



Australian Indigenous  
HealthInfoNet

# *Summary of Aboriginal and Torres Strait Islander health status 2016*



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# The Australian Indigenous HealthInfoNet

Australian Indigenous HealthInfoNet's mission is to help improve 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 practitioners) and researchers. Information is provided mainly via the web site ([www.healthinfolnet.ecu.edu.au](http://www.healthinfolnet.ecu.edu.au)).

The HealthInfoNet analyses and compiles information from academic, professional, government and other sources for a range of health topics. 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. The HealthInfoNet provides a range of products including easy-to-read material such as this summary.

## Recognition statement

The Australian Indigenous HealthInfoNet recognises and acknowledges the sovereignty of Aboriginal and Torres Strait Islander peoples 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 spirituality. 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. It is not our intention to homogenise in summary health data and where possible we endeavour to disaggregate analyses to recognise geographical, social and cultural diversity.

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 people of Western Australia on whose country our offices are located.

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This summary or an updated version can be viewed at: [www.healthinfolnet.ecu.edu.au/health-facts/summary](http://www.healthinfolnet.ecu.edu.au/health-facts/summary)

To get a more detailed picture of Aboriginal and Torres Strait Islander health (which includes details of the coverage of each health topic by state/territory), please refer to the *Overview of Aboriginal and Torres Strait Islander health status* ([www.healthinfolnet.ecu.edu.au/overviews](http://www.healthinfolnet.ecu.edu.au/overviews)).

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## Introduction

This summary includes the following information about Aboriginal and Torres Strait Islander people:

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

Information has been drawn from up-to-date sources to create a picture of the health of Aboriginal and Torres Strait Islander people in Australia (including information for the states and territories: New South Wales (NSW), Victoria (Vic), Queensland (Qld), Western Australia (WA), South Australia (SA), Tasmania (Tas), the Australian Capital Territory (ACT) and the Northern Territory (NT).

Sources include 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 are collected through health surveys, by hospitals and by doctors across Australia.

An important issue when collecting health information is to make sure that it is accurate and reliable. For Aboriginal and Torres Strait Islander people, states and territories need to collect details about their patients, including whether a person is Aboriginal and/or Torres Strait Islander [1]. The information about Aboriginal and Torres Strait Islander populations is getting better, but there are still limitations.

To create a complete picture, all the information in this *Summary* should be looked at in the context of the social determinants of health, the term used to talk about factors that affect people's lives, including their health [2-5].

The social determinants of health include if a person:

- is working
- feels safe in their community (no discrimination)
- has a good education
- has enough money
- feels connected to friends and family.

Social determinants that are particularly important to many Aboriginal and Torres Strait Islander people include cultural determinants such as:

- their connection to land
- the history of being forced from their traditional lands and away from their families.

Aboriginal and Torres Strait Islander people are generally worse off than non-Indigenous people when it comes to the social determinants of health [2-5].

Many health services are not as accessible and user-friendly for Aboriginal and Torres Strait Islander people as they are for non-Indigenous people, adding to higher levels of disadvantage. Sometimes this is because more Aboriginal and Torres Strait Islander people than non-Indigenous live in remote locations and not all health services are offered outside of cities. Sometimes health services are not culturally appropriate (which means they do not consider Aboriginal and Torres Strait Islander cultures and the specific needs of Aboriginal and Torres Strait Islander people). Also, some Aboriginal and Torres Strait Islander people may not be able to use some services because they are too expensive.

Factors that make health services more accessible for Aboriginal and Torres Strait Islander people are:

- having Aboriginal and Torres Strait Islander Health Workers on staff
- increasing the number of Aboriginal and Torres Strait Islander people working in the health sector (doctors, dentists, nurses, etc.)
- designing health promotion campaigns especially for Aboriginal and Torres Strait Islander people
- having culturally competent non-Indigenous staff
- making important health services available in rural and remote locations (so Aboriginal and Torres Strait Islander people living in rural and remote areas do not have to travel to cities, away from the support of their friends and families)
- funding health services so they are affordable for Aboriginal and Torres Strait Islander people who might otherwise not be able to afford them.

## What is known about the Aboriginal and Torres Strait Islander population?

Based on information from the 2011 *Census*, the ABS estimates that there were 744,956 Aboriginal and Torres Strait Islander people living in Australia in 2016 (Table 1) [6]. NSW had the largest number of Aboriginal and Torres Strait Islander people. The NT had the highest percentage of Aboriginal and Torres Strait Islander people in its population. [6, 7]. Indigenous people made up 3.1% of the total Australian population.

Table 1. Estimated Indigenous population, by state/territory and Australia, 30 June 2016

| Jurisdiction | Indigenous population (number) | Proportion of Australian Indigenous population (%) | Proportion of jurisdiction population (%) |
|--------------|--------------------------------|--|---|
| NSW          | 229,951                        | 31   | 3.0                                       |
| Vic          | 53,663                         | 7.2  | 0.9                                       |
| Qld          | 213,160                        | 29   | 4.3                                       |
| WA           | 97,681                         | 13   | 3.5                                       |
| SA           | 41,515                         | 5.6  | 2.4                                       |
| Tas          | 27,052                         | 3.6  | 5.2                                       |
| ACT          | 7,103                          | 1.0  | 1.8                                       |
| NT           | 74,543                         | 10   | 30  |
| Australia    | 744,956                        | 100  | 3.1                                       |

Source: Derived from ABS, 2014 [6], ABS, 2016 [7]

In 2016, around one-third of Aboriginal and Torres Strait Islander people lived in major cities, almost one half lived in inner and outer regional areas and one in five lived in remote and very remote areas [6].

The number of Aboriginal and Torres Strait Islander people counted in the 2011 Census was much higher than the number counted in the 2006 Census [8, 9]. This could be because:

- the number of Aboriginal and Torres Strait Islander people has increased
- more Aboriginal and Torres Strait Islander people were counted because of improvements in how the Census was conducted
- more Indigenous people identified as 'Indigenous' in their response.

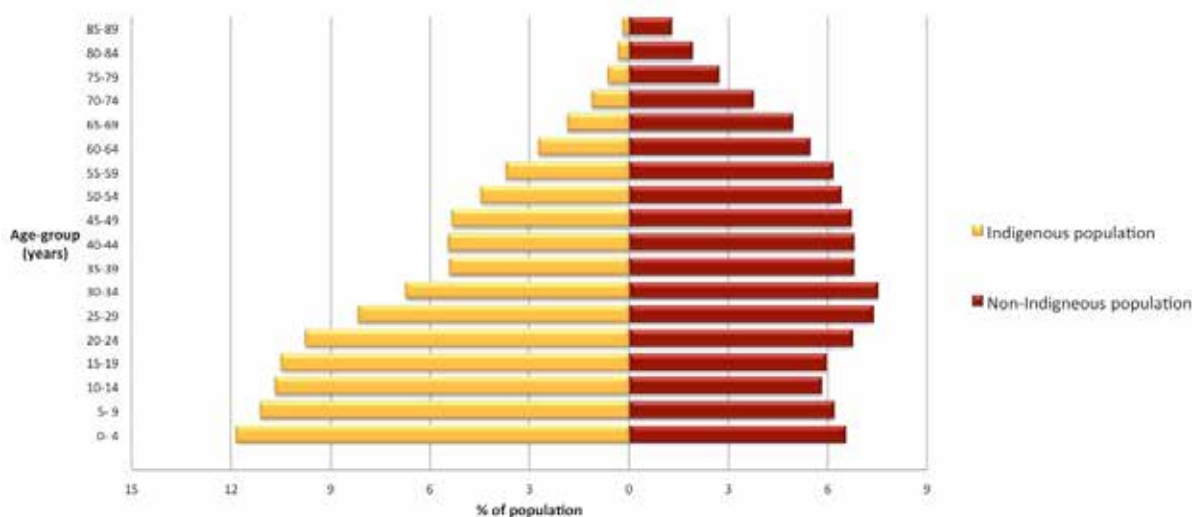
In 2011, 90% of Indigenous people identified as Aboriginal, 6% identified as Torres Strait Islander and 4% identified as both Aboriginal and Torres Strait Islander [10].

The Aboriginal and Torres Strait Islander population is much younger overall than the non-Indigenous population (Derived from [6, 11]). In 2016, more than one-third of Aboriginal and Torres Strait Islander people were younger than 15 years of age (compared with nearly one-fifth of non-Indigenous people). About 4.2% of Aboriginal and Torres Strait Islander people were 65 years or older, compared with 15% of non-Indigenous people.

### Population pyramid

Figure 1 is a population pyramid; it shows a comparison of the age profiles of the Aboriginal and Torres Strait Islander and non-Indigenous populations [11]. The bars show the percentage of the total population that falls within each age group. The general shapes of the Aboriginal and Torres Strait Islander and the non-Indigenous pyramids are different. The Aboriginal and Torres Strait Islander pyramid is wide at the bottom (younger age-groups) and narrow at the top (older age-groups); this shape shows that the Aboriginal and Torres Strait Islander population is a young population. The non-Indigenous pyramid has a more even spread of ages through the population.

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



Source: ABS, 2014 [6], ABS, 2013 [11]

## What is known about Aboriginal and Torres Strait Islander births?

In 2015, there were 18,537 births registered in Australia where one or both parents were Aboriginal and/or Torres Strait Islander (six in every 100 births) [12]. Overall, Aboriginal and Torres Strait Islander women had more children and had them when they were younger compared with non-Indigenous women.

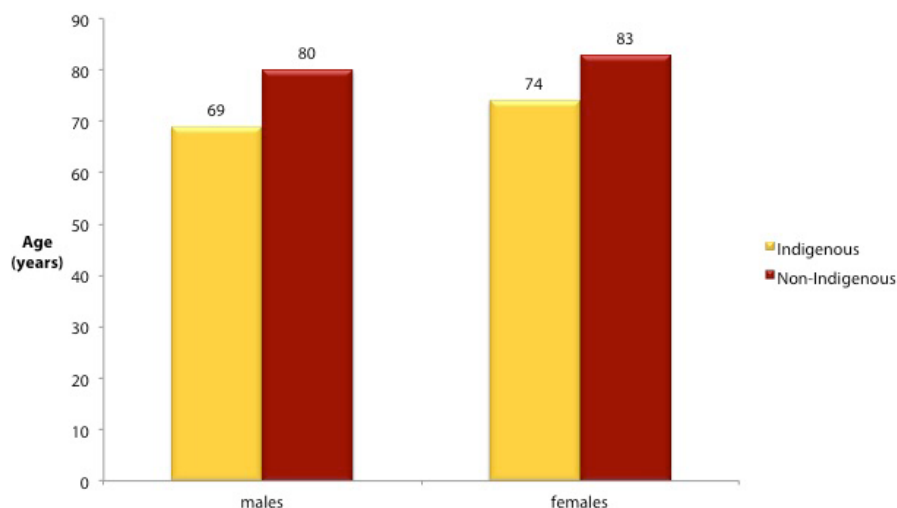
In 2015, Aboriginal and Torres Strait Islander women had, on average, 2.3 births in their lifetime (compared with 1.8 births for all Australian women) [12]. About three-quarters of Aboriginal and Torres Strait Islander mothers were 30 years or younger when they had their babies, compared with less than one-half of non-Indigenous mothers. About 16% of Aboriginal and Torres Strait Islander mothers were teenagers, compared with 2.8% of all mothers.

In 2014, babies born to Aboriginal and Torres Strait Islander mothers weighed an average of 3,215 grams, 140 grams less than those born to non-Indigenous mothers [13]. Babies born to Aboriginal and Torres Strait Islander mothers were almost twice as likely to be of low birthweight (less than 2,500 grams) than babies born to non-Indigenous mothers. Low birthweight can increase the risk of a child developing health problems. There has been a slight decrease in the percentage of low birthweight babies born to Aboriginal and Torres Strait Islander mothers between 2004 and 2014.

## What is known about Aboriginal and Torres Strait Islander deaths?

Aboriginal and Torres Strait Islander people are much more likely than non-Indigenous people to die before they are old [14]. The most recent estimates show that an Aboriginal and Torres Strait Islander male born in 2010-2012 is likely to live to 69 years, about 10 years less than a non-Indigenous male (who could expect to live to 80 years) (Figure 2) [14]. An Aboriginal and Torres Strait Islander female born in 2010-2012 is likely to live to 74 years, which is almost 10 years less than a non-Indigenous female (who is likely to live to 83 years).

Figure 2. Expectations of life at birth for Indigenous and non-Indigenous males and females, 2010-2012



Source: ABS, 2013 [14]

In 2015, there were 3,088 deaths registered for Aboriginal and Torres Strait Islander people [15]. Many Indigenous deaths are incorrectly counted as non-Indigenous because the person or family are not identified as Indigenous – the actual number of Indigenous deaths is not known, but would be higher than the number registered as such.

The leading causes of death for Aboriginal and Torres Strait Islander people living in NSW, Qld, WA, SA and the NT in 2015 were:

- coronary heart disease (arteries (blood vessels) that supply blood to the heart narrow due to a gradual build-up of fatty material which makes it harder for blood to flow to the heart and can cause a heart attack)
- diabetes
- chronic lower respiratory disease
- lung and related cancers [16].

Between 1998 and 2013, there was a 16% decrease in the death rates for Aboriginal and Torres Strait Islander people in NSW, Qld, WA, SA and the NT; there was also a considerable closing of the gap in death rates between Aboriginal and Torres Strait Islander and non-Indigenous people during this time period [17].

Babies born to Aboriginal and Torres Strait Islander women are almost twice as likely to die in their first year as those born to non-Indigenous women [15]. In 2013-2015, of the Aboriginal and Torres Strait Islander infant mortality rates for NSW, Qld, WA, SA and the NT, the highest were in the NT and lowest in NSW.

## What is known about heart health in the Aboriginal and Torres Strait Islander population?

Cardiovascular disease (CVD) is a group of diseases affecting the heart and blood vessels [18]. Common types of CVD are:

- coronary heart disease
- stroke
- heart failure
- high blood pressure [19].

Cardiovascular health is affected by smoking, not exercising, not eating well, drinking alcohol, being overweight and having diabetes or kidney disease [20, 21].

Many Aboriginal and Torres Strait Islander people are affected by CVD. Around one-in-eight (13%) Aboriginal and Torres Strait Islander people reported in the 2012-2013 Australian Aboriginal and Torres Strait Islander health survey (AATSIHS) that they had some form of CVD [22]. One-in-twenty-five (4%) Aboriginal and Torres Strait Islander people reported having some form of heart, stroke and/or vascular disease. Around one-in-twenty (6%) Aboriginal and Torres Strait Islander people reported having high blood pressure [23].

More Aboriginal and Torres Strait Islander women (14%) reported having CVD than Aboriginal and Torres Strait Islander men (11%) in 2012-2013 [23]. Aboriginal and Torres Strait Islander people living in remote areas were more likely to report having heart disease than those living in non-remote areas [24]. CVD was 1.2 times more common for Aboriginal and Torres Strait Islander people than for non-Indigenous people [23].

CVD was the cause of 6% of hospitalisations (not including dialysis) of Aboriginal and Torres Strait Islander people in 2014-15 (Derived from [25]). Aboriginal and Torres Strait Islander people were almost twice as likely to be admitted to hospital for CVD as non-Indigenous people. Coronary heart disease caused the most CVD hospitalisations (40%) for Aboriginal and Torres Strait Islander people in 2013-14, followed by heart failure and cardiomyopathy (15%), stroke (7%), peripheral vascular disease (4%), acute rheumatic fever and rheumatic heart disease (4%) and hypertensive heart disease (3%) [26].

CVD was the leading cause of death of Aboriginal and Torres Strait Islander people in NSW, Qld, WA, SA and the NT in 2010-2014, being responsible for about a quarter of all deaths [27]. Aboriginal and Torres Strait Islander people were almost twice as likely to die from ischaemic heart disease as non-Indigenous people in 2015 [16]. The gap in CVD death rates between Aboriginal and Torres Strait Islander and non-Indigenous people got smaller between 1998 and 2014 [27].

Aboriginal and Torres Strait Islander people are more likely to die from CVD at younger ages than non-Indigenous people. In 2010-12, Aboriginal and Torres Strait Islander people aged 35-44 years were 10 times more likely to die from coronary heart disease than non-Indigenous people of the same age [26].

CVD is responsible for a big part of the 'burden of disease' experienced by Aboriginal and Torres Strait Islander people. In 2011, CVD was the third biggest contributor to total disease burden among Aboriginal and Torres Strait Islander people, causing 12% of total burden [28].

## What is known about cancer in the Aboriginal and Torres Strait Islander population?

Cancer is a term used for a variety of diseases that cause damage to the body's cells (the basic building blocks of the body) [29, 30]. Normally cells grow and multiply in a controlled way but cancer causes cells to grow and multiply in an uncontrolled way. If these damaged cells spread into surrounding areas or to different parts of the body, they are known as malignant. Cancer can occur almost anywhere in the body.

For 2006-2010, the incidence rate (number of new cases of a disease in a given time) of cancer was slightly lower for Aboriginal and Torres Strait Islander people than for non-Indigenous people [31]. Incidence rates varied depending on the type of cancer. Aboriginal and Torres Strait Islander people had lower incidence rates than non-Indigenous people for 2006-2010 for:

- bowel cancer (0.8 times lower)
- breast cancer (females) (0.8 times lower)
- lymphoma (lymphomas affect the lymphatic system - a part of the body's immune system that helps the body ward off diseases) (0.7 times lower)
- prostate cancer (males) (0.6 times lower).

Aboriginal and Torres Strait Islander people had higher incidence rates than non-Indigenous people for:

- liver cancer (2.7 times higher)
- gynaecological cancer (females) (2.0 times higher)
- cancers of 'unknown primary site' (the part of the body where the cancer started is not known) (1.8 times higher)
- lung cancer (1.8 times higher)
- head and neck cancer (1.8 times higher)
- cancer of the uterus (females) (1.7 times higher) [31].

Cancer and neoplasms (abnormal tissue growth that may be either malignant (cancerous) or benign (non-cancerous)) were responsible for nearly 10% of the total burden of disease among Aboriginal and Torres Strait Islander people in 2011 [28]. The types of cancers which contributed to over half of this burden were lung, bowel, liver, breast and mouth and throat cancers.

In 2014-15, Aboriginal and Torres Strait Islander people were less likely to be hospitalised for neoplasms (17 per 1,000 people in the population) than non-Indigenous people (25 per 1,000 people) [25]. For specific cancers, Aboriginal and Torres Strait Islander people were three times more likely than non-Indigenous people to be admitted to hospital for cervical cancer (females) and two times more likely for lung cancer [27].

For 2009-2013, cancer was the cause of death for 2,417 Aboriginal and Torres Strait Islander people living in NSW, Qld, WA, SA and NT [31]. Aboriginal and Torres Strait Islander people were around one and a half times more likely than non-Indigenous people to die from cancer. The types of cancers that caused the most deaths among Aboriginal and Torres Strait Islander people in 2009-2013 were lung, head and neck, liver, and 'unknown primary site' [31].

The fact that Aboriginal and Torres Strait Islander people are more likely than non-Indigenous people to die from cancer could be because:

- the types of cancers they develop (such as cancers of the lung and liver) are more likely to be fatal
- their cancer may be more advanced by the time it is found (which is partly because Aboriginal and Torres Strait Islander people may visit their doctor later and/or may not participate in screening programs)
- they are less likely to receive adequate treatment [32-34].

## What is known about diabetes in the Aboriginal and Torres Strait Islander population?

Diabetes is a chronic condition where the body cannot properly process glucose (sugar) from food [35]. Normally the body can convert glucose into energy with the help of a hormone called insulin. If someone has diabetes, their body does not make enough insulin or can't use the insulin properly. Without insulin, the body cannot turn glucose into energy and it stays in the blood. This leads to high sugar levels in the blood which can cause serious health problems including: heart disease, kidney failure, stroke, limb amputations, eye disease and blindness [36, 37]. There are several types of diabetes, but the most common are type 1, type 2 and gestational diabetes mellitus (GDM), a form of diabetes that occurs in pregnancy [26, 35].



Type 1 diabetes is the most common form of diabetes in children and young people but it can occur at any age [26]. Type 1 diabetes is less common among Aboriginal and Torres Strait Islander people. However, type 2 diabetes is a serious health problem for Aboriginal and Torres Strait Islander people, who tend to develop it earlier and often die from it at a younger age than non-Indigenous people [26, 38]. GDM develops in some women during pregnancy [39] and is more common among Aboriginal and Torres Strait Islander women than non-Indigenous women [40].

The 2012-2013 *National Aboriginal and Torres Strait Islander health measurers survey* (NATSIHMS) indicated that [26]:

- 13% of Aboriginal and Torres Strait Islander adults had diabetes
- diabetes was more common in females (56%) than males (44%)
- in remote areas, adults were twice as likely (21%) to have diabetes compared with those living in non-remote areas (10%)
- Aboriginal and Torres Strait Islander adults over the age of 65 were more likely to have diabetes (46%) compared with those aged between 18 and 34 years (2%).

Diabetes accounted for 4% of the total burden of disease among Aboriginal and Torres Strait Islander people in 2011 [28].

Hospital care is usually needed to treat the advanced stages of diabetes complications and in 2013-2014 diabetes as a main reason or an additional diagnosis was responsible for 52,048 hospitalisations of Aboriginal and Torres Strait Islander people [26, 41]. Of these hospitalisations, type 2 diabetes accounted for 90%, followed by type 1 diabetes (4%) and GDM (2%).

Admissions to hospital for the complications of diabetes, are considered to be potentially preventable [27]. In 2014-15, diabetes complications accounted for 19% of potentially preventable hospital admissions for Aboriginal and Torres Strait Islander people, this was four times greater than the rate for non-Indigenous people.

In 2015, diabetes was the second leading cause of death among Aboriginal and Torres Strait Islander people, the death rate was almost five times higher than for non-Indigenous people [42]. Diabetes was responsible for 6.7% of deaths (194 deaths) among Aboriginal and Torres Strait Islander people living in in NSW, Qld, WA, SA and the NT.

## What is known about kidney health in the Aboriginal and Torres Strait Islander population?

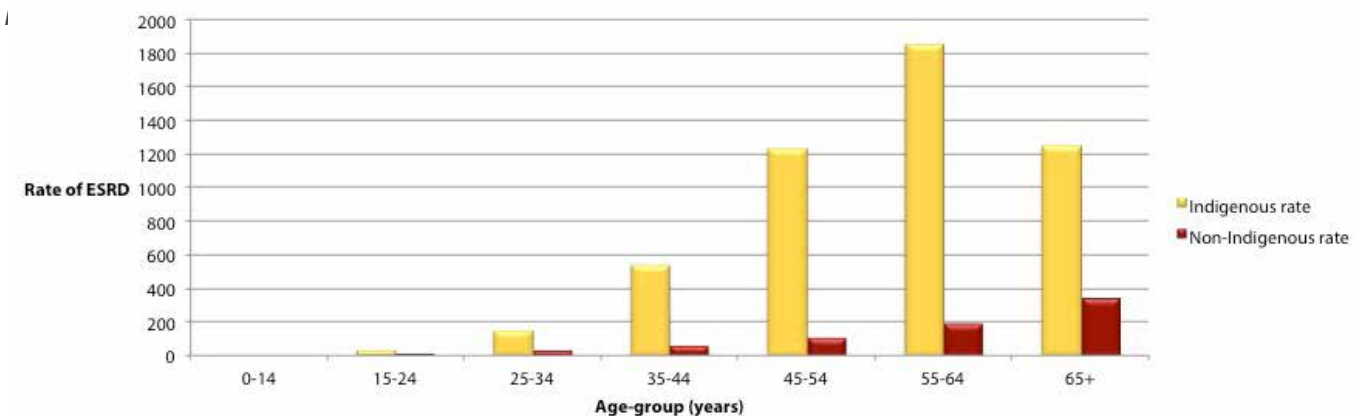
Healthy kidneys help the body by removing waste and extra water, and keeping the blood clean and chemically balanced [43]. When the kidneys stop working properly – as is the case when someone has kidney disease – ‘waste’ can build up in the blood and damage the body. Chronic kidney disease (CKD) is when the kidneys gradually stop working [44]. End-stage renal disease (ESRD) is when the kidneys have totally or almost totally stopped working [43]. People with ESRD must either have regular dialysis (use a machine that filters the blood) or have a kidney transplant to stay alive [45].

Kidney disease is a serious health problem for many Aboriginal and Torres Strait Islander people. In 2010-2014, ESRD was nearly seven times more common for Aboriginal and Torres Strait Islander people than for non-Indigenous people (Derived from [6, 46-48]).

ESRD affects Aboriginal and Torres Strait Islander people when they are much younger compared with non-Indigenous people. In 2010-2014, almost 60% of Aboriginal and Torres Strait Islander people who were diagnosed with kidney disease were younger than 55 years (about 30% of non-Indigenous people were younger than 55 years) (Figure 3) (Derived from [6, 46-48]).

The rates of ESRD were highest for Aboriginal and Torres Strait Islander people living in the NT (20 times higher for Aboriginal and Torres Strait Islander people than non-Indigenous people) and WA (11 times higher) (Derived from [6, 46-48]).

Figure 3. Rates (per million) of end-stage renal disease for Indigenous and non-Indigenous people, by age-group (years) 2010-2014



Note: Rates show how many Aboriginal and Torres Strait Islander and non-Indigenous people had ESRD per million people in the population of Australia.

Source: Derived from ANZDATA, 2015 [48], ABS, 2013 [46], ABS, 2003 [47], ABS, 2014 [6]

Kidney and urinary diseases accounted for 2.5% of the total burden of disease among Aboriginal and Torres Strait Islander people in 2011 [28].

Dialysis was the most common reason for Aboriginal and Torres Strait Islander people to be admitted to hospital in 2014-15 [25]. Aboriginal and Torres Strait Islander people were admitted to hospital for dialysis around 10 times more often than other Australians [26].

Some people need to have dialysis every day. Dialysis can be undertaken at hospitals, special out-of-hospital satellite units, or in the home (which requires special equipment and training for the patient and their carers, and is very costly) [45]. Accessing dialysis can sometimes be very difficult for Aboriginal and Torres Strait Islander people who live in rural or remote locations and they may have to travel to receive treatment.

During the period 2010-2014, Aboriginal and Torres Strait Islander people living in NSW, Qld, WA, SA and the NT were almost three times more likely to die from kidney disease than non-Indigenous people [27].

## What is known about injury in the Aboriginal and Torres Strait Islander population?

Injury can include both physical harm and non-physical harm (for example, mental or emotional) [49], but in public health terms, injury generally refers to physical harm to a person's body [50] including:

- assault
- self-harm
- environmental injuries (e.g. being bitten by a dog or being poisoned by inhaling poisonous fumes)
- falls
- transport accidents.

Everyday life situations for Aboriginal and Torres Strait Islander people can affect the types of injuries and the frequency of injuries experienced. Some factors that can increase the risk of injury include:

- unsafe environments
- disruption to culture
- socioeconomic disadvantage [49]
- risky behaviours, such as alcohol and other drug use
- limited access to health services and support services [51-53].

Injury was responsible for 13% of all hospital admissions for Aboriginal and Torres Strait Islander people in 2014-15 [25]. Aboriginal and Torres Strait Islander people were almost twice as likely as other Australians to be admitted to hospital for injuries. The main causes of Indigenous injury-related hospital admissions were falls, assault, exposure to mechanical forces (such as contact with machinery, falling objects and animal bites) and medical complications.

In 2015, injury was a common cause of death for Aboriginal and Torres Strait Islander people [42]. The most common causes of injury-related death for Aboriginal and Torres Strait Islander people were suicide and traffic accidents. Aboriginal and Torres Strait Islander people were twice as likely as non-Indigenous people to die from suicide and almost three times as likely to die from traffic accidents. The largest gap in death rates was related to assault, where Aboriginal and Torres Strait Islander people were around eight times more likely to die from assault than non-Indigenous people.

## What is known about respiratory health in the Aboriginal and Torres Strait Islander population?

The respiratory system includes all the parts of the body involved with breathing, including the nose, throat, larynx (voice box), trachea (windpipe) and lungs [54]. Respiratory disease occurs if any of these parts of the body are damaged or diseased and breathing is affected. Common types of respiratory disease include colds and similar viral infections, asthma, pneumonia and chronic obstructive pulmonary disease (COPD)<sup>1</sup>.

Some of the risk factors for respiratory disease include: smoking (including passive smoking, which is particularly bad for children), poor environmental conditions (especially areas that are dusty or have lots of pollen or pollution), exposure to gases, fumes or chemicals in the workplace, infections and other diseases (like diabetes, heart and kidney disease) [28, 54].

<sup>1</sup> COPD is a serious progressive lung disease where the symptoms cannot be reversed.

Respiratory disease was reported by around one-third of Aboriginal and Torres Strait Islander people in the 2012-2013 AATSIHS [55]. Respiratory problems were reported more often by Aboriginal and Torres Strait Islander females than males. Asthma (the respiratory condition most often reported by Aboriginal and Torres Strait Islander people) was nearly twice as common for Aboriginal and Torres Strait Islander people than for non-Indigenous people.

Respiratory diseases were responsible for around 8% of the total burden of disease (impact of a disease on a population) among Aboriginal and Torres Strait Islander people in 2011 [28].

In 2014-15, Aboriginal and Torres Strait Islander people were five times more likely than non-Indigenous people to be admitted into hospital for COPD, three times more likely to be admitted for influenza and pneumonia and nearly twice as likely to be admitted for asthma [27].

In 2015, chronic lower respiratory disease (which includes asthma, bronchitis, bronchiectasis emphysema and COPD) was the third leading cause of death for Aboriginal and Torres Strait Islander people, and was responsible for 175 deaths among those living in NSW, Qld, WA, SA and the NT [42]. Influenza and pneumonia resulted in 42 deaths.

Aboriginal and Torres Strait Islander people still die from respiratory disease at a higher rate than non-Indigenous people but the gap has closed over recent decades [56].

## What is known about eye health in the Aboriginal and Torres Strait Islander population?

Healthy eyes are important for everyday life; they are needed to read and study, play sports, drive vehicles and work [57]. However, eye health can be affected by getting older, diseases (such as diabetes), genetics, premature birth, smoking, injuries, exposure to ultra-violet (UV) light from the sun, and not eating enough healthy food [58, 59]. Eye problems can lead to vision loss (not being able to see properly) and blindness, but most eye problems are preventable and treatable [60] and can be improved with glasses, contact lenses or eye surgery [61].

Aboriginal and Torres Strait Islander people are slightly less likely to report eye and sight problems than non-Indigenous people [55] and their children often have better vision than non-Indigenous children (especially if they live in remote areas) [60]. In 2011, hearing and vision disorders together only contributed to 1.2% of the total burden of disease experienced by Aboriginal and Torres Strait Islander people [28]. However, the burden of vision loss was three times greater for Aboriginal and Torres Strait Islander people than for non-Indigenous people.

Aboriginal and Torres Strait Islander people are more likely than non-Indigenous people to have certain eye problems and adults are at greater risk of vision loss and blindness [62], but they are less likely to be hospitalised for eye problems [63]. The most common eye problems affecting Aboriginal and Torres Strait Islander people are [62, 64, 65]:

- refractive error (problems focussing the eyes)
- cataract (clouding of the eye's lens)
- diabetic retinopathy (damage to small blood vessels in the eye that is caused by diabetes)
- trachoma (an infectious eye disease caused by bacteria).

The results of eye examinations conducted in the 2015-2016 *National eye health survey* (NEHS) [62], show that 11% of Indigenous adults (aged 40 years or older) have bilateral vision impairment (VI: impaired vision in both eyes) and 0.3% have bilateral blindness (blind in both eyes). The main causes of VI are uncorrected refractive error (63%), cataract (20%) and diabetic retinopathy (5.5%). VI is more common in outer regional areas than in other areas. The main causes of blindness were cataract (two people), diabetic retinopathy (one person), optic atrophy (one person) and a combination of mechanisms (one person). Up to 18,300 Indigenous adults aged 40 years or older were estimated to be living with VI or blindness.

The NEHS found that VI and blindness are both three times more common among Indigenous adults than among non-Indigenous adults [62]. However, the level of blindness among Indigenous adults compared with non-Indigenous adults has fallen since 2008, when it was six times higher [60].

In the 2012-2013 AATSIHS, eye and sight problems were the most common long-term health condition, reported by [66-68]:

- 33% of Aboriginal and Torres Strait Islander people
- 38% of Aboriginal and Torres Strait Islander women and 29% of Aboriginal and Torres Strait Islander men
- 9% of Aboriginal and Torres Strait Islander children.

Trachoma still occurs among Aboriginal and Torres Strait Islander children in some remote communities in the NT, WA and SA [69]. The overall level of trachoma in these communities has reduced from 14% in 2009 [69, 70] to 4.6% in 2015 [65]. It has been suggested that targeted screening, treatment and health promotion programs have contributed to the decrease in the level of trachoma [71].

## What is known about ear health in the Aboriginal and Torres Strait Islander population?

Ear health is very important for hearing, learning and balance [72]. If ears get damaged, people might:

- not be able to hear properly, either for a short time, a long time, or for the rest of their lives
- have problems learning (because they cannot hear)
- have problems learning to speak properly.

There are a number of ear diseases, but the most common is otitis media (OM). OM occurs when the middle ear is affected by infection from bacteria or viruses [72]. OM can be very painful and sometimes damages the ear drum; fluid can also leak from the ear (known as 'runny ear'). In another type of OM, fluid builds up in the middle ear without damaging the ear drum ('glue ear'). Both types of OM can cause hearing loss. Risk factors for ear disease include overcrowded homes, exposure to smoking, living in poor conditions and poor hygiene. Children who go to day-care centres are more likely to get ear infections, and those who are breastfed are less likely to get ear infections [27, 73].

Aboriginal and Torres Strait Islander people, especially children and young adults, have more ear disease and hearing loss than other Australians [72, 74]. Changes in the vaccinations given to Aboriginal and Torres Strait Islander children in the NT have been associated with less severe OM [75].

Diseases of the ear and mastoid (portion of a bone behind the ear) and/or hearing problems were reported as a long-term health condition by 12% of Aboriginal and Torres Strait Islander people in the 2012-2013 AATSIHS [76]. Ear/hearing problems were reported by 13% of males and by 12% of females. Ear/hearing problems were reported by the same proportion of people in non-remote areas and remote areas (both 12%). Rates for ear/hearing problems for Aboriginal and Torres Strait Islander people were higher than for non-Indigenous people in all age groups under 55 years. Hearing loss was more common in older people.

Hearing health services in the NT in 2015-16 found that for Aboriginal and Torres Strait Islander children who received hearing services, the most common condition was OM with effusion (23%) and around half of the children had some form of hearing loss (49%), which is a slight improvement from 2012-13 (53%) [77].

In 2014-15, the hospitalisation rate for middle ear and mastoid conditions for Aboriginal and Torres Strait Islander children aged 0-3 years was slightly lower than for non-Indigenous children and the rate for those aged 4-14 years was slightly higher than for non-Indigenous children [27].

## What is known about oral health in the Aboriginal and Torres Strait Islander population?

A person has good oral health if they can speak, smile, smell, taste, touch, chew, swallow and make facial expressions without pain [78].

The two most common oral health problems are tooth decay and gum disease [79]. Oral health problems are caused by behaviours like eating sugary foods and not cleaning teeth properly. Tooth decay and gum disease can lead to pain and tooth loss if they are not treated.

The 2014-2015 NATSISS found that 34% of Aboriginal and Torres Strait Islander children aged 4-14 years reported having tooth or gum problems, which was less than the 39% found in the 2008 NATSISS [80].

Generally, Aboriginal and Torres Strait Islander children and adults have worse oral health than non-Indigenous people. For example, at school dental checks in Australia in 2010 [81]:

- Aboriginal and Torres Strait Islander children had worse tooth decay than non-Indigenous children
- only about one quarter of Aboriginal and Torres Strait Islander children had no decayed baby teeth, compared with about half of non-Indigenous children
- only about half of Aboriginal and Torres Strait Islander children had no decayed adult teeth, compared to about two-thirds of non-Indigenous children.

In 2004-2006, the *National survey of adult oral health* found that Aboriginal and Torres Strait Islander people aged 15 years or older:

- were more than twice as likely to have tooth decay as non-Indigenous people
- had worse tooth decay than non-Indigenous people [82].

Studies have found that Aboriginal and Torres Strait Islander children and adults are also more likely to have gum disease than non-Indigenous people [82, 83].



Aboriginal and Torres Strait Islander people go to hospital because of dental problems more often than non-Indigenous people. In 2014-15, they were hospitalised 1.3 times more often than non-Indigenous people for dental conditions that could possibly have been prevented [27].

## What is known about disability in the Aboriginal and Torres Strait Islander population?

Disability may affect how a person moves around and looks after themselves, how they learn, or how they communicate [84, 85]. There are a lot of different kinds of disability, for example:

- some affect the body, others affect how the brain works
- some are temporary, others last for a person's whole life
- some people are born with a disability, others become disabled as the result of an event (such as a car crash).

In 2014-15, 45% of Aboriginal and Torres Strait Islander people aged 15 years and over reported having a disability (43% males and 47% females) [27, 80]. Needing most assistance, were the 8% of Aboriginal and Torres Strait Islander people who reported a profound or severe core activity restriction (which can be severe and affect how a person is able to live their life and their need for assistance). The most common type of disability reported was physical disability (29%), followed by disability relating to sight, hearing or speech (21%) and psychological (9%) and intellectual (8%) problems.

In 2014-15, 6% of disability service users were Aboriginal and Torres Strait Islander people, with most of these aged under 50 [86].

## What is known about communicable diseases in the Aboriginal and Torres Strait Islander population?

Communicable diseases (infectious diseases) are passed from person to person either by direct contact with an infected person or indirectly, through contaminated (dirty/unclean) food or water. They can be spread through the air when an infected person coughs or sneezes and another person breathes in the air that contains the germs. Communicable diseases can be caused by:

- bacteria (e.g. tuberculosis)
- viruses (e.g. HIV)
- fungi (e.g. tinea)
- parasites (e.g. malaria) [87].

Improvements to personal and environmental cleanliness, immunisations (vaccines) and antibiotics for bacterial infections, have greatly reduced the impact of communicable diseases on people [84, 88].

If a person develops certain communicable diseases (like tuberculosis), the disease must be 'notified'; this means that the information is collected by health authorities. The National Notifiable Disease Surveillance System (NNDSS) collects and publishes information from state and territory authorities, but Indigenous status is often not reported for large proportions of notifications.

Recent information about communicable diseases includes:

**Tuberculosis:** a lung infection caused by a bacterium that can trigger a range of symptoms, such as coughing, weight loss and fever [89].

Tuberculosis notifications were 11 times higher for Indigenous people than for Australian born non-Indigenous people in 2009-2013 (Derived from [90-95]).

**Hepatitis:** an inflammation of the liver caused by viral infections, alcohol or other drugs, toxins, or an attack by the body's immune system on itself [96]. The most common types of hepatitis are hepatitis A, B, and C.

The hepatitis A virus (HAV) is an infection of the liver mainly caused by eating contaminated food or water or by direct contact with an infected person [97, 98] (including sexual contact, particularly between men) [97]. Hepatitis A notifications have decreased a lot among Aboriginal and Torres Strait Islander people since 2000 [99, 100]. In 2011-2013, five Aboriginal and Torres Strait Islander people were identified with Hepatitis A (Derived from [101-103]).

Hepatitis B virus (HBV) is caused by contact with blood and other body fluids (semen, vaginal fluids and a low risk from saliva) from an infected individual, commonly through sexual contact or use of contaminated injecting equipment [104]. A mother may also infect her foetus with HBV during pregnancy or her baby during birth [104]. Hepatitis B notifications declined for Aboriginal and Torres Strait Islander people between 2011 and 2015 [105]. In 2015, newly acquired hepatitis B notifications were three times higher for Aboriginal and Torres Strait Islander people than for non-Indigenous people [105].

Hepatitis C virus (HCV) infection mainly occurs through blood-to-blood contact [105]. Injecting drug use is the most common method of infection [106]. In 2015, hepatitis C notifications were five times higher for Aboriginal and Torres Strait Islander people than for non-Indigenous people [105].

**Haemophilus influenzae type b (Hib):** bacteria that can cause a range of illnesses, such as meningitis, bacteraemia (bacteria in the blood), septic arthritis and pneumonia [100, 107]. Notifications of invasive Hib disease in Australia decreased by more than 95% following the commencement of nationally funded infant vaccination in 1993 [107].

Notification rates for Hib were just over five times higher for Aboriginal and Torres Strait Islander people than for the total population in 2012-2014 [108-110].

**Invasive pneumococcal disease (IPD):** caused by a bacteria and can lead to several major health conditions, such as bacteraemia (bacteria in the blood) and meningitis [107, 111].

The rate of new cases of IPD reported for Aboriginal and Torres Strait Islander people have been significantly higher than for non-Indigenous people. However, the rate of IPD for Aboriginal and Torres Strait Islander people has decreased between 2011 and 2014 from 53 per 100,000 people to 31 per 100,000 people (Derived from [108-110]).

**Meningococcal disease:** caused by bacteria and can lead to meningitis, septicaemia, pneumonia, arthritis and conjunctivitis (infection of the eye) [100, 107]. Meningococcal disease is more common in infants, young children, adolescents and adults aged over 45 years [112].

In 2014, there were 170 cases of invasive meningococcal disease notified in Australia with 21 cases (12%) identified as Aboriginal; an increase from 2013 where 13 cases (8.7%) were identified as Aboriginal and one identified as Torres Strait Islander (0.7%) [109].

**Sexually transmitted infections:** caused by bacteria and viruses can lead, if left untreated, to a range of health conditions [113].

In 2015, notification rates for gonorrhoea were 10 times higher for Aboriginal and Torres Strait Islander people than for non-Indigenous people [105]. For syphilis, notification rates were six times higher for Aboriginal and Torres Strait Islander people than for non-Indigenous people. For chlamydia, notification rates were three times higher for Aboriginal and Torres Strait Islander people than for non-Indigenous people.

**Human immunodeficiency virus (HIV):** an infection that destroys cells in the body's immune system [114].

In 2015, the rate of HIV diagnosis was just over twice as high for Aboriginal and Torres Strait Islander people than non-Indigenous people [105].

## What is known about factors contributing to health in the Aboriginal and Torres Strait Islander population

### Environmental health

Environmental health can be thought of as the physical, chemical and biological factors that affect people in their homes, workplaces or other settings [115]. Poor environmental health is linked with a number of health conditions, including some chronic diseases and stomach and skin infections [116].

Aboriginal and Torres Strait Islander people experience diseases linked with poor environmental health at a higher rate than non-Indigenous people. This can be due to:

- poor housing and home hardware conditions
- lack of access to tradespeople
- the remoteness of some communities
- maintenance costs [116, 117].

Key areas of importance for Aboriginal and Torres Strait Islander environmental health include overcrowding and infrastructure (basic facilities and services needed for suitable housing) [80].

The proportion of Aboriginal and Torres Strait Islander people living in overcrowded households in 2014-15 was 21% [27]. For overcrowding in remote and very remote areas, the figure is much higher with 41% of Aboriginal and Torres Strait Islander people living in an overcrowded house compared with 15% for non-remote areas.

For housing in 2014-15, 82% of Aboriginal and Torres Strait Islander people were living in a 'house of acceptable standard' (the house had working facilities such as showers and toilets, and the house was structurally safe to live in) [27]. Dwellings with major structural problems increased with remoteness, with 37% of Aboriginal and Torres Strait Islander people reporting a dwelling with a significant problem in remote and very remote areas, compared with 25% for non-remote areas.

In 2014-15, Aboriginal and Torres Strait Islander people were hospitalised for diseases associated with poor environmental health at more than twice the rate of non-Indigenous people, with this figure increasing in remote and very remote areas [27].

The death rates linked with poor environmental health were also higher for Aboriginal and Torres Strait Islander people, almost twice the rate of non-Indigenous people for 2010-2014 in NSW, Qld, WA, SA and the NT [27].

## Nutrition and breastfeeding

Poor nutrition can contribute to overweight and obesity, malnutrition, CVD, type 2 diabetes, and tooth decay [118, 119]. The National Health and Medical Research Council (NHMRC) guidelines recommend that adults eat fruit and plenty of vegetables every day, with a wide variety of types and colours [120]. They also recommend including reduced fat varieties of milk, yoghurts and cheeses, and to limit foods and drinks that have added sugar and salt and those that have little or no nutritional content ('discretionary' foods).

The 2012-13 *National Aboriginal and Torres Strait Islander nutrition and physical activity survey* (NATSINPAS) [121] collected information about many different foods and nutrients.

- Fruit and vegetables

More than one-half of Aboriginal and Torres Strait Islander people reported eating the recommended serves of fruit every day (54%) but only 8% ate the recommended serves of vegetables every day [122]. For those over the age of 15 years, women were more likely than men to have eaten the recommended amount of fruit (45% and 40% respectively) and vegetables (7% and 3% respectively) each day.

- Dairy foods

Milk products and other dairy foods were eaten by 83% of Aboriginal and Torres Strait Islander people, 69% reported consuming milk and 26% reported consuming cheese [121]. Similar proportions of males and females consumed dairy foods (84% and 82% respectively).

- Discretionary foods

On the day before the survey, Aboriginal and Torres Strait Islander people had 41% of their total daily energy from discretionary foods (foods and drinks that are not necessary to provide the nutrients the body needs, such as sweets, cakes, soft drinks and alcoholic drinks) [123]. Similar proportions of females and males consumed discretionary foods except for alcoholic beverages which twice as many males as females reported consuming (15% and 7.7% respectively) [121].

- Sugar

Aboriginal and Torres Strait Islander people had an average of 14% of their daily energy from free sugars on the day prior to the survey, which is higher than the recommended 10% [121]. Males had more total sugars than females (121 g compared with 101 g) especially in the 14-18 years age group (147 g compared with 102 g) [124].

- Sodium (salt)

The average daily amount of sodium from food eaten by Aboriginal and Torres Strait Islander people was 2,379 mg (approximately one teaspoon of salt) [123]. This does not include salt added to foods during cooking or when preparing food. Males in all age-groups, except for those 51 years and older, had average intakes that were above the upper level of sodium intake recommended by the NHMRC.

- Bush foods

Aboriginal and Torres Strait Islander people in remote areas were more likely than those in non-remote areas to eat non-commercially caught fin fish, crustacea (for example, crabs, prawns and lobsters) and molluscs (for example, scallops, squid and oysters), wild harvested meat and reptiles [121].

- Biomarkers of nutrition

The *National Aboriginal and Torres Strait Islander health measures survey* (NATSIHMS) 2012-2013 collected information on other measures of nutrition – including vitamin D, anaemia (where there are not enough red blood cells or the level of haemoglobin is low) and iodine (needed for growth and development) [125]. It was found that:

- more than a quarter of Aboriginal and Torres Strait Islander adults (27%) had a vitamin D deficiency. Vitamin D deficiency was more common among Aboriginal and Torres Strait Islander people living in remote areas (39%) than those in non-remote areas (23%)
- 7.6% of Aboriginal and Torres Strait Islander adults were at risk of anaemia. The risk of anaemia was higher for those living in remote areas compared with those living in non-remote areas (10% compared with 6.9%)
- Aboriginal and Torres Strait Islander adults had adequate iodine levels.

- Food security

According to the 2012-2013 NATSINPAS, 22% of respondents had run out of food in the last 12 months and couldn't afford to buy more (7% of respondents had run out and gone without food, while 15% had run out but not gone without food) [126]. People in remote areas were more likely to run out of food than people in non-remote areas (31% and 20% respectively) and slightly more likely to go without food if they ran out (9.2% and 6.4% respectively).

## Breastfeeding

Breast milk provides all the energy and nutrients a child needs for the first six months of life [120, 127]. The Australian Dietary Guidelines recommendation is to 'encourage, support and promote breastfeeding' [127]. According to the 2012-2013 AATSIHS, 83% of Aboriginal and Torres Strait Islander children aged 0-3 years had been breastfed, with similar rates in remote and non-remote areas [81]. The 2010 Australian national infant feeding survey reported that breastfeeding initiation rates were high among Aboriginal and Torres Strait Islander women (87%), however at 5 months of age only 11% of Indigenous babies continued to be exclusively breastfed [128]. A study of infant feeding behaviour among Aboriginal women in rural Australia found that lack of support from parents and family, un-supportive social factors and the easy availability of infant formula all produced strong barriers to breastfeeding [129].

## Physical activity

Physical activity is important for maintaining good health [130]. Low levels of physical activity are a risk factor for a range of health conditions, for example, heart disease, diabetes, cancer, depression, overweight and obesity [130, 131]. *Australia's physical activity and sedentary behaviour guidelines* suggest that adults include moderate physical activity on most days of the week to improve their health and reduce the risk of chronic health conditions [132]. However, doing any physical activity is better than doing none and the health benefits are ongoing [133]. In the 2012-2013 AATSIHS, just under half of Aboriginal and Torres Strait Islander adults living in non-remote areas had met the target of 30 minutes of moderate physical activity on most days of the week [76]. They were less likely than non-Indigenous people to meet this target.

Aboriginal and Torres Strait Islander adults in non-remote areas reported in the 2012-2013 AATSIHS: physical activity (AATSIHSPA) that they spent around one third of the time on physical activity compared with children aged 5-17 years [130]. Adults who participated in the survey's pedometer study recorded an average of nearly 7,000 steps per day with 17% meeting the suggested starting point of 10,000 steps or more.

In remote areas, just over a half of Aboriginal and Torres Strait Islander adults did more than the suggested 30 minutes of physical activity and one in five did not do any physical activity on the day prior to the 2012-2013 AATSIHSPA interview [130]. The most common types of physical activity for adults were 'walking to places' and taking part in cultural activities of hunting and gathering bush foods or fishing.

In 2012-2013, just under two-thirds of Aboriginal and Torres Strait Islander adults living in non-remote areas reported that they were physically inactive in the week prior to the survey [76]. Aboriginal and Torres Strait Islander adults spent an average of around five hours per day on sedentary (lying or sitting down) activities, including almost two and a half hours watching television, DVDs and videos [130].

In 2012-2013, Aboriginal and Torres Strait Islander children aged 2-4 years living in non-remote areas spent an average of almost seven hours per day on physical activity and spent more time outdoors than non-Indigenous children (3.5 hours compared with 2.8 hours) [130]. Aboriginal and Torres Strait Islander children aged 2-4 years spent an average of one and a half hours per day on sedentary screen-based activities such as watching TV, DVDs or playing electronic games.

In 2012-2013, Aboriginal and Torres Strait Islander children aged 5-17 years living in non-remote areas spent an average of two hours per day participating in physical activity (more than the suggested one hour per day) [130]. This was 25 minutes more than non-Indigenous children. The most common physical activities were active play and children's games and swimming. In remote areas, 8 out of 10 Aboriginal and Torres Strait Islander children aged 5-17 years did more than one hour of physical activity on the day before the interview. The most common activities were walking, running and playing football or soccer.

Aboriginal and Torres Strait Islander children aged 5-17 years living in non-remote areas in 2012-2013 spent an average of two and a half hours per day on sedentary screen-based activities (more than the suggested limit of two hours per day) [130]. Aboriginal and Torres Strait Islander children aged 15-17 years spent almost one and a half hours more on screen-based activities than Aboriginal and Torres Strait Islander children aged 5-8 years.



## Tobacco use

Smoking tobacco is a major cause of:

- heart disease
- stroke
- many forms of cancer
- lung disease
- a variety of other health conditions [17].

Passive smoking (breathing in another person's tobacco smoke) also contributes to poor health, particularly for children.

The proportion of Aboriginal and Torres Strait Islander adults who smoke has declined significantly according to surveys between 2002 (49%), 2008 (45%) and 2014-15 (39%) but smoking was still almost three times as common among Aboriginal and Torres Strait Islander adults than among non-Indigenous adults [80]. In 2014-2015, Aboriginal and Torres Strait Islander adults living in remote areas reported a higher proportion of current smokers (47%) than those living in non-remote areas (37%).

More than half of Aboriginal and Torres Strait Islander children lived with someone who usually smoked inside the house in 2014-15 [80].

In 2011, smoking was the biggest contributor (12%) to the burden of disease and injury among Aboriginal and Torres Strait Islander people. Tobacco smoking was also responsible for 23% of the health gap between Aboriginal and Torres Strait Islander people and non-Indigenous Australians [28].

## Alcohol use

Drinking too much alcohol is associated with:

- health conditions like liver disease, diabetes, cardiovascular disease and some cancers
- accidents and injury
- harms to family and community [134].

If a woman drinks alcohol when she is pregnant, the unborn child may be affected by fetal alcohol spectrum disorder (FASD), the term used to describe the physical, behavioural and learning problems caused by alcohol damage to the brain and other parts of the body of the unborn baby [135, 136].

Aboriginal and Torres Strait Islander people are less likely to drink alcohol than non-Indigenous people, but those who do drink are more likely to drink at harmful levels [137, 138]. The 2012-2013 AATSIHS found that almost one-quarter of Aboriginal and Torres Strait Islander people either never drank alcohol or had not had any alcohol in the last year [138]. Not drinking alcohol was 1.6 times more common among Aboriginal and Torres Strait Islander people than non-Indigenous people, the difference was mostly due to Aboriginal and Torres Strait Islander people who used to drink and have stopped.

Levels of short term/single occasion drinking risk (more than four standard drinks on a single occasion) were similar for Aboriginal and Torres Strait Islander and non-Indigenous people [138]. Around half of drinkers in 2012-2013 drank at levels exceeding the guidelines (52% of Aboriginal and Torres Strait Islander people compared with 45% of non-Indigenous people).

Levels of long-term/lifetime drinking risk (more than two standard drinks per day) were similar for Aboriginal and Torres Strait Islander and non-Indigenous people. One-in-five drinkers aged 18 years and over in 2012-2013, drank at levels exceeding the 2009 guidelines for long-term/lifetime drinking risk [139]. Aboriginal and Torres Strait Islander people were 1.4 times more likely to drink at levels of 'high risk' of lifetime harm than non-Indigenous people. There has been a significant decline in risky drinking among Aboriginal and Torres Strait Islander people from 32% to 23% between 2010 and 2013 [140]

The 2008 NATSISS found that 80% of mothers of Aboriginal and Torres Strait Islander children aged 0-3 years did not drink during pregnancy, 16% drank less alcohol and 3% drank the same amount or more alcohol during pregnancy.

In 2011, drinking alcohol was responsible for 8.3% of the burden of disease among Aboriginal and Torres Strait Islander people with the main contributors being from mental and substance use disorders and injury [28].

For 2011-12 to 2012-13, Aboriginal and Torres Strait Islander people were 4.1 times more likely than non-Indigenous people to be admitted into hospital for alcohol related presentations [81].

From 2008-2012 in NSW, Qld, WA, SA and NT, Aboriginal and Torres Strait Islander people were 4.9 times more likely to die due to alcohol use than non-Indigenous people (Derived from [141, 142]).

## Illicit drug use

Illicit drug use describes the use of those drugs that are illegal to possess (e.g. cannabis, heroin, ecstasy, and methamphetamine), and the non-medical use of prescribed drugs such as painkillers [27][143].

Illicit drug use is associated with an increased risk of:

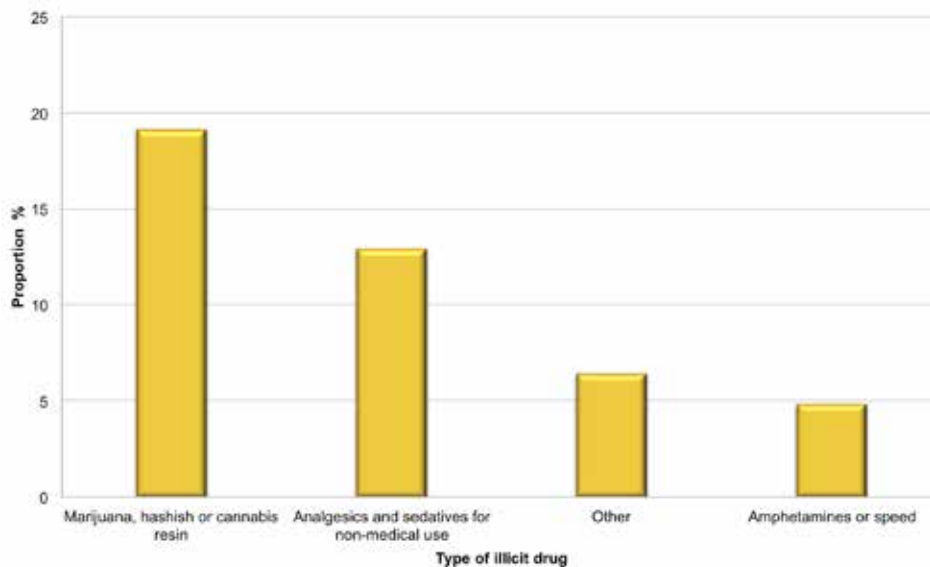
- mental illness
- poisoning
- self-harm
- infection with blood borne viruses from unsafe injection practices
- death [27, 144].

Surveys show that most Aboriginal and Torres Strait Islander people do not use illicit drugs [80, 145]. In the 2014-2015 NATSISS, 69% of Aboriginal and Torres Strait Islander adults had never used illicit substances [80].

In 2014-2015, 30% of Aboriginal and Torres Strait Islander people reported using illicit drugs in the last 12 months [80].

Marijuana was the most commonly used illicit drug, reported as being used by 19% of Aboriginal and Torres Strait Islander people in the last 12 months (Figure 4) [80]. This was followed by analgesics and sedatives for non-medical use (13%), and 'other' drugs (heroin, cocaine, petrol, LSD/synthetic hallucinogens, naturally occurring hallucinogens, ecstasy/designer drugs, methadone and kava (6.4%)). In addition, 4.8% of Aboriginal and Torres Strait Islander people reported using amphetamines [146].

Figure 4. Proportion of Aboriginal and Torres Strait Islander people who reported substance use in the last 12 months: 2014-2015



Source: ABS, 2016 [80]

In 2014-2015, the most common conditions related to drug use which resulted in hospitalisation for Aboriginal and Torres Strait Islander people were for 'poisoning' and 'mental and behavioural disorders' [80]. Hospitalisation for mental/behavioural disorders from the use of amphetamines had the highest rate of hospitalisation due to drug use and was more than three times higher for Aboriginal and Torres Strait Islander people than non-Indigenous people.

Cannabis use was the second highest cause of hospitalisation for mental and behavioural disorders due to drug use, with Aboriginal and Torres Strait Islander people almost four times more likely to be hospitalised than non-Indigenous people [80].

Rates of hospitalisation due to drug use were higher for Aboriginal and Torres Strait Islander people living in major cities than in inner and outer regional areas. Remote areas had the lowest rates of hospitalisation due to drug use [80].

The rate of deaths due to drug use was almost twice as high for Aboriginal and Torres Strait Islander people compared to non-Indigenous people in NSW, Qld, WA, SA and the NT for the period 2010-2014 (Derived from [80]).

## Volatile substance use

Volatile substance use (VSU) involves the deliberate inhaling (through the nose and mouth) of substances (chemical compounds) to produce a state of intoxication [147]. These substances include; petrol, glues, lighter fuels, and sprays containing paint and deodorant [148, 149].

Short term effects of VSU may result in:

- hangover headaches
- drowsiness which can last for hours or days
- losing consciousness or suffocation [149, 150].

Longer term VSU may result in:

- damage to kidneys, liver, heart, lungs
- hearing loss
- bone marrow damage
- permanent acquired brain injury [151, 152].

The 2012-2013 AATSIHS reported that 6.6% of males and 4.2% of females had used volatile substances at least once in their life time [81].

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 298 in 2011-12 to 204 in 2013-14 [153]. There has been less petrol sniffing in 17 of these communities for which information is available, with the total number of people sniffing petrol falling from 647 in 2005-06 to 78 in 2013-14, a reduction of 88%. This decrease in petrol sniffing has been associated with the replacement of regular unleaded petrol with low aromatic fuel (LAF).

The national rate of hospital separations in 2014-15 related to drug use due to poisoning and the toxic effects of organic solvents was nearly four times higher for Aboriginal and Torres Strait Islander people than for non-Indigenous people [27]. For accidental poisoning due to organic solvents, including petroleum derivatives, the rate was five times higher for Aboriginal and Torres Strait Islander people than for non-Indigenous people and for glues and paints it was twice as high than for non-Indigenous people.

Information about deaths due to VSU is limited due to the medical explanation for death being documented rather than the use of volatile substances as a cause [154]. For example, the death of a chronic petrol sniffer may be recorded as due to kidney disease and not 'petrol sniffing'. Research for 1998 and 2003 identified 37 deaths from petrol sniffing in Australia [155-157].

## Concluding comments

Australia's Aboriginal and Torres Strait Islander people's health continues to improve slowly although they are still not as healthy as non-Indigenous people overall. The reasons why the health of Indigenous people is worse than for non-Indigenous people are complex, but represent a combination of general factors (like education, employment, income and socioeconomic status) and health sector factors (like not having access to culturally appropriate services or support).

Within the health sector, there is a need for:

- more health advancement programs
- better identification of health conditions before they become serious
- more primary health care services that are accessible to Aboriginal and Torres Strait Islander people
- greater cultural competence of service providers.

Making and combining these changes are important to the long term future for Aboriginal and Torres Strait Islander peoples and for strengthening strategies to improve health outcomes.

Health improvements for the Aboriginal and Torres Strait Islander population will require the ongoing commitment by all Australian governments. Key stakeholders and representative bodies have recognised the importance of the *Closing the gap strategy* in health and other disadvantages between Aboriginal and Torres Strait Islander peoples and other Australians [158]. Working towards constitutional recognition for Aboriginal and Torres Strait Islander people also remains a key Australian government commitment.

A greater focus on the lessons learned from strengths based indicators and practices, collaboration and culturally respectful policy and program development will make a strong and long lasting contribution to positive health outcomes for Aboriginal and Torres Strait Islander people in the years to come.

## Abbreviations

- AATSIHS** - Australian Aboriginal and Torres Strait Islander Health Survey
- AATSIHSPA** - Australian Aboriginal and Torres Strait Islander Health Survey: Physical Activity
- ABS** - Australian Bureau of Statistics
- ACT** - Australian Capital Territory
- AIHW** - Australian Institute of Health and Welfare
- ANZDATA** - Australia and New Zealand Dialysis and Transplant Registry
- CKD** - Chronic kidney disease
- COPD** - Chronic obstructive pulmonary disease
- CVD** - Cardiovascular disease
- ESRD** - End-stage renal disease
- FASD** - Fetal alcohol spectrum disorder
- GDM** - Gestational diabetes mellitus
- GPs** - General practitioners
- HAV** - Hepatitis A virus
- HBV** - Hepatitis B virus
- HCV** - Hepatitis C virus
- Hib** - *Haemophilus influenzae* type b
- HIV** - Human immunodeficiency virus
- IPD** - Invasive pneumococcal disease
- NATSIHMS** - National Aboriginal and Torres Strait Islander Health Measures Survey
- NATSINPAS** - National Aboriginal and Torres Strait Islander Nutrition and Physical Activity Survey
- NATSISS** - National Aboriginal and Torres Strait Islander Social Survey
- NHMRC** - National Health and Medical Research Council
- NEHS** - National Eye Health Survey
- NNDS** - National Notifiable Diseases Surveillance System
- NSW** - New South Wales
- NT** - Northern Territory
- OM** - Otitis media
- Qld** - Queensland
- SA** - South Australia
- Tas** - Tasmania
- UV** - Ultraviolet
- Vic** - Victoria
- VSU** - Volatile substance use
- WA** - Western Australia



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