



Australian Indigenous
HealthInfoNet

Summary of Aboriginal and Torres Strait Islander health status 2017



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The Australian Indigenous HealthInfoNet

The Australian Indigenous HealthInfoNet's mission is to contribute to improvements in Aboriginal and Torres Strait Islander health by making relevant, high quality knowledge and information easily accessible to policy makers, health service providers, program managers, clinicians and other health professionals (including Aboriginal and Torres Strait Islander health workers) and researchers. The HealthInfoNet also provides easy-to-read and summarised material for students and the general community.

The HealthInfoNet achieves its mission by undertaking research into various aspects of Aboriginal and Torres Strait Islander health and disseminating the results (and other relevant knowledge and information) mainly via its websites - the Australian Indigenous HealthInfoNet (healthinfonet.ecu.edu.au), the Alcohol and Other Drugs Knowledge Centre (aodknowledgecentre.ecu.edu.au) and Tackling Indigenous Smoking (tacklingsmoking.org.au). The research involves analysis and synthesis of data and other information obtained from academic, professional, government and other sources. The HealthInfoNet's work in knowledge exchange aims to facilitate the transfer of pure and applied research into policy and practice to address the needs of a wide range of users.

Recognition statement

The Australian Indigenous HealthInfoNet recognises and acknowledges the sovereignty of Aboriginal and Torres Strait Islander people as the original custodians of the country. Aboriginal and Torres Strait cultures are persistent and enduring, continuing unbroken from the past to the present, characterised by resilience and a strong sense of purpose and identity despite the undeniably negative impacts of colonisation and dispossession. Aboriginal and Torres Strait Islander people throughout the country represent a diverse range of people, communities and groups each with unique identity, cultural practices and spiritualities. We recognise that the current health status of Aboriginal and Torres Strait Islander people has been significantly impacted by past and present practices and policies.

We acknowledge and pay our deepest respects to Elders past and present throughout the country. In particular we pay our respects to the Whadjuk Noongar peoples of Western Australia on whose country our offices are located.

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Summary of Australian Aboriginal and Torres Strait Islander health status, 2017

This plain language *Summary of Australian Aboriginal and Torres Strait Islander health status, 2017* is based on the *Overview of Australian Aboriginal and Torres Strait Islander health status, 2017* (<https://healthinonet.ecu.edu.au/learn/health-facts/overview-aboriginal-torres-strait-islander-health-status/>).

Preface

The main purpose of the *Summary of Aboriginal and Torres Strait Islander health status 2017* is to provide an overview of the current health of Australia's Aboriginal and Torres Strait Islander people in plain language. Australian Indigenous HealthInfoNet staff have prepared the *Summary* as part of our contribution to support those who work in the Aboriginal and Torres Strait Islander health sector.

The aim of the *Summary* is not to provide in-depth information on issues such as the availability and use of services (or barriers to their use) and strategies and policies related to specific health topics. This type of information is provided in the topic-specific reviews that are available on the HealthInfoNet's website (<https://healthinonet.ecu.edu.au/learn/health-facts/reviews-knowledge-exchange-products>). For further information about each of the topics covered in this *Summary*, please go to the relevant pages of the HealthInfoNet's website (<https://healthinonet.ecu.edu.au>).

To make sure that we continue to produce a product that meets your needs, we welcome your comments and feedback about the *Summary of Aboriginal and Torres Strait Islander health status 2017*.



Neil Drew, Director, on behalf of the HealthInfoNet team

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Introduction

This *Summary of Aboriginal and Torres Strait Islander health status 2017* is based on the *Overview of Aboriginal and Torres Strait Islander health status 2017* produced by the Australian Indigenous HealthInfoNet. It provides information about:

- population
- births
- deaths
- major health problems
- health risk and protective factors.

Many reports and publications about Aboriginal and Torres Strait Islander people focus on the negative differences between Aboriginal and Torres Strait Islander people and non-Indigenous people. We pledge to also report positive differences and improvements in health whenever the information is available.



In this *Summary*, as part of our ongoing commitment to strengths based approaches, we have highlighted improvements to health and factors that contribute to positive health outcomes.

Most of the information in this *Summary* comes from government reports, particularly those produced by the Australian Bureau of Statistics (ABS) and the Australian Institute of Health and Welfare (AIHW). Data for these reports come from:

- health surveys (for example, the Australian Aboriginal and Torres Strait Islander health surveys)
- hospitals and other government agencies (such as the birth and death registration systems and the hospital in-patient collections)
- doctors across Australia.

The accuracy of identification of Aboriginal and Torres Strait Islander people in health data collections varies across the country. In this *Summary*, unless otherwise stated, statistics collected in the following jurisdictions New South Wales (NSW), Queensland (Qld), Western Australia (WA), South Australia (SA) and the Northern Territory (NT) are considered to be adequate, for example, for mortality. However, for some collections such as hospitalisation, data is considered adequate across Australia.

Due to the difference in the age structures of the Aboriginal and Torres Strait Islander population and the non-Indigenous population (see Figure 1), any comparison of rates between the populations requires the data to be age-standardised (see Glossary). All comparisons of rates in this *Summary* will be age-standardised unless otherwise stated.

How do historical and political factors influence health?

Aboriginal people have lived in Australia for at least 45,000 years [1] and possibly up to 120,000 years [2]. Torres Strait Islander people first lived on the islands in the Torres Straits and now live across mainland Australia and the Straits [2].

Before colonisation by Europeans, both Aboriginal people and Torres Strait Islander people enjoyed a semi-nomadic lifestyle [2]. They lived in family and community groups and moved across their own territories according to the seasons. The transition from living as active hunter-gatherers to a mostly inactive lifestyle with a Westernised diet has had serious effects on their health [3].

Colonisation led to the introduction of certain policies that have had a negative impact on quality of life and health. Many of these policies have contributed to past and continuing experiences of:

- racism
- discrimination
- the forced removal of children
- loss of identity, language, culture and land [4].

One area of positive change is in Aboriginal and Torres Strait Islander self-governance. Aboriginal and Torres Strait Islander Members of the House of Representatives, Senators and other senior political leaders work to improve the health and wellbeing of their people [5]. These developments have come after years of leadership from Aboriginal Community Controlled Health Organisations (ACCHOs).



What social factors affect people's health?

The social determinants of health are the social factors that influence health [6]. They include the conditions in which people are born, grow, live, work and age. These conditions are created by policies, political systems and social customs [6, 7]. Other social factors that contribute to the gap in health between Aboriginal and Torres Strait Islander and non-Indigenous people include education, employment, income and the physical environment where they live.

Education

According to the 2016 Australian *Census* [8], among 20-24 year old Aboriginal and Torres Strait Islander people:

- 47% completed year 12 (compared with only 32% in 2006)
- women were more likely than men to have completed year 12 (51% compared with 43%)
- people living in urban areas were more likely to have completed year 12 compared with those living in rural areas (50% compared with 34%)
- the highest proportions of people completing year 12 were in the ACT (66%) and Qld (55%); the lowest proportion was in the NT (25%).

An ABS report about schools [9] showed that in 2016:

- there were 207,852 school students who identified as Aboriginal and/or Torres Strait Islander, which was an increase of 3.6% from 2015¹
- 59.8% of Aboriginal and Torres Strait Islander students who started secondary school in year 7/8 continued through to year 12.

A national report on schooling in Australia [10] showed that in 2017:

- at least 77% of year 3 Aboriginal and Torres Strait Islander students were at or above the national minimum standard for reading, writing, spelling, grammar and punctuation, and numeracy
- at least 69% of year 5 Aboriginal and Torres Strait Islander students were at or above the national minimum standard for reading, writing, spelling, grammar and punctuation, and numeracy.

Employment

According to the 2016 Australian *Census* [8]:

- 47% of Aboriginal and Torres Strait Islander people between the ages of 15 and 64 years were employed
- 70% of Aboriginal and Torres Strait Islander people aged 15 to 24 years were either in full- or part-time employment, education or training
- the top three areas of employment in which Aboriginal and Torres Strait Islander people worked were: health care and social assistance (15%); public administration and safety (12%); and education and training (10%)
- Aboriginal and Torres Strait Islander men were most likely to be employed in construction (17%) and women were most likely to be employed in health care and social assistance (24%).

Income

According to the 2016 *Census* [8]:

- 20% of Aboriginal and Torres Strait Islander people reported an equivalised² weekly income of \$1,000 or more compared with 13% in 2011 [8, 11]
- 53% of Aboriginal and Torres Strait Islander people reported an equivalised weekly household income of between \$150 and \$799 (compared with 51% of non-Indigenous people reporting an equivalised weekly household income of between \$400 and \$1249) [8].

¹ Increases in recent years are partly due to the success of programs to improve identification and collection of data

² Equivalised household income is a special calculation that allows us to compare the incomes of different types of households

Glossary of statistical terms

Incidence is the number of new cases of a disease or condition that occur during a given period in a population.

Prevalence is the number or proportion of cases of a disease or condition in a population at a given time.

Age-standardised rates enable comparisons of rates of a disease or condition between populations that have different age structures. Age-standardisation is often used when comparing Aboriginal and Torres Strait Islander people and non-Indigenous people because the Aboriginal and Torres Strait Islander population has a younger age structure than the non-Indigenous population.

Burden of disease measures the impact of a disease or injury on a population, using the disability-adjusted life years (DALY) measure.

Hospitalisation – expressed as hospital separations.

- *Hospital separation* refers to a period of care for someone admitted to hospital. There are two types of hospital separation:
 - a complete hospital stay from admission through to discharge, transfer or death
 - a portion of a hospital stay ending in a change of type of care (e.g. from acute to rehabilitation).
- *Separation rate* is calculated as the total number of periods of care for admitted patients divided by the total number of members of the population. The rate is usually written per 1,000 or per 10,000 members of the population.
- *Separation rate ratio* is the separation rate for one population divided by the separation rate for another population.

Mortality – death.

- *Age-specific death rate* is the number of deaths per 1,000 people, at each age-group.
- *Age-standardised death rates* for Aboriginal and Torres Strait Islander people are generally calculated only for NSW, Qld, WA, SA and the NT as these are the states and territories (jurisdictions) that collect reliable data on Indigenous status.
- *Avoidable mortality* refers to deaths that could have been prevented with timely and effective health care, such as early detection, effective treatment, and appropriate lifestyle or behaviour changes (such as quitting smoking).
- *Infant mortality rate (IMR)* is the number of babies under the age of one who die per 1,000 live births in a calendar year.
- *Maternal deaths* are the number of women who die during pregnancy or up to 42 days (6 weeks) after delivery from causes linked to the pregnancy.
- *Median age at death* is the age below which half the people die. This calculation will vary a lot depending on the population being assessed. If the population is young, the median age at death will be young (as with the Aboriginal and Torres Strait Islander population). Median age at death is not recommended for comparing different populations.

How many Aboriginal and Torres Strait Islander people are there?

Based on information from the 2016 Australian *Census*, the total Aboriginal and Torres Strait Islander population in Australia in 2016 was 649,171 people (Table 1) which is 2.8% of the total population [16]. The Aboriginal and Torres Strait Islander population is highest in NSW (216,176 people), followed by Qld (186,482). The NT has the highest percentage of Aboriginal and Torres Strait Islander people (26%) and Vic has the lowest (0.8%).

Table 1. Estimated Aboriginal and Torres Strait Islander (Indigenous) population, by jurisdiction, Australia, 2016

Jurisdiction	Indigenous population (number)	Proportion of Australian Indigenous population (%)	Proportion of jurisdiction population (%)
NSW	216,176	33	2.9
Vic	47,788	7.4	0.8
Qld	186,482	29	4.0
WA	75,978	12	3.1
SA	34,184	5.3	2.0
Tas	23,572	3.6	4.6
ACT	6,508	1.0	1.6
NT	58,248	9.0	26
Australia	649,171	100	2.8

Note: Australian population includes Jervis Bay Territory, the Cocos (Keeling) Islands, Christmas Island and Norfolk Island

Source: Derived from ABS, 2017 [16]

According to the 2016 *Census*:

- 35% of Aboriginal and Torres Strait Islander people lived in capital cities [16]
- 91% of Indigenous people were identified as Aboriginal, 5% as Torres Strait Islanders and 4% as of both Aboriginal and Torres Strait Islander descent [16]
- around 65% of Torres Strait Islander people³ lived in Qld; NSW was the only other state with a large number of Torres Strait Islander people [16]
- the Aboriginal and Torres Strait Islander population is much younger overall than the non-Indigenous population (see Figure 1) [16, 17]:
 - 34% of Aboriginal and Torres Strait Islander people were aged less than 15 years, compared with 18% of non-Indigenous people
 - 4.8% of Aboriginal and Torres Strait Islander people were aged 65 years or over, compared with 16% of non-Indigenous people.

Figure 1. Population pyramid of Aboriginal and Torres Strait Islander and non-Indigenous populations, 30 June 2016



Note: Excludes 90 years and older age-group.

Sources: Derived from ABS, 2014 [18], ABS, 2013 [19]

Births and pregnancy

In 2016 [20]:

- there were 18,560 births registered in Australia where one or both parents identified as Aboriginal and/or Torres Strait Islander (6.0% of all births registered)
- Aboriginal and Torres Strait Islander women had more babies compared with non-Indigenous women, and had them at a younger age:
 - 15% of the babies born to Aboriginal and Torres Strait Islander women had teenage mothers, compared with 2.4% of babies born to teenage mothers in the total population
 - the median age of Aboriginal and Torres Strait Islander mothers was 25.5 years, compared with 31.2 years for all mothers.

Care during pregnancy

Care during pregnancy (antenatal care) helps pregnant women through health professionals monitoring their health, screening and providing information and support [21]. The Department of Health recommends that women in their first pregnancy and with no complications should have 10 visits throughout the pregnancy, and other women with uncomplicated pregnancies should have seven visits.

In 2015 [22]:

- pregnant Aboriginal and Torres Strait Islander women attended an average of nine antenatal visits
- 57% of these women attended the first antenatal visit during the first trimester of pregnancy
- the proportion of pregnant Aboriginal and Torres Strait Islander women attending antenatal care in the first trimester increased from 41% in 2010 to 57% in 2015.

³ Includes people who identified as Torres Strait Islanders and those who identified as being of both Aboriginal and Torres Strait Islander descent.

Birthweight

Babies who are born with a low birthweight (LBW) (less than 2,500 grams) are at increased risk of health problems and death in infancy [23]. In 2016, around 12% of babies born to Aboriginal and Torres Strait Islander mothers were of LBW, compared with 6.2% of babies of non-Indigenous mothers [22]. Risk factors for low birthweight include [23]:

- alcohol and other drug use during pregnancy
- tobacco use during pregnancy
- pre-term birth
- socioeconomic disadvantage (as discussed earlier in the section on social determinants of health)
- young maternal age
- little or no antenatal care.

Mortality (Deaths)

There were 3,168 deaths in Australia in 2016 where the person was identified as being Aboriginal and/or Torres Strait Islander⁴ [24]. Table 2 provides details for the individual states and territories.

Table 2. Numbers and proportions (%) of Aboriginal and Torres Strait Islander deaths, Australia, 2016

Jurisdiction	Number of deaths	Proportion of deaths %
NSW	857	1.6
Vic	175	0.4
Qld	884	3.0
WA	565	3.8
SA	170	1.3
Tas	54	1.2
ACT	443	4.2
NT	19	1.0
Australia	3,168	2.0

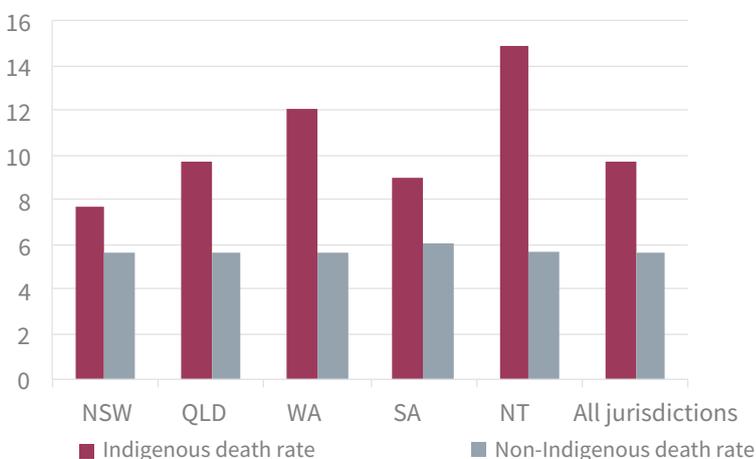
Source: ABS, 2017 [24]

Age-standardised death rates

In 2016 [24]:

- the death rate for Aboriginal and Torres Strait Islander people was 9.6 deaths per 1,000 people compared with 5.7 deaths per 1,000 people for non-Indigenous people (1.7 times higher)
- death rates for Aboriginal and Torres Strait Islander people varied by jurisdiction, with the highest rate occurring in the NT (15 per 1,000) and the lowest in NSW (7.5 per 1,000).

Figure 2. Age-standardised death rates, by Indigenous status, NSW, Qld, WA, SA and the NT, 2016



Notes: 1 Rates are per 1,000 population.

2 Due to the incomplete identification of Indigenous status, these figures probably underestimate the true difference between Indigenous and non-Indigenous rates.

3 Rates are based on three year averages; for Aboriginal and Torres Strait Islander data, rates are calculated for each calendar year and then averaged to reduce variability in annual rates.

Source: ABS, 2017 [24]

⁴ The Australian Bureau of Statistics (ABS) recognises that the true number of Aboriginal and Torres Strait Islander deaths may be higher than what is recorded because of [24, 25] inaccurate data collection or lag in registration (the interval between when a death occurs and when it is registered).

During the period 2014-2016 [24]:

- the death rate for Aboriginal and Torres Strait Islander people was slightly lower than in 2004-2006 (9.6 per 1,000 compared with 10.0 per 1,000)
- the death rate decreased for Aboriginal and Torres Strait Islander males (from 11.5 per 1,000 to 10.6 per 1,000) but not for females (this remained steady at 8.7 per 1,000).

How long do people live (What are the life expectancies)?

For Aboriginal and Torres Strait Islander people in 2013 [25]:

- males born in Australia in 2010-2012 could expect to live to 69.1 years, which is 10.6 years less than the life expectancy for non-Indigenous males (79.7 years)
- females born in Australia in 2010-2012 could expect to live 73.7 years, which is 9.5 years less than the life expectancy for non-Indigenous females (83.1 years).

At what age do people die?

Median age at death

During 2014-2016, the median age at death for Aboriginal and Torres Strait Islander people was 58.8 years, an increase from 54.4 years in 2004-2006 [24].

The median age at death for Aboriginal and Torres Strait Islander males increased from 51.3 years in 2004-2006 to 55.9 years in 2014-2016; there was also an increase for females from 59.0 years to 61.9 years for the same period. The non-Indigenous median age at death for 2014-2016 was 82.0 years.

In 2016, the median age at death for Aboriginal and Torres Strait Islander males ranged from 51.3 years in WA to 58.4 years in NSW (see Table 3) [24]. For Aboriginal and Torres Strait Islander females, it ranged from 58.7 years in the NT to 65.0 years for those living in NSW.

Table 3. Median age at death, by Indigenous status and sex, NSW, Qld, WA, SA and the NT, 2016

Jurisdiction	Indigenous		Non-Indigenous	
	Males	Females	Males	Females
NSW	58.4	65.0	79.3	85.4
Qld	57.8	63.2	77.8	84.4
WA	51.3	58.9	78.3	84.7
SA	56.0	61.5	80.2	85.9
NT	53.9	58.7	68.7	72.3
Selected jurisdictions	55.9	61.9	78.8	85.1

Notes: 1 Information is not available for the other jurisdictions because of the relatively small numbers of deaths recorded.

2 Median age of death is the age below which 50% of deaths occur.

Source: ABS, 2017 [24]

Age-specific death rates

In 2014-2016 [24]:

- age-specific death rates (ASDRs) were higher for Aboriginal and Torres Strait Islander people than for non-Indigenous people across all age-groups
- ASDRs for Aboriginal and Torres Strait Islander people have decreased since 2004-2006 in most age-groups except for the 5-14 years, 45-54 years, and 75+ years age-groups.

Infant deaths

For Aboriginal and Torres Strait Islander people:

- in 2014-2016 the Aboriginal and Torres Strait Islander infant mortality rate (IMR) was 6.2 per 1,000; this was almost twice as high as the non-Indigenous IMR of 3.2 per 1,000 [24]
- between 1998 and 2015, the Aboriginal and Torres Strait Islander IMR dropped by more than half (from 13.5 per 1,000 to 6.3 per 1,000) [26]
- the gap between Aboriginal and Torres Strait Islander and non-Indigenous IMR has narrowed significantly (by 84%).

What do people die of?

Table 4. The main causes of death of Aboriginal and Torres Strait Islander people and non-Indigenous people in 2016

Ranking	Total Aboriginal and Torres Strait Islander population	Total non-Indigenous population	Aboriginal and Torres Strait Islander males	Aboriginal and Torres Strait Islander females
1	Coronary heart disease	Coronary heart disease	Coronary heart disease	Coronary heart disease
2	Diabetes	Dementia	Suicide	Diabetes
3	Chronic lower respiratory disease	Cerebrovascular diseases	Diabetes	Chronic lower respiratory disease
4	Lung and related cancers	Lung and related cancers		

Source: Australian Health Ministers' Advisory Council, 2017 [26]

Maternal deaths

From 2008-2012, the leading causes of pregnancy-related death among Aboriginal and Torres Strait Islander mothers were [27]:

- cardiovascular conditions
- sepsis
- psychosocial conditions.

Avoidable deaths

In the five year period from 2011-2015, the most common cause of avoidable deaths among Aboriginal and Torres Strait Islander people aged 0-74 years were [26]:

- coronary heart disease (CHD)
- diabetes
- suicide
- chronic obstructive pulmonary disease (COPD).

From 2011-2015, Aboriginal and Torres Strait Islander people were 3.3 times more likely to die from avoidable causes than non-Indigenous people [26].

However, between 1998 and 2015, there was a 32% decline in the death rate from avoidable causes for Aboriginal and Torres Strait Islander people aged 0-74 years.



Hospitalisation

Hospitalisation statistics provide information about the health of a population [28] and give governments information on how well the health system is managing. However, they only provide a record of illnesses or cases that are serious enough to require hospitalisation.

Hospital statistics provide only a part of the true picture of health because [28]:

- not everyone has access to hospitals (e.g. people living in some rural or remote areas)
- different hospitals may have different admission policies
- the statistics relate to events of hospitalisation rather than to individual patients.

Every year, there will be a small number of patients who require several hospital admissions for the same condition – for example, for kidney dialysis [28]. This will affect the hospital statistics, meaning that, although they are useful in assessing the need for health services, they are not so accurate for assessing health.

As with other major health-related data collections (such as births and deaths), the identification of Indigenous status in hospital data collections is incomplete (for a detailed discussion of data limitations see the [Overview of Aboriginal and Torres Strait Islander Health Status 2017](#))

How many people are hospitalised? (Separation rates)

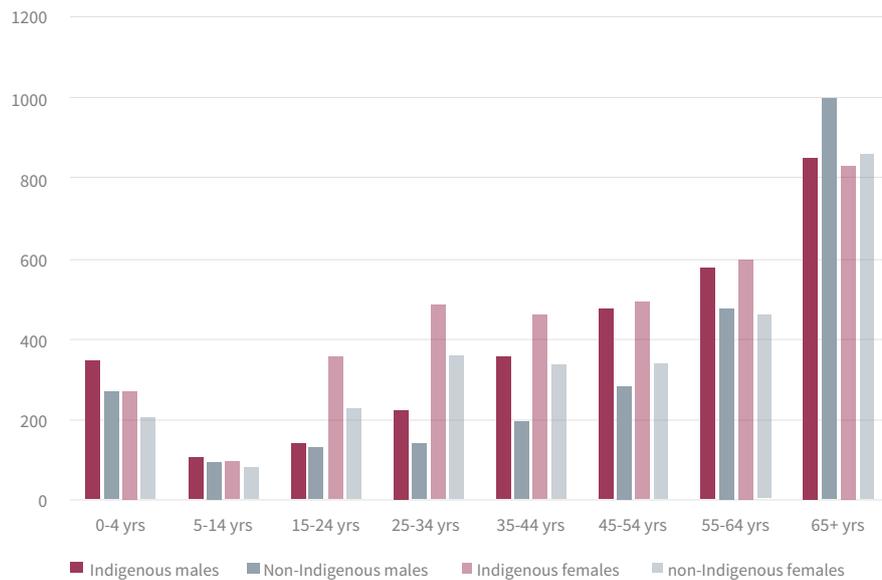
There were more than 10 million hospital separations in Australia⁵ during 2015-16:

- 4.6% of these identified as Aboriginal and Torres Strait Islander [29]:
 - around 93% of these hospital separations were for Aboriginal people
 - 3.8% were for Torres Strait Islander people
 - 3.7% were for people who identified as being of both Aboriginal and Torres Strait Islander descent
- Aboriginal and Torres Strait Islander people were 2.5 times more likely to be hospitalised than non-Indigenous people [29]. This was mainly due to the higher separation rates for dialysis among Aboriginal and Torres Strait Islander people.

Age-specific separation rates

In 2013-15 hospital separation rates (not including kidney dialysis) were higher for Aboriginal and Torres Strait Islander people than those for non-Indigenous people in all age-groups except for the 65+ years age-group (Figure 3) [26].

Figure 3. Age-specific hospital separation rates (excluding dialysis), by sex and Indigenous status, Australia, 2013-15



Notes: 1 Rates per 1,000 population.
2 Non-Indigenous includes separations for which Indigenous status was not stated.
3 Rate ratio is the Indigenous rate divided by the non-Indigenous rate.

Source: Australian Health Ministers' Advisory Council, 2017 [26]

In 2014-15 [4]:

- Aboriginal and Torres Strait Islander children aged 0-4 years were 1.3 times more likely to be hospitalised than non-Indigenous children of that age
- hospitalisation rates for Aboriginal and Torres Strait children aged 0-4 years were similar in major cities and regional areas (271 and 276 per 1,000 respectively) but were almost twice as high in remote areas (468 per 1,000).

What are the main reasons people go to hospital? (Causes of hospitalisation)

When people are hospitalised, the 'reason' is detailed according to the International Classification of Diseases (ICD). In 2015-16, the five most common reasons for the hospitalisation of Aboriginal and Torres Strait Islander people in Australia were [29]:

- ICD 'Factors influencing health status and contact with health services' (mostly for care involving dialysis) - many of these separations involved repeat hospital visits for the same people
- 'Injury, poisoning and certain other consequences of external causes' (including motor vehicle accidents, assaults, self-inflicted harm and falls)
- 'Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified'
- 'Pregnancy, childbirth and the puerperium' (pregnancy-related conditions - most of which involved normal deliveries)
- 'Diseases of the respiratory system'.

⁵ All hospitalisation data for the NT include only public hospitals.

Hospitalisations that could possibly have been avoided (Potentially preventable hospitalisations)

Potentially preventable hospitalisations are those which 'could have been avoided with access to quality primary care and preventive care' [30]. Prevention might involve good management of chronic conditions in a community setting, or the use of vaccines. Potentially preventable hospitalisations may be used to measure possible problems with the primary health care system, such as whether people have good access to care or not [29].

In 2015-16, Aboriginal and Torres Strait Islander people were almost three times more likely to be hospitalised for potentially preventable hospitalisations than non-Indigenous people [29].

Selected health conditions

Cardiovascular disease

Cardiovascular disease (CVD) is the term for all diseases and conditions that affect the heart and blood vessels [31].

Cardiovascular disease (CVD)

The main types of CVD that affect Aboriginal and Torres Strait Islander people include [32]:

- *Coronary heart disease* - also known as ischaemic heart disease or CHD – is a narrowing of the blood vessels (arteries) that supply blood to the heart. The oxygen supply to the heart is restricted and, when the blood vessels get completely clogged, this leads to a heart attack
- *Cerebrovascular disease* (CBVD) – disorders of the blood vessels that supply blood to the brain. Stroke is the most common CBVD and occurs when blood flow to a part of the brain is reduced or stops
- *Hypertension* (high blood pressure) – is when a person's blood pressure remains high over a long period of time. High blood pressure is a risk factor for heart disease, heart failure and stroke
- *Rheumatic heart disease* (RHD) – is long-term damage to the heart's valves, muscles and lining, caused by *Acute rheumatic fever* (ARF). ARF mostly affects children, so RHD can be with a person for their whole adult life. If untreated, RHD can cause heart failure and early death.

How many Aboriginal and Torres Strait Islander people have cardiovascular disease?

In this section we will provide information on:

- prevalence - the number or proportion of cases
- incidence - the number of new cases
- hospitalisations – the number of hospital admissions
- mortality - death
- burden of disease - the impact of cardiovascular disease on the population.

Prevalence

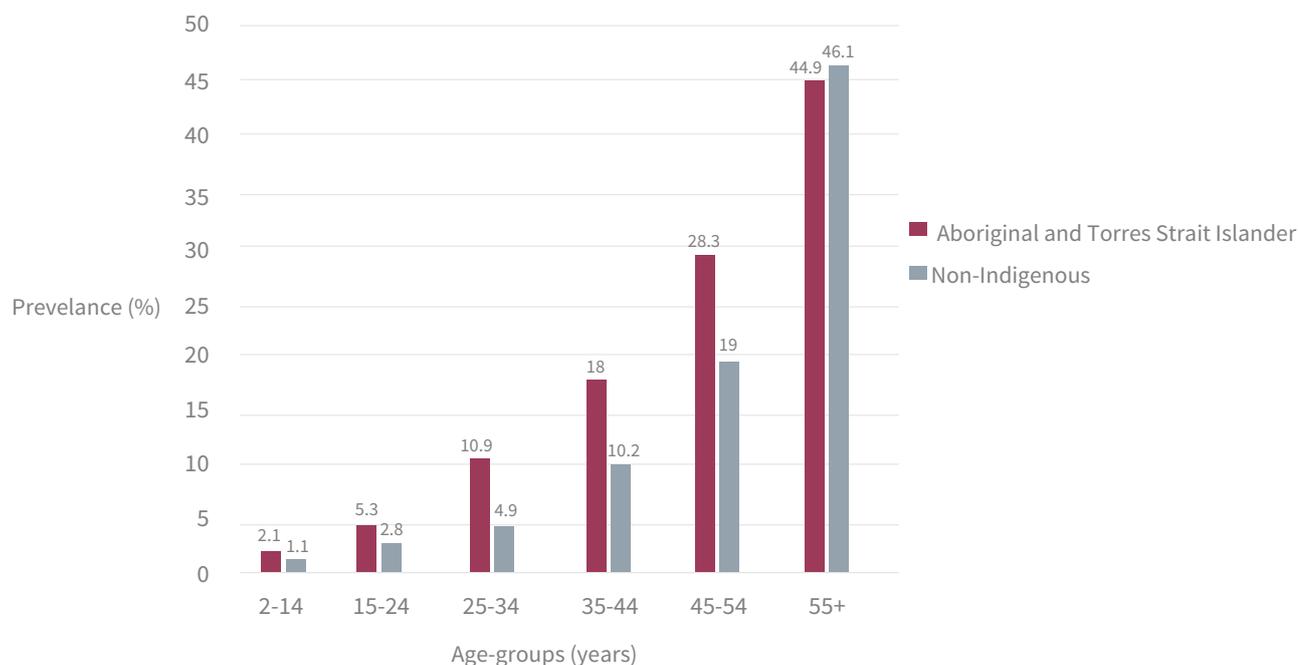
In 2012-13:

- 13% of Aboriginal and Torres Strait Islander people aged 2 years and over reported that they had CVD [33]
- the levels of CVD for Aboriginal people⁶ and for Torres Strait Islander⁷ people were similar (13% and 12% respectively) [34]
- more Aboriginal and Torres Strait Islander females (14%) than males (11%) reported having CVD [35]
- Aboriginal and Torres Strait Islander people were 1.2 times more likely to have CVD than non-Indigenous people [35]
- the prevalence of CVD was higher for Aboriginal and Torres Strait Islander people than for non-Indigenous people in all age-groups except those aged 55 years or older (Figure 4) [36]
- a greater proportion of Aboriginal and Torres Strait Islander people living in remote areas (18%) had CVD than those living in non-remote areas (11%) [37].

⁶ People of Aboriginal origin only.

⁷ People of Torres Strait Islander origin only, or both Aboriginal and Torres Strait Islander origin.

Figure 4. Prevalence (%) of people reporting cardiovascular disease as a long-term health condition, by Indigenous status and age-group, Australia, 2012-2013



Note: Prevalence expressed as percentages.
Source: ABS, 2014 [36]

Hypertensive disease (caused by long term high blood pressure) was the most common form of CVD reported by Aboriginal and Torres Strait Islander people in 2012-2013 [35]:

- 5.8% of Aboriginal and Torres Strait Islander people (5.8% of Aboriginal people and 5.3% of Torres Strait Islander people) had hypertensive disease [34]
- similar proportions of males and females had hypertensive disease (5.6% and 6.0% respectively) [35]
- people in the older age groups were more likely to have hypertensive disease than those in the younger age groups (4.1% of those aged 25-34 years compared with 25% of those aged 55 years and over) [33, 36].

Around 4% of Aboriginal and Torres Strait Islander people reported that they had ‘Heart, stroke and/or vascular diseases’ in 2012-2013 [33]:

- the prevalence increased with age; from 4.2% of Aboriginal and Torres Strait Islander people aged 35-44 years, to 10% of those aged 45-54 years and 20% of those aged 55 years and over reported heart, stroke and/or vascular disease [36]
- Indigenous people were 3 times more likely to have reported stroke than non-Indigenous people [38].

Prevalence of RHD and incidence of ARF

The collection of statistics for the number of cases (prevalence) of RHD and the number of new or repeat cases of ARF (incidence) occurs only in Qld, WA, SA, the NT [39]. In NSW this information has only been collected since October 2015 and is only collected for people 35 years of age or younger [40]. As a result, the results presented here only take into account the data from Qld, WA, SA, and the NT.

RHD and ARF occur at very low rates in Australia. However, most cases are seen in Aboriginal and Torres Strait Islander people [39][26]:

- most (94%) of the new or recurrent episodes of ARF in Qld, WA, SA⁸ and the NT in the period 2011-2015 occurred in Aboriginal and Torres Strait Islander people
- among Aboriginal and Torres Strait Islander ARF cases in Qld, WA and the NT, 45% occurred in males and 55% in females
- the majority of ARF cases (55%) occurred in children aged 0-14 years, and 26% occurred in young people aged 15-24 years
- in 2015, most (92%) of the cases of RHD in Qld, WA, SA and the NT were Aboriginal and Torres Strait Islander people
- in 2015, the rate of RHD for Aboriginal and Torres Strait Islander people was 7.4 per 1,000 population.

⁸ SA data are for 2013-2015 only.

Hospitalisation

In 2015-16:

- 5.7% of hospital separations for Aboriginal and Torres Strait Islander people (excluding dialysis) were for CVD (Derived from [29])
- Aboriginal and Torres Strait Islander people were 1.7 times more likely than non-Indigenous people to be hospitalised for CVD [29].

In 2014-15:

- Aboriginal and Torres Strait Islander people in remote and very remote areas were 2.2 times more likely to be hospitalised for CVD than those living in major cities (Derived from [4]).

When looking at hospitalisation for different types of cardiovascular disease, information is available for the years 2013-15 [41]:

- 39% of CVD hospitalisations were for coronary heart disease (CHD)
- 33% of CVD hospitalisations were for pulmonary disease and other forms of heart disease
- 7.7% of CVD hospitalisations were for cerebrovascular disease (CBVD)
- ARF/RHD accounted for 4.4% of CVD hospitalisations
- Aboriginal and Torres Strait Islander people were 7.2 times more likely than non-Indigenous people to be hospitalised for ARF/RHD.

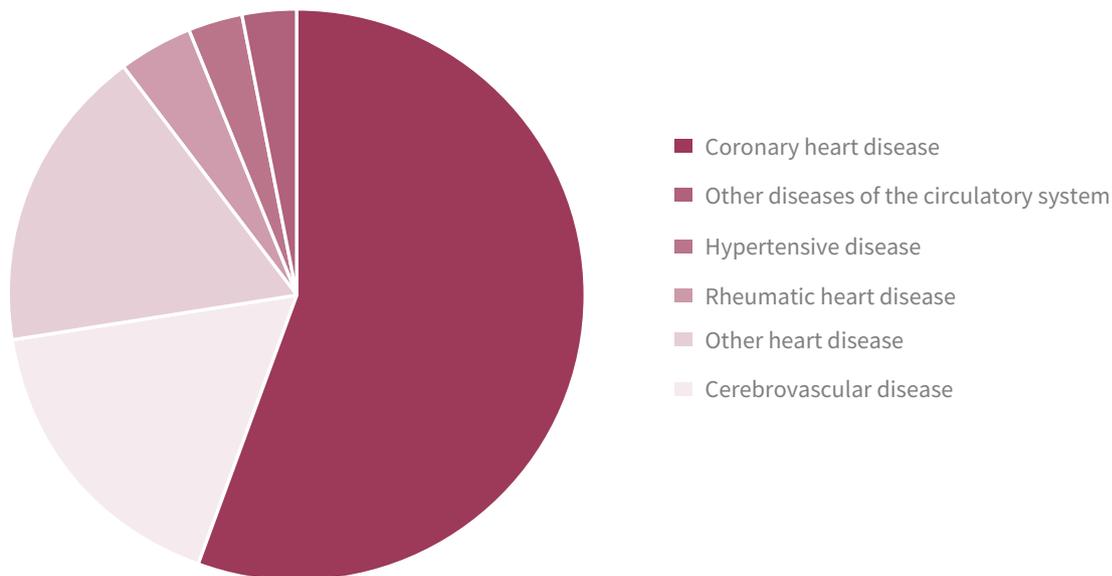
Mortality

In 2016, coronary heart disease (CHD) was the leading cause of both Aboriginal and Torres Strait Islander and non-Indigenous deaths [42].

In 2011-2015, CVD was the leading cause of death for Aboriginal and Torres Strait Islander people [41]:

- 24% of all deaths were caused by CVD
- Aboriginal and Torres Strait Islander people were 1.6 times more likely than non-Indigenous people to die from CVD
- Aboriginal and Torres Strait Islander people were 4.7 times more likely than non-Indigenous people to die from RHD
- CHD caused the most CVD deaths (55%) of Aboriginal and Torres Strait Islander people (Figure 5)
- CHD caused the death of nearly twice as many Aboriginal and Torres Strait Islander men (1,135) as women (607).

Figure 5. Indigenous deaths from CVD, 2011-2015



Source: AIHW, 2017 [41]

Aboriginal and Torres Strait Islander people are more likely than non-Indigenous people to die from CVD at a young age [42]. In 2012-2016:

- Aboriginal and Torres Strait Islander people in the 25-35 years age-group were 13.5 times more likely to die from CHD than were non-Indigenous people of the same age
- Aboriginal and Torres Strait Islander people in the 35-44 years age-group were 10 times more likely to die from CHD than were non-Indigenous people of the same age.

Between 1998 and 2015, the death rate for CVD for Aboriginal and Torres Strait Islander people almost halved (a 43% drop) [26].



Burden of disease

In 2011, CVD was ranked third of all the diseases that contributed to the total disease burden among Aboriginal and Torres Strait Islander people [43]:

- CVD caused 12% of the total burden
- CVD contributed most of the gap in total burden between Aboriginal and Torres Strait Islander and non-Indigenous people (19% of the gap).

Cancer

Cancer is the term given to a number of related diseases [44]. It is a genetic disease, caused by changes to the genes (DNA) that control the way cells behave. Certain triggers (such as viruses, cigarette smoke and certain chemicals) cause cells to divide in an uncontrolled manner. When cancer cells metastasise – that is, when they spread into surrounding tissues, or to different parts of the body - they are known as malignant [45]. Cancer can start almost anywhere in the body [44].

How many Aboriginal and Torres Strait Islander people have cancer?

In this section we will provide information on:

- incidence - the number of new cases
- hospitalisations – the number of hospital admissions
- mortality - death
- burden of disease - the impact of cancer on the population.

Incidence

For the period 2009-2013, there were 6,397 new cases of cancer diagnosed in Aboriginal and Torres Strait Islander people [46]. Aboriginal and Torres Strait Islander people were 1.1 times more likely than non-Indigenous people to be diagnosed with cancer. The most commonly diagnosed cancer among Aboriginal and Torres Strait Islander people was lung cancer, followed by breast cancer (in females), colorectal cancer and prostate cancer.

For the period 2008-2012:

- Aboriginal and Torres Strait Islander people were 2.8 times more likely than non-Indigenous people to be diagnosed with liver cancer, and 2.0 times more likely to be diagnosed with head and neck cancer or lung cancer [47]
- Aboriginal and Torres Strait Islander people were less likely than non-Indigenous people to be diagnosed with bowel cancer [47]
- the number of new cases for all cancers combined were higher for females (3,047) than for males (2,899) [48]
- Aboriginal and Torres Strait Islander females aged 20-69 years were 2.2 times more likely than non-Indigenous females of the same age to be diagnosed with cervical cancer [49]
- Aboriginal and Torres Strait Islander females aged 50-74 years were less likely than non-Indigenous females of the same age to be diagnosed with breast cancer (227 per 100,000 compared with 283 per 100,000) [50]
- Aboriginal and Torres Strait Islander males recorded more new cases of cancer (547 per 100,000) than non-Indigenous males (525 per 100,000) [51]
- Aboriginal and Torres Strait Islander females recorded more new cases of cancer (439 per 100,000) than non-Indigenous females (368 per 100,000).

Hospitalisation

In 2015-16:

- 3.0% of all hospital separations (excluding dialysis) among Aboriginal and Torres Strait Islander people were for the principal diagnosis of neoplasms (both malignant and benign cancers) (Derived from [29])
- Aboriginal and Torres Strait Islander people were less likely than non-Indigenous people to be hospitalised for neoplasms (18 per 1,000 compared with 25 per 1,000) [29].

In 2014-15 [4]:

- Aboriginal and Torres Strait Islander people were 2.0 times more likely than non-Indigenous people to be hospitalised for lung cancer
- Aboriginal and Torres Strait Islander people were 3.0 times more likely than non-Indigenous people to be hospitalised for cervical cancer
- hospitalisation rates for lung cancer were slightly higher for Aboriginal and Torres Strait Islander males (1.4 per 1,000) than females (1.3 per 1,000).

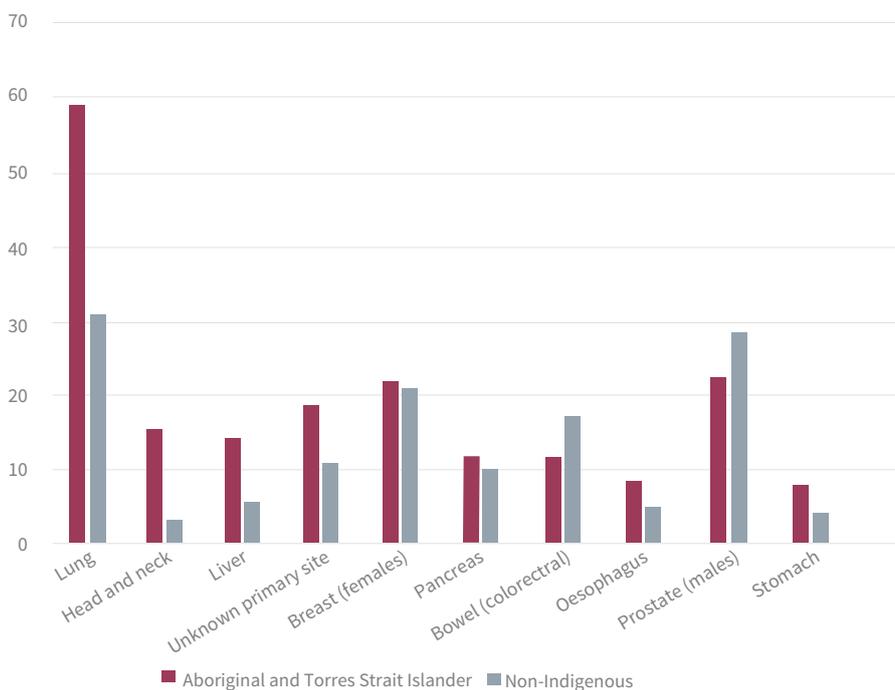
Mortality

For the period 2011-2016, cancer was responsible for the deaths of 2,754 Aboriginal and Torres Strait Islander people [46]. Lung cancer was the leading cause of cancer death for both Aboriginal and Torres Strait Islander people and non-Indigenous people.

For the period 2010-2014 [48]:

- the mortality rate for all cancers combined for Aboriginal and Torres Strait Islander people was 1.3 times higher than for non-Indigenous people (221 per 100,000 compared with 171 deaths per 100,000)
- Aboriginal and Torres Strait Islander people were more likely than non-Indigenous people to die from cancers of the head and neck but less likely to die from prostate cancer or bowel cancer (see Figure 6)
- Aboriginal and Torres Strait Islander males were 1.2 times more likely than non-Indigenous males to die from cancer
- Aboriginal and Torres Strait Islander females were 1.4 times more likely than non-Indigenous females to die from cancer
- Aboriginal and Torres Strait Islander people in all age-groups over 20-29 years were more likely to die from cancer than non-Indigenous people from the same age-group
- Aboriginal and Torres Strait Islander people in the 50-59 years age-group and the 40-49 years age-group were almost twice as likely to die from cancer as non-Indigenous people from the same age-group.

Figure 6. Age-standardised death rates for the 10 most common cancers, by Indigenous status, 2010-2014



Notes: 1 Rates per 100,000 population, age-standardised to the Australian population at 30 June 2001.
2 Due to the incomplete identification of Aboriginal and Torres Strait Islander status, these figures probably underestimate the true difference between Aboriginal and Torres Strait Islander and non-Indigenous rates.
3 Rounding may result in inconsistencies in calculated ratios.

Source: AIHW, 2016 [48]

Some factors that contribute to the high rates of cancer incidence and deaths among Aboriginal and Torres Strait Islander people include:

- high rates of tobacco smoking (lung cancer) [51]
- excessive alcohol consumption (liver cancer) [51]
- Hepatitis B infection (liver cancer) [51]
- being more likely to have cancers that have poor, long-term rates of recovery [52]
- being diagnosed with cancer at a late stage [52]
- having several co-morbidities (e.g. having several chronic diseases at the same time) that may complicate treatment and lead to poorer outcomes [53, 54]
- being less likely to receive any treatment or adequate treatment [53].

Burden of disease

In 2011, cancer and other neoplasms⁹ were ranked fourth of all the diseases that contributed to the total disease burden among Aboriginal and Torres Strait Islander people [43]:

- cancer was responsible for 9.4% of the total disease burden
- the cancer burden was almost entirely due to early death
- the cancers that had the biggest impact were: lung (24%), bowel (8%), liver (7%), breast (7%) and mouth and pharyngeal (throat) (6%).

Diabetes

Diabetes is recognised as one of the most important health problems currently facing Aboriginal and Torres Strait Islander people [55].

Diabetes

Diabetes is a chronic disease which occurs when the pancreas is not able to produce enough insulin (a hormone) or when key organs in the body are not able to use the insulin effectively, or both [56]. Insulin is needed to move glucose from the blood into the cells where it provides energy for the body. Diabetes can lead to illness, disability, reduced quality of life and early death. There is no cure for diabetes.

There are several types of diabetes. The most frequently occurring are type 1, type 2 and gestational diabetes mellitus (GDM) [56]. Type 2 diabetes is the most common form [57] and is largely preventable by maintaining a healthy lifestyle [56]. GDM develops in some women during pregnancy [57] and is more common among Aboriginal and Torres Strait Islander women than among non-Indigenous women [58].

Type 2 diabetes occurs at earlier ages for Aboriginal and Torres Strait Islander people than for non-Indigenous people and is often undetected and untreated.

How many Aboriginal and Torres Strait Islander people have diabetes?

In this section we will provide information on:

- prevalence - the number or proportion of cases
- incidence - the number of new cases
- general practice visits – the number of visits to the GP for diabetes
- hospitalisations – the number of hospital admissions
- mortality - death
- burden of disease - the impact of diabetes on the population.

Incidence and prevalence

The most recent survey to measure levels of diabetes among Aboriginal and Torres Strait Islander people was the 2012-13 National Aboriginal and Torres Strait Islander Health Measures Survey (NATSIHMS) [55]. This survey counted both self-reported and measured results. It found that:

- 13% of Aboriginal and Torres Strait Islander adults (18 years and over) had diabetes
- about 2% of these adults did not self-report that they had diabetes, which may indicate that they were unaware they had the condition
- a larger proportion of females (56%) than males (44%) had diabetes
- Aboriginal and Torres Strait Islander adults were 3.5 times more likely than non-Indigenous adults to have diabetes
- the prevalence of diabetes increased with age (2% of adults aged 18-34 years compared with 46% of adults aged 65 years and over)
- in 2011-13, 5.3% of Aboriginal and Torres Strait Islander adults had pre-diabetes (high levels of glucose in the blood) compared with 2.9% of non-Indigenous adults
- the biggest difference in prevalence of pre-diabetes was in the 18-44 years age-group (4.2% of Aboriginal and Torres Strait Islander people compared with 1% of non-Indigenous people)
- in 2012-2013, in remote areas, Aboriginal and Torres Strait Islander adults were twice as likely to have diabetes (28%) as those living in non-remote areas (15%)
- Aboriginal and Torres Strait Islander adults in remote areas were 6 times more likely than non-Indigenous adults to have diabetes
- Aboriginal and Torres Strait Islander adults in non-remote areas were 3 times more likely than non-Indigenous adults to have diabetes.

⁹ Cancer and other neoplasms include malignant neoplasms (cancer) and benign and uncertain neoplasms [43].

Aboriginal and Torres Strait Islander people have lower rates of type 1 diabetes than non-Indigenous people. In 2016, after age-adjustment, the rates were 9.3 per 100,000 compared with 11 per 100,000 [59].

Type 2 diabetes affects mostly older people but is becoming more common in young people and children [60]:

- between 2006 and 2011, young Aboriginal and Torres Strait Islander people were more likely to be diagnosed with type 2 diabetes (55% of new cases) than type 1 diabetes (43%)
- young Aboriginal and Torres Strait Islander people are more likely to have type 2 diabetes than young non-Indigenous people in all age-groups (at a rate 8.3 times higher among 10-14 year-olds and 3.6 times higher for 15-19 year-olds).

The most recent national estimates of the prevalence of GDM are for 2005-2007 [58]:

- 6.6% of Aboriginal and Torres Strait Islander women who gave birth had diabetes during pregnancy
- Aboriginal and Torres Strait Islander women who gave birth were 3.2 times more likely than non-Indigenous women to have pre-existing diabetes
- Aboriginal and Torres Strait Islander women who gave birth were 1.6 times more likely than non-Indigenous women to have GDM.

General practice visits and hospitalisation

General Practitioners (GPs) are usually the first point of medical contact for people with diabetes. Therefore, it is important to have an accurate measure of the amount of visits that are made to GPs for diabetes-related issues. From April 2010 - March 2015:

- 5.5% of all problems managed by GPs for Aboriginal and Torres Strait Islander patients were for diabetes [61]
- type 2 diabetes accounted for almost all (92%) of all diabetes problems managed by GPs for Aboriginal and Torres Strait Islander patients [26]
- Aboriginal and Torres Strait Islander patients visited the GP almost three times more often as non-Indigenous patients for issues relating to type 2 diabetes [61]
- Aboriginal and Torres Strait Islander patients visited the GP 2.3 times more often than non-Indigenous patients for issues relating to type 1 diabetes [61].

People with diabetes mostly attend hospitals for diabetes care relating to diabetes complications or urgent (acute) cases where their blood sugar levels are uncontrolled (poor glycaemic control) [55].

In 2013-14, for hospitalisations where the principal or additional diagnosis was diabetes [55]:

- 90% of the hospitalisations for Aboriginal and Torres Strait Islander people were for type 2 diabetes, 4% for type 1 diabetes, 4% for GDM and 2% for 'other unspecified diabetes-related hospitalisations'
- for type 2 diabetes:
 - hospitalisation rates for Aboriginal and Torres Strait Islanders were four times higher than for non-Indigenous people
 - more Aboriginal and Torres Strait Islander females (27,607) were hospitalised than males (19,368)
 - Aboriginal and Torres Strait Islander females were almost six times more likely than non-Indigenous females to be hospitalised
 - Aboriginal and Torres Strait Islander males were three times more likely than non-Indigenous males to be hospitalised
 - rates of hospitalisations increased with age for Aboriginal and Torres Strait Islanders
 - for all age-groups, Aboriginal and Torres Strait Islander people were hospitalised at higher rates than non-Indigenous people were. The rate was 14 times higher for those in the 25-34 years age-group and the 35-44 years age-group, and twice as high for the 75+ years and over age-group
 - people in remote areas and very remote areas were more than twice as likely to be hospitalised as those in major cities and inner and outer regional areas
 - Aboriginal and Torres Strait Islander people in major cities and regional areas were three times more likely than non-Indigenous people to be hospitalised
 - Aboriginal and Torres Strait Islander people in remote and very remote areas were eight times more likely than non-Indigenous people to be hospitalised
- for type 1 diabetes:
 - Aboriginal and Torres Strait Islander people were twice as likely as non-Indigenous people to be hospitalised (three times more likely in the 55-64 years age-group)
 - the hospitalisation rate in remote and very remote areas was less than half the rate in major cities and in outer regional areas
 - in major cities, Aboriginal and Torres Strait Islander people were 2.2 times more likely than non-Indigenous people to be hospitalised

- in inner and outer regional areas Aboriginal and Torres Strait Islander people were 1.9 times more likely than non-Indigenous people to be hospitalised
- for complications of diabetes (which are considered potentially preventable [4]):
 - in 2014-15, diabetes complications accounted for 19% of potentially preventable hospitalisations for Aboriginal and Torres Strait Islander people
 - Aboriginal and Torres Strait Islander people were four times more likely than non-Indigenous people to be hospitalised for complications of diabetes.

Mortality

Diabetes was the second leading cause of death among Aboriginal and Torres Strait Islander people in 2016 [42]:

- Aboriginal and Torres Strait Islander people were 4.9 times more likely than non-Indigenous people to die from diabetes
- diabetes was the cause of 7.8% of Aboriginal and Torres Strait Islander deaths
- more Aboriginal and Torres Strait Islander females died from diabetes (127 deaths) than males (101 deaths).

For the period 2012-2016 [42]:

- diabetes was the underlying cause of death for 1,041 Aboriginal and Torres Strait Islander people
- Aboriginal and Torres Strait Islander people were 1.8 times more likely than non-Indigenous people to die from diabetes
- the age-specific death rates for diabetes for the 45-54 years age-group for Aboriginal and Torres Strait Islander people were 62 per 100,000 for males and 54 per 100,000 for females
- Aboriginal and Torres Strait Islander males were 11.4 times more likely than non-Indigenous males to die from diabetes
- Aboriginal and Torres Strait Islander females were 21.1 times more likely than non-Indigenous females to die from diabetes.

Burden of disease

Diabetes accounted for 4% of the total burden of disease among Aboriginal and Torres Strait Islander people in 2011 [43].

Social and emotional wellbeing (including mental health)

Social and emotional wellbeing (SEWB) is a term that describes the mental and psychological health of a person when viewed as part of the physical, cultural and spiritual health of that person.

Social and emotional wellbeing (SEWB)

The use of the term 'social and emotional wellbeing' (SEWB) is preferred by many Aboriginal and Torres Strait Islander people to the use of the term 'mental health' [62]. While the terms 'mental health' or 'mental illness' are sometimes used interchangeably with SEWB, some experts argue that they are just a part of the whole set of factors that make up SEWB [3]. Aboriginal and Torres Strait Islander people view health as holistic, including mental, physical, cultural and spiritual health [63]. Traditional culture does not recognise mental health or physical health as separate medical issues.

The factors that have a positive impact on the SEWB of Aboriginal and Torres Strait Islander people include:

- connection to country, spirituality and ancestry
- kinship (connection to family)
- self-rule, community authority and cultural continuity [64].

Many factors have been identified as having a negative impact on a person's SEWB such as [65]:

- discrimination and racism
- grief and loss
- economic and social disadvantage
- child removal by care and protection orders
- violence
- substance use.

How many Aboriginal and Torres Strait Islander people have mental illness, mental health problems and positive social and emotional wellbeing?

In this section we will provide information on:

- prevalence - the number or proportion of cases
- hospitalisations – the number of hospital admissions
- mortality - death
- burden of disease - the impact of social and emotional wellbeing and mental health on the population.

Prevalence

Education level, employment status and high levels of stress can affect a person's SEWB [66]:

- in 2012-13, 30% of Aboriginal and Torres Strait Islander people aged 18 years and over reported high or very high levels of psychological distress in the four weeks before the interview [67]
- Aboriginal and Torres Strait Islander people who were educated to year 9 level were more likely to experience high or very high levels of psychological distress compared with those who were educated to year 12 (34% compared with 26%) [66]
- Aboriginal and Torres Strait Islander people who were unemployed were more likely to experience high or very high levels of psychological distress compared with those who were employed (42% compared with 22%) [66]
- 68% of Aboriginal and Torres Strait Islander people aged 15 years and over experienced stress in the 12 months before the survey [68]
- the most common causes of stress for Aboriginal and Torres Strait Islander people (both males and females) were [68]:
 - death of a family member or close friend (28% of people surveyed)
 - inability to get a job (19%)
 - serious illness (12%)
 - other work-related stressors (11%)
 - mental illness (10%)
- Aboriginal and Torres Strait Islander people with a mental-health condition were more likely to experience stress than those with no long-term health condition (84% compared with 60%) [69].

Positive feelings, such as feelings of calmness and peacefulness, happiness, fullness of life, and energy, have a positive impact on a person's SEWB:

- 91% of Aboriginal and Torres Strait Islander people reported feeling happy either some, most, or all of the time [70]
- around 20% said they did not often have: 'lots of energy'; a sense of calmness and peacefulness; fullness of life [70]
- 54% of females and 52% of males aged 15 years gave their satisfaction with life a rating of at least 8 out of 10 (Derived from [71])
- those who were unemployed and those who had not finished year 12 were more likely to give low scores (Derived from [71]).

Hospitalisation

In 2015-16, a greater proportion of Aboriginal and Torres Strait Islander people attended hospital for ICD 'Mental and behavioural disorders'¹⁰ than non-Indigenous people did (Derived from [29]):

- 4.1% of all hospital separations for Aboriginal and Torres Strait Islander people were for 'Mental and behavioural disorders'
- this 4.1% rate was almost double (1.8 times higher) the rate for non-Indigenous people.

Information about hospitalisation for the specific sub-categories within the ICD 'Mental and behavioural disorders' is available from 2013-15 [26] and shows:

- Aboriginal and Torres Strait Islander people were 3.6 times more likely than non-Indigenous people to be hospitalised for ICD 'Psychoactive substance use disorders'
- Aboriginal and Torres Strait Islander people were 3.0 times more likely than non-Indigenous people to be hospitalised for ICD 'Schizophrenia, schizotypal, and delusional disorders'
- Aboriginal and Torres Strait Islander people were 2.7 times more likely than non-Indigenous people to be admitted for intentional self-harm
- separation rates for self-harm were 3.1 times higher for Aboriginal and Torres Strait Islander males than for non-Indigenous males
- separation rates for self-harm were 2.5 times higher for Aboriginal and Torres Strait Islander females than for non-Indigenous females.

¹⁰ The ICD chapter 'Mental and behavioural disorders', used for the classification of both hospitalisation and mortality, is very broad. As well as mental illness and mental health problems, it includes mental retardation and a broad sub-category for disorders relating to the use of psychoactive substances (including alcohol, tobacco, other drugs and volatile substances). The chapter doesn't include, however, the results of intentional self-harm, which are classified within the ICD chapter 'External causes of morbidity and mortality'.

Mortality

The most recent, detailed information about Aboriginal and Torres Strait Islander deaths as a result of mental health related conditions is from 2011-2015 (Table 5) [41]¹¹. Death rates were higher for Aboriginal and Torres Strait Islander males (1.3 times higher) and females (1.2 times higher) than for non-Indigenous males and females.

Table 5. Numbers and rates of deaths from mental health related conditions (excluding intentional self-harm), by sex and cause of death, and Aboriginal and Torres Strait Islander:non-Indigenous rate ratios, NSW, Qld, WA, SA, and the NT, 2011-201

Cause of death	Males			Females		
	Number	Rate	Rate ratio	Number	Rate	Rate ratio
Mental disorders due to substance use	70	9.4	5.0	19	n.p.	n.p.
Organic mental disorders	86	32	1.3	160	44	1.2
Other mental disorders	11	n.p.	n.p.	39	10	0.6
All mental disorders	167	44	1.2	218	56	1.1

Notes:

1 Rates are deaths per 100,000, rounded to the nearest whole number, standardised using the Australian 2001 ERP.

2 Details of death from intentional self-harm are not included in this table; see Tables 21 and 22.

3 'Mental disorders due to substance use' comprises ICD codes F10-F19, 'Organic mental disorders' ICD codes F00-F09, and 'Other mental disorders' ICD codes F20-F99, G30, G47.0, G47.1, G47.2, G47.8, G47.9, O99.3, R44, R45.0, R45.1, R45.4, R48.

4 n.p.: not published

Source: AIHW, 2017 [41]

For the category ICD 'Intentional self-harm' (suicides) for Aboriginal and Torres Strait Islander people [42]:

- the death rate was 2.1 times higher than for non-Indigenous people in 2016
- it was the fifth highest specific cause of death among Aboriginal and Torres Strait Islander people in 2016
- for 2012-2016:
 - death rates were much higher for Aboriginal and Torres Strait Islander people than for non-Indigenous people, ranging from 16 per 100,000 (NSW) to 41 per 100,000 (WA)
 - death rates were higher for Aboriginal and Torres Strait Islander males than females in all the states and territories
 - intentional self-harm was the leading cause of death for Aboriginal and Torres Strait Islander people in the 15-24 years and 25-34 years age-groups
 - the median age of death was 29 years
 - the suicide rate for Aboriginal and Torres Strait Islander females in the 1-14 years age-group was 7.1 times higher than for non-Indigenous females
 - the suicide rate for Aboriginal and Torres Strait Islander females in the 15-24 years age-groups was 4.6 times higher than for non-Indigenous females
- among 5-17 year olds:
 - in 2016, suicide was the leading cause of death for both the Aboriginal and Torres Strait Islander population and the non-Indigenous population
 - for 2012-2016, more than one-quarter (27%) of all suicide deaths in this age-group were Aboriginal and Torres Strait Islander children and young people
 - the rate of suicide deaths in this age-group for Aboriginal and Torres Strait Islander children was 5.2 times the rate for non-Indigenous children per 100,000 people.

The ownership of data (Indigenous data sovereignty)

Data sovereignty describes the right of Indigenous people worldwide, including Aboriginal and Torres Strait Islander people, around the collection, ownership and use of data about them, their lands and their lives [14]. There is increasing recognition of the importance of local-level data in relation to data governance and sovereignty.

In recent years, it has been recognised that data regarding Indigenous people is often presented as an Indigenous deficit or shortfall when compared with mainstream populations [15]. Walter, in particular, has named the five 'D's; disparity, deprivation, disadvantage, dysfunction and difference that have characterised much of the debate about Aboriginal and Torres Strait Islander people. She also expressed disappointment at the lack of more positive, strength-based assessments of Aboriginal and Torres Strait Islander health [15].

¹¹ Under the ICD, intentional self-harm is classified under 'External causes of morbidity and mortality' (codes X60-X84); details are provided separately.

Data sovereignty in social and emotional wellbeing

Many of the measures normally used to describe Indigenous peoples' wellbeing come from western ideas of wellbeing that do not accurately reflect the essential elements of a good life that are meaningful for local people [72]. There are a number of recently created data sources that collect local, culturally safe data, such as the work of Eunice Yu and colleagues in the Kimberley Region [73]. In their research, they have come up with a view of social and emotional wellbeing using the local understandings of the word 'Liyani'. Another important example of local level data is the study of Aboriginal suicide in the Kimberley [74]. The local level-data revealed suicide rates significantly, and worryingly, higher than reported in the national statistics. These local-level statistics re-energised, reframed and redirected the debate and priorities towards urgent action in the region. These two case studies highlight the importance of data sovereignty for the development of future policy and practice in Aboriginal and Torres Strait Islander health.

Kidney health (Renal disease)

Kidney disease occurs when the cells that filter waste (the nephrons) are unable to do so [75].

Kidney disease

Kidney disease may also be referred to as renal disease, urologic disease or renal disorder.

Chronic kidney disease (CKD) occurs when the kidney damage or reduced kidney function lasts for three months or more [76]. CKD is a general term that includes many different types of kidney disease including: diabetic nephropathy; hypertensive renal disease; glomerular disease; chronic renal failure; and end-stage renal disease [77]. If CKD is left untreated, it can progress to end-stage renal disease (ESRD) where kidney function is so poor (that is, the kidneys operate at less than 15% of capacity [75]) that kidney replacement therapy is necessary to survive [78]. There are two forms of kidney replacement:

- dialysis - mechanical filtering of the blood using dialysis machines
- transplantation of a kidney - from either a living or recently deceased donor.

There are two forms of dialysis [79]:

- haemodialysis (HD) uses an 'artificial kidney' and does the filtering outside the body
- peritoneal dialysis (PD) is more invasive and helps to filter the blood within the person's body.

How many Aboriginal and Torres Strait Islander people have kidney disease?

In this section we will provide information on:

- prevalence - the number or proportion of cases
- incidence - the number of new cases
- hospitalisations - the number of hospital admissions
- mortality - death
- burden of disease - the impact of kidney disease on the population.

Prevalence and incidence

Most information on kidney disease is limited to self-reported data, which are not as accurate as medical records. However, data for the prevalence and incidence of ESRD are more accurate because ESRD is a notifiable disease [79].

In 2012-13 [33]:

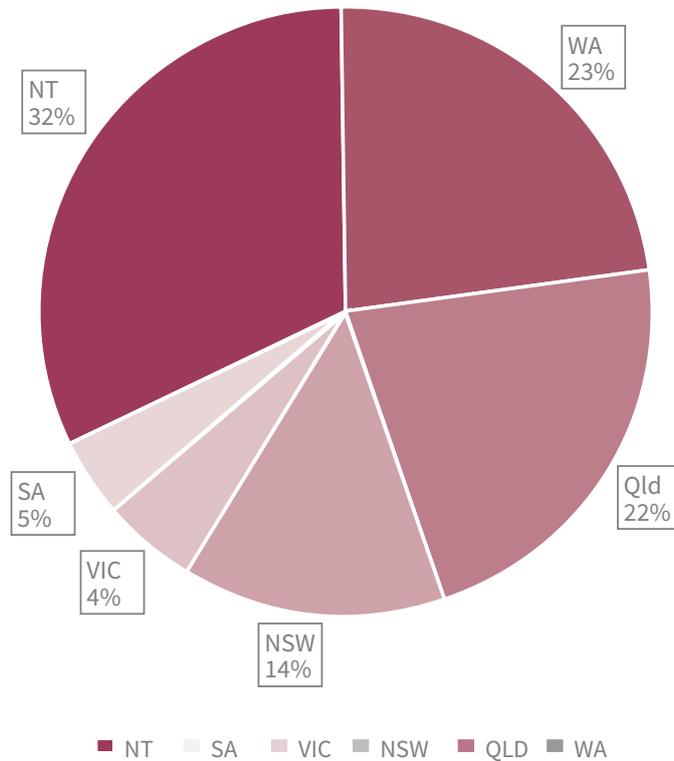
- around 1.8% of Aboriginal and Torres Strait Islander people reported kidney disease as a long-term health condition
- Aboriginal and Torres Strait Islander people were 3.7 times more likely than non-Indigenous people to have kidney disease
- the proportions of Aboriginal and Torres Strait Islander people reporting kidney disease were similar for males and females
- the prevalence of kidney disease increased with age: it was less than 2% for age-groups under 45 years; 4.0% for people aged 45-54 years; 7.7% for people aged 55 years and over.

For ESRD during the five-year period 2011-2015 (Derived from [18, 80-82]):

- Aboriginal and Torres Strait Islander people were 6.8 times more likely than non-Indigenous people to have ESRD
- the highest rates recorded were for Aboriginal and Torres Strait Islander people living in the NT (1,828 per 1,000,000), WA (1,090 per 1,000,000), and SA (588 per 1,000,000) (Figure 7)
- 58% of Aboriginal and Torres Strait Islander people with ESRD were aged less than 55 years, compared with 30% of non-Indigenous people

- rates were higher for Aboriginal and Torres Strait Islander people than for non-Indigenous people across all age-groups above 14 years of age
- for people aged 45-54 years the rate was 12.2 times higher for Aboriginal and Torres Strait Islander people than for non-Indigenous people.

Figure 7. Proportion (%) of Australian Indigenous people with end stage renal disease (ESRD) by selected jurisdictions, 2011-2015



Source: Derived from ABS, 2014 [18], ABS, 2003 [80], ABS, 2014 [81], ANZDATA, 2017, [82]

Hospitalisation including dialysis and transplantation

Aboriginal and Torres Strait Islander people experience very high rates of hospitalisation for dialysis. As a result, hospital statistics often report on numbers including or excluding dialysis:

- in 2015-16, Aboriginal and Torres Strait Islander people were hospitalised for kidney disease 2.5 times more often than non-Indigenous people [29]
- hospitalisation rates for CKD (excluding dialysis) for the period 2013-15 were [41]:
 - 3.6 times higher for Aboriginal and Torres Strait Islander people than non-Indigenous people
 - 2.5 times higher for Aboriginal and Torres Strait Islander males than for non-Indigenous males
 - 4.6 times higher for Aboriginal and Torres Strait Islander females than for non-Indigenous females
 - higher for Aboriginal and Torres Strait Islander people than non-Indigenous people in all age-groups
 - highest for Aboriginal and Torres Strait Islander people living in very remote areas (10 per 1,000) compared with those in regional areas or major cities (4.1 per 1,000)
- hospitalisation rates for ESRD for the period 2014-15 were [4]:
 - 11.2 times higher for Aboriginal and Torres Strait Islander people than for non-Indigenous people
 - 17.4 times higher for Aboriginal and Torres Strait Islander females than for non-Indigenous females
 - 7.3 times higher for Aboriginal and Torres Strait Islander males than for non-Indigenous males
- hospitalisation rates increased with remoteness [4]:
 - in remote and very remote areas, the hospitalisation rate for Aboriginal and Torres Strait Islander people was almost 70 times higher than for non-Indigenous people
 - for Aboriginal and Torres Strait Islander people living in remote and very remote areas, the hospitalisation rate was 2.9 times the rate of Aboriginal and Torres Strait Islander people living in major cities.

Haemodialysis (HD) is the most common form of dialysis treatment for Aboriginal and Torres Strait Islander people with ESRD [78, 79, 83].

In 2015:

- 83% of hospital separations for Aboriginal and Torres Strait Islander people were for dialysis [29]
- fewer Aboriginal and Torres Strait Islander people commenced dialysis in 2015 (277) than in 2014 (283 people) [79]
- 92% of Aboriginal and Torres Strait Islander dialysis patients used haemodialysis compared with 78% of non-Indigenous dialysis patients (Derived from [79]).

In 2013-14, hospitalisation rates for dialysis [55]:

- were 10.3 times higher for Aboriginal and Torres Strait Islander people than for non-Indigenous people
- were 6.9 times higher for Aboriginal and Torres Strait Islander males than for non-Indigenous males
- were 15.6 times higher for Aboriginal and Torres Strait Islander females than for non-Indigenous females.

Mortality

The death rate for Aboriginal and Torres Strait Islander people:

- from 'diseases of the urinary system'¹² in 2016 was 2.0 times the rate for non-Indigenous people [42]
- from kidney disease, for the period 2011-2015, was 2.6 times the rate for non-Indigenous people [84].

When CKD was 'the underlying or associated cause of death' in 2010-2012 [55]:

- the rate for Aboriginal and Torres Strait Islander people was 3.2 times higher than the rate for non-Indigenous people
- the rate for Aboriginal and Torres Strait Islander males was 2.6 times higher than for non-Indigenous males
- the rate for Aboriginal and Torres Strait Islander females was 3.9 times higher than for non-Indigenous females.

Burden of disease

Kidney and urinary diseases accounted for 2.5% of the total burden of disease among Aboriginal and Torres Strait Islander people in 2011 [43]. CKD accounted for most of this burden (79%) followed by 'other kidney and urinary diseases' (20%).

Injury (including from family violence)

Injury includes both physical harm to a person's body and non-physical harm, including grief, loss and suffering [85].

Collecting data on injuries

In public health practice, the focus on recording and measuring injury is almost entirely on physical harm [86]. Measuring injury is difficult, even when measuring only physical harm, because many injuries do not result in hospitalisation or death, and data on injuries is not regularly collected in other ways [87].

When collecting data, injury is usually classified according to the International Classification of Diseases (ICD), which pays particular attention to the external cause of the injury [32]. This classification system is used in this section, but it has its limitations (for more details on limitations see [88]).

There are certain social and economic factors that can increase a person's risk of injury by creating unsafe environments [87, 89], such as alcohol and other drug use, intimate-partner violence [90], disruption to culture [85], less access to prevention services, and less access to high-quality treatment and rehabilitation services. Aboriginal and Torres Strait Islander people are particularly at risk of experiencing these factors.

How many Aboriginal and Torres Strait Islander people are injured or have conditions caused by injury?

In this section we will provide information on:

- prevalence - the number or proportion of cases
- hospitalisations - the number of hospital admissions
- mortality - death
- burden of disease - the impact of injury on the population.

¹² Disease of the urinary system includes disorders of the bladder and urethra, as well as those specifically of the kidneys and ureters.

Prevalence

In 2012-13 [91]:

- 2.5% of Aboriginal and Torres Strait Islander people had a long-term condition caused by injury
- people in the 35-44 years and 45-54 years age-groups had the highest reported levels of injury
- long-term conditions caused by injury were reported more frequently by Aboriginal and Torres Strait Islander people than by non-Indigenous people across all age-groups except for the 55 years and over age-group
- Aboriginal and Torres Strait Islander people were 1.2 times more likely than non-Indigenous people to report a long-term condition as a result of an injury.

In relation to violence, in 2014-15 [12]:

- 22% of Aboriginal and Torres Strait Islander people aged 15 years and over had experienced physical or threatened violence in the last 12 months
- for males, the highest proportion of people being singled out for cruelty or violence (victimisation) were in the 15-24 years age-group (27%)
- for females, the highest proportion of people being singled out for cruelty or violence (victimisation) were in the 25-34 years age-group (27%)
- 69% of Aboriginal and Torres Strait Islander people aged 15 years or over reported awareness of problems in their neighbourhood or community, with 25% reporting awareness of family violence and 21% reporting awareness of assault
- 47% of Aboriginal and Torres Strait Islander people in remote areas reported awareness of family violence, compared with 19% in non-remote areas
- 45% of Aboriginal and Torres Strait Islander people in remote areas reported awareness of assault, compared with 14% in non-remote areas.

Hospitalisation

In 2015-16 (Derived from [29]):

- 14% of all Aboriginal and Torres Strait Islander hospitalisations (excluding those for dialysis) were for injuries
 - the top four causes of injury were:
 - falls (20%)
 - assault (19%)
 - exposure to mechanical forces (17%)
 - complications of medical and surgical care (13%)
- Aboriginal and Torres Strait Islander people were 1.8 times more likely than non-Indigenous people to be hospitalised for injury
- Aboriginal and Torres Strait Islander people in remote and very remote areas (74 per 1,000) were more likely to be hospitalised for injury than those in major cities (38 per 1,000) (2014-15) [4].

Hospitalisation rates for assaults:

- were 19 times higher for Aboriginal and Torres Strait Islander people than for non-Indigenous people in remote and very remote areas in 2014-15 [4]
- were 7.6 times higher for Aboriginal and Torres Strait Islander people than for non-Indigenous people in major cities in 2014-15 [4]
- accounted for 19% of Aboriginal and Torres Strait Islander injury-related hospitalisations compared with 2% for non-Indigenous people [29].

Aboriginal and Torres Strait Islander hospitalisation rates for family-violence-related assaults in 2014-15 [4]:

- were 29 times higher than for non-Indigenous people
- increased with remoteness, from 4.0 per 1,000 in major cities to 15 per 1,000 in remote and very remote areas
- in remote areas were 13.8 times higher than for non-Indigenous people living in remote areas
- in major cities were 41.7 times higher than for non-Indigenous people living in major cities.

Mortality

In 2016 [42]:

- deaths relating to injury for Aboriginal and Torres Strait Islander people were from:
 - intentional self-harm (5.5% of all Aboriginal and Torres Strait Islander deaths)
 - land transport accidents (2.7%)
 - accidental poisoning (2.6%)
- Aboriginal and Torres Strait Islander people were more than twice as likely to die from intentional self-harm, land transport accidents and accidental poisoning as non-Indigenous people.

In the period 2011-2015 [41]:

- there were 1,995 Aboriginal and Torres Strait Islander deaths from injury, accounting for 15% of all Aboriginal and Torres Strait Islander deaths
- Aboriginal and Torres Strait Islander people died from injury at 2.1 times the rate of non-Indigenous people
- death rates for injury were particularly high among Aboriginal and Torres Strait Islander people aged 25-34 years (104 per 100,000), 35-44 years (111 per 100,000) and 75+ years (205 per 100,000)
- the leading causes of injury-related death of Aboriginal and Torres Strait Islander people as a percentage of total deaths were:
 - intentional self-harm (6.8% for males and 3.4% for females)
 - land transport accidents (4.1% for males and 2.4% for females)
 - accidental poisoning by and exposure to noxious substances (2.3% for males and 1.8% for females)
 - assault (1.6% for males and 1.4% for females).

Burden of disease

In 2011, injury was responsible for 15% of the total burden of disease for Aboriginal and Torres Strait Islander people [43]. The types of injury that added the most to the disease burden were suicide (30%), transport accidents (17%), and homicide and violence (12%).

Respiratory disease

Respiratory disease refers to those disorders that make breathing difficult due to damage of the airways and other parts of the lung [92, 93]. These diseases include respiratory conditions that come on quickly or don't last long (acute), to those that last a long time (chronic) [43].

Risk factors for respiratory disease

The main risk factors for respiratory disease include: tobacco use; poor environmental conditions (e.g. dust); occupational exposures and hazards (e.g. working somewhere where there are often dangerous particles in the air like chemicals or dust [43, 94]; family history; and other health conditions (for example obesity and infectious diseases) [94]. Infants and children are particularly at risk of developing respiratory diseases due to factors such as: exposure to tobacco smoke; poor living conditions; poor nutrition; and limited access to medical care [95, 96].

How many Aboriginal and Torres Strait Islander people have respiratory disease?

In this section we will provide information on:

- prevalence - the number or proportion of cases
- hospitalisations - the number of hospital admissions
- mortality - death
- burden of disease - the impact of respiratory disease on the population.

Prevalence

For Aboriginal and Torres Strait Islander people in 2012-13 [97]:

- 31% had long-term diseases of the respiratory system (defined as a current respiratory condition that had lasted, or was expected to last, for six months or more)
- the overall level of respiratory disease was 1.2 times higher than for non-Indigenous people
- respiratory diseases were more frequently reported by females (34%) than males (28%)
- the proportion of people reporting respiratory diseases increased with age, from 21% in the 0-14 year age-group to 43% in the 45-54 years age-group, before decreasing to 41% for the 55 years and over age-group

- asthma was the most commonly reported long-term respiratory disease and the second most commonly reported long-term disease overall (reported by 18% of people)
- the rate of asthma was 1.9 times higher for Aboriginal and Torres Strait Islander people than for non-Indigenous people
- other long-term respiratory diseases reported included chronic sinusitis (8.3%) and COPD¹³ (4.1%) [97].

Hospitalisation

In 2015-16:

- Aboriginal and Torres Strait Islander people accounted for 10% of all hospital separations (excluding dialysis) with a main diagnosis of respiratory disease (Derived from [29])
- Aboriginal and Torres Strait Islander people were 2.3 times more likely than non-Indigenous people to be hospitalised for respiratory disease [29].

In 2014-15 [4]:

- Aboriginal and Torres Strait Islander people were more likely than non-Indigenous people to be hospitalised for all respiratory diseases (5 times higher for COPD and 1.8 times higher for asthma)
- hospitalisation rates for COPD, influenza and pneumonia, acute upper respiratory infections, and asthma all increased with remoteness.

Mortality

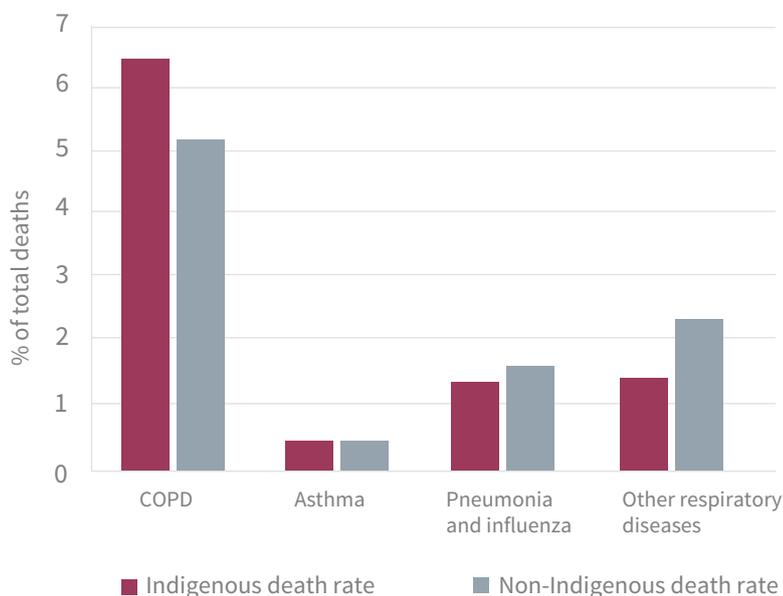
In 2016 [42]:

- chronic lower respiratory disease (which includes asthma, bronchitis, bronchiectasis, emphysema, and other COPD) was the leading cause of death from respiratory disease and the third highest cause of death overall (responsible for 200 deaths) for Aboriginal and Torres Strait Islander people
- Aboriginal and Torres Strait Islander people were 2.7 times more likely than non-Indigenous people to die from chronic lower respiratory disease
- Aboriginal and Torres Strait Islander people were 1.3 times more likely than non-Indigenous people to die from influenza and pneumonia.

For the period 2011-2015 [41]:

- Aboriginal and Torres Strait Islander people were 8.7 times more likely than non-Indigenous people to die from respiratory diseases.

Figure 8. Underlying causes of death, by Indigenous status, respiratory diseases, 2011-2015



Notes: 1 Age-standardised % of total deaths.
 2 Directly standardised using the 2001 standard population.
 Source: AIHW, 2017 [41]

¹³ COPD relates to a progressive lung disease for which the symptoms are not fully reversible, and includes chronic bronchitis and emphysema [98].

For the period 2012-2016, [42]:

- the death rate from chronic lower respiratory diseases was 9.0 times higher for Aboriginal and Torres Strait Islander people than for non-Indigenous people in the 45-54 years age-group
- the death rate from pneumonia and influenza for infants under one year of age was 8.2 times higher than for non-Indigenous infants of the same age.



While death rates from respiratory disease continue to be higher for Aboriginal and Torres Strait Islander people than for non-Indigenous people, the gap has closed over recent decades - death rates have gone down by 26% over the 1998-2012 period [99].

Burden of disease

In 2011, respiratory diseases¹⁴ were responsible for 7.9% of the total burden of disease among Aboriginal and Torres Strait Islander people [43]. Most of the burden from respiratory disease was due to asthma (which particularly affected people aged 10-24 years) and COPD (which was highest in the 60-64 years age-group).

Eye health

It is estimated that 90% of vision impairment (VI) and blindness¹⁵ among both Indigenous and non-Indigenous people is preventable or treatable [100].

Eye disease

The most common eye diseases that affect Aboriginal and Torres Strait Islander people are refractive error, cataract, diabetic retinopathy and trachoma [100].

Eye health can be affected by a number of factors, including genetics (family history), increasing age, premature (early) birth, diseases such as diabetes, infections, injuries, exposure to ultraviolet (UV) light, poor nutrition and tobacco use [12, 101]. Having poor eyesight can have a negative effect on a person's ability to take part in education, employment and social activities [26]. It can also increase the risk of injury and lead to a need for special services and day-to-day help from other people. People with vision loss or even partial vision loss may not be able to live independently, and their risk of death is increased [26, 102, 103].



There is evidence that Aboriginal and Torres Strait Islander children, especially those living in remote areas, generally have better vision than non-Indigenous children [4, 104]. In addition, eye-health initiatives appear to be closing the vision gap.

How many Aboriginal and Torres Strait Islander people have poor eye health?

The National Eye Health Survey (NEHS) was conducted between March 2015 and April 2016 across urban, rural and remote sites across Australia [100]. It provides the latest data on vision impairment and blindness among Indigenous people aged 40-92 years and non-Indigenous people aged 50-98 years.

In this section we will provide information on:

- prevalence - the number or proportion of cases
- burden of disease - the impact of eye disease on the population.

Prevalence estimates of eye health problems based on data from eye examinations

In 2015-16 [100]:

- bilateral (occurring in both eyes) vision impairment occurred among 11% of Indigenous Australians which is three times higher than the rate in non-Indigenous people
- bilateral blindness occurred among 0.3% of Indigenous Australians which is three times higher than the rate in non-Indigenous people
- survey results suggest that the prevalence of blindness in Indigenous adults has gone down from six times higher than non-Indigenous adults in 2008 [104] to three times higher in 2016¹⁶
- vision impairment (VI) increased with age, ranging from 5.7% for those in the 40-49 years age-group to 46% for those aged 80+ years
- the prevalence of VI among Indigenous adults in outer regional (17%) and very remote areas (15%) was double the rate in other areas (8.2% in major cities, 8.4% in inner regional areas and 8.3%, in remote areas)
- the main causes of VI in Indigenous adults were:
 - uncorrected refractive error (63%)
 - cataract (20%)
 - diabetic retinopathy (DR) (5.5%)

¹⁴ Include chronic conditions such as COPD, upper respiratory diseases and bronchiectasis.

¹⁵ This calculation is based on figures for age-related macular degeneration, cataract, diabetic retinopathy, glaucoma and uncorrected refractive error [100].

¹⁶ It has been noted however, that the observed reduction is based on small numbers of people with bilateral blindness [105].

- Indigenous adults with diabetes were more likely than non-Indigenous adults with diabetes to have diabetic retinopathy (39% compared with 29%).

Prevalence estimates of eye health problems based on self-reported data

In 2014-15, among Aboriginal and Torres Strait Islander children aged 4-14 years [12]:

- 13% had eye or sight problems (including treated/corrected eye or sight problems)
- eye problems were less likely to be reported for children in remote areas (6%) than for those in non-remote areas (14%)
- 9.7% had a long-term eye problem, with long-sightedness (4.7%) and short-sightedness (2.8%) being the most common problems [4]. In comparison, 12% of non-Indigenous children had a long-term eye problem.

In 2012-13:

- 33% of Aboriginal and Torres Strait Islander people (33% of Aboriginal people and 34% of Torres Strait Islander people), had eye and sight problems,¹⁷ making this the most commonly reported, long-term health condition [106]
- eye and sight problems were reported by 29% of males and by 38% of females [97]
- the proportion of Aboriginal and Torres Strait Islander people reporting eye or sight problems was similar in non-remote areas and remote areas (both 35%), but lower among those living in very remote areas (25%) [107]
- the most common eye conditions reported by Aboriginal and Torres Strait Islander people were: hyperopia (long-sightedness: 19%), myopia (short-sightedness: 13%), other diseases of the eye and adnexa¹⁸ (5.6%), blindness (3.0%), and cataract (1.1%) [97].

Prevalence estimates of trachoma and trichiasis based on observation¹⁹

Although there have been considerable improvements in trachoma control in Indigenous communities in Australia [108], high levels continue to be found in some regions:

- the estimated prevalence of active trachoma among Indigenous children aged 5-9 years in selected remote communities has decreased from 14% in 2009 to 4.7% in 2016.

If left untreated, trachoma can cause scarring of the eyelid and in-turned eyelashes that lead to blindness (trichiasis) [104, 108].

General practice visits and hospitalisation

For the period April 2010 to March 2015 [105]:

- 1.1% of all problems that were managed by GPs for Aboriginal and Torres Strait Islander patients were related to eye health
- Indigenous patients were 3.5 times more likely than other patients to see GPs for the management of cataracts.

For the period July 2013 to June 2015, for Aboriginal and Torres Strait Islander people [41]:

- 60% of hospitalisations for eye problems were for cataract
- there were more hospitalisations for eye conditions among females (55%) than males (45%)
- Aboriginal and Torres Strait Islander males and females were 0.8 times less likely than non-Indigenous males and females to be hospitalised for diseases of the eye and adnexa
- in non-remote areas, Indigenous people were 0.7 times less likely than non-Indigenous people to be hospitalised for eye conditions
- Aboriginal and Torres Strait Islander males were more likely than females to be hospitalised for eye injury
- Aboriginal and Torres Strait Islander females were 4.2 times more likely than non-Indigenous females to be hospitalised for eye injury
- Aboriginal and Torres Strait Islander males were 2.7 times more likely than non-Indigenous males to be hospitalised for eye injury
- Aboriginal and Torres Strait Islander people were 3.2 times more likely than non-Indigenous people to be hospitalised for eye injury.

Burden of disease

In 2011, hearing and vision disorders together contributed to 1.2% of the total burden of disease experienced by Aboriginal and Torres Strait Islander people [43]. The burden of vision loss²⁰ was estimated to be three times greater for Aboriginal and Torres Strait Islander people than for non-Indigenous people.



¹⁷ Eye and sight problems include: cataract; glaucoma; disorders of the choroid and retina; disorders of the ocular muscles, binocular movement, accommodation and refraction; visual disturbances and blindness; and other diseases of the eye and adnexa [106]. Unlike the 2016 NEHS data, measures of myopia and hyperopia have been reported separately and include both corrected and uncorrected cases.

¹⁸ Other diseases of the eye and adnexa include: glaucoma, macular degeneration, astigmatism and presbyopia [97].

¹⁹ The National Trachoma Surveillance and Reporting Unit collects prevalence data for trachoma in 'at risk' communities.

²⁰ Vision loss refers specifically to loss due to refractive error, cataract, glaucoma and age-related macular degeneration [43]. It does not include vision loss due to trachoma or diabetes.

Factors contributing to Aboriginal and Torres Strait Islander health

Selected health risk and protective factors

Factors that contribute to a person's health include [109]:

- the social determinants of health (which were briefly discussed in the *Social and cultural concepts* section)
- health risk factors
- protective factors.

The health risk and protective factors discussed in the following sections are mostly modifiable and related to behaviour.

Health risk and protective factors

Health risk and protective factors can be divided into those that cannot be changed (non-modifiable factors) and those which can be changed (modifiable factors) [56]. Non-modifiable factors are often biological or medical (e.g. age, sex, family history). Modifiable factors are mostly environmental (e.g. living in an overcrowded house) or behavioural (e.g. smoking). These can potentially be changed.

Not everyone who is exposed to a health risk factor will develop a health condition, and some people may develop a health condition without ever having been exposed to a risk factor [110].

Physical environment

Housing issues (such as overcrowding) and problems with infrastructure including sewerage, running water and electricity have a big impact on the health of some Aboriginal and Torres Strait Islander people [12]:

- in 2016, 16% of Aboriginal and Torres Strait Islander people were living in overcrowded households compared with 6% of non-Indigenous people [13]
- there have been some small decreases in overcrowding in recent years; from 28% in 2008 to 23% in 2012-13 and 21% in 2014-15 [4]
- in 2014-15, overcrowding was significantly higher in remote and very remote areas, 41% of people lived in overcrowded households compared with 15% in non-remote areas
- in 2014-2015, 26% of households reported major structural issues within their homes - the most significant issues for Aboriginal and Torres Strait Islander dwellings were:
 - major cracks in the walls/floors (11%)
 - walls or windows not straight (6.1%)
 - major plumbing problems (5.7%).

Health issues can result from an unhealthy environment. In 2014-15, Aboriginal and Torres Strait Islander people were [4]:

- 2.3 times more likely than non-Indigenous people to be hospitalised for certain diseases related to environmental health
- 51.3 times more likely than non-Indigenous people to be hospitalised for scabies
- 43.2 times more likely than non-Indigenous people to be hospitalised for acute rheumatic fever
- 1.7 times more likely than non-Indigenous people to die from diseases related to environmental health.

Nutrition

Poor nutrition is an important factor contributing to overweight and obesity, malnutrition, CVD, type 2 diabetes, and tooth decay [111, 112].

The Australian Dietary Guidelines

The Australian Dietary Guidelines recommend that adults eat fruit and plenty of vegetables every day, and that these should include a wide variety of types and colours [112]. The guidelines also recommend reduced-fat milk, yoghurts and cheeses, limiting the intake of added sugar, salt and 'discretionary'²¹ foods and drinks. The WHO recommends that both adults and children obtain less than 10% of their daily dietary energy needs from free sugars [114].

In 2012-13 the National Aboriginal and Torres Strait Islander Nutrition and Physical Activity Survey (NATSINPAS) found that:

Fruit consumption

- children (2-18 years) averaged 1.6 serves of fruit a day [115]
- adults (aged 19 years and over) averaged one serve per day [115]
- 54% of people met the recommendations for usual serves of fruit eaten per day [116]
- females (57%) were more likely than males (51%) to have eaten an adequate amount of fruit [116]

²¹ Foods that are energy dense but do not provide many/any nutrients and that typically contain high levels of sugar, salt and fat [112, 113].

Vegetable consumption

- children (2-18 years) averaged 1.4 serves of vegetables a day [115]
- adults (aged 19 years and over) averaged 2.1 serves per day [115]
- 8% of people met the recommendations for usual serves of vegetables eaten per day [116]
- females aged 15 years and over were more likely than males of the same age to have eaten an adequate amount of vegetables (7% compared with 3%) [117].

Dairy food consumption

- Aboriginal and Torres Strait Islander people averaged 1.2 serves per day of milk, yoghurt, cheese and alternatives [115]
- dairy milk was the most frequently consumed product (65%) followed by cheese (30%) [115]
- milk products and dishes (dairy foods) were consumed by 83% of Aboriginal and Torres Strait Islander people, which was similar to the proportion of non-Indigenous people who consumed dairy foods (85%) [118].

Discretionary food consumption

- discretionary foods were consumed by a large proportion of Aboriginal and Torres Strait Islander people in the 24 hours prior to the survey [118]:
 - 25% ate confectionery (sweets and lollies)
 - 20% ate snack foods
 - 11% drank alcoholic beverages
- on average, 41% of total daily energy was obtained through consuming (eating and drinking) discretionary foods [116]:
 - 8.8% of daily energy was cereal-based products (such as cakes, biscuits and pastries)
 - 6.9% of daily energy was non-alcoholic beverages (such as soft drinks)
- twice as many males as females drank alcoholic beverages (15% compared with 7.7%) [118].

Sugar consumption

- on average, Aboriginal and Torres Strait Islander people consumed 111 grams (g) of total sugars per day [113]
- males consumed more total sugars on average than females (121 g compared with 101 g) especially in the 14-18 years age-group (147 g compared with 102 g) [113]
- most of the free sugars²² consumed were from discretionary foods and beverages [113].

Sodium (salt) consumption

- almost half of Aboriginal and Torres Strait Islander people did not use salt in household cooking or preparing food (47%) [119]
- the average daily sodium intake was similar for Aboriginal and Torres Strait Islander people and non-Indigenous people (2,379 mg compared with 2,408 mg) [116] - this does not include salt added during cooking or when preparing food
- males recorded a higher consumption of sodium than females in both populations [116].

Bush food consumption

People in remote areas were more likely than people in non-remote areas to eat bush foods [118]:

- non-commercially-caught fin fish (7.8% compared with 1.8%)
- non-commercially-caught crustacea and molluscs (e.g. crabs, mussels, clams) (1.2% compared with 0.3%)
- wild-harvested meat (7.7% compared with 0%)
- reptiles (3.9% compared with 0.1%).

Vitamin D, anaemia and iodine

The 2012-13 National Aboriginal and Torres Strait Islander Health Measures Survey collected information on certain minerals or compounds that can be found in the blood, including vitamin D, iron and iodine [120]. These are known as 'biomarkers of nutrition'. The levels of these (and certain other) compounds in the blood can help to diagnose disease or indicate if a person is at risk of certain diseases. It was found that:

- 27% of adults had lower than the recommended levels of vitamin D in their blood (that is, they had a 'vitamin D deficiency')
- 7.6% of people were at risk of anaemia²³
- Aboriginal and Torres Strait Islander adults had adequate levels of iodine in the blood (that is, they were 'iodine-sufficient')²⁴.

²² Free sugars are added sugars plus those naturally occurring in honey, fruit juice and fruit concentrate [113].

²³ Anaemia is a condition where the blood doesn't have enough healthy red cells. Red blood cells carry oxygen to the cells and organs.

²⁴ Low levels of iodine (iodine deficiency) can cause enlarged thyroid glands (goiters) or mental retardation in children, if the pregnant mother had iodine deficiency.

Food security

The 2012-13 NATSINPAS asked respondents if, during the previous 12 months, they had ever run out of food and couldn't afford to buy more [121]. This was to measure their level of food security:

- 22% had run out of food and couldn't afford to buy more in the previous 12 months
- of these, 7% had run out and gone without food, while 15% had run out, but not gone without food
- people in remote areas were more likely than people in non-remote areas to run out of food (31% compared with 20%) and slightly more likely to go without food (9.2% compared with 6.4%).

Burden of disease

In 2011, the joint effect of all dietary risks contributed 9.7% to the total burden of disease for Aboriginal and Torres Strait Islander people [43]. The role of dietary risk factors in the burden of disease was particularly important in the 65+ years age-group, where a diet that was low in fruit contributed 4% to the burden for males and 3% for females.

Breastfeeding

Breast milk is the ideal food for babies. It provides all the energy and nutrients that an infant needs for the first six months of life [112, 122]. Breastfeeding provides the nutrients for development of the brain and the body, and protects the baby against SIDS, asthma, infectious diseases and chronic diseases later in life.

In 2014-15, the National Aboriginal and Torres Strait Islander Social Survey (NATSISS) found that:

- 80% of Aboriginal and Torres Strait Islander children aged 0-3 years had been breastfed [12]
- 4% of Aboriginal and Torres Strait Islander infants had been breastfed for 12 months or more, compared with 12% of non-Indigenous children [12]
- the proportion of Aboriginal and Torres Strait Islander infants aged 0-2 years who had been breastfed ranged from 98% in the NT to 75% in Vic (87% in ACT, 86% in Qld, 83% in SA, 79% in NSW, 78% in Tas and 77% in WA) [26]
- in Qld, Tas and NT, Aboriginal and Torres Strait Islander children were more likely than non-Indigenous children to be breastfed [26]
- higher proportions of Aboriginal and Torres Strait Islander children in remote areas were breastfed (91%) compared with Aboriginal and Torres Strait Islander children in major cities (73%) [26].

There are many factors that can discourage a mother from breastfeeding. A study of infant feeding behaviour among Aboriginal women in rural Australia found that the main barriers were [123]:

- lack of support from people from older generations (such as parents, aunties and grandparents);
- social factors (such as nowhere to breastfeed when out in public)
- the pressure to use infant formula (from advertising, friends or family).

Physical activity

Physical activity is important for good overall health – both physical health and mental health [124, 125]. Low levels of activity or no activity (being sedentary) are risk factors for poor health and obesity.

Australia's Physical Activity and Sedentary Behaviour Guidelines

Australia's Physical Activity and Sedentary Behaviour Guidelines for adults recommend a combination of moderate and vigorous physical activity²⁵ on most, preferably all, days of the week [125]. This will improve a person's general health and reduce the risk of chronic diseases, such as cardiovascular disease, type 2 diabetes, depression and certain cancers. However, it is recognised that doing some physical activity is better than doing none - the health benefits increase as a person's level of activity increases [126].

In this section the data is all based on results from the Australian Aboriginal and Torres Strait Islander Health Survey (AATSIHS).

Adult physical activity

How active are they?

The 2012-13 AATSIHS found that:

- 47% of adults (52% of males and 42% of females) in non-remote areas had met the target of 30 minutes of moderate intensity physical activity on most days (or a total of 150 minutes per week) [127]
- in remote areas, 55% of adults exceeded the recommended 30 minutes of physical activity and 21% did not participate in any physical activity on the day before the interview [124].

²⁵ Moderate intensity physical activity requires some effort, but still allows you to speak easily while doing the activity. Examples include active play and brisk walking. Vigorous intensity physical activity requires more effort and makes you breathe harder and faster ("huff and puff"). Examples include running and fast cycling.

How hard are they exercising?

- 29% of adults had exercised at moderate intensity and 10% at high intensity [127]
- males in non-remote areas were significantly more likely than females to have exercised at moderate intensity (32% compared with 25%) or at high intensity (14% compared with 7%) [124, 127].

What activities are they doing?

- the most common type of physical activity for adults was 'walking to places' (71%) [124]
- 11% of adults participated in cultural activities, including hunting and gathering bush foods or going fishing [124].

How inactive are they?

- 61% of adults in non-remote areas were physically inactive (sedentary or had exercised at a low level) [127]
- females were more likely than males to be physically inactive (68% compared with 53%) [124]
- Aboriginal and Torres Strait Islander adults spent an average of 5.3 hours per day on sedentary activities, including 2.3 hours of watching television (TV), DVDs and videos [124].

Children's physical activity

How active are they?

Among children aged 5-17 years, the 2012-13 AATSIHS found that [124]:

- on average, children were three times more active than adults
- children in non-remote areas spent an average of two hours per day doing physical activity compared with 1 hour 35 minutes for non-Indigenous children
- 48% of children met the recommended one hour per day, compared with 35% of non-Indigenous children
- 82% of children in remote areas did more than 60 minutes of physical activity on the day before the interview.

What activities are they doing?

- the most common activities were 'active play and children's games' (57%) and swimming (18%) [124]
- 82% of children in remote areas did walking, 53% did running and 33% played football or soccer [124].

How inactive are they?

- children aged 2-4 years spent an average of 1.5 hours per day on screen-based activities, such as watching TV, DVDs or playing electronic games [124]
- children aged 12-14 years spent four minutes per day using the internet or computer for homework compared with eight minutes for non-Indigenous children [124]
- children aged 15-17 years spent eight minutes per day using the internet or computer for homework compared with 20 minutes for non-Indigenous children [124].

Bodyweight

Healthy bodyweight can be measured by using body mass index (BMI), while abdominal obesity (around the waist) can be measured using waist circumference (WC) or waist hip ratio (WHR) [128][131].

Measuring bodyweight

Body mass index (BMI) is calculated by dividing a person's weight (in kilograms) by their height (in metres squared). For example, if a man weighs 82 kgs and measures 1.90 metres, his BMI is $82 \div (1.9 \times 1.9) = 22.7$. This is within the healthy weight range [128].

Being overweight (BMI is between 25 and 29) or obese (BMI is 30 or more) increases a person's risk for many chronic diseases and some musculoskeletal conditions (those that affect the muscles, joints and skeleton, such as arthritis) [129, 130].

Being underweight (BMI is less than 18.5) [56] can also lead to health problems such as:

- lower immunity (which means a person is less able to fight off to some infectious diseases)
- osteoporosis (bone loss) [112].

Abdominal obesity (around the waist) is a risk factor for the development of metabolic syndrome²⁶ [131]. It can be calculated by measuring a person's waist circumference (WC) or their waist to hip ratio (WHR):

- the waist circumference is the measurement in centimetres (cm) around a person's waist
- a healthy WC is less than 94 cm for males and less than 80 cm for females
- WHR is calculated by dividing the waist circumference by the hip circumference
- a healthy WHR is less than or equal to 0.90 for males and 0.85 for females.

²⁶ A combination of health conditions that occur together and increase a person's risk of getting diabetes, stroke and heart disease.

There is some uncertainty about what the most accurate BMI and WC cut-off points are in Aboriginal and Torres Strait Islander people [132]. It has been suggested that a BMI of 22 might be more appropriate than 25 as a measure of acceptable BMI for Aboriginal people. There is also evidence that measuring the WHR in Aboriginal people is more accurate and easier to measure than BMI.

Among Aboriginal and Torres Strait Islander people aged over 18 years in 2012-13:

- 69% were considered to be overweight (29%) or obese (40%) [4]
- 28% were normal weight and 3% were underweight [4]
- males were more likely than females to be overweight (32% compared with 27%) [4]
- females were more likely than males to be obese (43% compared with 36% respectively) [4]
- were 1.2 times more likely than non-Indigenous adults to be overweight or obese [4]
- males (1.8 times) and females (1.5 times) were more likely than non-Indigenous males and females to be underweight [133]
- were only 0.7 times as likely as non-Indigenous people to be of normal weight [133].

Measurements of WC and WHR were taken in the 2012-13 AATSIHS to help measure the levels of risk for developing certain chronic diseases [134].

Based on WC and WHR [134]:

- 81% of Aboriginal and Torres Strait Islander males and more than 60% of females aged 18 years or older were found to be at increased risk of developing chronic diseases
- the risk of developing chronic diseases increased with age for both males and females.

Based on BMI [33]:

- around 30% of Aboriginal and Torres Strait Islander children aged 2-14 years were overweight (20%) or obese (10%)
- 62% of Aboriginal and Torres Strait Islander children aged 2-14 years were in the normal weight range, and 8% were underweight
- 28% of boys and 32% of girls were overweight or obese
- Aboriginal and Torres Strait Islander children aged 2-14 years were 1.2 times more likely than non-Indigenous children to be overweight or obese.

Tobacco use

Tobacco is mostly smoked in cigarettes but can also be inhaled or chewed.

How does tobacco use affect health?

Tobacco use is a risk factor for many chronic diseases, such as CVD, many forms of cancer, and lung diseases, as well as a range of other health conditions [26]. Tobacco use is also a risk factor for complications during pregnancy, premature births, low birth weight, and death of the baby in the weeks before or just after birth (perinatal death). Passive smoking (also known as environmental tobacco smoke) is particularly harmful for children, and can contribute to middle-ear infections, asthma, and increased risk of SIDS.

Extent of tobacco use among Aboriginal and Torres Strait Islander people

The 2014-15 NATSISS is currently the most reliable source of information on the prevalence of tobacco-smoking among Aboriginal and Torres Strait Islander people [12]. While the more recent report, the *National drug strategy household survey 2016: detailed findings*, has data from 2016, there are issues with the sample size of Aboriginal and Torres Strait Islander people, as well as some other limitations [135]. Because of this, comparisons against non-Indigenous people must be interpreted with caution. The 2014-15 NATSISS also has more comprehensive data regarding remoteness, sex, and age.

In this section we will provide information on:

- prevalence - the number or proportion of cases
- general practice visits – the number of visits to the GP for eye problems
- hospitalisations – the number of hospital admissions
- burden of disease - the impact of tobacco smoking on the population.

Prevalence

Among Aboriginal and Torres Strait Islander people aged 15 years and over, the 2014-15 NATSISS found that [12]:

- 39% were current daily smokers, down from 45% in 2008 and 49% in 2002 [12]
- smoking rates were higher than those reported in the *National drug strategy household survey 2016: detailed findings*²⁷ but showed a similar decline; 35% in 2010, 32% in 2013 and 27% in 2016 [135]



²⁷ the National drug strategy household survey 2016: detailed findings reported on Aboriginal and Torres Strait Islander people aged 14 years and over

- males (42%) were more likely than females (36%) to be current daily smokers
- males were more likely than females to be current daily smokers in all age-groups, particularly in the 45-54 years age-group (51% of males compared with 41% of females)
- the age-group with the highest proportion of current daily smokers was 35-44 years (47%)
- Aboriginal and Torres Strait Islander people were 2.8 times more likely than non-Indigenous people to smoke (39% compared with 14%)
- people living in remote areas were more likely people living in non-remote areas to be current daily smokers (47% compared with 37%)
- 31% of 15-24 year-olds smoked daily (a decline from 39% in 2008)
- 45% of 25-34 year-olds smoked daily (a decline from 53% in 2008).

Smoking in pregnancy

- in 2015, almost half of Aboriginal and Torres Strait Islander mothers (45%) reported smoking during pregnancy, compared with 12% of non-Indigenous mothers [22]
- 14% of Aboriginal and Torres Strait Islander women gave up smoking during the second half of their pregnancy compared with 25% of non-Indigenous women [22].

Passive smoking

- in 2014-15, 57% of Aboriginal and Torres Strait Islander children aged 0-14 years lived in households with a daily smoker (a decline from 63% in 2008) [12]
- for those children living with a daily smoker, 13% were living in households where people smoked indoors [12].

Burden of disease

Tobacco use was the leading cause of the burden of disease and injury among Aboriginal and Torres Strait Islander people (responsible for 12% of the total burden) in 2011 [43]. It contributed around 40% of the disease burden to CVD, cancer and respiratory diseases. Tobacco use contributed 23% to the health gap between Aboriginal and Torres Strait Islander and non-Indigenous people, which was higher than any other single risk factor.

Alcohol use

Aboriginal and Torres Strait Islander people are less likely than non-Indigenous people to drink alcohol, but those who do are more likely to drink at levels that cause harm [66, 136].

Alcohol use by Aboriginal and Torres Strait Islander people

What does alcohol do?

Drinking too much alcohol is a risk factor for chronic diseases, injury and transport accidents, mental health conditions, intergenerational trauma (affecting several generations) and violence [135, 137]. It can affect the individual themselves, as well as their families and the wider community. This includes both binge drinking (drinking too much on a single occasion) and drinking too much over a whole lifetime.

Why do people drink alcohol?

There are many possible reasons why Aboriginal and Torres Strait Islander people drink too much alcohol, including:

- socio-economic disadvantage (for example, unemployment, low levels of education, low income)
- stress
- events that have happened in their childhood or teenage years
- colonisation
- removal from their lands and cultures [137-140].

Evidence suggests that Aboriginal and Torres Strait Islander people have better health outcomes when there are properly resourced and culturally safe services provided by community-controlled organisations [139, 141].

Extent of alcohol use among Aboriginal and Torres Strait Islander people

In this section we will provide information on:

- prevalence - the number or proportion of cases
- hospitalisations – the number of hospital admissions
- mortality - death
- burden of disease - the impact of alcohol use on the population.

Alcohol guidelines to reduce risky levels of drinking

In 2009, the NHMRC introduced revised guidelines that depart from specifying 'risky' and 'high risk' levels of drinking [142]. The revised guidelines try to calculate the overall risk of alcohol-related harm throughout a person's lifetime. For males and females:

- *Guideline 1* states that, to reduce the risk of alcohol-related harm over a lifetime, no more than two standard drinks should be consumed on any day
- *Guideline 2* states that, to reduce the risk of injury on a single occasion of drinking, no more than four standard drinks should be consumed
- *Guideline 3* recommends that the safest option is not drinking alcohol for those aged under 15 years and delaying alcohol use for as long as possible for those aged 15 to 17 years
- *Guideline 4* recommends that the safest option for pregnant and breast-feeding women is not to drink alcohol.

Prevalence

Drinking habits

Abstinence (not drinking alcohol in the last 12 months):

- in 2014-15, 40% of Aboriginal and Torres Strait Islander people aged 15 years and over reported not drinking alcohol in the previous 12 months [4]
- in 2012-13, 23% of Aboriginal and Torres Strait Islander people aged 18 years or older (17% of males and 28% of females) had never drunk alcohol or had not done so for more than 12 months [143]
- Aboriginal and Torres Strait Islander people were 1.6 times more likely than non-Indigenous people to abstain from drinking alcohol [143]
- similar proportions of Aboriginal and Torres Strait Islander and non-Indigenous people have never drunk alcohol (10% and 8.9% respectively) [143].

Short-term and single occasion risk:

- in 2012-13, 18% of Aboriginal and Torres Strait Islander males and females aged 18 years and over did not drink more than four standard drinks on a single occasion (as recommended in the 2009 guidelines) [143]
- 52% of Aboriginal and Torres Strait Islander people and 45% of non-Indigenous people drank more than four standard drinks on a single occasion [143]
- Aboriginal and Torres Strait Islander males were 1.5 times more likely than Aboriginal and Torres Strait Islander females to drink more than four standard drinks on a single occasion [143]
- in 2014-15, Aboriginal and Torres Strait people in very remote areas were less likely to drink more than four standard drinks on a single occasion compared with those living in inner and outer regional and very remote areas [4].

Lifetime risk:

- the proportion of Indigenous people aged 12 years and older who drank more than two standard drinks on any single day in 2016 (20%) was significantly less than the proportion who drank that amount in 2010 (32%) [135]
- in 2012-13, 20% of Aboriginal and Torres Strait Islander people aged 18 years and over drank more than two standard drinks on any single day [144]
- the lifetime drinking risk was the same for both Aboriginal and Torres Strait Islander people and non-Indigenous people [144]
- males were 2.7 times more likely than females to drink more than two standard drinks on any day [144]
- people in very remote areas and aged 15 years and older (14%) were less likely than people of the same age in inner regional (19%) and remote areas (23%) to drink more than two standard drinks on any single day [107].

Alcohol and pregnancy

Drinking alcohol in pregnancy can have negative effects on the unborn baby. One of the possible results is fetal alcohol spectrum disorder (FASD) [145, 146].

Among mothers of Aboriginal and Torres Strait Islander children, the 2014-15 NATSIS found that there was a significant reduction in those who drank throughout pregnancy, from 19.6% in 2008 to 9.8% in 2014-2015 [12].



Hospitalisation

For Aboriginal and Torres Strait Islander people in 2014-2015 [4]:

- the alcohol-related hospitalisation rate was 7.3 per 1,000
- males were 4.0 times more likely than non-Indigenous males to be hospitalised for alcohol-related conditions
- females were 3.4 times more likely than non-Indigenous females to be hospitalised for alcohol-related conditions
- the rate of age-adjusted hospital separations due to acute intoxication had increased to 5.8 per 1,000 from the 2004-2005 level of 2.1 per 1,000
- most alcohol-related hospital separations were for mental/behavioural disorders (7.8 per 1,000). This rate was 3.7 times higher than the rate for non-Indigenous people
- people living in remote and very remote areas were hospitalised due to acute intoxication at a rate of 11 per 1,000, compared with 3.4 per 1,000 for people in urban areas
- the rate of hospitalisations for alcohol-related diagnoses was 7.1 times higher than the rate for non-Indigenous people.

Mortality

For Aboriginal and Torres Strait Islander people from 2010-2014 [4]:

- they were almost 5.0 times more likely than non-Indigenous people to die from alcohol-related conditions (22 per 100,000 compared with 4.5 per 100,000)
- the main cause of alcohol-related deaths was alcoholic liver disease
- females were 7.0 times more likely than non-Indigenous females to die due to alcohol use
- males were 4.1 times more likely than non-Indigenous males to die due to alcohol use
- males were 2.6 times more likely than females to die due to alcohol use.

Burden of disease

In 2011, alcohol use was responsible for 8.3% of the total burden of disease among Aboriginal and Torres Strait Islander people [43]. The highest levels of disease burden from alcohol use among Aboriginal and Torres Strait Islander people were for mental and substance-use disorders (22%), injury (19%), and gastrointestinal diseases (15%).

Illicit drug use

Illicit drug use describes:

- the use of drugs that are illegal to possess (e.g. cannabis, heroin, ecstasy and methamphetamine)
- the non-medical use of prescribed drugs, such as painkillers [4, 147].

What is the risk of using illicit drugs?

Illicit drug use is associated with an increased risk of:

- mental illness
- poisoning
- self-harm
- infection with blood-borne viruses from unsafe injection practices
- chronic disease
- death [4, 43, 148, 149].

Extent of illicit drug use among Aboriginal and Torres Strait Islander people

In this section we will provide information on:

- prevalence - the number or proportion of cases
- hospitalisations - the number of hospital admissions
- mortality - death
- burden of disease - the impact of illicit drug use on the population.



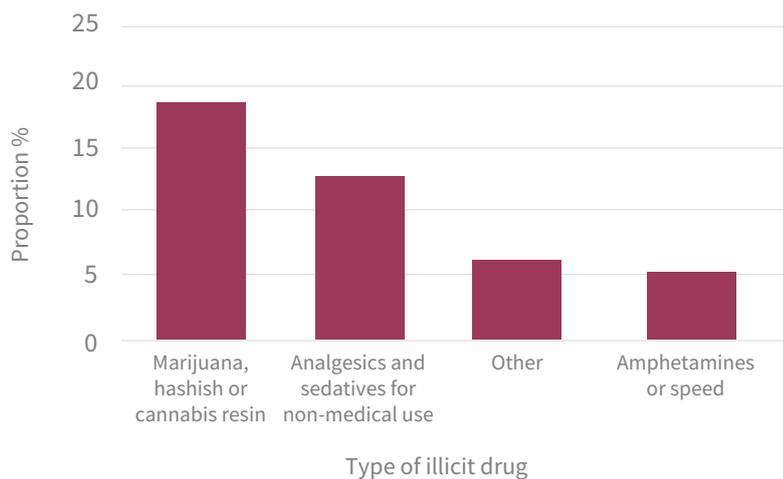
Prevalence

Most Aboriginal and Torres Strait Islander people do not use illicit drugs [12, 135, 150].

In 2014-2015, among Aboriginal and Torres Strait Islander people aged 15 years and over [12]:

- 30% reported using illicit drugs in the previous 12 months
- were around 1.8 times more likely than non-Indigenous people to have used illicit drugs in the previous 12 months (derived from [135])
- the most commonly used illicit drugs used by Aboriginal and Torres Strait Islander in the previous 12 months were[12]:
 - cannabis (19%)
 - analgesics and sedatives for non-medical use (13%)
 - ‘other’ drugs (heroin, cocaine, petrol, LSD/synthetic hallucinogens, naturally occurring hallucinogens, ecstasy/designer drugs, methadone and kava) (6.4%)
 - amphetamines (4.8%) (Figure 9).
- 34% of males had used an illicit drug in the previous 12 months compared with 27% of females
- males were more likely females to use almost all illicit drug types :
 - 25% of males had used cannabis, compared with 14% of females
 - 6.3% of males had used amphetamines, compared with 3.2% of females
 - 8.5% of males had used ‘other’ drugs, compared with 4.5% of females
 - 11% of males had used analgesics and sedatives, compared with 15% of females
- people in non-remote areas (33%) were more likely than those in remote areas (21%) to use illicit drugs.

Figure 9. Illicit drug use in the last 12 months



Note: ‘Other’ includes heroin, cocaine, petrol, LSD/synthetic hallucinogens, naturally occurring hallucinogens, ecstasy/designer drugs, methadone and kava.

Source: ABS, 2016 [12]

In 2015-16, more than two-thirds (68%) of Aboriginal and Torres Strait Islander organisations providing primary health care services offered programs to address substance use [151]. The most common illicit-substance-use issues people sought help for were with:

- cannabis (79%)
- amphetamines (58%)
- multiple drug use (45%).

Hospitalisation

In 2014-2015, for hospitalisations due to drug use, Aboriginal and Torres Strait Islander people were [5]:

- most frequently hospitalised for 'poisoning' and 'mental and behavioural disorders'
- 2.3 times more likely than non-Indigenous people to be hospitalised for poisoning due to drug use
- 3.1 times more likely than non-Indigenous people to be hospitalised for mental and behavioural disorders due to drug use
- more likely to be hospitalised for amphetamine use (1.5 per 1,000) or cannabis use (0.8 per 1,000) than for the use of other illegal drugs
- 3.7 times more likely than non-Indigenous people to be hospitalised for mental/behavioural disorders due to amphetamines
- 3.9 times more likely than non-Indigenous people to be hospitalised for mental/behavioural disorders due to cannabis
- more likely to be hospitalised if they lived in major cities (9.1 per 1,000) than if they lived in inner and outer regional areas (6.2 per 1,000) or remote areas (3.9 per 1,000).

Mortality

For the period 2010-2014 [4]:

- the highest rate of drug-induced deaths for Aboriginal and Torres Strait Islander people was in SA (24 per 100,000), followed by NSW (17 per 100,000), and WA (9 per 100,000)
- rates of drug-induced deaths were higher for Aboriginal and Torres Strait Islander males (14 per 100,000) than for females (10 per 100,000)
- Aboriginal and Torres Strait Islander people were almost twice as likely as non-Indigenous people to die from drug use (Figure 10) (derived from [4]).

Figure 10. Rate of drug induced deaths, by Indigenous status, selected jurisdictions, 2010-2014



Notes: 1 Rates are per 100,000 (age-standardised).

2 Deaths where Indigenous status was not stated are excluded from the analysis.

Source: Derived from Steering Committee for the Review of Government Service Provision, 2016 [4]

Burden of disease

In 2011, illicit drug use contributed 3.7% to the burden of disease for Aboriginal and Torres Strait Islander people [43, 90]. The highest level of disease burden linked to illicit drug use for Aboriginal and Torres Strait Islander people was for gastrointestinal disorders including chronic liver disease (31% compared with 17% for the total population) followed by injury (7.4% compared with 1.7% for the total population). Illicit drug use contributed 5.9% to the burden of disease for mental health for both Aboriginal and Torres Strait Islander people and the total population.

Volatile substance use (VSU)

Volatile substances give off fumes at room temperature [152]. They are also called 'inhalants' because of the way people inhale (breath in) the fumes through their nose or mouth.

What are volatile substances?

Volatile substance use (VSU) involves sniffing substances (such as petrol, paint, glue or deodorants) [152]. Most volatile substances slow down a person's brain activity.

Users of volatile substances may inhale for hours because the effects of sniffing wear off very quickly. Sniffing over a long time increases the risk of losing consciousness or asphyxiation [153]. Long-term effects include permanent acquired brain-injury [154].

Petrol is one of most dangerous volatile substances to sniff, especially when it contains tetraethyl lead (found in leaded petrol) [155]. However, this ingredient is no longer found in petrol sold in Australia. Regular, unleaded fuel has been replaced by low aromatic unleaded fuel (LAF) in some communities in WA, SA, NT and Qld, and has reduced petrol-sniffing in some of those communities [156][41].

Extent of VSU use among Aboriginal and Torres Strait Islander people

In this section we will provide information on:

- prevalence - the number or proportion of cases
- hospitalisations - the number of hospital admissions
- mortality - death.

Prevalence

Volatile substance use is not a criminal offence in Australia, so it is difficult to collect data on how many people sniff or inhale [157].

A study of petrol sniffing in 41 Aboriginal and Torres Strait Islander communities found that the number of people sniffing petrol decreased by 29% from 2011-12 to 2013-14 [156]. For 17 of these communities, there are data since 2005, and these show a reduction of 88% from 2005-06 to 2013-14. This decrease has been associated with the replacement of regular unleaded petrol with low aromatic fuel (LAF).

The 2012-2013 AATSIHS reported that 6.6% of males and 4.2% of females had used petrol or other inhalants at some point in their lives [61].

Hospitalisation

Aboriginal and Torres Strait Islander people in 2014-15 were [4]:

- hospitalised from poisoning and accidental poisoning due to the toxic effect of organic solvents (eg petrol) at a rate of 0.04 per 1,000.
- hospitalised due to the toxic effect of organic solvents at rates 3.9 to 5.1 times the rates for non-Indigenous people
- almost 10 times more likely than non-Indigenous people to be hospitalised due to mental/behavioural disorders caused by using volatile substances.

Mortality

VSU mortality and morbidity rates are probably underestimated in Australia because deaths are recorded as the person's final medical condition, not the actual cause of the medical condition [158]. For example, the death of a chronic petrol-sniffer may be recorded as 'end stage renal failure', not 'petrol-sniffing'.

Early research using a combination of coronial and government reports, community death registers and personal communication identified 37 petrol-sniffing deaths between 1998 and 2003 in Australia with the main reported causes of death being respiratory failure/asphyxia and suicide [157, 159, 160].

Concluding comments

Since the publication of our previous Overview and Summary (2016), movements such as the Uluru Statement from the Heart [161] and the data sovereignty movement [162] have reinforced our goal to move towards a strengths-based approach to reporting. The strengths lie in culture, kinship, country, leadership and governance. The emphasis is now on sharing best practice in health service delivery and no longer on the 5 Ds of disparity, deprivation, disadvantage, dysfunction and difference [163]. The comparisons of Aboriginal and Torres Strait Islander people with non-Indigenous people cannot be ignored. However, that is only part of the story. Key Aboriginal and Torres Strait Islander leaders are speaking out about data sovereignty and governance [14] and we will support this wherever we can by presenting the positive stories of local-level data which support local-level solutions [162].

All the major political parties support the move towards a strengths-based approach and the need to support the hopes of Aboriginal and Torres Strait Islander people throughout Australia.

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