplasms (including cancer) (12%); and respiratory diseases (12%). Deaths due to diabetes were 7 times higher for Indigenous Australians than non-Indigenous Australians.

For Indigenous Australians, the leading causes of death due to external causes were suicide (30%), transport accidents (28%), accidental poisoning (10%),

assault (9%) and accidental drowning (4%). Around 61% of these deaths occurred between 15 and 39 years of age.

Mortality rates for circulatory disease showed the largest decline in deaths for both Indigenous Australians and non-Indigenous Australians. Over the period 1997–2010, in WA, SA and the NT combined, there was a significant reduction in the gap with non-Indigenous Australians. Current trends (2001–10) in the five jurisdictions with adequate data (NSW, Qld, WA, SA, and the NT) show a decline in death rates due to circulatory disease for both Indigenous and non-Indigenous Australians and a significant closing of the gap. A study in the NT found an increase in incidence of acute myocardial infarction between 1992 and 2004 for Aboriginal and Torres Strait Islander peoples and at the same time an improvement in survival due to reductions in death both pre-hospital and after hospital admission (You et al. 2009).

Mortality rates for respiratory disease have declined significantly for Indigenous Australians and other Australians in both the short-term and long-term. There has been a significant closing of the gap over the long-term but not the short-term.

For kidney disease mortality there was a significant increase in recent years (2001–10) in both the Aboriginal and Torres Strait Islander mortality rate and the gap. There has been a significant increase in the mortality gap due to cancer in long-term and short-term trends, mainly reflecting that mortality rates for other Australians have fallen.

For injury deaths, there was no significant reduction in short-term trends, or in the longer term). No significant changes were detected for diabetes mortality rates or the gap in diabetes mortality between Aboriginal and Torres Strait Islander peoples and other Australians.

Implications:

Four groups of chronic conditions account for approximately 70% of the gap in mortality between Indigenous and non-Indigenous Australians: circulatory disease, endocrine/metabolic/nutritional disorders (including diabetes), cancer, and respiratory diseases. External causes such as suicide and transport accidents are also important contributors to the gap in mortality.

The health system can contribute to sustained improvements, in partnership with Aboriginal and Torres Strait Islander peoples, through identification of Indigenous clients, health promotion, early detection, chronic disease management and specialist and acute care to treat the more severe outcomes. Improved management of chronic disease can prevent the development of life-threatening complications but cannot cure these diseases. For example, a study of incidence and survival of acute myocardial infarction found improvements in survival for the NT Indigenous population associated with pre-hospital management of conditions and also within hospital specialised coronary care services and greater emphasis on post-hospital management (You et al. 2009). Another study in the NT found the largest gains for the Indigenous population in avoidable mortality were for conditions amenable to medical care with only marginal change in conditions responsive to health policy interventions such as campaigns to reduce smoking and improve diet (Li et al. 2009a).

The 15–29 year age group had the highest rate of deaths from suicide while deaths due to transport accidents were highest in the 15–39 year age group. Acute care services can save the lives of seriously injured people, and there is scope for improvements in timely access to life-saving emergency care for Indigenous Australians. High levels of intentional self-harm highlight the need for cross-sectoral approaches to healing, self-esteem and social and emotional wellbeing (see measure 1.18).

In December 2007, COAG committed to closing the life expectancy gap between Indigenous and non-Indigenous Australians within a generation. The \$1.6 billion *National Partnership Agreement on Closing the Gap in Indigenous Health Outcomes* (COAG 2008c), sets priorities for a broad range of health measures, which are discussed in more detail elsewhere in this report. Other national partnerships and agreements have been established to provide support across a range of social, economic and environmental dimensions.

The *Mental health: Taking Action to Tackle Suicide* package includes \$30.2 million that targets groups and communities at high risk of suicide, including Indigenous Australians. The Australian Government also committed

to the development of Australia’s first national Aboriginal and Torres Strait Islander Suicide Prevention Strategy and

the establishment of the Indigenous Suicide Prevention Advisory Group which

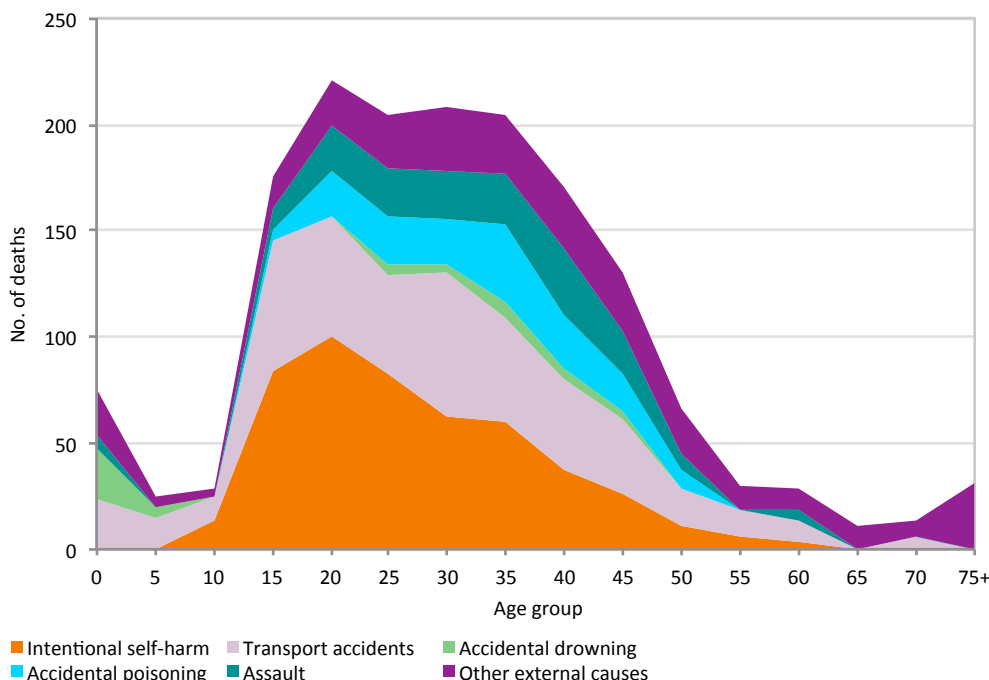
is guiding the development of the Strategy.

Table 24
Causes of death, by Indigenous status, NSW, Qld, WA, SA and the NT, 2006–10

Underlying cause of death	Per cent of deaths		Age standardised rate per 100 000 persons		Ratio	Gap	% of total gap
	Indig.	Non Indig.	Indig.	Non Indig.			
Circulatory diseases	26.3	33.9	351.0	201.0	1.7	150.0	27.1
Neoplasms	18.9	29.9	244.6	178.0	1.4	66.6	12.0
<i>Digestive organs</i>	5.3	8.0	67.9	47.7	1.4	20.2	3.6
<i>Lung cancer</i>	4.5	5.6	59.6	33.4	1.8	26.1	4.7
<i>Cervical cancer</i>	0.5	0.2	4.8	1.0	4.8	3.8	0.7
External causes	15.0	5.9	84.3	37.1	2.3	47.2	8.5
Endocrine, metabolic & nutritional disorders	8.8	3.7	117.7	21.8	5.4	95.8	17.3
<i>Diabetes</i>	7.6	2.6	101.8	15.2	6.7	86.6	15.6
Respiratory diseases	7.7	8.2	112.3	48.7	2.3	63.6	11.5
Digestive diseases	5.9	3.4	57.8	20.3	2.8	37.5	6.8
Kidney diseases	2.9	1.9	40.3	11.4	3.5	28.9	5.2
Conditions originating in perinatal period	2.4	0.4	6.0	2.8	2.2	3.2	0.6
Nervous system diseases	2.5	4.0	26.5	24.0	1.1	2.5	0.4
Infectious & parasitic diseases	2.3	1.5	25.4	8.7	2.9	16.7	3.0
Other causes	7.2	7.2	85.1	43.1	2.0	42.0	7.6
All causes	100.0	100.0	1,151.1	597.0	1.9	554.0	100.0

Source: ABS analysis of National Mortality Database

Figure 76
Deaths of Indigenous Australians from external causes of injury and poisoning, by age, NSW, Qld, WA, SA and the NT, 2006–10



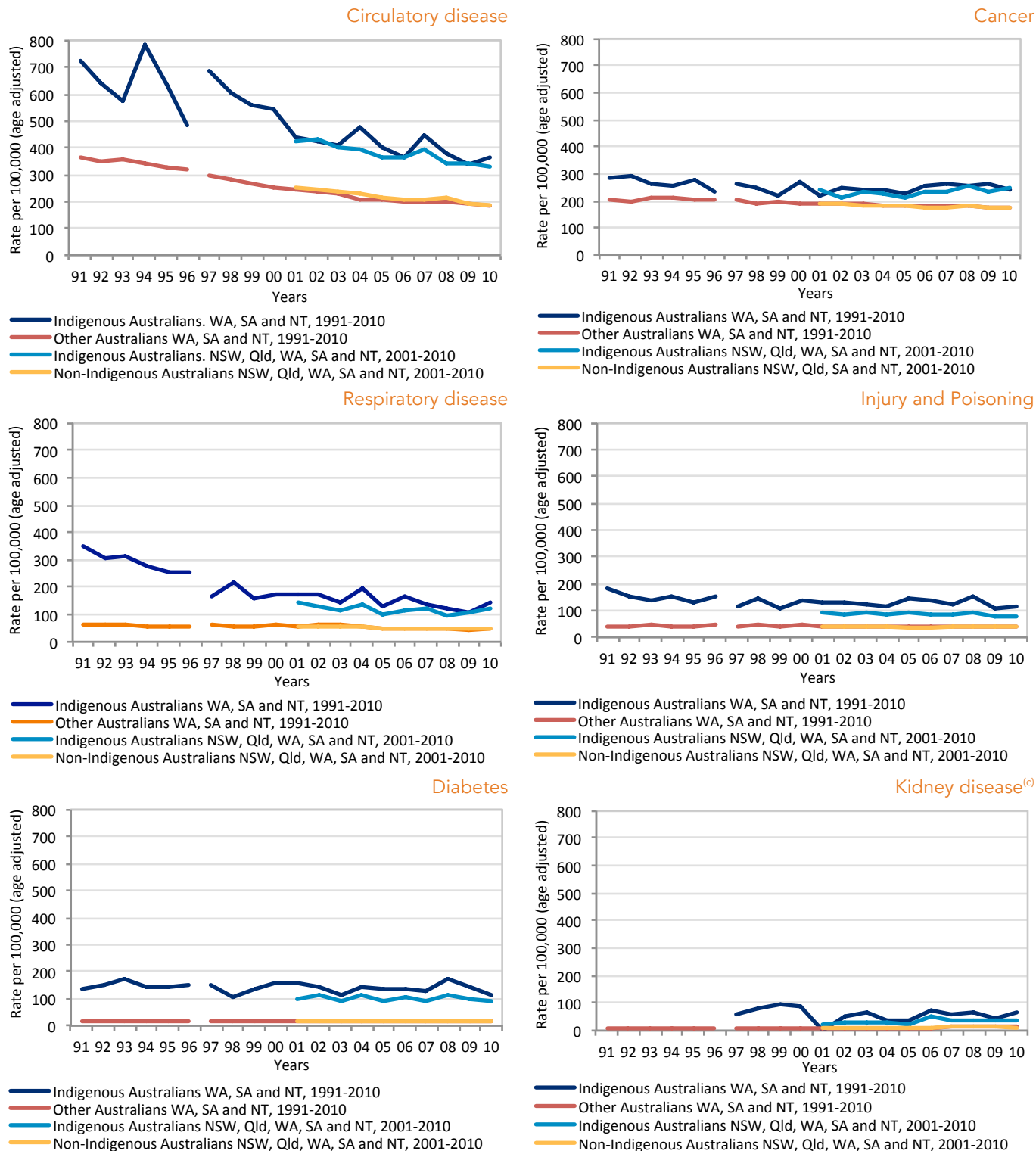
Source: ABS analysis of National Mortality Database

Table 25
Detailed causes of death for circulatory disease, cancer and respiratory disease,
Aboriginal and Torres Strait Islander peoples, NSW, Qld, WA, SA and the NT, 2006–10

Underlying cause of death	Males		Females		Total	
	Deaths	%	Deaths	%	Deaths	%
Circulatory Disease						
Ischaemic heart disease	978	60.7	589	44.8	1,567	53.6
<i>Acute myocardial infarction</i>	385	23.9	253	19.3	638	21.8
Other heart disease	261	16.2	254	19.3	515	17.6
Cerebrovascular disease	237	14.7	282	21.5	519	17.7
<i>Stroke</i>	189	11.7	225	17.1	414	14.2
Hypertension disease	49	3.0	69	5.3	118	4.0
Rheumatic heart disease	29	1.8	61	4.6	90	3.1
Other	57	3.5	59	4.5	116	4.0
Total circulatory diseases	1,611	100.0	1,314	100.0	2,925	100.0
Neoplasms (includes cancer, by site of neoplasm)						
Digestive organs	334	31.0	260	25.3	594	28.2
<i>Bowel</i>	69	6.4	59	5.7	128	6.1
Respiratory and intrathoracic organs	326	30.2	221	21.5	547	26.0
Breast	-	-	134	13.0	134	6.4
Lymphoid, haematopoietic and related tissue	54	5.0	74	7.2	128	6.1
Lip, oral cavity and pharynx	98	9.1	30	2.9	128	6.1
Female genital organs	-	-	123	12.0	123	5.8
<i>Cervix</i>	-	-	58	5.6	58	2.8
Male genital organs	70	6.5	-	-	70	3.3
Non-malignant neoplasms	14	1.3	17	1.7	31	1.5
Other	65	6.0	63	6.1	128	6.1
Total neoplasms	1,078	100.0	1,029	100.0	2,107	100.0
Respiratory diseases						
Chronic lower respiratory diseases	270	59.0	263	65.8	533	62.1
<i>COPD</i>	223	48.7	212	53.0	435	55.0
<i>Asthma</i>	16	3.5	30	7.5	46	5.7
Pneumonia and influenza	103	22.5	80	20.0	183	21.3
Other	85	18.6	57	14.3	142	16.6
Total respiratory diseases	458	100.0	400	100.0	858	100.0

Source: AIHW analysis of National Mortality Database

Figure 77
Age-standardised mortality rates for selected causes of death, by Indigenous status^{(a)(b)}



(a) Prior to 1998, 'not stated' was included as non-Indigenous deaths. Rates for the longer term trends (from 1991 to 2010) for WA, SA and NT, have therefore been calculated for 'Other Australians', which included deaths where Indigenous status is 'not stated'.

(b) For 1991–2010 data, causes of death were classified and coded in ICD–9 up until 1996 and ICD–10 from 1997 onwards. The change in classification/coding scheme affects the comparability of rates calculated for 1996 and prior years with rates calculated for 1997 onwards.

(c) Data for Indigenous Australians not available for 1991–97 due to small numbers.

Source: AIHW analysis of National Mortality Database

1.24 Avoidable and preventable deaths

Why is it important?:

Avoidable and preventable mortality refers to deaths from conditions that are considered avoidable given timely and effective health care (including disease prevention and population health initiatives) (Page et al. 2006). Avoidable deaths have been used in various studies to measure the quality, effectiveness and/or accessibility of the health system. Deaths from most conditions are influenced by a range of factors in addition to health system performance, including the underlying prevalence of conditions in the community, environmental and social factors and health behaviours.

Causes of avoidable mortality can be sub-divided into 'preventable' conditions for which there are effective means to prevent the condition occurring (e.g., conditions caused by smoking) and 'amenable' conditions for which death may be averted even after the condition has developed through early detection and effective treatment (e.g., cervical cancer).

Potentially avoidable deaths can sometimes be further assigned to categories reflecting whether they could be avoided through primary interventions (prevention), secondary (early intervention) and tertiary interventions (medical treatment) (National Health Performance Committee 2004).

Findings:

In the period 2006–10, there were 6,777 deaths of Aboriginal and Torres Strait Islander people aged 0–74 years from avoidable causes in NSW, Qld, WA, SA and the NT combined. This represented 74% of deaths of Aboriginal and Torres Strait Islander peoples aged 0–74 years in these five jurisdictions. In contrast, deaths from avoidable causes for non-Indigenous people represented 66% of deaths of other Australians aged 0–74 years in these four jurisdictions.

Amenable mortality accounted for 2,578 Indigenous deaths in the five jurisdictions, or 28% of deaths of Indigenous Australians aged 0–74 years. For non-Indigenous Australians aged

0–74 years, amenable mortality accounted for 26% of deaths. Potential years of life lost due to amenable mortality were highest in the 45–64 year age group for both Indigenous and non-Indigenous Australians. However, potential years of life lost were higher in the 25–44 year group for Indigenous Australians (27%) compared with non-Indigenous Australians (16%) and lower in the 65–74 year age group (4% and 13% respectively).

After adjusting for differences in age structure, Aboriginal and Torres Strait Islander peoples died from all avoidable causes at 3.5 times the rate of non-Indigenous Australians. The avoidable mortality rate of Aboriginal and Torres Strait Islander peoples was higher than that of non-Indigenous Australians in all age groups, and particularly high (4–5 times that of other Australians) in the middle adult age groups (25–64 years). Avoidable mortality rates were lowest in NSW (382 per 100,000) and highest in the NT (787 per 100,000).

Reliable data on time-trends in avoidable mortality are available since 1991 for WA, SA and the NT. There was a significant decline in the avoidable mortality rate for Aboriginal and Torres Strait Islander peoples in the period 1991 to 1996 in these jurisdictions combined. This decline continued over the period 1997 to 2010, with Aboriginal and Torres Strait Islander rates dropping by 24%. The difference in rates between Indigenous and other Australians has narrowed significantly over this period. This rate of decline was faster than for all-cause mortality. A study in the NT found a rapid fall in avoidable mortality between 1985 and 2004 in the Indigenous population for conditions amenable to medical care. This suggests that improvements in health care have made a major contribution to the fall in death rates and is consistent with observed improvements in perinatal survival, congenital malformations, stroke and hypertensive conditions, pneumonia and asthma, and infectious diseases (Li et al. 2009a).

Short-term trend data for the period 2001–10 in NSW, Qld, WA, SA and the NT also show a significant decline in Indigenous avoidable mortality, however, this decline was greater for males (25%) than for females (16%). There was also a significant narrowing of the gap.

Among Aboriginal and Torres Strait Islander peoples, the most common conditions or events causing avoidable mortality were ischemic heart disease (19%) cancer (17%, in particular lung cancer), diabetes (10%), suicide (9%) and road traffic injuries (6%). After adjusting for difference in age structure the conditions contributing the most to the avoidable mortality gap between Indigenous and non-Indigenous Australians were ischemic heart disease (22% of the gap), diabetes (16% of the gap) and cancer (14% of the gap).

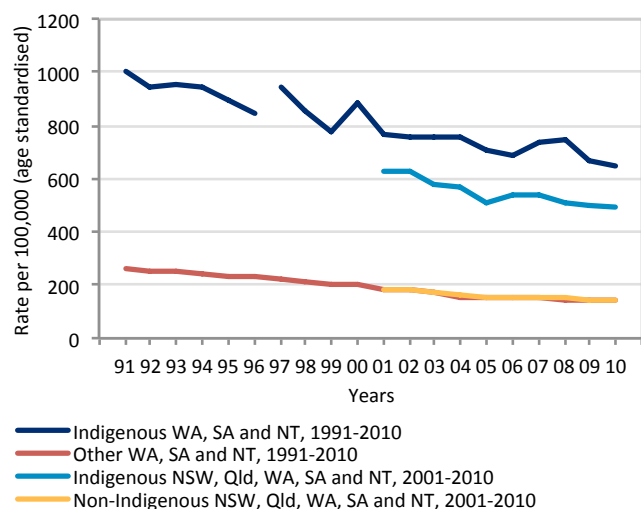
Within potentially avoidable deaths, the greatest opportunities to reduce mortality for Aboriginal and Torres Strait Islander peoples relate to primary prevention (52% of avoidable deaths). However, there are also significant opportunities in terms of secondary (24%) and tertiary interventions (24%).

Implications:

Death rates for avoidable mortality among Aboriginal and Torres Strait Islander peoples are declining and the gap is closing. Mortality rates for avoidable mortality are declining at a faster rate than for all-cause mortality. Chronic disease and injury are causing the greatest proportion of avoidable deaths for Aboriginal and Torres Strait Islander peoples and are amenable to both prevention and treatment. A study in the NT found that this decline has been greatest for conditions amenable to medical care, for example neonatal and pediatric care, antibiotics, immunisation, drug therapies, improved intensive care and surgical procedures. Only marginal change was found for conditions responsive to public health (Li et al. 2009a).

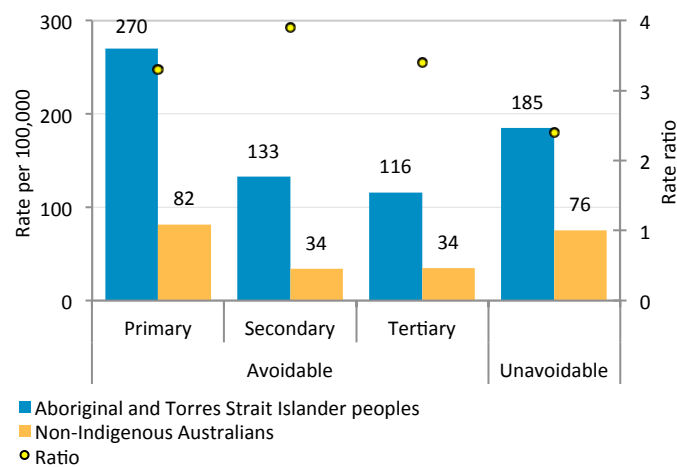
The *National Partnership Agreement on Closing the Gap in Indigenous Health Outcomes* comprises a package of health reforms that include a focus on preventive health and primary health care. Through this agreement a range of initiatives are being implemented which address prevention, early detection and management of chronic disease.

Figure 78
Age-standardised mortality rates for avoidable causes of death, Indigenous and other Australians aged 0–74 years



Source: AIHW analysis of National Mortality Database

Figure 79
Avoidable mortality (by subcategory) and unavoidable mortality, by Indigenous status, persons aged 0–74 years, NSW, Qld, SA and the NT, 2006–10



Source: AIHW analysis of National Mortality Database

Table 26
Avoidable mortality, by cause of death and Indigenous status, persons aged 0–74 years, NSW, Qld, WA, SA, and the NT, 2006–10

Cause of death	Per cent		Age standardised rate per 100,000		Rate ratio	Rate difference	Rate difference %
	Indigenous	Non Indig	Indigenous	Non Indig			
Ischaemic heart disease	18.6	17.6	107.5	25.9	4.1	81.6	22.0
Cancer	16.7	38.3	105.8	56.0	1.9	49.8	13.5
<i>Digestive organ cancers</i>	5.0	12.0	31.6	17.5	1.8	14.2	3.8
<i>Lung cancer</i>	6.2	13.6	42.1	19.7	2.1	22.4	6.1
<i>Cervical cancer</i>	0.8	0.5	4.3	0.7	6.1	3.6	1.0
Diabetes	10.0	3.2	64.2	4.8	13.5	59.4	16.0
Suicide	8.5	7.5	25.7	11.8	2.2	13.9	3.8
Road traffic injuries	6.4	4.1	20.8	6.4	3.2	14.3	3.9
Alcohol related disease	5.4	2.7	25.6	3.9	6.6	21.7	5.9
Cerebrovascular disease	4.7	5.8	29.6	8.7	3.4	20.9	5.6
COPD	4.1	4.5	31.3	6.7	4.7	24.6	6.6
Nephritis and nephrosis	3.7	1.4	23.3	2.0	11.4	21.2	5.7
Selected infections	3.6	2.2	18.4	3.3	5.7	15.2	4.1
Violence	2.6	0.6	9.1	1.0	9.2	8.1	2.2
Birth defects	2.3	1.7	4.9	2.8	1.8	2.1	0.6
Complications of perinatal period	2.1	0.9	3.4	1.5	2.2	1.8	0.5
Rheumatic and other valvular heart disease	1.3	0.3	5.2	0.4	13.3	4.8	1.3
Other	9.9	9.2	44.7	14.0	3.2	30.6	8.3
Total	100.0	100.0	519.4	149.2	3.5	370.2	100.0
Total avoidable deaths	6,777	110,183					
Total deaths people 0-74 years	9,144	166,122					
Total deaths	11,132	479,933					

Source: AIHW and ABS analysis of National Mortality Database

Tier 2 Determinants of health

Environmental Factors

- 2.01 Housing
- 2.02 Access to functional housing with utilities
- 2.03 Environmental tobacco smoke

Socio-Economic Factors

- 2.04 Literacy and numeracy
- 2.05 Education outcomes for young people
- 2.06 Educational participation and attainment of adults
- 2.07 Employment
- 2.08 Income
- 2.09 Index of disadvantage

Community Capacity

- 2.10 Community safety
- 2.11 Contact with criminal justice system
- 2.12 Child protection
- 2.13 Transport
- 2.14 Indigenous people with access to their traditional lands

Health Behaviours

- 2.15 Tobacco use
- 2.16 Risky alcohol consumption
- 2.17 Drug and other substance use including inhalants
- 2.18 Physical activity
- 2.19 Dietary behaviour
- 2.20 Breastfeeding practices
- 2.21 Health behaviours during pregnancy

Person-Related Factors

- 2.22 Overweight and obesity

Tier 2: Determinants of Health includes measures of environmental and socioeconomic factors, community capacity, health behaviours and person-related factors. Measures in Tier 2 underpin health outcomes and shape how patients interact with the health system. Reliable information on the size and distribution of determinants of health in the Aboriginal and Torres Strait Islander population, and comparisons with the non-Indigenous population, are crucial for evaluating the effects of current health and social policies; developing and prioritising strategies for health gain; highlighting areas for intersectoral action; and to support identification of research priorities. The

determinants of health are now widely recognised as an essential element of health system analysis (Commission on Social Determinants of Health 2008). Analysis for this report has confirmed that determinants of health are associated with a higher prevalence of health risk factors such as smoking and obesity (see discussion in the Executive Summary). Similarly, health status impacts on its determinants: improvements in education outcomes can be anticipated with improvements in health (e.g., see measure 1.17). Readers are encouraged to consider health determinants as potentially both risk factors and protective factors. Improvements made in health

behaviours, such as reduced smoking rates or obesity rates, or in outcomes such as educational attainment will flow on to improvements in how people utilise the health system and to improvements in health outcomes. Many of the measures in Tier 2, particularly those determinants grouped as 'community capacity' relate to the measure of 'Community functioning' (see measure 1.13) in Tier 1. This measure illustrates the positives of health determinants, health behaviours and use of the health system in a combined analysis of strengths and capabilities using values determined by Aboriginal and Torres Strait Islander peoples.

2.01 Housing

Why is it important?:

Factors related to housing, such as overcrowding in housing, housing tenure type and homelessness, have potential impacts on health. The effects of overcrowding occur in combination with other environmental health factors such as poor water quality and sanitation, which are associated with increased risk of infectious diseases such as meningitis, acute rheumatic fever, tuberculosis, and skin and respiratory infections (AIHW 2005b). Overcrowding may increase psychological stress and adversely affect educational opportunities for students (measure 2.05). However, the presence of more people in a household may decrease social isolation, which could have a positive impact on health (Booth et al. 2005b).

Housing tenure is associated with health outcomes including mortality and morbidity; people who own their own home typically experience better health than those who rent. Housing tenure is also associated with socioeconomic status, with different levels of health hazards in the dwelling itself (e.g., overcrowding, structural problems) and the immediate environment (e.g., amenities, problems with crime) (AHURI 2010).

Aboriginal and Torres Strait Islander peoples perceive, define and experience homelessness in distinct ways. A 1998 study found five types of Indigenous homelessness: spiritual homelessness (including being separated from traditional lands, see measure 2.14), overcrowding, relocation and transient homelessness, escape from an unsafe or unstable home, and lack of access to any stable shelter. Ill-health was identified in this study as both a cause and consequence of homelessness (Keys Young 1998). 'Healthy homes' is one of seven strategic platforms identified by COAG as a 'building block' that needs to be in place in order to comprehensively address the current state of Indigenous disadvantage. A healthy home is a fundamental pre-condition of a healthy population.

Findings:

In 2008, 25% of all Aboriginal and Torres Strait Islander persons aged 15 years and

over were living in overcrowded households (households requiring one or more additional bedrooms according to the Canadian National Occupancy Standard). In comparison, 4% of other Australians aged 15 years and over were living in overcrowded households in 2007–08. Half (49%) of Indigenous Australians aged 15 years and over in remote areas lived in overcrowded households, compared to 17% in other parts of Australia. There has been no major change since 2002 (26%).

Household overcrowding varies by socioeconomic status. In 2008, Indigenous Australians aged 15 years and over were more likely to be living in overcrowded households if their household income was in the lowest income quintile rather than the highest income quintile (30% compared with 8%); if the highest year of school they completed was Year 9 or below rather than Year 12 (29% compared with 19%); and if they were unemployed or not in the labour force than if they were employed (27% and 31% compared with 20%). Overcrowding also varies by housing tenure type. In 2006, approximately 40% of Indigenous households in cooperative/community/church group housing were overcrowded, 16% of state/territory housing authority households, 11% of private and other renter households and 7% of home owners or purchaser households were overcrowded.

In 2008, 29% of Indigenous adults lived in households that were owned or being purchased (here referred to as home owners), 29% lived in private rentals, 23% lived in a property rented from a state housing authority and 16% were renting from an Indigenous Housing Organisation or other community housing provider. In comparison, 65% of non-Indigenous adults were home owners, and 29% were renters. Rates of Indigenous home ownership and private rental increased between 1994 and 2008. Housing tenure patterns are influenced by a range of factors including socioeconomic status and Indigenous land arrangements in some remote areas (where there are communal tenancy arrangements). In 2008, home ownership was higher in non-remote areas (36%) than remote areas (16%). In remote areas the largest category of housing was rentals through Indigenous Housing Organisations and other community

housing providers (33%), whereas in non-remote areas this only represented 5% of Indigenous households. Private rentals were more common in non-remote areas (34%) compared with remote areas (20%). Home ownership was highest in Tasmania (50%), followed by the ACT (48%), and lowest in the NT (21%).

In 2006, Aboriginal and Torres Strait Islander peoples accounted for around 9% of the homeless population (9,526 out of 104,676 homeless people). This definition of homelessness included people without conventional accommodation, people moving frequently between various forms of temporary shelter and people living in single rooms in private boarding houses, without their own bathroom, kitchen, or security of tenure (ABS 2008a). However, these definitions may not reflect how homelessness is perceived by Aboriginal and Torres Strait Islander peoples. In 2008–09, almost one-fifth of specialist homelessness service clients were Aboriginal and/or Torres Strait Islander. While domestic/family violence was the most frequently recorded main reason for both Indigenous and non-Indigenous clients seeking specialist homelessness services, overcrowding issues were more frequently recorded for Indigenous clients than for non-Indigenous clients (AIHW 2011i).

Implications:

There is a complex relationship between housing and health. Living with extended family groupings may be culturally desirable for some Aboriginal and Torres Strait Islander peoples (Long et al. 2007) and this requires innovation in the provision of appropriate housing (AIHW 2005b). Housing tenure is influenced by socioeconomic status, such as income (see measure 2.08) and employment (see measure 2.07), and communal tenancy arrangements in some remote communities. Similarly, the distinctive causes and contexts of Aboriginal and Torres Strait Islander peoples experiencing homelessness must be understood when responding to this issue (Keys Young 1998).

The Australian Government provides direct support to Aboriginal and Torres Strait Islander peoples to purchase their own homes through financial literacy support and assisted loans by Indigenous Business Australia. The Indigenous Home Ownership Program provides support for

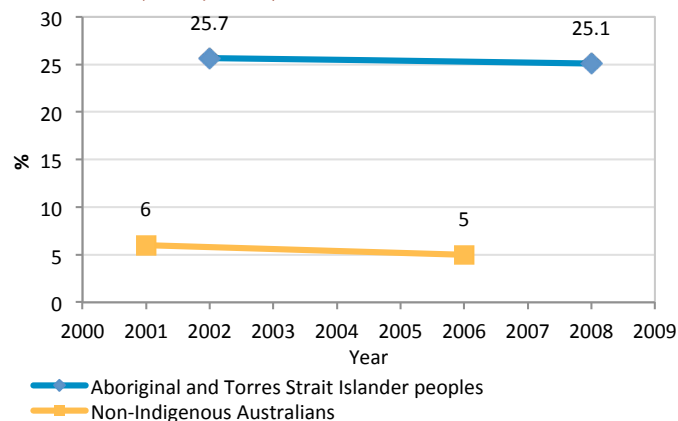
purchasing an established home, purchasing land and constructing a new home, making essential improvements to an existing home, or to move into home ownership on Indigenous land. The *National Partnership Agreement on Remote Indigenous Housing* supports the supply of safe and adequate housing in remote communities, including facilitating the building of up to 4,200 new houses and the refurbishment of up to 4,800 existing houses in remote Indigenous communities over ten years. The reform includes standardised tenancy arrangements for all remote Indigenous housing that include rent collection, asset protection, repairs, ongoing maintenance and governance arrangements consistent with public

housing standards. The initiative includes progressive resolution of land tenure on remote community-titled land in order to secure investment and home ownership possibilities.

Under the *National Partnership Agreement on Homelessness (NPAH)*, governments have committed \$1.1 billion over five years to create new and expanded support services for those experiencing or at risk of homelessness in Australia. Reducing Aboriginal and Torres Strait Islander homelessness is a key priority under the NPAH. The NPAH includes a commitment to a 7% reduction in homelessness and a decrease of Indigenous homelessness by one-third. Of the 180 new and expanded

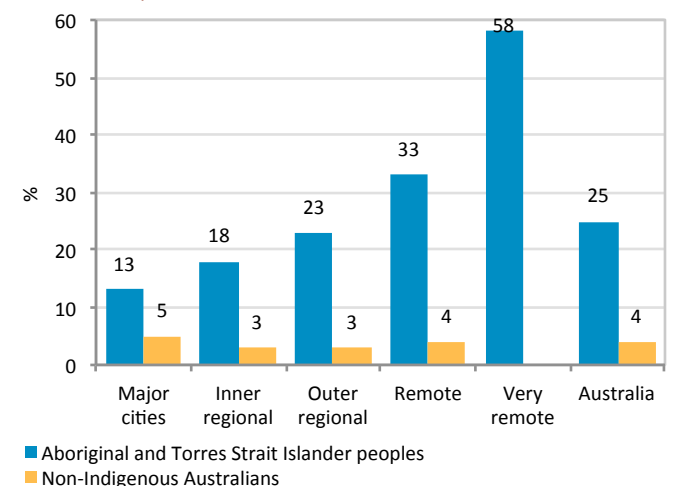
initiatives introduced under the NPAH, 24 Indigenous-specific initiatives are being implemented. These initiatives are working to directly address the high rates of Aboriginal and Torres Strait Islander homelessness across Australia and provided over 10,800 assistances in 2010–11. Also under the NPAH, governments are implementing a policy of ‘no exits into homelessness’ from statutory, custodial care and hospital, mental health and drug and alcohol services for those at risk of homelessness. Under this strategy, young people leaving child protection and juvenile justice systems, including Indigenous youth, will be prioritised.

Figure 80
Proportion of people 15 years and over living in overcrowded households, by Indigenous status, Indigenous Australians (2002, 2008), non-Indigenous Australians (2001, 2006)



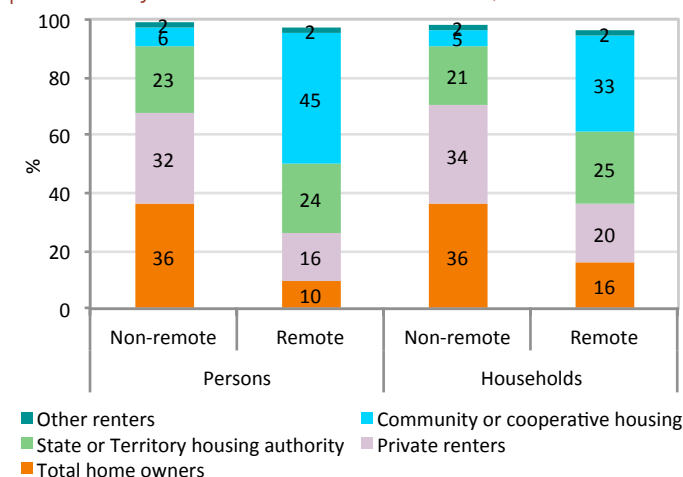
Source: ABS and AIHW analysis of 2002 and 2008 NATSISS and the 2001 and 2006 Census

Figure 81
Proportion of persons 15 years and over living in overcrowded households, based on the Canadian National Occupancy Standard, by Indigenous status and remoteness, 2008



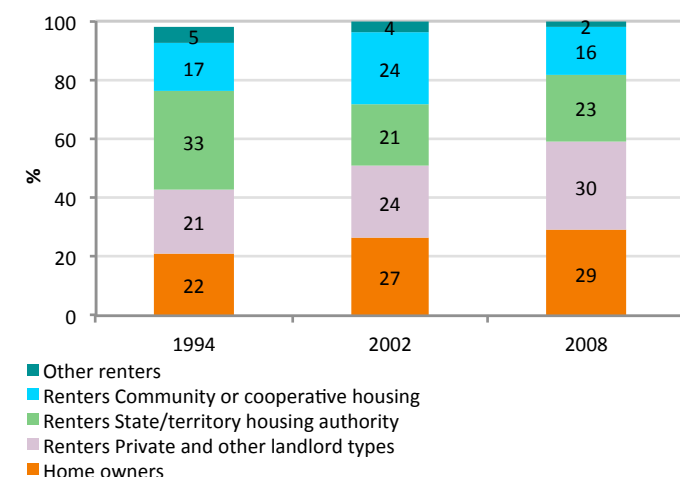
Source: ABS and AIHW analysis of 2008 NATSISS, non-Indigenous data from Survey of Income and Housing 2007–08

Figure 82
Tenure type by remoteness, proportion of Indigenous persons 18 years and over and households, 2008



Source: AIHW analyses of 2008 NATSISS

Figure 83
Tenure type, Indigenous persons 18 years and over, 1994, 2002 and 2008



Source: ABS and AIHW analysis of 1994 NATSIS, 2002 & 2008 NATSISS

2.02

Access to functional housing with utilities

Why is it important?:

Research on housing and health shows a relationship between inadequate housing and related infrastructure and poor health outcomes (Atkinson et al. 2007). Lack of access to clean water, adequate sanitation and reliable electricity services are associated with higher rates of infectious diseases (ABS & AIHW 2008).

The right to water 'entitles everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses. An adequate amount of safe water is necessary to prevent death from dehydration, to reduce the risk of water-related disease and to provide for consumption, cooking, personal and domestic hygienic requirements' (WHO 2010b). Internationally, poor water supply, sanitation and personal and domestic hygiene were estimated to account for 7% of the total burden of disease measured in the Global Burden of Disease Study (Vos et al. 2007). These determinants were second only to malnutrition as a major risk factor category. An adequate and reliable supply of water is required for washing people, food, kitchen utensils, and clothes.

A functional sewerage system prevents sewerage from contaminating drinking water, and reduces the risks of infectious diseases. Waste water in the living environment can be a source of infection leading to diarrhoea and diseases such as hepatitis (WHO 2010b).

A power supply such as electricity or gas contributes to health through improved nutrition by ensuring food is safely stored through refrigeration, and can be prepared and cooked appropriately.

Aboriginal and Torres Strait Islander peoples in remote and very remote areas are more likely to live in conditions that would be considered unacceptable by general Australian standards. Problems can include overcrowding, poorly maintained buildings, high housing costs relative to income and a lack of basic environmental health infrastructure, such as adequate sanitation, water supply and appropriate housing.

Findings:

In the 2006 Community Housing and Infrastructure Needs Survey (CHINS), 1,187 discrete Aboriginal and Torres Strait Islander communities were surveyed (ABS 2007). These communities had a population of 92,960 people, representing 18% of the Indigenous population. Most of these communities were in remote areas.

Just over half of these people (52%) relied on bore water as their main source of water supply. The proportion of people connected to a town water supply increased from 17% in 2001 to 30% in 2006. Interruptions to water supply of two days or more were experienced by 22% of the 366 communities in which more detailed survey questions were asked. Of the 164 communities that were not connected to a town water supply and had their drinking water tested for levels of microbiological agents, 48 had drinking water that failed water quality tests, an improvement since 2001.

Between 2001 and 2006 there was an increase in the number of communities connected to the state electricity grid or other transmitted supply (from 21% to 23%). Community generators supplied electricity for 32% of communities and 18% relied on solar or solar hybrid sources. Thirty-two communities, all but one having a population of fewer than 50 people, reported no organised electricity supply, compared with 80 communities in 2001. In 2006, interruptions to the electricity supply in the previous 12 months occurred in 246 communities (76% of the discrete Indigenous communities with a reported population of 50 or more). This was slightly lower than in 2001 and 1999. However, there was an increase in communities experiencing interruptions of more than 24 hours (13% in 2001 to 26% in 2006). In 2008, the NATSISS found that 7% of Indigenous households in remote areas and 4% in non-remote areas had major electrical problems.

The number of discrete Indigenous communities connected to a town sewerage system increased from 89 in 2001 to 121 in 2006 (10% of communities). Septic tanks remained the most commonly used sewerage disposal system (694 or 58% of communities). Approximately 22 discrete Indigenous communities did not have an organised sewerage system. A further 202

communities relied on pit toilets for their sewerage. In 2006, 142 discrete Indigenous communities (38%) reported sewerage system overflows or leakages in the previous 12 months. Of these, 82 (22%) reported up to 4 overflows/leakages and 14 (4%) reported 20 or more overflows/leakages. These were most common in discrete Indigenous communities with septic tanks with leach drains as the main sewerage system. In 22% of communities the leakages or outflows had continued for longer than 48 hours.

In the 2008 NATSISS, 25% of Indigenous households in non-remote areas had major structural problems like major cracks in walls/floors, problems with foundations, major plumbing problems, wood rot and termites. The NATSISS also found that 5% of Indigenous households had major electrical problems, ranging from 4% in major cities to 9% in very remote areas. Approximately 99% of Indigenous households reported that they had working facilities for washing people, 94% reported working facilities for washing clothes/bedding, 94% reported working facilities for preparing food and 98% reported working sewerage systems. This varied considerably by remoteness with 79% of households in very remote communities reporting working facilities for the storage and preparation of food.

Implications:

Improved access to functional housing is associated with better health outcomes. An evaluation of the NSW *Housing for Health Program* found that 'those who received the *Housing for Health* intervention had a significantly reduced rate of hospital separations for infectious diseases—40% less than the hospital separation rate for the rest of the rural NSW Aboriginal population without the *Housing for Health* interventions'. Research evidence suggests that housing programs need to be accompanied by health promotion and environmental programs to support a reduction in the occurrence of common childhood infections (Baillie et al. 2011a; Baillie et al. 2011b).

The *National Partnership Agreement on Remote Indigenous Housing* has been established as a ten-year funding strategy to address overcrowding, homelessness, poor housing conditions and severe housing shortages in remote Indigenous communities. Over 10 years

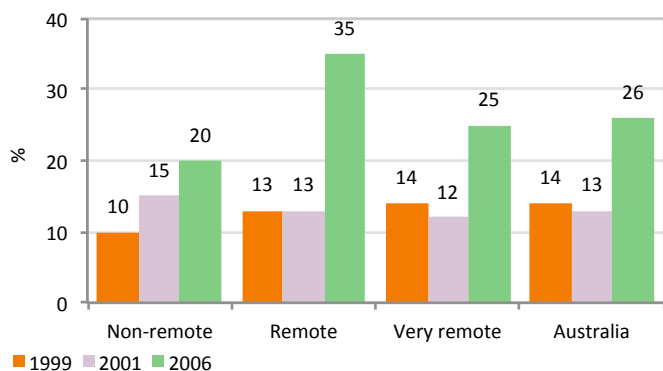
the agreement will deliver construction of up to 4,200 new houses to address overcrowding and homelessness, and upgrades and repairs to around 4,800 existing houses through a program of major repairs and/or replacement. At the end of April 2012, over 1,200 new houses had been constructed and more than 4,000 houses had been refurbished under this agreement. Funding is also provided for property and tenancy management arrangements, including a program of tenant support and ongoing repairs and maintenance. Under the partnership, a municipal and essential services audit of 86 communities was undertaken in March 2010. The audit assessed levels of services and related infrastructure in remote Indigenous communities.

In addition, there are a number of complementary programs being

delivered by the Commonwealth. The *Municipal and Essential Services (MUNS) Program* provides funding primarily for the maintenance of community power, water and sewerage services, garbage collection, internal road maintenance, dog health and control programs, and operational costs associated with the administration of organisations that provide infrastructure and municipal services in Aboriginal and Torres Strait Islander communities. Funding under this program is intended to supplement the efforts of the state, territory and local governments who have primary responsibility for providing municipal and essential services to Indigenous communities. The *Army Aboriginal Community Assistance Program* aims to improve primary environmental health and living conditions in remote Indigenous communities. One project per year is undertaken targeting

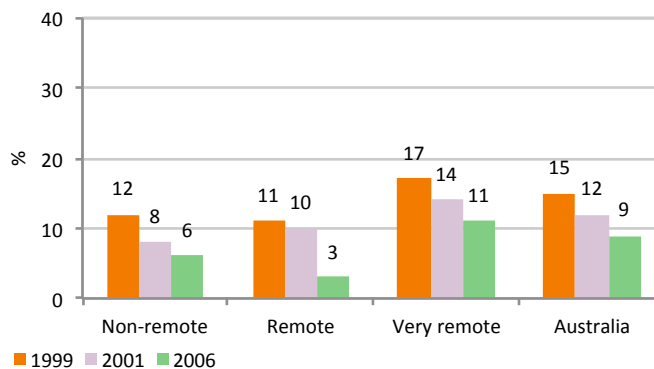
improvements in housing, essential services such as water, power and sewerage, other community infrastructure, health and municipal services, and education, training and employability initiatives. The *Torres Strait Major Infrastructure Program* delivers essential and sustainable environmental health infrastructure projects in the Torres Strait and is funded on a matched basis by the Commonwealth and Qld Government. These projects relate to water supply and reticulation, sanitation and wastewater, community roads and drainage, and serviced housing lots. Previous projects have improved health outcomes in the region, with marked decreases in water and hygiene-related diseases.

Figure 84
Proportion of discrete Indigenous communities, with reported usual population of 50 or more, experiencing interruptions to electricity supply greater than 24 hours in the previous 12 months, by remoteness, 1999, 2001 and 2006



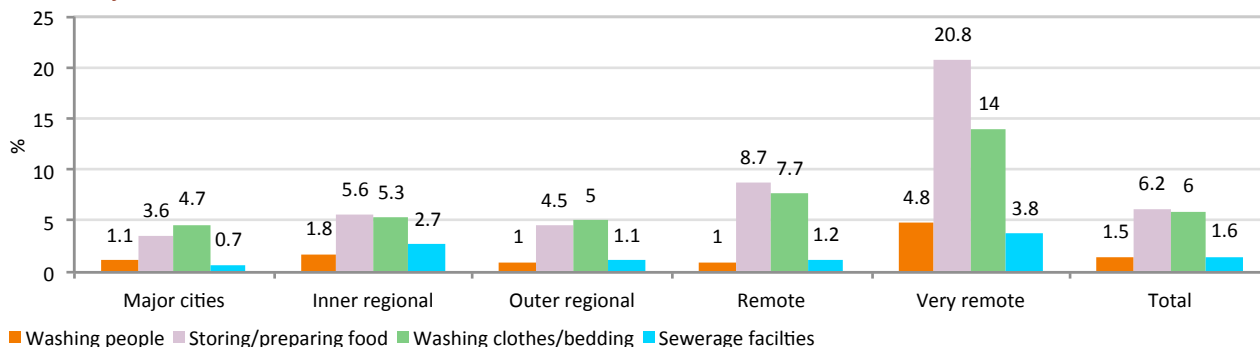
Source: AIHW analysis of the 1999, 2001 and 2006 CHINS surveys

Figure 85
Proportion of discrete Indigenous communities, with reported usual population of 50 or more, experiencing 10 or more sewerage system overflows or leakages in previous 12 months, by remoteness, 1999, 2001 and 2006



Source: AIHW analysis of the 1999, 2001 and 2006 CHINS surveys

Figure 86
Proportion of Indigenous households reporting lack of working facilities for each of the first 4 Healthy Living Practices, by remoteness, 2008



Source: AIHW analysis of 2008 NATSISS

2.03 Environmental tobacco smoke

Why is it important?:

Environmental tobacco smoke, or passive smoking, is now firmly established as a significant cause of morbidity and mortality. The first evidence of harm to children from passive smoking emerged in the early 1970s, (Colley 1974; Harlap et al. 1974; Leeder et al. 1976) and the first evidence of increased lung cancer risk in 1981 (Hirayama 1981). By 1986 the US Surgeon General (U.S. Department of Health and Human Services 2006) and the Australian National Health and Medical Research Council (NHMRC 1986; NHMRC 1997) were able to conclude without doubt that passive smoking was harmful (VicHealth Centre for Tobacco Control 2001).

Environmental tobacco smoke is a significant contaminant of indoor air. There is strong and consistent evidence that passive smoking increases a non-smoker's risk of lung cancer and ischaemic heart disease. Passive smoking is also associated with increased risk of respiratory disease in adults (NHMRC 1997), and increased risk of respiratory conditions such as asthma (Thomson et al. 2012) and ear infections such as otitis media in children (Jacoby et al. 2008) (see measure 1.15). Smoking of tobacco around a new-born child is considered to be one of the major risk factors for sudden infant death syndrome (see measure 1.21) (AMA 1999).

The home is the most likely setting for exposure to environmental tobacco smoke for pregnant women and young children—all of whom are particularly vulnerable. Overcrowding in housing (see measure 2.02) increases the risk of such exposure and developing asthma. Smoking in cars is also an important environment for child exposure to second-hand smoke (Freeman et al. 2008).

A study of 145 pregnant Aboriginal and Torres Strait Islander women in Far North Qld found that significantly more smokers than non-smokers believed that 'if you are exposed to a lot of smoke from other people you might as well keep smoking yourself,' indicating the significant role that exposure to environmental tobacco smoke can play in

reinforcing smoking behaviour (Gilligan et al. 2009) (see measure 2.15).

The benefits of reducing exposure to environmental tobacco smoke include reducing the incidence of short, medium and long-term health effects in non-smokers, and reducing the uptake of smoking in children of smokers (VicHealth Centre for Tobacco Control 2001).

Findings:

In 2008, there were around 122,000 Aboriginal and Torres Strait Islander children aged 0–14 years living in households with a current daily smoker, representing 65% of all Aboriginal and Torres Strait Islander children in this age range. In comparison, 32% of non-Indigenous children within the same age range lived in households with a current daily smoker.

Aboriginal and Torres Strait Islander children were also three times as likely to live in households with a current daily smoker who smoked at home indoors (22% of children) compared with non-Indigenous children (7% of children).

Between 2004–05 and 2008 the proportion of Aboriginal and Torres Strait Islander children aged 0–14 years living in households with a regular smoker fell from 68% to 65%, however this change is not statistically significant. For non-Indigenous children there was a significant reduction from 37% in 2004–05 to 32% 2007–08.

In 2008, the proportions of Aboriginal and Torres Strait Islander children aged 0–14 years that were exposed to environmental smoke ranged from 59% in inner regional areas to 77% in very remote areas.

The proportion of Aboriginal and Torres Strait Islander children aged 0–14 years living in households with a regular smoker ranged from 53% in the ACT to 77% in the NT. The proportion of Aboriginal and Torres Strait Islander children aged 0–14 years who lived in households with a regular smoker who smoked at home indoors ranged from 13% in the ACT to 29% in Tasmania.

In a short-term study of 73 Aboriginal children admitted to Alice Springs Hospital, almost two-thirds (64%) were exposed to tobacco smoke at home, and those who were exposed had almost three times the risk for a regular cough (Hudson et al. 2009).

Implications:

The policy implications for addressing the dangers of environmental tobacco smoke are similar to those for tobacco smoking in general (see measure 2.15) and tobacco smoking during pregnancy (see measure 2.21). Exposure to environmental tobacco smoke should be monitored in conjunction with those measures. In May 2008, the Australian Government announced the new *Indigenous Tobacco Control Initiative* which aims to support reductions in tobacco smoking by investing \$14.5 million over four years from 2008–09 until 2011–12. This Initiative complements the comprehensive national approach for reducing Aboriginal and Torres Strait Islander smoking rates through the Tackling Smoking measure under the *National Partnership Agreement on Closing the Gap in Indigenous Health Outcomes*. A major part of the Tackling Smoking measure is establishing a Tackling Smoking Workforce across 57 regions nationally. The Tackling Smoking Workforce is being rolled out in a team based approach, with the Regional Tackling Smoking and Healthy Lifestyle Teams having national coverage. The role of the teams includes working with communities to design and deliver locally tailored health promotion and social marketing campaigns and activities addressing smoking. This includes promoting an understanding of the importance of smoke-free environments and compulsory smoke-free policies for all host organisations.

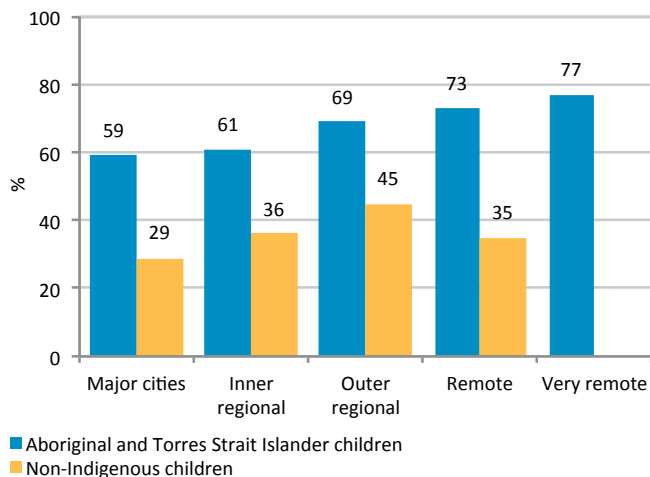
A successful outcome would reduce the high proportion of children who are exposed to environmental tobacco smoke in their households. More information about current smoking initiatives is provided under measures 2.15 and 2.21.

Table 27
Children aged 0–14 years living in households with current daily smoker(s), by Indigenous status of children, 2008 and 2007–08

	Aboriginal and Torres Strait Islander children aged 0-14	Non-Indigenous children aged 0-14
	%	%
Current daily smoker in household:		
No	34.9*	67.8*
Yes	65.1*	32.2*
Whether any regular smokers smoke at home indoors:		
No	78.4*	93.4*
Yes	21.6*	6.6*

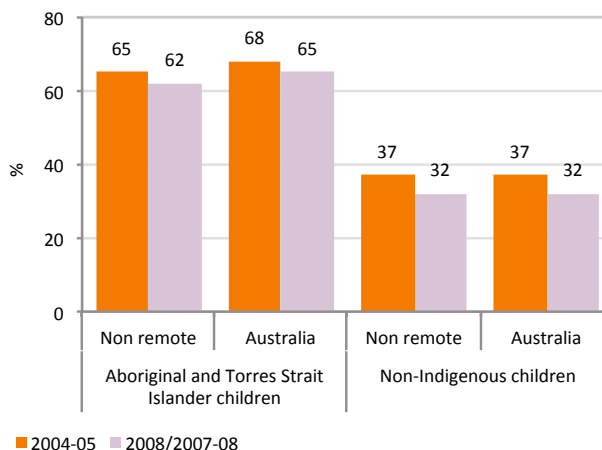
* Difference between Indigenous/non-Indigenous groups is statistically significant at the $p < .05$ level.
Source: ABS and AIHW analysis of 2008 NATSISS and 2007–08 NHS

Figure 88
Children aged 0–14 years living with current daily smoker(s), by Indigenous status and remoteness, 2008 and 2007–08



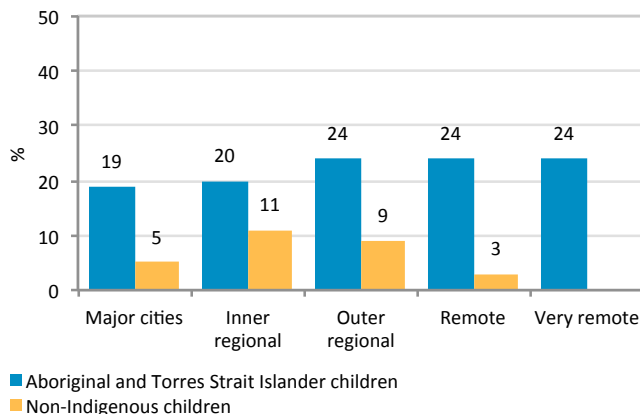
Source: ABS and AIHW analysis of 2008 NATSISS and 2007–08 NHS

Figure 87
Children aged 0–14 years living in households with current daily smoker(s), by remoteness and Indigenous status, 2004–05, 2008 and 2007–08



Source: ABS and AIHW analysis of 2004–05 NATSIHS, 2008 NATSISS, 2004–05 NHS, and 2007–08 NHS

Figure 89
Children aged 0–14 years living with a current daily smoker who smokes at home indoors, by Indigenous status and remoteness, 2008 and 2007–08



Source: ABS and AIHW analysis of 2008 NATSISS and 2007–08 NHS

2.04 Literacy and numeracy

Why is it important?:

Education is a key factor for improving the health and wellbeing of Aboriginal and Torres Strait Islander peoples. Access to education is an important determinant of health and links, along with other social factors such as poverty, unemployment, quality of housing and access to primary health services. Furthermore, there is a two-way association between health and education. People who have low educational attainment tend to have poorer health, fewer opportunities, low incomes and lower employment prospects (Johnston et al. 2009). In turn, poorer health is associated with lower educational attainment, impacting unfavourably upon income and employment (Conti et al. 2010).

Early educational experiences are important as they influence future academic performance (Frigo et al. 2003; SCRGSP 2007). Students who do not attain the national literacy and numeracy benchmark standards, for example, will have difficulty progressing through school and are less likely to enter higher education. Furthermore, school leavers who lack fundamental skills in literacy and numeracy face lower employment prospects. The poor educational outcomes of Aboriginal and Torres Strait Islander students apparent in upper primary/lower secondary school are symptomatic of inadequate educational progress in the early years of schooling (Frigo et al. 2003). Aboriginal and Torres Strait Islander primary school students have considerably lower literacy and numeracy attainment than non-Indigenous students. Improvements in this area are crucial to the achievement of headline educational outcomes such as Years 10 and 12 retention and attainment (see measure 2.05).

In December 2007, COAG agreed to a target of halving the gap between the proportion of Indigenous and non-Indigenous students achieving reading, writing and numeracy benchmarks within a decade.

Findings:

In 2011, 76% of Indigenous students met the Year 3 national minimum standard in

reading, 66% in Year 5, 77% in Year 7 and 72% in Year 9. Around 80% of Indigenous students met the national minimum standard for writing in Year 3, 69% in Year 5, 67% in Year 7 and 55% in Year 9. Around 84% of Indigenous students met the national minimum standard for numeracy in Year 3, 75% in Year 5, 77% in Year 7 and 72% in Year 9. Around 72% of Indigenous students met the national minimum standard for spelling in Year 3, 69% in Year 5, 74% in Year 7 and 72% in Year 9. Around 71% of Indigenous students in Year 3 met the national minimum standard for grammar and punctuation, 64% in Year 5, 67% in Year 7 and 61% in Year 9. The proportion of Aboriginal and Torres Strait Islander students achieving the national minimum standards for each of these areas in all school years tested remain below corresponding proportions for all students.

Data for this report have been based on the annual NAPLAN results for 2008 to 2011. It is important to note that trends in results for Indigenous students will be impacted by changes in the levels of participation in NAPLAN. Participation rates are generally lower for Indigenous students, particularly in jurisdictions with more people living in remote areas. It is also important to note that small increases or decreases may not be statistically significant. Between 2008 and 2011 there were mixed results. For reading, there was a slight reduction in the gap between Indigenous and non-Indigenous students for Years 3, 5, 7 and 9. For numeracy, there were reductions in the gap between Indigenous and non-Indigenous achievement for Years 3, 5 and 9 but an increase in the gap for Year 7 in 2011.

Proportions of Aboriginal and Torres Strait Islander students achieving literacy and numeracy benchmarks remain lower for students living in remote and very remote areas. This relationship was also evident for non-Indigenous students, but was much less marked. Despite these results, some progress has been made, with the gap between Aboriginal and Torres Strait Islander and non-Indigenous Year 3 students at or above the minimum standard for reading decreasing in remote and very remote areas over the period 2008–11. There are large differences between jurisdictions in levels of achievement for Indigenous students, although the variation in the proportions of students from remote and

very remote regions significantly impacts these results.

The 2008 NATSISS found that approximately 8% of Aboriginal and Torres Strait Islander children in Years 3, 5 and 7 reported being bullied at school because they were Aboriginal and/or Torres Strait Islander.

Implications:

To achieve the goals set by COAG, significant improvements will need to be achieved. All governments have made commitments to a broad range of initiatives to address existing educational disadvantages.

An important step in improving the achievement of Aboriginal and Torres Strait Islander students will be to improve access to early childhood education opportunities. Fewer Indigenous Australian children attend a pre-school, and so are less school-ready than children who have attended a pre-school. In 2008, COAG has agreed that within five years all Aboriginal and Torres Strait Islander 4 year olds in remote Indigenous communities will have access to a high quality early childhood education program. Harnessing strong networks both at home and through involvement with the education system is fundamental to supporting educational participation and attainment (NATSIHC 2008). Attendance rates are associated with academic performance (Australian Council for Educational Research 2004; Fred Hollows Foundation 2006; Zubrick et al. 2006). It is evident from the data that geographic remoteness is associated with much higher levels of disadvantage in achievement of educational benchmarks.

Educational disadvantages have many associations with people's health and health risk factors. Indigenous students at high risk of clinically significant emotional and behavioural difficulties are less likely to achieve academic milestones (Zubrick et al. 2006). Child hearing loss (see measure 1.12) will also impact on academic achievement. A longitudinal multi-school study conducted by Australian Council for Education Research (ACER 2004) found that a school's ability to adapt to the needs of Indigenous students accounted for much of the variation in academic outcomes by the students.

COAG has agreed to several reforms in education including the *National Early*

Childhood Development Strategy which seeks to achieve positive early childhood development outcomes and to reduce inequalities. The *National Partnership Agreement on Indigenous Early Childhood Development* commits \$564 million over six years to improve outcomes for Indigenous children in the early years. Under the COAG *National Education Agreement* several partnership agreements have been developed. The *National Partnership Agreement on Literacy and Numeracy* has provided \$540 million for improving literacy and numeracy outcomes for all Australian students, particularly those who are at risk of falling behind. The *Aboriginal and Torres Strait Islander Education Action Plan 2010–2014* involves government and non-government education providers in actions to achieve the education-related close the gap targets. *The Closing the Gap – Expanding Intensive Literacy and Numeracy for Indigenous Students and Personalised Learning Plans* is providing \$56.4 million

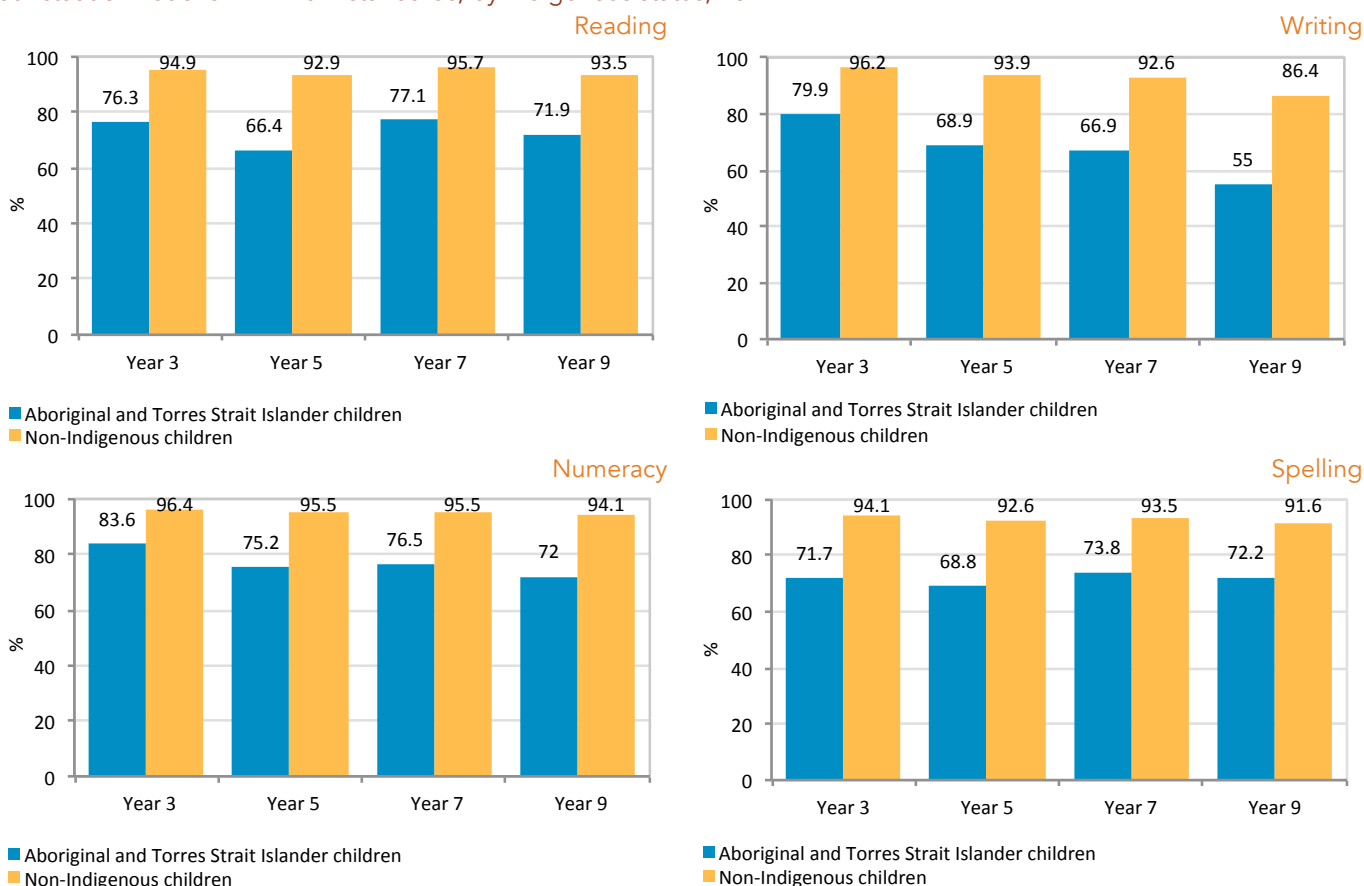
over four years to expand programs that have been successful for Aboriginal and Torres Strait Islander students. Eleven projects have been completed and 23 projects are being implemented from 2011 to 2012 to improve the literacy and numeracy outcomes of Aboriginal and Torres Strait Islander students. On completion, the projects will be encouraged to contribute their findings to *Teach, Learn, Share* – a national evidence base of literacy and numeracy teaching strategies.

Indigenous Parenting Support Services are funded through the Australian Government’s *Family Support Program* to help Indigenous parents achieve and maintain strong family relationships and to provide support through transitions to child care, preschool and primary school. From 2012–13, the Australian Government will also provide \$55.7 million over four years to ensure Australia’s most vulnerable children are better prepared to start school by expanding the Home Interaction Program

for Parents and Youngsters to 100 communities across Australia, including 50 new communities, with an emphasis on Indigenous Australians. This builds on the Government’s original commitment of \$32.5 million over six years (2008–13) to roll out the program to 50 communities nationally.

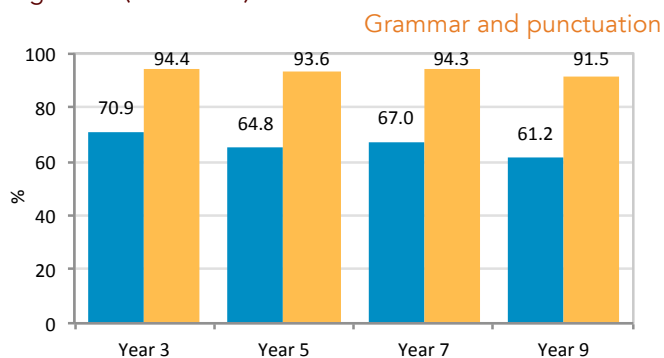
The Australian Government is providing significant funding to states and territories through the *Smarter Schools National Partnerships for Literacy and Numeracy* and *Low Socio-Economic Status School Communities* to support reform activities in over 2600 schools. Approximately 60 per cent of Australia’s Aboriginal and Torres Strait Islander students are enrolled in schools that will benefit from these programs and/or being identified as a Focus School under the *Aboriginal and Torres Strait Islander Education Action Plan*.

Figure 90
Proportion of Year 3, 5, 7 and 9 students at or above the reading, writing, numeracy, spelling, and grammar and punctuation national minimum standards, by Indigenous status, 2011



Source: MCEECDYA 2011

Figure 90 (continued)

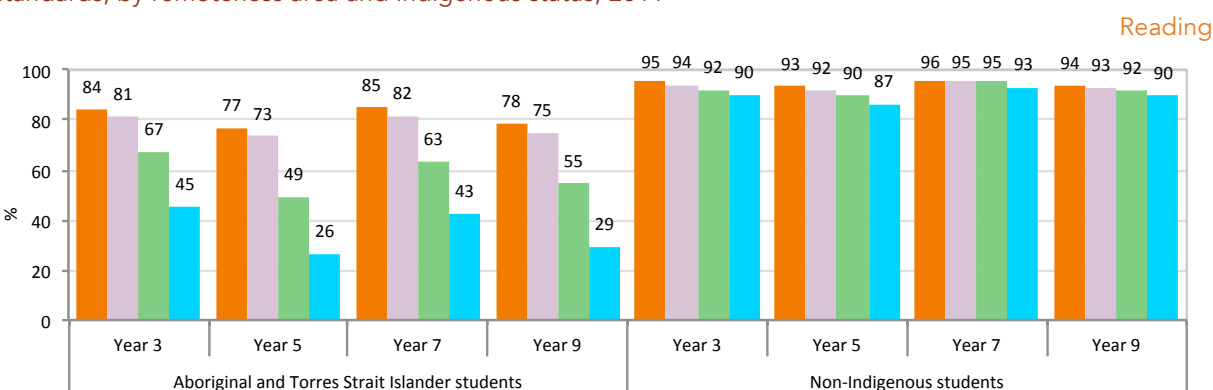


■ Aboriginal and Torres Strait Islander children
 ■ Non-Indigenous children

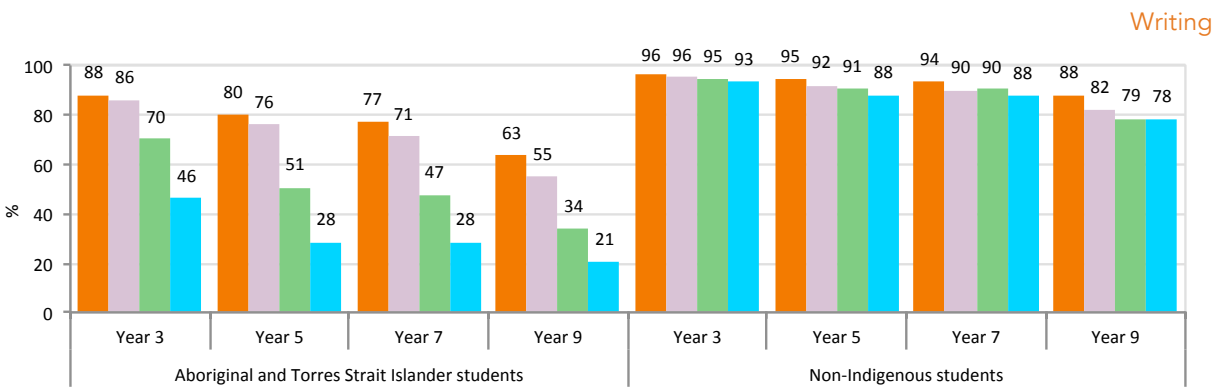
Source: MCEECDYA 2011

Figure 91

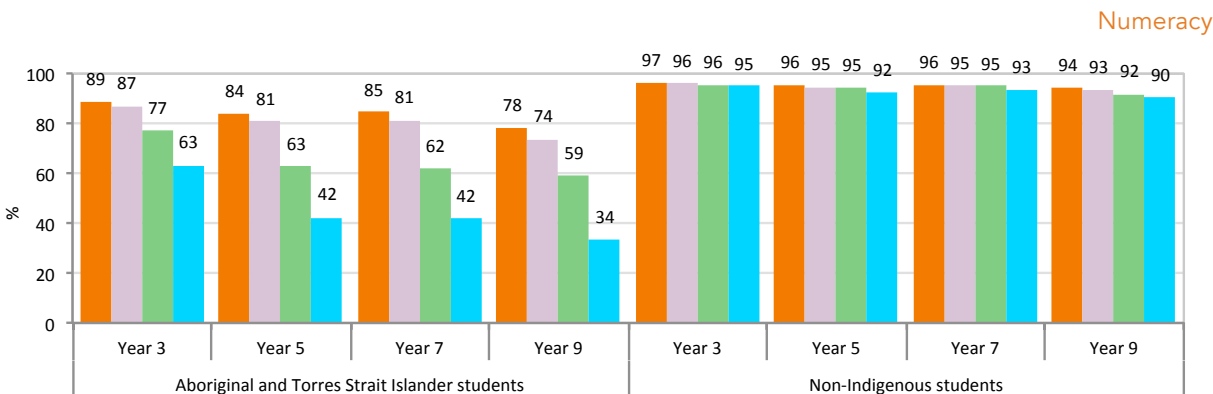
Proportion of Year 3, 5, 7 and 9 students at or above the reading, writing and numeracy minimum standards, by remoteness area and Indigenous status, 2011



■ Metropolitan ■ Provincial ■ Remote ■ Very Remote



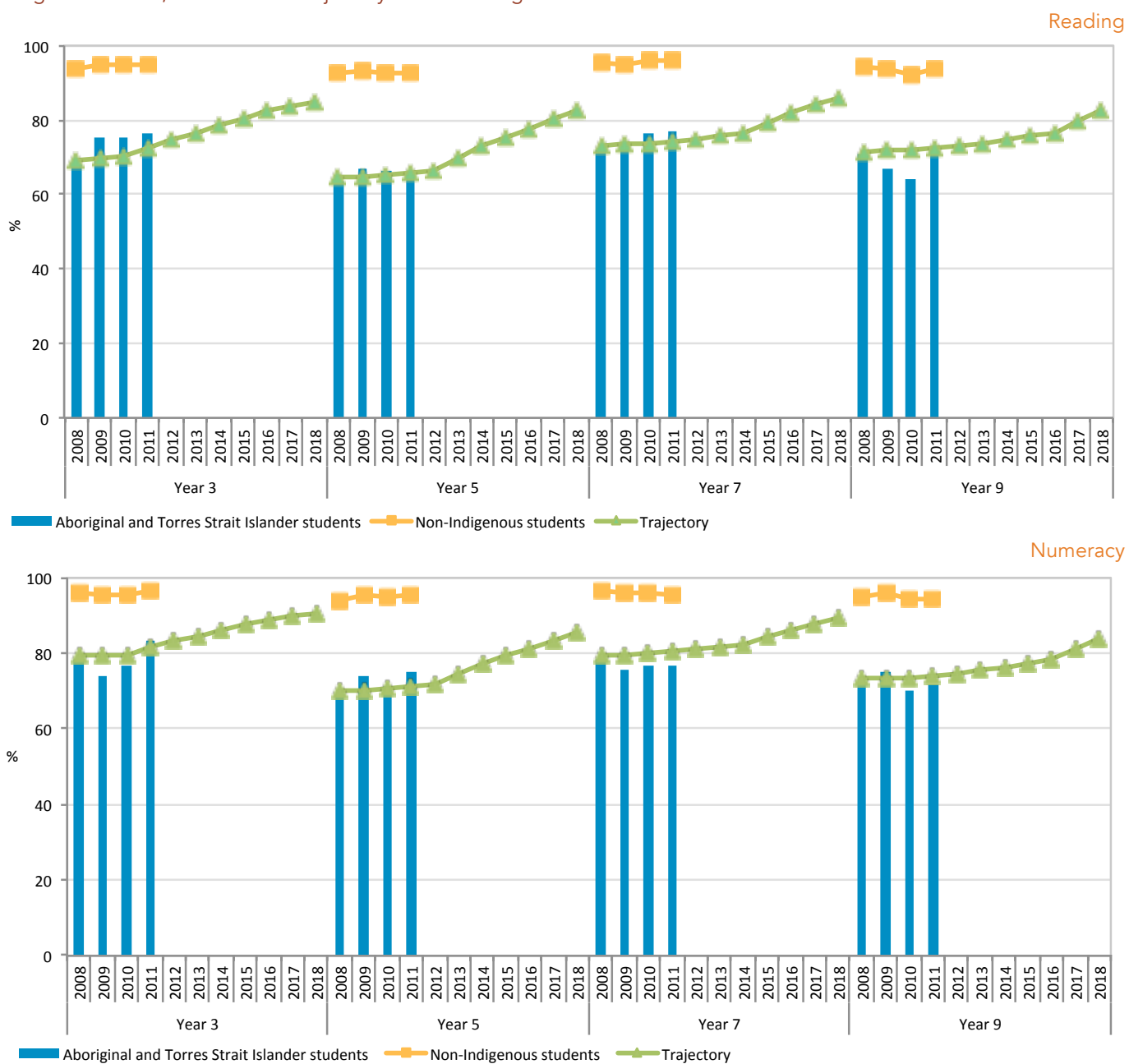
■ Metropolitan ■ Provincial ■ Remote ■ Very Remote



■ Metropolitan ■ Provincial ■ Remote ■ Very Remote

Source: MCEECDYA 2011

Figure 92
 Proportion of Year 3, 5, 7 and 9 students at or above the national minimum standards for reading and numeracy, by Indigenous status, 2008–11 and trajectory to COAG target



Source: MCEECDYA 2011

2.05 Education outcomes for young people

Why is it important?:

Education, including formal schooling and education in culture, is related to health and wellbeing (Educational Determinants of Aboriginal Health Group 2004; Bell et al. 2007). Higher levels of education have also been associated with healthy lifestyle choices and improved health literacy. Research has shown that health outcomes are influenced by a person's ability to use a wide range of health-related materials (ABS 2008b). Research in the US (Wong et al. 2002) found that mortality from all-causes was higher for persons with fewer years of education, particularly for smoking-related diseases. Persons without a high school education lost 12.8 potential life-years per person. International literature has also documented improvements in child mortality associated with increased levels of maternal education and attributed this to a variety of factors, including improved understanding of and greater willingness to access health services (Gakidou et al. 2010).

The 'retention rate' measures the extent to which students stay on at school until Year 10, and until Year 12. Another measure is the 'attainment rate', the extent to which students are awarded a certificate at the end of Year 10 or Year 12. Historically, Aboriginal and Torres Strait Islander students have had lower retention and attainment rates compared with non-Indigenous students. COAG has committed to improving educational and employment outcomes (COAG 2007). The *National Partnership Agreement on Youth Attainment and Transitions* between the Australian Government and states and territories commits all parties to work towards achieving a Year 12 or equivalent attainment rate of 90 per cent by 2015, and to halve the gap in Aboriginal and Torres Strait Islander Year 12 or equivalent attainment by 2020. Successful completion of Year 12 is critical to improving economic and social status. Higher levels of education improve employment prospects, future income, standard of housing and access to health care (Steering Committee for the Review of Government Service Provision 2007; ABS & AIHW 2008).

Findings:

Data for 2011 show that the apparent retention rate of full-time Aboriginal and Torres Strait Islander students from Years 7/8 to Year 10 was 99% compared with 101% for other students. In the same year, the apparent retention rate of full-time Aboriginal and Torres Strait Islander students from Years 7/8 to Year 12 was 49% compared with 81% for other students. The apparent retention rate of full-time Aboriginal and Torres Strait Islander students from Year 11 to Year 12 was 68% compared with 87% for other students. The apparent retention rate for Aboriginal and Torres Strait Islander females was similar to the rate for males from Year 7/8 to Year 10 (99% compared with 98%) but the rate was higher for females than males for retention from Year 7/8 to Year 12 (51% compared with 46%).

There have been significant apparent increases in Indigenous student retention rates from Year 7/8 to Year 12 (48%), Year 7/8 to Year 10 (17%) and Year 10 to Year 12 (25%) between 1998 and 2011.

In 2011, Tasmania, the ACT and NSW had the highest retention rates of Aboriginal and Torres Strait Islander students from Year 7/8 to Year 10 (115%, 107% and 106% respectively), while the NT had the lowest (83%). Retention rates of Indigenous students from Year 7/8 to Year 12 were highest in the ACT (76%) and SA (68%) and were lowest in the NT (33%) and WA (40%). Rates for Tasmania and the ACT should be interpreted with caution, due to small numbers in these jurisdictions. Some rates exceed 100%, reflecting the movement of students interstate and from non-government to government schools in Years 11 and 12.

National attainment rates indicate that in 2006 less than half (47%) of Indigenous 20–24 year olds had attained at least a Year 12 or equivalent qualification compared with 84% of non-Indigenous Australians of the same age. Indigenous attainment rates were highest in the ACT (66%), followed by Qld, Victoria and Tasmania (around 57%) and lowest in the NT (18%) (COAG Reform Council 2010). In this same period, attainment rates for Indigenous young people steadily decreased with remoteness (from 59% in major cities to 50% in regional areas, 37% in remote areas and 23% in very remote areas). In comparison, the non-Indigenous attainment rate was not affected by remoteness to the same

extent, with a rate of 86% in major cities and around 75% in all other areas. The gap widens from 27 percentage points in major cities to 38 in remote areas and 54 in very remote areas (COAG Reform Council 2010).

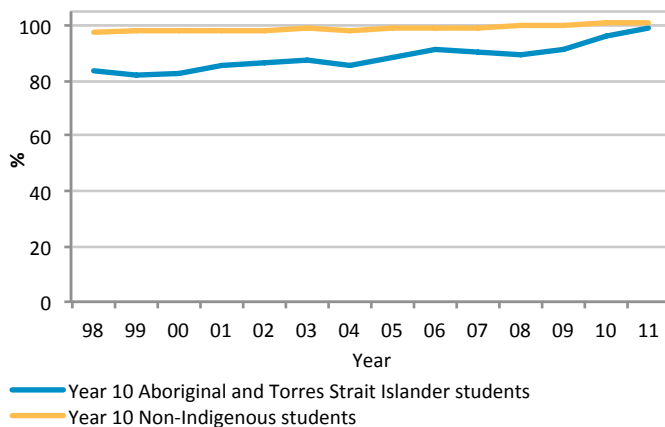
In the 2008 NATSISS, Indigenous parents identified a range of assistance that would support children to complete Year 12 such as support from family, friends and school (83%); career guidance (36%); subsidies or grants to help with affordability (25%); and schools being suitable for culture and/or beliefs (17%).

Informal education is also important for Aboriginal and Torres Strait Islander students and strengths in non-school based education, such as strong direction from Elders, should be considered in the context of retention and attainment rates. For example in 2008 most (94%) children aged 0–14 had been involved in informal learning activities in last week and nearly half (42%) of children aged 3–14 years had spent time with an Indigenous leader or elder in last week.

Implications:

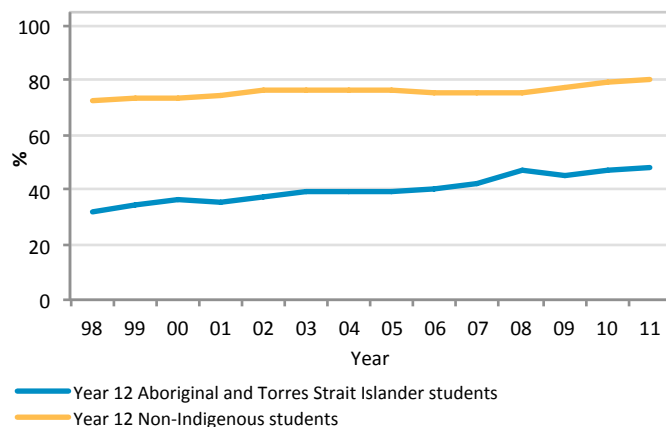
Multi-faceted strategies addressing access to education, family and community engagement, home learning environments, mentors, culturally inclusive support strategies and pathways to employment are needed. COAG has committed to a range of reforms in education designed to improve outcomes for Indigenous students (see measure 2.04). The *Aboriginal and Torres Strait Islander Education Action Plan 2010–2014* involves the Australian states and territories, and non-government education providers in activities to close education-related gaps. This measure should be examined in conjunction with educational participation in other settings, for instance Year 12 equivalent qualifications in VET education (see measure 2.0).

Figure 93
Apparent Year 10 retention rates, by Indigenous status, 1998–2011



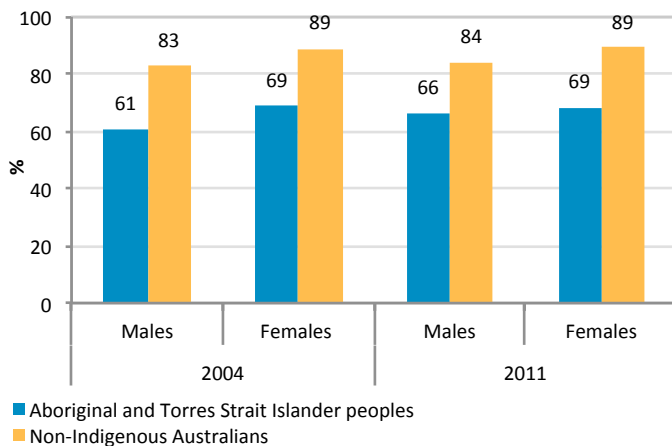
Source: AIHW analysis of ABS National Schools Statistics Collection

Figure 94
Apparent Year 12 retention rates, by Indigenous status, 1998–2011



Source: AIHW analysis of ABS National Schools Statistics Collection

Figure 95
Apparent Year 11 to Year 12 retention rates, by Indigenous status and sex, 2004 to 2011



Source: AIHW analysis of ABS National Schools Statistics Collection

Table 28
Apparent retention rates, by Indigenous status, jurisdiction and sex, 2011

	Aboriginal and Torres Strait Islander peoples								Non-Indig.	
	NSW	Vic.	Qld	WA	SA	Tas.	ACT	NT	Aust.	Aust.
Year 7/8 to 10 - Apparent retention										
Males	105.8	91.3	98.7	93.9	100.3	114.5	107.8	72.9	98.4	100.7
Females	106.3	98.6	96.3	90.9	103.8	116.2	105.3	88.0	99.0	101.8
Total	106.1	95.0	97.5	92.4	102.0	115.2	106.7	83.3	98.7	101.3
Year 7/8 to 12 - Apparent retention										
Males	36.7	44.8	59.5	38.8	69.0	37.9	70.0	34.5	46.1	75.9
Females	49.0	49.9	61.5	42.0	67.8	51.3	83.3	31.1	51.3	85.8
Total	42.9	46.9	60.5	40.3	68.4	44.7	76.3	32.9	48.7	80.7
Year 11 to 12 - Apparent retention										
Males	65.7	68.7	75.6	51.5	70.4	82.5	80.0	53.0	66.4	84.2
Females	71.8	70.5	73.7	53.9	71.7	88.6	75.0	50.6	68.5	89.1
Total	69.1	69.6	74.6	51.4	71.0	86.0	77.3	51.9	67.5	86.7

Source: AIHW analysis of ABS National Schools Statistics Collection

2.06 Educational participation and attainment of adults

Why is it important?:

Education is a key factor in improving health and wellbeing. Longitudinal studies show that people who go on to higher education (universities and other tertiary institutions) and graduate with a degree or diploma are more likely to obtain full-time work and earn higher incomes compared with those who do not. Likewise people who complete a vocational education and training (VET) course are more likely to be employed after the completion of their course than they were before. Those undertaking VET education who are already employed are more likely to receive a promotion and/or an increase in income after completion of their course (SCRGSP 2007).

Research has shown that health outcomes are influenced by a person's ability to use a wide range of health-related materials and resources. The mean health literacy score for Aboriginal and Torres Strait Islander peoples in 2006 was lower than for non-Indigenous Australians. Lower health literacy is likely to be a barrier to health promotion activities based around health education and is also likely to be a barrier in accessing early treatment (Centre for Medicare Education 2000; National Centre for Education and Training Statistics & ABS 2008).

Findings:

In 2008, 19% of Aboriginal and Torres Strait Islander peoples aged 15 years and over were currently studying at an educational institution compared with 16% of non-Indigenous Australians in the same age range.

Year 12 was the highest level of school completed by 23% of Aboriginal and Torres Strait Islander adults in 2008, compared with 51% of non-Indigenous adults. The proportion of Aboriginal and Torres Strait Islander adults who had completed Year 12 increased from 19% in 2002 to 23% in 2008. Younger age groups were more likely to have completed Year 12. Among those aged 18–24 years, the proportion who had completed Year 12 was 32%. People in

remote areas were less likely than those in non-remote areas to have completed Year 12 (16% compared with 25%).

In 2008, approximately 40% of Aboriginal and Torres Strait Islander peoples aged 25–64 years reported they had a non-school qualification compared with 61% of non-Indigenous Australians within this age group. A slightly higher proportion of Indigenous Australians aged 15 years and over were studying at TAFE/VET, particularly in the 45 and over age group, compared with non-Indigenous Australians. A similar proportion of Indigenous and non-Indigenous Australians aged 25–64 years had completed a certificate qualification. Fewer Indigenous Australians were currently studying at university/other higher education institutions in 2008 compared with non-Indigenous Australians (3% and 6% respectively), particularly in the younger age groups. Much lower proportions of Aboriginal and Torres Strait Islander peoples had a bachelor degree or above as their highest level of non-school qualification (7%) compared with non-Indigenous Australians (25%).

VET courses are providing large numbers of Aboriginal and Torres Strait Islander peoples with non-school education training opportunities. During the year 2010, there were approximately 13,904 course completions in the VET sector by Indigenous Australians aged 15 years and over. This constitutes 4% of the Aboriginal and Torres Strait Islander population aged 15 years and over compared with 2% for other Australians.

Between 1996 and 2010, there was a significant increase in the proportion of Aboriginal and Torres Strait Islander students and other students who had completed a course in the VET sector and the magnitude of the increase among Indigenous students was considerably higher. In 2008, the VET load pass rate for Indigenous students was 72% compared with 81% for other Australian students.

During 2010, 0.4% of Aboriginal and Torres Strait Islander peoples completed a course in the higher education sector compared with 1.3% of other Australians. In the 22–24 year age group, 0.9% of Indigenous Australians completed a course in the higher education sector compared with 9% of other Australians. The gap narrows in the older age groups indicating that Indigenous students

completing higher education courses have an older age profile than other students.

Implications:

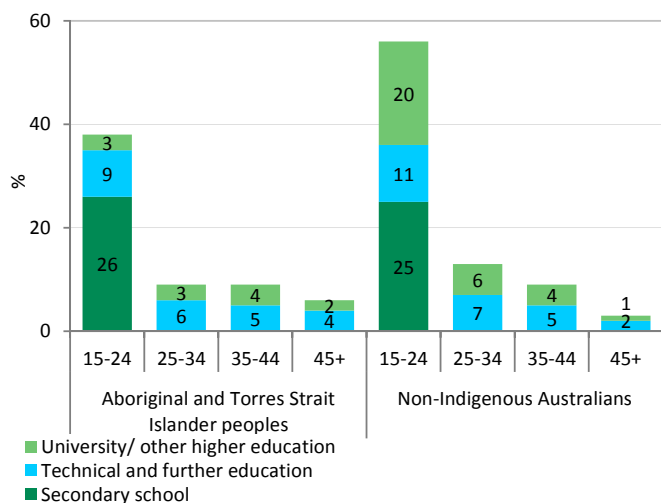
Despite improvements in recent years there are still large gaps between Indigenous Australians and other Australians in educational participation and attainment. The greatest improvements have been in the VET sector where Indigenous participation exceeds non-Indigenous participation. However there are continuing large gaps in the university sector and in course completion rates for both VET and university.

Education is a powerful tool in achieving better health, education and economic outcomes (Hunter et al. 2003; IHEAC 2006). The *National Aboriginal and Torres Strait Islander Education Policy* includes a number of goals relevant to this performance measure including equality of access, participation, involvement and outcomes for Aboriginal and Torres Strait Islander students.

The Australian Government is the primary funding source and developer of policy relating to the higher education sector. A range of measures are in place to support Indigenous students in higher education including: the *Indigenous Support Program*, *Indigenous Higher Education Centres* and *Tutorial Assistance*. Funding to support Indigenous students in the VET sector is also available (e.g., Supplementary Recurrent Assistance, Infrastructure and Tutorial Assistance).

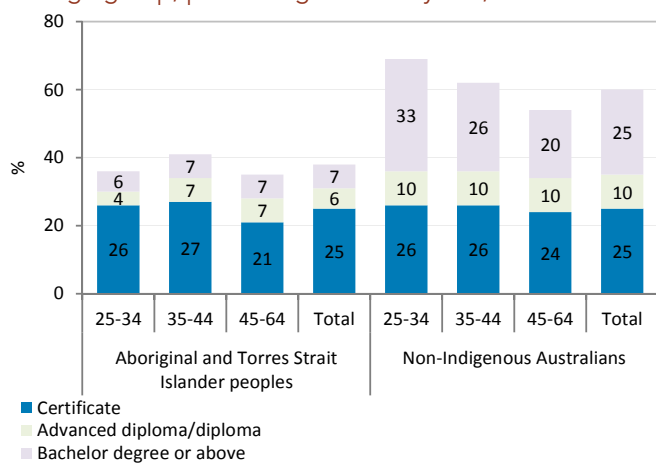
The universities with the highest success with Aboriginal and Torres Strait Islander students have formal policies for encouraging Indigenous students, allocated places and specific pathways as well as support strategies (Drysdale et al. 2006). There remains a strong need to focus efforts on supporting Indigenous students to complete higher education qualifications to bridge the gap in participation and attainment.

Figure 96
Educational institution currently attended, by Indigenous status and age group, persons aged 15 years and over, 2008



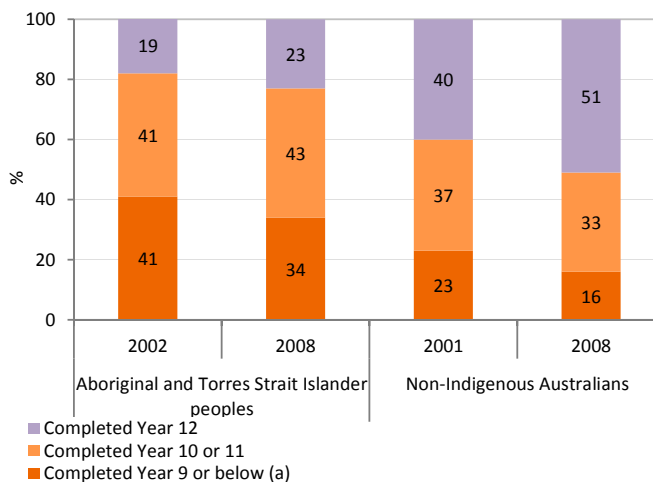
Source: AIHW and ABS analysis of the 2008 NATSISS. Non-Indigenous estimates are from the NHS 2007-08

Figure 98
Highest non-school qualifications, by Indigenous status and age group, persons aged 25-64 years, 2008



Source: AIHW and ABS analysis of the 2008 NATSISS. Non-Indigenous estimates are from the NHS 2007-08

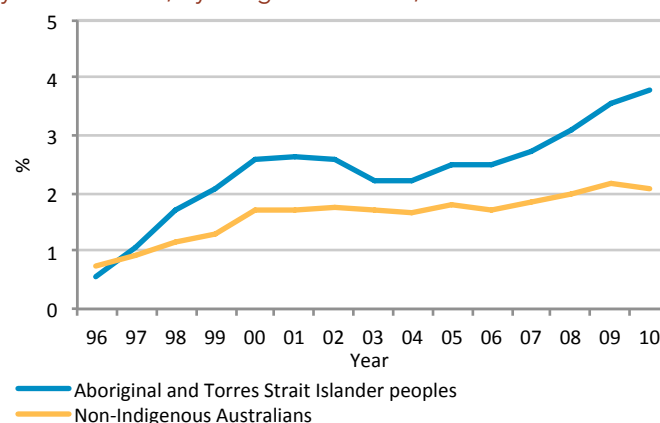
Figure 97
Highest level of school completed, by Indigenous status, persons aged 18 years and over, 2001, 2002 and 2008



a) Includes persons who never attended school.

Source: AIHW and ABS analysis of the 2002 and 2008 NATSISS. Non-Indigenous estimates are from the NHS 2001 and 2007-08

Figure 99
Total completions in the VET sector for persons aged 15 years and over, by Indigenous status, 1996 to 2010



Source: AIHW analysis of National Centre for Vocational Education Research, National VET Provider Collection 2010

2.07 Employment

Why is it important?:

The relationships between employment and health are complex and interconnected. Participation in employment has important consequences for social and emotional wellbeing and living standards for individuals, families and communities (Hunter 2000; Waddell et al. 2007). Mathers and Schofield (1998) concluded that there was 'consistent evidence from different types of studies that unemployment is associated with adverse health outcomes and unemployment [can have] a direct effect on health over and above the effects of socioeconomic status, poverty, risk factors, or prior ill health'. Long periods out of the workforce and frequent changes in employment status can have negative effects on an individual's health (both physical and psychological) (McLure 2000). A number of studies report good health and wellbeing outcomes for those employed in caring for country programs (Garnett et al. 2007; Urbis Pty Ltd 2012). However, not all employment is equally 'healthy,' e.g., lower skilled jobs, lack of job security (Lowry et al. 2007).

There are three key measures of employment participation: the labour force participation rate, the unemployment rate and the employment to population ratio (or employment rate). The labour force comprises all people contributing to, or willing to contribute to, the supply of labour. This includes the employed (people who have worked for at least 1 hour in the reference week and the unemployed (people who are without work, but are actively looking for work and available to start work within four weeks). The remainder of the population is not in the labour force. The labour force participation rate is the number of people in the labour force as a proportion of total people. The unemployment rate is the number of unemployed people as a proportion of the labour force. The employment rate is employed people as a proportion of the total population.

Findings:

Labour force participation by Aboriginal and Torres Strait Islander peoples

remains lower than for other Australians. In 2008, the labour force participation rate for Indigenous Australians aged 15–64 years was 65%, compared with 79% for non-Indigenous people of working age. In the 2008 NATSISS, the Indigenous employment rate was 54% compared with 76% for the non-Indigenous working age population. In this survey Indigenous participants in the CDEP scheme were included as employed and accounted for 6% of the working age population. Of Indigenous people who were in the labour force, 17% were unemployed, more than four times the unemployment rate for non-Indigenous Australians (4%).

In 2008, labour force participation rates for Indigenous Australians ranged from 72% for those aged 35–44 years to 40% for those aged 55–64 years. These variations mirror the age-related variations in labour force participation by non-Indigenous persons. However, proportions of Indigenous Australians participating in the labour force are lower than the corresponding proportions for non-Indigenous Australians across all age groups. Participation rates are lower for Indigenous females (55%) than males (75%).

Between 2001 and 2008, Indigenous employment increased from 44% to 54% of the working age population. The overall workforce participation rate also increased from 52% to 65% of the working age population. However, at the same time the proportion of people unemployed increased from 7% to 11%.

In 2008, Indigenous employment was high in major cities compared with regional and remote settings (59% compared to 51% and 52% respectively). In remote areas, participation in CDEP programs was high (19%) compared with non-remote areas (1%). Most CDEP participants were employed on a part-time basis.

Implications:

Despite improving trends in Indigenous employment there is still a significant gap between Indigenous and non-Indigenous employment rates. To achieve the COAG target to halve the gap in employment outcomes from 21.2 percentage points in 2008, to 10.6 percentage points by 2018, approximately 100,000 additional Indigenous Australians will need to be in employment over and above the number that were employed in 2008.

To meet this target it is essential that more Indigenous Australians who are currently not in the labour force gain and retain employment, and young people make a successful transition from school to work. For example, based on measurements in 2008–09 there were around 110,000 Indigenous people aged 15–64 years who were not in the labour force, and 139,000 young Indigenous Australians who will be of workforce-age by 2018–19.

Census 2011 data due for release in late 2012 will provide the first opportunity to measure the gap in employment outcomes since the baseline year. Census data are not directly comparable with data from the 2008 NATSISS, but will provide an indication of progress towards meeting the employment target.

Transition from education into sustainable employment will be aided by progress towards meeting educational attainment targets set by COAG. As a sector employing a large number of people, the health sector has a role to play in assisting Indigenous Australians in this area.

The *National Partnership Agreement on Indigenous Economic Participation* aims to improve participation by Indigenous Australians in the economy. This Agreement includes a review of public sector Indigenous employment and career development strategies to achieve at least 2.6% employment across classifications by 2015 (equal to the Indigenous working age population). The Commonwealth has now raised this to 2.7% across the Commonwealth public sector.

The *Indigenous Economic Development Strategy (2011–2018)* aims to increase the personal and economic wellbeing of Indigenous Australians through a broad range of actions including in education, skills development and employment. Through the *Australian Employment Covenant*, Australian employers in partnership with the Australian Government and Indigenous people, aim to secure 50,000 sustainable jobs for Indigenous Australians.

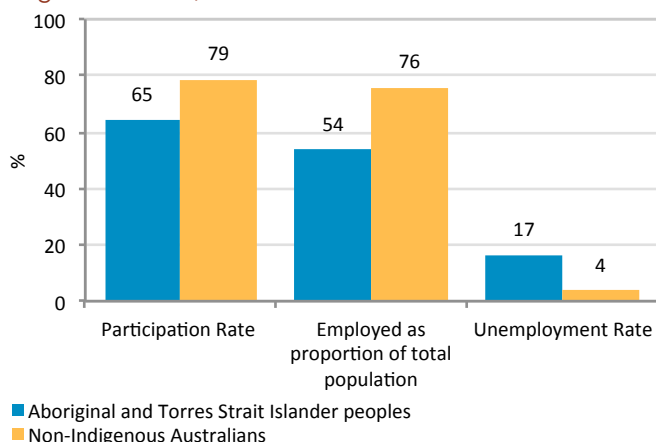
The Government has announced a \$1.5 billion new Remote Jobs and Communities Program that will help Australians living in remote communities get the skills they need to be work-ready and to provide funding for projects that strengthen these communities and create real jobs. The four main programs

currently delivering employment and participation services and community development in remote Australia – Job

Services Australia, Disability Employment Services, CDEP and the Indigenous Employment Program – will be rolled

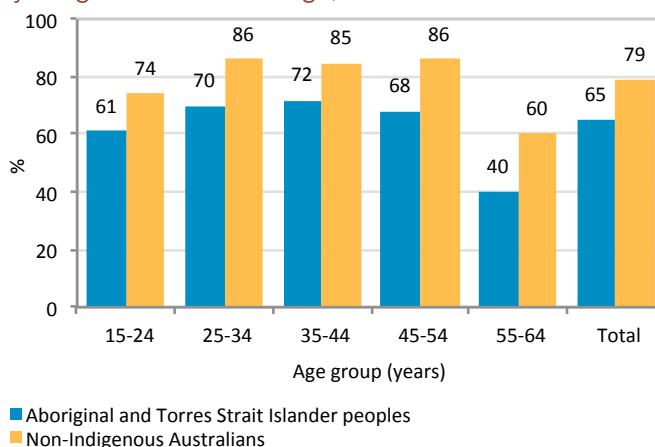
into the new integrated service. This program will commence on 1 July 2013.

Figure 100
Labour force status of persons aged 15–64 years, by Indigenous status, 2008 and 2007–08



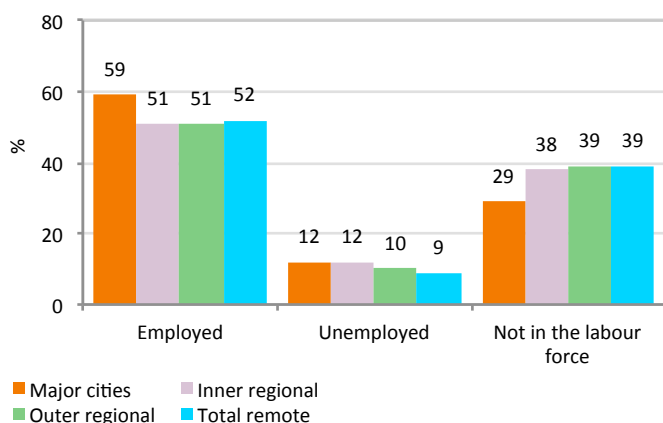
Source: ABS and AIHW analysis of 2008 NATSISS. Non-Indigenous data are from the 2008 and 2007–08 NHS

Figure 101
Labour force participation of persons aged 15–64 years: by Indigenous status and age, 2008 and 2007–08



Source: ABS and AIHW analysis of 2008 NATSISS. Non-Indigenous data are from the 2008 and 2007–08 NHS

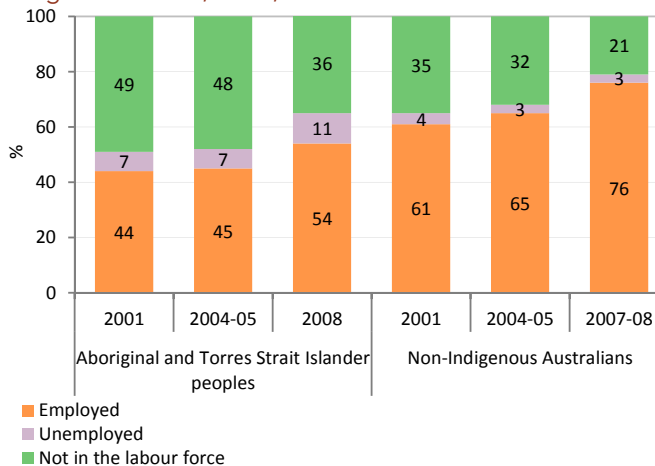
Figure 102
Labour force status of Indigenous persons aged 15–64 years, by remoteness, 2008



Note: Unemployed are shown as proportions of total persons aged 15–64 years

Source: ABS and AIHW analysis of 2008 NATSISS

Figure 103
Labour force status of persons aged 15–64 years, by Indigenous status, 2001, 2004–05 and 2008 and 2007–08



Source: ABS and AIHW analysis of 2001 NHS (Indigenous supplement), 2004–05 NATSIHS, 2004–05 NHS, 2008 NATSISS and 2007–08 NHS

Table 29
Labour force status of Indigenous persons aged 15–64 years, by remoteness, 2008

Labour Force Status	Remote (%)	Non-remote (%)	Australia (%)
In the Labour Force (Participation Rate)	61.5	65.5	64.5
Employed CDEP	19.4	1.2	5.6
Employed non-CDEP	33.0	53.1	48.2
Total Employed	52.4	54.3	53.8
Unemployed (% of Total Population)	9.2	11.2	10.7
Unemployment Rate (% of Labour Force)	14.9	17.2	16.6
Not in the Labour Force	38.5	34.5	35.5
Total	100.0	100.0	100.0

Source: ABS & AIHW analysis of 2008 NATSISS

2.08 Income

Why is it important?:

There is strong evidence, from Australia and other developed countries, that low socioeconomic status is associated with poor health (Turrell et al. 2000). Low income is associated with a wide range of disadvantages including poor health, shorter life expectancy, poor education, substance abuse, reduced social participation, crime and violence. People with lower socioeconomic status bear a significantly higher burden of disease (Begg et al. 2007). The level of income inequality within a society has been identified as a determinant of differential health outcomes (Wolfson et al. 1999). There are several competing explanations as to how income affects socioeconomic status and the reason why low income contributes to poor health (Wagstaff et al. 2000).

Disparity in income is one aspect of socioeconomic status through which Aboriginal and Torres Strait Islander peoples face disadvantage. Income is closely linked to other measures but most particularly employment status (see measure 2.07) and educational attainment (see measures 2.04, 2.05 and 2.06).

In measuring and comparing income, it is important that various factors, such as the number of people living in a household, particularly children and other dependants, are taken into account. The statistical measure adopted here is equivalised gross household income which adjusts reported incomes to take these factors into account.

Findings:

In 2008 an estimated 49% of Aboriginal and Torres Strait Islander adults had incomes in the bottom 20% of equivalised gross weekly household incomes (i.e., adjusted for the numbers of adult and child occupants). The corresponding rate in 2006 was 40%. This compares with 20% of non-Indigenous adults. Only 5% of Indigenous adults lived in households with an equivalised gross weekly income in the top quintile (over \$1,380 per week) compared with 22% of non-Indigenous Australians.

In 2008, the mean equivalised gross weekly household income for Aboriginal and Torres Strait Islander peoples aged

18 years and over was \$580—less than two-thirds of the corresponding figure for non-Indigenous Australians (\$983).

After adjusting for inflation, there was an increase in the mean equivalised gross household income for Aboriginal and Torres Strait Islander households between 1994 and 2002 (\$24; 5% increase) and between 2002 and 2008 (\$111; 24% increase).

These national estimates mask considerable geographic variation. For example, the mean gross weekly equivalised income for Indigenous adults in 2008 ranged from \$990 in the ACT to \$489 in the NT.

The proportion of Aboriginal and Torres Strait Islander adults in the lowest quintile of equivalised household income varied across jurisdictions, from 60% in the NT to 41% in the ACT/Tasmania. In all other jurisdictions, the proportion of Indigenous adults in the lowest quintile of equivalised household income was in the range 44% to 52%.

A much higher proportion of Indigenous adults living in remote areas were in the lowest quintile of equivalised household income compared to non-remote areas (58% compared with 46%).

The 2008 NATSISS found that 47% of Indigenous Australians aged 15 years and over were living in households which reported they could not raise \$2,000 within a week in an emergency. Indigenous Australians in remote areas were more likely to report that they could not raise \$2,000 within a week than Indigenous Australians in major cities and regional areas (64% compared with 40% and 43% respectively). Approximately 28% of Indigenous Australians aged 15 years and over were living in households that had experienced days without money for basic living expenses in the last 12 months.

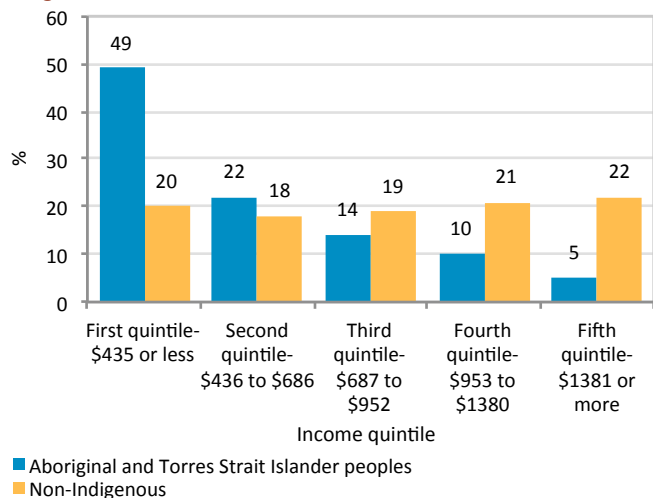
A clear indication of the relationship between low income and poorer health is provided by the 2008 NATSISS, which found that 62% of Indigenous people who assessed their health as fair or poor were in the lowest equivalised household income quintile. Relationships between income and educational attainment and employment are also evident. A higher proportion of non-Indigenous Australians reported better health in each income quintile compared with Indigenous Australians (see measure 1.15).

Implications:

The large disparity between equivalised gross weekly household incomes for Aboriginal and Torres Strait Islander peoples and non-Indigenous Australians has important implications for health. These include the capacity to access goods and services required for a healthy lifestyle, including adequate nutritious food, housing, transport and health care. Other factors that may exacerbate the situation faced by low income households include resource commitments to extended families and visitors (SCRGSP 2007).

Income discrepancies between states/territories and by remoteness are also an indicator of uneven access to education and employment opportunities and the capacity to access services. Factors influencing the average levels of income and its distribution are generally beyond the influence of the health sector. A cross portfolio approach in partnership with Aboriginal and Torres Strait Islander peoples is necessary if incomes are to be improved.

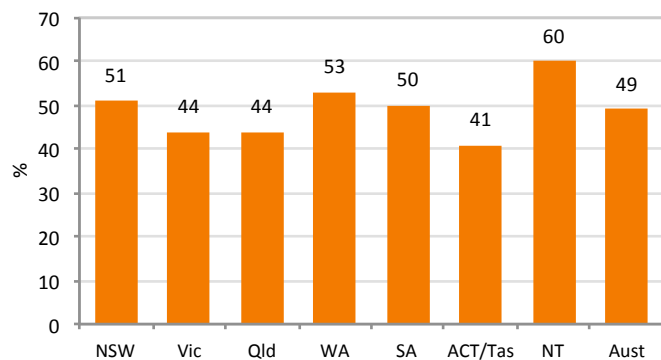
Figure 104
Proportion of persons aged 18 years and over in each equivalised gross weekly household income quintile, by Indigenous status, 2008



Note: Equivalised gross weekly household income ranges for non-Indigenous Australians vary slightly and are: first (0 to \$423); second (\$424 to \$666); third (\$667 to \$925); fourth (\$926 to \$1,341); and fifth (\$1,342 or more).

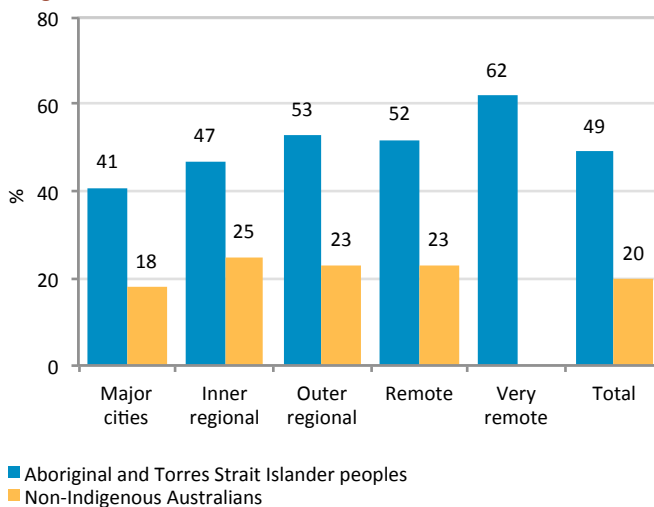
Source: ABS analysis NATSISS 2008 and Survey of Income and Housing 2007-08

Figure 106
Proportion of Aboriginal and Torres Strait Islander peoples aged 18 years and over who were in the lowest quintile of equivalised gross weekly household income quintiles, 2008



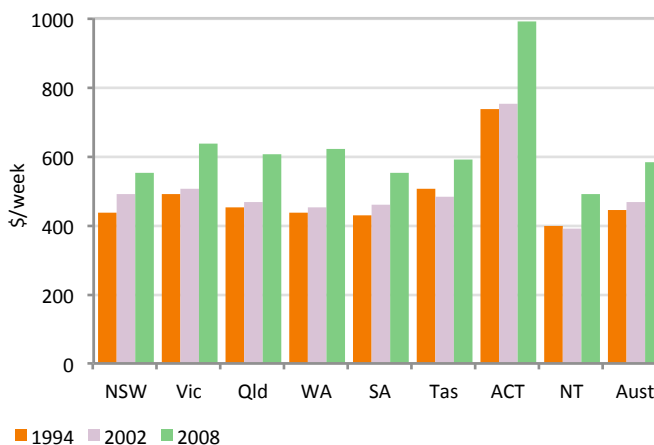
Source: ABS analysis of NATSISS 2008

Figure 105
Persons aged 18 years and over in the lowest quintile of equivalised gross weekly household income, by Indigenous status and remoteness, 2008



Source: ABS analysis NATSISS 2008 and Survey of Income and Housing 2007-08

Figure 107
Mean equivalised gross weekly household income, Indigenous Australians aged 18 years and over, by state/territory, 1994, 2002 and 2008



Note: Data for 1994 and 2002 are CPI-adjusted to 2008 dollars.
Source: ABS analysis of NATSISS 2008

2.09 Index of disadvantage

Why is it important?:

The links between different forms of disadvantage such as poverty, unemployment, poor education, racism and consequent social dysfunction, stress, social exclusion, and poor health are well documented (Wilkinson et al. 2003; Marmot 2005; Paradies 2006b; Saunders et al. 2007; Sassi 2009). This performance measure is a composite measure (an index) of advantage/disadvantage. It provides a broad basis for tracking progress in addressing Indigenous disadvantage across the spectrum of determinants of health.

The ABS has developed the Socio-Economic Indexes for Areas (SEIFA) to allow measurement of relative socioeconomic status at a small geographic area level (Adhikari 2006). These indexes summarise a range of socioeconomic variables associated with advantage and disadvantage such as the proportion of families with high incomes, people with a tertiary education, and employees in skilled occupations. The indexes provide an estimate of relative advantage and disadvantage. Scores are calculated for each area. Areas are then sorted by score and grouped into 5 or 10 groups (quintiles or deciles). Low values indicate areas that are relatively disadvantaged, and high values indicate areas that are relatively advantaged.

Findings:

In 2006, Aboriginal and Torres Strait Islander peoples were over-represented in the three most disadvantaged deciles, ranked according to the ABS's SEIFA Index of Relative Socio-Economic Advantage/ Disadvantage. Thirty-one per cent of Indigenous Australians lived areas in the most disadvantaged decile (the bottom 10%), compared with 10% of the non-Indigenous population. Only 2% of Indigenous Australians lived in areas in the most advantaged decile (the top 10%).

Analysis at the jurisdiction level suggests that in all states and territories a greater proportion of the Indigenous Australian population lived in the most disadvantaged quintile (bottom 20%) compared with the non-Indigenous population. The NT had the highest

proportion (58%) and the ACT the lowest proportion (27%) of Aboriginal and Torres Strait Islander peoples living in the most disadvantaged quintile areas. NSW had the lowest proportion (3%) and the ACT the highest proportion (10%) of Indigenous Australians living in the most advantaged quintile areas (top 20%).

These results need to be interpreted with caution. Indigenous Australians often represent a small proportion of each Statistical Local Area (SLA) and therefore the socioeconomic status of the area will not always reflect the socioeconomic status of Indigenous Australians who live in the area. An analysis commissioned from the ABS's 2001 census-based SEIFA Index of Advantage/ Disadvantage (Kennedy et al. 2004), shows that Indigenous Australians in Qld have a high level of socioeconomic disadvantage regardless of whether they live in SLAs classified at area-level as having high or low socioeconomic status. The methodology used took the same weights developed for the overall SEIFA Index of Relative Socio-Economic Advantage/Disadvantage, but generated a separate score for Indigenous Australians compared with non-Indigenous Australians in each area. The results found that 93% of Aboriginal and Torres Strait Islander peoples in Qld were in the lowest decile for disadvantage. Of the approximately 126,000 Aboriginal and Torres Strait Islander people living in Qld in 2001, fewer than 2,000 had individual SEIFA scores in the top 5 deciles, even though 35,000 lived in SLAs coded to SEIFA scores in the top 5 deciles.

In order to address these shortcomings, Biddle (2009) constructed an Indigenous-specific index of relative socioeconomic outcomes, employing nine socioeconomic measures across employment, education, income and housing from the 2001 and 2006 Censuses. This study found that capital city regions ranked relatively well while remote regions ranked relatively poorly. However, within each region there was substantial variation across the smaller underlying Indigenous Areas. For example, while Sydney was the highest ranking Indigenous Area across all of Australia, the Indigenous population in areas such as Blacktown and Campbelltown had outcomes that were closer to those found in remote Australia. Similar variation was found in remote Indigenous Regions (Biddle

2009), demonstrating that any geographic strategy for addressing Indigenous disadvantage must target below the regional level.

An updated SEIFA index will be created from the 2011 Australian Census of Population and Housing and will be included in the next HPF report.

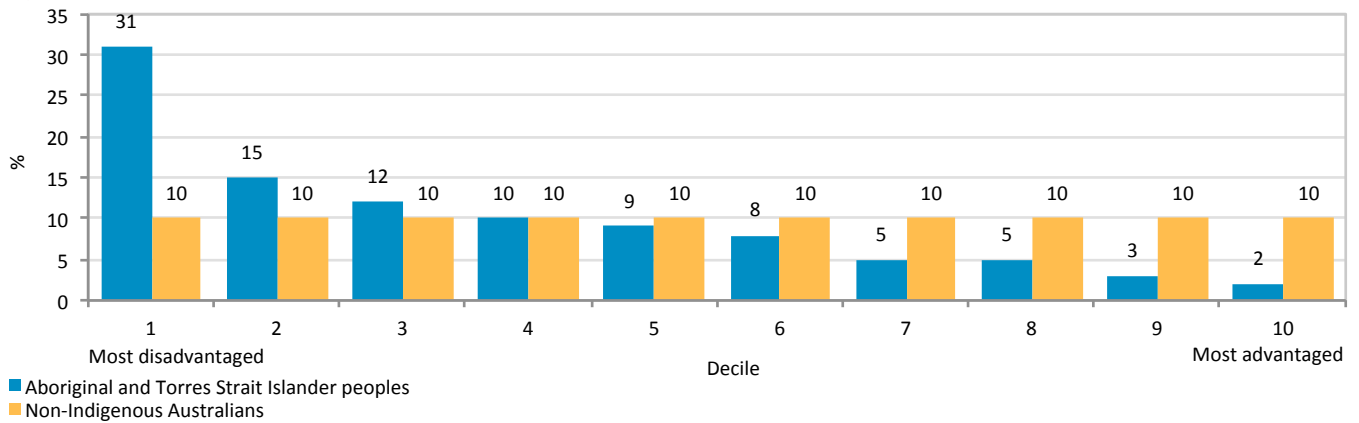
Implications:

This summary measure of disadvantage supplements what is known and reported in other measures about the relative disadvantage that Aboriginal and Torres Strait Islander peoples experience across a wide spectrum. Government policies to address social and economic disadvantage faced by Indigenous people are a vital component in closing the gap in health.

Poor health can also be a contributor to poor socioeconomic circumstances, in addition to being an outcome of those circumstances. A recent Australian study of people with serious chronic illnesses highlighted the financial stressors placed on people with these conditions and their carers (Jeon et al. 2009).

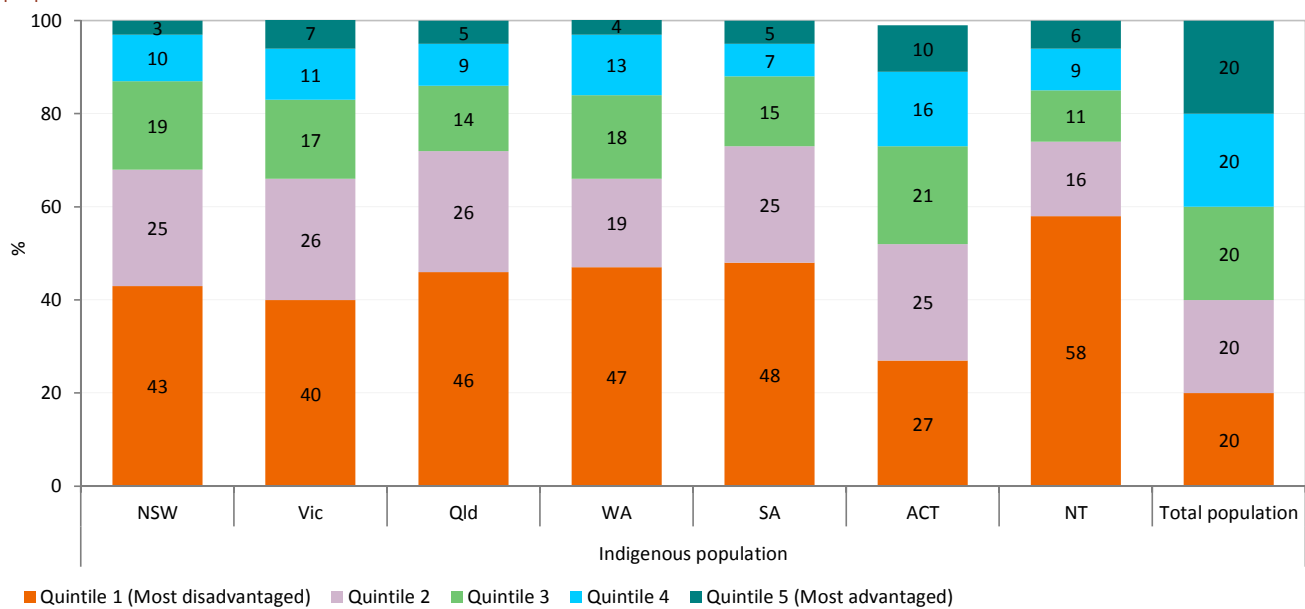
COAG has set six targets to close the gap in Indigenous disadvantage across health, education and economic participation. The commitments governments have made in this area are reflected in the *National Indigenous Reform Agreement* and the related national partnership agreements. This measure will therefore be a useful summary measure of progress in closing the gap in measured factors known to impact on health. However, it should be noted that the measure can only be estimated every five years with each Australian census and it is not possible to compare changes in socioeconomic outcomes over time. This is because both the geographic boundaries and indices used to construct the SEIFA differ between census years.

Figure 108
Population distribution by SEIFA advantage/disadvantage decile, by Indigenous status, 2006



Source: AIHW analysis of ABS 2006 Census of population and housing

Figure 109
Population distribution by SEIFA advantage/disadvantage quintiles, Indigenous population by state/territory and total population, 2006



Source: AIHW analysis of ABS 2006 Census of population and housing

2.10 Community safety

Why is it important?:

Experiencing threatened violence, being in an environment where personal safety is at risk, or in a social setting where violence is common, has negative health effects. These effects have been noted among Indigenous peoples in Australia (Willis 2010).

Wilkinson (1999) discusses the relationship between income inequality and violence and also notes the link between experiences of discrimination and racism and high levels of family violence found in marginalised and oppressed groups. The level of violence in Indigenous societies must be seen in the context of colonisation, post-colonial history and discrimination, and subsequent markers of disadvantage such as low income, unemployment, lack of access to traditional lands, and substance use. Krug et al. (2002) note that 'violence is the result of the complex interplay of individual, relationship, social, cultural and environmental factors'.

The Burden of Disease and Injury study (Vos et al. 2007) ranked homicide and violence as the tenth largest contributor to the total burden of disease and injury for Indigenous Australians. As a health risk factor, intimate partner violence was responsible for 5.4% of the burden for Indigenous females, having its impact not only through homicide and violence but also anxiety and depression, heart disease, suicide and other diseases.

Findings:

In 2008, 24% of Aboriginal and Torres Strait Islander peoples aged 18 years and over reported they were a victim of physical or threatened violence in the last 12 months. The proportion declined with age, from 33% of those aged 18–24 years to 8% of those aged 55 years and over. After adjusting for differences in age structure, Indigenous Australians aged 18 years and over were twice as likely to have reported being victims of physical or threatened as non-Indigenous Australians.

Indigenous adults who had been arrested in the last five years were more likely to have been a victim of physical or threatened violence (32%) (see measure 2.14) than those who had not. Those

aged 15 years and over living in remote areas were slightly less likely than those in non-remote areas to have been a victim of physical or threatened violence in the last 12 months (22% compared with 25%) but they were more likely to report assault as a community problem (37% compared with 19%). After adjusting for differences in the age structure of the two populations, Indigenous males were 1.6 times as likely as non-Indigenous males to report having been a victim of physical or threatened violence. Similarly, Indigenous females were two and a half times as likely as non-Indigenous females to report having been victimised.

Analysis of incidents of domestic assault recorded by NSW Police between 2001 and 2010 show that Indigenous Australians are over-represented as both victims and offenders of domestic assault and that this has not changed over the last decade (Grech et al. 2011).

The rate of males and females hospitalised for the principal diagnosis of assault during the period July 2008 to June 2010 were similar (11 per 1,000). After adjusting for differences in the age structure between the Indigenous and non-Indigenous populations, Indigenous males were 8 times as likely to have been hospitalised for assault than were non-Indigenous males, and Indigenous females were 34 times as likely to have been hospitalised than non-Indigenous females (see measure 1.03). There has been no significant change in the rate of hospitalisations due to assault since 2002–03.

In the period July 2008 to June 2010, hospitalisation rates for assault were highest for Indigenous Australians aged 25–54 years. In these age groups, rates for Indigenous Australians are 14 to 18 times as high as non-Indigenous Australians.

A similar pattern is evident in the number of deaths related to assault. There were 178 Indigenous deaths in 2006–10 due to assault. The mortality rate for assault for Indigenous Australians was around 9 times the rate of non-Indigenous Australians in this period. Mortality rates for assault were highest among those aged 25–44 years in both the Indigenous and non-Indigenous populations. In this age range deaths from assault were 14 to 18 times the rate of non-Indigenous Australians in the same age group.

Implications:

Aboriginal and Torres Strait Islander peoples are much more likely to be a victim of violence and to be hospitalised for injuries arising from assault. Males and females experience these problems at similar rates. Compared with other females, Indigenous females experience vastly higher rates of violence. Poor community safety is a major contributor to the burden of disease for Aboriginal and Torres Strait Islander peoples.

The *Family Violence Prevention Legal Services Program* provides assistance to Indigenous victim-survivors of family violence and sexual assault through the provision of legal assistance, court support, casework and counselling.

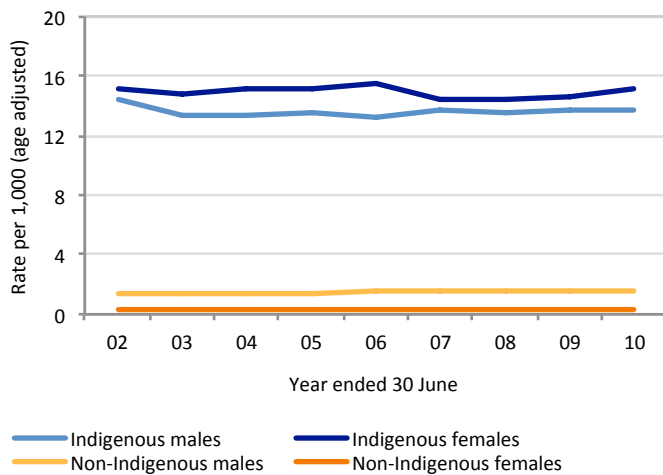
All Australian governments have endorsed the *National Plan to Reduce Violence Against Women and their Children 2010–2022*, which includes a specific focus on Indigenous family violence through Outcome 3: Indigenous Communities are Strengthened. Within the Commonwealth, the Indigenous Family Safety Program funds innovative Indigenous family safety initiatives focused on addressing alcohol problems; more effective police protection; working with local community leaders to strengthen social norms against violence; and coordinating support services to aid the recovery of people who have experienced violence. In 2010–11 funding included \$7.6 million over two years provided for additional Mobile Child Protection and Remote Aboriginal Family and Community Workers in the Northern Territory; \$7 million for 32 Indigenous Family Safety Service projects; \$1.6 million over three years as part of the *National Plan to Reduce Violence against Women and their Children*; and \$20 million over three years to assist Indigenous communities implement Alcohol and Substance Abuse Management Plans. Under the *Stronger Futures – Child, Youth, Family and Community Wellbeing Package* the Australian Government has committed more than \$443 million over the next ten years to support the safety and wellbeing of vulnerable children, young people and their families in remote Aboriginal communities in the NT.

Case studies in the NT found that many people in remote Indigenous communities felt that a permanent police presence is critical to reducing the incidence of alcohol related crime (Pilkington 2009). The Victorian Indigenous Family Violence Prevention Framework includes strategies for

primary prevention, early intervention and crisis intervention. This framework identifies key factors required for success from the literature including that activities should be led by Aboriginal and Torres Strait Islander peoples, include a whole of community approach, be grounded in cultural respect and cultural

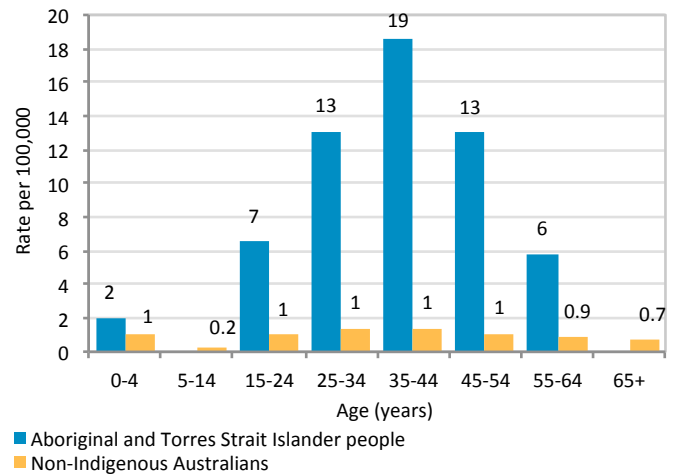
strengthening, promote non-violent social norms, strengthen protective factors, improve access to resources and systems of support and include timeliness, accountability and evaluation (DHS 2012).

Figure 110
Age-standardised hospitalisation rates for assault by Indigenous status, Qld, WA, SA and the NT, 2002–03 to 2009–10



Source: AIHW analysis of AIHW National Hospital Morbidity database

Figure 111
Deaths from assault (homicide) by Indigenous status and age, NSW, Qld, WA, SA and the NT, 2006–10



Source: AIHW analysis of AIHW National Mortality Database

Table 30
Issues of community safety, proportion of persons aged 18 years and over, by Indigenous status, 2008 (Indigenous), 2006 (non-Indigenous)

	Male		Female		Persons	
	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.
Experienced by individual, family members and/or close friends in last 12 months:						
Abuse or violent crime	6.7	1.9	8.4	2.8	7.6	2.3
Witness to violence	8.4	2.1	9.5	2.3	9.0	2.2
Trouble with the police	16.6	2.8	12.9	2.5	14.7	2.6
Member of family or friend spent time in jail	12.7	..	12.8	..	12.8	..

Source: ABS analysis of 2008 NATSISS. Non-Indigenous comparison from 2006 General Social Survey

Table 31
Issues of community safety, proportion of Indigenous persons aged 18 years and over, by remoteness, 2008

	Major Cities	Inner Regional	Outer Regional	Remote	Very Remote	Total
Victim of physical or threatened violence in last 12 months:	26.1	24.4	24.3	24.1	19.4	24.1
Experienced by individual, family members and/or close friends in last 12 months:						
Abuse or violent crime	9.2	6.7	7.2	8.3	5.7	7.6
Witness to violence	10.3	7.7	8.1	11.9	7.4	9.0
Trouble with the police	15.1	15.0	14.2	17.3	12.6	14.7
Member of family or friend spent time in jail	12.9	12.9	12.3	14.5	12.0	12.8

Source: ABS analysis of 2008 NATSISS

2.11 Contact with the criminal justice system

Why is it important?:

Aboriginal and Torres Strait Islander peoples have historically experienced higher rates of arrest and incarceration than non-Indigenous Australians (Royal Commission into Aboriginal Deaths in Custody 1991). Prisons have a significant over-representation of people with mental health problems, substance abuse problems, hearing loss, learning difficulties and a history of physical and sexual abuse (Levy 2005). Indigenous prisoners suffer greater rates of ill-health and injury compared with the Indigenous population generally (Hobbs et al. 2006).

The effects of prison custody persist after release. A study in WA and NSW (Kinner et al. 2011) found that released prisoners have an increased risk of death compared with the general population, with a disproportionate number dying within the first four weeks of release. This risk is greater for Indigenous Australians. Imprisonment impacts on family, children and the broader community. It increases stress, affects relationships and has adverse employment and financial consequences.

Findings:

As at 30 June 2011, there were 7,655 prisoners who identified as Aboriginal and Torres Strait Islander in the National Prison Census, representing 26% of total prisoners. After adjusting for differences in age structure of the two populations, the imprisonment rate for Indigenous Australians was 14 times the rate for non-Indigenous Australians. The imprisonment rate for Indigenous Australians has increased by 62% since 2000 and the gap has widened.

In 2011, the median age of adult Indigenous prisoners was 31 years compared with 35 years for non-Indigenous prisoners. Indigenous men made up 26% of the total male prisoner population. Indigenous women were also over-represented in the prison population, representing 31% of the female prisoner population. Of all Indigenous prisoners 92% were male. The highest rates of imprisonment of Indigenous Australians were reported in WA and the lowest rates in Tasmania.

The median length of sentence for Indigenous prisoners as at 30 June 2011 was lower than for non-Indigenous prisoners (24 months compared with 47 months) (ABS 2011b). Aboriginal and Torres Strait Islander peoples are more likely to be in prison with a charge related to acts intended to cause injury (32%) than other prisoners (15%). They are less likely than other prisoners to be in prison for illicit drug offences (1% compared with 15%) and homicide (6% compared with 11%). Three quarters (74%) of Indigenous prisoners had a prior adult imprisonment under sentence compared with 48% of non-Indigenous prisoners. Indigenous Australians are also over-represented in police custody.

Data collected by the Australian Institute of Criminology's National Deaths in Custody Program (NDICP) show, that over the longer term, rates of deaths in prison custody have declined considerably for both Indigenous and non-Indigenous Australians. In 2010–11 there were 0.16 deaths per 100 Indigenous Australians in prison custody compared with 0.46 per 100 in 1997–98. Data from 2010–11 indicate that there were 21 deaths of Indigenous Australians in all forms of custody. Eight deaths occurred in police custody, 12 in prison and 1 in juvenile justice/welfare custody. Nine of these deaths were due to natural causes, six were accidents and four were self-inflicted.

In 2009–10, the rate of Indigenous Australians aged 10–17 years on remand on an average day was 22 times the rate for non-Indigenous youth (245 compared to 11 per 100,000). The majority of those on remand were in the 14–17 year age group. The median period of unsentenced detention was seven days for Indigenous youth compared with three days for non-Indigenous youth. A large proportion of young Indigenous Australians in juvenile justice have a history of a parent in prison (Krieg 2006).

The *Health of Australia's Prisoners 2010* (AIHW 2011h) found that the prevalence of cardiovascular disease and diabetes among Indigenous prison entrants was 9% and 6% respectively compared with 7% and 4% for non-Indigenous prisoners. Asthma prevalence was higher for non-Indigenous entrants (27%) compared with Indigenous entrants (13%) as was diagnosis of a mental health disorder (38% versus 23%). A study of prisoners in Qld found that 73%

of Indigenous women and 86% of Indigenous men suffered from at least one mental health disorder when the data collection involved a diagnostic interview rather than relying on previously diagnosed conditions (Heffernan et al. 2012).

A study of 134 Indigenous inmates in the NT (13% of the Aboriginal population of NT Correctional Services) found that 94% had significant hearing loss (Vanderpoll et al. 2012). This hearing loss was associated with tinnitus, social difficulties, altercations with others due to misunderstandings and difficulties communicating within the criminal justice system including during hearings. Indigenous prison entrants were more likely to have Year 9 or below as their highest year of school completed compared with the general Indigenous population; and were more likely to be unemployed (AIHW 2011h).

Indigenous prisoners were more likely to be a current daily smoker (74%) compared with the general Indigenous population (47%). A higher proportion of Indigenous prisoners were advised that they were at risk of alcohol-related harm (73%) compared with non-Indigenous prisoners (48%). Illicit drug use was similar for Indigenous and non-Indigenous prisoners (68% and 65% respectively), but was twice as high as for the general Indigenous population.

The 2010 National Prison Entrants' Bloodborne Virus and Risk Behaviour Survey found that 18% of Indigenous prison entrants tested positive hepatitis C compared with 23% of non-Indigenous entrants. In addition, 46% of Indigenous prisoners tested positive for hepatitis compared with 55% of non-Indigenous prisoners (Butler et al. 2011) (see measure 1.12).

In 2008, approximately 48% of Indigenous males aged 15 years and over had been formally charged by the police, 22% had been arrested in the previous 5 years and 6% had been incarcerated in the previous 5 years. Indigenous Australians aged 15 years and over who were current daily smokers, engaged in risky/high-risk alcohol consumption in the last 12 months, were unemployed, were renting, were the victim of physical or threatened violence or had experienced at least one stressor in the last 12 months were more likely to have been formally charged, arrested by police or incarcerated in the previous 5 years.

Thirteen per cent of Indigenous Australians reported experiencing stressors related to having a family member or friend incarcerated in the last year and 15% reported stressors involving trouble with the police in the last year. A study in NSW found that Indigenous prisoners were nearly twice as likely as non-Indigenous prisoners to have left school before completing Year 10, to have been placed in care as a child, and to report a history of juvenile detention, and 3 times as likely to have had a parent imprisoned during their childhood (Indig et al. 2010).

Implications:

Together these statistics show a pattern of higher rates of imprisonment, shorter prison sentences and more returns to prison. The high rate of imprisonment of Indigenous Australians signals problems well beyond those which prisons are designed to resolve. More evidence is

needed about effective primary and secondary prevention strategies, pathways into contact with the criminal justice system, factors underpinning the high imprisonment rates and effective tertiary preventions strategies to reduce reoffending (Richards et al. 2011; Beranger et al. 2010). More evidence is also needed on interventions across the prisoner life cycle from arrest, diversion, remand, sentencing, incarceration and release including programs run in prison to address self-esteem, empowerment, grief and healing and post-prison programs to rebuild connections with community and culture (Davis et al. 2008). Strategies to address social difficulties related to hearing loss, substance use, low self-esteem, vocational education, opportunities for employment and mental health care require inter-sectoral responses working with families and communities.

Some Aboriginal health organisations have developed their own health programs for prisoners and their families (Commission on Social Determinants of Health 2007; Winnunga Nimmityjah Aboriginal Health Service 2007).

Primary responsibility for criminal justice issues sits with state and territory governments and their Indigenous law and justice programs. The Australian Government also provides funding through the *Indigenous Justice Program* with priority given to prisoner through care projects. The Australian Government also funds the Indigenous Legal Aid and Policy Reform Program to provide culturally-inclusive legal aid services to Indigenous Australians. The network delivers services at 86 permanent sites, court circuits and outreach locations in urban, rural and remote areas in all states and territories.

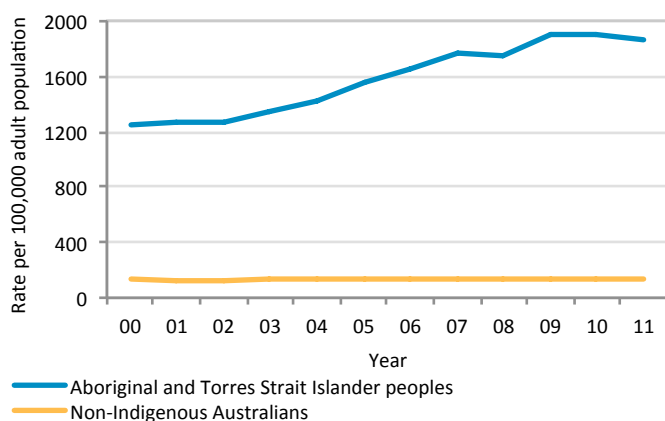
Table 32
People in prison custody by Indigenous status, sex and state/territory, 30 June 2011

	Indigenous				Non-Indigenous				Rate ratio
	Number			Rate per 100,000 ^(a)	Number			Rate per 100,000 ^(a)	
	Males	Females	Persons		Males	Females	Persons		
NSW	2,083	211	2,294	1,985	7,239	489	7,728	146	13.6
Vic.	276	18	294	1,155	4,142	299	4,441	105	11.0
Qld	1,510	140	1,650	1,397	3,646	273	3,919	119	11.8
WA	1,618	157	1,775	3,106	2,678	198	2,876	170	18.3
SA	449	32	481	2,209	1,455	90	1,545	132	16.7
Tas.	65	3	68	486	405	29	434	134	3.6
ACT	44	3	47	1,117	237	13	250	88	12.8
NT	992	49	1,041	2,028	222	9	231	182	11.2
Australia	7,037	613	7,650	1,868	20,024	1,400	21,424	130	14.3

(a) Number per 100,000 adult population directly age-standardised to 2001 Australian standard population.

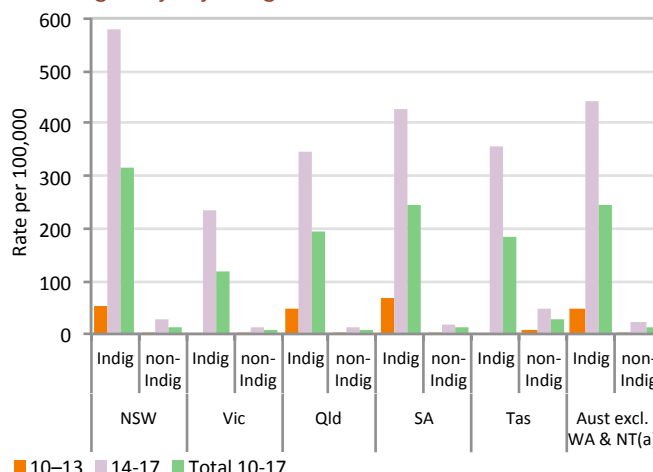
Source: ABS 2011

Figure 112
Age-standardised rate of persons in prison, by Indigenous status, 2000 to 2011



Source: AIHW analysis of ABS 2011 data

Figure 113
Rates of young people aged 10–17 years, on remand on an average day, by Indigenous status, 2009–10



a) WA and NT not included, as data were not available for 2009–10.

Source: AIHW 2011, *Juvenile Justice in Australia 2009–10*

2.12 Child protection

Why is it important?:

Child protection services 'receive and assess allegations of child abuse and neglect, and/or harm to children and young people; provide and refer clients to family support and other relevant services; and intervene to protect children' (SCRGSP 2005; AIHW 2012b). Child protection functions are undertaken at the state and territory level of government. Each jurisdiction has its own legislation, policies and practices in relation to child protection although the processes are broadly similar (Bromfield et al. 2008). Child protection services are often located in agencies that are also responsible for providing or funding alternative care arrangements such as foster care, where the care of the child in their original family is not an option.

Indigenous Australians' experience of child welfare policies has historically been traumatic, with misguided policies leading to the forcible removal of children now known as the Stolen Generations (HREOC 1997). The consequences of these removal policies have long-term resonance, including social, physical and psychological devastation for the Aboriginal and Torres Strait Islander people directly involved, as well as their families and communities (Raphael et al. 1998; Yehuda et al. 2001). Child protection issues continue to be very significant for Indigenous communities, reflecting this history of trauma and stressors that have impacted on parents and communities.

In responding to situations in which Indigenous children are at risk, all states and territories have adopted the Aboriginal Child Placement Principle which requires that where Aboriginal and Torres Strait Islander children are removed from their family, the following order of preference for their placement should be followed: the child's extended family; the child's Indigenous community; other Indigenous Australians.

Findings:

In 2010–11, the rate of substantiated child protection notifications per 1,000 children aged 0–16 years was 35 for Aboriginal and Torres Strait Islander

children—7 times the rate for non-Indigenous children (5 per 1,000). Rates of children who were the subject of substantiations of notifications vary across jurisdictions, in part reflecting different legislation and practices. Rates also vary from year to year within jurisdictions. While comparisons between jurisdictions should be made with care, rates of Indigenous children who were the subject of substantiations were higher than for non-Indigenous children within each jurisdiction. Compared with other children, the reason for substantiated child protection notification for Aboriginal and Torres Strait Islander children was more likely to be for neglect rather than sexual, physical or emotional abuse.

As at 30 June 2011 there were 12,280 Aboriginal and Torres Strait Islander children on care and protection orders, an increase of 65% since June 2007. There was a 21% increase for other children over the same period. The increase in children on care and protection orders may be attributed to a greater awareness of child abuse and neglect but also to the cumulative effect of the growing number of children who enter the child protection system at a young age and remain on orders until they are 18 years of age (AIHW 2012b). Data issues may also impact on comparability.

As at 30 June 2011, there were 12,358 Indigenous children in out-of-home care. Across Australia, 69% of Indigenous children in out-of-home care are placed with either an Indigenous carer or a relative/kin or in other Indigenous care. Placements with an Indigenous carer or relative/kin were highest in NSW (82%) and lowest in the NT (34%). Reasons for placements outside the Indigenous community include the unavailability of carers within the community, the impact of trauma and disadvantage on previous generations, the unwillingness of some Indigenous people to be associated with the child protection system, and the disproportionately high number of Aboriginal and Torres Strait Islander children compared to adults (Berlyn et al. 2009).

Implications:

Child protection data provide a measure of how many children come into contact with child protection services; however, these data do not capture all children who have been abused or neglected and

additionally, may include some children who have not been abused or neglected (Bromfield et al. 2004).

Aboriginal and Torres Strait Islander children continue to be subject to higher rates of child protection substantiations, mainly for 'neglect'. COAG has two major commitments in the area of child protection: The *National Framework for Protecting Australia's Children 2009–2020* (COAG 2009b) and the *National Plan for Australia to Reduce Violence Against Women and their Children 2009–2021*. These commitments recognise that everyone has a right to be safe from family violence and abuse and that prevention is best achieved by families, communities, community organisations and governments working as partners to build strong and resilient families.

Over the last three years the Australian Government has led the development and implementation of the National Framework, in partnership with the states and territories as well as non-government organisations. Closing the Gap is one of the twelve national priorities under the Framework's first action plan. The Closing the Gap priority is to support Indigenous community-building activities in areas such as culture and connectedness, strengthening families and communities in targeted areas and speaking up about abuse. The Framework acknowledges a need 'to move from seeing 'protecting children' as a response to abuse and neglect to one of promoting the safety and wellbeing of children' (COAG 2009b). The Framework applies a public health model shifting the emphasis to establishing universal supports for all families (e.g., in health and education), with more intensive (secondary) prevention interventions available for families that need additional assistance with a focus on early intervention. Tertiary child protection services are used as a last resort.

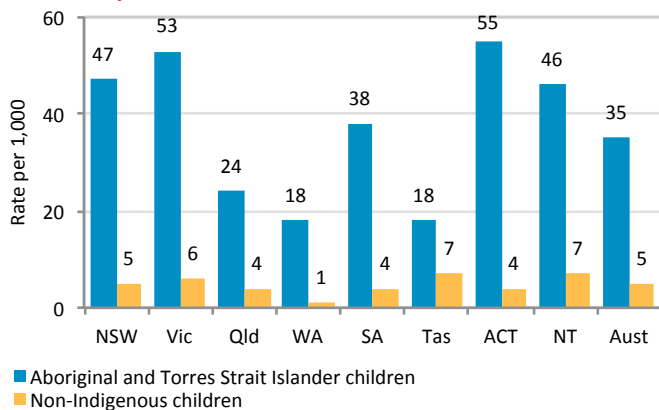
The Indigenous Family Safety Program funds innovative Indigenous family safety initiatives focused on addressing alcohol problems; more effective police protection; working with local community leaders to strengthen social norms against violence; and coordinating support services to aid the recovery of people who have experienced violence. In 2010–11 funding included \$7.6 million over two years provided for additional Mobile Child Protection and Remote

Aboriginal Family and Community Workers in the Northern Territory; \$7 million for 32 Indigenous Family Safety Service projects; \$1.6 million over three years as part of the National Plan; and

\$20 million over three years to assist Indigenous communities implement Alcohol and Substance Abuse Management Plans. A key role for health portfolios is to strengthen child and

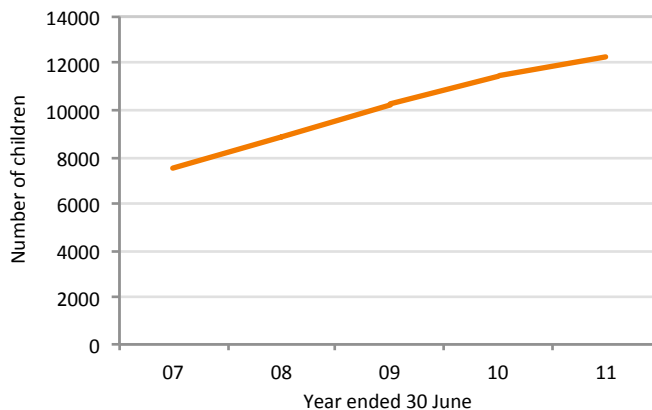
maternal health services which can play an important role in prevention and early intervention.

Figure 114
Children aged 0–16 years who were the subject of a substantiation: rate per 1,000 children, by Indigenous status and jurisdiction, 2010–11



Source: AIHW Child Protection Collections 2011

Figure 115
Number of Indigenous children aged 0–17 years on care and protection orders, at 30 June 2007 to 30 June 2011



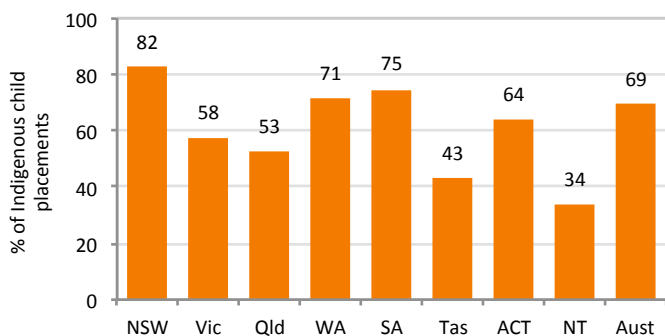
Source: AIHW Child Protection Collections 2011

Table 33
Children (0–17 years) in out-of-home care, by Indigenous status and state and territory, at 30 June 2011

	NSW	Vic.	Qld	WA	SA	Tas.	ACT	NT	Aust.
Number of Children:									
Indigenous	5,737	877	2,850	1,448	630	196	119	501	12,358
Non-Indigenous	10,994	4,701	4,722	1,527	1,690	754	409	132	24,929
Total	16,740	5,678	7,602	3,120	2,368	966	540	634	37,648
Rate per 1,000 children									
Indigenous	80.6	57.3	40.2	46.4	49.6	23.5	61.4	18.2	51.7
Non-Indigenous	7.0	3.8	4.6	3.0	4.9	6.8	5.2	3.8	5.1
Total	10.2	4.6	7.0	5.7	6.6	8.1	6.7	10.2	7.3
Rate ratio									
	11.5	14.9	8.7	15.6	10.1	3.4	11.8	4.8	10.1

Source: AIHW Child Protection Collections 2011

Figure 116
Proportion of Indigenous child placements with relatives, kin or other Indigenous caregiver, by jurisdiction, at 30 June 2011



Source: AIHW Child Protection Collections 2011

2.13 Transport

Why is it important?:

Transport can have a beneficial impact on health by enabling access to goods and services and by helping people to build and maintain social networks. It is an enabling resource that communities require to achieve desired outcomes, including safety and health. Research into the social determinants of health has found that 'lack of access to transport is experienced disproportionately by women, children, disabled people, people from minority ethnic groups, older people and people with low socioeconomic status—especially those living in remote rural areas' (Acheson 1998; Marmot 2010). The negative impacts of transport include motor vehicle accidents and reduced physical activity.

Aboriginal and Torres Strait Islander communities face various challenges related to transport. These challenges have a broader impact on social and economic circumstances, and specific impacts on access to health services. Limited or no public transport options significantly impact on the capacity to access health care, especially specialist services. Problems with access are particularly significant for patients with chronic illnesses where frequent attendance at specialist clinics may be required. Schemes to assist patients with travel and associated accommodation operate in the various jurisdictions. Other approaches have also been adopted, such as support for specialist services flying into remote localities.

Findings:

In 2008, Indigenous households in non-remote areas were significantly less likely than other households to have access to a working motor vehicle (15% in 2006 compared with 50% in 2008 respectively). In remote areas 43% of Indigenous households had no access to motor vehicles.

In the 2008 NATSISS, an estimated 26% of Aboriginal and Torres Strait Islander adults had used public transport in the previous two weeks. Of the 215,400 adults who had not used public transport in the previous two weeks, 43% lived in an area in which there was no local public transport available. Use of public

transport by Indigenous adults was lower in remote areas (13% in the last two weeks) than in non-remote areas (30%). One of the key contributing factors is the lack of availability of public transport in remote locations. Of the 65,000 Indigenous adults in remote areas who had not used public transport in the previous two weeks, 83% lived in an area where there was no public transport available.

In 2008, an estimated 8% of Indigenous people aged 18 years and over living in non-remote areas could not, or often had difficulty, getting to places needed, compared with 4% of non-Indigenous Australians in 2006. The proportion of Indigenous adults reporting these difficulties was higher in remote areas (18%) than in non-remote areas (8%).

The proportion of Aboriginal and Torres Strait Islander adults with access to a working motor vehicle was 78% overall, ranging from 70% of those aged 18–24 years to 85% of those aged 35–44 years. The 2008 rates for Aboriginal and Torres Strait Islander peoples were significantly lower than those for non-Indigenous people (in 2006) for each age group. In 2008, a higher proportion of Aboriginal and Torres Strait Islander males than females reported having access to a motor vehicle whenever they needed it (74% compared with 69%).

In the 2008 NATSISS, 10% of Aboriginal and Torres Strait Islander peoples aged 15 years and over reported transport/distance as the reason they did not access services. Transport/distance was a bigger issue for those living in remote areas (19%) than those living in non-remote areas (7%).

Implications:

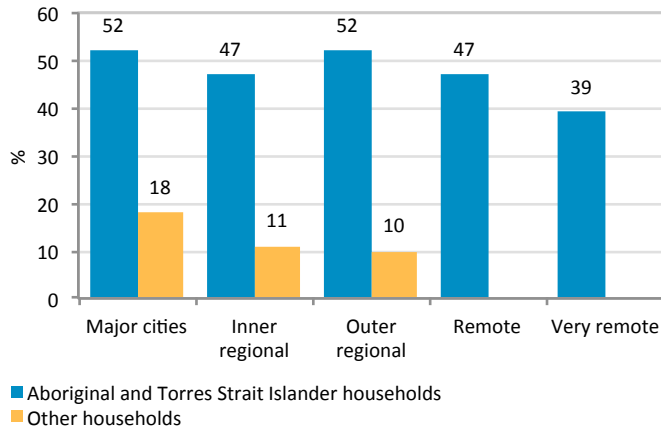
While public transportation may compensate for the lack of private transport in non-remote areas, a higher proportion of Indigenous Australians in both remote and non-remote areas report having difficulty getting to places they need to go compared with non-Indigenous Australians.

The NSFATSIH's Key Result Area Six identifies wider strategies that impact on health. Actions related to transport include reviewing the effectiveness, eligibility criteria and payment levels of patient-assisted travel schemes to improve equitable access to services by Aboriginal and Torres Strait Islander peoples across Australia.

The *National Healthcare Agreement* (November 2008) commits states and territories to provide and fund patient assistance travel schemes (PATS) and to ensure that public patients are aware of how to access the schemes. The Department of Health and Ageing, through the Rural Health Standing Committee, worked with all jurisdictional health departments to draft policy principles and to undertake modelling to determine possible costs associated with nationally harmonised PATS. A paper presenting the policy principles and costings was considered by AHMAC at its meeting on 29 September 2011. AHMAC members noted the policy principles for the administration of PATS and that these principles will provide a basis for work should COAG identify a need for nationally consistent patient assisted travel schemes.

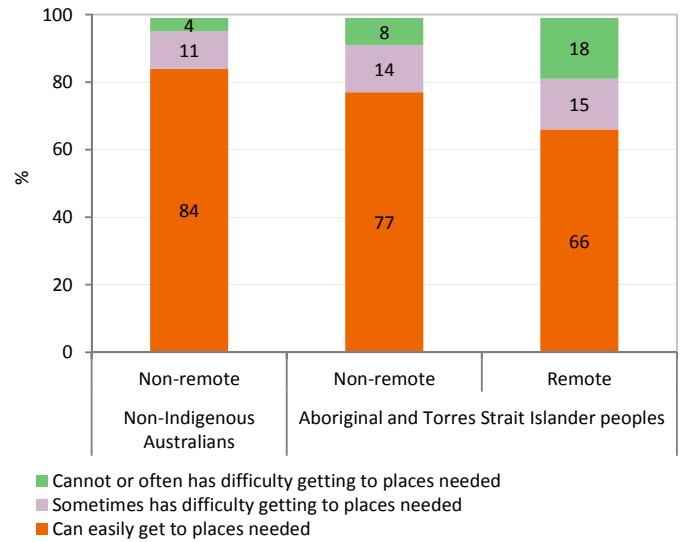
Patient transport services designed to assist patients with chronic illnesses to access health services on a regular basis are an important aspect of health service delivery. This is particularly the case for Indigenous households where private and public transport options are often restricted. Patient transport services are provided by a broad range of services including voluntary groups, Aboriginal controlled health services, hospitals and ambulance services. For example, the WA Department of Health has funded patient transport officers and patient journey officers in Aboriginal community controlled health services and area health services to ensure that Aboriginal patients have adequate transport to medical appointments at all levels of the health system (primary, secondary and tertiary). Unfortunately, the provision of these services varies significantly across Australia and access is not always assured.

Figure 117
Proportion of households without access to a working motor vehicle, by Indigenous status and remoteness, 2008 (Indigenous) and 2006 (other)



Source: ABS analysis of 2008 NATSISS. Non-Indigenous data are from the 2006 General Social Survey

Figure 118
Difficulty with transport, by Indigenous status and remoteness, persons aged 18 years and over, 2008 (Indigenous) and 2006 (non-Indigenous)



Source: ABS analysis of 2008 NATSISS. Non-Indigenous data from the 2006 General Social Survey

Table 34
Use of public transport, by remoteness, Indigenous persons aged 18 years and over, 2008

	Non-remote	Remote	Total
Used public transport in last 2 weeks	30.0	12.7	25.5
Used transport but not public transport in last 2 weeks	68.8	79.4	71.5
Did not use any transport in last 2 weeks	0.9	7.0	2.5
Total	100.0	100.0	100.0
Main reason did not use public transport^(a)			
Prefer to use own transport or walk	57.9	12.7	44.2
Costs too much/takes too long	3.3	1.0*	2.6
No suitable services	7.4	2.3*	5.8
Personal reasons	2.6	0.3*	1.9
Other	3.1	0.9*	2.4
<i>Total with access to public transport in local area</i>	<i>74.2</i>	<i>17.1</i>	<i>56.9</i>
No public transport available in local area	25.8	82.9	43.1
Total	100.0	100.0	100.0

a) Proportion calculation excludes 'used public transport in last 2 weeks'

* Estimate has a relative standard error between 25% and 50% and should be used with caution.

Source: ABS analysis of 2008 NATSISS.

2.14 Indigenous people with access to their traditional lands

Why is it important?:

Access to traditional lands can take many forms including living on traditional lands through to visiting. Loss of traditional lands has been associated with trauma, illness and poor social outcomes experienced by Aboriginal and Torres Strait Islander peoples today (Royal Commission into Aboriginal Deaths in Custody 1991; Northern Land Council & Central Land Council 1994). Ongoing access to traditional lands is also seen as a determinant of health (Aboriginal and Torres Strait Islander Social Justice Commissioner 2005).

Traditional kinship structures play a much more prominent role at small homelands/outstations than at the larger centralised communities (where such structures have been damaged and distorted in the colonisation process) (Christie et al. 2004). This traditional aspect of governance contributes to the greater social cohesion, availability of social support and psychological wellbeing often associated with homelands/outstations (Morphy 2005). Greater social cohesion has long been associated with improved health outcomes in non-Indigenous communities (Stansfeld 2006).

A study comparing the health of Aboriginal people living on homelands/outstations in Central Australia with that of Aboriginal people living at the surrounding, larger centralised communities showed residents had significantly lower prevalence of Type 2 diabetes, hypertension and obesity, significantly lower mortality rates, and were significantly less likely to be hospitalised for any cause including infections and injury (particularly injury involving alcohol). They were also likely to live, on average, 10 years longer than residents of the centralised communities. The positive association with health was more marked among younger adults (McDermott et al. 1998).

A recent long-term study has found that health outcomes are better at Utopia, a remote Aboriginal community, relative to the NT average for Indigenous

populations. Features of this community include: people living a traditional lifestyle, including hunting, on outstations away from the community store, which has led to better diet and more exercise; the community-controlled health service providing regular health care services to outstations; and the community having mastery and control over life circumstances. Residents are in control of community services and connected to culture, family and land, with the community holding freehold title to their land (Rowley et al. 2008).

Caring for country means participation in activities on traditional land, with the objective of promoting ecological, spiritual and human health (Berry et al. 2010). In central Arnhem Land it was found that participation in caring for country was associated with better health outcomes including diet, physical activity, mental health and lowered risk of diabetes, kidney disease and cardiovascular disease (Burgess et al. 2009).

A small study in the NT found a link between Indigenous cultural and natural resource management and indications of health and wellbeing such as lower levels of the precursors of cardiovascular disease and diabetes (Garnett et al. 2007).

Findings:

In 2008, approximately 72% of Aboriginal and Torres Strait Islander peoples aged 15 years and over reported that they recognised their homeland or traditional country. Approximately 25% reported they lived on their homelands, 45% did not live on homelands but were allowed to visit, and less than one per cent were not allowed to visit their homelands/traditional country.

Those who lived in remote areas (44%) were more likely than those in non-remote areas (19%) to live on homelands/traditional country. The majority of Indigenous Australians who recognised, but did not live on homelands, were allowed to visit (41% of those in remote areas and 46% of those in non-remote areas).

Being able to visit homelands is associated with identifying with a clan or language group, providing support to relatives outside the household and speaking an Aboriginal or Torres Strait Islander language. It is also associated with low to moderate levels of

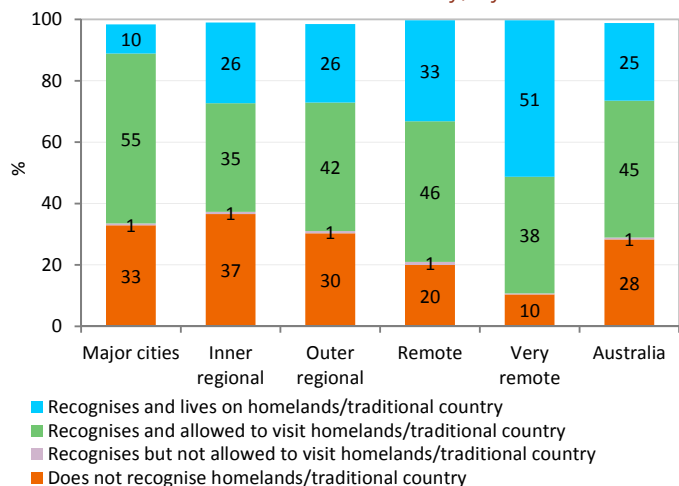
psychological distress, not having a disability or long term health condition and being employed (see measure 1.13).

Implications:

While evidence from research studies lends support to Aboriginal and Torres Strait Islander people to return to live on their traditional country, for many people this is no longer an option, particularly in south-eastern Australia. In this situation, occasional and infrequent visits may be the only realistic possibility. An emerging body of literature is improving knowledge about how relationships with Country are maintained by Aboriginal and Torres Strait Islander peoples living in urban and metropolitan centres, and the effects of these relationships on health, wellbeing, cultural expression, heritage and education (AIATSIS 2009).

Figure 119

Access to homelands/traditional country, by remoteness area, Indigenous Australians aged 15 years and over^{a)}, 2008

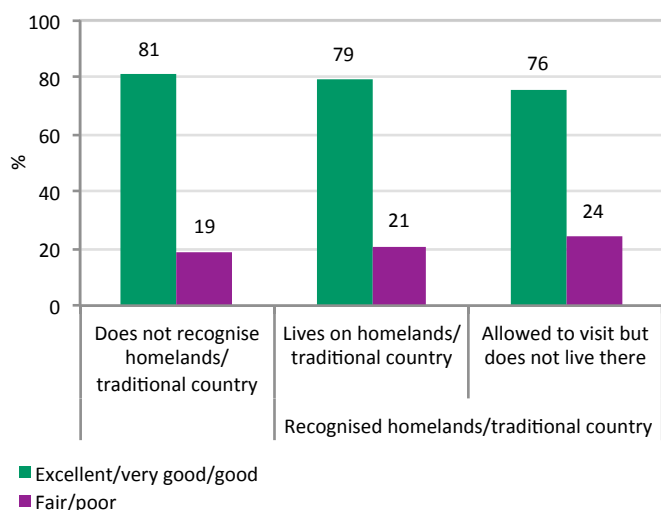


a) Excludes 'Not known' responses

Source: AIHW analysis of 2008 National Aboriginal and Torres Strait Islander Social Survey

Figure 120

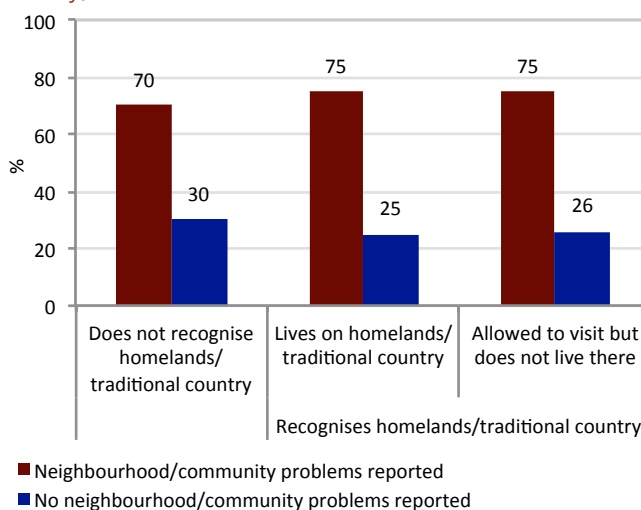
Self-assessed health status by whether Aboriginal and Torres Strait Islander people recognised/did not recognise homelands/traditional country, 2008



Source: AIHW analysis of 2008 National Aboriginal and Torres Strait Islander Social Survey

Figure 121

Presence of neighbourhood/community problems by whether Aboriginal and Torres Strait Islander people recognised/did not recognise homelands/traditional country, 2008



Source: AIHW analysis of 2008 National Aboriginal and Torres Strait Islander Social Survey

2.15 Tobacco use

Why is it important?:

Estimates of the burden of disease and injury among Aboriginal and Torres Strait Islander peoples attribute 12% of the total burden to tobacco smoking. Smoking was identified as the top risk factor contributing to the burden of disease for Indigenous Australians (Vos et al. 2007). In the Australian population, 8% of the burden of disease was attributable to tobacco smoking (Begg et al. 2007).

The health impact of smoking is evident in the incidence of a number of diseases, including chronic lung disease, cardiovascular disease and many forms of cancer. Smoking is responsible for an estimated 35% of the burden of disease from cancers and 33% of the burden from cardiovascular disease for Aboriginal and Torres Strait Islander peoples (Vos et al. 2007). In addition, environmental tobacco smoke has adverse health effects for others who are in close proximity to a smoker (AIHW 2002a) (see measure 2.03).

The *National Tobacco Strategy 2004–2009* noted that ‘encouraging and finding ways to support smokers to quit successfully is probably the single most effective thing that could be done to improve child and maternal health, to reduce chronic diseases and some communicable diseases and to reduce financial stress’ (Ministerial Council on Drug Strategy 2004b).

Findings:

In 2008, 47% of Indigenous Australians aged 15 years and over reported that they were current smokers, a reduction from an estimated 51% in 2002 and 52% in 1994. Current smokers include daily smokers (45%) and those who smoked but not daily (2%). After accounting for differences in the age profile of the two populations, Indigenous Australians were 2.2 times more likely to be smokers than other Australians. Smoking rates for males (49%) were higher than females (45%). Smoking rates were highest in the 25–34 year age group (56%) and lowest in the 15–17 year age group (22%) and the 55 years and over age group (32%). Indigenous Australians in remote areas smoked at higher rates (53%) than those in non-remote areas (45%).

A 2008 study found that 23% of 12–15 year old Indigenous students had smoked in the past year and that 12% were current smokers. This compares to 13% of all 12–15 year old students having smoked in the past year and 5% who were current smokers (White et al. 2010b).

A study of the NATSIS (1994), NATSIS (2002 & 2008) and NATSIHS (2004–05) found that while overall rates of smoking are declining among Aboriginal and Torres Strait Islander peoples, smoking rates among Aboriginal and Torres Strait Islander women living in remote communities have remained steady (Thomas 2012).

There is strong evidence that smoking status is associated with socioeconomic factors and that smoking rates are highest for Indigenous Australians in the most socially disadvantaged circumstances (Thomas et al. 2008). In 2008, Indigenous Australians aged 18 years and over who were either in the highest household income quintiles; were in the most advantaged SEIFA quintiles; were employed; had non-school qualifications; or had completed Year 12 were more likely to report being a non-smoker. Being a non-smoker was also associated with better self-assessed health status. Social, cultural and family factors also play important roles (Johnston et al. 2008; Hearn et al. 2011). People reporting having been removed from one’s natural family, or not having support in a time of crisis, were more likely to be smokers compared to those who had not been removed and those who reported having support.

Less Indigenous Australians have never smoked (31%) compared with non-Indigenous Australians (52%) and less were ex-smokers (24% and 28% respectively).

Implications:

Tobacco smoking is influenced by a range of factors, including normalisation of smoking in peer groups and families, positive attitudes towards smoking, adult smoking and other factors such as overcrowding (Carson et al. 2012). The influence of these factors varies across the different community settings and social environments in which Aboriginal and Torres Strait Islander peoples live (Johnston et al. 2008). Consequently, it is important that strategies to reduce Indigenous smoking rates acknowledge

the social exchange that often occurs when smoking, the important role of family, and the high rates of stress experienced by Aboriginal people (Hearn et al. 2011). Programs need to be “culturally valid, responsive to local needs and controlled by the community” (Ministerial Council on Drug Strategy 2004a). A review of smoking cessation intervention studies in Indigenous populations internationally found limited rigorous evidence to evaluate which interventions would be effective in reducing tobacco use. There was some limited evidence supporting behavioural interventions through culturally appropriate health messages delivered by health professionals or through text messages and the use of pharmacotherapies (nicotine patches and bupropion). A multifaceted approach addressing cessation and prevention from various sources simultaneously, and targeted to the population, appeared more likely to increase success together with evaluations to assess applicability and effectiveness (Carson et al. 2012).

An evaluation of the NSW SmokeCheck program showed that health professionals’ confidence and ability to deliver brief smoking cessation interventions increased significantly after attending training on delivering tailored smoking cessation advice to Aboriginal clients (Hearn et al. 2011).

In May 2008, the Australian Government announced \$14.5 million over four years from 2008–09 until 2011–12 for the *Indigenous Tobacco Control Initiative* to identify innovative approaches to addressing the high rates of tobacco smoking in the Indigenous population. A review is being undertaken to identify and showcase the lessons learnt from the *Indigenous Tobacco Control Initiative* projects that may be transferable to other communities.

Under the *National Partnership Agreement on Closing the Gap in Indigenous Health Outcomes*, governments have agreed to address high Indigenous smoking rates. The Australian Government is investing to:

- Recruit and train a National Network of Regional Tackling Smoking and Healthy Lifestyle Teams across 57 regions nationally.
- Work with communities to design and deliver locally relevant health promotion and social marketing

campaigns and activities tackling smoking.

- Implement training for health workers and community educators, with 200 trained in 2010–11.
- Develop resources to support the workforce such as the guide to Nicotine Replacement Therapy ‘Medicines to help Aboriginal and Torres Strait Islander People Stop Smoking: A Guide for Health Workers’.
- Enhance Quitlines to provide a more culturally sensitive, accessible and appropriate service for Aboriginal and Torres Strait Islander peoples.

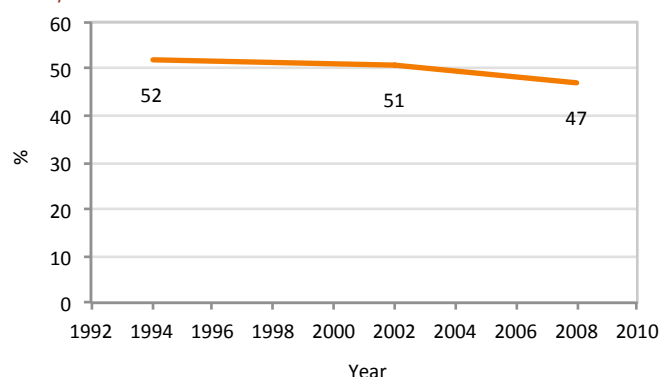
The *More Targeted Approach campaign*, announced on 29 April 2010, includes \$27.8 million over four years from 2010–11 aimed at reducing smoking prevalence among high risk and hard to reach groups. On 30 April 2010, tobacco excise was increased by 25 per cent.

The *Tobacco Plain Packaging Act 2011* received Royal Assent on 1 December 2011. The legislation and associated regulations specify plain packaging requirements for tobacco products which are designed to reduce the attractiveness and appeal of tobacco products to consumers; particularly young people; increase the noticeability and effectiveness of mandated health warnings; and reduce the ability of the packaging to mislead consumers about the harms of smoking; and through the achievement of these aims in the long term, as part of a comprehensive suite of tobacco control measures, contribute to efforts to reduce smoking rates. All tobacco products manufactured or packaged in Australia for domestic consumption will be required to be in plain packaging by 1 October 2012, and all tobacco products will be required to

be sold in plain packaging by 1 December 2012.

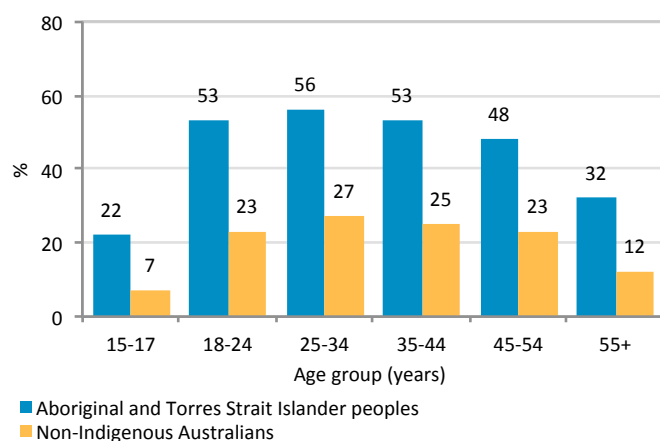
Graphic health warnings on tobacco products have been updated and expanded in the Competition and Consumer (Tobacco) Information Standard 2011, which commenced on 1 January 2012. Under the Standard, the size of graphic health warnings will increase to 75% of the front of the pack for cigarettes and cartons, up from 30%, with the current 90% warnings for the back of packs retained. The size of graphic health warnings for most other smoked tobacco products will increase to 75% of both the front and back of the pack. All tobacco products are required to display the new warnings by 1 December 2012, in line with plain packaging.

Figure 122
Proportion of Aboriginal and Torres Strait Islander peoples aged 15 years and over reporting they are a current smoker, 1994, 2002 and 2008



Source: ABS and AIHW analysis of the 1994 NATSIS, 2002 and 2008 NATSIS

Figure 123
Proportion of population aged 15 years and over reporting they are a current smoker, by Indigenous status and age, 2008



Source: ABS and AIHW analysis of the 2008 NATSIS and the 2007–08 NHS

Table 35
Estimated proportion of Aboriginal and Torres Strait Islander peoples that are current smokers by sex, age, remoteness area and jurisdiction, 2004–05 and 2008

	2004-05	2008
Sex (18 years and over)		
Male	53	53
Female	51	47
Persons	51	50
Age		
15-17	na	22
18-24	52	53
25-34	56	56
35-44	59	53
45-54	51	48
55+	31	32
Remoteness Area (18 years and over)		
Major Cities	46	45
Inner Regional	47	50
Outer Regional	50	52
Remote	47	52
Very Remote	51	56
State/Territory (18 years and over)		
NSW	53	52
Vic.	52	50
Qld	51	47
WA	48	47
SA	56	51
Tas.	51	49
ACT	44	38
NT	56	55

Source: ABS and AIHW analysis of the 2004–05 NATSIHS and 2008 NATSIS

2.16 Risky alcohol consumption

Why is it important?:

Excessive consumption of alcohol is associated with health and social problems in all populations. It is a major risk factor for conditions such as liver disease, pancreatitis, diabetes and some types of cancer. Alcohol is also a frequent contributor to motor vehicle accidents, falls, burns, and suicide. It has the potential to lead to anti-social behaviour, domestic violence and family breakdown. Where mothers have consumed alcohol during pregnancy, babies may be born with Foetal Alcohol Spectrum Disorders (FASD). Estimates of the burden of disease and injury for Indigenous Australians attribute 5.4% of the total burden to the net effects of alcohol consumption. For Aboriginal and Torres Strait Islander males aged 15–34 years, alcohol was responsible for the greatest burden of disease and injury among the 11 risk factors considered (Vos et al. 2007) and is a serious public health issue facing Indigenous Australians (Calabria et al. 2010). Reducing alcohol and other substance misuse can significantly reduce levels of assaults and homicides and disability, while improving the overall health and wellbeing of the population (see measure 3.11) (SCRGSP 2009).

Findings:

The 2004–05 NATSIHS collected data on alcohol consumption based on levels of risk associated with short-term drinking (consuming alcohol at risky levels in a single day over the past 12 months) and long-term risk levels (based on average daily consumption over the previous week) (NHMRC 2001). In 2004–05, 24% of Indigenous Australians aged 18 years and over had abstained from alcohol consumption in the last 12 months. After adjusting for differences in the age structure of the two populations, this was twice the non-Indigenous rate. However, a greater proportion of Indigenous Australians who did drink consumed alcohol at levels that posed risks for their health. In 2004–05, 17% of Indigenous adults reported drinking at long-term risky/high risk levels. This was similar to the non-Indigenous rate. An estimated 55% of Indigenous Australians reported drinking at short-term risky/high risk levels at least once in the

last 12 months and 19% at least once a week over this period. After adjusting for the difference in age structure of the two populations, rates of binge drinking among Indigenous adults were twice the non-Indigenous rates. In addition, Indigenous males were more likely than females to report drinking at both short-term and long-term risky/high risk levels.

The 2008 NATSISS included a set of questions on chronic alcohol consumption (amount consumed on a usual drinking day in previous 12 months) and binge drinking (largest quantity of alcohol consumed in a single day during the previous fortnight). Note that these are not the same questions that were asked in the 2004–05 NATSIHS and therefore results are not comparable. In 2008, 17% of Indigenous Australians aged 15 years and over reported drinking at chronic risky/high risk levels in the past 12 months, representing no significant change since 2002 (15%). A further 46% of Indigenous Australians were low risk drinkers and 35% had abstained from drinking alcohol in the last 12 months. Indigenous males were more likely than females to drink at chronic risky/high risk levels (20% compared with 14%), and this pattern was evident in all age groups. Approximately 80% of Indigenous women did not drink during pregnancy.

Chronic risky/high risk drinking was highest among those aged 35–44 years (22%) and lowest among those aged 55 years and over (10%). Rates of risky/high risk drinking ranged from 14% in major cities to 20% in outer regional areas. However, Indigenous Australians in remote areas were more likely than those in non-remote areas to be abstainers (46% compared with 31%).

In 2008, 37% of Indigenous people aged 15 years and over reported drinking at acute risky/high risk levels (binge drinking) in the two weeks prior to interview. Binge drinking was more common among Indigenous males (46%) than Indigenous females (28%), with men aged 25–44 years reporting the highest rates. Rates of binge drinking were higher in non-remote than remote areas (38% compared with 33%). Alcohol was perceived as a neighbourhood/community problem by 41% of respondents aged 15 years and over in the 2008 NATSISS.

Over the period 2006–10, in NSW, Qld, WA, SA and the NT combined, Aboriginal and Torres Strait Islander males died from alcohol-related causes at 5 times the rate of non-Indigenous males. Indigenous females died from causes related to alcohol use at 8 times the rate of non-Indigenous females. Most deaths (261 out of 382 deaths) were due to alcoholic liver disease. Indigenous Australians died from mental and behavioural disorders due to alcohol use at 7 times the rate of non-Indigenous Australians; alcoholic liver disease at 6 times the rate of non-Indigenous Australians; and poisoning by alcohol at 5 times the rate.

Over the period July 2008 to June 2010, there were 7,763 hospitalisations of Indigenous Australians (excluding Tasmania and the ACT) that had a principal diagnosis related to alcohol use. This represented 2% of all hospitalisations of Indigenous Australians (excluding dialysis). Indigenous males were hospitalised for diagnoses related to alcohol use at 5 times the rate of non-Indigenous males, and Indigenous females at 4 times the rate of non-Indigenous females. Eighty-six per cent of all hospital episodes of Indigenous Australians related to alcohol use had a principal diagnosis of mental and behavioural disorders due to alcohol use, including acute intoxication, dependence syndrome and withdrawal state. Indigenous Australians were hospitalised for alcoholic liver disease at 6 times the rate of non-Indigenous Australians. Rates were highest in remote areas (14 per 1,000) and lowest in very remote areas (7 per 1,000).

Implications:

The health effects of risky/high risk alcohol consumption are evident in both mortality and morbidity statistics. Alcohol misuse is linked to social and emotional wellbeing, mental health and other drug issues. Under the *National Drug Strategy 2010–2015*, seven sub-strategies will be developed. One of the sub-strategies is the *National Aboriginal and Torres Strait Islander Peoples Drug Strategy* (NATSIPDS). The NATSIPDS will be informed by the other sub-strategies, including the *National Alcohol Strategy* which will aim to prevent and minimise alcohol-related harm to individuals, families and communities through the development of a safer drinking culture in Australia.

From 2012–13, around 100 Indigenous service providers and 150 non-government organisations across Australia are funded by the Australian government to provide, or support, alcohol and other drug treatment and rehabilitation services. These services provide a variety of treatment models including rehabilitation in a residential setting and drug and alcohol workers in primary care services.

There are a number of local initiatives to reduce risky levels of alcohol consumption. For example in WA, the

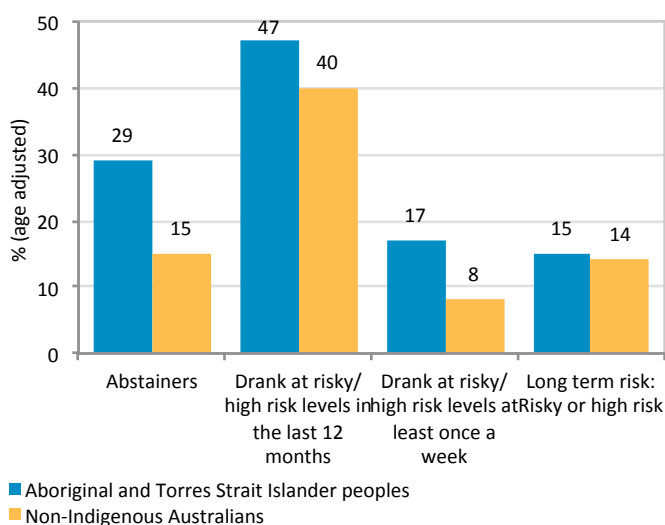
Strong Spirit Strong Mind Metro Project aims to raise awareness of alcohol and other drug misuse among Aboriginal and Torres Strait Islander peoples, families and communities. With a focus on young people aged 12–25 years, the project encourages Aboriginal people to develop the knowledge, attitudes and skills to choose healthy lifestyles, promote healthy environments and create safer communities.

On 1 March 2012, the Australian Government committed \$20 million for Indigenous communities to tackle alcohol

and substance abuse under the Breaking the Cycle of Alcohol and Drug Abuse in Indigenous Communities initiative.

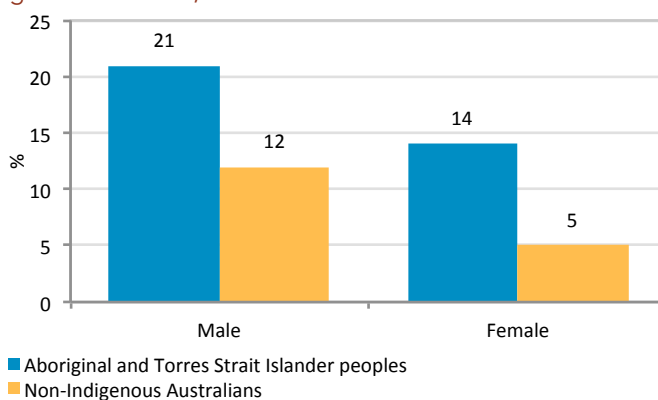
Community involvement in local actions to alleviate the problems of alcohol misuse is vital. In the Fitzroy Valley, WA, the community-driven Lililwan Project is underway to determine the prevalence of FASD in the area and to support the community through education, diagnosis and support (see also measure 2.21).

Figure 124 Alcohol risk levels by Indigenous status, persons aged 18 years and over, age-standardised, 2004–05



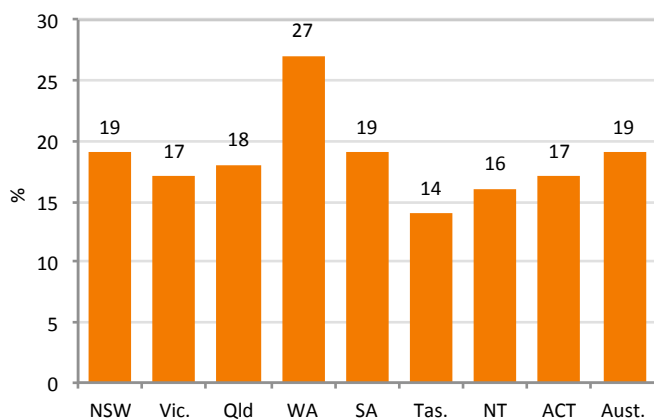
Source: ABS & AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS

Figure 125 Persons aged 18 years and over who drank at short-term risky/high risk levels at least once a week, age-standardised, 2004–05



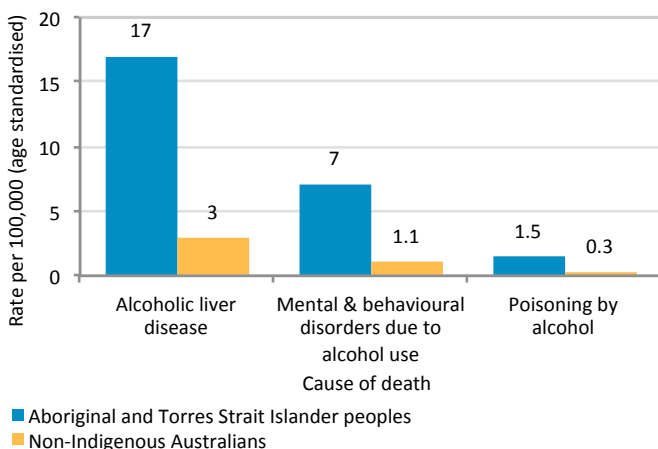
Source: ABS & AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS

Figure 126 Aboriginal and Torres Strait Islander adults who drank at short-term risky/high risk levels at least once a week, by jurisdiction, 2004–05



Source: ABS & AIHW analysis of 2004–05 NATSIHS

Figure 127 Age-standardised rates for deaths related to alcohol use, NSW, Qld, WA, SA and the NT, 2008–10



Source: AIHW analysis of National Mortality Database

2.17 Drug and other substance use including inhalants

Why is it important?:

Drug and other substance use is a contributing factor to illness and disease, accident and injury, violence and crime, family and social disruption and workplace problems (SCRGSP 2007). Estimates of the burden of disease and injury in Aboriginal and Torres Strait Islander peoples attribute 3.4% of the total burden to illicit drug use (Vos et al. 2007).

The use of drugs or other substances including inhalants is linked to various medical conditions. Injecting drug users, for example, have an increased risk of contracting blood borne viruses such as hepatitis or HIV (ABS & AIHW 2008). For communities, there is increased potential for social disruption, such as that caused by domestic violence, crime and assaults. Community-based research has identified issues arising from alcohol, drug and substance use. These include loss of control and abusive behaviour, ranging from physical to emotional violence (Franks 2006). Reducing drug-related harm will improve health, social and economic outcomes at both the individual and community level.

Drugs and other substance use plays a significant role in Aboriginal and Torres Strait Islander peoples' involvement in the criminal justice system. According to the Office of the Status of Women there is a correlation between domestic violence, and drug and alcohol use in Aboriginal and Torres Strait Islander communities, with 70% to 90% of assaults being committed under the influence of alcohol and/or other drugs (SCRGSP 2007).

Glue sniffing, petrol sniffing, inhalant abuse, and solvent abuse are difficult to control because the active substances are found in many common products that have legitimate uses. People that use these as inhalants risk long-term health problems, or sudden death. Continued use can also lead to the social alienation of sniffers, violence and reduced self-esteem (SCRGSP 2007).

There is concern about an apparent recent increase in marijuana use in some

Aboriginal communities (Lee et al. 2008; Senior et al. 2008).

Findings:

In the 2008 NATSISS an estimated 23% of Aboriginal and Torres Strait Islander peoples aged 15 years and over reported illicit substance use in the last 12 months and a further 20% reported having used an illicit substance at least once in their lifetime. These proportions are similar to the rates reported for Indigenous people in non-remote areas in 2002 (24% and 16%, respectively). In 2008, substance use was more prevalent among Indigenous males, of whom 51% had tried drugs (compared with 36% of females) and 28% of whom had used at least one substance in the last 12 months (compared with 17% of females). Cannabis was the most common illicit substance used in the last 12 months for Aboriginal and Torres Strait Islander peoples (17%) followed by analgesics or sedatives for non-medical use (5%) and amphetamines/speed (4%). Approximately 16% of Indigenous Australians reported having used one substance in the last 12 months and 6% two or more substances. The study of burden of disease in Aboriginal and Torres Strait Islander peoples estimated that heroin or poly-drug dependence was responsible for 37% of the burden due to illicit drugs (Vos et al. 2007).

Around 23% of Indigenous students aged 12–15 years had used an illicit substance in their lifetime, compared with 11% of all 12–15 year old students. The most common illegal substance used by Indigenous students was cannabis (used by 20%), followed by amphetamines (8%), ecstasy (6%), hallucinogens (5%), cocaine (5%) and opiates (5%). In addition, 24% of Indigenous students had used inhalants (glue, paint, petrol), with 13% in the past month (compared with 8% in the past month for total students) (White et al. 2010b).

In 2007, 47% of Indigenous Australians had never used drugs or other substances, including inhalants, compared with 62% of non-Indigenous Australians (AIHW 2008a). Indigenous Australians were almost twice as likely to report being a recent user as non-Indigenous Australians (24% and 13% respectively) (AIHW 2008a). When cannabis is excluded, a different picture emerges. Of Indigenous Australians, 12% were recent users of a drug or other substance other than cannabis,

compared with 8% of other Australians (AIHW 2008a).

In 2008, a higher proportion of Indigenous Australians aged 15 years and over who were recent substance users reported they were currently daily smokers (68%) and drank at risky/high risk levels (9%) than Indigenous persons who had never used illicit substances (35% and 3% respectively).

Approximately 5% of mothers with a child aged 0–3 years reported having used substances during pregnancy.

The 2008 Evaluation of the Impact of Opal Fuel report undertook data collection on the prevalence of petrol sniffing in a sample of 20 Indigenous communities which have access to Opal (low aromatic) fuel and where baseline data had previously been collected. The study showed that the prevalence of petrol sniffing declined in 17 of the 20 communities. Across the sample there was a decrease of 431 (70%) in the number of people sniffing between baseline and follow-up. The rate of sniffing decreased across all frequency levels including a 60% reduction in the number of people sniffing at occasional levels, an 85% reduction in the number of people sniffing at regular light levels, and a 90% reduction in the number of people sniffing at regular heavy levels (d'Abbs et al. 2008).

For the period July 2008 to June 2010, there were 4,537 hospitalisations of Indigenous Australians related to substance use (excluding Tasmania and the ACT). Indigenous Australians were hospitalised for conditions related to substance use at more than twice the rate of other Australians.

The AIC Drug Use Monitoring in Australia survey reports on drug use among police detainees at 9 police stations in metropolitan areas in SA, NSW, Qld, WA, the NT and Victoria. In 2010, the proportion of detainees that tested positive for drugs was higher for Indigenous detainees than for non-Indigenous detainees in all police stations surveyed.

Implications:

In 2008, almost one-quarter of Aboriginal and Torres Strait Islander peoples aged 15 years and over had used substances in the last 12 months. Higher rates of drug use are related to poorer health status and higher levels of psychological distress. The *National Drug Strategy*

Aboriginal and Torres Strait Islander Peoples' Complementary Action Plan 2003–2009 (the CAP) was developed to help provide a nationally coordinated and integrated approach to reducing drug-related harm among Aboriginal and Torres Strait Islander peoples. A recent evaluation of the CAP found it to be an effective policy framework which has guided approaches to policy and program delivery in relation to licit and illicit substances. Under the *National Drug Strategy 2010–2015*, seven sub-strategies will be developed, including the *National Aboriginal and Torres Strait Islander Peoples Drug Strategy*.

From 2012–13, around 100 Indigenous service providers and 150 non-government organisations across Australia are funded by the Australian

government to provide, or support, alcohol and other drug treatment and rehabilitation services. Services provided a variety of treatment models including rehabilitation in a residential setting and drug and alcohol workers in primary care services.

The Australian Government is supporting non-government drug and alcohol treatment services to deliver quality, evidence-based services and build capacity to effectively identify and treat coinciding mental illness under Priority 1 of the Substance Misuse Service Delivery Grants Fund. This includes 22 Indigenous-specific organisations across Australia.

On 1 March 2012, the Australian Government also committed \$20 million for Indigenous communities to tackle alcohol and substance abuse under the

Breaking the Cycle of Alcohol and Drug Abuse in Indigenous Communities initiative.

The Petrol Sniffing Strategy, launched in 2005, is a comprehensive regional approach to address petrol sniffing in regional and remote Australia. The eight points of the strategy are consistent legislation; appropriate levels of policing; further rollout of low aromatic fuel; alternative activities for young people; treatment and respite facilities; communication and education strategies; strengthening and supporting communities; and evaluation (undertaken by FaHCSIA). The strategy aims to reduce the incidence of petrol sniffing and improve the health and social wellbeing of Indigenous youth.

Table 36
Aboriginal and Torres Strait Islander peoples aged 15 years and over in non-remote areas, substance use by sex, 2002 and 2008

Substance use	2002 ^(b)			2008 ^(b)		
	Males	Females	Persons	Males	Females	Persons
Used substances	%	%	%	%	%	%
Used substances in last 12 months						
Marijuana, Hashish or Cannabis Resin ^(c)	23.3	14.8	18.9	23.1	11.6	17.1
Analgesics and sedatives for non-medical use ^{(d)(e)}	3.8	5.3	4.6	5.7	4.9	5.3
Amphetamines or speed	4.0	3.6	3.8	5.4	2.7	4.0
Kava ^(a)	1.4	1.2	1.3	1.7	0.7	1.2
Total used substances in last 12 months ^{(f)(g)}	27.5	19.7	23.4	28.2	17.3	22.4
Used substances but not in last 12 months ^{(c)(e)(h)}	16.7	15.0	15.8	22.3	18.6	20.4
Total ^{(d)(h)(i)}	44.3	34.9	39.4	50.6	36.0	42.9
Never used substances	55.2	64.8	60.2	49.2	63.2	56.6
Not stated ^{(a)(j)}	-	0.3	0.4	0.3	0.8	0.5
Total ^{(k)(l)}	100	100	100	100	100	100
Persons who accepted form ('000)	127	136	263	141	157	297
Persons 15 years and over ('000)	135	147	282	156	171	327

- Estimate with a relative standard error greater than 50%. Considered too unreliable for general use.

(a) Estimate with a relative standard error of 25 per cent to 50 per cent. Should be used with caution.

(b) The substance use questions in the 2008 NATSISS are comparable to those used in the 2002 NATSISS. However, when comparing between 2002 and 2008 it should be noted that there were changes in the proportion of people who did not accept the substance use form (6 per cent non-response in the 2002 NATSISS compared with 9 per cent for the 2008 NATSISS).

(c) Difference between female rate in 2002 and 2008 is statistically significant.

(d) Includes pain killers, tranquilisers and sleeping pills.

(e) Difference between male rate in 2002 and 2008 is statistically significant.

(f) Includes heroin, cocaine, petrol, LSD/synthetic hallucinogens, naturally occurring hallucinogens, ecstasy/designer drugs, and other inhalants. Includes methadone in 2008.

(g) Sum of components may be more than total as persons may have reported more than one type of substance used.

(h) Difference between person rate in 2002 and 2008 is statistically significant.

(i) Includes 'whether used in last 12 months' not known.

(j) This category comprises people who accepted the substance use form but did not state if they had ever used substances.

(k) People who accepted the substance use form.

(l) Difference between 2008 male rate and female rate is statistically significant.

Source: AIHW analysis of 2002 and 2008 NATSISS.

2.18 Physical activity

Why is it important?:

Physical inactivity is an important modifiable risk factor associated with several potentially preventable chronic diseases that are prevalent in the Aboriginal and Torres Strait Islander population. These include cardiovascular disease, hypertension and diabetes. Physical inactivity is also related to overweight and obesity, another important risk factor for multiple diseases. Physical inactivity accounted for approximately 6.7% of the total burden of disease in the Australian population and 8% for the Indigenous population (Vos et al. 2007; Begg et al. 2007).

Physical inactivity is the third leading risk factor in the Indigenous population, after tobacco use and high body mass. Its effect is manifested through a range of diseases, most notably ischaemic heart disease (55% of the burden attributed to physical inactivity) and diabetes (33%).

Current guidelines recommend that adults do at least 30 minutes of moderate intensity physical activity on most, preferably all, days; and that children aged 5–18 years do at least 60 minutes per day of moderate to vigorous physical activity (Commonwealth Department of Health and Ageing, n.d). Research has established inverse associations between physical activity with fat mass and biomedical risk factors for chronic disease (Ness et al. 2007; Steele et al. 2009). Studies of the relationship between physical activity and the presence of disease have confirmed that activity reduces the risk for heart disease (Stephenson et al. 2000; Bull et al. 2004), high blood pressure (Kokkinos et al. 2001), diabetes and the symptoms of depression, anxiety and stress (WHO 2008). In the case of diabetes, large scale trials in China, Finland and the United States have shown that a combination of modest weight loss, diet and moderate physical activity can reduce the risk of developing Type 2 diabetes by 50–60% in those at high risk (Bull et al. 2004).

Findings:

Between 2001 and 2004–05 there was a noticeable shift towards lower levels of physical activity among Aboriginal and

Torres Strait Islander peoples in non-remote areas. The proportion of sedentary Aboriginal and Torres Strait Islander peoples aged 15 years and over increased between those years from 37% to 47%. The proportion reporting a high level of physical activity remained unchanged over this period at 7%.

After adjusting for differences in the age structure of the two populations, Aboriginal and Torres Strait Islander peoples aged 15 years and over in non-remote areas were one and a half times as likely as non-Indigenous Australians to be classified as sedentary in 2004–05. A higher proportion of Indigenous females than Indigenous males were sedentary (51% compared with 42%). The proportion of Indigenous Australians who were sedentary ranged from 37% in Tasmania and the ACT to 51% in NSW.

Sedentary or low levels of physical activity were highest among those aged 45 years and over, while moderate or high levels of physical activity were highest among those aged 15–24 and 25–34 years (32% and 27% respectively). Over three-quarters (78%) of Indigenous people aged 15 years and over who were overweight or obese reported exercising at low or sedentary levels. Most Indigenous current smokers aged 18 years and over (83%) reported low or sedentary exercise levels.

There is a positive association between level of physical activity and self-assessed health status. For Aboriginal and Torres Strait Islander peoples in non-remote areas, the proportion reporting excellent, very good or good health status was 94% for those who engaged in high levels of physical activity and 71% for those who were sedentary.

In the 2008 NATSISS, 74% of Indigenous children aged 4–14 years were physically active for at least 60 minutes every day in the week before the survey. This varied by jurisdiction, with WA and Tasmania having the highest proportion (80%) and the ACT having the lowest (59%).

Implications:

Improving levels of physical activity levels presents a significant opportunity for closing the gap in Indigenous disadvantage, particularly in terms of a reduction in deaths from ischaemic heart disease and diabetes. However, individual health behaviours should be

interpreted with an understanding of the social and structural factors that put the population at increased risk (OATSIH 2004).

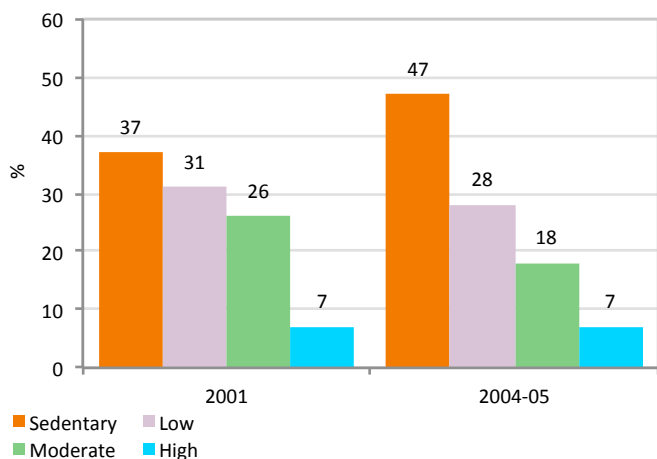
To increase opportunities for physical activity, funding agreements are in place to provide access to a range of sport and physical recreation activities across Australia. These agreements include weekly sports competitions, sports carnivals, small sporting grants, sports equipment, sport and recreation officers and access to sport-specific accreditation (e.g., sports administration, umpiring, coaching). Community-based health promotion initiatives that incorporate traditional games are also being analysed for holistic benefits including cultural connectedness and improved wellbeing (Parker et al. 2006).

The Indigenous Sport and Active Recreation Program supports community participation in sport and active recreation activities that help to improve the health and physical wellbeing of Indigenous Australians and those activities that contribute to broader social benefits for participants and their communities. The program's objectives are to increase the active participation of able and disabled Indigenous Australians in sport and active recreation; encourage and increase community ownership and management of sport and active recreation activities, including through skills development; and provide employment opportunities for people to support or assist in the provision of sport and active recreation activities.

Preventative health is also a key priority area of the *National Partnership Agreement on Closing the Gap in Indigenous Health Outcomes*. Under the Agreement, governments are implementing initiatives to help reduce the lifestyle risk factors that contribute to preventable chronic disease. This includes a network of healthy lifestyle workers to promote increased physical activity.

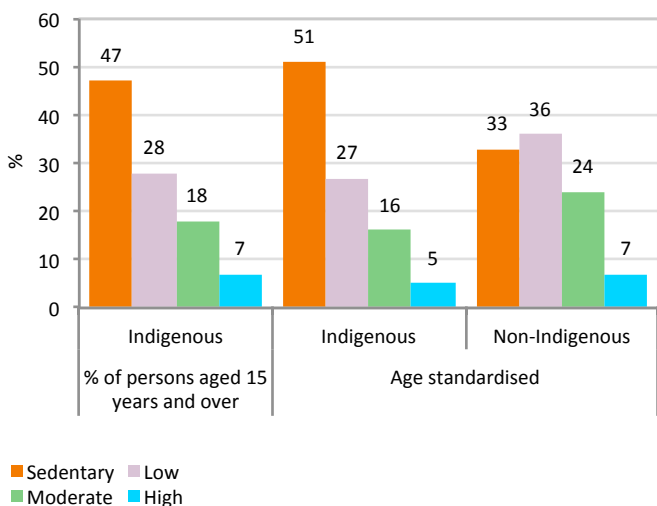
In March 2011, the *Swap It Don't Stop It* campaign was launched. The campaign has a dedicated page on its website where print advertising relating to swapping sitting for walking more may be downloaded and a radio advertisement may be heard. The webpage also outlines the *LiveLonger* campaign which delivers physical activity messages specifically for Aboriginal and Torres Strait Islander peoples.

Figure 128
Indigenous persons aged 15 years and over, level of physical activity, non-remote areas, 2001 and 2004–05



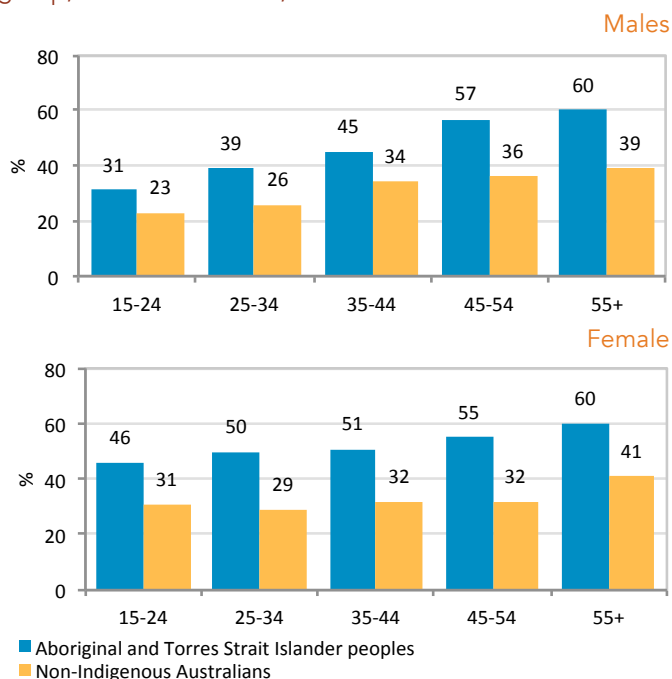
Source: ABS & AIHW analysis of 2004–05 NHS (Indigenous supplement) and 2004–05 NATSIHS

Figure 130
Persons aged 15 years and over, level of physical activity, by Indigenous status, non-remote areas, 2004–05



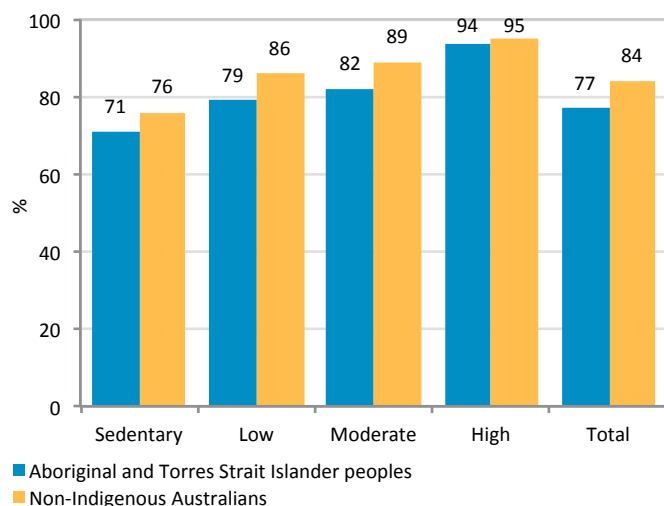
Source: ABS & AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS

Figure 129
Persons aged 15 years and over reporting a sedentary level of physical activity, by Indigenous status, sex and age group, non-remote areas, 2004–05



Source: ABS & AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS

Figure 131
Persons aged 15 years and over reporting excellent, very good or good health status, by Indigenous status and level of physical activity, non-remote areas, age-standardised, 2004–05



Source: ABS & AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS

2.19 Dietary behaviours

Why is it important?:

Many of the principal causes of ill-health among Aboriginal and Torres Strait Islander peoples are nutrition-related diseases, such as heart disease, Type 2 diabetes and renal disease. While a diet high in saturated fats and refined carbohydrates increases the likelihood of developing these diseases, regular exercise and intake of fibre-rich foods, such as fruit and vegetables, can have a protective effect against disease. The National Health and Medical Research Council's Australian Dietary Guidelines recommend that adults eat a minimum of five serves of vegetables and two serves of fruit per day (ABS 2006b; ABS & AIHW 2008).

The Burden of Disease and Injury in Aboriginal and Torres Strait Islander Peoples 2003 (Vos et al. 2007) attributed 3.5% of the total burden of disease in the Aboriginal and Torres Strait Islander population to low fruit and vegetable consumption. Its impact is largely as a risk factor for ischaemic heart disease (Vos et al. 2007). Diet-related diseases are caused by combinations and interactions of environmental, behavioural, biological, social and hereditary factors. There is a substantial quantity of evidence that associates dietary excesses and imbalances with chronic disease. Of particular relevance in Indigenous communities are factors such as socioeconomic status and other risk factors including insulin resistance, glucose intolerance, obesity (especially central fat deposition), hypertension, high blood triglycerides, perinatal and postnatal nutrition and childhood nutrition (NHMRC 2000; Longstreet et al. 2008). Good maternal nutrition and healthy infant and childhood growth are fundamental to the achievement and maintenance of health throughout the life cycle. Inadequate nutrition during pregnancy is one factor that has been associated with low birthweight in babies (see measure 1.01). Growth retardation among Indigenous infants after the age of 4 to 6 months has consistently been noted. Relatively poor growth has also been shown to persist in older children, although overweight and obesity are also increasing (NHMRC 2003b).

Findings:

In 2004–05, in non-remote areas, 42% of Aboriginal and Torres Strait Islander peoples were eating the recommended daily intake of fruit (2 or more serves) and 10% the recommended daily intake of vegetables (5 or more serves). The majority of Indigenous Australians aged 12 years and over reported eating vegetables (95%) and/or fruit (86%) daily. However, 24% of those in non-remote areas reported a low usual daily vegetable intake (does not eat vegetables or eats one serve or less per day). This proportion had increased since it was measured at 18% in 2001 (ABS 2001). A higher proportion (58%) of Indigenous Australians aged 12 years and over in non-remote areas reported a low usual daily fruit intake (does not eat fruit or eats one serve or less per day) in 2004–05, up from 56% in 2001.

Food supply is more limited in rural and remote areas including quality, variety and cost of fresh fruit and vegetables (Scelza 2012; Meedeniya et al. 2000). The 2008 NATSISS found that in remote areas, 20% of Indigenous Australians aged 12 years and over reported no usual daily fruit intake compared with 12% in non-remote areas. The disparity was even greater for vegetables, with 15% of Indigenous Australians in remote areas reporting no usual daily intake, compared with 2% in non-remote areas.

After adjusting for differences in the age structure of the two populations, Indigenous Australians aged 12 years and over were twice as likely as non-Indigenous Australians to report no usual daily fruit intake and 7 times as likely to report no daily vegetable intake (ABS 2006b).

The 2004–05 NATSIHS found an association between dietary behaviour and income, educational attainment and self-assessed health status. For example, Indigenous Australians aged 15 years and over in the lowest quintile of income were much more likely than Indigenous Australians in the two highest quintiles of household income to report no usual daily fruit intake (17% compared with 9%) and no usual daily vegetable intake (8% compared with less than 1%). Low fruit and vegetable intake was also associated with smoking and risky/high risk alcohol consumption.

Implications:

Evidence suggests that people living in poverty tend to maximise calories per dollar spent on food. Energy-dense foods rich in fats, refined starches and sugars represent the lowest cost options, while healthy diets based on lean meats, whole grains and fresh vegetables and fruits are more costly (Drewnowski et al. 2004). People in vulnerable groups may therefore simultaneously be overweight or obese and experience food insecurity (AIHW 2012a).

In Qld the 'Healthy Jarjums' school-based nutrition program was designed by a local Indigenous teacher in consultation with nutritionists and the community. Its evaluation concluded that it could be successfully implemented in other disadvantaged areas with a high Indigenous population.

The National Aboriginal and Torres Strait Islander Nutrition Strategy and Action Plan (NATSINSAP) 2000–2010 provided a framework to improve Aboriginal and Torres Strait Islander health and wellbeing through better nutrition. A major achievement supported by the NATSINSAP was the Remote Indigenous Stores and Takeaways project, which took place between 2005 and 2008. This project aimed to improve access to good quality, healthy foods and discouraged the availability of energy dense/nutrient poor food and drinks in remote Indigenous communities by developing guidelines, standards and staff training packages for community stores and takeaways.

In 2009–10, the Australian Government completed an evaluation of the NATSINSAP which examined how effectively it was implemented and identified ways it could be more effective and responsive to the current environment.

The *National Strategy for Food Security in Remote Indigenous Communities*, a schedule to the *National Indigenous Reform Agreement*, was agreed by the Council of Australian Governments in December 2009. This strategy identifies specific actions that can be taken by all relevant jurisdictions to improve food security, including access to nutritious food, in remote Indigenous communities (COAG 2009a). The *Anangu Pitjantjatjara Yankunytjatjara (APY) Lands Food Security Strategic Plan 2011–2016* is designed to guide the work of the South Australian Government in meeting the

goals set out in the National Strategy in the APY Lands. This plan includes initiatives to promote community knowledge about nutrition, food preparation, and gardening for food production (Department of Premier and Cabinet, SA 2010).

The *Get Up and Grow: Healthy Eating and Physical Activity for Early Childhood* resources were launched in October 2009, providing evidence-based practical information to support healthy behaviours in children attending early childhood education and care services. The resources have been translated into nine non-English languages and have been adapted for Indigenous communities. The Indigenous resources are expected to be available in late 2012.

In March 2011, the *Swap It Don't Stop It* campaign was launched. The campaign has a dedicated page on its

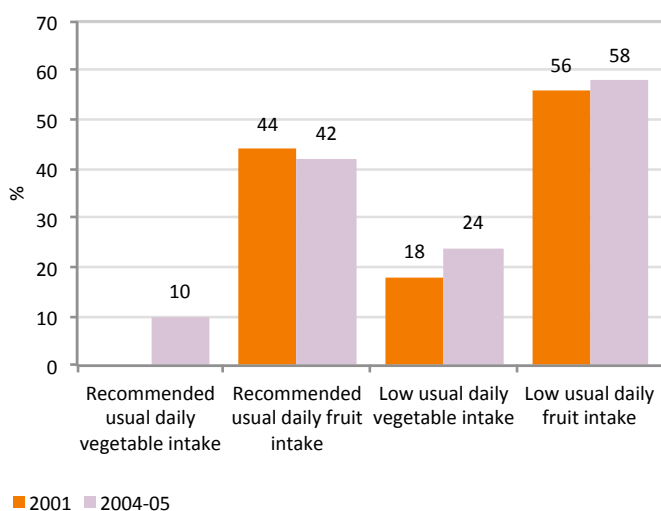
website where print advertising relating to swapping fried food for fresh may be downloaded and a radio advertisement may be heard. The webpage also outlines the *LiveLonger* campaign which delivers healthy eating messages specifically for Aboriginal and Torres Strait Islander peoples.

Under the *National Partnership Agreement on Closing the Gap in Indigenous Health Outcomes*, the Commonwealth, states and territories have committed to preventive health as a key priority area. For example, the Commonwealth's Indigenous Chronic Disease Package includes funding for a Healthy Lifestyle workforce, which is being rolled out in Regional Tackling Smoking and Healthy Lifestyle teams across 57 regions nationally. Healthy Lifestyle Workers are delivering health promotion and community education activities to reduce chronic disease risk factors. This includes promoting

improved nutrition and increased physical activity.

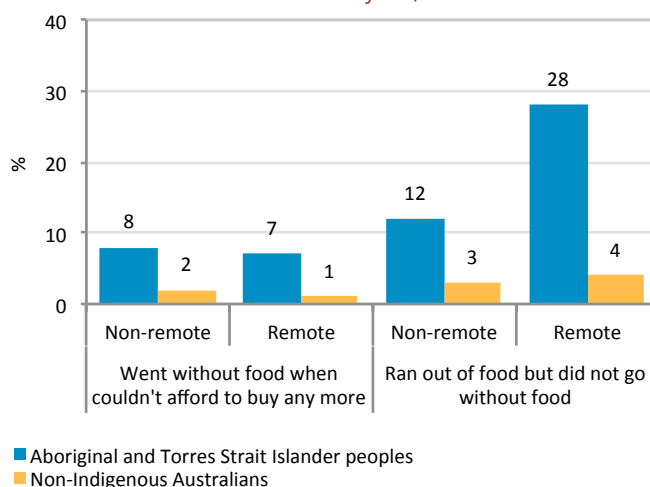
A person's access to a healthy diet can be influenced by a range of socioeconomic, geographical, environmental factors. Food security, food access and food supply issues are of particular importance in rural and remote areas. Remote stores often have a limited range of foods, particularly perishable foods such as fresh fruit, vegetables and dairy foods, and purchase prices are usually higher. Low income combined with high food costs result in many Indigenous Australians spending a large proportion of their income on food and contributes to concerns among Indigenous Australians of going without food (Brimblecombe et al. 2009). An estimated 30% of Aboriginal adults worry at least occasionally about going without food (Strategic Inter-Governmental Nutrition Alliance 2001).

Figure 132
Usual daily intake of vegetables and fruit, Indigenous Australians aged 12 years and over, non-remote areas, 2001 and 2004-05



Source: AIHW analysis of 2001 NHS (Indigenous supplement) and 2004-05 NATSIHS

Figure 133
Age-standardised proportion of persons aged 15 years and over who ran out of food and couldn't afford to buy more at some time over the last year, 2004-05



Source: AIHW analysis of 2004-05 NATSIHS

2.20 Breastfeeding practices

Why is it important?:

Breastfeeding is one of the most important health behaviours impacting on the survival, growth, development and health of infants and young children. The most recent guidelines released by the National Health and Medical Research Council recommend exclusive breastfeeding for the first 6 months of life and that ideally breastfeeding be continued until 12 months of age and beyond if the mother and child wish (NHMRC 2003b).

Breastfeeding offers protection against many conditions, including sudden infant death syndrome (SIDS), diarrhoea, respiratory infections, middle ear infections and the development of diabetes in later life (Annamalay et al. 2012).

The NHMRC guidelines recognise the protection that breastfeeding can provide against poor health outcomes in early childhood.

Findings:

In the 2004–05 NATSIHS and NHS, breastfeeding rates for Indigenous children aged 0–3 years in non-remote areas were lower (79%) than for non-Indigenous children aged 0–3 years (88%) in non-remote areas.

In the 2008 NATSISS breastfeeding status varied by remoteness, with a higher proportion of Aboriginal and Torres Strait Islander children aged less than 12 months being breastfed in remote areas (70%) than in non-remote areas (55%). A smaller proportion of children aged 0–3 years in remote areas had never been breastfed compared with children in non-remote areas (14% and 25% respectively).

In 2010, the Australian National Infant Feeding Survey found that 59% of Aboriginal and Torres Strait Islander infants and 61% of non-Indigenous infants less than one month of age were exclusively breastfed. At less than 3 months, 33% of Indigenous infants were exclusively breastfed compared to 48% of non-Indigenous infants. At less than 6 months, 7% of Indigenous infants were exclusively breastfed compared to 16% of non-Indigenous infants.

This survey also found that a higher proportion of Aboriginal and Torres Strait Islander children living in areas in the most advantaged quintile been breastfed at some point (99%) compared with children living in areas the most disadvantaged quintile (93%). These proportions were similar for non-Indigenous children in areas in the most advantaged quintile (98%) and in areas in the most disadvantaged quintile (94%).

In this survey, 31% of Aboriginal and Torres Strait Islander infants aged three months had received soft, semi-solid or solid food in the last 24 hours compared to 9% of non-Indigenous infants. By the time infants reached 5 months, similar proportions of both groups had been given soft, semi-solid or solid food (70%).

A study of 476 Aboriginal and Torres Strait Islander women, attending 34 Indigenous community health centres across Australia, found that 24% received advice about breastfeeding during an antenatal check, compared to 47% during a postnatal visit (Rumbold et al. 2011).

While numerous mainstream epidemiological studies have found maternal smoking to be negatively associated with breastfeeding initiation and duration, a study of 425 Aboriginal mothers in Perth found no such association (Gilchrist et al. 2004). This is an area requiring more Indigenous-specific research.

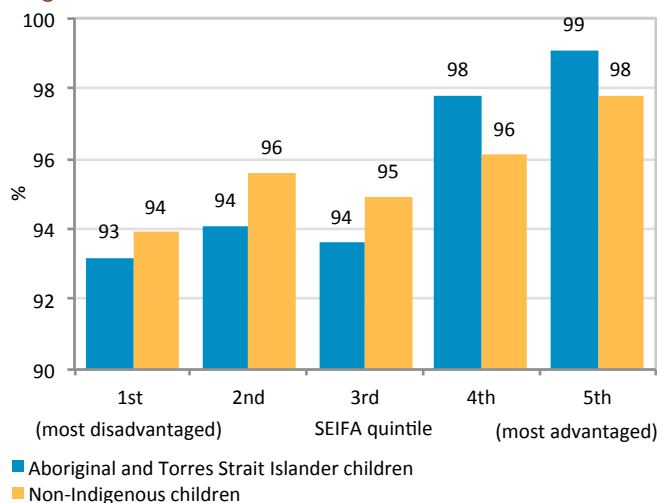
Implications:

Opportunities exist for the promotion of breastfeeding in partnership with Aboriginal and Torres Strait Islander families and communities in educational settings and within the health sector, particularly in antenatal and post-natal care.

The *Australian National Breastfeeding Strategy 2010–2015* was endorsed by Health Ministers on 13 November 2009. The Strategy aims to protect, promote, support and monitor breastfeeding in Australia, and recognises the importance of breastfeeding support especially for priority groups. The Breastfeeding Strategy recognises the contribution of the *National Partnership Agreement on Indigenous Early Childhood Development* and related Commonwealth initiatives such as *New Directions Mothers and Babies Services* in supporting breastfeeding and parenting skills.

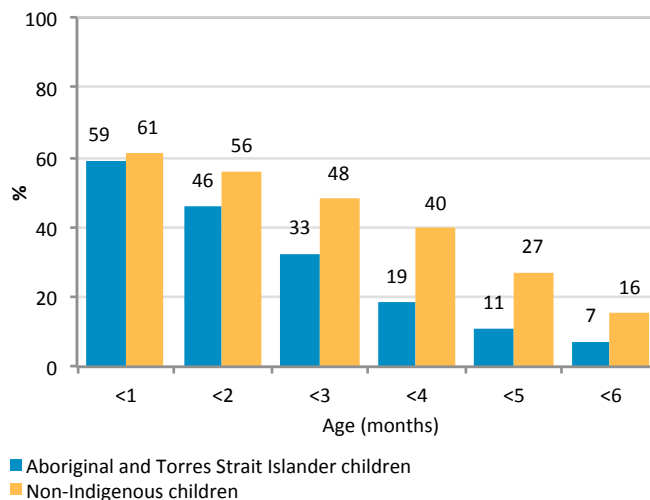
Monitoring of breastfeeding practices should be undertaken in conjunction with diabetes (see measure 1.09), ear health (see measure 1.15), infant and child mortality (see measure 1.20), perinatal mortality (see measure 1.21) and antenatal care (see measure 3.01).

Figure 134
Proportion of children ever breastfed, by Indigenous status and socioeconomic status of the area in which they were living, 2010



Source: 2010 Infant Feeding Survey

Figure 135
Duration of exclusive breastfeeding to each month of age, by Indigenous status, 2010



Source: 2010 Infant Feeding Survey

Table 37
Aboriginal and Torres Strait Islander children aged 0–3 years, breastfeeding status by state/territory, 2008

	NSW/ACT	Vic	Qld	WA	SA	Tas	NT	Australia
Breastfeeding age range:								
Per cent								
0 to < 6 months	39	39	36	28	37	35	13	34
6 months or more	16	24	26	25	17	32	21	22
Currently breastfeeding	13	14	18	31	16‡	7‡	51	21
Ever breastfed	68	80	80	85	70	74	88	77
Never breastfed	32	20	20	15	30	27‡	12‡	23
Total	100	100	100	100	100	100	100	100
Number								
Total children 0-3 years	15,704	3,322	16,385	6,623	2,759	1,818	5,608	52,648

‡ estimates with a relative standard error of 25% to 50% should be used with caution.

Source: ABS analysis of the 2008 NATSISS

2.21 Health behaviours during pregnancy

Why is it important?:

Health behaviours during pregnancy can have major impacts on the health outcomes of mothers and their children. Smoking is a major risk factor for adverse events in pregnancy and is associated with poor perinatal outcomes such as low birthweight, pre-term birth, foetal growth restriction, congenital anomalies and perinatal death (AIHW 2004b; WHO et al. 2012; Sullivan et al. 2006). Smoking during pregnancy is also associated with increased risk of miscarriage, ectopic pregnancy, gestational diabetes, pre-term labour and ante partum haemorrhage (Laws et al. 2005; England et al. 2004).

Drinking alcohol while pregnant may result in a range of impairments in cognitive, social and emotional functioning over the child's lifetime (France et al. 2010). These are referred to collectively as foetal alcohol spectrum disorders (FASD) (NHMRC 2009), and have been identified as a risk factor for cerebral palsy (O'Leary et al. 2012). While existing research on alcohol consumption during pregnancy has limitations, it has been shown that risks of harm increase with the amount and frequency of alcohol consumption (France et al. 2010; Bridge 2011). The National Health and Medical Research Council recommend not drinking alcohol during pregnancy as the safest option (NHMRC 2009).

Use of illicit drugs (e.g., heroin, marijuana) and some licit drugs (e.g., medicines) during pregnancy can involve health risks to the mother. These include overdose and accidental injuries, and significant obstetric, foetal and neonatal complications (Kulaga et al. 2009; Wallace et al. 2007).

Nutrition before and during pregnancy is also critical to foetal development (McDermott et al. 2009). It is recommended that women eat an additional daily serving of both fruit and vegetables, as well as foods containing protein such as meat, fish, poultry or eggs during pregnancy (NHMRC 2003a), and take a folate supplement before pregnancy and during the first trimester to reduce the

risk of neural tube defects such as spina bifida (ABS and AIHW 2008).

Findings:

In 2009, 52% of Aboriginal and Torres Strait Islander mothers smoked during pregnancy. After adjusting for the different age structures of the two populations, the proportion of Aboriginal and Torres Strait Islander mothers who smoked during pregnancy was 3.7 times that of non-Indigenous mothers. The 2008 NATSISS found that 57% of mothers of children aged 0–3 years who had used tobacco during pregnancy had used less of it during their pregnancy. In 2009, for non-Indigenous mothers, the youngest age group (under 20 years) had the highest rate of smoking (34%) compared to around 10% of women aged 30 years and over. There was no clear pattern of smoking by age group for Indigenous mothers. Teenage mothers were not the group with the highest rate of smoking. Smoking rates for Indigenous Australians were lower in major cities (46%) compared to regional and remote areas (52%–57%).

During the period 2006–08, 33% of all low birthweight babies born to Indigenous mothers were attributable to smoking during pregnancy, compared with 13% for other mothers. Smoking during pregnancy accounted for 24% of the gap in low birthweight births between Indigenous and other mothers.

Studies have found that smoking during pregnancy among Indigenous women is associated with low socioeconomic status; stress; social norms, including number of smokers in the household; and lack of knowledge regarding consequences of smoking during pregnancy (Johnston et al. 2011; Wood et al. 2008; Passey et al. 2012). Additionally, Gilligan et al. (2010) found additional risk through environmental tobacco smoke.

Eighty per cent of mothers of Indigenous children aged 0–3 years surveyed in the 2008 NATSISS reported they did not consume alcohol during pregnancy, with the greatest proportion of abstinence in the NT (85%). Approximately 16% drank less alcohol than usual during pregnancy and 3% drank the same or more. The vast majority (95%) reported that they did not use illicit drugs during their pregnancy. On average, 52% of Indigenous mothers took folate before or during their

pregnancy, although in remote areas this fell to 39%.

A study of 476 Aboriginal and Torres Strait Islander women attending 34 Indigenous community health centres across Australia found that 46% of those who smoked received documented advice about smoking cessation (Rumbold et al. 2011). Only 27% of women in the same study were prescribed folic acid prior to 20 weeks gestation and even fewer (8%) prior to conception. These findings may reflect later presentation for antenatal care (see measure 3.01) (Robinson 2011).

In the 2008 NATSISS, mothers of Aboriginal and Torres Strait Islander children who sought advice during pregnancy were less likely to smoke during pregnancy than those who did not seek advice (64% compared with 53%), and were more likely to take folate than those who did not.

Implications:

Expanding national data on health behaviours during pregnancy will be an important element of monitoring progress in this area. Interventions by health professionals can be effective in encouraging women to reduce or cease smoking and alcohol use, and meet their nutritional needs during pregnancy. However, these interventions need to be tailored to their clients' needs (Gould et al. 2011; Wood et al. 2008; France et al. 2010; Bridge 2011; Pyett et al. 2008).

Australian studies have found that Aboriginal health workers and midwives have expressed concern that providing smoking cessation advice would potentially damage their relationship with the mother (Wood et al. 2008; Passey et al. 2012). A better knowledge of smoking cessation options suitable to pregnant woman and a positive attitude towards cessation advice were associated with higher rates of smoking assessment by staff. Less significant associations include staff being a non-smoker themselves and having inadequate skills to dispense advice (Passey et al. 2012). This study identified the need to improve the training of carers and to provide culturally appropriate resources.

Through the *National Partnership Agreement on Indigenous Early Childhood Development*, the Australian Government supports 85 New Directions Mothers and Babies Services, the

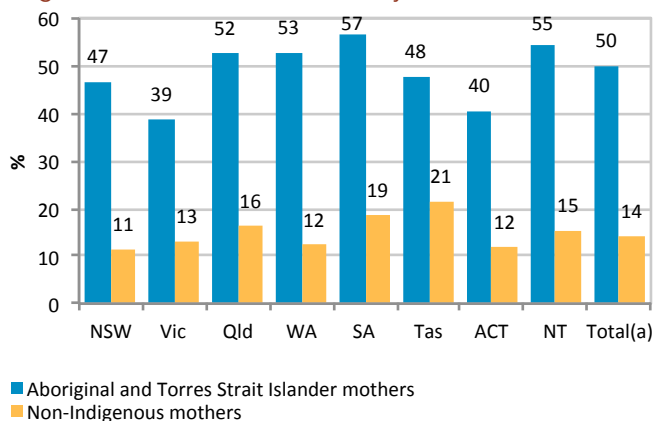
Australian Nurse Family Partnership Program for over 400 families and the *Healthy for Life* programs, which all have a focus on improving health behaviours during pregnancy.

A model for provision of drug, alcohol and mental health services for pregnant Aboriginal women has been developed in NSW as part of the Agreement. The model aims to improve identification and early intervention for pregnant women with vulnerabilities, and to strengthen the structures that support effective continuum of care between antenatal care providers, hospitals and community providers following birth.

Under the National Maternity Services Plan, states and territories have committed to progress investigation of evidence-based maternity care models for at-risk women, including women using cigarettes, alcohol and other illicit substances. The Department of Health and Ageing is currently developing new National Evidence-Based Antenatal Care Guidelines on behalf of all Australian governments. The Guidelines are designed to cover the antenatal care of healthy pregnant women, and present recommendations based on the clinical evidence. Module 1 of the Guidelines covers the first trimester of pregnancy and provides advice on over 20 topic

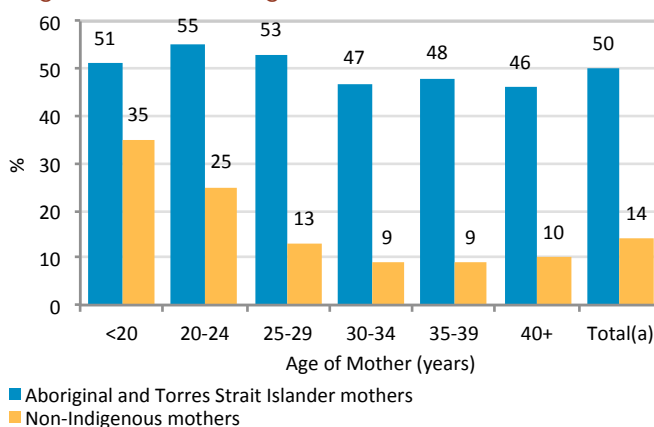
areas including tobacco smoking, alcohol and nutritional supplements. The Guidelines have been developed with input from the Working Group for Aboriginal and Torres Strait Islander Women's Antenatal Care. They will provide culturally appropriate guidance and information for the health needs of Aboriginal and Torres Strait Islander pregnant women and their families. The current Dietary Guidelines for Australian Adults (2003) and the Australian Guide to Healthy Eating provide dietary advice for pregnant and breastfeeding mothers. The guidelines are currently under review with the revised version expected to be released late 2012.

Figure 136 Proportion of mothers who smoked during pregnancy, by Indigenous status and state/territory, 2009



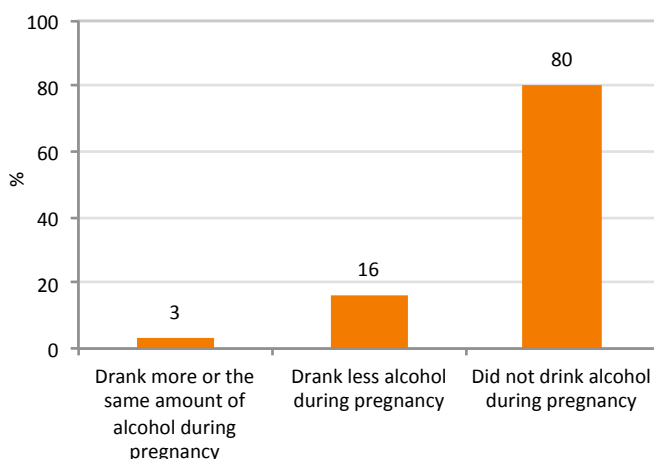
a) Total is age-standardised
Source: National Perinatal Statistics Unit National Perinatal Data Collection

Figure 137 Proportion of mothers who smoked during pregnancy, by Indigenous status and age of mother, 2009



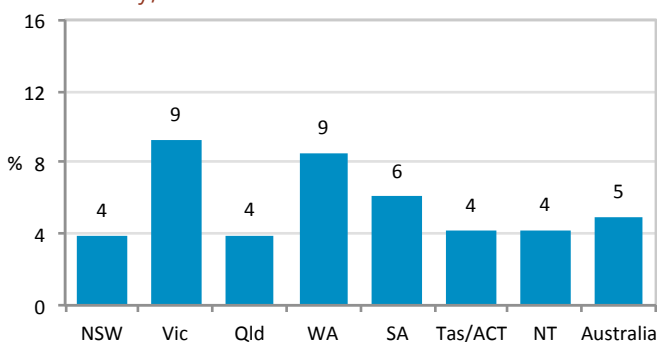
a) Total is age-standardised
Source: National Perinatal Statistics Unit National Perinatal Data Collection

Figure 138 Alcohol consumption by child's mother during pregnancy, Indigenous children aged 0-3 years, 2008



Source: AIHW analyses of 2008 NATSISS

Figure 139 Proportion of mothers who used illicit drugs or substances during pregnancy, Indigenous children aged 0-3 years, by state/territory, 2008



Source: AIHW analyses of 2008 NATSISS

2.22 Overweight and obesity

Why is it important?:

Overweight and obesity is a global health problem. Being overweight or obese increases the risk of suffering from a range of health conditions, including coronary heart disease, Type 2 diabetes, some cancers, knee and hip problems, and sleep apnoea. High body mass accounted for approximately 7.5% of the total burden of disease in the Australian population and 11% for the Indigenous population (Vos et al. 2007; Begg et al. 2007).

Obesity is closely associated with risk factors for the main causes of morbidity and mortality among Aboriginal and Torres Strait Islander peoples (NHMRC 2000). It impacts largely through diabetes, which is responsible for 49% of the burden attributed to high body mass, and ischemic heart disease (40%). Obesity is estimated to contribute 16% of the health gap between Aboriginal and Torres Strait Islander peoples and the total Australian population (Vos et al. 2007).

Findings:

The proportion of Aboriginal and Torres Strait Islander peoples aged 18 years and over living in non-remote areas with a Body Mass Index (BMI, see glossary) score in the overweight or obese range increased from 51% in 1995 to 60% in 2004–05. There was little change between 2001 and 2004–05 in remote areas and for the total Indigenous population.

Indigenous women had higher rates of obesity (34%) and lower rates of overweight (24%) compared to men (28% and 34% respectively). For both Aboriginal and Torres Strait Islander males and females, the rates for overweight/obesity were higher in older age groups, with nearly three quarters of the population aged 55 years and over being overweight or obese.

After adjusting for differences in the age structure of the two populations, Indigenous Australian adults were twice as likely to be obese as non-Indigenous Australian adults.

There are no current data on the prevalence of overweight and obesity

among Aboriginal and Torres Strait Islander children. The Australian Aboriginal and Torres Strait Islander Health Survey, to be conducted as part of the Australian Health Survey 2012–13, will collect information on the physical measures of height and weight that will be used to calculate the body mass of children.

Results from the 2004–05 NATSIHS show higher proportions of Torres Strait Islanders in the overweight or obese categories than in the Aboriginal population (61% versus 56%) (ABS 2006b).

Implications:

Given the health risks associated with being obese or overweight, the situation for Aboriginal and Torres Strait Islander peoples requires urgent attention. It is second only to tobacco consumption in terms of contribution of modifiable risk factors to the health gap experienced by Aboriginal and Torres Strait Islander peoples.

In the first instance, arresting the increase in proportions of people who are overweight or obese is a reasonable target. As Australia is ranked as one of the 'fattest developed nations' (DoHA 2008a), this is one measure where it may be unwise to benchmark targets against the non-Indigenous population for the longer term.

Poor eating patterns and lack of physical activity are regarded as the main causes of overweight and obesity (AMA 2005a). Nutrition and physical activity are therefore the areas on which policies should focus.

Reversal of obesity is difficult even in the absence of environmental and social barriers. Therefore, early intervention to prevent the onset of excessive weight gain is likely to be the most effective strategy (McDermott et al. 2000). Clifford et al. (2011) highlighted the poor quality and general lack of intervention studies focusing on healthy lifestyles among Aboriginal and Torres Strait Islander peoples. From the wider literature, studies reporting success in reducing obesity have a number of common characteristics, including: a focus on physical activity and diet opposed to diet alone; the ability to accommodate the preferences of participants; a group focus; and choice between a number of physical activities. Programs must also be culturally acceptable, conveniently

located, easily incorporated into the daily schedule and show goal attainment which is realistic and appropriate (Canuto et al. 2011).

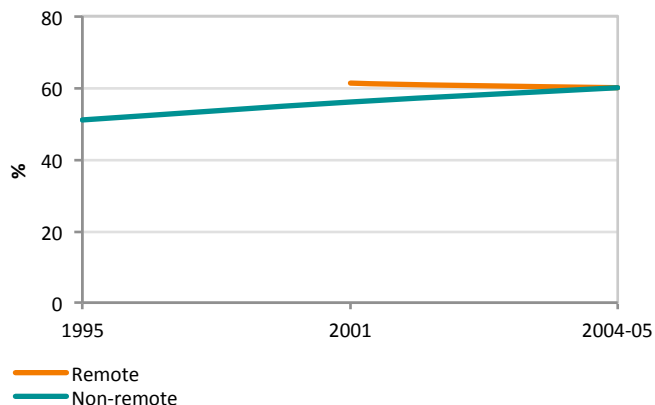
The NSFATSIH proposes partnerships with (a) food wholesalers, retailers and Aboriginal and Torres Strait Islander communities to ensure accessibility and affordability of healthy food choices; (b) media, health and education sectors to encourage understanding of nutrition and healthy food choices; and (c) state and territory governments, local councils, private sponsors and sports and recreation bodies to encourage the involvement of Aboriginal and Torres Strait Islander peoples in sport and recreational activities. Partnerships are a key component of the Noongar Healthy Lifestyle Program, which was established by the WA Department of Health in partnership with the WA Police Service, the City of Fremantle, the Department for Communities, local Aboriginal community groups and the local Primary School. The program aims to increase physical activity, healthy eating and intergenerational sharing and includes the creation of new basketball teams and a program of nutrition workshops.

A specific focus is also needed for Torres Strait Islander peoples, particularly those living in the Torres Strait Islands area.

Taking Preventative Action, the Australian Government's response to the 2009 National Preventative Health Strategy, committed to ensuring that actions taken to address Australia's obesity problem include specific initiatives to address obesity in the Aboriginal and Torres Strait Islander population. Actions will include whole of community education and social marketing and communication strategies for nutrition. Monitoring of this measure should be in conjunction with measures 2.18 and 2.19.

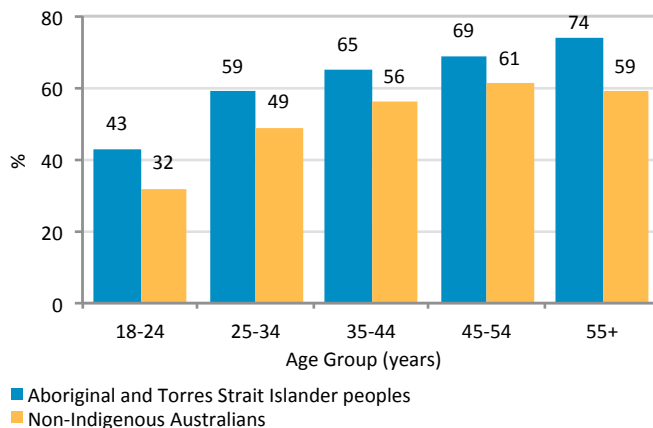
The National Partnership Agreement on Closing the Gap in Indigenous Health Outcomes comprises a package of health reforms that include a focus on preventive health and primary health care. For example, it includes community education activities to increase awareness of the risk factors for chronic disease, such as poor nutrition and lack of physical activity, as well as improving awareness of, and access to, health care services and programs.

Figure 140
Proportion of Aboriginal and Torres Strait Islander adults who were overweight or obese, 1995, 2001 and 2004–05



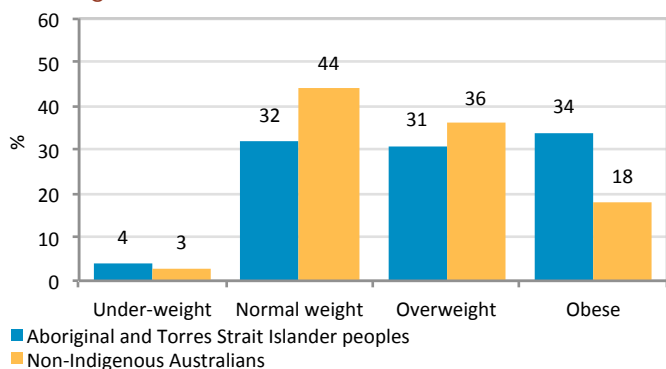
Source: ABS and AIHW analysis 1995 and 2004–05 NATSIHS and 2001 NHS (Indigenous supplement)

Figure 141
Proportion of adults who were overweight or obese, by Indigenous status and age, 2004–05



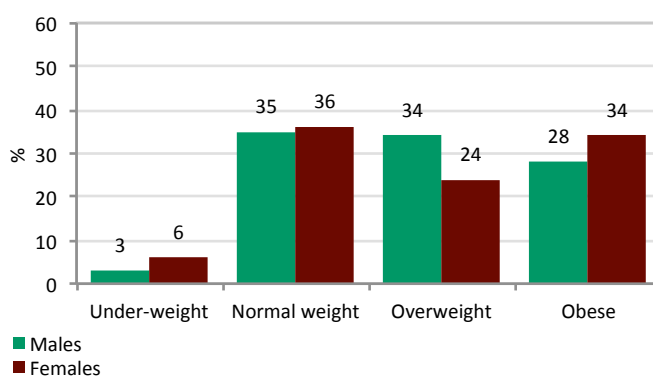
Source: ABS & AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS

Figure 142
Proportion of adults (age-standardised) by BMI category and Indigenous status, 2004–05



Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS

Figure 143
Proportion of Indigenous adults by BMI category, by sex, 2004–05



Source: ABS & AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS

Tier 3

Health system performance

Effective/Appropriate/Efficient

- 3.01 Antenatal care
- 3.02 Immunisation
- 3.03 Health promotion
- 3.04 Early detection and early treatment
- 3.05 Chronic disease management
- 3.06 Access to hospital procedures
- 3.07 Selected potentially preventable hospital admissions
- 3.08 Cultural competency

Responsive

- 3.09 Discharge against medical advice
- 3.10 Access to mental health services
- 3.11 Access to alcohol and drug services
- 3.12 Aboriginal and Torres Strait Islander people in the health workforce
- 3.13 Competent governance

Accessible

- 3.14 Access to services compared with need
- 3.15 Access to prescription medicines
- 3.16 Access to after-hours primary health care

Continuous

- 3.17 Regular GP or health service
- 3.18 Care planning for chronic diseases

Capable

- 3.19 Accreditation
- 3.20 Aboriginal and Torres Strait Islander peoples training for health-related disciplines

Sustainable

- 3.21 Expenditure on Aboriginal and Torres Strait Islander health compared to need
- 3.22 Recruitment and retention of staff

Tier 3: Health System Performance includes measures that address effectiveness, appropriateness, efficiency, responsiveness, accessibility, continuity, capability and sustainability of the health system. The HPF also recognises that safety is a measure of health system performance, but this is reported by other frameworks (ACSQHC 2009). The new performance measure on cultural competency (see measure 3.08) addresses organisational, systemic and individual cultural competency in the health system. Accessibility shows measures of whether people have been able to access health care as needed. Continuity looks at pathways and barriers along the patient journey. The skills and knowledge of the people who work in

the health system are described, as well as the infrastructure which enables the system to deliver services.

The HPF covers the entire health system, including Indigenous-specific services and programs, and mainstream services. The measures deal with a range of programs and service types including child and maternal health, health promotion, early detection and chronic disease management, continuous care, access to care, the health workforce and adequacy of resources.

All of the tiers in the HPF are inter-related and readers are encouraged to consider how measures interact. For example, measure 3.01 *Antenatal care* provides mothers with information and

support which can reduce health risk behaviours during pregnancy (see measure 2.21) which in turn, is related to low birthweight (see measure 1.01).

Similarly, measure 3.21 *Expenditure on Aboriginal and Torres Strait Islander health compared to need* is enhanced through awareness of issues outlined in measure 3.14 *Access to services by types of service compared to need*, and all of the measures outlined in Tier 1 which demonstrate the equity issues which underpin measures of effectiveness. Health workforce development hinges upon measures in Tier 2 such as educational attainment (see measures 2.04, 2.05 and 2.06).

3.01 Antenatal care

Why is it important?:

Antenatal care involves 'recording medical history, assessment of individual needs, advice and guidance on pregnancy and delivery, screening tests, education on self-care during pregnancy, identification of conditions detrimental to health during pregnancy, first-line management and referral if necessary' (WHO 2007). Antenatal care has been found to have a positive effect on the health outcomes for both mother and baby (Eades 2004). Antenatal care may be especially important for Aboriginal and Torres Strait Islander women, as they are at higher risk of giving birth to low birthweight babies and have greater exposure to other risk factors such as anaemia, poor nutritional status, hypertension, diabetes, genital and urinary tract infections and smoking (de Costa et al. 2009).

The Department of Health and Ageing is currently developing new *National Evidence-Based Antenatal Care Guidelines* on behalf of all Australian Governments. The Guidelines are designed to cover the antenatal care of healthy pregnant women, and to present recommendations based on the clinical evidence for a wide range of care. Module 1 of the Guidelines covers the first trimester of pregnancy and provides advice on over 20 topic areas including tobacco smoking, alcohol and nutritional supplements. Developed with input from the Working Group for Aboriginal and Torres Strait Islander Women's Antenatal Care, the Guidelines will provide culturally appropriate information for the health needs of Aboriginal and Torres Strait Islander pregnant women and their families.

Most guidelines recommend that antenatal care should commence during the first trimester, as it is at this early stage that risk factors can best be assessed (Mercy Hospital for Women et al. 2001). The schedule of antenatal visits most commonly followed in Australia is monthly visits up until 28 weeks of pregnancy, fortnightly visits until 36 weeks and weekly visits thereafter.

The closure of some rural obstetric services due to safety and workforce issues has impacted upon some women living in these areas. These women may

need to transfer to regional centres for parts of their pregnancy and can lose local supports in the process (Arnold et al. 2009). Other factors apart from geography preventing Indigenous women presenting early for antenatal care include socioeconomic, educational factors, transport, the frequency (or absence) of local clinics, and cultural accessibility and appropriateness of the services (de Costa et al. 2009).

Findings:

In the four jurisdictions that recorded information on antenatal care in 2009 (NSW, Qld, SA and the NT), 97% of Aboriginal and Torres Strait Islander mothers accessed antenatal care services at least once during their pregnancy. This compares with 99% for non-Indigenous mothers. There have been significant increases in access to antenatal care in SA, Qld and NSW between 1998 and 2009 for Indigenous mothers. Despite this, access to antenatal care appears to be lower in SA (90%) compared with other states.

In 2009, Aboriginal and Torres Strait Islander mothers, on average, accessed services later in the pregnancy and had significantly fewer antenatal care sessions. In NSW, Qld, SA and the NT combined, 56% of Indigenous mothers had their first antenatal session in the first trimester of the pregnancy, compared with 75% for other mothers. On average, 76% of Indigenous mothers had 5 or more antenatal sessions compared with 94% of non-Indigenous mothers.

In 2009, there was little difference in the proportion of Indigenous mothers who had attended at least one antenatal care session by remoteness (97–98% in non-remote areas and 96% in remote areas). However, there were differences in the proportion of women accessing antenatal care in the first trimester of the pregnancy (52% in remote areas compared with 58% in non-remote areas). The 2008 NATSISS found that 11% of Indigenous mothers with children aged 0–3 years gave birth in a hospital or clinic that was 250kms or more from their home. Most mothers (96%) had pregnancy check-ups. These check-ups involved doctors (61%), nurses (48%), obstetricians (17%), and/or AHWs (9%).

As the number of antenatal visits increase, there is a decreased likelihood of mothers giving birth to low birthweight babies. Indigenous mothers

attending 5 or more sessions have much lower rates of low birthweight babies (8%), compared with those have 2–4 sessions or 1 session (20%), or no antenatal care (37%). Similar patterns are evident with pre-term births and perinatal mortality. These relationships are also evident for non-Indigenous mothers, although the rates of low birthweight, pre-term births and perinatal mortality are generally lower for non-Indigenous mothers.

In 2009–10, 66 Indigenous primary health care services participating in the *Healthy for Life program* provided data on antenatal care. Of the 2,057 Indigenous mothers who were regular clients of these services, 49% attended their first antenatal visit in the first trimester.

Implications:

Around 97% of Aboriginal and Torres Strait Islander mothers access antenatal services at least once during their pregnancy. However, Indigenous mothers are currently accessing these services later in their pregnancy and less frequently than other mothers.

The features that have been identified for quality primary maternity services in Australia include high quality care that is enabled by evidence-based practice, coordinated according to the woman's clinical needs, based on collaborative multidisciplinary approaches, continuity of care, woman-centred, culturally appropriate and accessible at the local level (Australian Health Ministers' Advisory Council 2011). Reviews of the literature have identified the following key success factors in Aboriginal and Torres Strait Islander maternal health programs to complement the features detailed above: a specific Aboriginal and/or Torres Strait Islander program; a welcoming and safe environment; outreach and home visiting; flexibility in service delivery and appointment times; transport; continuity of care and carer integration with other services e.g., AMS or hospital; a focus on communication, relationship building and trust; respect for Aboriginal and Torres Strait Islander culture; family involvement and child care; appropriately trained workforce; Indigenous staff and female staff; informed consent and right of refusal; and tools to measure cultural competency (Dudgeon et al. 2010; Reibel et al. 2010; Herczeg 2005; Australian Health Ministers' Advisory Council 2011).

An audit of antenatal care in WA found that 75% of services failed to provide a model of care consistent with the principals of culturally competent care to Indigenous woman (Reibel et al. 2010). Studies have also demonstrated how sustained access to community-based, integrated, shared antenatal services improve perinatal outcomes for Indigenous women (NSW Health 2006; Panaretto et al. 2007).

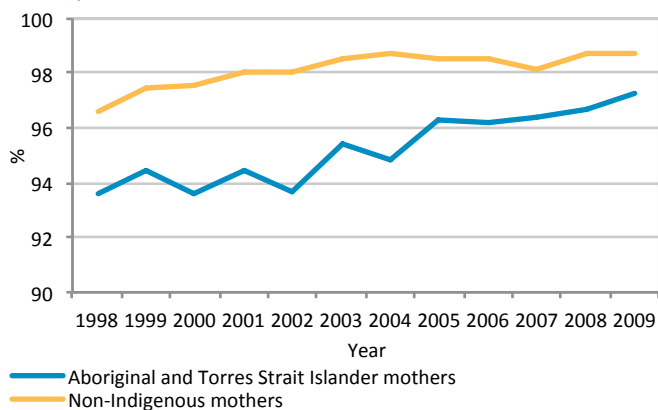
Australian governments are investing in a range of initiatives aimed to improve child and maternal health. In October 2008, COAG agreed to the *National Partnership Agreement on Indigenous*

Early Childhood Development with joint funding of \$564 million over six years. This includes Australian Government funding to state and territory governments for sexual health and young parent programs and support for 85 *New Directions: Mothers and Babies Services* which provide Aboriginal and Torres Strait Islander families with access to antenatal care; practical advice and assistance with parenting; and health checks for children. The *Healthy for Life* program also aims to improve access to antenatal, postnatal and child health care. This program aims to improve pregnancy, birth and child health outcomes and reduce the incidence of

illness for Indigenous babies and children.

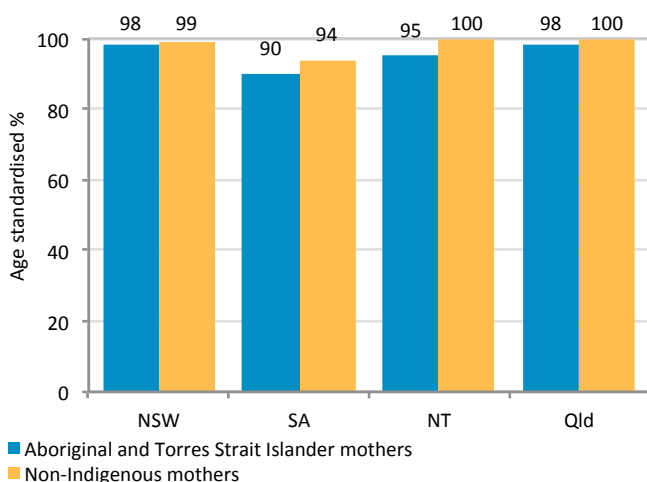
The Medical Specialist Outreach Assistance Program—Maternity Services is in its second year of operation. The program funds multi-disciplinary teams that may include midwives, medical specialists, GPs, Aboriginal Health Workers and allied health professionals in the delivery of maternity care from pregnancy until the infant is six months of age. Funding for this expansion is \$10.6 million over three years.

Figure 144
Proportion of mothers who attended at least one antenatal care session, by Indigenous status, NSW, Qld and SA, 1998–2009



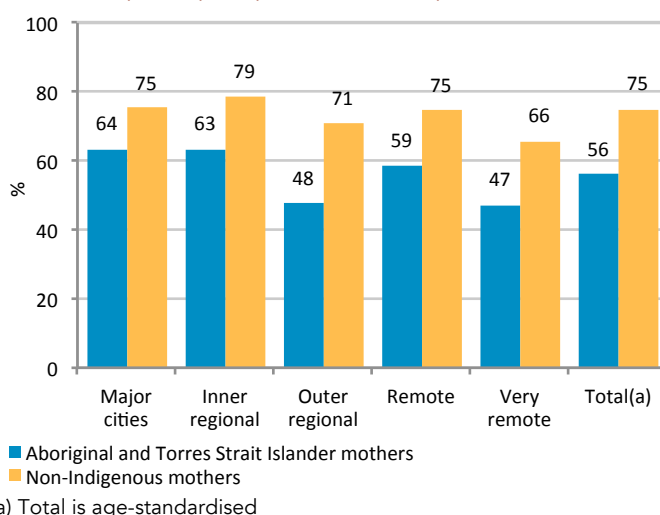
Source: AIHW analyses state/territory Perinatal Collections

Figure 146
Proportion of mothers who attended at least one antenatal care session, by Indigenous status and jurisdiction, NSW, Qld, SA and the NT, 2009



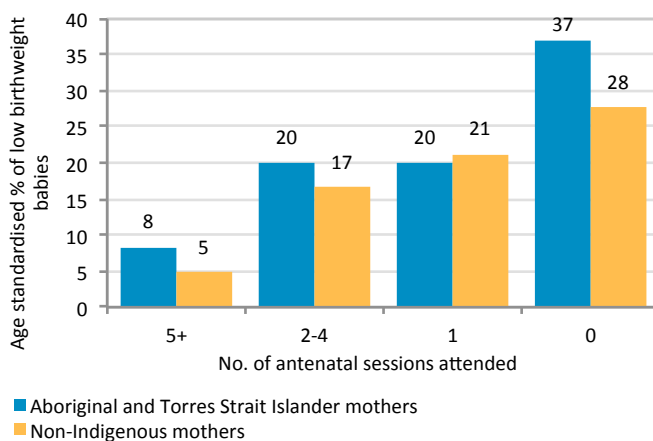
Source: AIHW analyses state/territory Perinatal Collections

Figure 145
Proportion of mothers whose first antenatal care session occurred in the first trimester, by Indigenous status and remoteness, NSW, Qld, SA and the NT, 2009



a) Total is age-standardised
Source: AIHW analyses state/territory Perinatal Collections

Figure 147
Relationship between antenatal care sessions attended and proportion of low birthweight babies, by Indigenous status, Qld, SA and the NT, 2009



Source: AIHW analyses state/territory Perinatal Collections

3.02 Immunisation

Why is it important?:

Immunisation is highly effective in reducing morbidity and mortality caused by vaccine-preventable diseases. Childhood vaccination for diphtheria was introduced in Australia in 1932 and use of vaccines to prevent tetanus, pertussis (whooping cough) and poliomyelitis became widespread in the 1950s, followed by vaccines for measles, mumps and rubella in the 1960s. In more recent years, vaccines have been included for hepatitis B, Haemophilus influenzae type b (Hib), pneumococcal disease, meningococcal C, varicella (chicken pox), rotavirus, human papillomavirus (HPV) and influenza. Since the introduction of childhood vaccination, deaths from vaccine-preventable diseases have fallen for the general population by 99%. Vaccinations are estimated to have saved some 78,000 lives (Burgess 2003), and have been effective in reducing the disease disparities between Indigenous and non-Indigenous populations, despite differences in the socioeconomic circumstances of these populations (Menzies et al. 2009).

There are variations in Indigenous identification in the immunisation records and Medicare enrolments used in the denominator. These can affect the accuracy of immunisation data.

Findings:

In December 2011, vaccination coverage for Aboriginal and Torres Strait Islander children at 1 year of age was around 7 percentage points lower than other Australian children (85% compared with 92%). This is partly due to delayed vaccination for many Aboriginal and Torres Strait Islander children. By 2 years of age, the difference was less than 1 percentage point (92.3% of Indigenous children compared with 92.6% for other children). At 5 years of age, the gap was around 3 percentage points (87% of Indigenous children were fully vaccinated compared with 90% of other children). Coverage rates for Indigenous children aged 1 year were highest in Tasmania and lowest in SA. For Indigenous children aged 5 years, coverage rates were highest in the NT and lowest in SA and WA.

Since 2001, there have been changes in the definitions used to determine whether a child is considered to be fully immunised. Additionally, the age at which older children are assessed has changed from 6 years to 5 years of age. As a result, some trends should be interpreted with caution. Between 2001 and 2011 there has been no change detected in the proportion of Aboriginal and Torres Strait Islander children who were fully immunised at 1 and 2 years of age. Over the same period, there has been a significant increase detected for other children. There was an increase in the proportion of Aboriginal and Torres Strait Islander children aged 6 years who were fully immunised from 83% in 2002 to 85% in 2007. This trend for older children appears to be continuing, with an increase between 2008 and 2011 in children aged 5 years (76% to 87%).

In 2004–05, an estimated 60% of Aboriginal and Torres Strait Islander peoples aged 50 years and over reported they had been vaccinated against influenza in the last 12 months, an increase from 51% in 2001. Coverage in the target group for non-Indigenous Australians aged 65 years and over was 73% in 2004–05. In addition, 34% of Indigenous people aged 50 years and over had been vaccinated against invasive pneumococcal disease in the last 5 years, an increase from 25% in 2001. Coverage in the target group for non-Indigenous Australians aged 65 years and over was 43% in 2004–05. A higher proportion of Indigenous people aged 50 years and over living in remote areas had been vaccinated against influenza in the last 12 months and invasive pneumococcal disease in the last 5 years (80% and 56% respectively) than in non-remote areas (52% and 26% respectively). Adult vaccinations are also targeted at younger Aboriginal and Torres Strait Islander peoples who have various risk factors, such as chronic medical conditions. Twenty-three per cent of Indigenous adults aged 18–49 years had been vaccinated for influenza in the previous year. This was higher for those with at least one risk factor (29%). Twelve per cent of Indigenous adults aged 18–49 years had received a pneumococcal vaccination in the previous five years. Those with at least one risk factor had only marginally higher rates (13%) (Menzies et al. 2008).

During the period July 2007 to June 2009 approximately 10,000 valid Child Health

Checks were undertaken in the prescribed areas of the NT. Overall, 29% of children received a vaccination during their health check.

Hospitalisation rates among Indigenous Australians for vaccine-preventable diseases have decreased significantly since 1998–99 in Qld, WA, SA and the NT, although there has been no significant change since 2004–05 in NSW, Victoria, Qld, WA, SA and the NT (see measure 3.07).

Implications:

Achieving good immunisation coverage is primarily a reflection of the strength and effectiveness of primary health care. Immunisation coverage for Aboriginal and Torres Strait Islander children is high. There are still gaps in coverage at age 1 and 5 years, however, Indigenous 2 year olds had similar coverage to non-Indigenous 2 year olds.

The *National Immunisation Program* (NIP) provides free childhood vaccines for Australian children aged 0–7 years. Aboriginal and Torres Strait Islander children living in some states and territories also have access to a hepatitis A vaccine. The NIP also provides free influenza vaccines for all Aboriginal and Torres Strait Islander people aged over 15 and free pneumococcal vaccines for those aged over 50 years and those medically at risk in the 15–49 age group. Coverage for adult vaccination for influenza and invasive pneumococcal disease has increased, but further opportunities to improve coverage exist. The identification of Indigenous patients is one important step. From 1 October 2012, funding has been allocated to provide Aboriginal and Torres Strait Islander children aged between 12 and 18 months in Qld, the NT, WA and SA an additional booster dose of the pneumococcal vaccine Prevenar 13[®]. The HPV vaccination program is listed on the NIP Schedule and funded under the Immunise Australia Program. There is currently an ongoing school-based program routinely delivered to girls in the first year of secondary school.

From 2009–10 the Australian Government has provided facilitation incentive payments to state and territory governments through the *National Partnership Agreement on Essential Vaccines* to encourage increases in vaccine coverage for Indigenous Australians. Jurisdictions receive reward payments if targets for Indigenous

vaccine coverage are met. In the period 1 April 2011 to 31 March 2012, all jurisdictions met these targets. In addition, the *National Partnership*

Agreement on Indigenous Early Childhood Development includes a focus on improving immunisation rates.

Figure 148
Proportion of children fully vaccinated at age 1 year, 2 years and 6/5 years, NSW, Victoria, SA, WA and the NT combined, by Indigenous status, 2001 to 2011



Source: AIHW analysis of Australian Childhood Immunisation Register, Medicare Australia

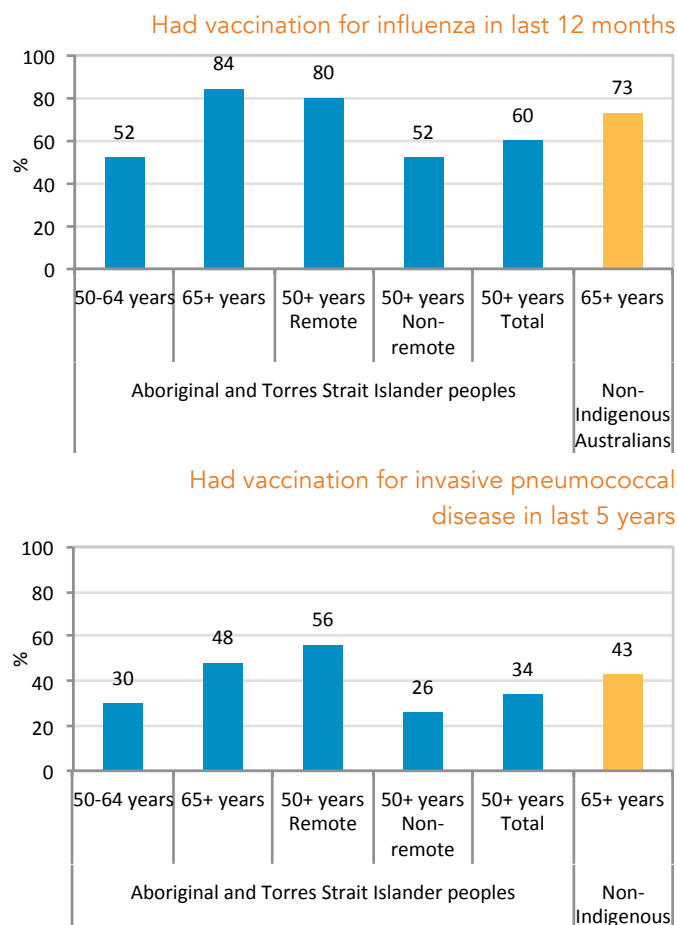
Table 38
Proportion of children fully vaccinated at age 1 year, 2 years and 5 years of age, by Indigenous status and state/territory, at 31 December 2011

	Age One Year		Age Two Years		Age Five Years	
	Indig.	Other	Indig.	Other	Indig.	Other
NSW	87.2	91.8	92.9	92.6	84.9	89.8
Vic.	84.2	93.0	94.2	93.1	89.5	91.6
Qld	85.8	92.0	93.0	92.5	89.6	90.4
WA	81.6	91.1	88.0	91.0	80.1	87.2
SA	77.0	92.3	86.2	92.9	89.6	88.4
Tas.	93.2	92.8	93.1	93.4	90.2	91.2
NT	83.8	90.0	96.3	93.4	90.7	85.4
Australia^(a)	85.2	93.5	92.3	92.6	86.5	90.1

a) Australia total includes the ACT. Data not provided separately due to small numbers.

Source: AIHW analysis of Australian Childhood Immunisation Register, Medicare Australia

Figure 149
Proportion of Aboriginal & Torres Strait Islander persons aged 50 years and over and non-Indigenous persons aged 65 years and over: immunisation status 2004-05



Source: ABS and AIHW analysis of 2004-05 NATSIHS, and 2004-05 NHS

3.03 Health promotion

Why is it important?:

Health promotion enables people to increase control over, and to improve their health and its determinants. Health promotion activities are designed to improve or protect health within social, physical, economic and political contexts. Health promotion includes public policy interventions (e.g., packaging of cigarettes, seat belt laws), information to support healthy lifestyles (e.g., smoking, alcohol and drug use, physical activity, diet), social marketing (e.g., sunscreen, safe sex) and mass media campaigns (e.g., drink-driving, road safety). Health promotion also includes promoting social responsibility for health, empowering individuals, strengthening community capacity and addressing determinants of health. Currently there are limited methods for measuring the nature, level, and reach of health promotion programs and activities.

Findings:

In 2008–09, total government expenditure on public health for selected health promotion activities was estimated to be around \$36 for each Indigenous Australian and \$13.70 for each non-Indigenous Australian. Expenditure for the prevention of hazardous and harmful drug use was \$34.80 per Indigenous Australian and \$7.20 per non-Indigenous Australian. These estimates are likely to understate expenditures on health promotion as it is often embedded within other funding sources and programs (e.g., funding for GPs).

Based on BEACH survey data for the period April 2006 to March 2011, selected clinical treatments related to health promotion were provided in 31% of all clinical treatments provided by GPs to Indigenous Australians. This included general 'advice/education' which was provided in an estimated 11% of all clinical and therapeutic treatments, followed by 'counselling/advice related to nutrition and weight' (6%) and 'advice/education/treatment' (5%). 'Counselling/advice related to smoking' was provided in 3% of all clinical treatments provided to Indigenous Australians, which, after adjusting for differences in the age structure of the two populations, was 2.6 times the rate

for non-Indigenous patients. 'Counselling/advice related to alcohol' was provided in 2% of all clinical treatments among Indigenous patients which was 2.5 times the rate for non-Indigenous patients.

In 2010–11, 92% of Aboriginal and Torres Strait Islander primary health care services offered health promotion/education programs; 78% influenza immunisation, 78% woman's health programs, 77% child immunisation, 76% dietary and nutrition programs, 75% antenatal care, 72% child growth monitoring programs and 71% organised pneumococcal immunisation. Aboriginal and Torres Strait Islander primary health care services offered a range of health promotion activities including community-based education and prevention groups (71%), living skills groups (such as dietary and nutrition) (65%) and sport/recreation/physical education groups (65%). Health promotion activities are also a key feature of programs run by Aboriginal and Torres Strait Islander substance use specific services, with 85% running cultural groups and 83% running community-based education and prevention groups. As of June 2010, 91% of services funded through the Healthy for Life program provided brief interventions for smoking and alcohol, while 91% had programs for nutrition, and 90% for physical activity and emotional wellbeing.

Implications:

A range of health promotion initiatives are being implemented under the *National Partnership Agreement on Closing the Gap in Indigenous Health Outcomes* which has a focus on preventive health and primary health care. For example, the Indigenous Chronic Disease Package (ICDP) includes evidenced-based social marketing activities to reduce the prevalence of chronic disease risk factors; and the development of partnerships with local Indigenous community and media organisations and a specialist Indigenous communications consultant. The ICDP also includes funding for a National Network of Regional Tackling Smoking and Healthy Lifestyle Teams across 57 regions nationally (see measure 2.18). In 2010–11 this included 21 Regional Tobacco Coordinators, 22 Tobacco Action Workers and 43 Healthy Lifestyle Workers. The Tackling Smoking workforce will implement

community-based smoking prevention and cessation activities tailored to local communities. Healthy Lifestyle Workers will promote improved nutrition and physical activity and will seek to reduce the lifestyle risk factors that contribute to preventable chronic disease. The Australian Government also supports VIBE Australia to deliver health promotion products and activities, targeting young Indigenous Australians.

The COAG *National Partnership Agreement for Preventive Health* (\$872.1 million over nine years) is the largest investment ever made by an Australian Government in preventive health and seeks to address the rising prevalence of lifestyle related chronic disease by laying the foundations for healthy behaviours in the daily lives of Australians. Australian governments are funding the Australian National Preventive Health Agency (ANPHA – established on 1 January 2011) and two major health promotion campaigns – the National Tobacco Campaign and the Measure Up (anti-obesity) campaign (both administered by ANPHA). ANPHA has a broad remit to provide advice to governments and support activity in the key areas of tobacco cessation, harmful alcohol consumption and obesity prevention.

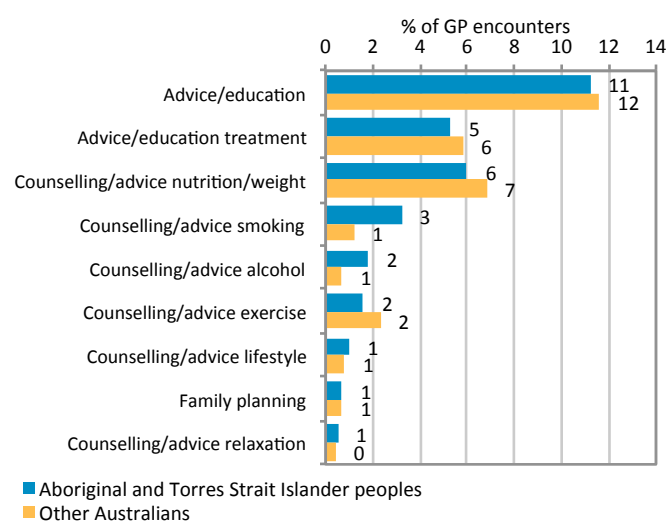
Factors in designing effective health promotion interventions for Indigenous communities include: involving local Indigenous people in design and implementation of programs; acknowledging different drivers that motivate individuals; building effective partnerships between community members and the organisations involved; cultural understanding and mechanisms for effective feedback to individuals and families; developing trusting relationships, community ownership and support for interventions (Black 2007). Family-centred approaches across the life course have also been recommended in the prevention of chronic disease (Griew et al. 2007).

Table 39
Expenditure for selected public health activities, by Indigenous status, 2009–10

Selected public health activities:	Expenditure		Expenditure per person		
	Indig.	Non-Indig	Indig.	Non-Indig	Ratio
	\$m	\$m	\$	\$	
Communicable disease	25	235	46	11	4.1
Selected health promotion	20	289	36	14	2.6
Organised immunisation	34	541	62	26	2.8
Environmental health	5	74	10	4	2.8
Food standards and hygiene	1	18	2	1	2.1
Breast cancer screening	3	184	4	9	0.5
Cervical cancer screening	8	37	14	2	8.3
Prevention of hazardous and harmful drug use	19	154	35	7	4.8
Public health research	3	22	5	1	4.8
Public health	117	1,555	214	73	2.9

Source AIHW health expenditure database

Figure 150
Proportion of clinical treatments provided by GPs, age-adjusted, by Indigenous status, 2006–07 to 2010–11



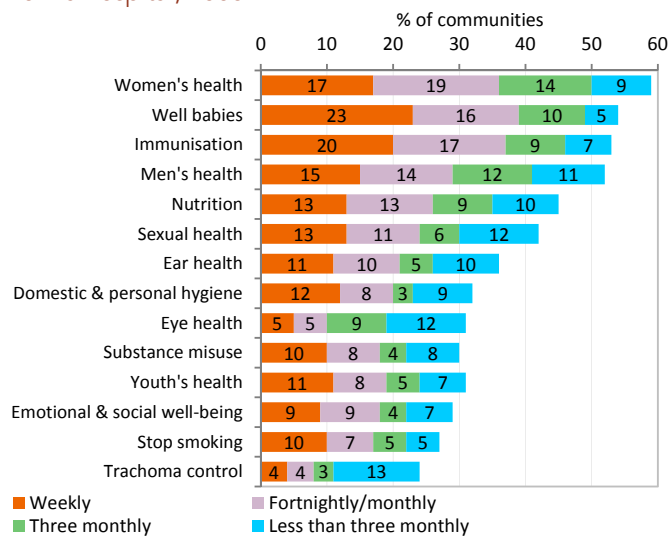
Source: Family Medicine Research Centre, University of Sydney analysis of BEACH data.

Table 40
Proportion of funded Aboriginal and Torres Strait Islander primary health care services that undertook selected preventative health care and screening activities, 2010–11

Preventative health care and screening activities:	% of all responding services
Health promotion/education	92
Routinely organise influenza immunisation	78
Women's health programs	78
Child immunisation	77
Dietary and nutrition programs	76
Antenatal/maternal programs	75
Child growth monitoring	72
Routinely organise pneumococcal immunisations	71
Infectious diseases programs/education	67
Physical activity programs	67
Outreach health promotion	67
Men's health programs	66
Sexually transmissible infection contact tracing	63

Source: AIHW analysis of OATSIH Services Reporting 2010–11

Figure 151
Selected health promotion programs conducted in discrete Indigenous communities located 10km or more from a hospital, 2006



Source: AIHW analysis of ABS 2006 Community Housing and Infrastructure Needs Survey (CHINS)

3.04 Early detection and early treatment

Why is it important?:

Early detection is the discovery of a disease or condition at an early stage of its development or onset, usually prior to the development of symptoms. Early detection may occur for individual patients, where clinically indicated, or for all members of a population through screening programs. In Australia, primary health care providers, including Aboriginal and Torres Strait Islander health services, and GPs, are a key element in early detection and early treatment programs. Early detection and treatment programs are most effective when there are systematic approaches to ensuring assessment and screening occurs regularly, at recommended intervals.

Breast, bowel and cervical cancer screening programs are designed to detect cancer early (breast and bowel cancer) or prevent its occurrence in the first place (bowel and cervical cancer). National programs for breast and cervical screening were implemented in Australia in the early 1990s, and have resulted in reductions in mortality for these cancers. The national program for bowel cancer screening was first implemented in 2006. From available data, almost 80% of the bowel cancers detected and removed as a result of the program were in the earliest two (out of four) stages of cancer spread.

Participation by Indigenous Australians in BreastScreen (the national breast screening program), the National Cervical Screening Program, and the National Bowel Cancer Screening Program (NBCSP) is at a lower rate than non-Indigenous participation (AIHW 2010c; Reath et al. 2008; Cancer Australia 2012). A recent analysis of the NBCSP suggests that factors contributing to this disparity include enrolment via Medicare records, thus disadvantaging those who are not registered; distribution of screening kits by post, disadvantaging those without a fixed address; the nature of the test; cultural perceptions of cancer; and lack of information about bowel cancer and screening (Christou et al. 2010).

Findings:

Health assessments for Indigenous Australians aged 55 years and over were introduced in 1999 and for those aged 15–54 years in 2004. In 2009–10 new measures to increase the take up of health assessments for those aged 15 years and over were introduced as part of the *National Partnership Agreement in Closing the Gap in Indigenous Health Outcomes*. Trend analysis shows a statistically significant increase in health assessments for those aged 15 years and over between July 2009 and December 2011 with more than a doubling of the rate.

MBS items for health assessments for Indigenous children aged 0–14 years were introduced in 2006. During 2010–11, 22,415 health assessments were undertaken, representing around 11% of children in the target group. There was also a statistically significant increase in these health assessments since 1 July 2009. Note: between July 2007 and June 2009, approximately 10,000 additional Child Health Checks were provided or funded as part of the Northern Territory Emergency Response which were not captured in the Medicare dataset.

There were 38,331 health assessments provided in 2010–11 for Indigenous Australians aged 15–54 years and 10,623 for those aged 55 years and over. The proportion of the Indigenous population aged 55 years and over receiving health assessments (21%) was lower than the proportion of all Australians aged 75 years and older receiving health assessments (27%).

In 2008–09 an estimated 37% of Indigenous women aged 50–69 years participated in screening for breast cancer compared with 56% for other Australian women. Rates were highest for Indigenous women in Qld (49%) and lowest in the NT (24%). In 2004–05, 58% of Aboriginal and Torres Strait Islander women aged 18 years and over reported having a regular Pap smear test. This compares with an estimated 61% of all Australian women aged 20–69 years who were recorded in the national cervical screening register in 2004–05 (AIHW 2008b), and 59% in 2009–10 (AIHW 2011d). Indigenous women aged 18 years and over living in remote areas were more likely to report having a regular Pap smear test than those in major cities (65% and 54% respectively).

Rates were highest in the NT (72%) and lowest in WA and NSW (52%).

In the period 1 July 2008 to 30 June 2011, 806,480 Australians participated in the NBCSP. Of these, 4,825 (0.6%) identified as Indigenous. Participants recorded as Indigenous were more likely to receive a positive (i.e., potentially abnormal) test result than those recorded as non-Indigenous (11% and 8%, respectively). Of the people with positive results, primary health care practitioner follow-up visits were reported for 52% of the Indigenous group, compared with 55% of the non-Indigenous group, which is not a statistically significant difference. However, there was a statistically significant difference in the proportions of Indigenous and non-Indigenous Australians who had a colonoscopy follow-up following positive results (58% compared with 72%) (AIHW 2012d).

Most Aboriginal and Torres Strait Islander primary health care services provide early detection and early intervention services. In 2010–11, these services reported providing regular well persons' checks (75%), and screening for diabetes (80%), cervical cancer (76%), sexually transmissible diseases (71%), hearing problems (71%), eye disease (70%), cardiovascular disease (68%) and renal disease (56%). Since 2001–02, the largest increase in screening has been for cardiovascular disease, followed by well persons' checks.

Implications:

Early detection and early treatment through primary health care has significant benefits for those at risk of disease. Identification of Indigenous patients is the first step in providing access to Aboriginal and Torres Strait Islander-specific health initiatives, including the additional MBS, PBS and immunisation programs available.

A large study in the US found that American adults received 'recommended care' in the detection and treatment of disease 55% of the time in 1999–2000 while an Australian study found that 57% of adults received appropriate care in 2009–10. This dropped to 47% for preventative care (including alcohol consumption and screening for cancers) (Runciman et al. 2012). An Australian study in Aboriginal Community Controlled Health Organisations found that the proportion of patients who had not been screened within the recommend guidelines was 27% for

cholesterol, 24% for diabetes, 40% for blood pressure, 47% for cervical cancer and 54% for breast cancer (Stewart et al. 2012).

The *National Partnership Agreement on Closing the Gap in Indigenous Health Outcomes* includes a range of initiatives to improve early detection and management of chronic diseases. Early indications from the Medicare data show significant increases in the number of health assessments provided to Indigenous Australians since the introduction of this initiative. The *Practice Incentives Program – Indigenous Health Incentive* is being implemented to support health services to provide better health care, including early detection and

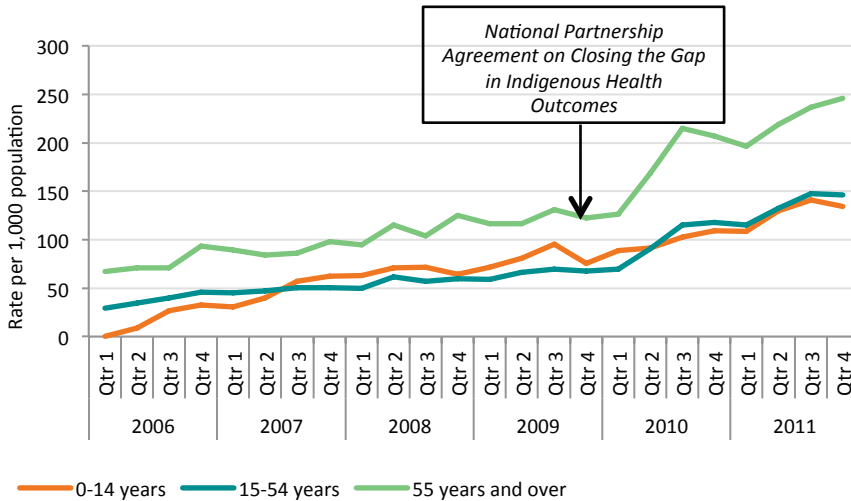
treatment of chronic disease. As at 30 April 2012, more than 2,900 general practices and Indigenous health services had signed on to the initiative. Around 40,000 patients were registered in 2011.

There is evidence that population-based programs such as the *National Bowel Screening Program* need to develop better ways of ensuring vulnerable minorities, particularly Aboriginal and Torres Strait Islander peoples, are encouraged to participate (Christou et al. 2010) and that screening occurs more regularly. To help improve the availability of screening in regional and remote Indigenous communities, the National Bowel Cancer Screening Program worked with state and territory governments to

trial and evaluate alternative service delivery models for the program between 2008 and 2011, including providing kits opportunistically to individuals during Well Person’s Health Checks or visits to local health clinics. A rise in Indigenous participation rates was achieved in the states and territories that participated in the pilots.

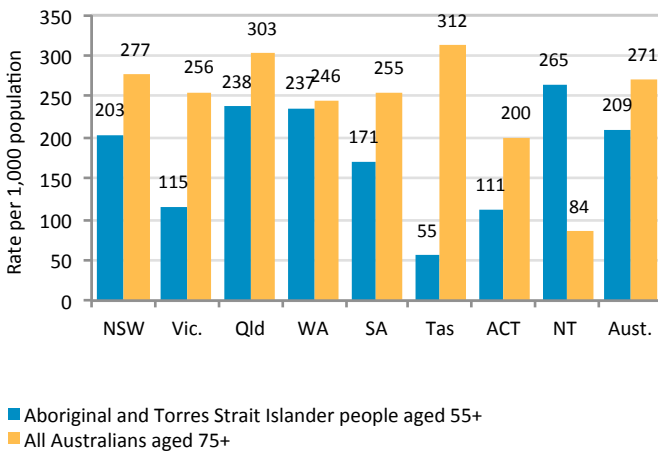
Screening through Pap smears will remain vital for many decades, as the current HPV vaccines are not effective against all types of the virus that cause cervical cancer. A barrier to reporting on cervical screening is that pathology request forms do not currently include provision for Indigenous status to be recorded in all jurisdictions.

Figure 152
Rate per 1,000 persons receiving Medicare Benefits Schedule Health Assessments, by age group, Indigenous Australians, January–March 2006 to October–December 2011



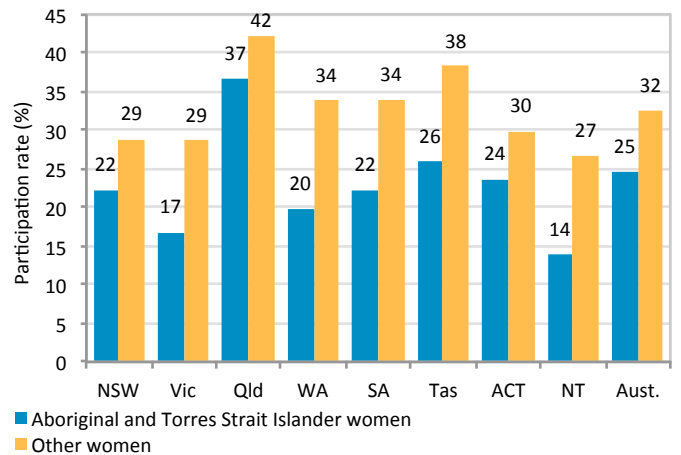
Source: AIHW analysis of Medicare Australia data

Figure 153
Rate per 1,000 persons receiving Medicare Benefits Schedule Health Assessments, Aboriginal and Torres Strait Islander peoples aged 55 years and over, all Australians aged 75 years and over, 2010–11



Source: Medicare Financing & Analysis Branch, DoHA

Figure 154
Participation rates for BreastScreen Australia, women aged 40 years and over, by Indigenous status and state/territory, 2008–09



Source: AIHW analysis of BreastScreen Australia data

3.05 Chronic disease management

Why is it important?:

Chronic diseases such as circulatory disease, diabetes, renal disease, chronic respiratory disease, cancers and chronic mental health conditions are the major causes of morbidity and mortality among Aboriginal and Torres Strait Islander peoples. Better management of these conditions is a key factor in meeting the target of closing the life expectancy gap between Indigenous and non-Indigenous Australians within a generation. Chronic disease is estimated to be responsible for 70% of the health gap (Vos et al. 2007). Effective management of chronic disease can delay the progression of disease, improve quality of life, increase life expectancy, and decrease the need for high-cost interventions. Good quality care for people with chronic disease generally involves multiple health care providers across multiple settings and the engagement of the client and their families in self-management of the condition (NHPAC 2006). Typically, the primary health care provider plays a central role in chronic disease management through systematic or opportunistic screening to identify patients with asymptomatic disease, development of a management plan with the patient and their family, regular assessment of the extent to which the chronic illness is well controlled, regular checks to identify early signs of complications, and referral to specialist care where this is warranted. Chronic disease management requires early access to specialist care where necessary, with primary care providers continuing to play a key role in the management of the disease. To play an effective role in chronic disease management, primary health care services need to take an organised approach reflecting evidence-based guidelines (Wagner et al. 1996; Bodenheimer et al. 2002). The Medicare Benefits Schedule includes GP management plans and team care arrangements to support a structured approach to management of patients with chronic or terminal conditions.

Findings:

Medicare claims data show that there has been an increase in the number of

GP management plans and team care arrangements claimed by Indigenous Australians between 2009–10 and 2010–11. Over this period GP management claims increased from 23,927 to 32,717 and team care arrangements from 18,680 to 26,525. Rates were nearly twice as high for these services for Indigenous Australians compared with non-Indigenous Australians. There has also been a corresponding increase in allied health care services claimed through Medicare by Indigenous Australians with dental up from 77,343 to 122,822 and other allied health from 25,961 to 35,731. Indigenous Australians also had a higher rate of nurse/Aboriginal Health Worker consultations claimed than non-Indigenous Australians (522 per 1,000 compared with 257 per 1,000).

Information on the management of chronic conditions by Aboriginal and Torres Strait Islander primary health care services is available through OATSIH Services Reporting (OSR) and the *Healthy for Life* collections. Through OSR data for 2010–11, it was estimated that approximately 63% of services employed a doctor and 85% provided management of chronic illness. Services also report on whether they have systems in place which assist with clinic operational practices, particularly for the provision of services to people with chronic disease. In 2010–11, 70% of services reported keeping track of clients needing follow-up, 74% maintained health registers (e.g., chronic disease register), 75% used clinical practice guidelines, and 72% used patient information and recall systems (PIRS) that automatically provide reminders for follow-up and health checks. Between 2001–02 and 2010–11 there has been a significant increase in the proportion of services maintaining health registers, using PIRS systems and utilising clinical practice guidelines.

A range of quality improvement approaches are being implemented across general practice and Aboriginal and Torres Strait Islander primary health care services in Australia, including the Australian Primary Care Collaboratives, the *Audit and Best Practice for Chronic Disease (ABCD)* program (now under the auspice of One21seventy CQI cycle) and the *Healthy for Life* program. By 2009, 62 health centres were participating in the *ABCD* program. Earlier research under the *ABCD* program demonstrated that the proportion of Indigenous Australians

with Type 2 diabetes receiving 6-monthly HbA1c tests could be increased from 41% to 72% in remote locations (Bailie et al. 2007).

The *Healthy for Life* program supports quality improvement processes in 100 services through 59 sites across Australia. In 2010 around 13,264 regular clients of these services had Type 2 diabetes. In the 6 months to June 2010, around 52% had an HbA1c test performed and 62% had their blood pressure assessed. For the services that reported the results of these tests, 68% had HbA1c levels that were higher than the recommended level for people with diabetes (i.e., less than or equal to 7%), and 56% had elevated blood pressure. For Indigenous Australians with coronary heart disease who are regular clients, 69% had their blood pressure assessed in the last 6 months. For the services that reported the results of these tests, 38% of people with coronary heart disease had elevated blood pressure.

Implications:

The provision of organised chronic disease management in Aboriginal and Torres Strait Islander primary health care services has resulted in improvements in various health outcomes (Hoy et al. 1999; Hoy et al. 2000; Rowley et al. 2000; McDermott et al. 2003; Bailie et al. 2007). However, there are significant challenges in sustaining improvements in the management of chronic illnesses (Urbis Pty Ltd 2009). Strategies recommended to address these challenges include systematic support to buffer the effects of local factors, transparent work-practice systems backed by written disease management guidelines and manuals, delineated roles for practices for all practitioner types, appropriate staffing and training policies, and raising awareness in communities through education and health promotion with strong local participation (Bailie et al. 2004).

Australian governments are supporting various initiatives to improve chronic disease management including through the *National Partnership Agreement on Closing the Gap in Indigenous Health Outcomes*. The *Practice Incentives Program – Indigenous Health Incentive* includes payments to GPs for registering with the program, for registration of Indigenous patients with chronic disease and providing best practice management of chronic disease. Early findings from

Medicare data reported here show an increase in the number of GP Management Plans and Team Care Arrangements claimed through Medicare since the introduction of the program. In November 2009, the MBS was amended to allow practice nurses and Aboriginal Health Workers to provide additional follow-up care after an Aboriginal and Torres Strait Islander Health Assessment, with an increase from 5 to 10 MBS-rebated items per year per person. In 2010–11, 13,413 Indigenous-specific follow-up services were provided by Aboriginal health workers and practice nurses, representing an increase of 10,246 services from 2009–10.

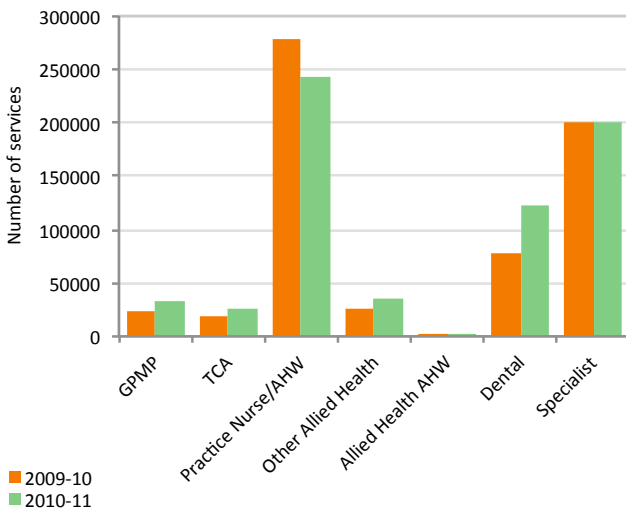
The Medical Specialist Outreach Assistance Program – Indigenous Chronic Disease is currently in its third year and has committed \$54 million over four years for the operation and funding of multidisciplinary teams comprising specialists, GPs and allied health professionals. Its aim is to improve the management of complex and chronic health conditions in rural and remote Indigenous communities.

The Quality Assurance for Aboriginal and Torres Strait Islander Medical Services program aims to provide culturally appropriate and clinically effective diabetes management through the use of ‘point of care’ pathology tests. Other initiatives addressing chronic disease

include the support of the Australian Primary Care Collaboratives and the *Healthy for Life* program. GP Super Clinics will also provide multi-disciplinary, integrated team-based approaches to deliver better prevention and treatment of chronic disease.

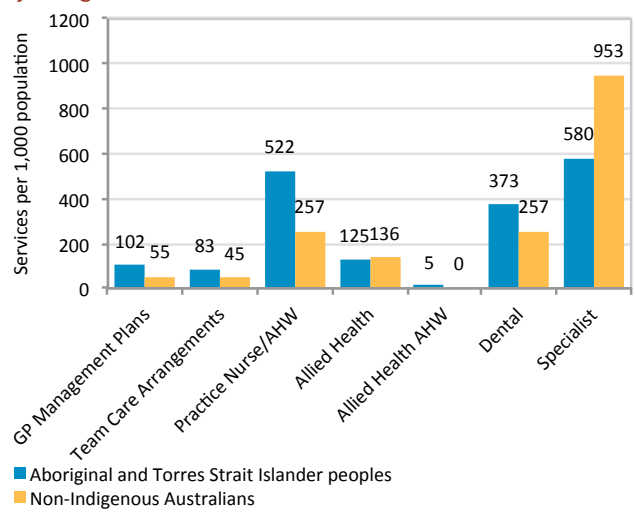
Other local arrangements also exist, for example the Care Connect Pilot in Qld provides early intervention services to reduce the burden of renal and other chronic disease experienced by Aboriginal and Torres Strait Islander peoples. This program also provides a care coordination service that assists people to access appropriate services and monitors the progress of patients to help them navigate the health system.

Figure 155
Number of selected MBS services claimed, Indigenous Australians, 2009–10 and 2010–11



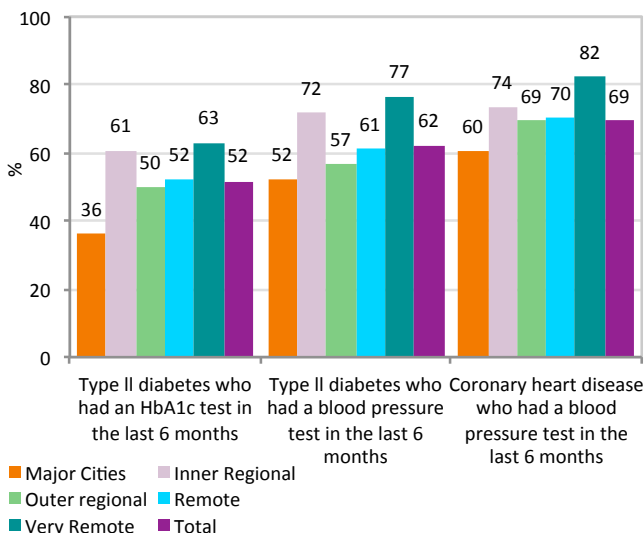
Source: Medicare Financing & Analysis Branch, Department of Health and Ageing

Figure 156
Age-standardised rate of selected MBS services claimed, by Indigenous status, 2009–10 and 2010–11



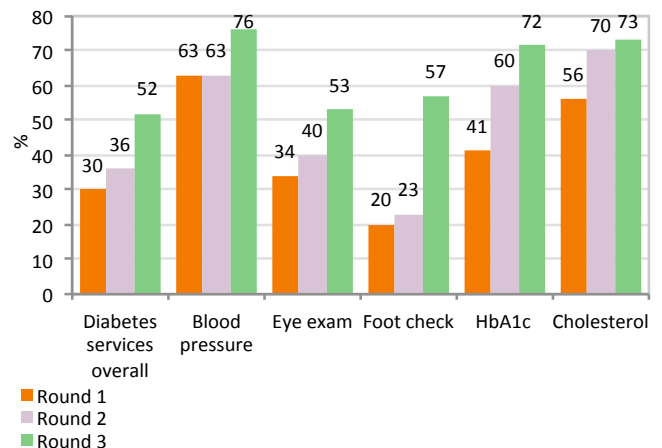
Source: Medicare Financing & Analysis Branch, Department of Health and Ageing

Figure 157
Proportion of Indigenous regular clients of Healthy for Life Services receiving recommended care, 1 January to 30 June 2010



Source: AIHW analysis of Healthy for Life data collection

Figure 158
Proportion of Indigenous Australians with Type 2 diabetes receiving recommended care, 12 remote primary care services, the NT, 2003–04 to 2005–06



Source: (Baillie et al. 2007)

3.06 Access to hospital procedures

Why is it important?:

Australians with illnesses that can be effectively treated by hospital-based medical and surgical procedures should have equitable access to these procedures. Studies have shown that while Indigenous Australians are more likely to be hospitalised than other people they are less likely to receive a medical or surgical procedure while in hospital (Cunningham 2002; ABS 2005; ABS 2008). The disparities are not explained by diagnosis, age, sex or place of residence (Cunningham 2002). For patients admitted to hospital with coronary heart disease, access to coronary angiography can be important in diagnosis and establishment of a course of treatment. Coronary heart disease may be treated with medicines or through repairing the heart's blood vessels, either using a medical procedure (percutaneous coronary interventions) or a surgical procedure (coronary artery by-pass grafts). A study of patients admitted to Qld hospitals for acute myocardial infarction (heart attack) between 1998 and 2002 found that rates of coronary procedures among Indigenous Australian patients were 22% lower than rates for other patients (Coory et al. 2005).

Several studies have shown Aboriginal and Torres Strait Islander peoples have poorer survival rates for cancer. This is partly explained by the stage of cancer when patients are referred for specialist treatment (Condon et al. 2006; Valery et al. 2006). However, Aboriginal and Torres Strait Islander peoples are less likely to have treatment for cancer (surgery, chemotherapy, radiotherapy) and tend to wait longer for surgery (Valery et al. 2006; Hall et al. 2004). After adjusting for stage at diagnosis, treatment and comorbidities, non-Indigenous Australians had better survival rates than Indigenous patients.

Aboriginal and Torres Strait Islander people with end stage renal failure received kidney transplants at a lower rate than other Australians and had significantly longer overall median waiting times (Yeates et al. 2009). These disparities are not explained by age, sex,

comorbidities or the cause of renal disease.

Findings:

In the two years to June 2010, excluding care involving dialysis, 60% of hospital episodes for Aboriginal and Torres Strait Islander peoples had a procedure recorded, compared with 82% of hospital episodes for other Australians.

For Indigenous Australians, 6% of hospitalisations with a procedure recorded occurred in private hospitals compared with 50% for non-Indigenous Australians. There are many factors associated with the likelihood of receiving a procedure when admitted to hospital. An analysis of the combined impact of a range of factors found that the most significant factors (in order of importance) were:

- whether the hospital was a public or private hospital;
- the number of additional diagnoses recorded for a patient;
- the principal diagnosis for which a person is admitted (with admissions for cancers, diseases of the digestive system, disease of the musculoskeletal system, diseases of the eye, diseases of the genitourinary system, diseases of the blood, diseases of the nervous system, pregnancy and childbirth, diseases of the ear and mastoid process, and respiratory diseases all increasing the likelihood a procedure will occur);
- remoteness of usual residence;
- age;
- Indigenous status;
- state/territory of residence; and
- sex.

In all states and territories Indigenous Australians were less likely to receive a procedure. Analysis by remoteness shows a steady decline in procedures as remoteness declines. However, the gap between the proportions of Indigenous and non-Indigenous Australians receiving a hospital procedure remains in each area.

Between July 2008 and June 2010, among those hospitalised with coronary heart disease, Aboriginal and Torres Strait Islander people were nearly half as likely to receive coronary procedures such as coronary angiography and revascularisation procedures.

For hospitalisation related to diseases of the digestive tract between July 2008 and June 2010, the odds of Aboriginal and Torres Strait Islander patients receiving a

corresponding procedure were significantly lower than non-Indigenous patients when the principal diagnosis was complicated or uncomplicated hernias, and diseases of the extrahepatic biliary tree. There was no significant difference where the principal diagnosis was appendicitis, non-neoplastic diseases of the anus or rectum, and malignant neoplasms of the large intestine/rectum.

Implications:

Disparities in hospital procedures are likely to reflect a range of factors, including 'systemic practices, not ill-intentioned but still discriminatory, and almost invisible in the patient provider encounter' (Fisher et al. 2002). An adequate primary health care system is also a prerequisite for effective hospital and specialist services.

Half (49%) of Indigenous Australians had incomes in the bottom 20% of Australian incomes. In 2004–05, 15% of Indigenous Australians in non-remote areas had private health insurance with the main barrier being affordability (65%). The lower proportion of procedures per hospitalisation is likely to be associated with private health insurance coverage and lower access to private hospitals. This may have impacts on the rate of preventative hospital treatments.

Aboriginal and Torres Strait Islander patients with chronic disease sometimes present later in the course of these illnesses, which affects treatment options (Valery et al. 2006). Access to non-hospital specialist services for Aboriginal and Torres Strait Islander peoples is known to be well below national averages (Deeble et al. 1998). Other factors that have been suggested include: that the presence of comorbidities limits treatment options (although this does not explain the difference in coronary procedures outlined above); clinical judgments concerning post procedural compliance; communication issues, including difficulties for patients whose main language is not English; and patient knowledge and attitudes, e.g., fatalistic attitudes towards cancer. Physical, social and cultural distance from health services also play a role, along with financial issues patients and their families may face when seeking treatment in specialist referral services (Shahid et al. 2009; Miller et al. 2010). Effective strategies will require a better

understanding of the factors leading to the observed disparities.

The measures presented here suggest that under-provision of specialist services

for Indigenous Australians persists, and that further efforts are required to improve access. In addition to governments, clinicians and clinical colleges could also play a role in

reviewing decision making processes and relevant data to identify what drives differential access to procedures and develop strategies to address these issues (Fisher et al. 2002).

Table 41
Proportion of separations with a procedure reported, by principal diagnosis and Indigenous status, July 2008 to June 2010

Principal diagnosis chapter (excluding dialysis)	Indig. %	Other %
Neoplasms	90	96
Diseases of the eye	88	99
Diseases of the blood	88	94
Congenital malfunctions	87	92
Diseases of the ear	80	88
Certain conditions in perinatal period	73	74
Diseases of the musculoskeletal system	72	93
Endocrine, nutritional & metabolic disorders	70	85
Factors influencing health status	68	92
Diseases of the digestive system	67	90
Diseases of the genitourinary system	65	85
Injury, poisoning & external causes	63	74
Pregnancy & child birth	63	79
Diseases of the skin	61	72
Diseases of the circulatory system	59	76
Diseases of the nervous system	57	86
Infectious & parasitic diseases	44	44
Diseases of the respiratory system	42	62
Mental & behavioural disorders	40	55
Symptoms and signs and n.e.c	38	61
Any principal diagnosis	60	82

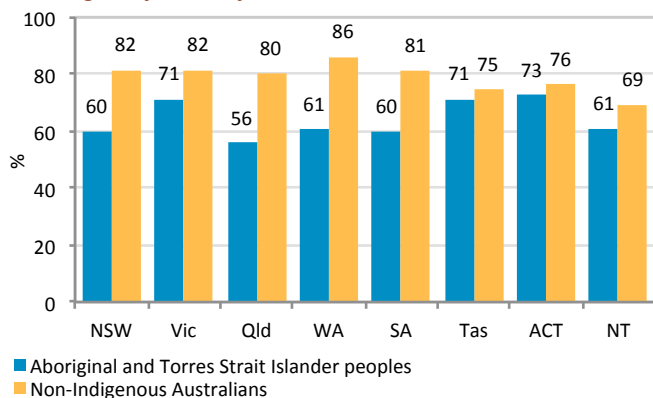
Source: AIHW analysis of National Hospital Morbidity Database

Table 42
Hospital procedures, by type of procedure reported and Indigenous status, July 2008 to June 2010 (age-standardised)

Procedure type	Indig. %	Other %
Procedure on urinary system	37	7.6
Haemodialysis	36	6
Non-invasive and cognitive and other interventions, n.e.c.	36	49
Imaging services	5	6
Procedures on digestive system	4	9.3
Procedures on cardiovascular system	3	3
Obstetric procedures	3	3.3
Procedures on musculoskeletal system	3	4.8
Dermatological and plastic procedures	3	4
Gynaecological procedures	2	3.3
Dental services	1	2
Procedures on eye and adnexa	1	1.9
Procedures on respiratory system	1	1.2
Procedures on nose and mouth and pharynx	1	1.4
Procedures on nervous system	1	2
Other	1	2.1
Total (excluding haemodialysis)	65	94.3
Total (including haemodialysis)	100	100

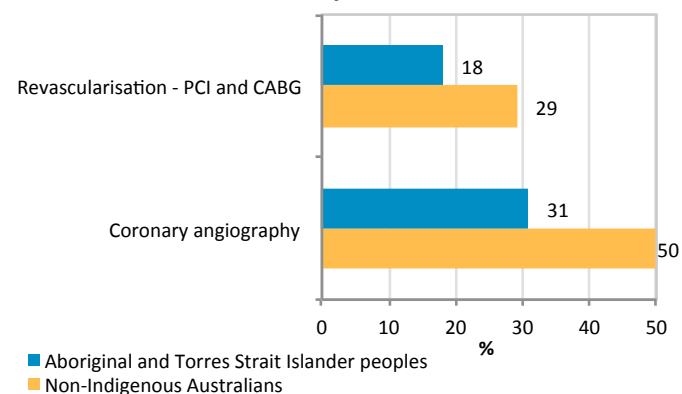
Source: AIHW analysis of National Hospital Morbidity Database

Figure 159
Proportion of hospitalisations with a procedure performed, by Indigenous status and state/territory (excluding care involving dialysis), July 2008 to June 2010



Source: AIHW analysis of National Hospital Morbidity Database

Figure 160
Age-standardised use of coronary procedures for those hospitalised with coronary heart disease, NSW, Victoria, Qld, WA, SA and the NT, July 2008 to June 2010



Source: AIHW analysis of National Hospital Morbidity Database

3.07 Selected potentially preventable hospital admissions

Why is it important?:

Analysis of the conditions for which people are admitted to hospital reveals that in many cases, the hospital admission could have been prevented through timely and effective care outside of hospital (Li et al. 2009b).

Hospitalisations for conditions that are sensitive to the effectiveness, timeliness and adequacy of non-hospital care are referred to as potentially preventable hospital admissions. This includes conditions for which hospitalisation could potentially be avoided through effective preventive measures or early diagnosis and treatment (Page et al. 2007). The list of conditions for which hospitalisation is potentially preventable is subject to debate (Li et al. 2009b) and is reviewed from time to time in Australia to reflect advances in health care.

Potentially preventable conditions are usually grouped into three categories:

- vaccine-preventable conditions—including invasive pneumococcal disease, influenza, tetanus, measles, mumps, rubella, pertussis, and polio;
- potentially preventable acute conditions—including dehydration/gastroenteritis, kidney infection, perforated ulcer, cellulitis, pelvic inflammatory disease, dental conditions, and ear, nose and throat infections; and
- potentially preventable chronic conditions—including diabetes, asthma, angina, hypertension, congestive heart failure, and chronic obstructive pulmonary disease.

Systematic differences in hospitalisation rates for Indigenous and non-Indigenous Australians could indicate gaps in the provision of population health interventions (such as immunisation), primary care services (such as early interventions to detect and treat chronic disease), and continuing care support (such as care planning for people with chronic illnesses, e.g., congestive heart failure). Among Indigenous Australians, there is also a higher prevalence for the underlying diseases, and Indigenous Australians are more likely to live in remote areas where non-hospital

alternatives are limited (Gibson et al. 2009; Li et al. 2009b).

Findings:

In the two-year period from July 2008 to June 2010, rates for potentially preventable hospital admissions were five times as high for Aboriginal and Torres Strait Islander peoples compared with non-Indigenous Australians. Potentially preventable hospital admissions (excluding those for dialysis) accounted for 26% of all hospital admissions for Indigenous Australians. Differences in hospitalisation rates between Indigenous and non-Indigenous Australians were particularly striking for older age groups.

For Indigenous Australians, vaccine-preventable conditions accounted for around 3% of all ambulatory care sensitive hospital admissions, acute conditions for 33% of admissions and chronic conditions for 64% of admissions. The majority of these hospitalisations were due to diabetes complications (48%). Other significant conditions included convulsions/epilepsy, chronic obstructive pulmonary disease, dental conditions, and ear, nose and throat infections. For children, the most common conditions were dental conditions, and ear, nose and throat infections, while for adults, diabetes complications were the most prevalent.

Compared with non-Indigenous Australians, hospitalisation rates for selected potentially preventable conditions were around 10 times as high for Aboriginal and Torres Strait Islander peoples living in remote areas, 4 times as high in major cities and regional areas, and 3 times as high in very remote areas. Potentially preventable hospitalisations for Indigenous Australians living in remote areas represented a higher proportion of all hospitalisations (39%) than nationally (26%).

Indigenous hospitalisation rates for vaccine-preventable diseases have decreased significantly since 1998–99 in Qld, WA, SA and the NT combined, although there has been no significant change since 2004–05 in NSW, Victoria, Qld, WA, SA and the NT combined. Due to changes in coding since 2007–08, resulting in an apparent decline for diabetes complication and increase for gastroenteritis, time series data are not currently available for hospitalisation rates for chronic and acute conditions under this performance measure.

Implications:

Long term declines in rates of vaccine preventable ambulatory care sensitive conditions are likely to be linked to improvements in the coverage of childhood and adult immunisation (see measure 3.02). The main challenges are to address gaps in coverage (e.g., in Aboriginal and Torres Strait Islander adults over 40 years receiving influenza and pneumococcal vaccines).

The most common conditions within the acute group included dental and ear, nose and throat infections. Dental care access issues have been discussed elsewhere in this report (see measure 3.14). The majority of hospitalisations for ear, nose and throat infections occurred in the 0–14 year age group, where rates were twice the non-Indigenous rate. Analysis of data on ear/hearing problems for this age group found self-reported prevalence rates three times the non-Indigenous rate, yet GP consultations only 1.2 times as high (see measure 1.15).

Hospitalisation rates for potentially preventable chronic conditions were seven times as high for Indigenous Australians compared with non-Indigenous Australians. The major conditions within the chronic group were diabetes complications, chronic obstructive pulmonary disease, and asthma. These high rates reflect the higher rate of chronic conditions in the population and the need to strengthen services that intervene earlier in the disease process, including prevention, early detection, and improved chronic disease management (Li et al. 2009b).

A number of studies have found that improving patient provider communication and collaboration makes it easier for people to navigate, understand and use information and services to take care of their health e.g., matching information to the patient's needs and abilities, recognising the importance of asking questions, shared decision making, and providing a range of avenues for communication (Øvretveit 2012; Hernandez et al. 2012).

Through the *National Partnership Agreement on Closing the Gap in Indigenous Health Outcomes*, Australian governments have agreed to improve Indigenous Australians' access to effective and comprehensive primary and preventative health care. This Agreement aims to reduce potentially

avoidable hospitalisations for Indigenous Australians through the prevention, early detection and management of chronic disease.

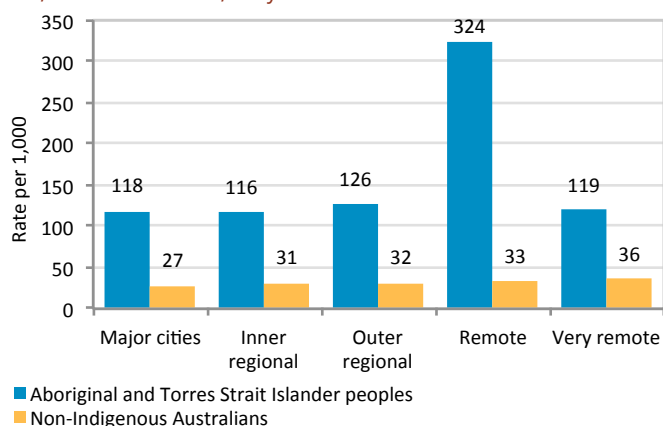
In Victoria the *Improving care for Aboriginal and Torres Strait Islander Patients Program* aims to reduce

preventable hospital re-admissions by providing high quality and culturally responsive referrals, treatment and discharge planning.

Governments have also agreed under National Health Reform, that Australia's health system should provide all

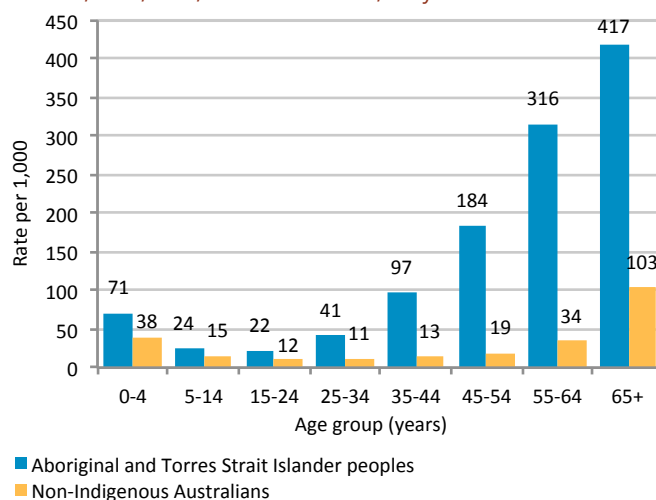
Australians with timely access to quality health services based on their needs, not ability to pay, regardless of where they live in the country.

Figure 161 Hospitalisations for ambulatory care sensitive conditions, by Indigenous status and remoteness, NSW, Victoria, Qld, WA, SA and the NT, July 2008 to June 2010



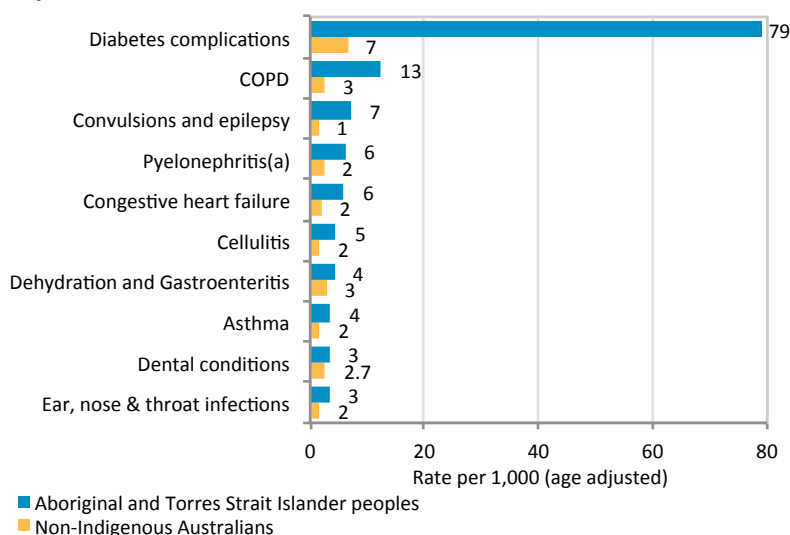
Source: AIHW Analysis of National Hospital Morbidity Database

Figure 162 Hospitalisation rates for ambulatory care sensitive hospital admissions, by Indigenous status and age group, NSW, Victoria, Qld, WA, SA and the NT, July 2008 to June 2010



Source: AIHW Analysis of National Hospital Morbidity Database

Figure 163 Top 10 ambulatory care sensitive hospital admissions, by Indigenous status, NSW, Victoria, Qld, WA, SA and the NT, July 2008 to June 2010



a) An inflammation of the kidney and upper urinary tract
Source: AIHW Analysis of National Hospital Morbidity Database

3.08 Cultural competency

Why is it important?:

'Cultural competency requires that organisations have a defined set of values and principles, and demonstrate behaviours, attitudes, policies and structures that enable them to work effectively cross-culturally.' (Dudgeon et al. 2010). The first of the nine principles underpinning the NSFATSIH is cultural respect – 'ensuring that the cultural diversity, rights, views, values and expectations of Aboriginal and Torres Strait Islander Peoples are respected in the delivery of culturally appropriate health services' (AHMAC 2003).

In a review of the literature, Thomson (2005) found that generally, the mainstream health system has not adequately taken into account Aboriginal and Torres Strait Islander cultures, or their different views of health. This then impacts on how Aboriginal and Torres Strait Islander peoples make decisions to use health services and, in turn, their health outcomes (House of Representatives Standing Committee on Family and Community Affairs 2000). For example, if an Aboriginal and Torres Strait Islander patient has previously found health services uncomfortable, unwelcoming, or difficult to understand and navigate, this may contribute to avoidance or delays in seeking treatment (Jowsey et al. 2011; House of Representatives Standing Committee on Family and Community Affairs 2000). In turn this can lead to potentially preventable disease progression (see measure 3.07).

The NT Department of Health, in collaboration with the National Advisory Group on Aboriginal and Torres Strait Islander Health Information and Data (NAGATSIHID) and the National Aboriginal and Torres Strait Islander Health Officials Network (NATSIHON), are developing a cultural competence framework based around three elements:

(1) Organisational cultural competency: leadership and workforce, recruiting and supporting Aboriginal and Torres Strait Islander people in health professions and into leadership positions within health care systems, community engagement in planning and decision making and development of non-Indigenous staff.

(2) Systemic cultural competency: eliminating systemic and institutional barriers to Aboriginal and Torres Strait Islander people accessing care, including language barriers, trust, patient dissatisfaction and poor understanding of treatment.

(3) Clinical/professional/individual cultural competence: improving the cultural knowledge, skills and behaviours of individuals working in the health system, including clinical and administrative staff, to help patients navigate the health system and become a more active partner in the health care encounter.

Recognising that NATSIHON and NAGATSIHID are currently developing a consolidated set of core measures of cultural competency in health and wellbeing service delivery, this performance measure will focus on presenting those aspects of cultural competency that can be analysed from currently available data sources.

Findings:

The 2008 NATSISS found that 27% of Indigenous Australians had felt discriminated against in the last 12 months. The most common situation/places included by members of the public (11%), police/security/courts (11%) and at work (8%), while doctors, nurses or other staff at hospitals/surgeries were identified by 4% of respondents. In 2004–05, 16% of respondents felt they had been treated badly when seeking health care in the last 12 months because they were Aboriginal or Torres Strait Islander. Thirty-three per cent of those respondents reported that they usually try to avoid the person/situation if they have been treated badly when seeking health care.

In 2008, 26% of Aboriginal and Torres Strait Islander peoples aged 15 years and over reported problems accessing health care. Approximately 7% of these identified 'service not culturally appropriate' as a barrier.

In 2008, 8% of people aged 15 years and over surveyed in the NATSISS disagreed or strongly disagreed with the statement 'Your doctor can be trusted'. In addition, 17% disagreed or strongly disagreed with the statement 'Hospitals can be trusted to do the right thing by you'.

Language can be a barrier in the health system, with 18% of Indigenous adults in

remote areas and 6% in non-remote areas identifying having difficulty understanding and being understood by English speakers in 2008.

Between July 2008 and June 2010, there were 14,052 hospitalisations where Aboriginal and Torres Strait Islander people left hospital against medical advice or were discharged at their own risk. This represented around 2% of all hospitalisations for Aboriginal and Torres Strait Islander peoples, which compares with 0.4% for non-Indigenous Australians.

In 2006, there were 5,536 Aboriginal and Torres Strait Islander people employed in health-related occupations. Nursing (1,449) was the largest group followed by nursing support and personal care workers (974), and Aboriginal and Torres Strait Islander Health Workers (966). The occupations with the largest gap between numbers of Indigenous and non-Indigenous Australians were nurses, medical practitioners and allied health professionals.

In 2010, there were an estimated 1,766 Aboriginal and Torres Strait Islander tertiary students enrolled in health-related courses and an estimated 5,100 Indigenous student enrolments in health-related courses in the VET sector.

As at 30 June 2011, over half (54% or 3,008) of the full time employment (FTE) paid positions in Aboriginal and Torres Strait Islander primary health care services were occupied by Aboriginal and Torres Strait Islander people. Seventy-four per cent of these services had a governing committee or board composed entirely of Aboriginal and Torres Strait Islander people.

Aboriginal and Torres Strait Islander Health Workers (ATSIHWs) have been recognised as playing an important role in contributing to improved cultural competency (House of Representatives Standing Committee on Family and Community Affairs 2000; Thompson et al. 2011). A small study in the cardiology unit of a WA hospital (Taylor et al 2009) found that these health workers improved the cultural security of the care provided, reduced the number of discharges against medical advice and increased participation in cardiac rehabilitation. Participation rates in cardiac rehabilitation have been lower for Indigenous Australians although it has been shown to be effective in reducing coronary death by up to 25% (National

Heart Foundation and Australian Health Care and Hospitals Association 2010) (see measures 1.05, 1.23, 1.24). In 2009–10, 85% of Aboriginal and Torres Strait Islander primary health care services had an Aboriginal and Torres Strait Islander health worker on staff.

Health promotion through cultural groups was offered by half of Aboriginal and Torres Strait Islander primary health care services providing group activities (which constituted approximately 90% of services), while 60% offered services through women's groups and 57% services through men's groups. Twenty-one per cent of Aboriginal and Torres Strait Islander primary health care services offered bush tucker nutrition programs, 20% offered traditional healing and 12% offered bush medicine in 2010–11. Eighty-five per cent of Aboriginal and Torres Strait Islander substance-use-specific services ran cultural groups (e.g., art, hunting, bush outings).

A lack of local services that are culturally competent has been identified in the area of palliative care (McGrath et al. 2007), rehabilitation services (Kendall et al. 2004), and medicines information (Stoneman. J et al. 2007).

A recent study of a private GP practice in Qld found that by working in partnership with the Indigenous community the number of Indigenous patients increased from 10 to 147 with monthly attendances increasing from five to 40 Indigenous patients. Strategies introduced included bulk billing for all Indigenous patients, one session per week specifically for Indigenous patients, and a bus to the clinic. In addition, cultural safety training was undertaken by staff and an Indigenous health worker attended the clinic assisting with cultural safety and referrals. A monthly stakeholder meeting was also introduced, providing ongoing community ownership (Johanson et al. 2011).

Implications:

The cultural competency of the health system impacts on Aboriginal and Torres Strait Islander people's access to health care, the quality and effectiveness of care that is received, and disparities in health outcomes (McDermott 2012). Cultural competency can be measured directly, e.g., through individuals self-reporting on whether they find health services culturally competent, or

indirectly, e.g., through rates of discharge against medical advice (National Heart Foundation and Australian Health Care and Hospitals Association 2010) (see measure 3.09).

A WA report on cancer care (Thompson et al. 2011) made several practical recommendations to improve the cultural competency of care for Aboriginal patients including: providing a welcoming environment through welcome to country services, yarning places and access to traditional foods; facilitating the return of Aboriginal patients to their homelands for continued care where possible; ensuring that there is access to Aboriginal interpreters for Aboriginal people who are not confident speakers of English, and that staff understand differences in Aboriginal verbal and non-verbal communication styles; and ensuring service providers are familiar with, acknowledge and respect Aboriginal family structures, culture and life circumstances.

A Victorian study of Aboriginal diabetic patients found that a history of dispossession and racism were key barriers identified to access of health care. The study identified seven key aspects of cultural competency including respect and trust, transport, flexibility, time, support and outreach, and working together (Liaw et al. 2011).

Effective identification of Aboriginal and Torres Strait Islander people and accountability at all levels of the health system are vital to any initiative to improve cultural competency. Australian governments have focused on improving the cultural competency of health services in several ways.

The PIP Indigenous Health Incentive, funded by the Australian Government, aims to support general practices and Indigenous health services to provide better health care for Aboriginal and Torres Strait Islander patients, including best practice management of chronic disease. This incentive is a key part of the COAG *National Partnership Agreement on Closing the Gap in Indigenous Health Outcomes*. Payments are made to practices that register for the PIP Indigenous Health Incentive and meet certain requirements, including establishing and using a mechanism to ensure their Aboriginal and Torres Strait Islander patients aged 15 years and over with a chronic disease are followed up

(e.g., through use of a recall and reminder system or staff actively seeking out patients to ensure they return for ongoing care); and at least two staff members from the practice (one of whom must be a GP) completing appropriate cultural awareness training. As at 30 April 2012, more than 2,900 practices and Indigenous health services have signed on to the PIP Indigenous Health Incentive. Around 40,000 patients were registered for this incentive in 2011.

The Department of Health and Ageing, as the main funder of Aboriginal Community Controlled Health Organisations (ACCHOs), has developed a funding agreement that, in setting out the terms and conditions for project funding for the provision of health care services to Aboriginal and Torres Strait Islander peoples under the OATSIH Program, re-affirms the commitment to community control. The funding agreement's Head Agreement includes an emphasis on increasing the access of Aboriginal and Torres Strait Islander peoples to quality primary care services that respect cultural safety and are planned and delivered according to a transparent needs assessment. This is to reinforce that the organisation must be responsive to local priorities. The Department of Health and Ageing is also currently developing a wide range of culturally appropriate training resources for Aboriginal and Torres Strait Islander aged and community care workers.

The NT Department of Health and Community Services has developed an Aboriginal Cultural Security Policy (The NT Government n.d.) which will be implemented at a regional level to assist all parts of the system to become culturally competent. Key focus areas include workforce development, workplace reform, monitoring and accountability, and community engagement.

The NSW Health Aboriginal Health Impact Statement is designed to ensure the needs and interests of Aboriginal people are embedded into the development, implementation and evaluation of all NSW Health initiatives. The Impact Statement Guidelines (NSW Government 2007) recommend considering questions such as whether a policy includes initiatives that reflect Aboriginal health principles such as a whole-of-life view of health, a holistic approach to health, Aboriginal

self-determination, working in partnership, and cultural respect; and whether recommendations for policy implementation include the adaptation of programs, campaigns and materials that are culturally respectful to the needs of Aboriginal communities. The Guidelines also recommend that evaluation plans for health policies and programs affecting Aboriginal people should include indicators on issues such as cultural security and responsiveness of services to community needs.

The Victorian Department of Human Services has established Building Aboriginal Cultural Competence Training Programs that aim to embed cultural respect and understanding into policy development, service delivery and people management. Program

participants will gain a range of insights, including a better understanding of:

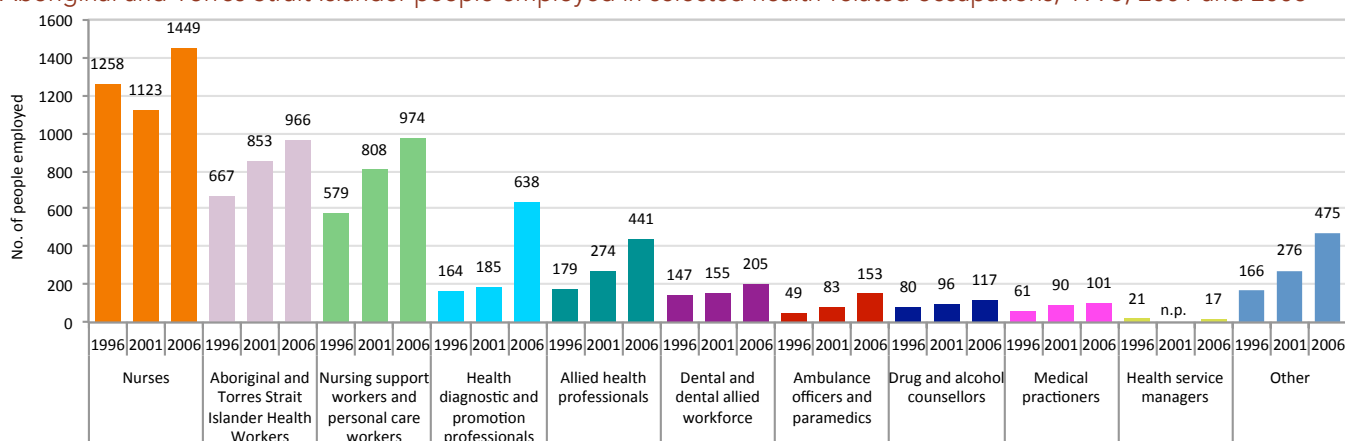
- historical and contemporary Aboriginal leadership;
- the strengths of Aboriginal identity, culture and people;
- the impact of past and current government policies and practices on the lives and outcomes of Aboriginal people; and
- how government and Aboriginal community networks can engage in the process of policy and partnership development.

It is expected that approximately 3,500 people will participate in this training between 2011 and 2013.

The Victorian Department of Health established the Improving Care for

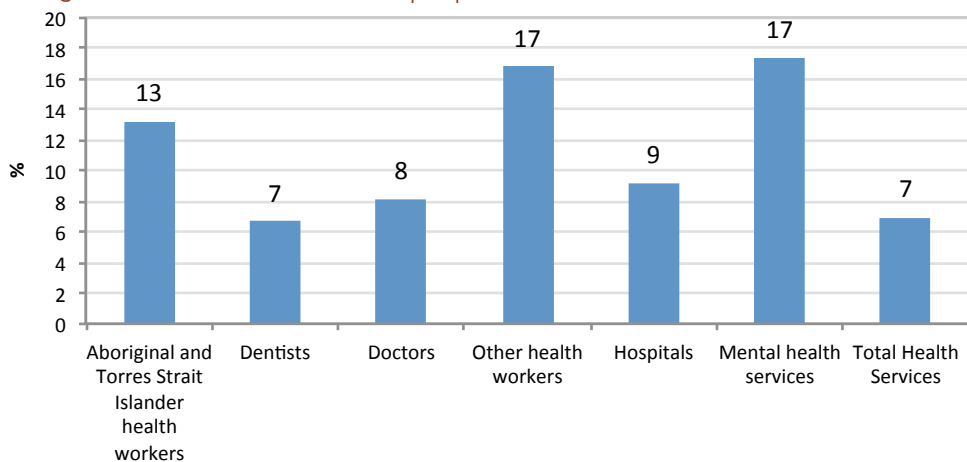
Aboriginal and Torres Strait Islander Patients (ICAP) program in 2004 in recognition that many Aboriginal people are reluctant to attend hospitals and under-identification of Aboriginal patients continues to hamper policy and service development based on service access and health needs (Victorian Government 2009). ICAP is underpinned by a 30% loading on health service funding for Aboriginal inpatients. To demonstrate the provision of quality care for Aboriginal patients, health services are required to report progress against four key result areas in their annual quality of care reports: relationships with Aboriginal communities, culturally aware staff, discharge planning, and primary care referrals.

Figure 164
Aboriginal and Torres Strait Islander people employed in selected health-related occupations, 1996, 2001 and 2006



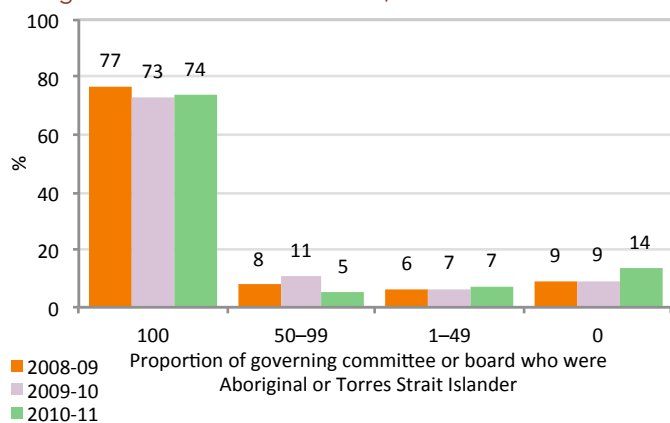
Source: AIHW analysis of the ABS Census data

Figure 165
Proportion of those with problems accessing health care who identified 'service not culturally appropriate' as a barrier, by selected services, Aboriginal and Torres Strait Islander peoples, 2008



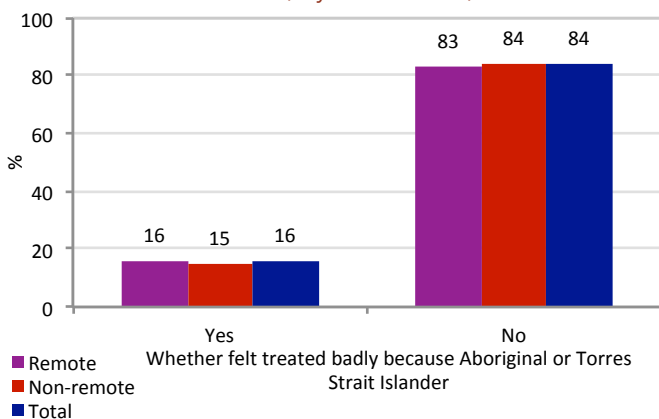
Source: ABS and AIHW analysis of 2008 NATSISS

Figure 166
Aboriginal and Torres Strait Islander primary health care services, by proportion of governing committee or board who were Aboriginal or Torres Strait Islander, 2008–11



Source: AIHW OSR data collection

Figure 167
Treatment of Indigenous Australians when seeking health care in the last 12 months, by remoteness, 2004–05



Source: ABS and AIHW analysis of 2004–05 NATSIHS

3.09 Discharge against medical advice

Why is it important?:

Feedback on patient experiences, and community views of health care services and providers are important for shaping health services and policy. It is important to estimate consumer satisfaction as it is believed to impact on health-related behaviours. For example, satisfied consumers may be more likely to cooperate with treatment, continue using services, maintain a relationship with a specific provider, and actively participate in their own treatment. Australia has a mixed history of systematically seeking feedback from the people whom health services are intended to benefit. A review of patient satisfaction and experience surveys found jurisdictions had adopted a range of methods for seeking feedback on patient experiences of hospitals and related services (Pearse 2005). Surveying the experiences of Aboriginal and Torres Strait Islander patients poses challenges which have been investigated by some jurisdictions.

The measure reported here is based on the extent to which Aboriginal and Torres Strait Islander people 'vote with their feet' (i.e., in discharging themselves from hospital against medical advice). The measure provides indirect evidence of the extent to which hospital services are responsive to Indigenous Australian patients' needs.

Findings:

Between July 2008 and June 2010, there were 14,052 hospitalisations (excluding private hospitalisations in Tasmania, the ACT and the NT, and admissions for mental and behavioural disorders) where Aboriginal and Torres Strait Islander people left hospital against medical advice or were discharged at their own risk. This represented around 2% of all hospitalisations for Aboriginal and Torres Strait Islander peoples compared with 0.4% for non-Indigenous Australians.

Indigenous Australians were discharged from hospital against medical advice at 5 times the rate of non-Indigenous Australians. Discharges from hospital against medical advice are most common for Aboriginal and Torres Strait Islander peoples aged 15–44 years. They are also

more common for Indigenous people living in remote and very remote areas. The proportion of discharge against medical advice for Aboriginal and Torres Strait Islander peoples was highest in the NT (4% of all episodes) and lowest in Tasmania and the ACT (around 1% of all episodes).

Among Indigenous Australians who were discharged against medical advice, the most common principal diagnoses for hospitalisations were injury and poisoning (3,125 hospitalisations), followed by diseases of the respiratory system (1,874 hospitalisations). These two groups of diagnoses represented 36% of all hospitalisations for which Indigenous patients were discharged against medical advice. As a proportion of all hospitalisations of Indigenous Australians for each specific diagnoses group, discharge against medical advice was highest for diseases of the skin (5.8%), followed by infectious and parasitic diseases (5.5%).

An analysis of the relative impact of a range of factors found that Indigenous status was the single most significant variable contributing to whether a patient would discharge themselves from hospital against medical advice, even after controlling for the other factors. Other factors that were significant in order of importance after Indigenous status were:

- remoteness of hospital;
- sex;
- principal diagnosis;
- age;
- state of hospital;
- remoteness of usual residence; and
- state/territory of usual residence.

Implications:

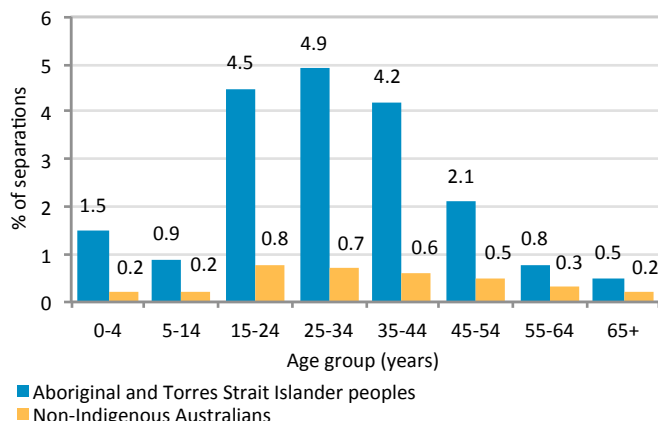
The significantly elevated levels of discharge against medical advice suggest that there are significant issues in the responsiveness of hospitals to the needs and perceptions of Aboriginal and Torres Strait Islander peoples (see measure 3.08). Whilst there are major challenges in developing relevant mechanisms for obtaining feedback from Aboriginal and Torres Strait Islander patients, health systems need to design and implement these mechanisms. The data suggest these issues are important for all age groups, although the issues are most evident for those aged 15–54 years.

There are several questions for health service researchers and health service

managers to tackle in devising strategies to achieve more responsive and respectful service delivery. More needs to be known about the reasons for the high rates of discharge against medical advice across individual factors (such as personal circumstances, health and wellbeing, and cultural issues); community level factors (such as levels of trust or mistrust in system); and hospital level factors (such as staff attitudes, hospital policies and the environment). Historical issues, such as segregation and hospital being seen as a place to go to die are also factors to be investigated.

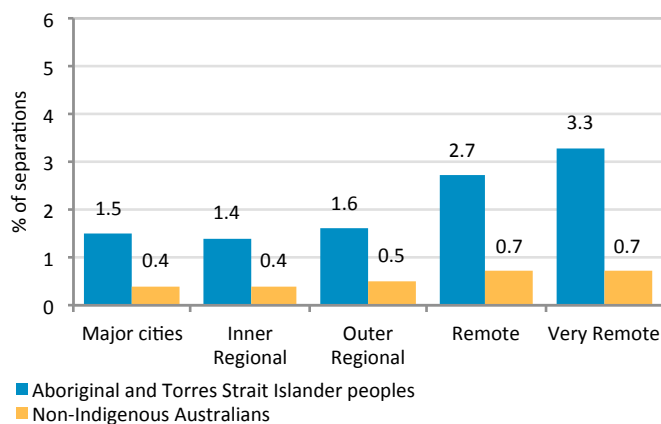
The experience of Aboriginal and Torres Strait Islander peoples of health services needs to be routinely evaluated but the mechanisms for doing this need to be better researched. Hospitals and health services that have implemented successful programs to reduce discharge against medical advice need to be studied and lessons disseminated.

Figure 168
Proportion of hospitalisations ending in discharge against medical advice, by Indigenous status and age group, July 2008 to June 2010



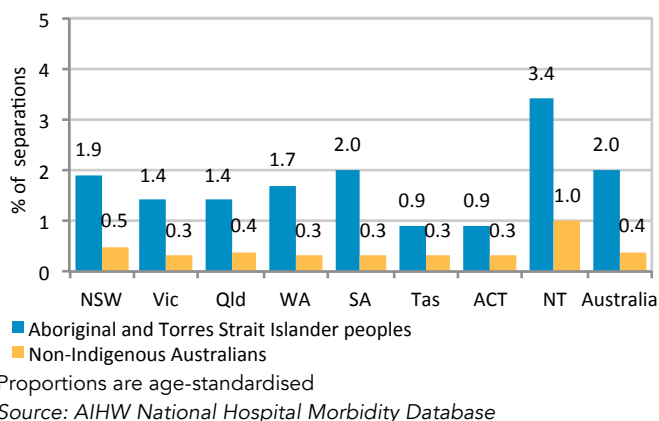
Source: AIHW National Hospital Morbidity Database

Figure 170
Proportion of hospitalisations ending in discharge against medical advice, by Indigenous status and remoteness, 2008–09 to 2009–10



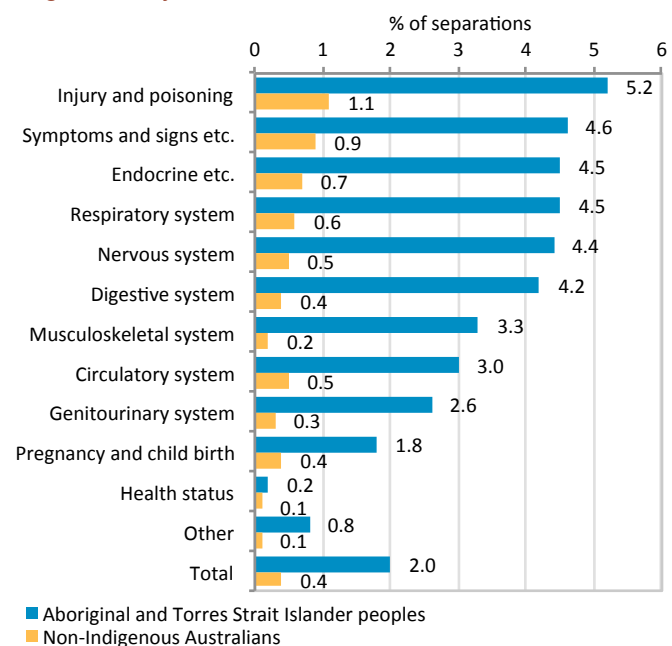
Proportions are age-standardised
Source: AIHW National Hospital Morbidity Database

Figure 169
Proportion of hospitalisations ending in discharge against medical advice, by Indigenous status and jurisdiction, 2008–09 to 2009–10



Proportions are age-standardised
Source: AIHW National Hospital Morbidity Database

Figure 171
Proportion of hospitalisations ending in discharge against medical advice, by Indigenous status and principal diagnosis, July 2008 to June 2010



Proportions are age-standardised
Source: AIHW National Hospital Morbidity Database

3.10 Access to mental health services

Why is it important?:

Mortality rates for mental health and behavioural disorders are 1.4 times as high for Aboriginal and Torres Strait Islander peoples as they are for other Australians (1.7 times as high for men and 1.3 times as high for women) (see measure 1.23). Aboriginal and Torres Strait Islander peoples are twice as likely to die from suicide. Hospitalisation rates for intentional self-harm are more than twice as high as those for other Australians (see measure 1.03). For Indigenous Australians, the intergenerational effects of colonisation and continuing social and economic disadvantage contribute to high rates of physical and mental health problems, high adult mortality, high suicide rates, child removals and incarceration rates which in turn lead to higher rates of grief, loss and trauma (see measure 1.18).

Most mental health services address mental health conditions once they have emerged rather than addressing the underlying causes of distress. Nevertheless, early access to effective services can help diminish the consequences of these problems and help restore people's emotional and social wellbeing. Therefore, the accessibility of mental health services for Aboriginal and Torres Strait Islander peoples is an important issue.

Mental health services include non-specialist services such as community-based health services, Aboriginal and Torres Strait Islander primary health care services and GPs; and specialist services such as private psychiatrists, state mental health teams, and designated psychiatric services both in general hospitals and in specialist facilities.

Findings:

In 2009–10, the rate of ambulatory mental health services claimed through Medicare was lower for Indigenous Australians than for non-Indigenous Australians (202 per 1,000 compared to 320 per 1,000). This includes private services for psychiatric, psychological, GP and other allied health care (SCRGSP 2011a). BEACH survey data collected from April 2006 to March 2011 suggest

that 11% of all problems managed by GPs among Indigenous Australians were for mental health problems. After adjusting for differences in the age structure of the two populations, GPs managed mental health problems for Indigenous Australians at 1.4 times the rate that they did for other Australian patients.

In 2010–11, Aboriginal and Torres Strait Islander primary health care services reported around 187,000 client contacts with emotional and social wellbeing staff or psychiatrists, representing 7% of the estimated total contacts.

In 2009–10, state/territory-based specialised community mental health services reported 430,894 service contacts for Aboriginal and Torres Strait Islander clients, representing 7% of all client contacts. Rates of community mental health care service contacts for Aboriginal and Torres Strait Islander peoples were three times the rates for other Australians. Rates were higher across all age groups, particularly in the 25–44 year age group. Rates for Indigenous Australians were highest in the ACT (1,767 per 1,000) and lowest in the NT (217 per 1,000). In 2009–10, the rate of residential mental health care episodes was 25 per 100,000 for Indigenous Australians.

Access to specialist psychiatry in rural and remote Australia is particularly problematic (Hunter 2007). In 2007 there were 4 full-time equivalent psychiatrists per 100,000 people in remote and very remote areas compared with 23 per 100,000 in major cities. In 2009–10, Indigenous Australians were less likely than non-Indigenous Australians to have claimed through Medicare as private patients for psychologist care (96 compared with 153 per 1,000) and also psychiatric care (46 compared with 88 per 1,000).

In the two years to June 2010, hospitalisation rates for Aboriginal and Torres Strait Islander men for mental health issues were 2.2 times as high as rates for non-Indigenous men, whilst rates for Aboriginal and Torres Strait Islander women were 1.5 times as high as non-Indigenous women. Hospitalisation rates tend to be lower in the NT for both Aboriginal and Torres Strait Islander peoples and other people.

There was a significant increase of 12% in mental health related hospitalisations for Indigenous females, with no significant increase for males between 1998–99 and

2009–10 in Qld, WA, SA and the NT combined. Since 2004–05, however, rates have increased significantly for both Indigenous males and females (9% in NSW, Victoria, Qld, WA, SA and the NT combined).

Rates of ambulatory equivalent hospital separations for mental health-related conditions for Aboriginal and Torres Strait Islander peoples were lower than for non-Indigenous Australians for specialised psychiatric care (rate ratio of 0.2) and higher for hospitalisations without specialised psychiatric care. Non-ambulatory hospitalisations for these conditions were more than twice those for non-Indigenous Australians (1.6 times as high with specialised psychiatric care and 3.2 times as high without specialised psychiatric care). The rate of available psychiatric beds in public psychiatric hospitals ranged from 11 per 100,000 population in major cities to 1.3 per 100,000 in outer regional areas and none in remote and very remote areas. The rate of available psychiatric bed in psychiatric units or wards in public acute hospital ranged from 24 per 100,000 in major cities to 3.2 per 100,000 in remote and very remote areas.

The average length of stay for non-ambulatory care equivalent hospitalisation was 9.6 days for Indigenous patients compared with 8.9 days for other Australians. A recent study in Sydney identified barriers to accessing mental health services including perceived potential for unwarranted intervention from government organisations, long wait times (more than one year), lack of intersectorial collaboration and the need for culturally competent approaches including in diagnosis (Williamson et al. 2010).

Implications:

These findings suggest that access to primary care-level and specialist mental health services is uneven. COAG initiatives represent a major opportunity to address current deficiencies. Under National Mental Health Reform, the Australian Government is working to improve the mental health system for Australians, including for areas and communities that need it most, such as Indigenous communities and socioeconomically disadvantaged areas. Investments totalling \$2.2 billion have been committed over the next five years from 2011–12, including \$1.5 billion in new measures. For example, investments

are being made in *Headspace*, better coordination of services, and the Taking Action to Tackle Suicide program which includes \$6 million in funding for Indigenous initiatives. \$205.9 million is also provided over 5 years to fund more psychological services through an expansion of the Access to Allied Psychological Services (ATAPS) program, which will provide treatment for an additional approximately 185,000 people over five years.

The *Fourth National Mental Health Plan: An agenda for collaborative government action in mental health 2009–2014* includes 34 actions aimed at improving outcomes for people with mental

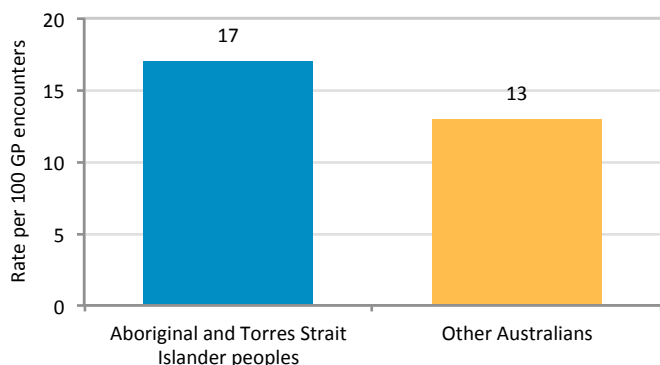
disorders. The plan takes a whole of government approach, acknowledging that many of the determinants of good mental health and of mental illness are influenced by factors beyond the health system. One of the actions is ‘the development of coordinated actions to implement a renewed Aboriginal and Torres Strait Islander social and emotional well-being framework’. A consultant has been engaged to progress the development of the framework.

Key issues to be considered in addressing gaps include ensuring services are culturally competent, ensuring services are well linked into the system of primary health care, and that Aboriginal and

Torres Strait Islander peoples are able to access effective treatment through psychiatrists and psychologists.

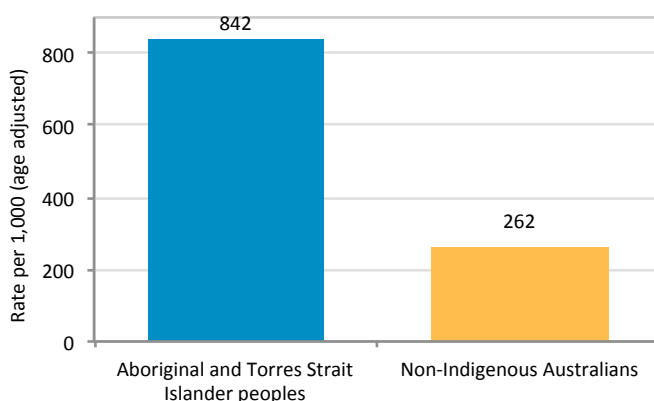
NSW Health has established the Aboriginal Mental Health Workforce Program which aims to build a workforce of Aboriginal mental health workers across NSW to increase the capacity of mental health services to respond to the needs of Aboriginal people. The Program has three components including the Aboriginal Mental Health Workforce Training Program; the Aboriginal Clinical Leadership Program, including six Aboriginal Clinical Leader positions in key former Area Health Services across the state; and positions in ACCHSs.

Figure 172
Age-standardised rate per 100 encounters, mental health-related problems managed by GPs, by Indigenous status of the patient, April 2006–March 2007 to April 2010–March 2011



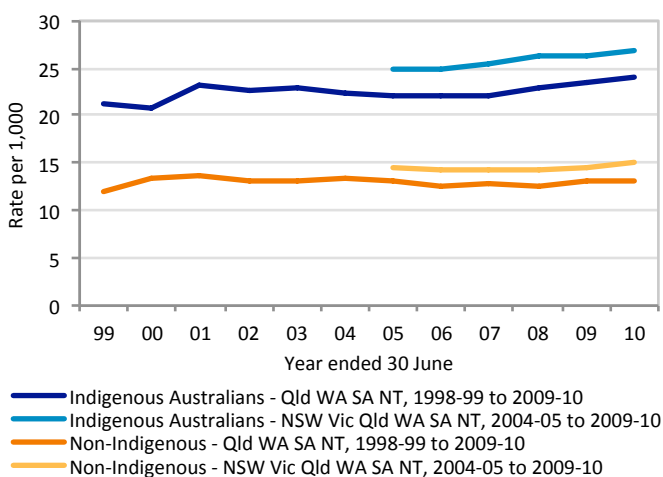
Source: Family Medicine Research Centre, University of Sydney analysis of BEACH data.

Figure 173
Community mental health care service contacts per 1,000 population, by Indigenous status, 2009–10



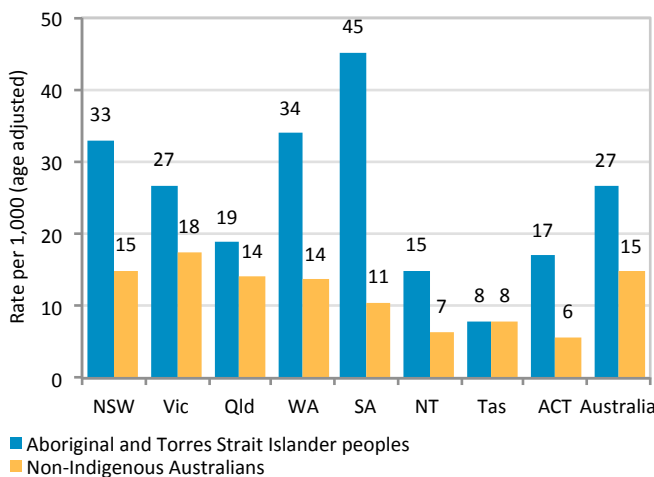
Source: AIHW analysis of National Community Mental Health Care Database

Figure 174
Age-standardised hospitalisation rates for mental health-related conditions, by Indigenous status



Source: AIHW analysis of National Hospital Morbidity Database

Figure 175
Age-standardised hospitalisation rates for mental health-related conditions, by Indigenous status and jurisdiction, July 2008 to June 2010



Source: AIHW analysis of National Hospital Morbidity Database

3.11 Access to alcohol and drug services

Why is it important?:

Alcohol and other drug services provide a variety of treatment interventions for alcohol and other drug use (see measures 2.16 and 2.17). The term 'other drugs' include the use of illegal substances (e.g., heroin) and misuse of legally available substances (e.g., petrol inhalation and prescription drugs). Services are provided in both residential and non-residential settings and can include detoxification and rehabilitation programs, information and education courses, pharmacotherapy treatments and counselling (AIHW 2010a).

Treatment services which reduce harm from alcohol and other drugs can significantly reduce the level of associated diseases such as liver disease; injuries from motor vehicles accidents and assaults; and social disruptions (AIHW 2006b). Reducing drug and alcohol related harm can improve health, social and economic outcomes at both individual and community levels (Steering Committee for the Review of Government Service Provision 2011b).

Access to alcohol and other drug services by Aboriginal and Torres Strait Islander peoples may be impacted by geography (e.g., physical distance to health services, availability/affordability of transport and quality of roads), the cultural competency of services (see measure 3.08), affordability (e.g., of services, pharmaceuticals, and other associated costs such as travel), and availability of services and health professionals.

Findings:

In 2010–11, the Australian Government-funded Aboriginal and Torres Strait Islander stand-alone substance use services, in the OATSIH Services Reporting (OSR) dataset, provided treatment and assistance for substance use issues to 28,600 clients. This was an increase of 9% compared with 2009–10. Of these clients, 76% were Aboriginal or Torres Strait Islander.

Services provided to clients included approximately 3,600 residential episodes of care (a 6% increase from the previous year); 14,600 sobering-up, residential respite and short-term episodes of care

(a 10% decrease from the previous year); and 76,000 non-residential, follow-up and aftercare episodes of care (a 36% increase from the previous year).

Services were distributed across geographical areas, with 18% in remote areas, 25% in major cities, 20% in outer regional areas, 18% in inner regional areas and 18% in very remote areas.

Most services provided treatment or assistance to individual clients for alcohol (98% of services), marijuana (98%), tobacco and nicotine (80%) or multiple drug use (80%). All services provided information and education about substance abuse, with about 86% providing this in the form of community education and activities, and 55% in school-based education visits. More than half (61%) of the 883 full-time equivalent positions at these services were held by Aboriginal or Torres Strait Islander people.

In 2009–10, there were 18,442 treatment episodes for Indigenous Australians in drug and alcohol services included in the Alcohol and Other Drug Treatment Services National Minimum Dataset (AODTS-NMDS). This was 13% of all treatment episodes. Note that 17 substance use-specific services reported under both the OSR and the AODTS-NMDS and therefore these data include some double counting. On average, Indigenous clients tended to be younger than non-Indigenous clients, with the proportion of episodes in the 10–19 and 20–29 year age groups higher for Indigenous clients. Indigenous clients accessing treatment services were more likely than non-Indigenous clients to undergo assessment without subsequent treatment (18% compared with 14%) and less likely to have withdrawal management (12% compared with 17%) (AIHW 2011g; AIHW 2011a).

After adjusting for differences in the age structure of the two populations, general practitioners managed drug abuse and alcohol abuse for Indigenous patients at 4.2 and 3.9 times the rate of other patients during the period April 2006 to March 2011. In the same period, general practitioners offered counselling or advice on alcohol at 2.5 times the rate for Indigenous patients than for other patients. Alcohol counselling or advice represented 2% of all clinical and therapeutic treatments provided to Indigenous people.

Among Indigenous Australians during the period July 2008 to June 2010, there were approximately 7,800 hospitalisations due to alcohol and 4,500 due to drug use. After adjusting for difference in the age structure of the two populations, Indigenous males were five times as likely to be hospitalised for alcohol use as non-Indigenous males and Indigenous females four times as likely as non-Indigenous females. Indigenous males and females were also 4 times as likely to be hospitalised for mental and behavioural disorders due to alcohol and drugs.

On a 'snapshot day' in 2010, there were 2,591 Indigenous clients receiving pharmacotherapy for opioid dependence in NSW, Qld, SA and the ACT combined (other jurisdictions were unable to provide information about clients' Indigenous status). Aboriginal and Torres Strait Islander clients accounted for 9% of all clients in these jurisdictions.

Implications:

The *National Healthcare Agreement* includes a focus on ensuring that Australia's health system promotes social inclusion and reduces disadvantage, especially for Indigenous Australians. The agreement affirms that Australia's health system should:

- be shaped around the health needs of individual patients, their families and communities;
- focus on the prevention of disease and injury and the maintenance of health, not simply the treatment of illness;
- support an integrated approach to the promotion of healthy lifestyles, prevention of illness and injury, and diagnosis and treatment of illness across the continuum of care; and
- provide all Australians with timely access to quality health services based on their needs, not ability to pay, regardless of where they live in the country.

The *National Drug Strategy 2010–2015* provides the framework for an integrated and coordinated approach across all levels of government which aims to reduce the prevalence of drug-related harm and drug use in Australia (Ministerial Council on Drug Strategy 2011). Since the strategy began in 1985, the principle of harm minimisation has formed the basis of the approach.

Under the Strategy, seven sub-strategies will be developed. One of the

sub-strategies is the *National Aboriginal and Torres Strait Islander Peoples Drug Strategy* (NATSIPDS). The NATSIPDS will be informed by the other sub-strategies, including the *National Alcohol Strategy* which will aim to prevent and minimise alcohol-related harm to individuals, families and communities through the development of a safer drinking culture in Australia.

From 2012–13, around 100 Indigenous service providers across Australia and around 150 non-government organisations are funded by the Department of Health and Ageing through the Substance Misuse Service Delivery Grants Fund and Non-Government Organisation Treatment Grants Program to provide, or support, alcohol and other drug treatment and rehabilitation services. Services provide a variety of treatment models including rehabilitation in a

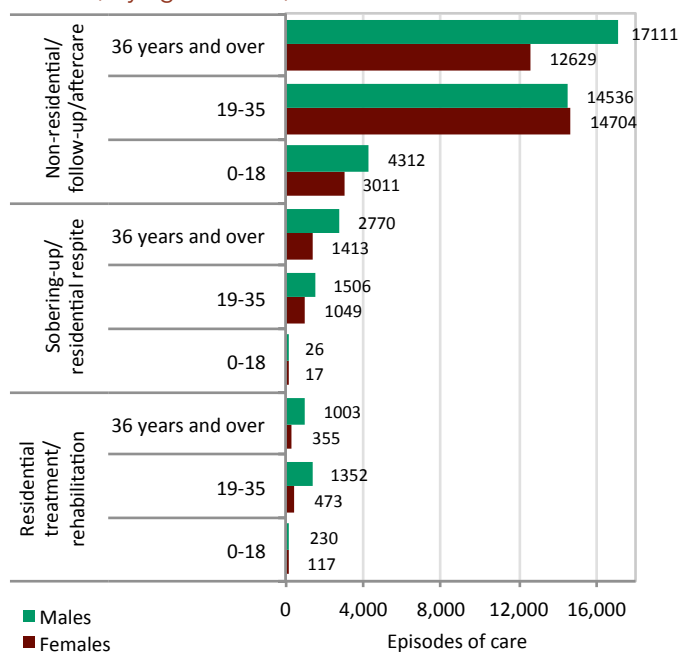
residential setting and drug and alcohol workers in Indigenous primary care services.

As part of the *Stronger Futures for the Northern Territory* plan, the Australian Government has allocated funding (commencing from 2012–13) for the provision of an additional 20 new workers to provide drug and alcohol treatment services in remote communities with Alcohol Management Plans in place or being implemented. The additional drug and alcohol workforce will build on the existing drug and alcohol workforce established through the *Northern Territory Emergency Response (NTER)*. The Australian Government has also continued to support successful elements of the drug and alcohol services component of the *NTER* by investing in treatment and rehabilitation organisations to provide increased service delivery.

Several state and territory level initiatives have also been put in place to increase access to alcohol and other drug services. For example, in Qld funding is provided for alcohol treatment and counselling services in or near 21 Indigenous communities. Services will be provided by up to 63 extra staff including nurses, allied health staff and Indigenous community support workers to provide an integrated clinical and therapeutic pathway from hospital back to the community. In 10 communities this will be further supported by alcohol withdrawal services.

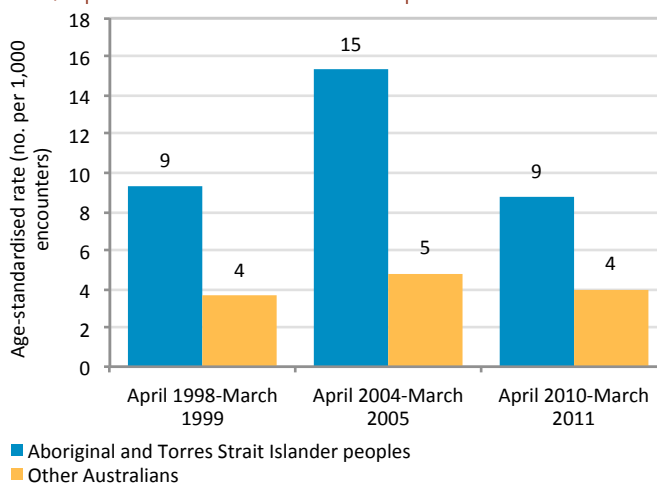
The *Alcohol Treatment Guidelines for Indigenous Australians* provide an evidence-based, user-friendly resource to assist health professionals understand and manage alcohol-related issues experienced by their Indigenous clients.

Figure 176
Episodes of care provided to Indigenous people at Australian Government funded stand-alone substance use services, by age and sex, 2010–11



Source: AIHW OSR data collection

Figure 177
Counselling/advice on alcohol provided by general practitioners, by Indigenous status, April 1998–March 1999, April 2004–March 2005 and April 2010–March 2011



Source: Family Medicine Research Centre, University of Sydney analysis of BEACH data.

3.12 Aboriginal and Torres Strait Islander people in the health workforce

Why is it important?:

Aboriginal and Torres Strait Islander peoples are significantly under-represented in the health workforce. This potentially contributes to reduced access to health services. International studies suggest that people prefer seeing health professionals from the same ethnic background (Powe et al. 2004). The Indigenous Australian workforce is integral to ensuring that the health system has the capacity to address the needs of Aboriginal and Torres Strait Islander peoples. Indigenous health professionals can align their unique technical and sociocultural skills to improve patient care, improve access to services and ensure culturally appropriate care in the services that they and their non-Indigenous colleagues deliver (West et al. 2010; Anderson et al. 2009). An Australian patient satisfaction survey found that the presence of an Aboriginal and Torres Strait Islander doctor at a community health centre was a key reason that Indigenous Australians attended the clinic. Patients reported that an Indigenous doctor was 'more understanding of their needs'. Numbers of Aboriginal and Torres Strait Islander patients attending the clinic increased markedly following the arrival of the Aboriginal and Torres Strait Islander doctor and in response to other changes in the service designed to make it more welcoming (Hayman 1999).

Findings:

In 2006, there were 5,536 Aboriginal and Torres Strait Islander people employed in health-related occupations. Between 1996 and 2006, the number of Indigenous Australians employed in the health workforce increased by 2,165 (64%). In 2006, 1.2% of the Indigenous population was employed in health-related occupations. However, this is below the proportion of the non-Indigenous population employed in the health workforce (approximately 3%). While the Indigenous health workforce has grown between 1996 and 2006, the non-Indigenous health

workforce has grown at a faster rate and there has been a 20% increase in the gap.

In 2006, the health occupations with the largest number of Indigenous employees were nursing (1,449), followed by nursing support and personal care workers (974), and Aboriginal and Torres Strait Islander Health Workers (966). The health occupations with the largest gap between numbers of Indigenous and non-Indigenous employees were nurses, medical practitioners and allied health professionals.

Victoria had the highest proportion of its Indigenous population employed in the health workforce (2.4%) and NT had the lowest (1.2%).

The 35–44 year age group has the largest number of Indigenous Australians in the health workforce. The largest gaps are in the 25–34 and 55–64 year age groups. Females accounted for 74% of the Indigenous health workforce. Aboriginal and Torres Strait Islander peoples made up 62% of the workforce in Aboriginal and Torres Strait Islander primary health care services as at June 2006.

Implications:

Increasing the size of the Aboriginal and Torres Strait Islander health workforce is fundamental to closing the gap in Indigenous life expectancy. The Australian Health Ministers' Advisory Council has developed the *National Aboriginal and Torres Strait Islander Health Workforce Strategic Framework (2011–2015)*. The Framework now underpins state and territory and Aboriginal community controlled health sector workforce strategic plans across all health disciplines. The Framework has been informed by health workforce elements within National Partnership Agreements, such as Closing the Gap in Indigenous Health Outcomes, Indigenous Early Childhood Development and Indigenous Economic Participation. The Framework also embraces the aspirational target of Indigenous Australians comprising at least 2.6% of all employees across the public sector by 2015 (equal to the proportion of Indigenous Australians in the working age population).

The *National Partnership Agreement on Closing the Gap in Indigenous Health Outcomes* aims to increase the capacity of the primary care workforce to deliver health care to Indigenous Australians. Governments are introducing a range of

initiatives. For example, the Australian government is providing funding for over 700 new positions over four years, along with communication and marketing activities to encourage more Indigenous people to take up a career in health, and education and training to build the skills and capacity of the existing health workforce.

Pathways into the health workforce for Aboriginal and Torres Strait Islander people: a blueprint for action is designed to maximise Aboriginal and Torres Strait Islander participation in the health workforce through promoting and improving pathways between school, vocational education, training and higher education; and retaining and building the capacity of the existing workforce (NATSIIHC 2008).

Under the National Registration and Accreditation Scheme, Aboriginal and Torres Strait Islander Health Practitioners commenced registration on 1 July 2012. As at 30 June 2012 there were 270 Practitioners registered with the majority of those being in the Northern Territory.

The Australian Government is currently implementing a number of Aboriginal and Torres Strait Islander specific employment and workforce development programs in aged and community care services. These programs are funded under the *National Partnership on Indigenous Economic Participation* and include funding for the employment and training of Aboriginal and Torres Strait Islander people in aged and community care services throughout Australia, largely in rural and remote locations. Since 2007, more than 700 permanent part time jobs have been created for Aboriginal and Torres Strait Islander people in aged care services nationally and accredited training has been delivered to more than 1200 Aboriginal and Torres Strait Islander people in rural and remote communities. Training programs are culturally appropriate, accredited and delivered on-site in communities. The training available under these programs includes delivery of identified skill sets and units of competency under the Home and Community Care, aged care, community and disability services training packages.

Improving the representation of Indigenous Australians in the health workforce will require collaboration between the health and education sectors and success across a range of

fronts. Educational disadvantages faced by Aboriginal and Torres Strait Islander children can reduce options for further training (see measures 2.04 and 2.05). Strategies to address barriers to entry into health professional training, and strengthen support while in training,

need to be implemented (see measure 3.20). Improved opportunities for employment, advancement, and retention also require attention.

Aboriginal and Torres Strait Islander health professionals should have access to employment in a broad range of

settings within the health sector and attention to the type of occupation is required to avoid under-representation in better remunerated, more skilled and managerial positions.

Table 43
Aboriginal and Torres Strait Islander people employed in selected health-related occupations, 1996, 2001 and 2006

Occupation	1996	2001	2006	Period linear % change	Rate per 10,000 (2006)		Rate difference (per 10,000)
					Indigenous	Non- Indigenous	
Aboriginal and Torres Strait Islander Health Worker	667	853	966	44.8*	21.5	n.a.	n.a.
Nurses	1,258	1,123	1,449	15.2*	32.3	121.1	88.8
Registered Nurses	640	832	1,111	73.6*	24.7	94.5	69.8
Nurse Managers and Nursing Clinical Directors	20	38	56	180.0*	1.2	7.2	6.0
Midwives	27	40	50	85.2*	1.1	6.7	5.6
Enrolled and mothercraft nurses	564	202	215	-61.9*	4.8	10.5	5.7
Nurse Educators and Researchers	7	11	17	142.9*	0.4	2.1	1.7
Medical practitioners	61	90	101	65.6*	2.2	30.2	28.0
Generalist medical practitioners	41	57	82	100*	1.8	19.7	17.9
General medical practitioner	29	47	61	110.3*	1.4	16.4	15.0
Resident medical officer	12	10	21	75.0*	0.5	3.3	2.8
Other medical practitioners	20	33	19	-1	0.4	10.5	10.1
Allied health professionals	179	274	441	146.4*	9.8	36.0	26.2
Dietitians	n.p.	18	7	75.0*	0.2	1.4	1.3
Optometrists	n.p.	n.p.	8	166.7*	0.2	1.7	1.5
Psychologists	13	19	43	230.8*	1.0	7.4	6.4
Physiotherapist	16	29	54	237.5*	1.2	6.7	5.5
Podiatrist	6	8	6	0	0.1	1.1	1.0
Speech professionals and audiologists	7	10	17	142.9*	0.4	2.7	2.3
Occupational therapist	n.p.	n.p.	13	160.0*	0.3	3.8	3.5
Social Worker	113	166	269	138.1*	6.0	6.7	0.7
Other health therapy professionals	12	12	24	143.4*	0.5	4.6	4.0
Dental and dental allied workforce	147	155	205	39.5*	4.6	16.1	11.6
Dental practitioner	12	13	15	25.0*	0.3	4.5	4.2
Dental hygienists, technicians and therapists	18	17	19	6	0.4	3.3	2.9
Dental assistant	117	125	171	46.2*	3.8	8.3	4.5
Health diagnostic and promotion professionals	164	185	638	289.0*	14.2	22.4	8.2
Medical Imaging Professionals	7	14	19	171.4*	0.4	5.6	5.2
Pharmacists	6	10	9	50.0*	0.2	8.4	8.2
Occupational Health and Safety Adviser	22	25	50	127.3*	1.1	3.7	2.6
Health promotion officers(g)	n.a.	n.a.	438	n.a.	9.8	1.9	-7.9
Environmental health officer	122	114	98	-19.7*	2.2	2.1	-0.1
Other health diagnostic and promotion professionals	7	22	24	242.9*	0.5	0.7	0.2
Other	895	1,324	1,736	94.0*	38.7	71.9	33.3
Health service managers	21	n.p.	17	19.0*	2.9	4.6	1.6
Nursing support worker and personal care workers	579	808	974	68.2*	21.7	31.0	9.3
Ambulance officers and paramedics	49	83	153	212.2*	3.4	4.6	1.2
Drug and alcohol counsellor	80	96	117	46.3*	2.6	0.7	-1.9
Other	166	276	475	186.1*	8.0	31.0	23.0
Total health occupations	3,371	4,004	5,536	64.2*	123.3	297.8	174.6

Source: NIHEC (2010)

3.13 Competent governance

Why is it important?:

'Governance' involves having the processes and institutional capacity to be able to exercise control through sound decision-making. 'Competent governance' requires the means to establish good governance arrangements with the ultimate aim of achieving the social, cultural, and economic developments sought by citizens (Dodson et al. 2003).

Governance enables the representation of the welfare, rights and interests of constituents, the creation and enforcement of policies and laws, the administration and delivery of programs and services, the management of natural, social and cultural resources, and negotiation with governments and other groups (de Alcántara 1998; Hawkes 2001; Westbury 2002; Dodson et al. 2003). The manner in which such governance functions are performed has a direct impact on the wellbeing of individuals and communities.

The governance model of Aboriginal Community Controlled Health Services (ACCHSs) was first established in the 1970s, and by the 1990s ACCHSs were an important provider of comprehensive and culturally appropriate primary health care services to Aboriginal and Torres Strait Islander peoples (DoHA 2001; Larkins et al. 2006).

Competent governance in the context of Indigenous health must also address the cultural responsiveness of mainstream service delivery for Indigenous clients and effective participation of Indigenous people on decision-making boards, management committees and other bodies, as relevant. The stewardship role of governments in their efforts to improve Aboriginal and Torres Strait Islander health is also critical. Attention should be given to assessing not only the levels of access to appropriate care but also the experiences of Aboriginal and Torres Strait Islander peoples in receiving care. Unfortunately, very little data are available nationally on these issues.

Findings:

The Office of the Registrar of Indigenous Corporations (ORIC) helps to administer

the Corporations (Aboriginal and Torres Strait Islander) Act 2006, which superseded the Aboriginal Councils and Associations (ACA) Act 1976. In 2010–11, 82 out of the 86 Indigenous health corporations incorporated under the ACA Act and registered with ORIC had been fully compliant with the required provision of documents.

In 2010–11, 202 Aboriginal and Torres Strait Islander primary health care services funded by the Australian Government provided data. Of these, 95% had a governing committee or board that met regularly; 99.5% had presented income and expenditure reports to the governing committee or board on at least 2 occasions through the year; 74% had a governing committee or board who were all Aboriginal and/or Torres Strait Islander people; and 79% had governing committee/board members who had received training related to governance issues.

In 2010–11, 47 Aboriginal and Torres Strait Islander substance use specific services funded by the Australian Government provided data. Of these, 98% had a governing committee or board that met regularly; all services had income and expenditure statistics presented to the committee or board on at least two occasions; 53% had a governing committee or board comprised entirely of Aboriginal and/or Torres Strait Islander people; and 75% had governing committee/board members who had received training related to governance issues.

In 2010–11, 39% of Aboriginal and Torres Strait Islander primary health care services had representatives on external boards (e.g., hospitals); 59% participated in Regional Planning Forums and 80% were involved in committees on health (e.g., steering groups). As at June 2010, 85% of services funded under the Healthy for Life program reported having formal mechanisms in place to involve their service population in planning, while 89% had a formal complaint mechanism.

In 2004–05, 15% of Indigenous Australians reported that they needed to but didn't visit a doctor in the previous 12 months, 8% did not visit another health professional when needed and 7% did not visit a hospital when they needed to (see measure 3.14). Some of the reasons people didn't access services reflect failures in health services to

adequately address the needs of these patients. For example, 10–16% did not attend services because they disliked the service/professional, felt embarrassed or afraid, 5–6% felt the service would be inadequate and 1–2% were concerned about discrimination and cultural appropriateness. In addition, a range of other reasons people did not access health care when they needed to reflect potential failures in the governance of the health system as a whole, e.g., cost, transport/distance, or the service was not available in the area.

In 2008, 8% of people aged 15 years and over surveyed in the NATSISS disagreed or strongly disagreed with the statement 'Your doctor can be trusted'. In addition, 17% disagreed or strongly disagreed with the statement 'Hospitals can be trusted to do the right thing by you'.

Implications:

These data show a continuing number of Aboriginal and Torres Strait Islander primary health care services are demonstrating sound governance arrangements. Case studies of the performance and governance of three Aboriginal councils in Qld between 2000 and 2006 (Limerick 2009) identified contextual factors (such as education and skills, exposure to the 'outside world' and having a 'whole of community' focus in decision-making as opposed to family or kin orientation) as being significant in shaping successful governance attributes. It was also concluded from the case studies that 'ostensibly orthodox governance principles and practices are not only relevant in the unique cultural context of Indigenous governance, but perhaps have even greater importance in this context'.

A key strength of ACCHSs is their ability to respond flexibly to local community needs. Anderson and Brady (1995) suggest that self-determination has led to the development of health services with complex functions that are often a focal point for the community. Many ACCHSs are part of larger community organisations which perform other social functions as well as health, such as housing (Sullivan et al. 2007). It is important to note that the negotiation between a 'community controlled' organisational philosophy and the norms of central bureaucracies may at times give rise to 'conflicting ideas of accountability' (Anderson et al. 1995).

The Department of Health and Ageing aims to support continuous improvement in Indigenous-specific service delivery and sector capacity through:

- continuous improvement in the business planning and management systems of existing services;
- a robust Risk Management Framework;
- targeted support to organisations in difficulty;
- providing systems for improved reporting of service activity and client health status and supporting the use of electronic Patient Information Recall Systems;
- the development of enhanced governance practices through the *NACCHO Governance and Member Support Initiative*; and
- supporting accreditation through the *Establishing Quality Health Standards* initiative, and ensuring that cultural

security is recognised in Australian healthcare standards.

The *National Health Reform Agreement* signed on 2 August 2011 included the establishment of new health governance structures such as Local Hospital Networks (LHNs) and Medicare Locals. Responsibility for hospital management has been devolved to LHNs. This is increasing local autonomy and flexibility so that services are more responsive to local needs, and providing more flexibility for local managers and local clinicians to drive innovation, efficiency and improvements for patients.

Independent primary health care organisations — Medicare Locals — have been established with strong links to local communities and health professionals. Medicare Locals aim to improve coordination and integration of primary health care in local communities, address service gaps, and make it easier

for patients to navigate their local health care system.

LHNs and Medicare Locals are collaborating to improve patient care and the quality of health and hospital services. They are working to better integrate general practice, primary health care and hospital care, so patients smoothly transition in and out of hospital and continue to receive the care they need. They are working together to identify and address local needs, including the needs of Aboriginal and Torres Strait Islander peoples and ACCHSs. The National Health Performance Authority will report on the performance of individual LHNs, hospitals and Medicare Locals in accordance with the Performance and Accountability Framework (NHPA 2012).

Table 44
Number and proportion of health corporations incorporated under the CATSI Act 2006 by compliance, 2010–11

	Number	Proportion
Compliant	82	95.3
Not compliant	4	4.7
Total	86	100

Source: AIHW analysis of *The Office of the Registrar of Indigenous Corporations* (unpublished data)

Table 45
Number and proportion of Aboriginal and Torres Strait Islander primary health-care services participating^(a) in mainstream processes, 2010–11

	No.	Per cent
Representation on external boards (e.g. hospitals)	92	39.3
Participation in regional planning forums (e.g. under the framework agreements)	138	59
Involvement in committees on health (e.g. steering groups)	186	79.5
Total number of services (b)	234	100

(a) A service is recorded as having conducted an activity if that activity was conducted by either the service itself or by one of its auspiced entities.

(b) Total number of services that provided information

Source: AIHW analysis of *OATSIH Services Report, 2010–11*

Table 46
Number and proportion of governing committee/board use, Aboriginal and Torres Strait Islander primary health-care services and substance-use services, 2009–10

	Primary health care services		Substance use services	
	No.	%	No.	%
Governing Committee or Board met regularly	192	95.1	47	97.9
Income and expenditure statements were presented to Committee or Board on at least 2 occasions	191	99.5	47	100
All of the Governing Committee or Board Members were Aboriginal and/or Torres Strait Islander	141	73.8	25	53.2
Governing Committee or Board received training	151	78.7	35	74.5
Total number of services	202	100	47	100

Source: AIHW analysis of *OATSIH Services Reporting, 2010–11*

3.14 Access to services compared with need

Why is it important?:

Data presented in this measure examine the level of access to health care for Aboriginal and Torres Strait Islander peoples compared with their need for health care. Indigenous Australians currently experience significantly poorer health status than non-Indigenous Australians. Their life expectancy is 11.5 years less for males and 9.7 years less for females, and Indigenous Australians are twice as likely to rate their health as fair or poor compared with non-Indigenous Australians.

While the causes of illness and injury for any community lie in broad environmental and social factors, an effective health system has a role to play in improving health outcomes. The health system can assist with prevention through population health programs (see measure 3.03); provide an immediate response to acute illness and injury (see measure 1.02); and protect good health through screening, early intervention, and treatment (see measure 3.04 and 3.05) (Dwyer et al. 2004). Evidence from Australia, the United States and New Zealand indicate that health care can contribute to closing the gap in life expectancy between Indigenous and non-Indigenous populations (Griew 2008). Inequalities in health care access and use may act to further exacerbate inequalities in health status (OECD 2009). Access to health care when needed is therefore essential to closing the gap in life expectancy.

Findings:

Data on access to health care from population surveys covering the full spectrum of health care providers are now dated (2004–05). The next ABS survey results for the Indigenous population are expected to be available from 2013/14. Recent data for 2010–11 for health services delivered through Medicare show significant increases in health assessments claimed since the introduction of the *National Partnership Agreement on Closing the Gap in Indigenous Health Outcomes*. Since July 2009 there has also been an increase in GP management plan and team care arrangement services. Rates are nearly

twice as high for these services for Indigenous Australians compared with non-Indigenous Australians. Rates have also increased for dental and other allied health care services claimed over this period.

In 2010–11, Indigenous Australians had 5.8 million Medicare claims of which 2.8 million were for non-referred GP consultations (note: not all episodes of care delivered through Indigenous primary health care services can be claimed through Medicare). The two most common Medicare items claimed by Indigenous Australians were standard GP consultations followed by pathology. In 2010–11, out-of-pocket costs for services claimed through Medicare were lower for Indigenous Australians (8% of fees claimed) than non-Indigenous Australians (22% of fees claimed). Out of pocket costs were minimal for claims such as health assessments and GP management plans, and ranged from 2% for dental to 34% for specialists. Within the non-referred GP category, Indigenous Australians were more likely than non-Indigenous Australians to have received services for longer GP consultations, nurse/Aboriginal Health Worker consultations, GP management plans, team care arrangements and dental care. Service claims for imaging, private specialists and other allied health were all lower for Indigenous Australians.

There was a clear gradient in Medicare service claims reducing by remoteness with rates per 1,000 falling for all types of services. The disparity between Indigenous and non-Indigenous Australians for private specialist care claimed through Medicare increased with remoteness. Indigenous Australians living in major cities claimed for private specialist services at a rate of 916 per 1,000 compared to 1049 per 1,000 for non-Indigenous Australians. In very remote areas Indigenous Australians claimed for private specialist services at a rate of 164 per 1,000 compared to 405 per 1,000 for non-Indigenous Australians. For non-referred GP services, Indigenous Australians claimed at a higher rate across all remoteness areas compared to non-Indigenous Australians. However, the rate difference between Indigenous and non-Indigenous Australians narrowed with increasing remoteness. The rate of non-referred GP services claimed through Medicare was lowest in the NT (4,202 per 1,000) and highest in Victoria and NSW (7,282 per 1,000 and

7,086 per 1,000 respectively). Indigenous women had higher rates of services claimed per 1,000 through Medicare than Indigenous men. Indigenous Australians had higher rates of services claimed in the 15–29 and 40–65 year age group compared with non-Indigenous Australians and lower rates in the 1–14 years age groups.

There has been a steady rise in the number of Aboriginal and Torres Strait Islander primary health care services, from 108 services in 1999–2000 to 235 services in 2010–11. Between 1999–2000 and 2010–11, episodes of health care provided to clients of these services have increased by 96% from 1.22 million to 2.5 million. Equivalent full-time staff (both paid by the service and visiting) increased by 135% over the same period.

The 2004–05 survey data provide the most up to date picture of the whole health system. In 2004–05, 42% of Indigenous Australians reported accessing health care in the last two weeks or hospital in the last 12 months. After adjusting for age differences between the two populations, Indigenous Australians accessed health care at similar rates to non-Indigenous Australians. In the previous two weeks, 20% of Aboriginal and Torres Strait Islander peoples had visited a doctor or specialist, 5% casualty/outpatients, 17% other health professionals, and 4% dentists. In the previous 12 months, 16% had been admitted to hospital. In 2004–05, Indigenous Australians were more than twice as likely to visit casualty/outpatients and half as likely to see a dentist.

Indigenous Australians were hospitalised for palliative care at 1.5 times the rate of other Australians between July 2008 and June 2010. In 2011, Indigenous Australians comprised about 1% of all patients of specialist palliative care services (Allingham 2011). In 2010–11, 46% of Aboriginal and Torres Strait Islander primary health care services offered palliative care and 47% funeral assistance.

In 2004–05, 16% of respondents felt they had been treated badly when seeking health care in the last 12 months because they were Aboriginal or Torres Strait Islander. Thirty-three per cent of respondents reported that they usually try to avoid the person/situation if they have been treated badly when seeking health care.

In 2008, 26% of Aboriginal and Torres Strait Islander peoples aged 15 years and over reported problems with accessing health services. Access issues were higher in remote areas (36%) than non-remote areas (23%). Of the people reporting problems accessing services, close to 20% reported problems accessing dentists, followed by doctors (10%), hospitals (7%) and Aboriginal and Torres Strait Islander health workers (6%).

There were a range of barriers identified to accessing health services including:

- waiting time too long/not available at time requested (52%);
- not enough services in area (42%);
- no services in area (40%);
- transport/distance (34%);
- cost of service (32%);
- don't trust services (10%); and
- services not culturally appropriate (7%).

In 2008, 18% of Indigenous Australians in remote areas had difficulty communicating with English speakers.

In 2010–11, there was a decline in full time equivalent GPs as remoteness increased, with 70% based in major cities and 0.5% in very remote areas.

In non-remote areas, 15% of Indigenous Australians are covered by private health insurance compared with an estimated 51% for the rest of the population. The most common reason that Indigenous Australians did not have private health insurance was that they could not afford it (65%). Among all Australian adults, a higher proportion of adults with insurance made a dental visit in the previous 12 months (71%) than adults without insurance (48%) (Brennan et al. 2012).

The overall rate of elective surgery for Indigenous Australians (49 per 1,000 persons) was markedly lower than for other Australians (86 per 1,000 persons) (AIHW 2008d). In 2009–10, waiting times for elective surgery in public hospitals at the 50th percentile (representing number of days within which 50% of people were admitted) was 38 days for Indigenous Australians compared to 35 days for non-Indigenous Australians (COAG Reform Council 2012).

Around 66% of Indigenous Australians were treated within national benchmarks

for emergency department waiting times compared to 69% of other Australians. In terms of performance across triage categories, 99.6% of Indigenous Australians were treated within national benchmarks for triage category 1 (need for resuscitation), compared with 62% and 63% for triage categories 3 and 4 (urgent and semi-urgent), respectively (COAG Reform Council 2012).

Implications:

Aboriginal and Torres Strait Islander peoples report similar rates of access to health care overall compared with non-Indigenous Australians, with differences evident by type of care. These differences are associated with factors such as cost, cultural competency, and geographic barriers. Data in this report suggest that Aboriginal and Torres Strait Islander peoples currently experience significantly poorer health and therefore we should expect to see access to health services 2–3 times as high rather than 1.1 times as high. Indigenous Australians have much lower levels of private health insurance, rely on public hospital services to a greater degree and have lower rates of elective and preventive surgery. Barriers to accessing care when needed vary between remote and non-remote areas, suggesting that strategies need to be adapted for local circumstances.

Early findings from Medicare data show an increase in the number of health assessments, GP management plans, team care arrangements and allied health items claimed since the introduction of the *National Partnership Agreement on Closing the Gap in Indigenous Health Outcomes*. This Partnership Agreement includes a range of initiatives designed to support best practice management of chronic disease. Improving the identification of Indigenous clients is an important step. This will support the provision of quality health care including the provision of Indigenous-specific initiatives such as MBS, PBS and immunisation programs. In May 2010 the *Practice Incentives Program – Indigenous Health Incentive* was introduced to support health services to provide better management of chronic disease.

As part of *National Health Reform*, the implementation of Medicare Locals will aim to improve and strengthen the

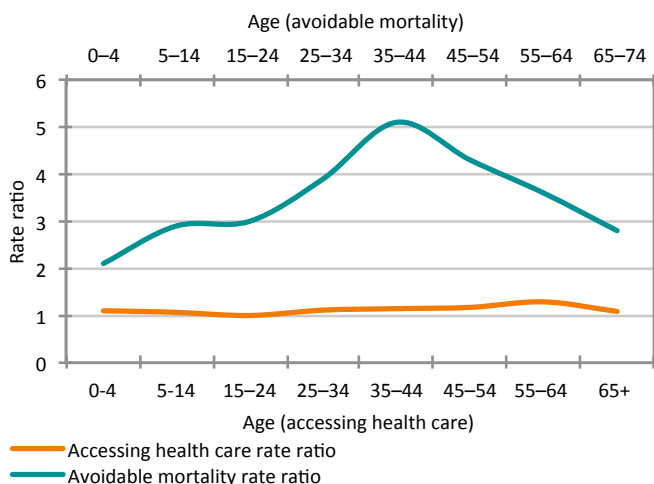
coordination and integration of primary health care in local communities, address service gaps and make it easier for patients to navigate their local health care system.

Since July 2012, Australians have been able to register for a personally controlled electronic health (eHealth) record. Aboriginal and Torres Strait Islander people have been identified as a key consumer group and have been engaged in the development of the communication and training material to support adoption of the eHealth record system. The electronic health record already established in the NT is demonstrating clear benefits for consumers and health care providers by providing access to health summary information and pathology results, improving clinical decision making and increasing coordination of health care across large distances.

The Australian Government has invested \$128.8 million under the Health and Hospitals Fund 2010 Regional Priority Round to provide additional patient accommodation, staff accommodation in remote areas and bringing renal dialysis and support services closer to home for patients in remote areas. The 2011 Regional Priority Round will provide \$48.6 million to fund 10 Indigenous-specific projects to provide new and extended health care facilities and associated staff accommodation for regional and remote Indigenous communities.

The Australian Government also supports the Medical Specialist Outreach Assistance Program (MSOAP). This measure was introduced in 2000 to improve access for people living in rural and remote areas to medical specialist services. In recent years MSOAP has undergone three expansions, with additional funding allocated for Maternity Services Outreach, Ophthalmology Services and Indigenous Chronic Disease. These expansions broadened the MSOAP service delivery model to include multi-disciplinary team-based approaches to delivering outreach services. Under the Indigenous Chronic Disease expansion 541 services were provided in 2010–11.

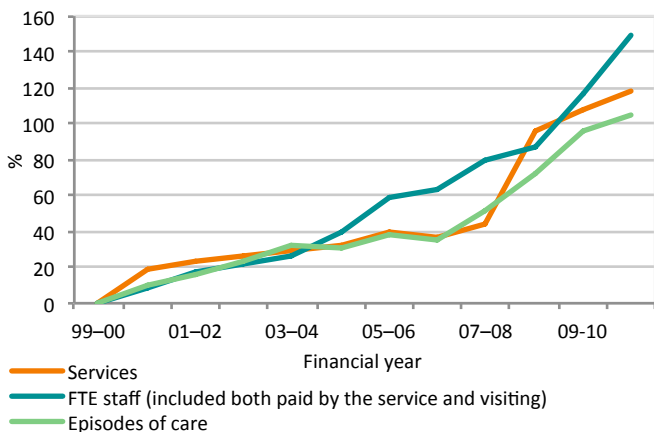
Figure 178
Comparing avoidable mortality rate ratios (2006–10) with accessing health care rate ratio (2004–05) by age group^{(a)(b)(c)}



a) Access to health care rate ratio includes hospital admissions, dental consultations, doctor consultations, casualty/outpatient visits and consultations with other health professionals (b) Accessing health care rate ratio includes all Australian states. (c) Avoidable mortality rate ratio includes NSW, Qld, WA, SA and the NT.

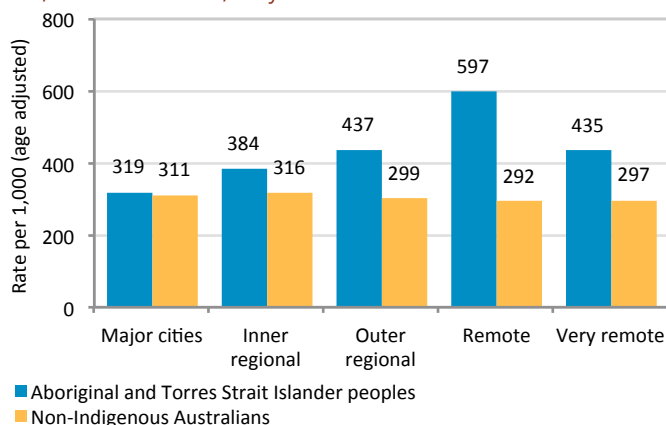
Source: 2004–05 NATSIHS and AIHW analysis of National Morbidity Database

Figure 180
Cumulative per cent changes to number of services, staff and episodes of care, Aboriginal and Torres Strait Islander primary health care services, 1999–2000 to 2010–11



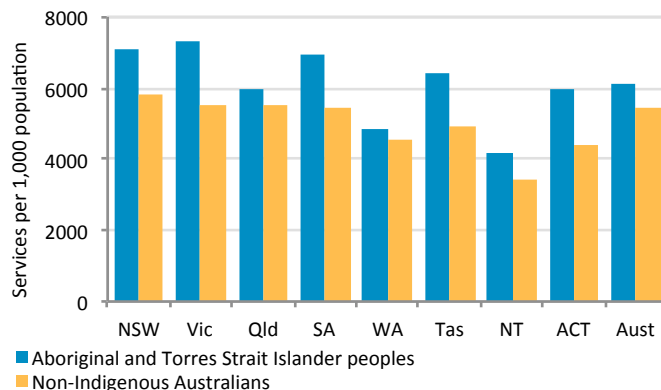
Sources: SAR, DSR and AIHW OSR data collections

Figure 179
Age-standardised hospitalisation rates (excluding dialysis) by Indigenous status and remoteness, NSW, Victoria, Qld, WA, SA and the NT, July 2008 to June 2010



Source: AIHW analysis of National Hospital Morbidity Database

Figure 181
Age-standardised MBS claim rate for non-referred GP items, by Indigenous status and state/territory, 2010–11



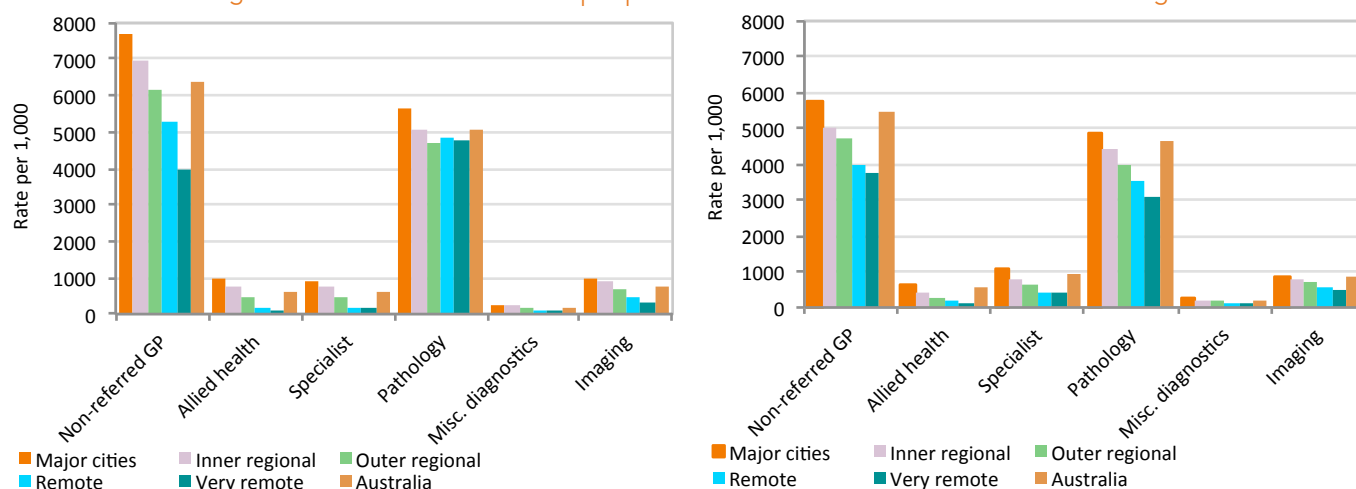
Source: Medicare Financing & Analysis Branch, Department of Health and Ageing

Figure 182

MBS services claimed, age-standardised per 1,000 population, by Indigenous status and remoteness, 2010–11

Aboriginal and Torres Strait Islander peoples

Non-Indigenous Australians



Source: Medicare Financing & Analysis Branch, Department of Health and Ageing

Table 47

Selected health services by type of barrier to access, Indigenous persons aged 15 years and over, 2008

	Aboriginal and Torres Strait Islander health workers			Dentists			Doctors			Other health workers		
	Non-remote	Remote	Total	Non-remote	Remote	Total	Non-remote	Remote	Total	Non-remote	Remote	Total
	%	%	%	%	%	%	%	%	%	%	%	%
Total had problems accessing health services	5.5	5.7	5.6	16.9	27.4	19.5	8.6	12.3	9.5	2.1	4.2	2.6
Type of problems accessing health services												
Waiting time too long or not available at time required	48.8	44.4	47.6	58.8	41.3	52.7	67.1	50.0	61.6	52.0	51.1	51.6
Not enough services in the area	42.1	66.0	48.2	37.8	58.1	44.9	43.3	59.7	48.6	45.1	69.3	54.8
No services in the area	46.5	# 70.9	52.7	33.2	62.0	43.2	32.1	57.8	40.4	42.2	67.4	52.3
Transport/distance	42.2	53.7	45.1	25.2	47.6	33.0	34.7	56.5	41.7	52.3	62.9	56.5
Cost of service	36.7	# 27.2	34.3	48.4	19.8	38.4	39.0	21.9	33.5	34.7	# 30.0	32.8
Don't trust services	19.8	# 14.5	18.5	11.3	7.2	9.9	17.0	13.0	15.7	19.7	16.5	18.4
Services not culturally appropriate	13.5	# 12.3	13.2	7.0	6.1	6.7	# 7.8	# 8.9	8.2	# 19.3	# 13.0	16.8

	Hospitals			Mental health services			Total health services		
	Non-remote	Remote	Total	Non-remote	Remote	Total	Non-remote	Remote	Total
	%	%	%	%	%	%	%	%	%
Total had problems accessing health services	4.0	14.5	6.6	2.8	5.5	3.5	23.0	36.4	26.4
Type of problems accessing health services									
Waiting time too long or not available at time required	59.6	39.3	48.5	59.4	61.4	60.2	58.1	39.7	51.8
Not enough services in the area	32.6	41.6	37.5	54.3	63.2	57.8	36.3	51.8	41.7
No services in the area	# 28.6	60.7	46.1	43.8	88.3	61.5	30.1	57.4	39.5
Transport/distance	52.4	71.5	62.9	46.6	46.9	46.8	25.1	47.8	33.5
Cost of service	35.5	18.2	26.0	36.0	30.7	33.9	39.7	17.5	32.0
Don't trust services	20.2	8.8	14.0	25.1	17.9	22.2	11.3	7.7	10.0
Services not culturally appropriate	11.7	# 7.1	9.2	# 18.2	16.1	17.3	7.4	6.1	7.0

Estimate has a relative standard error between 25% and 50% and should be used with caution.

Source: ABS & AIHW analysis of 2008 National Aboriginal and Torres Strait Islander Social Survey

3.15 Access to prescription medicines

Why is it important?:

Essential medicines save lives and improve health when they are available, affordable, quality assured and properly used (WHO 2004b). Affordable access to medicines is important for many acute and chronic illnesses. For chronic illnesses such as diabetes, hypertension, heart disease and renal failure, multiple medications may be required for many years to avoid complications (WHO 2004b). It is important to ensure that Aboriginal and Torres Strait Islander peoples, who experience high rates of acute and chronic illnesses, are able to access appropriate prescription medications when they are required. In Australia, the main mechanism for ensuring reliable, timely and affordable access to a wide range of prescription medications is the Australian Government's Pharmaceutical Benefits Scheme (PBS). In 2010–11, the scheme subsidised the cost of an estimated 188 million prescriptions, at a cost of \$8.9 billion.

Findings:

In 2008–09, total expenditure on pharmaceuticals per Aboriginal and Torres Strait Islander person was around 44% of the amount spent per non-Indigenous person (\$315 compared with \$710). Benefits paid through the Pharmaceutical Benefits Scheme were estimated to be 74% of the level of expenditures for non-Indigenous Australians (\$250 compared with \$338). In 2001–02, per person pharmaceutical expenditure was estimated to be 33% of the amount spent on non-Indigenous people. This suggests that the gap in spending between Indigenous and non-Indigenous Australians is closing.

Mainstream arrangements account for 71% of payments for Aboriginal and Torres Strait Islander peoples. The remainder are Section 100 and other special supply PBS drugs. The gaps between expenditures for Aboriginal and Torres Strait Islander peoples and non-Indigenous Australians are greatest in non-remote areas. In remote and very remote areas, per person pharmaceutical expenditures for Aboriginal and Torres Strait Islander peoples are higher, largely

due to the impact of the special provisions for remote area Aboriginal health services. In 2008–09, pharmaceutical expenditures in these areas were \$304 per person for Aboriginal and Torres Strait Islander peoples, compared to \$189–252 in other areas.

In 2003, the number of full-time equivalent pharmacists per 100,000 population declined with remoteness, from 92 per 100,000 in major cities to 39 per 100,000 in very remote areas.

Implications:

There is a large gap between PBS pharmaceutical expenditures for Aboriginal and Torres Strait Islander peoples and other Australians, although this gap appears to have reduced between 2001–02 and 2008–09. Estimation of this gap is complicated by the absence of high quality data sources on Indigenous pharmaceutical usage and expenditures. Improved estimates are now available using the Voluntary Indigenous Identifier (VII) available with Medicare data.

Access needs to be addressed at multiple levels. Prescription medicines are prescribed by primary care and specialist practitioners, and barriers to accessing these services in the first place may result in under use of medications. Once a prescription has been issued, access to pharmacies may be limited, particularly in rural and remote areas. Financial barriers, particularly for people on low incomes, can be important, despite safety net schemes. It is estimated that in 2001, around 19% of Australians did not fill a prescription because of cost (Blendon et al. 2003). Ongoing compliance is important for all patients with chronic illnesses.

The range of programs and special arrangements identified below allow intervention at multiple levels to improve access to PBS pharmaceuticals for Aboriginal and Torres Strait Islander peoples in both remote and non-remote areas.

Special supply arrangements administered under Section 100 of the *National Health Act 1953*, allow for PBS medicines to be provided to remote area Aboriginal and Torres Strait Islander primary health care services. The PBS medicines are dispensed to patients of the health care service by a suitably qualified and approved health

professional, without the need for a prescription and at no cost. This program has played an important role in addressing medicines access problems in remote areas.

The PBS Co-payment Measure under the Indigenous Chronic Disease Package was introduced on 1 July 2010 to help address the financial barriers Aboriginal and Torres Strait Islander peoples may face in accessing PBS medicines in non-remote locations. These arrangements provide assistance with the cost of PBS medicines for eligible Aboriginal and Torres Strait Islander people living with, or at risk of, chronic disease. The identification of Indigenous clients is an important step in reaching the target population. Prior to implementation, it was estimated that over 70,000 people were expected to benefit from the new arrangements by the end of 2012–13. Uptake of the measure has far exceeded this estimate and as of 30 June 2012, approximately 150,000 Aboriginal and Torres Strait Islander patients had accessed the initiative, with ninety-six per cent (5,127) of pharmacies participating and 2.7 million prescriptions dispensed.

In 2005, the Expert Advisory Panel on Aboriginal and Torres Strait Islander medicines was formed to advise the Pharmaceutical Benefits Advisory Committee (PBAC) on medicines for the treatment of conditions more prevalent among Indigenous Australians. The PBAC recommends medicines for listing on the PBS. To date the panel has assisted with the listing of 20 items which support treatment of conditions common in Indigenous health settings. These medicines have been listed to address the greater burden of disease experienced by Indigenous Australians and morbidity almost exclusively seen in this population.

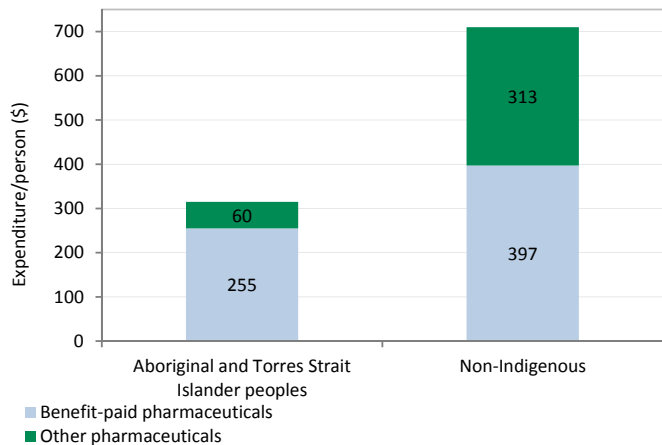
Under the 5th *Community Pharmacy Agreement* funding is provided to assist pharmacies operating in rural and remote areas through the *Rural Pharmacy Maintenance Allowance*. Programs specific to Indigenous health have also been funded including the *Quality Use of Medicines Maximised for Aboriginal and Torres Strait Islander People* program. The primary aim of this program is to improve medication compliance and quality use of medicines and consequently the health outcomes of Aboriginal and Torres Strait Islander peoples that attend participating

Aboriginal Community Controlled Health Services in rural and urban areas of Australia.

It is important to develop a better understanding of how the various barriers impact on Indigenous Australians, in order to better target

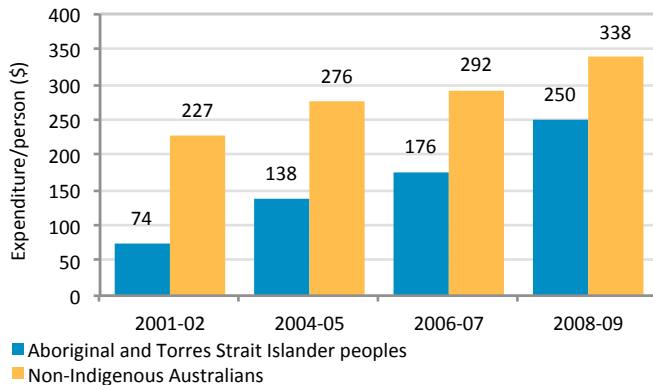
strategies. As data improve, better analysis of gaps in the PBS arrangements will be possible to inform programs and policies.

Figure 183
Average pharmaceutical expenditure per person, 2008–09



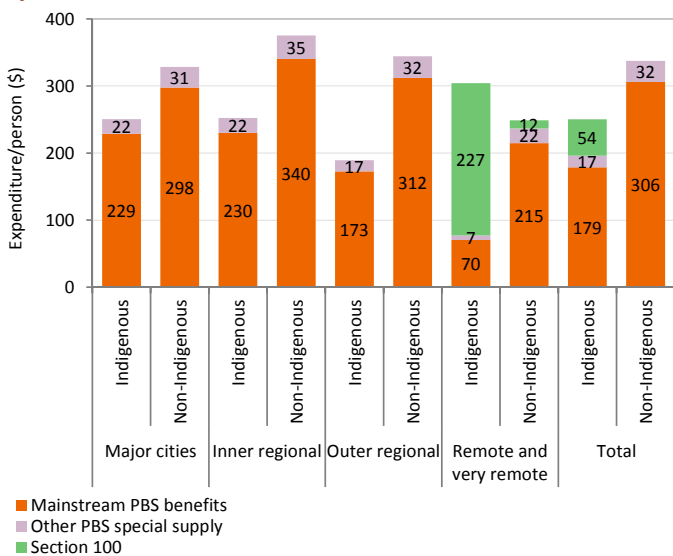
Source: AIHW 2011

Figure 184
Average health expenditure per person by the Australian Government on the Pharmaceutical Benefits Scheme, constant prices, by Indigenous status, 2001–02 to 2008–09



Source: AIHW 2011

Figure 185
Average health expenditure per person by the Australian Government on the Pharmaceutical Benefits Scheme, Indigenous Australians, by remoteness, 2008–09



Source: AIHW (2010f)

3.16 Access to after-hours primary health care

Why is it important?:

'After-hours' services are usually services provided on Sunday, before 8am and/or after 12pm on Saturday, or at any time other than 8am to 6pm on weekdays. The after-hours period can be further categorised into the unsociable period (11pm to 7am) and the sociable periods (7am to 8am and 6pm to 11pm). An important component of comprehensive primary care services is the capacity for patients to access services after hours. In the absence of after-hours primary health care, patients with more urgent needs may delay seeking care.

Many patients are provided with after-hours primary care services by their regular GP or at their usual health service. Common approaches include extended hours clinics, on-call arrangements, the provision of home visits, and cooperative arrangements that involve GPs from several practices participating in a shared roster system. It is often preferable for after-hours primary care to be provided by a patient's usual GP, as they are more likely to know about the patient's condition and history, and to be able to make an informed judgment about the treatment required. However, as this is not always possible a number of other after-hours primary care arrangements exist. These include medical deputising services (where GPs contract another service to provide after-hours services on their behalf), dedicated after hours services (GP and/or nurse lead clinics that only open during the after-hours period) and telephone triage and advice services (which involve telephone based nurses and/or GPs providing advice and directing people to the most appropriate point of care). Many patients also attend emergency departments during the after-hours period.

The Medicare Benefits Schedule (MBS) includes after-hours items that provide increased benefit rates to medical practitioners. Rates are highest for urgent after-hours consultations where practitioners are required to provide a home visit, or return to the clinic specifically for that consultation.

Findings:

BEACH survey data collected from April 2006 to March 2011 suggest that 90% of GP encounters among Indigenous Australians were with practices that had after-hours care arrangements in place. This compared with 98% of GP encounters among other Australians.

In 2010–11, 55% of OATSIH funded Aboriginal and Torres Strait Islander Primary health care services provided care outside of normal operating hours. The most common services provided outside of normal operating hours were emotional and social wellbeing/mental health services (provided by 69% of services); followed by transport (68%). Other services provided include: transfer/admission to hospital (66%); diagnosis and treatment of illness/disease (58%); antenatal/maternal care (53%); treatment of injury (53%); hospital inpatient/outpatient care (28%); and care in police station/lock-up/prison (24%).

Data on services provided by emergency departments are limited to public hospitals mainly located in major cities (those classified as principal referral, specialist women's and children's hospitals or large hospitals). In the period 2008–09 and 2009–10, there were 533,170 episodes of care for Aboriginal or Torres Strait Islander patients in emergency departments located in these hospitals, representing 5% of all episodes of care. Around 58% (307,001) of emergency department episodes of care for Indigenous patients occurred after hours. This is similar for non-Indigenous patients. For Indigenous patients there were 335,796 emergency department episodes of care in the period 2008–09 and 2009–10 that were classified as semi-urgent or non-urgent (triage category 4 and 5). Around 61% of Indigenous presentations to emergency departments after hours were for semi-urgent or non-urgent triage categories.

Implications:

The provision of after-hours GP consultations is much lower in areas where Indigenous Australians make up a higher proportion of the population. This reflects geographic factors (such as poor access to after-hours GPs generally in rural and remote areas), but it also suggest generally poorer access to these

services. While Indigenous Australians make up 3% of the population, they represent 5% of emergency department episodes in hospitals for which data on after-hours care are collected. Over half of these episodes occurred after hours. A better understanding is required of the needs of Aboriginal and Torres Strait Islander peoples for health services after hours, and the best ways of providing coverage.

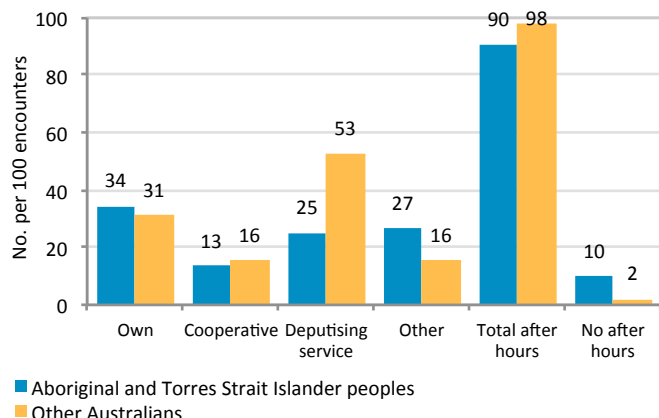
Under *National Health Reform*, the Australian Government has committed to improving access to after-hours primary care services by establishing the *after-hours GP helpline* (a national after-hours telephone-based GP medical advice service) and funding Medicare Locals to plan and ensure the availability of face-to-face after-hours services for their region.

The *after-hours GP helpline* commenced on 1 July 2011 and enables people who require after-hours medical advice to speak to a GP over the telephone when necessary. As of 14 May 2012 the helpline has taken over 133,000 calls.

From early 2012 several Medicare Locals commenced activities to meet the priority after-hours needs of their region and by mid-2013 each Medicare Local will support the provision of comprehensive after-hours arrangements. Medicare Local-funded after-hours services will be integrated with the *after-hours GP helpline* and will help to ensure that all communities across Australia have better and more consistent access to after-hours care.

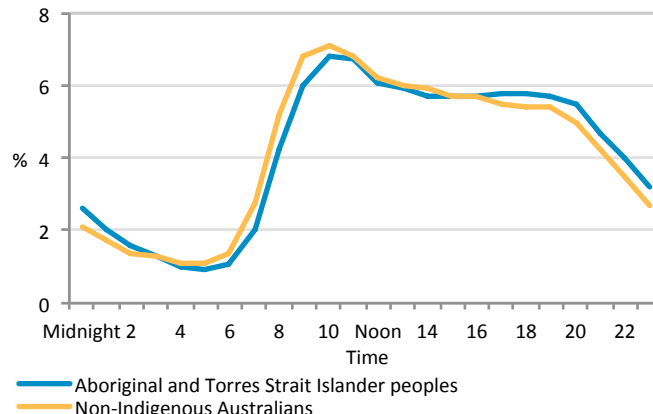
The establishment of 'GP Super Clinics' will also help to improve access to after-hours primary care, as the majority of GP Super Clinics will offer opening hours that extend into the after-hours period.

Figure 186
Rate of GP encounters, by whether the GP has after-hours arrangements in place, by Indigenous status of the patient, April 2006–March 2007 to April 2010–March 2011



Source: Family Medicine Research Centre, University of Sydney analysis of BEACH data.

Figure 187
Rate of GP encounters, by whether the GP has after-hours arrangements in place, by Indigenous status of the patient, April 2006–March 2007 to April 2010–March 2011



Note: These data are limited to public hospitals mainly located in major cities classified as principal referral, specialist women’s and children’s hospitals or large hospitals.
Source: AIHW analysis of National Non-admitted Patient Emergency Department Care Database.

Table 48
Non-admitted patient emergency care episodes after hours, by Indigenous status, 2006–07 to 2007–08

Time of presentation	Number		Percent	
	Indig.	Non-Indig.	Indig.	Non-Indig.
All emergency department episodes				
On Sundays	77,680	1,631,318	15	15
Before 8am or after 12pm on Saturday	61,699	1,186,682	12	11
Before 8am or after 6pm on a weekday	167,622	3,081,612	31	29
<i>Total after hours</i>	<i>307,001</i>	<i>5,899,612</i>	<i>58</i>	<i>56</i>
<i>Not after hours</i>	<i>226,169</i>	<i>4,673,866</i>	<i>42</i>	<i>44</i>
Total	533,170	10,573,478	100	100
Semi-urgent or non-urgent (triage category 4 and 5) emergency department episodes				
On Sundays	50,042	978,340	15	16
Before 8am or after 12pm on Saturday	37,584	675,707	11	11
Before 8am or after 6pm on a weekday	98,235	1,670,191	29	27
<i>Total after hours</i>	<i>185,864</i>	<i>3,324,238</i>	<i>55</i>	<i>54</i>
<i>Not after hours</i>	<i>149,932</i>	<i>2,825,793</i>	<i>45</i>	<i>46</i>
Total	335,796	6,150,031	100	100

Note: These data are limited to public hospitals mainly located in major cities classified as principal referral, specialist women’s and children’s hospitals or large hospitals.
Source: AIHW analysis of National Non-admitted Patient Emergency Department Care Database

3.17 Regular GP or health service

Why is it important?:

Having a usual primary care provider, sometimes known as the 'medical home', is associated with good communication between the patient and provider, greater trust in the provider (Mainous et al. 2001), improved preventive care and better health outcomes (Starfield 1998; Starfield et al. 2004). Effective communication between the patient and provider is particularly relevant in the health of Indigenous Australians where poor communication can lead to health care problems such as misdiagnosis and incorrect treatment. An ongoing relationship between the patient and provider assists in understanding long-term health needs and facilitates the coordination of care with other providers (e.g., specialists) to meet patient needs (Forrest et al. 1996). Having a usual primary care provider correlates with higher quality care (Christakis et al. 2002; Inkelas et al. 2004). The literature focuses on having a regular GP. However, given the different models of care in Australia such as Aboriginal and Torres Strait Islander primary health care services and private GP practices, it may be difficult to draw clear conclusions about the relationships between having a regular health service and continuity of care.

One international survey found that 97% of sicker adults in Australia reported having a regular doctor or place of care. Rates were higher in the Netherlands at 100% and lower in the US at 91%. In Australia, 79% reported that their regular doctor or place of care is accessible (Schoen et al. 2011).

Findings:

In 2004–05, 91% of Aboriginal and Torres Strait Islander peoples reported that they usually went to the same GP or medical service. This proportion is similar across age groups (with slightly higher rates for people aged 0–14 years and 55 years and over) and other socioeconomic dimensions including main language spoken at home, household income, remoteness region of residence and private health insurance status.

Sixty per cent of Aboriginal and Torres Strait Islander peoples went to a doctor if

they had a problem with their health, and 30% reported they went to an 'Aboriginal medical service'. Note that the 2012–13 NATSIHS will include improved questions on this topic including preferences for care. In 2004–05, Aboriginal medical services were used as the regular source of health care for 15% of Aboriginal and Torres Strait Islander peoples in major cities rising to 76% in very remote areas.

Nationally, 7% of Aboriginal and Torres Strait Islander peoples usually go to hospital if there is a problem with their health. See measure 3.07 for analysis of hospitalisations for conditions which could be prevented if primary health care services were better able to meet the needs of Aboriginal and Torres Strait Islander peoples. A higher use of hospitals for regular health care was reported in Qld and WA than in other jurisdictions.

In 2004–05, 78% of Aboriginal and Torres Strait Islander peoples who usually went to the same GP or medical service reported that their treatment when seeking health care in the previous 12 months was the same as non-Indigenous people. Five per cent reported their treatment was better than non-Indigenous people and 4% that their treatment was worse than non-Indigenous people. However, 16% of Indigenous Australians reported that over the previous 12 months they felt treated badly by a health service provider because they were Indigenous. Further analysis of this issue is discussed in the context of cultural competency (see measure 3.08).

In 2008, 80% of Indigenous Australians aged 15 years and over agreed that their doctor can be trusted, which correlates with the high proportion of Aboriginal and Torres Strait Islander peoples who have a usual source of health care. While Aboriginal and Torres Strait Islander peoples may have a usual source of health care, it is not clear that health care is always sought or accessible. Transport (see measure 2.13) is one example of a barrier to access and also to choice of provider.

Implications:

A high proportion of Aboriginal and Torres Strait Islander peoples have a usual source of health care. This finding is encouraging as access to a usual source of care is one of the foundations for a good primary health care system.

The two main sources of care for Indigenous Australians are Aboriginal medical services and mainstream GPs. Aboriginal medical services are a more predominant usual source of care in remote areas of Australia, however the small number of services nationally limits their accessibility for some Indigenous Australians. Aboriginal medical services offer services in addition to primary medical care and remain the service of choice for many Aboriginal and Torres Strait Islander peoples. Aboriginal Community Controlled Health Services are Aboriginal medical services initiated and operated by the local Aboriginal community to deliver holistic, comprehensive, and culturally appropriate health care to the community which controls it (through a locally elected Board of Management). There is evidence that Aboriginal medical services treat patients with more complex problems (Larkins et al. 2006). Strengthening these services in areas of potentially high demand should remain a priority.

While mainstream general practice is a significant source of care, for most GPs Indigenous clients will remain a small proportion of their clients. This makes developing expertise in Aboriginal and Torres Strait Islander health issues a priority (see measure 3.08). Some mainstream practices have implemented very successful strategies explicitly focused on their Indigenous patients (Hayman et al. 2009; Spurling et al. 2009).

Under the *National Partnership Agreement on Closing the Gap in Indigenous Health Outcomes* governments have agreed to initiatives to assist primary health care services to improve service delivery. Australian Government initiatives include the new *Practice Incentives Program – Indigenous Health Incentive* which aims to support accredited general practices and Indigenous health services to provide better health care for Indigenous Australians. Under the *Improving Indigenous Access to Mainstream Primary Care Program*, Indigenous Health Project Officer positions in Medicare Locals, NACCHO and its affiliates have been funded to improve the capacity of general practice to deliver culturally sensitive primary care services, increase the uptake of Indigenous-specific MBS items including Indigenous health checks and follow-up items and support

mainstream primary care services to identify and treat Indigenous Australians.

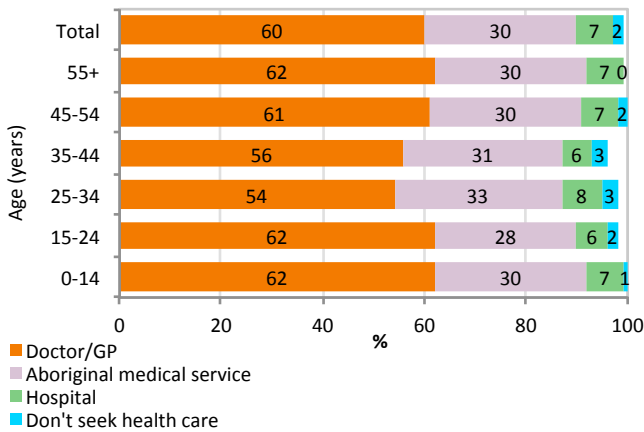
Under the Indigenous Chronic Disease Package, 38 additional GP registrar training posts have also been established, together with expanded

nurse scholarships and clinical placements in Indigenous health services.

While Aboriginal and Torres Strait Islander peoples may have a usual source of care, it is not clear that health care is always sought or accessible (see measure 3.12). Further data development is

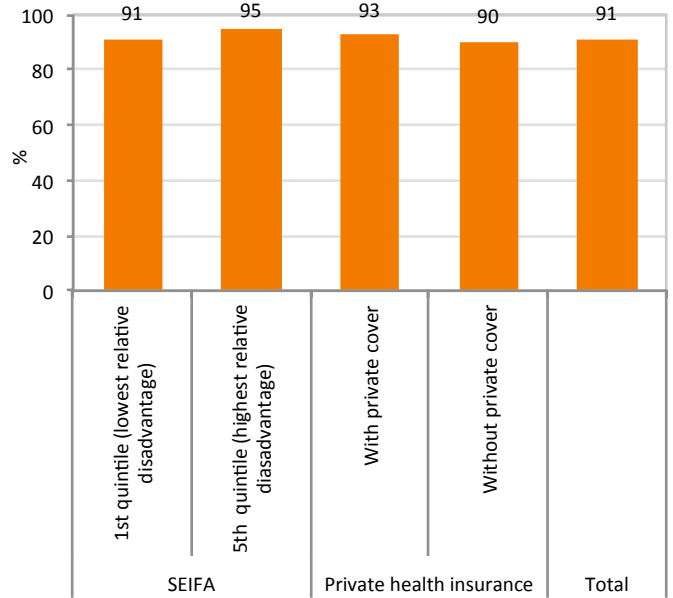
required to give a good indication as to whether, having sought care, Aboriginal and Torres Strait Islander peoples received appropriate follow-up care, are referred for specialist care, or are able to receive specialist care when this is required.

Figure 188
Regular type of health care used by Indigenous Australians, by age group, 2004–05



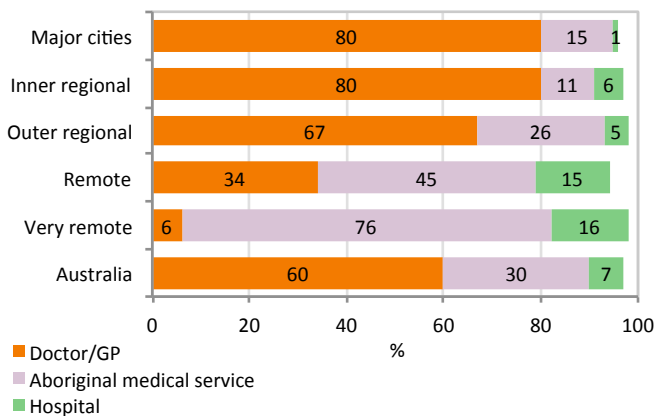
Source: ABS and AIHW analysis of 2004–05 NATSIHS

Figure 189
Indigenous Australians who usually go to the same GP/medical service, by selected population characteristics, 2004–05



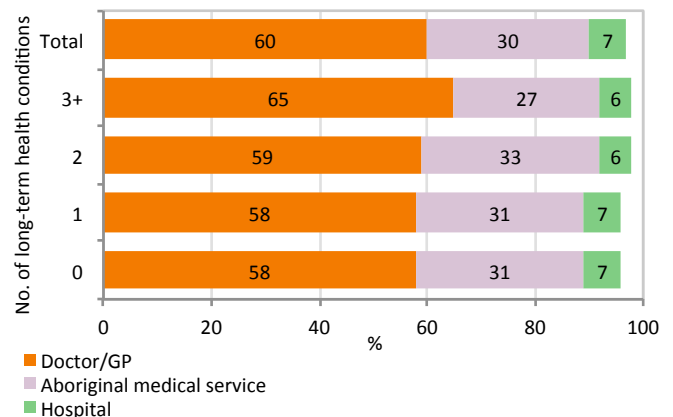
Source: ABS and AIHW analysis of 2004–05 NATSIHS

Figure 190
Types of regular health care used by Indigenous Australians, by remoteness, 2004–05



Source: ABS and AIHW analysis of 2004–05 NATSIHS

Figure 191
Type of regular health care used by Indigenous Australians, by number of long-term health conditions, 2004–05



Source: ABS and AIHW analysis of 2004–05 NATSIHS

3.18 Care planning for chronic diseases

Why is it important?:

Chronic diseases such as circulatory disease, diabetes, renal disease, chronic respiratory disease, cancers and chronic mental health conditions are a major cause of morbidity and mortality among Aboriginal and Torres Strait Islander peoples (see measure 1.02 and 1.23). Effective management of chronic disease can delay the progression of disease, decrease the need for high-cost interventions, improve quality of life, and increase life expectancy. As good quality care for people with chronic disease generally involves multiple health care providers across multiple settings, the development of care plans is one way in which the client and primary health care provider can ensure appropriate care is arranged and coordinated.

A care plan is a written action plan containing strategies for delivering care that address an individual's specific needs, particularly patients with chronic conditions and/or complex care needs. A care plan can be used to record comprehensive, accurate and up to date information about the patient's condition, actions the patient needs to take, the various services required and collaboration with other service providers to achieve management goals for the patient. Development of a care plan can also help encourage the patient to take informed responsibility for their care, including actions to help achieve the goals of treatment. A care plan may involve one health professional (usually a GP or other primary health care doctor), or may be negotiated with several service providers (e.g., GP, nurse, Aboriginal health worker, allied health professionals, community services providers) in consultation with the patient.

A recent review of evidence found that chronic disease interventions most likely to be effective in the Australian context were: engaging primary care services in self-management support through education and training for GPs and practice nurses, and including self-management support in care plans linked to multidisciplinary team support (Dennis et al. 2008). A study of general practice patients with Type 2 diabetes

found that, following implementation of a care plan, the proportion of patients involved in multi-disciplinary care and in the adherence to diabetes care guidelines increased. There were also improvements in patients' metabolic control and cardiovascular risk factors (Zwar et al. 2007).

GPs are encouraged to develop care plans through a number of items under the Medicare Benefits Schedule. In July 2005, new Chronic Disease Management items were introduced specifically focused on patients with chronic or terminal conditions who will benefit from a structured approach to management of their care needs (DoHA 2008b). These include an item related to the development of General Practitioner Management Plans (GPMPs), an item for a Team Care Arrangement (TCAs) where planning involves a broader team, and items for where GPs contribute to the care plans developed by another service provider and reviews of those plans.

Aboriginal and Torres Strait Islander primary health care services have been facilitating care planning for their patients across the health system and with other sectors since the inception of the first services (Central Australian Aboriginal Congress 2004).

Findings:

Medicare claims data show that there was an increase in the number of GP management plan services claimed by Indigenous Australians between 2009–10 and 2010–11 (from 23,972 to 32,717). After adjusting for differences in age structures of the two populations, Indigenous Australians received more claimed GP management plans than non-Indigenous Australians (102 per 1,000 compared to 55 per 1,000). There was also an increase in the number of team care arrangements claimed (from 18,680 to 26,525). Indigenous Australians also had a higher rate of nurse/Aboriginal Health Worker consultations claimed than non-Indigenous Australians (522 per 1,000 compared with 257 per 1,000) and team care arrangements (83 per 1,000 compared to 45 per 1,000).

Data from services funded under the *Healthy for Life* program show that of the 11,928 Indigenous adults with Type 2 diabetes who were regular clients of *Healthy for Life* services, 3,112 (26%) had a GPMP (or equivalent) as at 30 June 2010. Rates were higher in inner regional areas (37%) and lowest in major cities

(17%). Of the 3,668 Indigenous adults with coronary heart disease who were regular clients of the *Healthy for Life* service, 1,062 (29%) had a GPMP or equivalent. Rates were higher in very remote areas (36%) followed by remote areas (35%) and lowest in major cities (17%). Team care arrangements for diabetes and coronary heart disease patients increased from 3–4% in 2007 to 23% in 2010.

Key elements of effective asthma management include the development of a written asthma action plan and regular use of medications that control the disease and prevent exacerbations of the condition (AIHW & ACMA 2005). In 2004–05, it was estimated that 25% of Aboriginal and Torres Strait Islander peoples with asthma living in non-remote areas had a written asthma plan, compared with 22% of non-Indigenous Australians. However, for some age groups this pattern was reversed (e.g., 5–24 and 45–54 year age groups). The prevalence of asthma is higher for Indigenous people (18% of the population compared with 10% for non-Indigenous Australians). Indigenous Australians with asthma living in NSW had the highest proportion with a written asthma plan and the lowest proportion was in WA (17%).

Information on the management of chronic conditions by Aboriginal and Torres Strait Islander primary care services is available through the OATSIH Services Reporting system (see measure 3.05). In 2010–11, 92% of services provided care planning and 74% reported that discharge planning was well coordinated between the hospital and the service. In 2010–11, 80% of services provided or facilitated shared care arrangements for the management of people with chronic conditions.

Implications:

As discussed in relation to measure 3.05 the provision of organised chronic disease management in Aboriginal and Torres Strait Islander primary health care services has been demonstrated to result in improvement in various health outcomes (Hoy et al. 1999; Hoy et al. 2000; Rowley et al. 2000; McDermott et al. 2003; Bailie et al. 2007). Working with clients and their families to support proactive management of health conditions is vital (Griew et al. 2007).

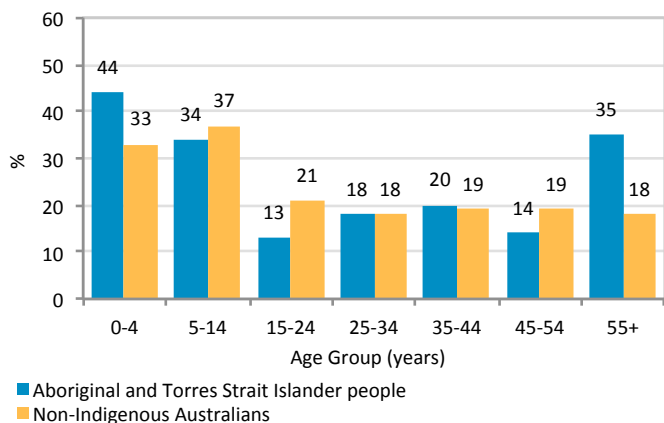
Currently the Australian Government provides funding through the *Practice*

Incentives Program – Indigenous Health Incentive to support general practices and Indigenous health services to

provide best practice management of chronic disease. Chronic disease management is vital for closing the gap in

Indigenous life expectancy (see measure 3.05).

Figure 192
Proportion of people with asthma reporting that they have a written asthma action plan, by Indigenous status and age group, non-remote areas, 2004–05



Source: AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS

Table 50
Number and proportion of Indigenous regular clients of services funded through the *Healthy for Life* program with a chronic disease who have a current MBS item 723 TCA, by type of chronic disease, at 30 June 2007, 2008, 2009 and 2010

	30 June:			
	2007	2008	2009	2010
Type 2 Diabetes:				
Number of Indigenous regular clients with a current TCA	85	931	1,520	2,566
Total number of Indigenous regular clients with Type 2 diabetes	2,252	7,084	7,905	11,230
Proportion who have a current TCA (%)	3.8	13.1	19.2	22.8
Coronary Heart Disease:				
Number of Indigenous regular clients with a current TCA	28	na	415	792
Total number of Indigenous regular clients with coronary heart disease	956	na	2,294	3,510
Proportion who have a current TCA (%)	2.9	na	18	22.6

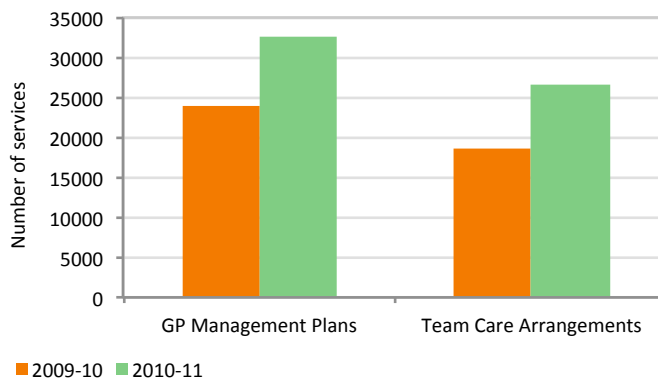
Source: AIHW, *Healthy for Life* data collection

Table 49
Number and proportion of Indigenous regular clients of services funded through the *Healthy for Life* program with a chronic disease who have a current GPMP and/or an equivalent alternative, by type of chronic disease and remoteness, at 30 June 2009

	Major Cities	Inner Regional	Outer Regional	Remote	Very Remote	Total
Number of Indigenous regular clients with a current GPMP and/or alternative:						
Type 2 Diabetes	360	539	844	766	603	3112
Coronary Heart Disease	155	215	332	241	119	1062
Total number of Indigenous regular clients with a chronic disease:						
Type 2 Diabetes	2158	1474	3526	2673	2097	11928
Coronary Heart Disease	904	642	1105	683	334	3668
Proportion of Indigenous regular clients with a chronic disease who have a current GPMP and/or alternative (%):						
Type 2 Diabetes	16.7	36.6	23.9	28.7	28.8	26.1
Coronary Heart Disease	17.1	33.5	30	35.3	35.6	29

Source: AIHW, *Healthy for Life* data collection

Figure 193
Number of GPMPs and TCAs claimed through Medicare, Indigenous Australians, 2009–10 and 2010–11



Source: Medicare Australia

3.19 Accreditation

Why is it important?:

Accreditation is a process, usually voluntary, through which a recognised external body assesses the extent to which a health care organisation meets applicable quality standards. Quality standards typically address issues such as governance of the organisation, management of safety issues such as infection control, handling of care processes such as discharge planning, general management issues such as human resource management, quality of the physical infrastructure, and issues such as handling of patient complaints. Assessments of quality often result in recommendations for action. The assessment outcome may also be reported publicly in a summarised form. The services accessed by Aboriginal and Torres Strait Islander peoples should be able to demonstrate a comparable level of quality when compared with other health services in Australia. While accreditation status is a broad measure, it provides one measure of the capability of services, based on their skills and knowledge, to provide quality health services to Aboriginal and Torres Strait Islander peoples.

In Australia, there are accreditation systems for both hospitals and general practice. Most hospitals are accredited by the Australian Council of Healthcare Standards *Evaluation and Quality Improvement Program*, although other accreditation systems are used by hospitals such as the *Quality Improvement Council* (QIC). Overall, 87% of hospitals accounting for 97% of hospital beds have achieved some form of accreditation (AIHW 2010b). Most large hospitals are accredited. Accreditation is less common for small hospitals located in regional and remote areas. Achieving accreditation generally requires a considerable ongoing investment of time and resources which is not always easy for smaller hospitals. It is not possible to draw conclusions about the quality of care in hospitals that do not have accreditation.

Accreditation in general practice involves assessment against standards set by the Royal Australian College of General Practitioners (RACGP) in five key areas: practice services; rights and needs of patients; safety, quality improvement

and education; practice management; and physical factors (RACGP 2010). There are two registered accreditation providers: Australian General Practice Accreditation Limited (AGPAL) and General Practice Accreditation Plus (GPA+). Most general practices are accredited by AGPAL.

Findings:

Between July 2008 and June 2010, 96% of episodes for Aboriginal and Torres Strait Islander peoples occurred in accredited hospitals, which was similar to episodes for non-Indigenous Australians (97%). The proportion of Aboriginal and Torres Strait Islander patient episodes treated in accredited hospitals is highest for hospitals located in inner regional areas (99%) and lowest in very remote areas for Aboriginal and Torres Strait Islander patients (90%). Since 1998–88 the proportion of care provided to Indigenous Australians in accredited hospitals has increased significantly.

In 2010–11, an estimated 71% of general practices registered for accreditation were accredited through AGPAL or GPA+. Accreditation was highest (84%) for practices in areas where Aboriginal and Torres Strait Islander peoples make up 4–10% of the population.

In 2010–11, of the 147 Aboriginal and Torres Strait Islander primary health care services that employed a GP 82% (121) were accredited. As at June 2010, of the 79 services that were included in the *Healthy For Life* program and reported information on accreditation, 66% (52) of services were accredited, and 18% (14) were undergoing accreditation.

Implications:

Most accreditation processes do not specifically address the needs of Aboriginal and Torres Strait Islander peoples in either quality or safety of care. Accreditation processes do not address capacity to provide culturally specific skills and knowledge to address the health needs of Aboriginal and Torres Strait Islander peoples. Little research into the appropriateness of accreditation processes for the health needs of Aboriginal and Torres Strait Islander peoples has been undertaken (Otim et al. 2002).

The Australian Government continues to implement activities to raise awareness of the value of accreditation of health service delivery to Indigenous Australians

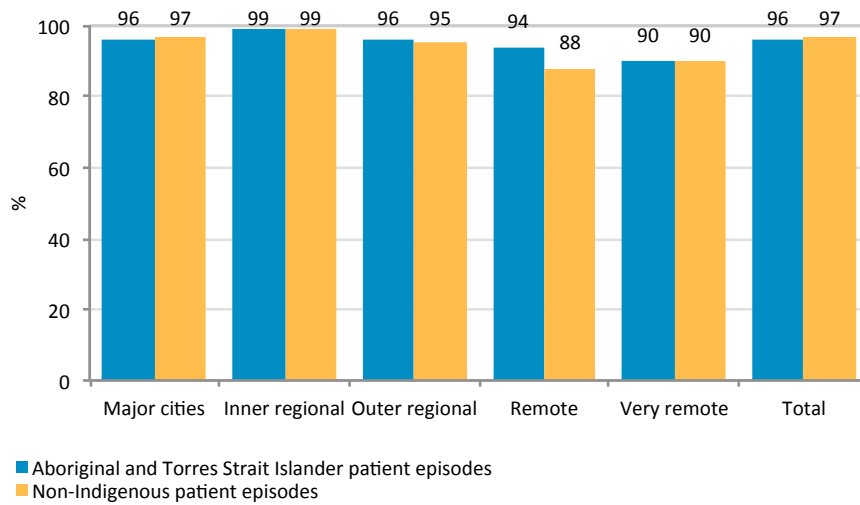
and promote uptake and achievement of accreditation by services.

The 2011–12 Federal Budget allocated \$35 million over four years for the Establishing Quality Health Standards in Indigenous Health Services continuation (EQHS–C) measure to continue the work undertaken through the original 2007–08 EQHS measure (\$36.9 million over four years). This Measure was funded to support eligible Indigenous health organisations to become accredited under Australian health care standards. As at May 2012, 133 Aboriginal and Torres Strait Islander primary health care organisations employing a general practitioner were eligible for support under the EQHS measure. In addition there were 66 eligible Indigenous health service organisations without general practitioners including Substance Use Services, Link Up, Bringing Them Home, Social and Emotional Well Being and Advocacy Groups.

The Australian Government established the Indigenous Health Service Accreditation Advisory Committee in 2007, and funded accreditation specific research and information projects throughout the Aboriginal and Torres Strait Islander community controlled health sector. The committee supported the development of RACGP and QIC interpretive guides to assist in the application of mainstream healthcare standards to Indigenous health services. The Indigenous Health Service Accreditation Implementation Group replaced the committee in 2009 and provides advice to the Australian Government on the rollout and national direction of accreditation across the Indigenous health sector and supports the uptake of mainstream accreditation across the sector.

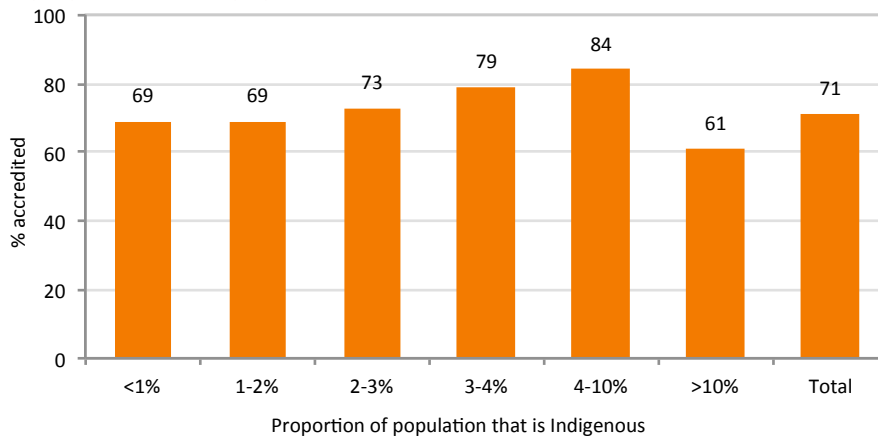
The RACGP standards indirectly address issues for Aboriginal and Torres Strait Islander peoples. For example, in assessing whether patient care is effective, accreditation assessors ask GPs if they 'can access guidelines for specific clinical care of patients who self-identify as Aboriginal and Torres Strait Islanders'. Under the RACGP standards, practices are required to demonstrate that patient information records routinely record Aboriginal and Torres Strait Islander status in active patient health records. This information is important in ensuring Aboriginal and Torres Strait Islander peoples receive the most appropriate care.

Figure 194
 Proportion of hospital admitted patient episodes in accredited hospitals, by Indigenous status and remoteness, July 2008 to June 2010



Source: AIHW analysis of National Public Hospitals Establishment Database

Figure 195
 Proportion of general practices accredited through AGPAL and GPA+, by proportion of the population that is Indigenous, 2010–11



Source: AIHW analysis of AGPAL and GPA+ unpublished data

3.20 Aboriginal and Torres Strait Islander peoples training for health-related disciplines

Why is it important?:

Aboriginal and Torres Strait Islander peoples are significantly under-represented in the health workforce (see measure 3.12). Improving and supporting the participation of Aboriginal and Torres Strait Islander people in tertiary education for health-related disciplines is vital to increasing Aboriginal and Torres Strait Islander participation in the health workforce.

Findings:

In 2010, there were an estimated 1,766 Aboriginal and Torres Strait Islander tertiary student enrolled in health-related courses and 278 completions. Although enrolment and completion rates for Indigenous students have increased since 2001, the gap between Indigenous and non-Indigenous student rates has widened. The success rate for Indigenous students studying health-related courses in 2010 was 76% compared with 92% for non-Indigenous students.

The most common health-related course for Indigenous undergraduate students in 2010 was nursing (782 enrolments, and 100 completions). In the same year, there were 309 Indigenous students enrolled in public health courses. Of these, 159 were in a specific Indigenous health course. In the same year, there were 39 completions in a public health course. There were an estimated 175 Indigenous students enrolled in medicine. In 2010, there were 17 Indigenous medical student completions, compared with 13 in 2008, 10 in 2003, 9 in 1999 and 3 in 1997. Participation rates remained very low in rehabilitation therapies, dental studies, pharmacy, radiography and optical science. Indigenous student enrolment and completion rates were lower than non-Indigenous student rates in the younger age groups, but exceeded non-Indigenous student rates in the older age groups (35 years plus for

enrolments and 45 years plus for completions).

Vocational Education and Training (VET) attracts the highest proportion of Indigenous students studying and completing health-related courses. In 2010, there were an estimated 5,100 Indigenous student enrolments in health-related courses in the VET sector and 554 completions. Indigenous student rates in health-related courses were higher than non-Indigenous student rates for both enrolments (147 per 10,000 compared to 70 per 10,000) and completions (16 per 10,000 compared to 10 per 10,000). The most common type of health-related course for Aboriginal and Torres Strait Islander VET students was public health (2,796 enrolments and 376 completions) followed by nursing (464 enrolments and 54 completions). In the same year, there were 283 VET sector student completions in a course aimed at Aboriginal and Torres Strait Islander Health Worker occupations in Australia. Women account for 70% of the student completions in this course. Participation rates remained very low in pharmacy, optical science, dental studies and complementary therapies. In 2010, the VET load pass rate for Indigenous students studying health-related courses was 79% compared with 86% for non-Indigenous students.

Implications:

Trends to 2010 show significant success in the VET sector but a widening of the gap for numbers of students enrolled in, or completing health related higher education courses. *Pathways into the workforce for Aboriginal and Torres Strait Islander people: a blueprint for action* (NATSIHC 2008), the *National Aboriginal and Torres Strait Islander Health Workforce Strategic Framework (2011–2015)*, and the National Aboriginal and Torres Strait Islander Health Equality Council (NATSIHEC), which provides advice to the Health Minister on a range of matters including health workforce, all assist in addressing the gap in higher education. Funding is provided to Aboriginal and Torres Strait Islander peak health professional organisations, associations and networks to support Indigenous students, to promote health careers in schools and colleges, and for mentoring and support to university and VET students. Funding is also provided to support the network of Aboriginal community controlled health registered training organisations; and to the

Leaders in Medical Education network which focuses on improving the quality and effectiveness of teaching and learning of Indigenous health in medical education through a nationally-agreed curriculum framework; and for promoting best practice in the recruitment and retention of Indigenous medical students. The Puggy Hunter Memorial Scholarship Scheme continues to provide scholarships for Indigenous students in all health disciplines. In 2012, there were over 320 Indigenous students studying under the Puggy Hunter Memorial Scholarship Scheme. Increasing opportunities for Aboriginal and Torres Strait Islander students in health disciplines is a priority under the Australian Government's Rural Clinical Training and Support Program and the University Departments of Rural Health. Additionally, the Flinders University NT Indigenous Transition Pathways to Medicine Project assists students to make a successful transition into the medical program. Under the Indigenous Chronic Disease Package, training opportunities are being provided for Aboriginal and Torres Strait Islander Outreach Workers. Opportunities are also being provided for GP registrars and nurses training in Aboriginal Medical Services.

The Committee of Presidents of Medical Colleges has formed the Indigenous Health Subcommittee to develop a strategy and implementation plan to attract, recruit and retain Indigenous GPs to become medical specialists, as well as developing a plan to better integrate Indigenous health into specialist training curricula. Health Workforce Australia will be undertaking skills recognition and upskilling for Aboriginal and Torres Strait Islander Health Workers across Australia to meet the national registration requirements for practitioners from 1 July 2012.

The Aged Care Workforce Fund will provide a continuum of training, education and support for the aged care workforce and facilitate collaboration between the aged care training and research sectors. It will also support targeted training strategies to support the delivery of culturally appropriate care.

Some medical schools have been significantly more successful in attracting and retaining Indigenous medical students. These schools have adopted comprehensive approaches including:

locally-based strategies involving personal contact and community engagement; building relationships with potential students and their families and communities; and Indigenous medical or health support units. Fifty-seven per cent of Indigenous Australian medical

students reported the presence of a support unit as their main reason for choosing a university. The presence of Indigenous staff within the school was also important, along with mentoring, curriculum and cultural safety (Minniecon et al. 2005). Improvements in

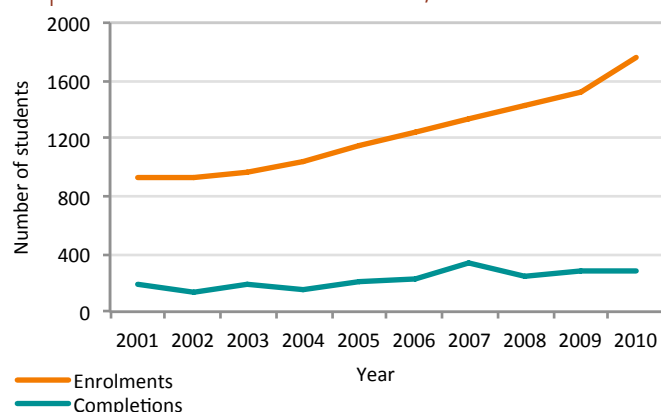
school educational retention and attainment are also necessary (see measure 2.05). Strategies are required to increase enrolment in courses for the health disciplines in which Indigenous students are under-represented.

Table 51
Student enrolments and completions in health-related courses in the tertiary education sector, 2010

	Enrolled				Completions			
	Number		Rate per 10,000		Number		Rate per 10,000	
	Indig.	Other	Indig.	Other	Indig.	Other	Indig.	Other
Nursing	782	37,298	21.4	21.1	100	7,598	2.7	4.3
Public health	309	5,945	8.5	3.4	39	904	1.1	0.5
Indigenous health	159	52	4.4	0.0	n.p.	n.p.	n.p.	n.p.
Other public health	150	5,893	4.1	3.3	n.p.	n.p.	n.p.	n.p.
Medical studies	175	14,456	4.8	8.2	17	2,358	0.5	1.3
Rehabilitation therapies	82	12,893	2.2	7.3	< 10	2,604	n.p.	1.5
Dental studies	35	2,617	1.0	1.5	< 10	597	n.p.	0.3
Pharmacy	n.p.	4,910	n.p.	2.8	< 10	1,104	n.p.	0.6
Radiography	18	2,003	0.5	1.1	< 10	548	n.p.	0.3
Optical science	< 10	642	n.p.	0.4	< 10	103	n.p.	0.1
Total domestic undergraduate	1,415	79,433	38.8	44.8	177	15,787	4.9	8.9
Total	1,766	128,153	48.4	72.3	278	31,374	7.6	17.7

Source: AIHW analysis of Higher Education Student Statistics Collection

Figure 196
Indigenous Australian university student enrolments and completions in health-related courses, 2001–10



Source: AIHW analysis of Higher Education Student Statistics Collection

Table 52
Vocational education and training (VET) sector students enrolled and completed health-related courses, 2010

	Enrolled				Completions			
	Number		Rate per 10,000		Number		Rate per 10,000	
	Indig.	Other	Indig.	Other	Indig.	Other	Indig.	Other
Public health	2,796	41,414	81.0	28.1	376	4,140	10.9	2.8
Nursing	464	21,638	13.0	14.7	54	4,246	1.6	2.9
Medical studies	-	290	-	0.2	-	28	-	-
Dental studies	71	4,614	2.0	3.1	21	1,543	0.6	1.0
Complementary therapies	85	4,461	2.0	3.0	11	990	0.3	0.7
Rehabilitation therapies	-	227	-	0.2	1	45	-	-
Optical science	7	1,095	-	0.7	-	260	-	0.2
Pharmacy	-	78	-	0.1	-	3	-	-
Other health	1,677	28,842	48.0	19.6	91	3,849	2.6	2.6
Total	5,100	102,659	147.0	69.6	554	15,104	16.0	10.2

Source: AIHW analysis of NCVER, National VET Provider Collection 2010

3.21 Expenditure on Aboriginal and Torres Strait Islander health compared to need

Why is it important?:

A basic principle of equity is that health expenditure should reflect the relative needs for health services. Health expenditure for population groups with higher levels of need should be proportionately higher. A broad assessment of how well the principle is implemented is provided by comparing differentials in health status with differences in per capita health expenditure. A 2004 literature review estimated that the additional expenditure required to achieve equitable access to effective health care for Indigenous Australians was 3–6 times higher than expenditure levels at the time (Dwyer et al. 2004).

Findings:

On a per person basis, average health expenditure for Aboriginal and Torres Strait Islander peoples in 2008–09 were estimated to be \$6,787, which was \$1.39 for every \$1.00 spent per non-Indigenous Australian. Expenditure was \$1.31 per person in 2006–07, indicating expenditures for Indigenous Australians increased at a greater rate than for non-Indigenous Australians over this period. When first estimated in 1995–96, expenditure was \$1.08 per person. Some of the change since that time will reflect improvements to the accuracy and quality of estimates, rather than actual expenditure increases.

During 2008–09, Australian governments provided an estimated 91% of the funding used to pay for health goods and services for Aboriginal and Torres Strait Islander peoples compared with 70% for other Australians. Those on lower incomes rely more on publicly provided services and spend less money on private services than people with higher incomes and are much more likely to present to hospitals, even for primary health care (Deeble 2009). In 2004–05, public expenditure per Indigenous person was almost the same as that for all Australians in the same income group (Deeble 2009).

Australian Government funding was low for Medicare and medication and high for community health services. Per person funding provided by the Australian Government for Aboriginal and Torres Strait Islander peoples was \$1,673 compared with \$1,418 for other Australians, a ratio of 1.18:1. Per person funding provided by state and territory governments for Aboriginal and Torres Strait Islander peoples was \$4,758 compared with \$1,914 for other Australians, a ratio of 2.5:1, with the greatest expenditure in public hospitals followed by community health services.

Estimated expenditure per Aboriginal and/or Torres Strait Islander person by state and territory governments vary across jurisdictions, with the highest expenditures per person in the NT. Most variation between jurisdictions is explained by differences in the proportion of Indigenous people in the state living in remote and very remote areas. For the main programs, in 2008–09, expenditures were an estimated \$5,694 per Indigenous Australian in remote and very remote areas compared with \$3,791 in outer regional, \$3,036 in inner regional areas and \$3,188 in major cities. The higher expenditures in rural and remote areas are largely related to hospital services and OATSIH grants to ACCHOs, and partly reflect higher costs of delivering health care services in those areas (AIHW 2011e).

Medical Benefits Schedule (MBS) expenditure per person was higher for non-Indigenous Australians than for Indigenous Australians across all remoteness areas. The gap for expenditure between Indigenous and non-Indigenous Australians was greatest in inner and outer regional areas and was smallest in remote areas. PBS expenditure per person was lower for Indigenous Australians in all non-remote areas, with the biggest expenditure gap occurring in outer regional areas. PBS expenditure per person was higher for Indigenous Australians in remote areas (see measure 3.15).

The cost per hospital separation was higher for Indigenous Australians than non-Indigenous Australians. The greatest difference was due to non-communicable diseases such as genitourinary diseases (including dialysis) and injuries. However, there was higher expenditure per person for non-Indigenous people for treatment of

neoplasms and musculoskeletal and connective tissue disorders. For expenditure on potentially preventable hospital separations, the greatest difference is attributable to chronic conditions such as diabetes complications and chronic obstructive pulmonary disease (AIHW 2011e).

In 2008–09, expenditure for primary health care services was \$3,083 per person for Aboriginal and Torres Strait Islander peoples compared with \$2,201 for other Australians. Primary health care expenditure on medical services, including those paid through the MBS, was \$328 per person for Aboriginal and Torres Strait Islander peoples compared with \$517 for other Australians. Per person expenditure on pharmaceuticals in the primary care sector was also much lower for Aboriginal and Torres Strait Islander peoples (\$294 versus \$644). Per person expenditure on community health services was seven times higher for Indigenous Australians—\$1,510 per person compared with \$218 per person for other Australians. Community health expenditure accounted for \$823 million in 2008–09 or 49% of total primary health care expenditure for Indigenous Australians. Per person expenditure on dental services for Aboriginal and Torres Strait Islander peoples was 40% lower than that for other Australians.

Australian Government Indigenous-specific health program expenditure through the OATSIH has increased from \$115 million in 1995–96 to \$624 million in 2010–11, a growth in real terms of 265%.

In 2008–09, expenditure for secondary and tertiary health care services (excluding residential care) was \$3,493 per person for Indigenous Australians compared with \$2,080 for other people. Hospital expenditure is the largest single expenditure item in secondary/tertiary health care services, accounting for \$3,135 per Indigenous Australian. Expenditure on secondary/ tertiary care medical services (mainly specialist care) was estimated to be \$161 per person for Aboriginal and Torres Strait Islander peoples compared with \$407 per person for other Australians.

Implications:

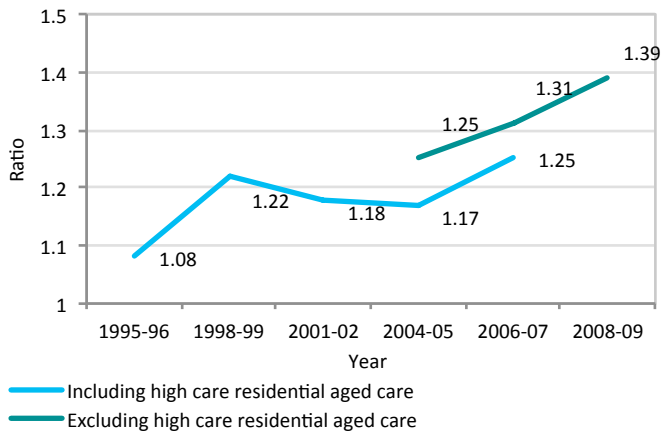
There has been an increase in Aboriginal and Torres Strait Islander health expenditure and this expenditure had increased at a faster rate than for other Australians. On a per person basis,

average health expenditure for Indigenous Australians in 2008–09 was 39% higher than for other Australians.

However, Indigenous Australians are currently experiencing rates 200% as high as other Australians on a range of

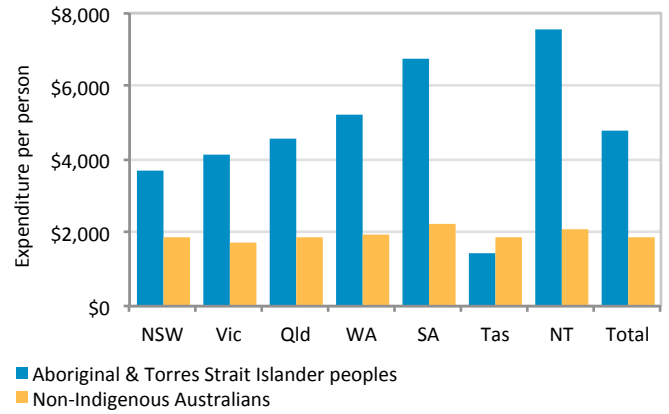
health measure such as mortality rates and prevalence of disease.

Figure 197
Estimated per person health expenditure ratio of Indigenous to non-Indigenous Australians, 1995–96 to 2008–09



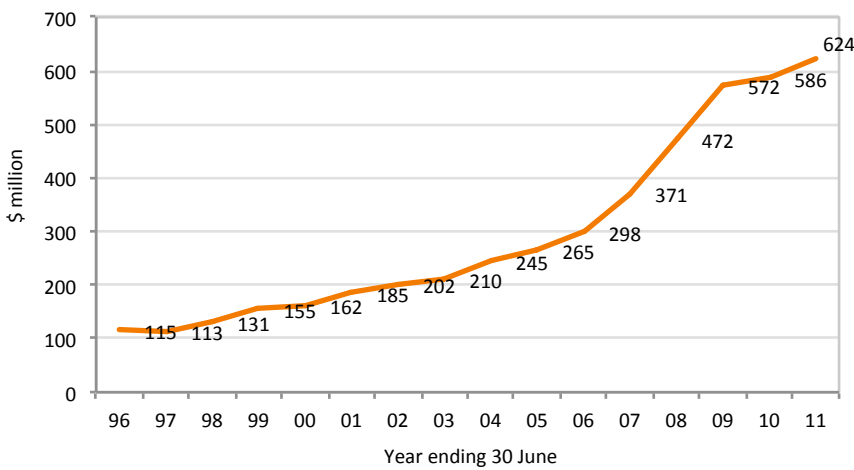
Source: AIHW 2005, AIHW 2008, AIHW 2009, AIHW 2011

Figure 198
Estimated state and territory health expenditure per person, by Indigenous status, 2008–09



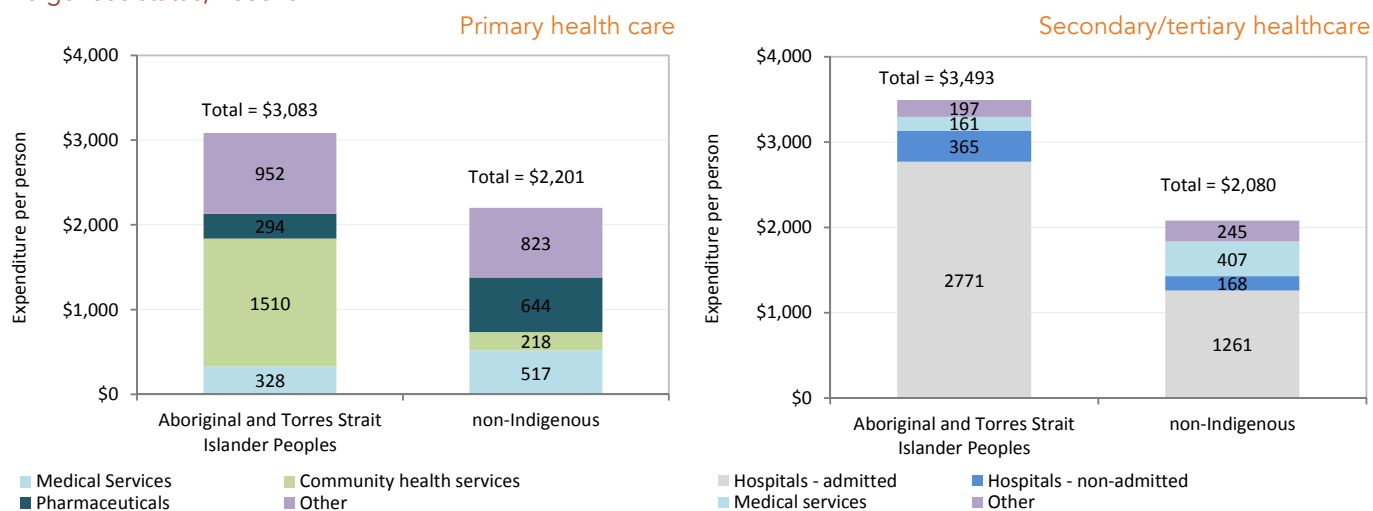
Source: AIHW 2011

Figure 199
Expenditure by the Australian Government on Indigenous-specific health programs, 1995–96 to 2010–11



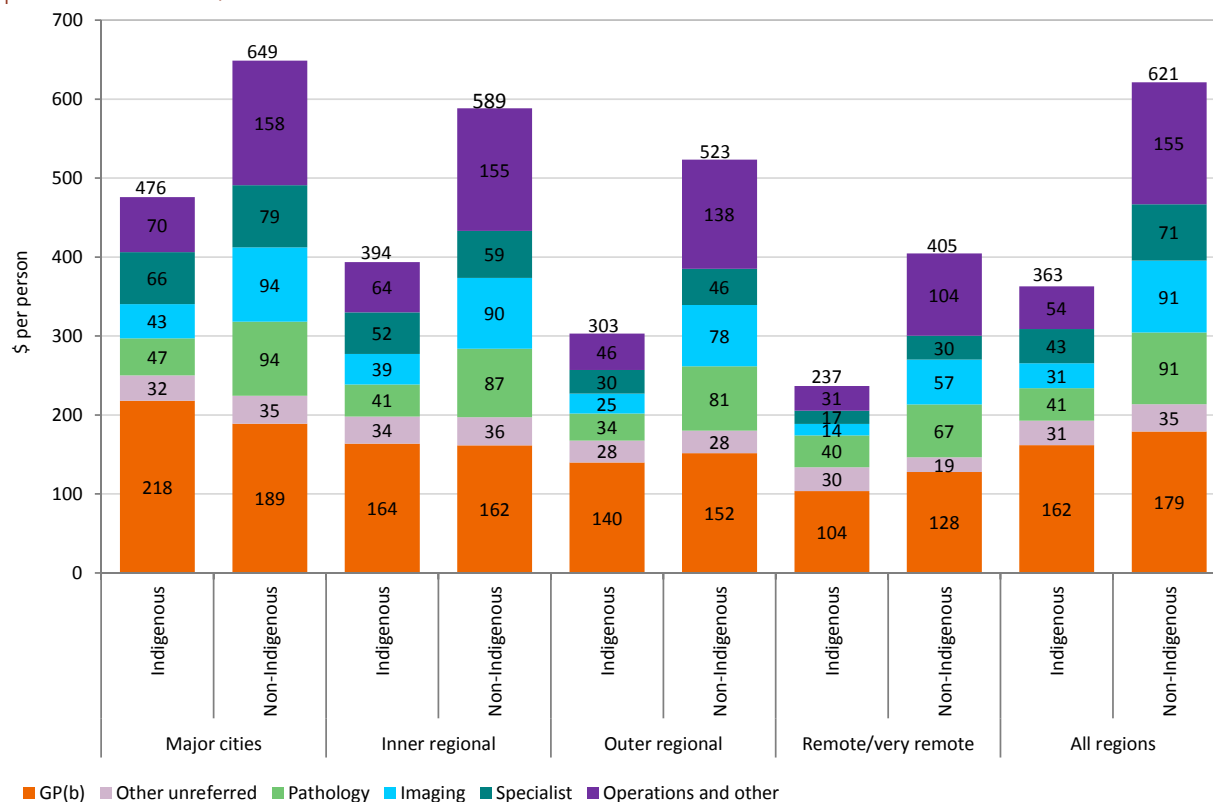
Source: Australian Government Department of Health and Ageing

Figure 200
Average health expenditure per person for primary health care and secondary/tertiary health care services, by Indigenous status, 2008–09



Source: AIHW 2011

Figure 201
MBS^(a) expenditure per person, Indigenous and non-Indigenous Australians, by remoteness areas of patient's residence, 2008–09

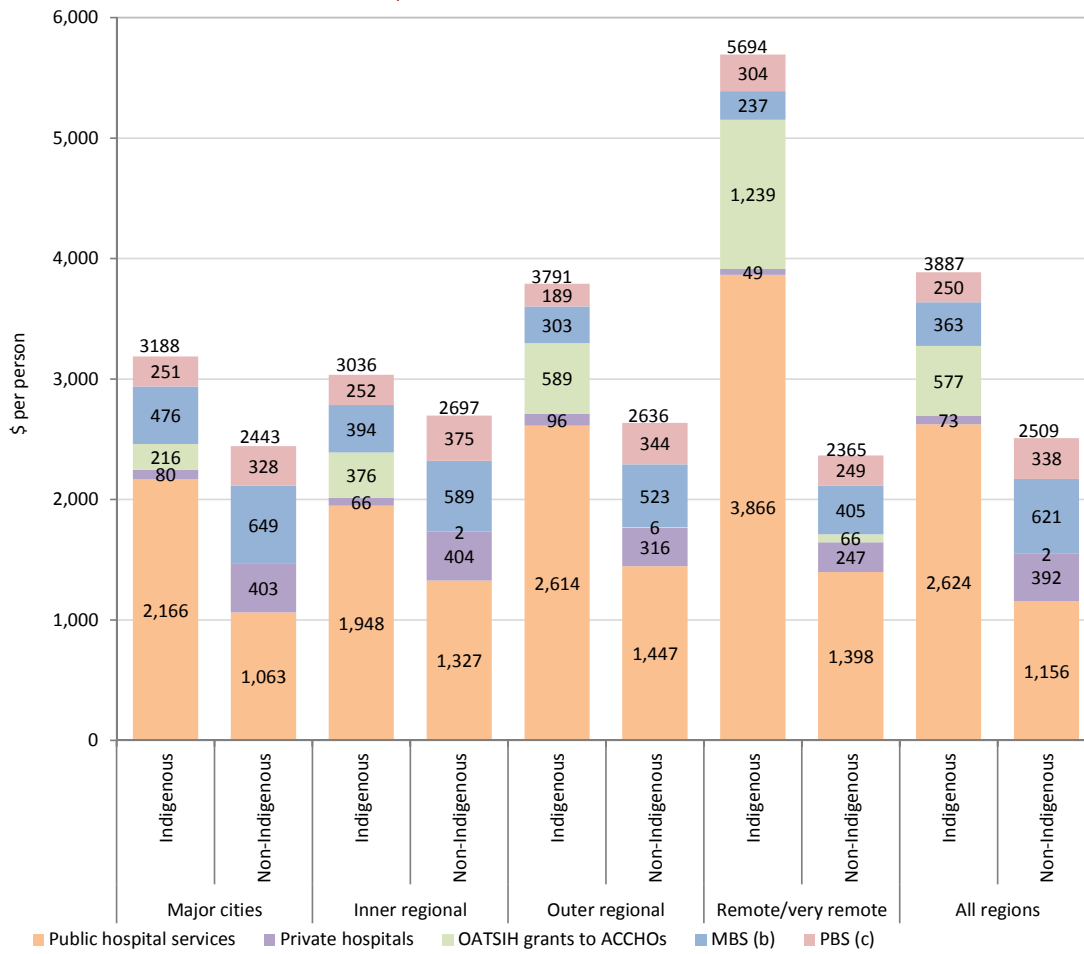


a) Excludes the following: allied health services, optometry and dental services.

b) Includes general practitioners and vocationally registered general practitioners.

Source: AIHW 2011. Expenditure on health for Aboriginal and Torres Strait Islander people 2008–09 – An analysis by remoteness and disease; Supplementary table 2

Figure 202
 Health expenditure per person on selected health services^(a), Indigenous and non-Indigenous
 Australians, by remoteness area of patient's residence, 2008–09



a) Excludes health expenditure on: non-admitted patient services, patient transport, dental services, community health other than ACCHO,

b) MBS excludes allied health services, optometry and dental services.

c) PBS excludes RPBS, and highly specialised drugs dispensed from public and private hospitals.

Source: AIHW 2011. Expenditure on health for Aboriginal and Torres Strait Islander people 2008–09 – An analysis by remoteness and disease; Supplementary table 1

3.22 Recruitment and retention of staff

Why is it important?:

The capacity to recruit and retain appropriate staff is critical to the appropriateness, continuity and sustainability of health services including Aboriginal and Torres Strait Islander primary health care services, particularly in rural and remote areas.

Findings:

In 2010, there were 58,192 registered medical practitioners in Australia, of whom 90% were employed in medicine. Many of those not working in medicine in Australia were working in this field overseas, were retired or were on extended leave.

In 2010–11, 70% of full-time equivalent GPs worked in major cities and only 0.5% in very remote areas. A survey of the rural workforce conducted in November 2011 found that of the 6,372 GPs working in rural Australia, an estimated 34% had been in their current practice for two years or less. In remote areas, 42% of GPs had been in the current practice for two years or less. In 2009, 86% of nurses were currently employed in nursing, and 88% of dental therapists/oral health therapists were employed in dentistry. For other health professionals, the proportions working in their field were as follows: 80% for physiotherapists (2002 data), 86% for occupational therapists (2002–03 data), 87% for psychologists (2003 data), and 92% for podiatrists (2003 data). Many of those not working in their field were not looking for work in their field.

In 2010–11, there were 3,683 full-time equivalent health (clinical) staff and 1,856 full-time equivalent administrative and support staff positions within Aboriginal and Torres Strait Islander primary health care services funded by the Australian Government. In the 12 years to June 2011, there was an increase of 135% in the workforce of Aboriginal and Torres Strait Islander primary health care services funded by the Australian Government. An estimated 8% of health positions and 3% of administrative and support staff positions were vacant. The highest number of health staff vacancies in June 2011 were for Aboriginal Health Workers

(74) followed by nurses (53) and allied health workers (50). In June 2011, health staff vacancies were highest in outer regional areas (24%) and very remote areas (23%) and lowest in major cities (9%). Vacancies for administrative and support positions were highest for positions located in very remote areas (5%), followed by outer regional areas (4%) and lowest in inner regional areas and major cities (1%). Of the 336 health staff positions that were vacant, 44% had been vacant for 26 weeks or more. Of the 60 administrative and support staff vacancies, 37% had been vacant for this length of time.

A study of GPs conducted in 2001 found that important factors determining retention in rural and remote areas were: professional considerations, particularly on-call arrangements; professional support; variety of rural practice; local availability of services; and regional attractiveness (Humphreys et al. 2002). Another study found that doctors who were satisfied with their current medical practice intended to remain in rural practice for 40% longer than those who were not satisfied (11.5 years compared with 8.2 years) (Alexander et al. 2007). GPs content with their life as a rural doctor intended to remain in rural practice for 51% longer than those who were discontented (11.8 years compared with 7.8 years). Continuing professional development, training opportunities, professional support and networking and financial support were identified as priorities for GPs. Training in Indigenous health was identified as a key information deficit.

A literature review of factors influencing the recruitment and retention of allied health professionals in rural and remote areas found that negative influences such as poor access to professional development, professional isolation and insufficient supervision were most frequently reported. Rural lifestyle, diverse caseloads, autonomy and community connectedness were cited as positive influences (Campbell et al. 2012). A study of drug and alcohol workers found that Indigenous workers experienced above average levels of job satisfaction and relatively low levels of exhaustion, however, they also experienced lower levels of mental health and wellbeing and greater work/family imbalance. The report highlighted the importance of workforce development strategies that focus on

culturally appropriate, equitable and supportable organisational conditions including addressing stress, salaries, benefits and opportunities for career and personal growth (Roche et al. 2012).

Implications:

Better national data are needed on this important issue. The statistics analysed here focus on a few aspects of a complex set of issues. They suggest there are challenges for Aboriginal and Torres Strait Islander primary health care services in recruiting (particularly clinical) staff to meet the growth in the sector. Recruitment and retention issues are also significant for health services located in rural and remote Australia. Little is known about the turn-over of staff in Aboriginal and Torres Strait Islander primary health care services and how this compares with mainstream services. Another issue is achieving incomes for doctors in rural and remote locations that are competitive with incomes earned by GPs in metropolitan private practice.

In November 2008, COAG committed up to \$1.6 billion over four years to the *National Partnership on Closing the Gap in Indigenous Health Outcomes*. Building the capacity of the health workforce is recognised as an essential element of this work. The capacity of the primary care workforce in Indigenous and mainstream health services will be expanded to increase the uptake of health services by Aboriginal and Torres Strait Islander peoples. Measures include communication and marketing activity to attract more Indigenous people to work in health; additional workforce including Aboriginal and Torres Strait Islander Outreach Workers, health professionals and practice managers; and additional nursing scholarships, registrar training posts and nurse clinical placements.

Pathways into the health workforce for Aboriginal and Torres Strait Islander people: a blueprint for action (NATSIHC 2008) is designed to provide Australian governments with advice and strategies to maximise Aboriginal and Torres Strait Islander participation in the health workforce through promoting and improving pathways between school, vocational education, training and higher education; and retaining and building the capacity of the existing workforce by addressing ongoing support and career development needs (NATSIHC 2008).

The *Blueprint for Action* provided the basis for the development of the *National Aboriginal and Torres Strait Islander Health Workforce Strategic Framework (2011–2015)*. One of the key aims of the *Framework* is to support the recruitment and retention of Aboriginal and Torres Strait Islander and non-Indigenous health staff. This is being addressed through jurisdictions implementing career structures and pathways into the health workforce.

In the Health and Hospitals Fund Regional Priority Rounds, funding of \$41.442 million was allocated for 10 projects to specifically attract, train and retain health practitioners and students by building accommodation in rural, regional, and remote areas. Examples include staff accommodation in Halls Creek (WA), Charleville and Mt Isa (Qld).

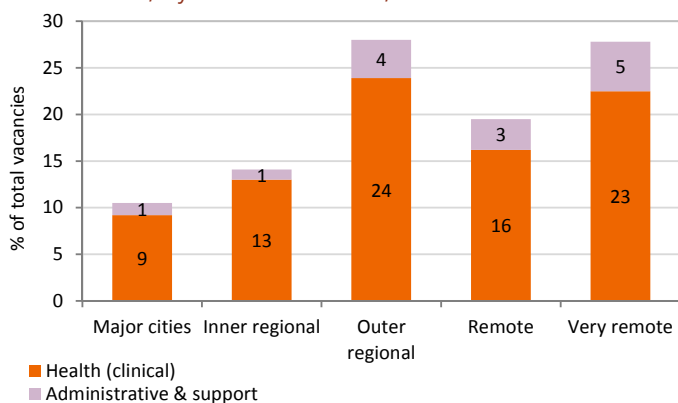
By providing staff accommodation in these regional communities, it will help to improve access for Indigenous patients to essential health services in addition to allied health services such as nutrition, physiotherapy and speech pathology.

The *Living Longer Living Better Aged Care Reform* package includes funding of \$1.2 billion to strengthen the aged care workforce by ensuring greater stability of the existing aged care workforce and improving the attractiveness of working in aged care. There will be a strong focus on addressing workforce pressures in regional, rural and remote areas, including action to improve the recruitment, retention and overall geographical distribution of aged care workers. The Remote Area Health Corps has been in operation since October

2008. The program assists in the delivery of primary health care services in remote NT Indigenous communities by supplementing the efforts of Aboriginal Medical Services and the Northern Territory Department of Health to recruit health professionals from urban based practices and deploy them for short term placements in remote NT communities, where health resources are in high demand.

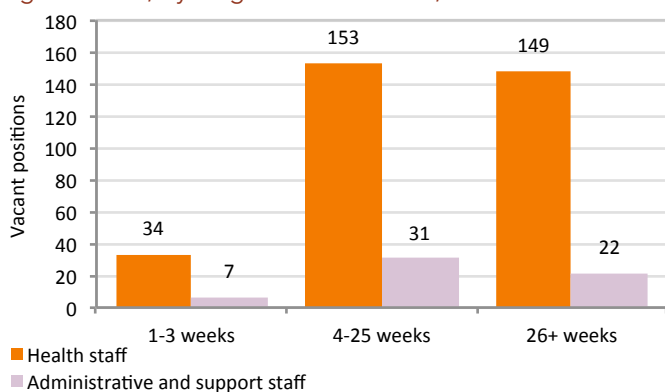
Recognition of Aboriginal and Torres Strait Islander health as an identifiable specialty is also considered to be important in improving services and retaining highly skilled clinicians. Strong cooperation and collaboration between the health and education portfolios is vital for improving recruitment and retention of health staff.

Figure 203
Proportion of selected staff vacancies in Aboriginal health care services, by remoteness area, 2010–11



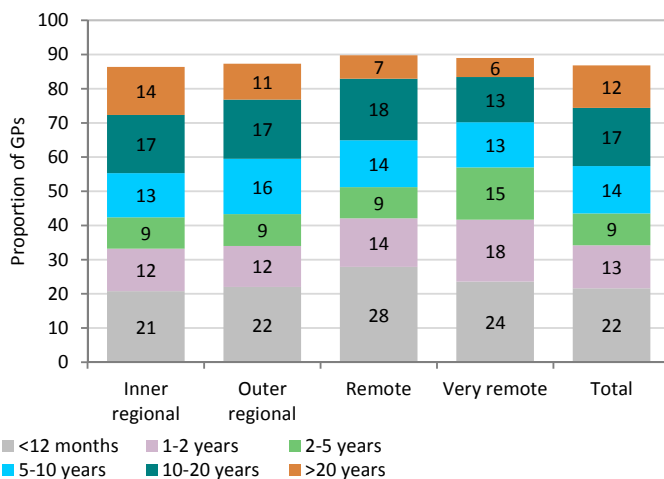
Source: AIHW analysis of OATSIH Services Report

Figure 204
Full-time equivalent health staff and administrative and support staff vacancies, Aboriginal primary health care organisations, by length of time vacant, 30 June 2011



Source: AIHW analysis of OATSIH Services Reporting

Figure 205
Proportion of GPs, by length of stay in current practice and remoteness area, 30 November 2011



Source: AIHW analysis of Combined Rural Workforce Agencies National Minimum Data Set report

Changes to the Aboriginal and Torres Strait Islander Health Performance Framework

In 2011, a review of the HPF was undertaken in consultation with NATSIHON and NAGATSIHID in order to align the framework to the current policy environment. A revised framework was endorsed by the Australian Health Ministers Advisory Council (AHMAC) in December 2011. The review resulted in four new measures, five deletions, and two combined measures. These, and other minor changes, are outlined below:

Table 53
Changes to the Aboriginal and Torres Strait Islander Health Performance Framework

<p>New measures</p>	<p>Cancer Cancer mortality has been increasing and is now the second most common cause of mortality for Indigenous Australians.</p> <p>Eye health Vision loss impacts a person’s social functioning and life chances. There is a significant disparity of vision loss and eye disease between Indigenous and non-Indigenous Australians.</p> <p>Cultural competency The cultural competency of health services impacts on Aboriginal and Torres Strait Islander peoples’ decisions on whether to use the service, and in turn, on health outcomes. The NT Department of Health, in collaboration with NAGATSIHID and NATSIHON, have recently developed a framework for measuring cultural competency which will be implemented over time in the HPF.</p> <p>Access to alcohol and drug services Treatment services which reduce alcohol and other drug use can significantly improve the overall health and wellbeing of those experiencing harm from alcohol and substances.</p>
<p>Deleted measures</p>	<p>Median age at death Comparisons of Indigenous and non-Indigenous median age at death are severely impacted by the very different age distributions of these two populations. Additionally, median age at death does not necessarily change significantly as mortality levels change. Modelling has shown that for Indigenous Australians, a two-year increase in the median age at death over five years would require a 30% decrease in the mortality rates, but the same increase in the median age at death for non-Indigenous Australians would mean only a 15% decrease in mortality (Coory et al. 2003).</p> <p>Maternal mortality Social and policy relevance is limited due to the small numbers involved (6 Indigenous maternal deaths in 2003–05). Limited numbers also creates difficulty in interpreting trends.</p> <p>Dependency ratio The Census data do not allow counting of non-Indigenous parents where the child has both Indigenous and non-Indigenous parents, thus exaggerating the Indigenous youth dependency ratio.</p> <p>Single parent families The social and policy relevance of this measure is limited due to the different composition of families in Aboriginal and Torres Strait Islander society. While the term ‘sole parent’ might describe parental status, it does not adequately describe residential or domestic arrangements in Indigenous Australian families.</p> <p>Unsafe sexual practices Australian surveys on sexual health do not include Indigenous samples and therefore data relating to Indigenous Australians are insufficient for analysis.</p>
<p>Combined measures</p>	<p>Infant and child mortality (infant mortality + sudden infant death syndrome) A new combination of infant mortality and child mortality rates will better reflect the COAG Closing the Gap child mortality target. The social and policy relevance of SIDS as a separate measure has been affected by significant declines in Indigenous SIDS deaths.</p> <p>Housing (overcrowding in housing + housing tenure type) The combination of over-crowding in housing, housing tenure type and homelessness data allows a more integrated analysis of housing issues for Indigenous Australians.</p>

Table 53 (continued)

Minor change to measure

Injury and poisoning

(formerly 'hospitalisation for injury and poisoning')

Expanded beyond hospitalisation data to consider survey data, deaths and other data relating to injury and poisoning.

Respiratory disease

(formerly 'hospitalisation for pneumonia')

Expanded beyond hospitalisation data for pneumonia to consider other respiratory diseases such as chronic obstructive pulmonary disease and asthma and other data collections such as survey data and deaths.

Kidney disease

(formerly 'end-stage renal disease')

Expanded measure now includes analysis of chronic kidney disease.

Oral health

(formerly 'decayed, missing, filled teeth')

Expanded to include periodontal (gum) disease in addition to decayed, missing and filled teeth.

Health behaviours during pregnancy

(formerly 'tobacco smoking during pregnancy')

Expanded to include data relating to health behaviours during pregnancy, such as alcohol and substance use as well as folate use.

Minor change to title

Low birthweight

(formerly 'low birthweight infants')

HIV/AIDS, hepatitis and sexually transmissible infections

(formerly ...'hepatitis C'...)

Expanded to include hepatitis B data.

Ear health

(formerly 'children's hearing loss')

Expanded to consider impact of hearing health on adults. This measure has been moved into the Human Function domain and re-named 'Ear health'.

Literacy and numeracy

(formerly 'Years 3, 5 and 7 literacy and numeracy')

Data are also available to analyse Year 9 literacy and numeracy outcomes. Simplified name of measure to consider Years 3, 5, 7 and 9.

Education outcomes for young people

(formerly 'Years 10 & 12 retention and attainment')

In line with COAG targets relating to education, this measure has been expanded to consider qualifications equivalent to Years 10 and 12.

Educational participation and attainment of adults

(formerly of "...Aboriginal and Torres Strait Islander adults")

In line with COAG targets relating to education, this measure has been expanded to consider qualifications equivalent to Years 10 and 12.

Employment

(formerly '...CDEP participation')

The terms 'including CDEP participation' have been removed. The CDEP program has gone through a number of changes which will be explored within the context of employment.

Risky alcohol consumption

(formerly 'risky and high risk...')

Replaced 'risky and high risk' with 'risky' to align with NHMRC guidelines.

Physical activity

(formerly 'level of...')

Overweight and obesity

(formerly 'prevalence of...')

Immunisation

(formerly '...child and adult')

Selected potentially preventable hospital admissions

(formerly 'ambulatory care sensitive hospital admissions')

Aligned the name of the performance measure with the National Health Care Agreement.

Recruitment and retention of staff

(formerly 'clinical and management staff, including GPs').

Table 54

The revised Aboriginal and Torres Strait Islander Health Performance Framework

NEW MEASURE COMBINED MEASURE DELETED MEASURE MINOR CHANGE TO MEASURE

Tier 1 Health Status and Outcomes

<p>Health Conditions</p> <p>1.01 Low birth weight infants 1.02 Top reasons for hospitalisation 1.03 Injury and poisoning 1.04 Respiratory disease 1.05 Circulatory disease 1.06 Acute rheumatic fever and rheumatic heart disease 1.07 High blood pressure 1.CA Cancer 1.08 Diabetes 1.09 Kidney disease 1.10 Oral health 1.11 HIV/AIDS, hepatitis-C and sexually transmissible infections</p>	<p>Human Function</p> <p>1.14 Community functioning 1.13 Disability 1.12 Ear health Children's hearing loss 1.EH Eye health</p> <p>Life Expectancy and Well-being</p> <p>1.15 Perceived health status 1.16 Social and emotional well-being 1.17 Life expectancy at birth 1.18 Median age at death</p>	<p>Deaths</p> <p>1.19 Infant and child mortality 1.20 Perinatal mortality 1.22 All causes age-standardised death rates 1.23 Leading causes of mortality 1.25 Avoidable and preventable deaths</p> <p>1.21 Sudden infant death syndrome (merged into 1.19) 1.24 Maternal mortality</p>
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Tier 2 Determinants of Health

<p>Environmental Factors</p> <p>2.02 Housing 2.01 Access to functional housing with utilities 2.03 Environmental tobacco smoke</p> <p>Socioeconomic Factors</p> <p>2.04 Years 3, 5 and 7 literacy and numeracy 2.05 Education outcomes for young people Years 10 and 12 retention and attainment 2.06 Educational participation and attainment of Aboriginal and Torres Strait Islander adults 2.07 Employment (including CDEP participation) 2.08 Income 2.10 Index of disadvantage 2.09 Housing tenure type (merged into 2.02)</p>	<p>Community Capacity</p> <p>2.13 Community safety 2.14 Contact with the criminal justice system 2.15 Child protection 2.16 Transport 2.17 Indigenous people with access to their traditional lands</p> <p>2.11 Dependency ratio 2.12 Single-parent families</p>	<p>Health Behaviours</p> <p>2.18 Tobacco use 2.20 Risky and high risk alcohol consumption 2.21 Drug and other substance use including inhalants 2.22 Level of physical activity 2.23 Dietary behaviours 2.24 Breastfeeding practices 2.19 Health behaviours during pregnancy 2.25 Unsafe sexual practices</p> <p>Person-related Factors</p> <p>2.26 Prevalence of overweight and obesity</p>
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Tier 3 Health System Performance

<p>Effective/Appropriate/Efficient</p> <p>3.01 Antenatal care 3.02 Immunisation (child and adult) 3.07 Health promotion 3.03 Early detection and early treatment 3.04 Chronic disease management 3.05 Differential access to key hospital procedures 3.06 Selected potentially preventable hospital admissions Ambulatory care sensitive</p> <p>Responsive</p> <p>3.CC Cultural competency 3.08 Discharge against medical advice 3.09 Access to mental health services 3.AD Access to alcohol and drug services 3.10 Aboriginal and Torres Strait Islander Australians in the health workforce 3.11 Competent governance</p>	<p>Accessible</p> <p>3.12 Access to services by types of service compared to need 3.13 Access to prescription medicines 3.14 Access to after-hours primary health care</p> <p>Continuous</p> <p>3.15 Regular GP or health service 3.16 Care Planning for clients with chronic diseases</p>	<p>Capable</p> <p>3.17 Accreditation 3.18 Aboriginal and Torres Strait Islander people in Tertiary Education for health related disciplines</p> <p>Sustainable</p> <p>3.19 Expenditure on Aboriginal and Torres Strait Islander health compared to need 3.20 Recruitment and retention of clinical and management staff, including GPs</p>
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Glossary

Aboriginal Community Controlled Health Service (ACCHS)

Community control is a process which allows the local Aboriginal community to be involved in its affairs in accordance with whatever protocols or procedures are determined by the community.

Aboriginal community control has its origins in Aboriginal peoples' right to self-determination. This includes the right to be involved in health service delivery and decision making according to protocols or procedures determined by Aboriginal communities based on the Aboriginal holistic definition of health.

An ACCHS is:

- an incorporated Aboriginal organisation
- initiated by a local Aboriginal community
- based in a local Aboriginal community
- governed by an Aboriginal body which is elected by the local Aboriginal community
- delivering a holistic and culturally appropriate health service to the community which controls it.

Source: (NACCHO 2012).

Acute rheumatic fever (ARF)

ARF is a disease caused by an auto-immune reaction to a bacterial infection with Group A streptococcus. ARF is a short illness, but can result in permanent damage to the heart—rheumatic heart disease (RHD). A person who has had ARF once is susceptible to repeated episodes, which can increase the risk of RHD. Following an initial diagnosis of RHD, patients require long-term treatment, including long-term antibiotic treatment to avoid infections that may damage the heart (Steer et al. 2009).

Admission

The formal process, using registration procedures, under which a person is accepted by a hospital or an area or district health service facility as an inpatient.

Age-adjusted rate

See Age-standardised rate.

Age-specific rate

Rate for a specified age group. Both numerator and denominator refer to the same age group.

Age-standardised rate

Rate adjusted to take account of differences in age composition when rates for different populations are compared. The direct method of standardisation is used for the HPF. To calculate age-standardised rates using the direct method:

$$SR = (\text{SUM } (r_i * P_i)) / \text{SUM } P_i$$

Where:

- SR is the age-standardised rate for the population being studied
- r_i is the age-group specific rate for age group i in the population being studied
- P_i is the population for age group i in the standard population.

Also called age-adjusted rate.

Ambulatory mental health service

A specialised mental health service that provides services to people who are not currently admitted to a mental health or residential service. Services are delivered by health professionals with specialist mental health qualifications or training, as well as community-based crisis assessment and treatment teams, mental health outpatient clinics, and home based treatment services.

Antenatal care

Includes recording medical history, assessment of individual needs, advice and guidance on pregnancy and delivery, screening tests, education on self-care during pregnancy, identification of conditions detrimental to health during pregnancy, first-line management and referral if necessary

Antepartum haemorrhage

An antepartum haemorrhage (APH) is bleeding from the vagina after 20 weeks of pregnancy and before the birth of the baby. The common causes of bleeding include: cervical ectropion (when the cells on the surface of the cervix change in pregnancy, the tissue is more likely to bleed), vaginal infection, placental edge bleed (when the lower-half of the uterus begins to stretch and grow, the edge of the placenta can separate from the wall of the uterus), placenta praevia (when the placenta covers all or part of the cervix) or placental abruption (when the placenta detaches from the uterus). The latter two conditions can lead to death of the foetus and/or mother.

Arrhythmias

A disturbed rhythm of the heart beat — too fast (tachycardia), too slow (bradycardia) or irregular.

At-risk communities (regarding trachoma)

The *National Trachoma Surveillance and Reporting Unit* analysed jurisdictional trachoma screening and management data for 2010 by region, with five regions in the NT, six in SA and four in WA. Jurisdictional authorities designated 243 remote Aboriginal communities in these regions as being at-risk of endemic trachoma in 2010.

Australian Standard Geographical Classification - Remoteness Area (ASGC-RA)

ASGC-RA is a geographic classification system that was developed in 2001 by the ABS as a statistical geography structure to classify data from Census Collection Districts (CDs) into broad geographical categories, called Remoteness Areas (RAs). The RA categories are defined in terms of 'remoteness' - the physical distance of a location from the nearest Urban Centre (based on population size). Remoteness is calculated using the road distance to the nearest Urban Centre (access to goods and services) for five categories:

- RA1 - Major Cities of Australia
- RA2 - Inner Regional Australia
- RA3 - Outer Regional Australia
- RA4 - Remote Australia

- RA5 - Very Remote Australia (see also RRMA categorisation).

Australian 2001 standard population

The 2001 Australian population has been used as the standard population for calculation of directly age-standardised rates.

Avoidable mortality

Refers to deaths from certain conditions that are considered avoidable given timely and effective health care. Avoidable mortality measures premature deaths (for those aged 0-74 years) for specific conditions defined internationally and nationally as potentially avoidable given access to effective health care.

Body Mass Index (BMI)

Used to assess overweight and obesity levels. BMI is calculated as follows: $BMI = \text{weight (kg)} / \text{height (m)}^2$

- Underweight: BMI below 18.5
- Normal weight: BMI from 18.5 to 24.9
- Overweight: BMI from 25.0 to 29.9
- Obese: BMI of 30.0 and over

The BMI cut-off points are derived from mainly European populations and can vary for other groups, including Aboriginal and Torres Strait Islander peoples.

Cataract

Clouding of the lens in the eye that affects vision. The most common type of cataract is associated with ageing. Other causes of cataract include:

- Smoking
- Sunlight exposure
- Diabetes
- Arthritis
- Short-sightedness
- Some blood pressure lowering medications.

Cerebrovascular disease

Disease of the blood vessels, especially the arteries that supply the brain. It is usually caused by hardening of the arteries (atherosclerosis) and can lead to a stroke.

Chlamydia

A sexually transmissible infection (STI) that can affect women and men. Chlamydia is caused by the bacterium *Chlamydia trachomatis*. If left untreated, chlamydia can cause pelvic inflammatory disease in women, which can lead to chronic pain and infertility.

Chronic obstructive pulmonary disease (COPD)

COPD is a serious long-term lung disease that mainly affects older people and is often difficult to distinguish from asthma. It is characterised by chronic obstruction of lung airflow that interferes with normal breathing and is not fully reversible.

Circulatory disease

Any disease of the circulatory system, namely the heart (cardio) or blood vessels (vascular). Includes heart attack, angina, stroke and peripheral vascular disease. Also known as cardiovascular disease.

Closing the Gap

A commitment made by Australian governments in 2008 to improve the lives of Aboriginal and Torres Strait Islander Australians.

The Council of Australian Governments (COAG) agreed to six specific targets and timelines to reduce disadvantage among Indigenous Australians. These targets acknowledge the importance of reducing the gap in health outcomes and improving the social determinants of health. They are:

- To close the life-expectancy gap within a generation
- To halve the gap in mortality rates for Indigenous children under five within a decade
- To ensure access to early childhood education for all Indigenous four years olds in remote communities within five years
- To halve the gap in reading, writing and numeracy achievements for children within a decade
- To halve the gap in Indigenous Year 12 (or equivalent) attainment rates by 2020
- To halve the gap in employment outcomes between Indigenous and non-Indigenous Australians within a decade.

Congenital malformations

Physical or anatomical abnormalities present in a baby at birth. Examples include heart defects, spina bifida, limb defects, cleft lip and palate, and Down syndrome. Congenital malformations can be genetic or caused by environmental factors (such as alcohol), or be of unknown origin.

Coronary heart disease

Coronary heart disease, also known as ischaemic heart disease, is the most common form of heart disease. There are two major clinical forms – heart attack (often known as acute myocardial infarction) and angina.

Crude rate

An estimate of the proportion of a population that experiences an outcome during a specified period. It is calculated by dividing the number of people with an outcome in a specified period by the defined population during that period.

Crude death rate

An estimate of the proportion of a population that dies in a specified period. It is calculated by dividing the number of deaths in a specified period by the defined population during that period.

Decayed, missing, or filled teeth scores

Oral health outcomes are usually measured in terms of the number of decayed, missing or filled baby or deciduous (dmft) and adult or permanent (DMFT) teeth. The dmft score measures decay experience in deciduous teeth, and the DMFT score measures decay experience in permanent teeth.

Diabetes mellitus

A chronic condition marked by high levels of glucose in the blood. This condition is caused by the inability to produce insulin (a hormone produced by the pancreas to control blood glucose levels), or the insulin produced becomes less effective, or both. The three main types are Type 1, Type 2 and gestational diabetes.

- Type 1 diabetes, an auto-immune condition, is marked by the inability to produce any insulin and those affected need insulin replacement for survival. Type 1 diabetes is rare among Indigenous Australians.
- Type 2 diabetes (non-insulin dependent) is the most common form of diabetes. Those with Type 2 diabetes produce insulin but may not produce enough or cannot use it effectively. There is a high prevalence of Type 2 diabetes among Indigenous Australians, who tend to develop it earlier than other Australians and die from the disease at younger ages.
- Gestational diabetes occurs during pregnancy and usually disappears after birth.

Diabetic retinopathy

Diabetic retinopathy occurs when the tiny blood vessels inside the retina at the back of the eye are damaged as a result of diabetes. This can seriously affect vision and in some cases may even cause blindness.

Dialysis

A medical procedure for the filtering and removal of waste products from the bloodstream. Dialysis is used to remove urea, uric acid and creatinine (a chemical waste molecule that is generated from muscle metabolism) in cases of chronic end-stage renal disease. Two main types are:

- haemodialysis – blood flows out of the body into a machine that filters out the waste products and returns the cleansed blood back into the body.
- peritoneal dialysis – fluid is injected into the peritoneal cavity and wastes are filtered through the peritoneum, the thin membrane that surrounds the abdominal organs.

Ectopic pregnancy

Ectopic pregnancy is a pregnancy that develops outside the uterus, usually in one of the fallopian tubes. In almost all cases, the embryo dies as the developing placenta can't access a rich blood supply and the fallopian tube is not large enough to support the growing embryo. Implantation can also occur in the cervix, ovaries, and abdomen, but this is rare.

End-stage renal disease

Chronic irreversible renal failure. The most severe form of chronic kidney disease where kidney function deteriorates so much that dialysis or kidney transplantation is required to survive.

Equivalent gross household income

In measuring and comparing income, equivalent gross household income adjusts for various factors, such as the number of people living in a household, particularly children and other dependants.

Foetal alcohol spectrum disorders

Conditions that may result from foetal exposure to alcohol during pregnancy. Disorders include foetal alcohol syndrome, alcohol-related neurodevelopmental disorder and alcohol-related birth defects. These disorders include antenatal and postnatal growth retardation, specific facial dysmorphism and functional abnormalities of the central nervous system.

Glaucoma

Glaucoma is a common form of eye disease that often runs in families. It affects the optic nerve connecting the eye to the

brain. Glaucoma is usually caused by high intraocular pressure as a result of a blockage in the eye's drainage system, which can lead to irreversible vision loss and blindness. Early detection and treatment can prevent vision loss in most cases.

Gonorrhoea

Gonorrhoea is a common sexually transmissible infection that affects men and women. Gonorrhoea is caused by bacteria known as *Neisseria gonorrhoea*. It usually affects the genital area, although the throat or anus may also be involved. It can cause pelvic inflammatory disease and infertility in women. Gonorrhoea can be treated with antibiotics.

GP Super Clinics

In 2009, the Australian Government committed to improve the quality and accessibility of primary health care services by supporting the establishment of GP Super Clinics. GP Super Clinics are a key element in building a stronger national primary health care system with a greater focus on health promotion and illness prevention as well as better coordination between GPs and allied health services, community health and other state and territory funded services (for more information, see www.health.gov.au/gpsuperclinics).

Haemodialysis

A process used to treat kidney failure. A machine is connected to the patient's bloodstream and then filters the blood externally to the body, removing water, excess substances and waste from the blood as well as regulating the levels of circulating chemicals. In doing this the machine takes on the role normally played by the kidneys (see also dialysis).

Health and Hospitals Fund 2011 Regional Priority Round

The Health and Hospitals Fund is a funding pool which was established on 1 January 2009 by the Australian Government as part of its broader nation-building infrastructure program. Its objectives, while not replacing state and territory efforts, are to invest in major health infrastructure programs that will make significant progress towards achieving the Commonwealth's health reform targets; and to make strategic investments in the health system that will underpin major improvements in efficiency, access or outcomes of health care.

Four funding rounds of the Health and Hospitals Fund have been conducted. The fourth round was the 2011 Regional Priority Round where 76 projects were allocated funding through the 2012–13 Budget.

High blood triglycerides

Triglycerides make up about 95 per cent of all dietary fats. In many cases, regular overeating leading to obesity causes a person to have raised triglycerides, which are linked with an increased risk of health conditions including diabetes and heart disease. High triglyceride levels in the blood are also known as hypertriglyceridemia

Hospital separation or hospitalisation

See Separation.

Hypertension/hypertensive disease

High blood pressure, defined as a repeatedly elevated blood pressure exceeding 140 over 90 mmHg – a systolic pressure above 140 with a diastolic pressure above 90.

Illicit drugs

Illicit drugs include illegal drugs (amphetamine, cocaine, marijuana, heroin, hallucinogens), pharmaceuticals when used for non-medical purposes (pain-killers, sleeping pills) and other substances used inappropriately (inhalants such as petrol or glue).

Incidence

The rate at which new events or cases occur during a certain period of time.

Indigenous deaths identification rate

Almost all deaths in Australia are registered. However, the Indigenous status of the deceased may not be recorded correctly or reported. This means that the identification of Indigenous Australians in deaths data is incomplete. The number of deaths registered as Indigenous may therefore be an underestimate of deaths occurring among the Aboriginal and Torres Strait Islander population (ABS 1997). *As a result, the observed differences between Indigenous and non-Indigenous mortality are underestimates of the true differences.*

Infant death

The death of a child before its first birthday.

Invasive pneumococcal disease

A more serious form of pneumococcal disease, an infection caused by the *Streptococcus pneumoniae* bacterium. It occurs inside a major organ or in the blood and can result in pneumonia, sepsis, middle-ear infection (otitis media), or bacterial meningitis.

Ischaemic heart disease

Ischaemic heart disease, or myocardial ischaemia, is a disease characterised by reduced blood supply (ischaemia) of the heart muscle, usually due to coronary artery disease. See also coronary heart disease.

Kessler Psychological Distress Scale (K10)

A measure of psychological distress in people aged 16 years and over. K10 is a 10-item questionnaire that measures the level of psychological distress in the most recent 4-week period. At both the population and individual level, the K10 measure is a brief and accurate screening scale for psychological distress.

Life expectancy

The average number of years of life remaining to a person at a particular age. Life expectancy at birth is an estimate of the average length of time (in years) a person can expect to live, assuming that the currently prevailing rates of death for each age group will remain the same for the lifetime of that person.

Live birth

The birth of a child who after delivery, breathes or shows any other evidence of life, such as a heartbeat. For calculation of perinatal death rates only infants weighing at least 400 grams at birth or, where birth weight is unknown, of at least 20 weeks gestation are included.

Low birthweight babies

Infants born weighing less than 2500g.

Mastoid process

The mastoid process – a bony protrusion located behind the ear in the lower part of the skulls – contains *mastoid cells* (small air-filled cavities) that communicate with the middle ear. Infection of the mastoid process can lead to hearing loss and other complications.

Medicare Locals

Primary health care organisations established as part of the National Health Reform to coordinate primary health care delivery and address local health needs and service gaps. Their purpose is to drive improvements in primary health care and ensure that services are better tailored to meet the needs of local communities.

Meningococcal disease

Meningococcal disease describes infections caused by the bacterium *Neisseria meningitidis* (meningococci bacteria). These bacteria can cause meningitis (an inflammatory response to an infection of the membranes covering the brain and spinal cord) and sepsis (an infection in the bloodstream). Meningitis can lead to deafness, epilepsy, cognitive defects and death. Sepsis can lead to organ dysfunction or failure and death.

Multivariate analysis

A set of statistical techniques used to analyse data with more than one variable.

Myocardial infarction

Myocardial infarction or acute myocardial infarction, commonly used to refer to a heart attack, but more correctly refers only to those heart attacks that have caused some death of heart muscle.

Myopia

Myopia or near-sightedness is a type of refractive error of the eye, in which the eye does not focus light correctly. This makes distant objects appear blurred.

Myringotomy procedures

Incision in eardrum to relieve pressure caused by excessive build-up of fluid.

National Indigenous Reform Agreement (NIRA)

The NIRA is an agreement between the Commonwealth and state and territory Governments which provides the framework for Closing the Gap in Indigenous disadvantage. It sets out the objectives, outcomes, outputs, performance indicators and performance benchmarks agreed by COAG.

Neonatal death

Death within 28 days of birth of any child who, after delivery, breathed or showed any other evidence of life, such as a heartbeat.

Neoplasm

An abnormal growth of tissue. Can be 'benign' (not a cancer) or 'malignant' (a cancer). Same as a tumour.

Nephritis

Nephritis is an inflammation of the kidneys. It is often caused by toxins, infections, and auto-immune diseases.

Nephrosis

Nephrosis is a condition of the kidneys. It is usually caused by diseases that damage the kidneys' filtering system, allowing a protein called albumin to be filtered out into the urine (albuminuria). Symptoms include protein in the urine, high triglyceride levels, high cholesterol levels, low blood protein levels, and swelling.

Non-ambulatory care

Care provided to a patient, whose condition requires admission to hospital or other inpatient facility.

Notification

In this report, notifications are cases of communicable diseases reported by general practitioners, hospitals and pathology laboratories to the relevant authorities.

Otitis media

Middle ear infection. In severe or untreated cases, otitis media can lead to hearing loss.

Overweight and obesity

Overweight and obesity are both labels for ranges of weight that are greater than what is generally considered healthy for a given height. The terms also identify ranges of weight that have been shown to increase the likelihood of certain diseases and other health problems. See also Body Mass Index (BMI).

Patient assisted travel schemes (PATS)

PATS are funded by states and territories to assist residents to access a range of essential specialist medical/surgical services where services are not available locally, from within the state or territory or from a visiting service. PATS provide assistance with travel, and if applicable, accommodation costs to residents who are required to travel more than 100–200kms (dependent on state/territory) to the nearest specialist medical treatment.

Perinatal death

A foetal death (death of a foetus at 20 or more weeks of gestation, or at least 400 grams birthweight) or neonatal death within 28 days of birth. See also live birth and neonatal death.

Post-Enumeration Survey (PES)

The PES aims to measure the net census undercount and is conducted three weeks after census night. It collects information about where people were on census night and their characteristics. The PES provides information on the population and dwelling characteristics of the net undercount in the Census of Population and Housing.

Potentially avoidable hospital admissions

See selected potentially avoidable hospital admissions.

Preterm labour

Preterm labour is defined as birth before 37 completed weeks of gestation.

Prevalence

The rate at which existing events or cases are found at a given point or in a period of time.

Primary health care

Primary health care usually is the first point of contact a person encounters with the health care system. In

mainstream health throughout Australia primary health care is normally provided by general practitioners, community health nurses, pharmacists, environmental health officers etc., although the term usually means medical care. Primary health care may be provided through an ACCHS or satellite clinic (AH&MRC 1999).

Refractive error

A refractive error, or refraction error, is an error in the focusing of light by the eye and a frequent reason for blurred vision. It may lead to visual impairment.

Respiratory disease

Respiratory disease includes conditions affecting the respiratory system – which includes the lungs and airways – such as asthma, COPD and pneumonia (see also COPD).

Rheumatic heart disease (RHD)

RHD may develop after illness with rheumatic fever, usually during childhood. Rheumatic fever can cause damage to various structures of the heart including the valves, lining or muscle and this damage is known as RHD (see also acute rheumatic fever).

Rheumatoid arthritis

Rheumatoid arthritis is an autoimmune disease. In rheumatoid arthritis, the immune system attacks the body's own tissues, specifically the synovium, a thin membrane that lines the joints. As a result of the attack, fluid builds up in the joints causing pain in the joints and inflammation throughout the body.

Rotavirus

Globally, rotavirus is the most common cause of severe gastroenteritis in early childhood. Almost all children in Australia have been infected by the time they reach five years of age.

Secondary health care

Secondary health care refers to particular services provided by hospitals, such as acute care, as well as services provided by specialists.

Selected potentially avoidable hospital admissions

Selected potentially preventable hospital admissions refers to admissions to hospital that are considered sensitive to the effectiveness, timeliness and adequacy of non-hospital care. This includes conditions for which hospitalisation could potentially be avoided through effective preventive measures or early diagnosis and treatment (Page et al. 2007). Selected potentially preventable conditions are usually grouped into three categories:

- vaccine-preventable conditions—including invasive pneumococcal disease, influenza, tetanus, measles, mumps, rubella, pertussis, and polio;
- potentially preventable acute conditions—including dehydration/gastroenteritis, kidney infection, perforated ulcer, cellulitis, pelvic inflammatory disease, dental conditions, and ear, nose and throat infections; and
- potentially preventable chronic conditions—including diabetes, asthma, angina, hypertension, congestive heart failure, and chronic obstructive pulmonary disease.

Separation

The formal process whereby an in-patient leaves a hospital or other healthcare facility after completing an episode of

care. For example, a discharge to home, discharge to another hospital, nursing home, other care facility, or death. The hospital separation rate is the average number of hospital separations per 1000 population.

Statistically significant

An indication from a statistical test that an observed difference or association may be significant or 'real' because it is unlikely to be due just to chance. A statistical result is usually said to be 'significant' if it would occur by chance less than once in 20 times.

Substantiated child protection notifications

A child protection notification is substantiated where it is concluded that the child has been, is being, or is likely to be, abused, neglected or otherwise harmed.

Sudden infant death syndrome (SIDS)

The sudden and unexpected death of a baby with no known illness, typically affecting sleeping infants between the ages of 2 weeks to 6 months.

Syphilis

Syphilis is a sexually transmissible infection caused by a bacterium called *Treponema pallidum*. It can affect both men and women. Syphilis is transmitted through close skin-to-skin contact and is highly contagious when the syphilis sore (chancre) or rash is present. If untreated, syphilis can damage the internal organs, such as heart and brain and can result in death.

Tertiary health care

Tertiary health care refers to highly specialised or complex services provided by specialists or allied health professionals in a hospital or primary health care setting, such as cancer treatment and complex surgery.

Trachoma

Trachoma is an eye infection that can result in scarring, in-turned eyelashes and blindness. Australia is the only developed country where trachoma is still endemic and it is found almost exclusively in remote and very remote Aboriginal and Torres Strait Islander populations. Trachoma is associated with living in an arid environment (including the impact of dust); lack of access to clean water for hand and face washing; overcrowding and low socioeconomic status (Taylor 2008).

Trichiasis

Trichiasis involves the misdirection of eyelashes toward the eyeball, causing irritation and, if untreated, corneal scarring and vision loss. The misdirected lashes may be diffuse across the entire lid or in a small segmental distribution.

Tympanoplasty

A surgical intervention to reconstruct a perforated eardrum.

Unemployment rate

The number of unemployed people expressed as a proportion of the labour force (i.e., employed and unemployed).

Vocational Education and Training (VET) load pass rate

The VET load pass rate is a ratio of hours of supervision in assessable modules or units that students have completed to the hours of supervision in assessable modules or units that students have either completed, failed or withdrawn from

Technical Appendix

This appendix provides more detailed information on data sources, caveats and statistical methods.

Aboriginal and Torres Strait Islander peoples and non-Indigenous population descriptors

'Aboriginal and Torres Strait Islander peoples' is the preferred descriptor used throughout the report. 'People' is an acceptable alternative to 'peoples' depending on context, but in general, the collective term 'peoples' is used. The 'Indigenous Australians' descriptor is inclusive of all Aboriginal and Torres Strait Islander groups, and is used where it is impractical to use 'Aboriginal and Torres Strait Islander peoples' (e.g., in tables, charts, figures, and where the text requires the term to be repeated a number of times).

The 'non-Indigenous' descriptor is used where the data collection allows for the separate identification of people who are neither Aboriginal nor Torres Strait Islander. The label 'other Australians' is used to refer to the combined data for non-Indigenous people, and those for whom Indigenous status was not stated.

Age-standardisation

Age-standardisation controls for the effect of age, to allow comparisons of summary rates between two populations that have different age structures. Age-standardisation is used throughout this report when comparing Aboriginal and Torres Strait Islander peoples with non-Indigenous Australians for a range of variables where age is a factor e.g., health-related measures. The main disadvantages with age-standardisation are that the resulting rates are not the real or 'reported' rates for the population. Age-standardised rates are therefore only meaningful as a means of comparison. Lastly, for age-standardisation to be effective, the relationship between age and the variable needs to be approximately consistent between the two populations.

Age-standardised rates are generally derived for all age groups. However, in some cases in the Health Performance Framework report, the age-standardised rates were calculated for a particular age range in order to support study of a specific population group (for instance, the age-standardised data for some mortality indicators were derived for the age range 0–74).

Main Sources

The data in this report are mainly drawn from national data collections and surveys. These include the following:

The National Aboriginal and Torres Strait Islander Social Survey (NATSISS)

The 2008 NATSISS was conducted between August 2008 and April 2009. Information was collected by personal interview from approximately 13,300 Aboriginal and Torres Strait Islander people; 5,500 aged 0–14 years and 7,800 aged 15 years and over in both non-remote and remote parts of Australia. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander peoples. The NATSISS uses the standard Indigenous status question to identify Aboriginal and Torres Strait Islander households from which the sampling process is then

undertaken. Information recorded in this survey is 'as reported' by respondents, or from child proxies (usually parents), on behalf of selected children aged 0–14 years. Data may differ from those which might be obtained from other sources or by using other collection methodologies. Responses may also be affected by imperfect recall or individual interpretation of survey questions. Selected non-Indigenous comparisons are available from the 2007–08 National Health Survey and a range of other surveys. Further details can be obtained from ABS cat. no. 4714.0 ABS 2009. Time-series comparisons for some indicators are available from the 2002 NATSISS and the 1994 National Aboriginal and Torres Strait Islander Survey (NATSIS).

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The 2004–05 NATSIHS included a sample of 10,439 Aboriginal and Torres Strait Islander people. This was considerably larger than the supplementary Aboriginal and Torres Strait Islander peoples samples in the 1995 and 2001 National Health Surveys (NHS) (3,681 in 2001). The NATSIHS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander peoples and thus overcome the problem inherent in most national surveys (i.e., small and unrepresentative samples). Information recorded in this survey is 'as reported' by respondents. Responses may be affected by imperfect recall or individual interpretation of survey questions. Any data that are self-reported are also likely to underestimate circumstances about which the respondent is unaware, or may be reluctant to report (e.g., certain health conditions, weight, drug use). Computer assisted interviewing (CAI) was used in non-remote areas and paper forms were used in remote areas. Selected non-Indigenous comparisons are available from the 2004–05 National Health Survey (NHS). The NHS was conducted in major cities, regional and remote areas, but very remote areas were excluded from the sample. Further information on NATSIHS data quality issues can be found in the national publication ABS cat. no. 4715.0 (ABS 2006b).

Census

The Census uses the standard Indigenous status question and it is asked for each household member.

There are 4 principal sources of error in Census data: respondent error, processing error, partial response and undercount. Quality management of the Census program aims to reduce error as much as possible, and to provide a measure of the remaining error to data users, to allow them to use the data in an informed way.

The Census form may be completed by one household member on behalf of others. Incorrect answers can be introduced to the Census form if the respondent does not understand the question or does not know the correct information about other household members. Many of these errors remain in the final data.

The processing of information from Census forms is now mostly automated. Quality assurance procedures are used during Census processing to ensure processing errors are

minimised. Sample checking is undertaken during coding operations, and corrections are made where necessary.

When completing their Census form, some people do not answer all the questions which apply to them. In these instances, a 'not stated' code is allocated during processing, with the exception of non-response to age, sex, marital status and place of usual residence. These variables are needed for population estimates, so they are imputed using other information on the Census form, as well as information from the previous Census.

Other Census data issues relate to the accuracy of the Census count itself, e.g., whether people are counted more than once, or not at all.

The significant volatility in Aboriginal and Torres Strait Islander Census counts and the variable quality of data on births, deaths and migration of Aboriginal and Torres Strait Islander peoples do not support the use of the standard approach to population estimation. Due to the inherent uncertainties in estimating the Aboriginal and Torres Strait Islander population, data which use these estimates should be interpreted with caution (e.g., life expectancy estimates, mortality rates). Given these uncertainties, changes in health outcomes such as mortality rates are difficult to assess over the long-term.

Following each Census, assumptions are made about past levels of mortality to produce back cast population estimates.

A comparison of mortality rates using 2001 Census-based estimates and 2006 Census-based estimates produce different results. A number of investigations were undertaken to seek to understand the results and recommend options for future reporting on trends. This analysis found significant problems with the 2001 based estimates, particularly with the older age groups. In this report, trend analysis is based on 2006 Census back cast estimates and projections (Series B).

In the 2011 Census, the ABS implemented improvements to the 2011 Census Indigenous enumeration procedures and enhanced the Census Post Enumeration Survey.

National Perinatal Data Collection

Birth notification forms are completed for all births of 20 weeks or more gestation, or a birthweight of 400 grams or more. The Perinatal National Minimum Data Set includes all births in Australia in hospitals, birth centres and the community. State-level data are based on place of mother's usual residence rather than place where birth occurred. Complicated pregnancies from surrounding NSW may be referred to the ACT and hence there may be poorer outcomes attributed to ACT births. Because of this and the small numbers involved, care should be taken in interpreting data from the ACT (Laws et al. 2004). A standard data item for Indigenous status is specified in the Perinatal National Minimum Data Set. However, at this stage not all states and territories use this standard wording for the Indigenous status question on their forms. This impacts on the quality and comparability of the data collected (ABS & AIHW 2005). Data on Indigenous status are not reported for Tasmania prior to 2005, as the not stated category for Indigenous status was included with the non-Indigenous category. All jurisdictions collect Indigenous status of the mother for each baby. A data

item on Indigenous status of the baby will be added to the Perinatal National Minimum Data Set from July 2012.

Studies in Australia linking perinatal data with birth registration data and hospital admissions show that Aboriginal and Torres Strait Islander data are under-reported (Taylor et al. 2000; Comino et al. 2007; Kennedy et al. 2009). In 2007, the AIHW completed an assessment of the quality of Indigenous status information in perinatal data in each state and territory. This involved a survey which was sent to the midwifery managers across Australia to determine how many hospitals in each jurisdiction obtain Indigenous status information of mothers giving birth from admission records and how many collect this information independently. The assessment also involved analysis of the variability in the number and proportion of mothers recorded as Aboriginal and/or Torres Strait Islander in the perinatal data collection over time and across jurisdictions for the period 1991–2004. The outcomes of this assessment showed that Indigenous status data from NSW, Victoria, Queensland, WA, SA and the NT are suitable for trends analysis and national reporting. Perinatal data from Tasmania, although improving, were deemed to be of insufficient quality. Although the most recent data in the ACT were of publishable quality, the data were not yet of sufficient stability to support trends analysis (AIHW: Leeds KL et al. 2007).

All jurisdictions are working towards improving the quality of Indigenous status in perinatal data collections. States and territories have agreed to improve Aboriginal and Torres Strait Islander data collection procedures in key data collections including implementation of the *Best Practice Guidelines for the collection of Indigenous status in health data sets*.

AIHW is working with the states and territories in the development of an enhanced Perinatal National Minimum Data Set to include nationally consistent data items on antenatal care, smoking and alcohol use during pregnancy, and Indigenous status of the baby. Nationally consistent data items on smoking during pregnancy, gestational age at first antenatal visit, and Indigenous status of the baby have been added to the Perinatal NMDS (from 1 July 2009, 1 July 2010, and 1 July 2012 respectively). A data item on number of antenatal visits will be included in the Perinatal NMDS from 1 July 2013. Work is underway to progress data elements related to alcohol use in pregnancy

National Hospital Morbidity Data

This is a data collection including all completed admitted patient episodes in public and private hospitals across Australia. The number and pattern of hospitalisations can be affected by differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery. Some jurisdictions have slightly different approaches to the collection and storage of the standard Indigenous status question and categories in their hospital collections. The incompleteness of Indigenous identification means the number of hospital separations recorded as Aboriginal and Torres Strait Islander is an underestimate of hospitalisations involving Aboriginal and Torres Strait Islander people. For several years, Queensland, SA, WA and the NT reported that Indigenous status in their hospital separations data was of acceptable quality (AIHW 2007). Between 2006 and 2008, the AIHW completed an

assessment of the level of Indigenous under-identification in selected public hospitals in all states and territories. Results from this assessment indicate that NSW, Victoria, Queensland, WA, SA and the NT have adequate Indigenous identification (20% or less overall under-identification of Aboriginal and Torres Strait Islander patients) in their hospital separations data. It has therefore been recommended that reporting of data on hospital separations by Aboriginal and Torres Strait Islander peoples be limited to aggregated information from NSW, Victoria, Queensland, WA, SA and the NT. Tasmania and ACT data are presented at the state/territory level and should be used with caution, but they are not aggregated with the other 6 jurisdictions.

Interpretation of results should take into account the relative quality of the data from the jurisdictions.

The proportion of the Aboriginal and Torres Strait Islander population covered by the 6 jurisdictions is 96% (AIHW 2010g). Hospitalisation data for these 6 jurisdictions should not be assumed to represent the hospitalisation experience in the ACT and Tasmania.

From the 2007 AIHW study it was possible to produce correction factors for the level of Indigenous under-identification in hospital data at the national level. In 2011–12, the AIHW commenced another study to re-assess the level of under-identification in public hospitals data. All states and territories have participated in the study to assess improvements in data quality. A report on the findings is expected to be published in late 2012, which will include new correction factors for the level of Indigenous under-identification in hospital separations data at the national, state/territory and remoteness levels.

Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from WA where records with an unknown status are recorded as non-Indigenous.

National Mortality Database

The count of deaths for Aboriginal and Torres Strait Islander peoples can be influenced by the accuracy of identification of Aboriginal and Torres Strait Islander deaths, late registration of deaths, as a result of coronial inquiry, and changes to death forms and/or processing systems. Due to the small size of the Aboriginal and Torres Strait Islander population these factors can significantly impact on trends over time and between jurisdictions.

All jurisdictions comply with the standard wording for the Indigenous status question and categories for their death registration forms. However, Victoria, SA, the NT and the ACT all have slightly different wording to the national standard for the instruction on those with both Aboriginal and Torres Strait Islander origin (ABS & AIHW 2005).

Almost all deaths in Australia are registered. However, the Indigenous status of the deceased is not always recorded/reported and/or recorded correctly. The incompleteness of Indigenous identification means the number of deaths registered as Aboriginal and Torres Strait Islander is an underestimate of deaths occurring in the Aboriginal and Torres Strait Islander population (ABS 1997). As a result, the observed differences between Aboriginal and

Torres Strait Islander and non-Indigenous mortality are underestimates of the true differences.

The number of deaths registered in Qld in 2010 was exceptionally high due to the late registrations of deaths which occurred prior to 2007, most of which were for Aboriginal and Torres Strait Islander deaths. For reporting in the 2012 HPF, the Qld 2010 deaths were adjusted in order to minimise the impact of late registration of deaths on mortality indicators. All deaths that were registered in Qld in 2010 that occurred prior to 2007 were excluded. This is consistent with reporting by the ABS in their causes of death publication.

Western Australian Aboriginal and Torres Strait Islander deaths for 2007, 2008 and 2009, were initially over-reported. The ABS and relevant stakeholders including the AIHW and WA authorities have investigated the issues and establish solutions to rectify the problem. Updated WA mortality data for these years (including aggregates of years and single year time series) have been included in the 2012 HPF.

While the identification of Aboriginal and Torres Strait Islander peoples in deaths data is incomplete in all state and territory registration systems, 5 jurisdictions (NSW, Queensland, WA, SA and the NT) have been assessed by the ABS and the AIHW as having adequate identification. Longer term mortality trend data are limited to 3 jurisdictions (WA, SA and the NT) with adequate identification of Aboriginal and Torres Strait Islander deaths in their recording systems from 1991 onwards. The quality of the time-series data is also influenced by the late inclusion of a not stated category for Indigenous status in 1998. Prior to this time, the not stated responses were probably included with the non-Indigenous. The ABS calculated the identification rate of Aboriginal and Torres Strait Islander deaths for the period 2006–07 through data linkage between the Census and death registration records to examine differences in reporting of Indigenous status across the two datasets (ABS 2009b).

Aboriginal and Torres Strait Islander deaths identification rate, state/territory and Australia, 2006–2007

State/territory	Identification Rate
NSW	0.87
Qld	0.94
WA	1.11
NT	1.09
Vic, SA, Tas, ACT, Overseas territories	0.65
Australia	0.92

Source: ABS 2009

As part of the data development work funded under the NIRA, the ABS will link Census records with death registration records to assess the level of identification again in relation to the 2011 Census.

The AIHW is also undertaking a project to develop an Enhanced Mortality Database by linking death registration records to several additional data sources that contain information on Aboriginal and Torres Strait Islander deaths (hospital, perinatal and residential aged-care data). The enhanced data are expected to enable more accurate estimates of Aboriginal and Torres Strait Islander mortality,

including life expectancy, to be made. Results from phase 1 of the project, which linked data for the period 2001 to 2006, produced national estimates of Aboriginal and Torres Strait Islander life expectancy at birth of 66.6 years for males and 72.7 for females, which was similar to the estimates produced by the ABS (AIHW 2012c).

States and territories have agreed to the implementation of the Best Practice Guidelines for the collection of Indigenous status in health data sets.

BEACH

The Bettering the Evaluation And Care of Health (BEACH) survey collects information about consultations with GPs, including GP and patient characteristics, patient reasons for the visit, problems managed and treatments provided. The survey has been conducted annually since April 1998. Information is collected from a random sample of approximately 1,000 GPs from across Australia each year. Each GP provides details of 100 consecutive consultations. Although the questionnaire contains an Indigenous identifier, it is unknown whether all GPs ask their patients this question. In a sub-study, Supplementary Analysis of Nominated Data of approximately 9,000 patients, it was found that if the question on Indigenous status was asked within the context of a series of questions about origin and cultural background, 1.3% identified as Aboriginal and Torres Strait Islander. This is twice the rate routinely recorded in BEACH, indicating that BEACH may under-estimate the number of Aboriginal and Torres Strait Islander consultations.

Under the NIRA, governments have agreed to the implementation of the *Best Practice Guidelines for the collection of Indigenous status in health data collection*, which include recommended strategies for local service providers such as GPs and practice nurses to improve Indigenous identification data.

The Commonwealth's contribution to the *National Partnership Agreement on Closing the Gap in Indigenous Health Outcomes* is the Indigenous Chronic Disease Package, which includes a number of measures that encourages GPs to identify their Aboriginal and Torres Strait Islander clients. General practices and Aboriginal and Torres Strait Islander health services that meet accreditation requirements are eligible for financial incentives when they sign-on to the Practice Incentives Program – Indigenous Health Incentive (IHI), obtain consent from their Aboriginal and Torres Strait Islander clients to be registered for chronic disease management through the IHI, and provide a targeted level of care for each registered patient. Participation in the PIP IHI also provides eligibility for other initiatives under the Indigenous Chronic Disease Package such as the Care Coordination and Supplementary Services Program.

Community Housing and Infrastructure Needs Survey (CHINS)

The CHINS collects data about discrete Aboriginal and Torres Strait Islander communities. In 2006, a total of 1,187 communities were surveyed, with a combined usual population of 92,960 Aboriginal and Torres Strait Islander peoples or 18% of the total estimated Aboriginal and Torres Strait Islander population. The survey was also conducted in 2001 and 1999. The data are collected from key personnel in Aboriginal and Torres Strait Islander communities and housing

organisations knowledgeable about housing and infrastructure issues. This collection is not a population survey.

Data development

There are well documented problems with the quality and availability of data about Aboriginal and Torres Strait Islander health issues. These limitations include the quality of data on all key health measures including mortality and morbidity, uncertainty about the size and composition of the Aboriginal and Torres Strait Islander population and a paucity of available data on other health-related issues such as access to health services.

The following information has been provided by the jurisdictions to provide information on action being undertaken in relation to data development.

Australian Government

The Australian Government is committed to improving the availability of good quality Aboriginal and Torres Strait Islander health data. Through the National Advisory Group on Aboriginal and Torres Strait Islander Health Information Development (NAGATSIHID), the Australian Government is actively engaged with key stakeholders, state and territory Governments, the ABS and the AIHW to improve the availability of quality Aboriginal and Torres Strait Islander health data. Further, the Health Performance Framework has established priorities for data development linked to policy objectives.

In July 2009, COAG committed to a range of activities to improve the quality of Aboriginal and Torres Strait Islander data, including a Australian Government commitment of \$46.4 million over four years to June 2013 under the NIRA (COAG 2008b). This work covers the key datasets required for NIRA Indigenous reporting, e.g., mortality, morbidity, perinatal data and population estimates. Jurisdictions have committed to undertaking the work outlined under Schedule F to the NIRA, in liaison with the AIHW and the ABS.

Data development projects already completed include:

ABS improvements to Census Indigenous enumeration procedures and expansion of the Census Post Enumeration Survey.

The report on *Best Practice Guidelines for the Collection of Indigenous Status* in Health Data Collections was published by the AIHW on 8 April 2010.

The AIHW's National Indigenous Data Improvement Support Centre (NIDISC) has been established to support jurisdictions and service providers to implement the guidelines.

The ABS has developed an ongoing 6-yearly Indigenous health survey program (with additional funding from the Department of Health and Ageing). They have also funded an ongoing 6-yearly Indigenous social survey program.

Since the previous report, the AIHW has finalised reports on the assessment of the quality of Indigenous identification in labour force data collections, the National Cancer Registry, and the National Diabetes Register.

AIHW has redeveloped a web portal on Indigenous identification in the community services, which provides

information and resources related to improving Indigenous identification in health, community services and housing data sets.

Ongoing data development projects include:

ABS and AIHW work in partnership with jurisdictions to 'lead analysis of the level of Indigenous identification in key datasets, including a baseline report and ongoing five-yearly studies to monitor identification over time. States and territories have agreed to adopt the standard ABS Indigenous status question and recording categories on data collection and information systems for key data sets.

States and territories have agreed to improve Aboriginal and Torres Strait Islander data collection procedures in key data collections including implementation of the Best Practice Guidelines.

The AIHW is responsible for undertaking periodic evaluations of the implementation of the Guidelines from December 2012. In Phase 1 of the Guidelines evaluation and support project in 2011–12, the AIHW has focused on providing national support to assist in the implementation process, providing support in selected sectors and the collection of baseline information for the evaluation.

States and territories have agreed to develop and implement a program to raise the Aboriginal and Torres Strait Islander community's awareness about the importance of identifying as Indigenous.

ABS will link 2011 Census records with death registration records to assess the level of Indigenous identification.

The AIHW and ABS in partnership with the jurisdictions will lead the development of national best practice guidelines for data linkage and an examination of current and planned data linkage work relevant to Indigenous identification.

- The National Best Practice Guidelines for Data Linkage Activities Relating to Aboriginal and Torres Strait Islander People were published jointly by the AIHW and ABS in July 2012 (AIHW & ABS 2012).

AIHW will work with the states and territories in the development of an enhanced Perinatal National Minimum Data Set.

- Nationally consistent data items on smoking during pregnancy were included in the Perinatal NMDS from 1 July 2010.
- A data item for the Indigenous status of the baby was added to the Perinatal NMDS from 1 July 2012.
- A data item on gestational age at first antenatal visit was added to the Perinatal NMDS from 1 July 2010 and a data item on number of antenatal visits will be included in the Perinatal NMDS from 1 July 2013.
- Work is still underway to progress data elements related to alcohol use in pregnancy.

AIHW will develop a business case for the implementation of a nationally consistent pathology data collection, including Indigenous status.

- A draft of the Business Case for the inclusion of Indigenous status on pathology request forms has been completed by the AIHW. As part of this work, the AIHW has investigated the capture of Indigenous status in relevant e-health

initiatives, in particular the Personally Controlled Electronic Health Record (PCEHR) and the separate E-pathology program.

The Commonwealth and the AIHW are working with the states and territories to develop a national Key Performance Indicator (KPI) framework for Aboriginal and Torres Strait Islander primary health care services. A group of 11 national KPIs (nKPIs) were approved for collection by AHMAC early in 2011, and a further eight early in 2012. Another five nKPIs are scheduled for consideration by early 2012. The new nKPIs will replace the *Healthy for Life* program Essential Indicators and cover maternal and child health and chronic disease management. The AIHW is leading the development and refinement of the indicators, data standards and analyses and reporting back to services.

The nKPI data collection will be implemented in three stages, with rollout in 2012 and 2013. Commonwealth-funded Aboriginal primary health care services that participate in the Healthy for Life program began reporting on the first eleven nKPIs in July 2012. The Healthy for Life program essential indicators have been replaced by the new nKPIs. All OATSIH-funded services will report on the first 19 indicators in December 2012. From 2013–14, it is anticipated that all Commonwealth and state/territory funded services will report on the full set of 24 indicators.

The ABS continues to work on the Indigenous Administrative Data Project. This project aims to improve the level and quality of Indigenous identification in key administrative data sets held and managed by Australian governments. In this capacity, and complementing the COAG-funded activities the ABS has been conducting various engagement and education activities; liaising with government departments about best practice in Indigenous data collection, and conducting data linkage programs to assess and improve Indigenous identification status.

The ABS continues to utilise an Indigenous Community Engagement Strategy to improve the collection and dissemination of statistics, in partnership with Aboriginal and Torres Strait Islander communities. Through the use of Indigenous Engagement Managers in ABS offices across Australia, the ABS is building relationships with communities to improve the quality and relevance of Aboriginal and Torres Strait Islander statistics.

More information on ABS key directions in Aboriginal and Torres Strait Islander statistics can be obtained from ABS cat. no. 4700.0 ABS 2007.

The AIHW, along with the Australian Institute of Family Studies, manages the Closing the Gap Clearinghouse, which collates online source research and evaluation evidence on what works to overcome Aboriginal and Torres Strait Islander disadvantage. The Clearinghouse synthesises evidence for policy makers and service providers and presents it in an easy to read format. Issues papers and resource sheets identify the key issues on the topic, critically examine the evidence on the effectiveness of relevant programs and initiatives, and summarise the findings about what works and what does not work.

AIHW has redeveloped a web portal on Indigenous identification in the community services which provides information and resources related to improving Indigenous

identification in health, community services and housing data sets.

A Voluntary Indigenous Identifier was introduced into the Medicare database from November 2002. By May 2012, 339,310 people had identified as Aboriginal, Torres Strait Islander, or both.

The AIHW is undertaking a project to develop an Enhanced Mortality Database to improve information on Indigenous status on the registered deaths data set by linking it to several additional data sources that contain information on Aboriginal and Torres Strait Islander deaths and Indigenous identification. The enhanced data are expected to enable more accurate estimates of Aboriginal and Torres Strait Islander mortality, including life expectancy, to be made. A report on the results of the first phase of the project which linked death registration data to hospital data, perinatal data and residential aged care data for the period 2001 to 2006 was published by the AIHW in July 2012 – *An enhanced mortality database for estimating Indigenous life expectancy: a feasibility study*.

A project was undertaken by the AIHW in collaboration with the Centre for Health Research in Criminal Justice (CHRCJ), located within NSW Justice Health, as well as other stakeholders, to develop a national prisoner health data set to enable the monitoring of the health of prisoners. The project has involved an audit of current data collection on prisoner health in prisons; the development of a range of policy-relevant draft indicators for prisoners mapped to the National Health Performance Framework; and the development of detailed specifications for the data supporting these measures. Further AHMAC funding was provided to support the work program for 2008–09, including a national data collection. In 2010, the AIHW released *The health of Australia's prisoners 2009* report. This report represents a major milestone on the road to a national data collection, including valuable data on the health of Aboriginal and Torres Strait Islander prisoners. In 2011, the AIHW released a second report on prisoner's health; *The health of Australia's prisoners 2010*.

The Australian Capital Territory

The ACT Department of Health continues to undertake a number of data quality improvement activities regarding Aboriginal and Torres Strait Islander data. These include:

- An information and education strategy encouraging ACT Government Health Directorate staff to identify Aboriginal and Torres Strait Islander clients and patients to identify, based on the AIHW 'One simple questions could help you close the gap' campaign, is being implemented across the Directorate. Information sessions together with posters and pamphlets have been delivered across both hospitals and in the community health space. The ACT Patient Administration System has been upgraded to ensure the Aboriginal and Torres Strait Islander identification question is a mandatory field. All pathology forms and all out patient collection stations within the hospital now collect the information. The Epidemiology Branch will monitor improvements in identification data and report outcomes.
- ACT Pathology project. The under-identification of Aboriginal and Torres Strait Islander patients in administrative data leads to a biased estimation of the true

use of health services, which impacts on estimates of health expenditures and affects accurate planning and delivery of health services to Aboriginal and Torres Strait Islander peoples. ACT Health has entered an Aboriginal and Torres Strait Islander identifier as a mandatory field on ACT Pathology forms. Training has been conducted with Pathology staff on how best to ask clients to identify and a handout and brochure that encourages clients to identify has been made available in waiting areas. Improving identification on pathology forms has flow-on effects of improving identification in other data sets, e.g., ACT Cancer Registry, Communicable Disease Register and hospital data.

- ACT Health PMI Hub project. To improve quality of Aboriginal and Torres Strait Islander identification in key vitals and administrative data sets, ACT Health has commenced collection of the Aboriginal and Torres Strait Islander identifier within the Patient Master Index (PMI), which will enable the identification status of a person to be shared throughout ACT Health IT systems. ACT Health is working to ensure that adherence to standards ensuring ethical and privacy considerations are taken into account.

New South Wales

In NSW, Indigenous status is collected in a range of health datasets, including the NSW Midwives Data Collection (MDC), the NSW Admitted Patient Data Collection (APDC), the NSW Emergency Department Data Collection (EDDC), the Non-admitted Patient Data Collection, the NSW Notifiable Conditions Information Management System (NCIMS), the NSW Health Survey Program, and the NSW Central Cancer Registry (CCR).

Standard ABS *Indigenous* status question and recording categories

NSW Health has adopted the standard ABS Indigenous status question and recording categories. NSW Health has recently released the revised Policy PD2012_042 Aboriginal and Torres Strait Islander Origin – Recording of Information of Patients and Clients. The revised Policy incorporates all elements of the AIHW's Best Practice Guidelines.

"Respecting the difference: an Aboriginal and Cultural Training Framework for NSW Health" outlines a mandatory cultural training framework for all staff working in health, and includes information on collecting Indigenous status information.

Improving Procedures for collecting Indigenous status information

NSW has undertaken a review of evidence concerning best practice for determining and recoding the Indigenous status of NSW Government Service agency clients. The review has been largely informed by the Best Practice Guidelines released by the AIHW. The scope of the review considered the literature beyond health to consider data collection informing all measures in the NIRA.

Aboriginal Affairs NSW has sought to review current practice within relevant agencies with reference to the available evidence for best practice. The agencies that were involved included the NSW Ministry of Health, the Department of Education and Communities and Births, Deaths and Marriages.

This work includes:

- a review of information resources and training packages used to train staff in key data collection positions;
- a list of recommendations to support staff competencies; and
- the development of a checklist detailing 17 components of best practice against which Government agencies can review their work.

Following consultation with NSW Government agencies a final report will be produced towards the end of 2012.

NSW Health will commence the NSW Hospitals Identification Project in 2012, which aims to improve the cultural competency of services provided to Aboriginal and Torres Strait Islander peoples in NSW hospitals, by developing a framework based on continuing quality improvement processes, implementing the framework in improving cultural competency as assessed by improved Aboriginal and Torres Strait Islander identification in routinely collected data sets.

NSW Health is conducting a project entitled “*Improved reporting of Aboriginal and Torres Strait Islander people on population datasets using record linkages*”. The aims of this project are to: (1) develop methods for improving reporting of Aboriginal and Torres Strait Islander peoples on population datasets using record linkage; (2) describe the improvements in reporting achieved by record linkage; and (3) explore the impact of any changes in reporting due to record linkage on a selection of indicators of health status and health services utilisations.

NSW Health has participated in the 2011–12 AIHW Admitted Patients Data Quality Survey to assess the completeness of identification in the Admitted Patients Data Collection. The AIHW will compile the results of this survey for publishing.

Attorney General and Justice: The Registry of Births, Deaths and Marriages has instituted staff training to improve accuracy in the verification of registrations, including the recoding of Indigenous status data. In 2011, the Registry amended some 1500 records when inaccurate data entry was identified, regarding the Indigenous question for parent on birth registrations. Continued monitoring of these data and greater diligence in verifying data are in place.

As part of the Registry’s *Get Your Rego Right* campaign Registry staff have held meetings with funeral director industry groups, as well as individuals, to address reporting issues, including the completion of the Indigenous question on death registrations. The Registry has encouraged funeral directors to ensure that the information concerning a deceased person’s Indigenous status is obtained directly from the family of the deceased.

The Registry has also seen a marked improvement in the compliance of doctors regarding completion of the Indigenous question on medicinal certificates of cause of death. Completion of this question by doctors is now at 100%.

The Registry is in the process of developing a new IT system called Lifelink, which will include improvements in the recording and reporting of Indigenous data. This includes automatically detecting discrepancies between Indigenous status data supplied by the funeral director on a death registration, and by the doctor on a medical certificate of cause of death.

The Department of Education and Communities has included a section on strategies to be more culturally sensitive and inclusive with enrolment and procedures in the Connecting to Country professional development component (Principals). This will align with the evaluation of the *Aboriginal and Torres Strait Islander Education Action Plan 2010–2014*, where schools will be expected to answer a question relating to enrolment procedures.

Raising Indigenous community’s awareness about importance of identifying

Aboriginal Affairs NSW has employed two Senior Project Officers for three years to work with Aboriginal and Torres Strait Islander communities to raise community awareness of the importance of identifying as Aboriginal and Torres Strait Islander when accessing and using services. The project has two broad phases.

Phase 1

Seeks to understand why Aboriginal and Torres Strait Islander peoples choose not to self-identify. This first phase involves two components:

- a literature review; and
- research with Aboriginal and Torres Strait Islander peoples in NSW to understand the issues as they pertain to NSW. This will involve conducting interviews and surveys.

It is anticipated that the second component will provide information that is specific to NSW Government agencies about their processes in working with Aboriginal and Torres Strait Islander peoples. NSW Aboriginal Affairs will seek to work collaboratively with other NSW Government agencies regarding the feedback obtained. This may involve brokering solutions with agencies where communities indicate a concern regarding the use of Indigenous status information.

Phase 2

Information from phase one will inform the development of a program that will seek to increase the propensity of Aboriginal and Torres Strait Islander peoples to identify when accessing and using NSW Government services.

The work to date has been carried out in consultation with state Government agencies, the ABS; Aboriginal and Torres Strait Islander and non-Indigenous community organisations and individual members of Aboriginal and Torres Strait Islander communities. The project will be completed in two years.

NSW Health: Local Health Districts are implementing initiatives to raise awareness about the importance of identifying. The programs are designed and implemented locally. The Office of Aboriginal Affairs contacted Local Health Districts directly and examples have been provided.

Attorney General & Justice: Since 2008, the Registry of Births, Deaths and Marriages has conducted visits to over 50 Aboriginal and Torres Strait Islander communities across NSW to foster a stronger relationship between the Registry and Aboriginal and Torres Strait Islander peoples, and encouraged accurate reporting on birth and death registrations. Another eight community visits are planned for this year, these visits are also used to ensure the Aboriginal and Torres Strait Islander children born in NSW have their births registered. As

a result of this initiative, over 5000 children have now been registered who were previously not registered.

The health of the people of New South Wales – Report of the Chief Health Officer has been produced regularly since 1996 and has become a flagship publication of the NSW Ministry of Health. The 2012 edition of the *Report of the Chief Health Officer* is a special report on the health of Aboriginal people in NSW. Increased reporting will facilitate improved monitoring of progress towards closing the gap between Aboriginal and Torres Strait Islander peoples and non-Indigenous Australians across key population health and health system indicators. The indicators presented in the report were selected to represent those health issues that contribute most to the burden of disease and injury experienced by Aboriginal and Torres Strait Islander peoples in NSW, or where there is a large disparity in terms of both health care and health outcomes for Aboriginal and Torres Strait Islander peoples compared with non-Indigenous Australians. Many of the indicators presented contribute to national targets and benchmarks set by all Australian governments to close the gap in life expectancy and improve the health of Aboriginal and Torres Strait Islander peoples across Australia.

The Northern Territory

The Department of Health has rolled out a number of e-health initiatives across the NT that will have major implications for the use and collection of data. These improvements assist in the provision of seamless care for health consumers. Brief outlines for these initiatives are as follows:

My eHealth Record service (rebranded from Shared Electronic Health Record)

As at 30 June 2012 the *My eHealth Record* service ensures access to important health information is available with consent 24 hours per day, 7 days per week for 54,000 (up from 43,000 as at 30 June 2011) patients (including an estimated 75% of Aboriginal and Torres Strait Islander people living in rural and remote communities in the NT) at any of the 137 participating health centres (including correctional facilities), private general practices and public hospitals in the Northern Territory, Aboriginal community controlled health services in South Australia and public hospitals in the Kimberley Region of Western Australia. During 2011–12 *My eHealth Record* was used by 800 to 900 authorised clinical users each month, sending an average of 114,600 healthcare event summaries (up from 65,980 in 2010–11) and accessing on average 27,500 occasions (up from 12,980 in 2010–11), as part of providing healthcare. *My eHealth Record* has proved to be of major benefit for mobile populations, and people from rural and remote areas accessing services in regional towns or cities, by ensuring up-to-date information is easily accessible at the point of care, whether that is at a remote health centre operated by the Department or an Aboriginal Community Controlled Health Service or at a public hospital in a regional or major urban centre. In relation to this population *My eHealth Record* has achieved 100% effective coverage of all healthcare providers delivering services to people in rural and remote areas of the Northern Territory.

Secure Electronic Messaging Service (SEMS)

The SEMS ensures that specific information regarding clinical referrals can be communicated electronically securely between service providers. This assists in a seamless care in

relation to managing transition from GPs/Health Centres to appointments with specialists or hospital outpatient clinics. Electronic medications and discharge summary information is forwarded by hospitals to communities of residence, so that information is available locally for consumers on their return to country. In 2011–12, the Continuity of Care project was completed, upgrading the messaging solutions used by the Department and Aboriginal community controlled health services in the Northern Territory to compliance with national specifications approved by the National eHealth Transition Authority (i.e., the Australian Technical Specifications for Secure Message Delivery).

Primary Care Information System (PCIS)

In 2009–10 the Department completed the rollout of PCIS to the 22 remaining remote health centres, making a total of 54 Departmental health centres transitioned to using fully electronic health records (eliminating the use of paper records) integrated with the eHealthNT MEHR service and Secure Messaging Delivery for eReferrals and eDischarge. As at 31 December 2010 PCIS had expanded its coverage to include health services in the two (2) NT Prisons, three (3) Juvenile Detention facilities, and two (2) Living Skills Units. Between December 2011 and March 2012 PCIS was introduced into Police Watch Houses in Darwin, Katherine and Alice Springs. PCIS includes a number of tools to assist in patient care, e.g., automatic alerts for service providers about patients to be recalled for follow-up treatments/services, providing a technological advantage to making service delivery easier. The PCIS Team work closely with clinical reference groups and program areas to continually develop new and update existing care plans to reflect best practice standards and CARPA protocols. PCIS facilitates extensive coded clinical data collection for each service episode with the capacity to capture all required national Aboriginal and Torres Strait Islander health performance indicator data. The data rich detailed clinical models in PCIS supply source data to provide decision support through the CARPA+ advanced shared electronic care plan system.

Aboriginal Health Key Performance Indicator (AHKPI) project

Initiated by the Aboriginal Health Forum (AHF) to develop a structure for collection and reporting of 19 agreed Key Performance Indicators that cover both DoH Remote Health Centres and Aboriginal Community Controlled Health Services. The project is managed cooperatively by the DoH, the Department of Health and Ageing and AMSANT under the auspices of the AHF Banner and maintains the NT Aboriginal Health KPI collection covering the Government and Non-Government sectors to improve the quality and robustness of data for use in service planning and management through continuous quality improvement.

The goal of the system is to contribute to improving primary health care services for Aboriginal Australians in the Northern Territory by building capacity at the service level and the system level to collect, analyse and interpret data that will:

- Inform understanding of trends in individual and population health outcomes;
- Identify factors influencing these trends; and
- Inform appropriate action, planning and policy development.

Processes for data collection from the various organisations information systems have been defined and developed, and data delivery from all NT community health centres commenced on 1 July 2009. Reports are produced bi-annually 6 weeks after end of financial and calendar year. The AHKPI definitions go through continuous cycles of quality improvement with approved changes to the existing NT AHKPI definitions, or new KPIs completed twice a year.

East Arnhem Health Services Delivery Area (EAHSDA) Communicare: Between August 2011 and January 2012 the Department of Health and Aging (DOHA) and the Northern Territory Department of Health (DOH) jointly funded the implementation of Communicare into the four (4) EAHSDA centres of Yirrkala, Ramingining, Milingimbi and Gapuwiyak. Yirrkala health centre transitioned to Miwatj Aboriginal Health 1st July 2012 and remains on the DOH Central East Arnhem Database in support of a central East Arnhem database and the spirit of regionalisation.

Health eTowns Program

In 2010–11 the Department commenced the Health eTowns Program jointly funded with the Australian Government under the Digital Regions Initiative. The Health eTowns Program aims to deliver improvements in health and education outcomes for predominantly Indigenous populations living in remote communities across the Northern Territory and the Kimberley Region, by implementing:

- a comprehensive telehealth network and connection service enabling clinical and diagnostic services to be delivered remotely, connecting Northern Territory Public Hospitals, remote primary care health centres, interstate tertiary hospitals and private specialists, and now providing a range of telehealth services, including:
 - Tele-Burns clinics and urgent reviews;
 - Pre-Admission clinics;
 - Tele-Oncology patient reviews;
 - Tele-Cardiology;
 - Trauma and Critical Care Support;
 - Post-Surgical review clinics.
- a high-speed fibre, data communications network in 17 Territory Growth Towns;
- an Advanced Shared Electronic Care Plan (ASeCP) system to improve care coordination for patients with complex or chronic conditions – completed development of atomised data repository for storage of care plans (utilising openEHR) and electronic Pregnancy Plan of Care (ePOC) data items, systems interface under development;
- an eLearning Framework and system to support online training and professional development activities as part of continuing workforce development.

As at 30 June 2012:

- the implementation of the eLearning Framework and system to support online training and professional development activities had been completed;
- the installation of a high-speed fibre, data communications network in 17 Territory Growth Towns had been completed; and
- the deployment phase of the TelehealthNT Network was nearing completion, including the deployment of:

- Internet Protocol (IP) Patient Monitors into emergency rooms and resuscitation areas;
 - desktop video conferencing; and
 - high definition Medicarts and room based units;
- the Program was working with clinicians to expand the range of services delivered via this technology;
 - expansion of services has commenced beyond the identified 17 Territory Growth Towns, to include a further 30 communities, where Aboriginal Medical Services Alliance Northern Territory (AMSANT) members organisations provide healthcare services. The expansion program is looking to place technically appropriate facilities into these communities (i.e., technology that does not require significant bandwidth) and is assisting AMSANT member organisations to access affordable bandwidth through opportunities for early adoption of the NBN.

Queensland

Burden of Disease and Injury in Aboriginal and Torres Strait Islander People in Queensland 2007

In the first half of 2012 the Aboriginal and Torres Strait Islander Health Branch, Queensland Health, along with Burden of Disease expert Stephen Begg (Strategic Policy, Funding and Intergovernmental Relations Branch, Queensland Health) undertook a refresh of Burden of Disease and Injury results specifically for Queensland's Aboriginal and Torres Strait Islander peoples. The Queensland Government commitment to close the gap in health status and life expectancy between Aboriginal and Torres Strait Islander peoples and non-Indigenous Australians, along with the recent development of experimental life tables for Aboriginal and Torres Strait Islander peoples in Queensland by remoteness for 2005–07 (Health Statistics Centre 2012), provided the impetus to refresh the burden of disease and injury estimates for Queensland's Aboriginal and Torres Strait Islander peoples for 2007.

The *Burden of Disease and Injury in Aboriginal and Torres Strait Islander Peoples 2003 Report* was the first complete assessment of the burden of disease in the Aboriginal and Torres Strait Islander population of Australia. Equivalent results have been generated for Queensland using a combination of the burden of disease analyses for the whole of Queensland, with the results of the national Indigenous study incorporated to provide 2003 and 2006 broad estimates for Aboriginal and Torres Strait Islander Queenslanders.

The *2007 Queensland Aboriginal and Torres Strait Islander Burden of Disease and Injury 2007* update is significantly different from the 2003 and 2006 updates and the original study, as it includes revised life tables by ARIA category for Major Cities, Regional (inner and outer regional) and Remote (remote and very remote) for Queensland, and a revised cause of death structure for Queensland. It also includes a limited refresh of a number of the epidemiological models for the non-fatal contribution to the burden, and the use of Queensland specific risk factor exposure data in a number of the risk factor models.

Closing the Gap between Aboriginal and Torres Strait Islander and non-Indigenous Life Expectancy

Queensland Health has developed a series of life tables for the period 2005–07 by remoteness, as well as retrospective

life tables for the period 2002–04. The life tables have been developed in order to:

- produce retrospective mortality indices and life expectancy estimates in order to reconstruct recent mortality trends and establish trajectories to guide future policy interventions;
- understand patterns of Aboriginal and Torres Strait Islander mortality at sub-state level, particularly by remoteness, to help focus resources where they are needed most;
- measure the gaps in life expectancy between Aboriginal and Torres Strait Islander peoples and non-Indigenous Australians in Queensland by remoteness and the recent trends; and
- examine the sources of improvements in life expectancy, in respect of age groups and leading causes of deaths that have contributed to these improvements.

This work will contribute significantly to the above objectives, as life tables provide the most robust summary mortality indices.

Improving Aboriginal and Torres Strait Islander Identification

Over a two year period from 2009 to 2011, Queensland Health has undertaken a project to improve the identification of Aboriginal and Torres Strait Islander peoples accessing services. The state-wide project focuses on understanding issues and implementing solutions at both state and local level. The project has analysed cultural, systems and administrative influences on identification. The project's approach is to develop state-wide resources including audit tools, cultural and educational material, information technology solutions, policy and procedures. The project also resourced and supported a number of projects within Health Service Districts. Local solutions are in the process of development and implementation to address local findings.

The assessment of the Queensland prevalence of risk factors such as smoking, under-consumption of fruit and vegetables, alcohol consumption and physical inactivity will be obtained from the 2011 Australian Health Survey. No information is available for risk factor prevalence in sub-state areas.

Queensland Health is committed to improving Indigenous identification in communicable disease reporting. The Communicable Diseases Branch of Queensland Health routinely monitors Indigenous identification completeness for notifiable conditions; and is participating in national initiatives, through the Communicable Diseases Network Australia (CDNA), to bring about improvements.

Queensland hospital separations data are known to have more complete Indigenous identification than the Queensland Notifiable Conditions System (NOCS). In 2007 a large data linkage exercise, which matched records from disease notifications with an extract of records from hospitalisations within Queensland, was undertaken. Notifications in NOCS with no Indigenous status were updated with the Indigenous status from the hospital record. However, this resulted in only a seven per cent improvement in Indigenous status completeness in NOCS. More efficient ways to improve indigenous identification completeness will be progressed in Queensland Health.

South Australia

Improving Aboriginal and Torres Strait Islander Identification

ABS was been funded through SA Health's COAG investment to develop a training package for recording the 'Indigenous identifier' in health data collections; as well as training staff who manage data and/or perform data entry about the importance of collecting the Indigenous identifier information; the correct way of asking the standard question and recording the response; and strategies for dealing with special circumstances, such as determining the Indigenous status of children and patients who are unconscious. The training targeted frontline staff working across hospital sites in metropolitan Adelaide and regional communities, as well as various mainstream primary care services throughout SA. This training approach was informed by the AIHW's Best Practice Guidelines for Collecting Indigenous Status. The first state-wide training program concluded in late 2011. Over 430 frontline staff attended training sessions held in 40 locations spread through the state. A second round of training is due to begin later this year.

SA Health has also indicated support to feed its initiative into the AIHW and ABS National Data Linkage Project on Indigenous identification. The Department continues to operate a case mix payment system which applies a 30% loading to hospital separations of Aboriginal and Torres Strait Islander peoples, and this provides an incentive for improved Indigenous identification.

SA Pathology (trading as IMVS Pathology) provides a comprehensive diagnostic pathology service delivered via a network of 18 state-wide laboratories and more than 71 patient collection centres. It is the sole provider of pathology in the Public Hospital sector and a major provider to the private GP and Specialist market. The South Australian Department of Health and SA Pathology have recently completed the first part of the project to address "Aboriginal Identification Requirements in Pathology Systems".

The initial emphasis of the project has been to ensure the Indigenous Identifier on Pathology Forms is included. This involved extensive consultation with SA Pathology providers and other jurisdictional providers. This enabled information sharing and identifying lessons learnt from other jurisdictions implementing similar projects, and resulted in the Indigenous Identifier being introduced into Pathology forms as well as metropolitan based hospital systems. Whilst pathology forms have been addressed, a greater emphasis is now required to link the Indigenous identification data to an IT solution, as this is a significant gap that needs attention. The redevelopment of SA Pathology's Laboratory Information System, which aims to be completed by 30th June 2014, is a key IT solution that will integrate the Aboriginal information, and enable the use of captured data.

Further project work is being undertaken to review the downstream impacts on affected registries, which include input and advice from the Aboriginal community controlled health services, GP Clinics, Medicare Locals and Well Women's Cervical Screening programs. SA Health is determining how best to ensure systems provide consistent and continuous transfer of Aboriginal identification data across SA Health. Additional systems training will be required to support staff to collect information.

In 2007, SA participated in the national Audit of Indigenous Identification in Public Hospitals project, coordinated by the AIHW. Surveys were conducted in metropolitan and regional hospitals across SA, and the results contributed to reports from other jurisdictions to calculate adjustment factors to be applied to hospital separations data for Expenditure on Health reporting. A follow-up audit was conducted in 2011. The audit independently verified the Indigenous status of a sample of patients in selected metropolitan and country hospitals through face to face interviews. The results were matched against data held in hospital systems, to assess the quality of identification by hospital staff. More than 1,250 patient interviews were conducted during the audit. Results from the audit will be used to determine correction factors for adjusting national Indigenous performance indicator data for under-identification.

Aboriginal and Torres Strait Islander Life Expectancy Measures

SA Health is required under the South Australian Strategic Plan (SASP) and under COAG targets, to monitor Aboriginal and Torres Strait Islander peoples' life expectancy and has produced healthy life expectancy estimates for Aboriginal and Torres Strait Islander peoples in South Australia. These estimates were based on the Burden of Disease and Injury in Aboriginal and Torres Strait Islander Peoples 2003 and The Burden of Disease and Injury in Australia, 2003 (AusBoD) which provide a base for the SA Burden of Disease (SABoD) Series. The estimates inform Target T 79 "Aboriginal healthy life expectancy" in the SA Strategic Plan (SASP). SA Health is currently unable to update these estimates until access to cause of death CURF files is restored nationally.

- SA NT DataLink is now operational and provides a statistical data linkage service within SA and the Northern Territory. Current, relevant de-identified datasets available include public hospital inpatient records, public hospital emergency departments, cancer registry, perinatal outcomes, public dental services and death registrations data. This has potential to become a sustainable environment for accessing data relevant to healthy life expectancy calculation. The possibility of imputation of Indigenous identification across linked datasets is a particular strength of data linkage projects.
- The Department has recently completed its first ever SA Aboriginal Health Survey. The survey includes questions on health risk factors, health conditions and health related quality of life. A report presenting the results and findings of the survey will shortly be published on the SA Health website.
- There are two major parts of the ongoing healthy life expectancy work in SA: mortality (life expectancy) and morbidity (health related quality of life, or the amount and severity of illness experienced).

Data Sets

Having identified the need for improvements in the way that the health sector describes and measures primary health care activities, SA has established an Out-of-Hospital Services Minimum Data Set, which includes the National Data Dictionary definition of Indigenous status, represents the agreed core elements that are collected for describing out-of-hospital care services in SA. A central repository of out-of-hospital services data has been established covering: community health, community mental health, public dental

services, drug and alcohol services, child and family services, district nursing services and palliative care. It is now possible to track the use of the above services by Aboriginal and Torres Strait Islander peoples.

Data Sharing

The Aboriginal Health Council of SA (AHCSA) was funded for data sharing initiatives under SA Health's COAG investment. The spirit of the funding agreement is to enhance and influence cross sectoral Aboriginal and Torres Strait Islander Health planning and priority setting through data sharing between the Aboriginal and Torres Strait Islander community controlled health sector and SA Health. AHCSA is the peak community body on Aboriginal and Torres Strait Islander health matters in SA and provides secretariat services to ten member Aboriginal Community Controlled Health Organisations (ACCHOs). An initiative included the engagement of a consultant to conduct a Data Sharing Needs Analysis across the ACCHO's. The AHCSA data sharing consultant was responsible for:

- Consulting with relevant SA Health personnel to ascertain what health-related data they consider would be useful to obtain from ACCHOs (and for what reasons), and what data SA Health would be amenable to provide to ACCHOs (and for what reasons);
- Consulting with relevant personnel from ACCHOs to ascertain what health-related data they consider would be useful to obtain from SA Health (and for what reasons); and what data ACCHOs would be amenable to provide to SA Health (and for what reasons);
- Monitoring national and state developments in the area of e-Health, on AHCSA's behalf, and prepare a short e-Health situational analysis for AHCSA;
- Preparing a report on potential data-sharing arrangements between SA Health and ACCHOs.

The consultant undertook this work from February to May 2011. During that period extensive consultation was undertaken with both SA Health personnel and ACCHO personnel. Both parties identified what they considered useful data to share, and why they considered such data useful. They identified challenges they currently experienced in their relationship with the other party with regards to health data, and factors limiting their current data sharing capabilities. This information was compiled into a report which also suggested methodologies to utilise to improve the relationship between ACCHOs and SA Health so as to arrive at a point where meaningful data sharing could occur. The report was finalised in May 2011, and copies circulated to all participants in the data sharing needs assessment project.

The consultant has continued to work with the ACCHOs in the field of the national eHealth initiatives, and has implemented some of the report's suggestions by regularly meeting with staff from SA Health's eHealth systems division to discuss ways that SA Health and the SA ACCHOs can utilise developments in the national eHealth space to enhance their capability to share data with each other.

The Aboriginal Health Council of SA receives funding through the Closing The Gap in Indigenous Health Outcomes National Partnership to support Aboriginal Community-Controlled Health Services in participating in the Audit and Best Practice for Chronic Disease (ABCD) National Research Partnership.

The funding enables the provision of training in ABCD auditing, including the acquisition of required licensing for the use of the One21Seven auditing tool by:

- Facilitating ABCD audit training to Aboriginal Community-Controlled Health Services
- Enabling Aboriginal Community-Controlled Health Services staff to participate in the training by supporting travel and accommodation requirements

Tasmania

The collection of Indigenous status is mandatory in core Tasmanian health data collections such as admitted, non-admitted and perinatal data collections. Notwithstanding this, there is room for improvement and Tasmanian Government agencies are working with Australian Government agencies to improve Indigenous identification in key administrative datasets. Whilst this work is focussing on hospital and deaths administrative data, it will also address improvements to a broad range of data collections. Implementation of the Best Practice Guidelines for the collection of Indigenous status in health data sets forms part of this body of work.

The Department of Health and Human Services has employed an Aboriginal Health Development Officer. This position sits within the Aboriginal Health Unit in Population Health Priorities. One of the requirements of this position is to develop and deliver Cultural Safety training. One component of this training package focuses on improving the collection of Indigenous data throughout the Agency. This training package has been successfully delivered since June 2006.

Victoria

Data collection

In Victoria, Aboriginal and Torres Strait Islander status is a mandatory field in all major health datasets. The Victorian Admitted Episodes Dataset (VAED), the Victorian Emergency Minimum Dataset (VEMD), and the Victorian Perinatal Data Collection (VPDC) contain good-quality data on Indigenous identification. Aboriginal and Torres Strait Islander identification is also collected through the Alcohol and Drug Information System (ADIS), the Notification of Infectious Diseases System (NIDS) and community health direct care database.

The Aboriginal and Torres Strait Islander population of Victoria forms a small proportion of a large, mainly urban population. Correct identification of Aboriginal and Torres Strait Islander peoples in Victoria is challenging in all datasets.

Measures to improve data

Improving Care for Aboriginal and Torres Strait Islander Patients (ICAP) program includes 30% case mix co-payment to hospitals for patients identified as Aboriginal and/or Torres Strait Islander. The program encourages an outcomes focus leading to improved identification and health care.

Victorian hospital datasets include two additional fields in the standard Indigenous status question: 'Question unable to be asked' and 'Patient refused to answer'. The addition of these fields has enabled the Department of Health to identify instances of misuse of either field very quickly. This has contributed to the improving rate of Indigenous identification.

Changes in access to data systems have also meant that more frequent monitoring of Aboriginal and Torres Strait Islander hospital separations is possible, and errors can be discovered and rectified.

In January 2009, the Victorian Perinatal Data Collection (VPDC) allowed the recording of the Indigenous status of babies as separate from the mother. This will accommodate the large proportion of Aboriginal and Torres Strait Islander babies born in Victoria who have an Aboriginal and/or Torres Strait Islander father and non-Indigenous mother. At the same time the VPDC also included antenatal care and maternal tobacco smoking.

The Department of Health and PapScreen Victoria have developed a system for recording and reporting the Aboriginal and Torres Strait Islander status of women participating in Pap screens. A pilot study has been completed and was successful in training nurses to collect Indigenous status. The system will be extended to GP providers.

In 2008 the Department of Health conducted the first Victorian Population Health Survey with a reportable sample of Aboriginal and Torres Strait Islander respondents. The sample was expended in 2011.

AIHW has now released *An enhanced mortality for estimating Indigenous life expectancy: a feasibility study*, which contains Victorian-specific life expectancy estimates for the first time.

Victoria participated in the audit of hospital inpatient data coordinated by AIHW in 2011. This confirmed the level of identification of Aboriginal and Torres Strait Islander patients in Victorian hospitals and highlighted areas of greater need.

The Victorian Aboriginal Child Mortality Study, based at the University of Melbourne, will bring together birth and death information from a number of data sources to give an accurate report of the number of Aboriginal and Torres Strait Islander babies born between 1988 and 2008, and the number and causes of death for Aboriginal and Torres Strait Islander children who died during this period. The linked datasets will also provide an assessment of the coverage of the individual datasets.

Western Australia

In WA, Aboriginal and Torres Strait Islander status is collected in a range of health data collections, including the admitted patient data collection, the emergency department data collection, the outpatient care data collection, the Notifiable Disease Data Collection, the WA Health and Well Being Surveillance System, the Midwives Data Collection, the Breast screening Data Collection, the Mental health Information System and the Cancer Registry. It is also stored on ABS Mortality data held by the Department of Health.

The WA Health and Wellbeing Surveillance System (HWSS) asks respondents if they are of Aboriginal or Torres Strait Islander origin. Less than 0.2% reply 'do not know' or refuse to answer the question and the proportion who say that they are Aboriginal and/or Torres Strait Islander ranged from between 3.4% in 2007 to 2.0% in 2009. Reports from the HWSS do not disaggregate results by Aboriginality as they are unlikely to be representative of the Aboriginal and Torres Strait Islander population in WA on a yearly basis, due to the method used to collect the data.

Over the last decade the number of death records with unknown Aboriginal and Torres Strait Islander status registered by the WA Office of Registry of Birth, Deaths and Marriages has represented a substantial proportion of cases. For deaths that have a not-stated identification, status is determined through data linkage by comparing the status of the records of the same individuals in other data sources. Mortality measures are reported by the WA Department of Health, using the enhanced Aboriginal and Torres Strait Islander status field.

Reporting of Aboriginality in Midwives Notification System is based on the mother's Aboriginality; therefore the number of Aboriginal and Torres Strait Islander births recorded is likely to be underestimated. There has been recent agreement to commence the collection of Aboriginal and Torres Strait Islander status of the baby on the WA Midwives Notification of Case Attended form from 1 July 2012.

The Data Integrity Directorate has completed an exercise to compare Aboriginal and Torres Strait Islander status from the Midwives Notification System with and Torres Strait Islander Aboriginal status on the associated hospital records. The study found that there were about 15% less Aboriginal and Torres Strait Islander births recorded among birth registrations than among the Midwives collection of births data. This is because reporting of Aboriginal and Torres Strait Islander Status in birth registration data is non-compulsory.

The elective surgery wait list data collection also includes Indigenous status and this collection is linked to admitted patient records for further verification of Aboriginal and Torres Strait Islander status.

The ABS, the Department of Health Western Australia and the Telethon Institute for Child Health Research have been undertaking a collaborative project that investigated use of data linkage techniques to enhance Indigenous identification on Administrative data. The study utilised the resources of Western Australian Data Linkage System which enables researchers to assess Indigenous identification as recorded across more than ten data sources and more than 40 years. Various methods of deriving Indigenous status were explored and the impact of these methods examined against a selection of health and educational outcomes such as mortality rates, hospitalisation rate and reading and writing scores. A final report is expected to be available late 2012.

Health Status and Outcomes (Tier 1)

1.01 Low birthweight

Data on birthweight is collected as part of the Perinatal National Minimum Data Set. It includes live births of 20 weeks gestation or more, or of 400 grams or more birthweight. Low birthweight is defined as less than 2,500 grams. Data relates to the Indigenous status of the mother only and therefore underestimates Aboriginal and Torres Strait Islander births. Unless otherwise stated, Indigenous and non-Indigenous data exclude births where the mother's Indigenous status is not stated. Data from earlier years are not available for Tasmania, as the 'not stated' category for Indigenous status was unable to be distinguished from the 'non-Indigenous' until 2005. Current period data are presented in 3-year groupings because of small numbers each year. These groupings represent three calendar years.

Figure 12: Time series rates are age standardised and are presented for single years. The 'other' category includes non-Indigenous mothers and mothers for whom Indigenous status was not stated. Average annual change in number and proportion of low birthweight babies is determined using linear regression analysis. Data exclude the ACT and Tasmania, as data from these jurisdictions are not considered stable enough to be included mainly because of small population size and some issues with data quality over the reporting period.

Figure 13: Data exclude mothers for whom Indigenous status was not stated.

Table 3: Data are presented by place of usual residence of the mother. Table excludes non-residents, external territories and not stated state/territory of residence. Indigenous and non-Indigenous data exclude births where the mother's Indigenous status is not stated.

1.02 Top reasons for hospitalisation

Data for this measure come from the AIHW's analysis of the National Hospital Morbidity Database. Data are from public and most private hospitals (except those in the NT, the ACT and Tasmania). Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) have been excluded from analysis. Rates have been directly age-standardised using the 2001 Australian standard population. Rates for Indigenous Australians are calculated using population estimates based on the 2006 Census (series B). Principal diagnosis categories are based on the ICD-10-AM fifth edition (National Centre for Classification in Health 2006). Data related to principal diagnosis are reported by state/territory of usual residence of the patient hospitalised. Unless otherwise stated, hospital separations for dialysis are excluded from the analysis.

For total separations at a national level, the jurisdictions' hospitalisation numbers and rates have been adjusted for Indigenous under-identification using a national adjustment factor of 1.12. This factor was derived from a study undertaken by the AIHW between 2006 and 2008 which assessed the level of Indigenous under-identification in hospital data in all states and territories by comparing information gathered from face-to-face interviews in public hospitals with results from hospital records. The national adjustment factor excludes Tasmania and the ACT, as the levels of Indigenous identification in these jurisdictions were not considered acceptable for analysis purposes. By applying this factor, the number of Indigenous hospitalisations was increased by 12% and these additional hospitalisations then subtracted from the number of hospitalisations for non-Indigenous Australians. This adjustment factor cannot be applied to separations presented by cause as identification may vary by principal diagnosis.

Current period data are presented from July 2008 to June 2010. Data are combined for two years due to small numbers when disaggregating separation data (e.g., by principal diagnoses, age or jurisdiction).

Time series rates are age standardised using the 2001 standard population and are presented for single years. Long-term trends are reported from 1998–99 to 2009–10 and include Qld, WA, SA and the NT combined while short-term trends are reported from 2004–05 to 2009–10 and include

NSW, Victoria, Qld, WA, SA and the NT combined. The jurisdictions included differ between trends due to historical data quality issues.

Figure 16: 'Other' includes: diseases of the musculoskeletal system and connective tissue; neoplasms; diseases of the nervous system; certain conditions originating in the perinatal period; diseases of the ear and mastoid process; diseases of the eye and adnexa; diseases of the blood and blood-forming organs and certain disorders involving the immune system; congenital malformations, deformations and chromosomal abnormalities; and factors influencing health status and contact with health services (except dialysis).

1.03 Injury and Poisoning

Data for this measure come from the AIHW's analysis of the National Hospital Morbidity Database. Refer to notes for measure 1.02 regarding these data. Cause of injury is based on the first reported external causes where the principle diagnosis was injury, poisoning and certain other consequences of external causes (ICD-10-AM codes V01–Y98).

Table 4: 'Other accidental exposures' includes: accidental drowning and submersion (W65–W74); accidental threats to breathing (W75–W84); overexertion, travel and privation (X50–X57); and accidental exposure to other and unspecified factors (X58–X59). 'Other external causes' includes event of undetermined intent (Y10–Y34), legal intervention and operation of war (Y35–Y36); sequelae of external causes of morbidity and mortality (Y85–Y89); and supplementary factors classified elsewhere (Y90–Y98).

Table 5: Data are reported by state/territory of usual residence of the patient hospitalised. Rates for the ACT and Tasmania will fluctuate from year to year due to small number of hospitalisations for some conditions and should therefore be interpreted with caution.

1.04 Respiratory Disease

Data for this measure mainly come from the AIHW's analysis of the National Hospital Morbidity Database. Refer to notes for measure 1.02 regarding these data. Exceptions are noted below. Categories are based on the ICD-10-AM sixth edition (ICD-10-AM codes J12–J18).

Figure 19: 'Outer regional' includes remote Victoria. 'Remote' excludes remote Victoria. Rates are calculated using the remoteness distribution by Indigenous status, age and sex based on the 2006 ERP and applied to the 2008–10 population projections (Series B) based on the 2006 Census.

Figure 22 and 23: Mortality data are derived from ABS and AIHW analysis of ABS Mortality Database. See technical appendix entry for measure 1.22 for more information.

1.05 Circulatory disease

Data for this measure mainly come from the AIHW's analysis of the National Hospital Morbidity Database. Refer to notes for measure 1.02 regarding hospitalisation data. Categories are based on the ICD-10-AM sixth edition (ICD-10-AM codes I00–I99).

Table 6: ICD-10-AM codes are: ischaemic heart disease (I20–I25); acute myocardial infarction (I21); subsequent myocardial infarction (I22); pulmonary heart disease and other forms of heart disease (I26–I52); cerebrovascular

disease (I60–I69); stroke (I60–I64); acute rheumatic fever and chronic rheumatic heart disease (I00–I09); and hypertension disease (I10–I15). 'Other diseases of the circulatory system' includes disease of arteries, arterioles and capillaries, diseases of veins, lymphatic vessels and lymph nodes and other unspecified disorders of the circulatory system.

Table 7: Data are reported by state/territory of usual residence of the patient hospitalised. Rates for the ACT and Tasmania will fluctuate from year to year due to small number of hospitalisations for some conditions and should therefore be interpreted with caution.

1.06 Acute rheumatic fever and rheumatic heart disease

Data for this measure come from the NT Rheumatic Heart Disease Program.

Figure 26: Time series rates are crude and calculated using the 2006 estimated resident Aboriginal and Torres Strait Islander population for the Top End, Central Australia and total NT.

Table 8: Age-specific rates are calculated using the 2006 estimated resident Aboriginal and Torres Strait Islander population for the NT. Rate ratio is the ratio of Aboriginal and Torres Strait Islander peoples to non-Indigenous Australians.

1.07 High blood pressure

Figure 27: Refer to notes for measure 1.02 for information on hospitalisation data. ICD-10-AM codes I10–I15.

Figure 28: Self-reported data are from the National Aboriginal and Torres Strait Islander Health Survey 2004–05 and the National Health Survey 2004–05 consisting of persons ever told has condition, still current and long-term, and ever told has condition, current and not long-term. The females in all age groups, the male '35–44' year age group and the standardised total represents statistically significant differences in the Indigenous/non-Indigenous comparisons. The estimate for the female '25–34' year age group has a relative standard error of 25% to 50% and should be used with caution. Total is age-standardised.

1.08 Cancer

Data for this measure come from the AIHW Australian Cancer Database and from the ABS and AIHW analysis of the ABS Mortality Database. For information on the ABS Mortality Database, see notes for measure 1.22. For the AIHW Australian Cancer Database, data are reported for NSW, Qld, WA and the NT only. These four states and territories are currently considered to have adequate levels of Indigenous identification in cancer registry data for these periods. Data are presented in five-year groupings because of small numbers each year.

Figure 29: ICD-10 Codes for malignant neoplasms (cancer) include: C00–C97, D45, D46, D47.1, D47.3. Other malignant neoplasms includes neoplasms of bone and articular cartilage; melanoma and other neoplasms of skin; neoplasms of mesothelial and soft tissue; neoplasms of eye, brain and other parts of central nervous system; neoplasms of thyroid and other endocrine glands; and C9 malignant neoplasms of independent (primary) multiple sites.

Figure 30: Refer to notes for measure 1.2 for information on mortality time series data.

Figures 31 and 32: Jurisdictional results reported in these figures may be affected by variations in self-reported Indigenous status. The proportion of cases with 'missing' Aboriginal and Torres Strait Islander status differs by jurisdiction, and methods to deal with missing status also differ. For example, some jurisdictions use a multiple imputation model to allocate Indigenous status which is missing. Incident rates are age-standardised using the 2001 Australian Estimated Resident population, by 5-year age group to 75 years and over.

1.09 Diabetes

Figures 35 and 36: Self-reported data from the National Aboriginal and Torres Strait Islander Health Survey 2004–05. Differences in the Indigenous/non-Indigenous comparisons are all statistically significant.

Figure 36: Total is age-standardised. Differences in the Indigenous/non-Indigenous comparisons are all statistically significant.

Figures 37 and 38: Refer to notes for measure 1.02 for information on hospitalisation data. ICD-10-AM codes E10–E14.

1.10 Kidney disease

Data for this measure come from the Australian and New Zealand Dialysis and Transplant Registry. Indigenous identification in the Registry is based on self-identification in hospital records. However, because of the heightened awareness of the extent of renal disease in Aboriginal and Torres Strait Islander peoples and the prolonged and repeated contact with renal units in hospitals, it is believed that Indigenous identification in the Registry is more complete than in general hospital data. Uses calendar year reporting. Total rates are directly age-standardised using the Australian 2001 standard population. Age-standardised rates have been calculated using the direct method, age-standardised by 5 year age group to 65 years and over (except for time series which use 5 year age groups to 75 years and over). Data are presented in 3-year groupings because of small numbers each year, except for time series in which single years are reported.

Figure 41: 'Australia' total includes cases where remoteness category was not known.

1.11 Oral health

Table 12: Excludes children who do not have teeth. 'Total has teeth or gum problems' will be less than the sum of the components as a child can have more than one tooth or gum problem. Total excludes not known responses.

Figure 42: Refer to notes for measure 1.02 form information on hospitalisation data. ICD-10-AM codes E10–E14.

Figure 45: The estimate for the Aboriginal and Torres Strait Islander peoples '15–34' year age group has a relative standard error of 25% to 50% and should be used with caution. Excludes those with no natural teeth.

1.12 HIV/AIDS, hepatitis and sexually transmissible infections

Data for this measure (except for HIV/AIDS data) come from the National Notifiable Disease Surveillance System. A major limitation of the notification data is that, for most diseases, they represent only a proportion of the total cases occurring

in the community, that is, only those cases for which health care was sought, a test conducted and a diagnosis made, followed by a notification to health authorities. The degree of under-representation of all cases is unknown and is most likely variable by disease and jurisdiction. 'Diagnosis date' was used to define the period of analysis. This date represents either the onset date or where the date of onset was not known, the earliest of the specimen collection date, the notification date, or the notification received date. In interpreting these data it is important to note that changes in notifications over time may not solely reflect changes in disease prevalence or incidence. Changes in testing policies; screening programs, including the preferential testing of high risk populations; the use of less invasive and more sensitive diagnostic tests; and periodic awareness campaigns may influence the number of notifications that occur over time. Rates have been directly age-standardised using the 2001 Australian population. Uses calendar year reporting. Data are presented in two-year or three-year groupings due to small numbers each year. 'Other Australians' includes notifications for non-Indigenous Australians and those for whom Indigenous status was not stated.

Not all notifications of chlamydial infection, gonococcal infection, and syphilis are sexually acquired. The national case definitions for these infections do not specifically distinguish between sites of infection or modes of transmission.

Figure 48: Data are from the National AIDS registry and National HIV database. Data are presented in two or three-year groupings because of small numbers each year. Rates have been directly age-standardised using the 2001 Australian population.

Figure 49: Chlamydia data are reported for Victoria, Qld, WA, SA, the NT and Tasmania. Gonorrhoea data are reported for Victoria, Qld, WA, SA, the NT, Tasmania and the ACT. These jurisdictions are considered to have adequate levels of Indigenous identification in the respective data. They do not represent a quasi-Australian figure.

Figure 50: Hepatitis B data are reported for WA, SA, the NT, the ACT and Tasmania and includes 'newly acquired' and 'unspecified' infections identified under two disease codes ('0039' and '052'). Hepatitis C data are reported for WA, SA, the NT and Tasmania and includes 'newly acquired' and 'unspecified' infections identified under two disease codes ('040' and '053').

1.13 Community Functioning

Table 13: Unless otherwise indicated percentages are of the estimated total Aboriginal and Torres Strait Islander population aged 15 years and over.

1.14 Disability

Figure 53: Data for this figure come from the self-reported data from the 2008 National Aboriginal and Torres Strait Islander Social Survey and the National Health Survey 2007–08. Includes psychological disability. Totals are directly age-standardised.

Table 14: Excludes psychological disability. 'Total with a disability or long-term health condition' includes disability type not specified. Note that more than one disability type may be reported and thus the sum of the components may add to more than the total.

Figure 55: 'Australia' total includes 'Other Territories' and 'No Usual Address'.

1.15 Ear Health

Figure 56: Refer to notes for measure 1.02 for information on hospitalisation data. ICD-10-AM codes H60–H95.

Figure 57: Data come from the annually conducted Bettering the Evaluation And Care of Health (BEACH) survey. Classified according to ICPC-2 chapter codes (Classification Committee of the World Organization of Family Doctors (WICC) 1998). Data from five combined BEACH years April 2006–March 2007 to April 2010–March 2011 inclusive. ICPC-2 codes: F01–F82, F85, 95–F99.

Table 15: Data for the National Aboriginal and Torres Strait Islander Health Survey 1995 are available for non-remote regions only. The estimate for remote areas and the 2001 non-remote data for males have a relative standard error between 25% and 50% and should be used with caution.

1.16 Eye Health

Data in this measure are mainly from self-reported data from the National Aboriginal and Torres Strait Islander Health Survey 2004–05 and from eye examinations from the National Indigenous Eye Health survey.

The National Indigenous Eye Health survey was conducted in 2008 by the Indigenous Eye Health Unit at the University of Melbourne in collaboration with the Centre for Eye Research Australia and the Vision Cooperative Research Centre. The survey was designed to assess the prevalence of the main eye conditions causing vision loss including cataract, diabetic retinopathy, refractive error and trachoma/ trichiasis, as well as the prevalence of glaucoma and age-related macular degeneration.

Additionally, data are used from the annually conducted Bettering the Evaluation And Care of Health (BEACH) survey. Classified according to ICPC-2 chapter codes. ICPC-2 codes: F01–F82, F85, 95–F99. Data from five combined BEACH years April 2006–March 2007 to April 2010–March 2011 inclusive.

Table 16: Data come from the National Trachoma Surveillance and Reporting Unit (NTSRU) and was collected from screening in remote Aboriginal communities during 2010 in the NT, SA and WA. Caution must be taken when interpreting trachoma prevalence as screening was undertaken in predominantly remote and very remote communities designated as being at risk of endemic trachoma.

1.17 Perceived health status

Figure 62: Data for this figure come from the self-reported data from the 2004–05 NATSIHS and the 2004–05 NHS. Includes chronic long-term conditions and injury only. The Indigenous estimate for 0 and 1 'fair/poor' long-term conditions and the non-Indigenous estimate for 0 'fair/poor' long-term condition has a relative standard error of between 25% and 50% and should be used with caution.

1.18 Social and emotional wellbeing

Figure 63: The rates for total persons were directly age-standardised, while the rates for each age group are crude rates.

Figure 64: AIHW National Mortality Database. See measure 1.22 for notes. ICD-10 codes: F00–F99, G30, G47.0, G47.1, G47.2, G47.8, G47.9, O99.3, R44, R45.0, R45.1, R45.4, R48.

Table 17: Proportion of male, female and total hospitalisations of Aboriginal and Torres Strait Islander peoples in the period 2008–09 to 2009–10. Excludes patients treated in Tasmania, NT or ACT private hospitals. Other includes ICD-10-AM codes relating to mental health: G30, G47.0, G47.1, G47.2, G47.8, G47.9, O99.3, R44, R45.0, R45.1, R45.4, R48, Z00.4, Z03.2, Z04.6, Z09.3, Z13.3, Z50.2, Z50.3, Z54.3, Z61.9, Z63.1, Z63.8, Z63.9, Z65.8, Z65.9, Z71.4, Z71.5, Z76.0. Refer to notes for measure 1.02 regarding hospital data.

Figure 65: Average number of stressors per person is based on all persons reporting stressor(s).

Table 18: Level of psychological distress is based on the Kessler-5 (K5) measure of psychological distress. Overall levels of distress are based on frequency responses to the following five questions about feelings in the last 4 weeks: About how often did you feel nervous?; About how often did you feel without hope?; About how often did you feel restless or jumpy?; About how often did you feel everything was an effort?; and About how often did you feel so sad that nothing could cheer you up? 'Low/moderate' includes persons who said they had not had any of these feelings in the last 4 weeks (score of 5). 'Owner' comprises persons living in a dwelling that was owned without a mortgage, owned with a mortgage or being purchased under a rent/buy scheme. 'Highest year of school completed' excludes persons who were attending secondary school.

Figure 66 and 67: Refer to notes for measure 1.02 for information on hospitalisation data.

1.19 Life expectancy at birth

Figure 68 and Table 19: Due to significant changes in methodology, estimates of life expectancy at birth for 2005–07 are not comparable to previously published estimates. 'Australia' includes all states and territories.

Figure 69: Life expectancy estimates for Aboriginal and Torres Strait Islander peoples and all Australians are for 2005–2007. Life expectancy estimates for Canada are for 2001. First Nations refers to the total North American Indian population including both Registered Indians and Non-Status Indians. Registered Indians are individuals who are registered under the Indian Act. Métis refers to individuals with mixed Aboriginal and European ancestry. Inuit are the original inhabitants of Arctic Canada. Life expectancy estimates for Maoris and the total New Zealand population are for 2005–2007.

1.20 Infant and child mortality

Data for this measure come from the ABS Mortality Database (see notes for measure 1.22). Rates are per 1,000 live births. 'Infant' includes persons with an age at death of under 1 year. 'Other Australians' include deaths of non-Indigenous people and those for whom Indigenous status was not stated.

Table 21: 'Other conditions' include: neoplasms; diseases of blood and blood-forming organs; endocrine, nutritional and metabolic diseases; mental and behavioural disorders; diseases of the nervous system; diseases of the eye and

adnexa; diseases of the ear and mastoid process; diseases of the digestive system; diseases of the musculoskeletal system and connective tissues; diseases of the genitourinary system; and diseases of the skin and subcutaneous tissue.

1.21 Perinatal mortality

Data for this measure come from the ABS Mortality Database. This database contains details of all deaths registered in Australia including information on foetal (stillbirths) and neonatal deaths (deaths occurring in live births up to 28 days of age) by age of the baby, sex, state/territory of birth, Indigenous status and cause of death (ICD-10). Also, refer to notes for measure 1.22 for more information on mortality data. Perinatal deaths are all foetal deaths (at least 20 weeks gestation or at least 400 grams birthweight) plus all neonatal deaths (death of a live-born baby within 28 days of birth). Perinatal death rates are calculated per 1,000 all births for the calendar year.

1.22 All-causes age-standardised deaths rates

Mortality data are derived from the AIHW analysis of ABS Mortality Database. Current period data cover the period 2006–2010 and is reported for NSW, Qld, WA, SA and the NT combined. Data are presented in 5-year groupings because of small numbers each year. Time trends are presented for the periods 1991–2010 for WA, SA and the NT and 2001–10 for NSW, Qld, WA, SA and the NT. These states and territories are considered to have adequate levels of Indigenous identification in mortality data for these periods. Time series data are presented for single years.

Death rates are age-standardised death rates per 100,000 population, using the 2001 Australian Estimated Resident population, by 5-year age group to 75 years and over. Age-specific death rates per 100,000 are not age standardised. Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

Although most deaths of Aboriginal and Torres Strait Islander peoples are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. Time series analysis may also be affected by variations in the recording of Indigenous status over time. It is also difficult to identify the exact difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues. Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards. All causes of death data from 2007 onward are subject to a revisions process; once data for a reference year are 'final', they are no longer revised. Affected years are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary).

Table 23: Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

1.23 Leading causes of mortality

Refer to notes for measure 1.22 for more information on mortality data. Causes of death are based on the tenth revision of the International Classification of Diseases (ICD-10). It should be noted that different causes may have different levels of under-identification that differ from the 'all cause' coverage rates. It should also be noted that the quality of the cause of death data depends on every step of the process of recording and registering deaths (including the documentation available at each step of the process) from certification of death to coding of cause of death.

Table 24: Data for lung cancer, cervical cancer and digestive organ cancers are a subset of the data presented for all cancers. Data for diabetes are a subset of data presented for all endocrine, metabolic and nutritional disorders. Data for cervical cancer are for females only. 'Other causes' includes: diseases of the blood and blood-forming organs and certain disorders involving the immune system, mental & behavioural disorders, diseases of the eye and adnexa, diseases of the ear and mastoid process, diseases of the skin & subcutaneous tissue, diseases of the musculoskeletal system and connective tissue, diseases of the genitourinary system (excluding kidney diseases), pregnancy, childbirth & the puerperium, congenital malformations, deformations and chromosomal abnormalities; and symptoms, signs and abnormal clinical findings not elsewhere classified.

Figure 76: A high proportion of the cells within this table have been randomised to ensure confidentiality of data. ABS recommends cells with small values be interpreted with caution. ICD-codes are: Intentional self-harm (X60–X84), Transport accidents (V01–V99), Accidental poisoning by and exposure to noxious substances (X40–X49), Assault (X85–Y09), and Accidental falls (W00–W19). 'Other external causes' includes all other external causes of death not presented elsewhere in this table.

Table 25: Data presented for acute myocardial infarction are a subset of data presented for ischaemic heart disease. Data presented for stroke are a subset of data presented for cerebrovascular disease in this table. Data presented for bowel cancer are a subset for all cancers of the digestive organs. Data presented for bronchus & lung cancer are a subset of data presented for all respiratory and intrathoracic organs. Data presented for cervix cancer are a subset of data presented for all cancers of the female genital organs in this table. 'Other malignant neoplasms' includes neoplasms of bone and articular cartilage; melanoma and other neoplasms of skin; neoplasms of mesothelial and soft tissue; neoplasms of eye, brain and other parts of central nervous system; neoplasms of thyroid and other endocrine glands; and C9 Malignant neoplasms of independent (primary) multiple sites. Data presented for COPD and asthma are a subset of data presented for all chronic lower respiratory diseases.

1.24 Avoidable and preventable deaths

Refer to notes for measure 1.22 and 1.23 for information on mortality data. This measure presents data for avoidable mortality as defined in Table A1 in Appendix 1.1 of the Australian and New Zealand Atlas of Avoidable Mortality.

Figure 79: This figure presents primary, secondary and tertiary weighted data as defined in Table 3 of the Report of the NSW Chief Health Officer. Primary, secondary and tertiary

weightings by cause do not always add to 100%, therefore primary, secondary and tertiary death counts may not add to the number of avoidable deaths. Unavoidable mortality is all causes other than those specified as avoidable mortality.

Table 26: Data for lung cancer, cervical cancer and digestive organ cancers are a subset of the data presented for all cancers.

Determinants of Health (Tier 2)

2.01 Housing

For 2001 and 2006 Census data, households are considered overcrowded if one or more additional bedrooms are required to satisfy the Canadian National Occupancy Standard. Proportions have been calculated on all occupied private dwellings excluding those where number of bedrooms was not stated and includes not stated state/territory if the categorisation is not based on state/territory. Persons exclude visitors.

Categorisation in the 1994, 2002 and 2008 National Aboriginal and Torres Strait Islander Social Surveys is based on the Canadian National Occupancy Standard for housing appropriateness. Denominator excludes persons in households for which housing utilisation could not be determined.

Figure 81: Survey of Income and Housing 2007–08 data for non-Indigenous Australians exclude those in households in collection districts defined as very remote, accounting for about 23% of the population in the NT. 'Australia' includes other territories.

Figure 82 and 83: 'Private' renter includes dwellings being rented from a real estate agent, parent/other relative or other person, dwellings being rented through a Residential park (includes caravan parks and marinas), government employer (includes Defence Housing Authority) and other employer (private). 'Other tenure types' includes dwellings being purchased under a rent/buy scheme, occupied rent-free, occupied under a life tenure type and other tenure type.

2.02 Access to functional housing with utilities

Data for this measure come mainly from the Community Housing and Infrastructure Needs Survey (CHINS). It collects information on a variety of topics from discrete Aboriginal and Torres Strait Islander communities throughout Australia and on Aboriginal and Torres Strait Islander organisations that provide rental housing to Aboriginal and Torres Strait Islander peoples. Only discrete Aboriginal and Torres Strait Islander communities are covered. The data are collected from key personnel in Aboriginal and Torres Strait Islander communities and housing organisations that are knowledgeable about housing and infrastructure issues.

Figure 86: Data in this figure are self-reported data from the 2008 NATSISS. 'Washing people' comprises households lacking a working bath or shower. 'Washing clothes/bedding' comprises households lacking washing machine and/or laundry tub. 'Storing/preparing food' comprises households with working stove/oven/cooking facilities and a kitchen sink and a working refrigerator. 'Sewerage facilities' comprises households with a working toilet. Excludes households for which information about working facilities was not reported.

2.03 Environmental tobacco smoke

Table 27: 'No' category for 'Whether any regular smokers smoke at home indoors' includes households in which there were no current daily smokers.

Figures 88 and 89: Excludes households in which the smoking status of members was not stated.

2.04 Literacy and numeracy

The data from this measure are from the National Assessment Program – Literacy and Numeracy (NAPLAN). Equating one test with another is a complex procedure and involves some degree of statistical error. For this reason, there may be minor fluctuations in the average NAPLAN test results from year to year when, in reality, the level of student achievement has remained essentially the same. It is only when there is a meaningful change in the results from one year to the next, or when there is a consistent trend over several years, that statements about improvement or decline in levels of achievement can be made confidently. Some caution is required when interpreting changes in the performance across years (MCEECDYA 2011). A new persuasive writing scale was introduced in 2011. The persuasive writing results for 2011 should not be directly compared to the narrative writing results from earlier years. Therefore, time series data for writing have not been presented.

2.05 Education outcomes for young people

Data for this measure come from the AIHW analysis of ABS National Schools Statistics Collection. Retention rate is Year 10 or 12 students as a proportion of the corresponding cohort from the first year of secondary schooling (Year 7/8). Attainment rate is the proportion of Year 11 students who went on to achieve a Year 12 certificate.

While most students are recorded, it is likely that some are not accurately identified as Aboriginal and Torres Strait Islander. Therefore, these statistics are likely to underestimate the number of Aboriginal and Torres Strait Islander students. In addition, the standard Indigenous status question has not yet been implemented in some jurisdictions. The following factors have not been taken into account in these statistics: students repeating a year of education; migration and other net changes to the school population, enrolment policies (including year starting high school which contributes to different age/grade structures between states and territories); and inter-sector transfer and interstate movements of students. In small jurisdictions, relatively small changes in student numbers can create apparently large movements in retention rates.

Table 28: The inclusion or exclusion of part-time students can also have a significant effect on apparent retention rates, especially in SA, Tasmania and the NT, which have relatively large proportions of part-time students. Data for WA have been affected by changes in scope and coverage over time. Some ACT rates exceed 100%, largely reflecting the movement of students from non-government to government schools in Years 11 and 12, and of NSW residents from surrounding areas enrolling in ACT schools. Changes to the processing of NT enrolment data will affect comparisons with previous years of all numbers drawing on student data for the NT.

2.06 Educational participation and attainment of adults

Figure 96: 'Technical or Further Education Institution' includes TAFE/VET/technical college, business college, and industry skills centre.

Figure 97: 'Completed year 9 or below' includes persons never attended school. Excludes those still attending secondary school.

Figure 98: Qualifications are as classified under the ABS Classification of Qualifications. 'Bachelor degree or above' includes bachelor degree, doctorate, masters, graduate diploma, graduate certificate.

Figure 99: The data come from the National Centre for Vocational Education Research. Non-identification rates for Aboriginal and Torres Strait Islander students in these data are high. Care also needs to be taken when comparing data across jurisdictions for load pass rates, as average module durations vary across jurisdictions. Percentages are calculated using the Indigenous and non-Indigenous estimated resident populations for 2006. Data represent number of completions, students may complete more than one course. Includes statements of attainment. The number of qualifications completed in 2010 are based on preliminary data and will be revised upwards in the next collection.

2.07 Employment

Figure 100: 'Participation rate' is the ratio of the total of those persons who are employed and unemployed, to the civilian population in the same group including those who are employed, unemployed and not in the workforce. 'Employed as a proportion of total population' is the total of those persons who are employed (CDEP or non-CDEP) as a proportion of the civilian population in the same group. The unemployment rate is the ratio of those persons who are unemployed to the total of persons who are employed and unemployed.

Figures 101 and 103: Excludes 'Labour force status not stated' (except in Total Age-standardised).

2.08 Income

Figure 104: Equivalised gross household income quintile boundaries for Aboriginal and Torres Strait Islander persons are: first (0 to \$435); second (\$436 to \$686); third (\$687 to \$952); fourth (\$953 to \$1,380); and fifth (\$1,381 or more). Equivalised gross household income quintile boundaries for non-Indigenous persons are: first (0 to \$423); second (\$424 to \$666); third (\$667 to \$925); fourth (\$926 to \$1,341); and fifth (\$1,342 or more).

Figure 107: mean weekly equivalised gross household incomes for 1994 and 2002 have been adjusted for inflation using CPI.

2.09 Index of disadvantage

The population of some states/territories was unable to be split into exact quintiles based on the SEIFA index of advantage/disadvantage. In all except one of these cases the best approximate quintiles were calculated. Approximate population quintiles based on the SEIFA Index of Advantage/Disadvantage were unable to be calculated for Tasmania because of the population spread.

2.10 Community safety

Figure 110: Data are from the AIHW's analysis of the National Hospital Morbidity Database. Refer to notes for measure 1.02 regarding these data. Causes of injury are based on the first reported external cause as 'assault' (ICD-10-AM codes X85-Y08), where the principal diagnosis was 'injury and poisoning' (S00-T98).

Figure 111: refer to notes for measure 1.22 for information on mortality data. ICD-10 codes X85-Y09.

Tables 30 and 31: In the 2008 NATSISS, Aboriginal and Torres Strait Islander people were asked about 24 separate stressors, and in the 2007-08 NHS, non-Indigenous persons were asked about 14 separate stressors.

2.11 Contact with the criminal justice system

Table 32 and Figure 112: Data are from the ABS National Prison Census. The ABS collects data from administrative records on people in prison custody on 30 June each year in all jurisdictions. This Census includes all prisoners in adult corrective services, but not persons in juvenile institutions, psychiatric care or police custody. These data provide a picture of persons in prison at a point in time and does not represent the flow of prisoners during the year.

Figure 113: Rates are based on AIHW juvenile justice data. Aboriginal and Torres Strait Islander peoples in juvenile justice are calculated using population estimates based on the 2006 Census (Series B). Age is calculated at the start of the financial year if the period of detention began before the start of the financial year. Otherwise age is calculated as at the start of the period of detention. For the ACT, single year of age population data was not available for rate calculations.

2.12 Child protection

Figure 114: Following the NSW Keep Them Safe reforms, the 2010-11 data reflect the first full year of reporting under legislative changes to the NSW Children and Young Persons (Care and Protection) Act 1998, proclaimed on 24 January 2010. This includes raising the reporting threshold from 'risk of harm' to the new 'risk of significant harm'. WA is currently unable to report a child's characteristics based on their first substantiation. As a result a small number of children may be double-counted in this table where they have more than one substantiation and the notifications had differing characteristics such as age or abuse type. In Tasmania, the proportion of substantiations for children with an unknown Indigenous status affects the reliability of these data. Population estimates are based on the 2006 Census. From 2007-08 onwards, legislative and policy changes allowed for the capture of data on 'unborn children' as a distinct age grouping. This age group has been excluded from this analysis.

Figure 115: NSW data do not include finalised supervisory orders. NSW was unable to provide data for 2003-04 because of the ongoing implementation of the new data system. Because of new service and data reporting arrangements, the Victorian child protection data from 2006-07 may not be fully comparable with previous years' data. In WA, practices were introduced (in 2001-02) to improve the identification of Indigenous status that resulted in an apparent increase in the number of Aboriginal and Torres Strait Islander clients for the 2002-03 period. In WA, 2007 data include 24 children who

were placed on Enduring Parental Responsibility orders. In the ACT, additional systems have been put in place to tackle the Indigenous status recording issues, including quarterly monitoring. 'Other children' includes those children whose Indigenous status is unknown. Children of unknown Indigenous status were not collected at a national level until 2006–07; hence interpretation of these trend data should be treated with caution.

Table 33: Population estimates are based on the 2006 Census.

Figure 116: This figure does not include Aboriginal and Torres Strait Islander children who were living independently or whose living arrangements were unknown. Family group homes and residential care are reported under 'other caregiver'.

2.13 Transport

Table 34: 'Total' for use of public transport in last two weeks includes persons who were housebound. Main reason for not using public transport were asked of people who had not used public transport in last 2 weeks but who had access to public transport in their area. 'No suitable services' includes no services available at night, service not convenient or not available for destination. 'Personal reasons' includes concerns about personal safety, treated badly/discrimination and health reasons. 'Total' for main reason for not using public transport excludes not known responses.

2.15 Tobacco Use

Figure 122: 'Smokers' comprises current daily smokers and persons who smoked less than daily. Difference between 1994 and 2008 is statistically significant. Difference between 2002 and 2008 is statistically significant.

2.16 Risky alcohol consumption

Figures 124 to 126: Alcohol risk level based on Australian Alcohol Guidelines 2000. 'Abstainers' are defined as persons who consumed no alcohol in last 12 months. 'Short-term risk', which includes 'Drank at risky/high risk levels in last 12 months' and 'Drank at risky/high risk levels at least once a week', is based on responses to questions in 2004–05 National Health Survey/NATSIHS about frequency of consumption of specified number of drinks in previous year. The number of drinks was based on the NHMRC guidelines for risky and high risk short-term alcohol consumption for males and females. 'Drank at risky/high risk levels in last 12 months' is defined as persons who consumed alcohol at specified risky/high risk levels in the short-term on at least one occasion in the last 12 months. 'Drank at risky/high risk levels at least once a week' is defined as persons who consumed alcohol at specified risky/high risk levels in the short-term at least once a week in the last 12 months. Risk level based on consumption in week prior to interview.

Figure 127: Refer to notes for measure 1.22 regarding mortality data. ICD-10 codes: K70, F10, X45, X65 and Y15.

2.17 Drug and other substance use including inhalants

Table 36: The substance use questions in the 2008 NATSISS are comparable to those used in the 2002 NATSISS. However, when comparing between 2002 and 2008 it should be noted that there were changes in the proportion of people who did not accept the substance use form (6 per cent non-response in the 2002 NATSISS compared with 9 per cent for the 2008

NATSISS). 'Analgesics and sedatives for non-medical use' includes pain killers, tranquilisers and sleeping pills. 'Total used substances in last 12 months' includes heroin, cocaine, petrol, LSD/synthetic hallucinogens, naturally occurring hallucinogens, ecstasy/designer drugs, and other inhalants, and includes methadone in 2008. Sum of components may be more than total as persons may have reported more than one type of substance used. Used substances in the last 12 months 'Total' includes 'whether used in last 12 months' not known. 'Not stated' comprises people who accepted the substance use form but did not state if they had ever used substances.

2.18 Level of physical activity

Figure 131: 'Total' includes level of physical activity not stated.

1.19 Dietary behaviours

Figure 132: Recommended usual daily vegetable intake is defined as '5 or more serves per day'. Recommended usual daily fruit intake is defined as '2 or more serves per day'. Low usual daily vegetable intake is defined as '1 or less serves per day including not eating vegetables at all'. Low usual daily fruit intake is defined as '1 or less serves per day including not eating fruit at all'. Recommended usual daily vegetable intake is not available for 2001 as there was no category for 5 serves or more.

2.20 Breastfeeding practices

Some data for this measure come from the AIHW analysis of the Australian National Infant Feeding Survey. The sample size for this survey was 28,759 mothers/carers, including 401 (1.4%) mothers/carers who identified as Aboriginal and Torres Strait Islander; 28,214 who identified as non-Indigenous; and 144 (0.5%) whose Indigenous status was missing. The survey was a national survey, and as such no population sub-group was oversampled (e.g., Aboriginal and Torres Strait Islander peoples). The sampling frame for the survey was Medicare enrolment database. If there was a delay in infants or children to enrol for Medicare, these infants/children were excluded from the population. The survey used mail survey method to collect data (with an option of online completion). The survey instrument was in English language only. Mothers/carers who could not read or write and did not seek help from others could not participate in the survey.

Figure 37: 'Age (months)' indicates an infant's age in the months before a fluid other than breast milk was introduced. This is effectively the month before another fluid was introduced. For example, a child who was introduced to water when they were aged 4 months (in their fifth month of life) was exclusively breastfed to 4 months of age (that is, they had 4 completed months of exclusive breastfeeding). Similarly, a child who was introduced to water at age 1 month (in their second month of life) was exclusively breastfed to 1 month. Or, a child who was introduced to water at 0 months (in their first month of life) was exclusively breastfed to 0 months (or less than 1 month).

2.21 Health Behaviours during pregnancy

Refer to notes for measure 1.01 regarding perinatal data. Provisional data were provided by Victoria. Because of differences in definitions and methods used for data collection, care must be taken when comparing across

jurisdictions. Mother's tobacco smoking status during pregnancy is self-reported. Data are directly age-standardised using the Australian female population who gave birth in 2009.

Figure 136: Excludes births where the mother's Indigenous status was not stated. Data are by place of usual residence of the mother. Data exclude non-residents, external territories and not stated state/territory of residence. For women who gave birth in SA, 'smoked' includes women who quit before the first antenatal visit. In the NT there were a large number of not stated smoking status responses which have been excluded from the percentage calculations. Caution should be used when interpreting these rates.

Figure 137: Total includes mothers for whom maternal age was not stated.

2.22 Overweight and obesity

All figures: Proportions exclude those for whom BMI was unknown or not stated (39,583 or 15% for Aboriginal and Torres Strait Islander peoples and 1,175,132 or 8% for non-Indigenous Australians).

Figure 142: Directly age-standardised proportions to the Australian 2001 standard population.

Health System Performance (Tier 3)

3.01: Antenatal care

Data for this measure come from the state/territory-based Perinatal Collections. See measure 1.01 for more information on this data collection. Antenatal care will be included in the Perinatal National Minimum Dataset from July 2013. In the meantime, data from the jurisdictional Midwives collection have been included. The current question is not consistent across jurisdictions, therefore, caution should be used when interpreting these numbers.

Figure 144: Rate is for NSW, Qld and SA. Data are not available from Victoria, WA and Tasmania. Data are available for the ACT but is not of sufficient quality to publish. In the NT in 1998, 1999 and 2002, a system error occurred where a large number of women had birthing records created with no antenatal data attached, therefore the NT is not included. In 2007, NSW collected data for a new variable "was antenatal care received" which provide a more accurate picture of the use of antenatal sessions. Prior to 2007, data for the number of women attending antenatal sessions in NSW were restricted to those whose "duration of pregnancy at first antenatal session was recorded". In order to maintain consistency in the time series, data using the pre-2007 definition are used. SA data exclude women where number of antenatal care sessions attended is unknown.

Figure 145: Data for NSW, Qld, SA, and the NT only. For Qld, data on duration of pregnancy at first antenatal visit were collected from 1 July 2009. Women who gave birth in NSW, Qld, SA or the NT but reside in another jurisdiction are not reported due to small numbers. These data are not generalisable to Australia.

Figure 146: For Qld, data on duration of pregnancy at first antenatal visit were collected from 1 July 2009.

Figure 147: Data for Qld, SA and the NT only. Women who gave birth in Queensland, SA or the NT but reside in another

jurisdiction are not reported due to small numbers. Data not collected in NSW. These data are not generalisable to Australia.

3.02 Immunisation

Data in this measure are based on the Australian Childhood Immunisation Register (ACIR), which is managed by Medicare Australia and holds information on childhood immunisation coverage. All children under seven years of age who are enrolled in Medicare are automatically included on the ACIR. Children who are not eligible to enrol in Medicare can be added to the ACIR when details of a vaccination are received from a doctor or immunisation provider. Coverage estimates for Aboriginal and Torres Strait Islander children include only those who identify as such and are registered on the ACIR. Children identified as Aboriginal and Torres Strait Islander on the ACIR may not be representative of all Aboriginal and Torres Strait Islander children, and thus coverage estimates should be interpreted with caution. Children for whom Indigenous status was not stated are included with the non-Indigenous children under the 'other' category. Vaccination coverage is a measure of the proportion of people in a target population who have received the recommended course of vaccinations at a particular age. Vaccination coverage data from the ACIR and the NATSIHS are not directly comparable because of the differences in the cohort used, population coverage, data collection method, method of calculating 'fully immunised' and vaccines included.

Figure 148: Data not available for children at age 6 years for 2001. From 2008, fully vaccinated status for 5 year olds is reported in place of that for 6 year olds, due to changes to NCIR reporting practices.

Table 38: Age groups represent three-month cohorts, for cohorts born between 1 July and 30 September 2010, 1 July and 30 September 2009, and 1 July and 30 September 2006, respectively.

3.03 Health promotion

Table 40: These data comes from the OATSIH Service Reporting (OSR) data collection. 2010-11 OSR data count all auspice services individually when calculating rates, therefore caution should be exercised when comparing rates with earlier data collection periods. Two hundred and thirty-four of the 235 respondent Aboriginal and Torres Strait Islander primary health care services provided valid data about health related activities provided by the service for 2010-11. The percentages supplied in this table are calculated as a proportion of these 234 services.

Figure 150: Data from five combined BEACH years (April 2006-March 2007 to April 2010-March 2011 inclusive). Other includes non-Indigenous patients and patients for whom Indigenous status was not stated. IPCP-2 codes defining Advice/education codes: A45002, B45002, D45002, F45002, H45002, K45002, L45002, N45002, P45002, R45001, S45002, T45002, U45002, W45004, X45002, Y45002, Z45002. IPCP-2 codes defining Counselling/advice treatment: A45016, A45019, A45020, A45021, A45030, A48004, L45004, R45004, T45004, T45009. IPCP-2 codes defining Counselling/advice nutrition/weight: T45005, T45007, T58002, A45006. IPCP-2 codes defining Counselling/advice smoking: P58008, P45005. IPCP-2 codes defining counselling/advice alcohol: P45005, P58009. IPCP-2 codes defining counselling/advice exercise:

A45004, A58005. IPCP-2 codes defining counselling/advice lifestyle: P45008, P58012. IPCP-2 codes defining family planning: A98002, A98003, W14002, W45006, W45007, W45008, W58001, W58005, W58007, W58012, W58013, Y14001, Y45006, Y45007, Y58005, Y58006. IPCP-2 codes defining counselling/advice relaxation: P45007, P58011, P58017.

Figure 151: Communities with a population of 50 or more, or a reported usual population of fewer than 50 but which were not linked to a parent community or resource agency. The total communities includes 'whether selected health promotion program conducted' not stated and excludes communities where distance to nearest hospital not stated.

3.04 Early detection and early treatment

Figure 152: Rates were calculated using the Aboriginal and Torres Strait Islander population estimates for 2006–2011, divided by four to obtain quarterly rates for each year. MBS item 715 commenced in May 2010, MBS codes 704, 706, 708 and 710 were reclassified as 715 for prior years. Data for 0–14 year olds for quarter 1, 2006 were not available.

Figure 153: Data provided are for the period 1 July 2010 to 30 June 2011. Rates are calculated using the average of 2010 and 2011 Aboriginal and Torres Strait Islander population projections for those aged 55 years and over and the total Australian population estimates for those aged 75 years and over.

Figure 154: Data are from BreastScreen Australia for women who attended for a screening mammogram at a BreastScreen Australia service. Rates are the number of women screened as a percentage of the eligible female population calculated as the average of the 2007 and 2008 ABS estimated resident population.

3.05 Chronic disease management

Figure 155 and 156: Medicare data presented by Indigenous status have been adjusted for under-identification in the Medicare Australia Voluntary Indigenous Identifier (VII) database. The methodology for this adjustment was developed and verified by the AIHW and the 'Department of Health and Ageing for assessment of MBS and PBS service use and expenditure for Aboriginal and Torres Strait Islander peoples. For an explanation of the methodology, see Expenditure on health for Aboriginal and Torres Strait Islander peoples 2006–07 (AIHW 2011e). Figure 155 presents VII adjusted number of services and Figure 156 presents age standardised rates.

Figure 157: Aboriginal and Torres Strait Islander adults aged 15 years and over who are regular clients of the HFL service. Valid data for this indicator were provided by 75 services (6 in major cities, 16 in inner regional areas, 26 in outer regional areas, 13 in remote areas and 14 in very remote areas). Services used their own definition of regular client.

3.06 Access to hospital procedures

Data for this measure come from the AIHW's analysis of the National Hospital Morbidity Database. Refer to notes for measure 1.02 regarding hospital data. Data in this measure are presented as a proportion of hospital separations and not as a population rate.

Table 41: Data are age standardised. Hospitalisations with a principal diagnosis not stated have been excluded. Figure 160: Only includes hospitalisations with a principal diagnosis of I20 to I25 (ICD-10 codes). Per cent refers to the proportion of hospitalisations with coronary heart disease as the principal diagnosis receiving either coronary angiography or coronary revascularisation.

3.07 Selected potentially preventable hospital admissions

Data for this measure come from the AIHW's analysis of the National Hospital Morbidity Database. Refer to notes for measure 1.02 regarding hospital data. Categories are based on the ICD-10-AM sixth edition (National Centre for Classification in Health 2010): codes J10, J11, J13, J14, J153, J154, J157, J159, J168, J181, J188, A35, A36, A37, A80, B05, B06, B161, B169, B180, B181, B26, G000, M014, J45, J46, I50, I110, J81, E10–E14.9, J20, J41, J42, J43, J44, J47, I20, I240, I248, I249, D501, D508, D509, I00–I09, I10, I119, E40, E41, E42, E43, E550, E643, A099, E86, K522, K528, K529, N390, N10, N12, N11, N136, K250, K251, K252, K254, K255, K256, K260, K261, K262, K264, K265, K266, K270, K271, K272, K274, K275, K276, K280, K281, K282, K284, K285, K286, L03, L04, L08, L980, L88, L983, N70, N73, N74, H66, H67, J02, J03, J06, J312, K02, K03, K04, K05, K06, K08, K098, K099, K12, K13, K350, O15, G40, G41, R56, R02. Note some of these codes are for principal diagnosis only, some are for principal or additional diagnosis, and some are principal diagnosis with the exclusion of some procedure codes. For more information on coding used, refer to the AIHW National Healthcare Agreement, PI-22 Selected potentially preventable hospitalisations, 2012. Due to coding changes between the ICD-10-AM 6th edition and 5th edition there may be a large decline in separations associated with the categories 'Diabetes complications' and 'Gastroenteritis', therefore time series data for chronic and acute conditions are not presented.

Figure 161: Rates are calculated using the remoteness distribution by Indigenous status, age and sex based on the 2006 ERP and applied to the 2008–10 population projections (Series B) based on the 2006 Census.

3.08 Cultural competency

Figure 164: See notes for measure 3.12, Table 43 for information on this figure.

Figure 166: See notes for measure 3.03 for information on the OSR data collection.

3.09 Discharge against medical advice

Data for this measure come from AIHW's analysis of the National Hospital Morbidity Database. Refer to notes for measure 1.02 regarding hospital data. Data in this measure are presented as a proportion of hospital separations and not as a population rate. Data exclude principal diagnosis of dialysis (Z49) and mental and behavioural disorders (ICD10-AM chapter F) care types 7.3,9,10.

Figure 171: 'Other' includes: neoplasms; certain conditions originating in the perinatal period; diseases of the ear and mastoid process; diseases of the eye and adnexa, diseases of the genitourinary system, diseases of the musculoskeletal system, diseases of the blood and blood-forming organs and certain disorders involving the immune system; and

congenital malformations and deformations and chromosomal abnormalities.

3.10 Access to mental health services

Figure 172: Data from five combined BEACH years (April 2006–March 2007 to April 2010–March 2011 inclusive). ‘Mental health-related problems’ classified according to ICPC-2 codes (Classification Committee of the World Organization of Family Doctors (WICC) 2005). Data for Aboriginal and Torres Strait Islander peoples and other Australians have not been weighted. Rates were directly age-standardised per 100. ‘Other’ includes non-Indigenous patients and patients for whom Indigenous status was not stated. ICPC-2 codes: P01–P13, P15–P20, P22–P25, P27–P29, P70–P82, P85–P86, P98–P99.

Figure 173: The data for this figure come from the AIHW National Community Mental Health Care Database (NCMHCD). The quality of the Indigenous identification in this database varies by jurisdiction and should be interpreted with caution. Rates were directly age-standardised using the Australian 2001 standard population. Number per 1,000 population based on estimated resident population as at 30 June 2009.

Figures 174 and 175: Refer to notes for measure 1.02 regarding hospitalisation data.

3.11 Access to alcohol and other drug services

Figure 176: Refer to notes for measure 3.03 for information on the OSR data collection. Thirty of the 49 respondent Aboriginal and Torres Strait Islander substance use services provided valid data for the number of residential treatment/rehabilitation episodes of care. Thirteen services provided valid data for the number of sobering-up/residential respite episodes of care. Forty services provided valid data for the number of non-residential/follow-up/aftercare episodes of care.

Figure 177: Data from three individual BEACH years (April 1998–March 1999 April 2004–March 2005 and April 2010–March 2011). Directly age-standardised rate (no. per 1,000 encounters) using total BEACH encounters in the period as the standard. ICP-2 codes defining counselling/advice alcohol P45005, P58009.

3.12 Aboriginal and Torres Strait Islander people in the health workforce

Table 43 includes a detailed breakdown of occupations. ‘n.p.’ refers to data not published (data cannot be released due to quality issues and confidentiality). Numbers less than 10 are considered too unreliable for general use due to the impact of randomisation of small cell values to avoid the release of confidential data. Occupation classification is based on 2006 Australian and New Zealand Standard Classification of Occupations (ANZSCO) codes. Classification codes for 1996 and 2006 were mapped to fit that of 2006. Average period change determined using regression analysis. Per cent change between the reporting periods 1996 and 2006 based on the average annual change over the period. Rate per 10,000 measures the health workforce available (numerator) to service the population (denominator). Denominator used in rates is the 2006 total population by Indigenous status minus those where occupation is not stated. Rate difference is non-Indigenous rate minus the Indigenous rate. Both 2001

and 2006 figures for ‘Registered Nurses’ include Midwifery and Nursing Professionals. ‘Other medical practitioners’ includes specialists and surgeons. The 2006 figure for ‘Psychologist’ includes clinical psychologist, psychotherapist, educational psychologist, organisational psychologist, psychologist n.f.d. and psychologist n.e.d. However, both the 1996 and 2001 figures are clinical psychologist and psychotherapist combined. Health Promotion Officers could not be identified separately in 2001 and 1996 due to different occupation classifications. These were included in Community Workers in 2001 and 1996 and not included in the table. For some occupations, such as Nurses, Medical Practitioners, and Pharmacists, there are slight differences between the 2006 figures in this table and those in the Health and Community Services Labour Force 2006, and the Aboriginal and Torres Strait Islander Health Labour Force Statistics and Data Quality Assessment reports. These discrepancies are due to the impact of aggregating randomised data from data sets with different small cell distributions and the use of different occupation classifications (in the case of the second report).

3.13 Competent governance

Table 44: The data for this table come from the Office of the Registrar of Indigenous Corporations. In 2010–11, compliance analysis was able to be completed for 86 companies incorporated under the ACA Act and registered with ORIC.

Table 45 and Table 46: Refer to notes for measure 3.03 for information on the OSR data collection.

Table 46: Questions were not applicable for all services. Percentage was calculated based on the number of services that provided data for each question. Denominators used were 202, 191, 191 and 192 respectively.

3.14 Access to services compared with need

Figure 178: Data come from the AIHW analysis of the ABS Mortality Database and the 2004–05 NATSIHS. Refer to measure 1.22 regarding notes on mortality data. Health care access data include total who took at least one health-related action—those who were admitted to hospital in last 12 months, dental consultation in last 2 weeks, doctor consultation in last 2 weeks, visited casualty/outpatient in last 2 weeks or consulted with other health professional in last 2 weeks.

Figure 179: Refer to notes for measure 1.02 regarding hospitalisation data. Rates are calculated using the remoteness distribution by Indigenous status, age and sex based on the 2006 ERP and applied to the 2008–10 population projections (Series B) based on the 2006 Census.

Figure 180: Refer to notes for measure 3.03 for information on the OSR data collection. 2008–09 OSR data count all auspice services individually when calculating rates, therefore caution should be exercised when comparing rates with earlier data collection periods. DASR 2000–2001 FTE and EOC were drawn from raw data and may not be accurate.

Figure 181 and 182: See notes for measure 3.05 for information on Medicare data. For Figure 181, Aboriginal and Torres Strait Islander rates should be interpreted with caution due to small population numbers in some jurisdictions.

3.15 Access to prescription medicines

Figure 183: 'Benefit-paid pharmaceuticals' includes the Repatriation Pharmaceutical Benefits Scheme (RPBS) as well as the PBS.

Figure 184: 'PBS' does not include RPBS benefits.

3.16 Access to after-hours primary care

Figure 186: Data from five combined BEACH years (April 2006–March 2007 to April 2010–March 2011 inclusive). Other arrangements also includes 'Referral to other services' which was removed as an option from April 2009 onwards. 'Total after hours' is less than the sum of the components as GPs can have more than one type of after-hours arrangement.

Figure 187 and Table 48: The data come from the National Non-Admitted Patient Emergency Department Care Database. The Non-admitted Patient Emergency Department Care data are required to be reported for hospitals categorised as peer group A or B in the previous year's Australian hospital statistics. In addition, data are provided for some smaller hospitals by some states and territories. Therefore these data will only cover a sub-set of after-hours emergency episodes of care. The quality of the identification of Aboriginal and Torres Strait Islander patients in the National Non-admitted Patient Emergency Department Care Database has not been assessed. Identification of Aboriginal and Torres Strait Islander patients is not considered to be complete, and completeness may vary among the states and territories. Excludes patients who were admitted or arrived at the hospital by ambulance.

3.17 Regular GP or health service

Self-reported data from the National Aboriginal and Torres Strait Islander Health Survey 2004–05. Total includes 'traditional healer', 'other health care' and 'not stated'. Data are presented for health-related actions in last 2 weeks except hospital admissions (in last 12 months). Persons aged 15 years and over.

3.18 Care planning for clients with chronic diseases

Table 49: Clients are Aboriginal and Torres Strait Islander adults aged 15 years and over, who are regular clients of the HFL service. In a small number of services there is likely to be double counting of clients, as clients are reported to have had both an MBS and Alternative GPMP.

Figure 193: For information on Medicare data, refer to notes for measure 3.05.

3.19 Accreditation

Figure 195: Aboriginal and Torres Strait Islander proportions are based on ABS population estimates used in the Annual Survey of Divisions of General Practice. There is double counting of some services where general practices reside on the border of two Divisions. In that case two Divisions may service the same practice. Includes one Division for which the

proportion of the Aboriginal and Torres Strait Islander population was not available.

3.20 Aboriginal and Torres Strait Islander people training for health-related disciplines

Table 51 and Figure 196: These data come from the DEEWR Higher Education Schools Statistics Collection. Includes domestic and international students. The data in Table 51 take into account the coding of Combined Courses to two fields of education. As a consequence, counting both fields of education for Combined Courses means that the totals may be less than the sum of detailed fields of education.

Table 52: Classification based on ABS narrow fields of education. 'Completions' represents number of completions, students may complete more than one course. 'Enrolled' represents number of enrolments, students may be enrolled in more than one course. The number of qualifications completed in 2010 are based on preliminary data and will be revised upwards in the next collection.

3.21 Expenditure on Aboriginal and Torres Strait Islander health compared to need

For more information see Expenditure on health for Aboriginal and Torres Strait Islander people 2008–09 (AIHW 2011e).

Figure 198: ACT per person expenditure estimates are not calculated because estimates for the ACT include substantial expenditures for NSW residents. As a result, the ACT population is not an appropriate denominator. Admitted patient expenditure adjusted for Aboriginal and Torres Strait Islander under-identification, except for Tasmania. Includes other recurrent expenditure on health, not elsewhere classified, such as family planning previously reported under 'Other health services (n.e.c.)'. Health administration costs for NSW, Victoria, Tasmania and the NT are zero, as these jurisdictions have allocated administrative expenses into the functional expenditure categories.

Figure 200: 'Community health services' includes other recurrent expenditure on health, not elsewhere classified, such as family planning previously reported under 'Other health services (nec)'. Expenditure estimates include depreciation (capital consumption).

3.22 Recruitment and retention of staff

Figures 203 and 204: Refer to notes for measure 3.03 for information on the OSR data collection. One hundred and fifty-two of the 235 respondent Aboriginal and Torres Strait Islander primary health care services provided valid data about vacant positions for 2010–11.

Figure 203: Number of funded FTE vacancies divided by the total FTE positions multiplied by 100.

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