The Australian Indigenous HealthInfoNet aims to help improve Aboriginal and Torres Strait Islander health by making relevant, high quality information easily available to policy makers, health professionals (including Aboriginal and Torres Strait Islander Health Workers), program managers, clinicians, researchers, students and the general community. Information is provided mainly via the website at www.healthinfonet.ecu.edu.au.

The HealthInfoNet analyses and compiles information from academic, professional, government and other sources for a range of health topics. This translational research facilitates the transfer of research results into policy and practice. The HealthInfoNet provides a range of products including easy-to-read material such as this summary.

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This summary – or an updated version – can be viewed at: http://www.healthinfonet.ecu.edu.au/summary

For a more comprehensive review of Indigenous health, please see the HealthInfoNet's 'Overview of Australian Indigenous health status' at:

http://www.healthinfonet.ecu.edu.au/overview

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Contents

Introduction ............................................................................................................................................................................. 1

What is known about the Indigenous population? .................................................................................................................. 2

What is known about Indigenous births? ................................................................................................................................. 3

What is known about Indigenous deaths? .................................................................................................................................. 3

Specific health conditions ............................................................................................................................................................ 4

What is known about heart health in the Indigenous population? .............................................................................................. 4

What is known about cancer in the Indigenous population? .................................................................................................... 5

What do we know about diabetes among Indigenous people? .................................................................................................. 5

What is known about the social and emotional wellbeing of Indigenous people? ..................................................................... 6

What is known about kidney health among Indigenous people? ................................................................................................ 8

What is known about injury in the Indigenous population? ...................................................................................................... 8

What is known about respiratory health in the Indigenous population? .................................................................................. 9

What is known about eye health in the Indigenous population? ................................................................................................. 9

What is known about ear health in the Indigenous population? ............................................................................................... 10

What is known about oral health in the Indigenous population? .............................................................................................. 10

What is known about disability in the Indigenous population? ................................................................................................. 11

What is known about communicable diseases in the Indigenous population? ..................................................................... 12

What is known about factors contributing to ill-health in the Indigenous population? .......................................................... 13

Nutrition ...................................................................................................................................................................................... 13

Physical activity .............................................................................................................................................................................. 13

Tobacco use .................................................................................................................................................................................. 13

Alcohol use ................................................................................................................................................................................... 14

Concluding comments .................................................................................................................................................................. 15

Abbreviations ............................................................................................................................................................................. 16

References ..................................................................................................................................................................................... 17
Introduction

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

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

This summary uses information from the most up-to-date sources to help create a picture of the health of Australia’s Indigenous people. This report uses four main sources of information:

- the Indigenous compendium to the Report on government services produced by the Steering Committee for the Review of Government Service Provision (SCRGSP)
- reports on key indicators of Indigenous disadvantage also produced by SCRGSP
- reports in the Aboriginal and Torres Strait Islander health performance framework series produced by the Australian Health Ministers’ Advisory Council for the Department of Health and Ageing.
- reports in the Health and welfare of Australia’s Aboriginal and Torres Strait Islander peoples series 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 or data is to make sure the information is accurate and reliable. If some details are missing, the information may not be accurate. For example, to understand health data about Indigenous people, states and territories need to collect information about their patients, including whether a person is Indigenous. Some states and territories (like SA, WA and the NT) reliably collect this information, but others (like the ACT and Tas) do not. This means that most information about the health of Indigenous people is only accurate for certain states and territories, but not for Australia as a whole. The information about the Indigenous populations is getting better, but there are still limitations. To get a more detailed picture of Indigenous health (which includes details of the coverage of each health topic by state/territory), please refer to our Overview of Indigenous health status (http://www.healthinfonet.ecu.edu.au/overviews).

To create a complete picture, all the information in this report 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 [1-3].

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 Indigenous people are:

- their connection to land
- the historical past that took people from their traditional lands and away from their families.

If a person feels safe, has a job that earns enough money, and feels connected to their family and friends, they will generally be healthier. Indigenous people are generally worse off than non-Indigenous people when it comes to the social determinants of health [1].

A lot of health services are not as accessible and user-friendly for Indigenous people as they are for non-Indigenous people, adding to higher levels of disadvantage. Sometimes this is because more Indigenous 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 Indigenous culture and the specific needs of Indigenous people). Also, some Indigenous people may not be able to use some services because they are too expensive.
Factors that make health services more accessible for Indigenous people:

- having Indigenous Health Workers on staff
- increasing the number of Indigenous people working in the health sector (doctors, dentists, nurses, etc)
- designing health promotion campaigns especially for Indigenous people
- having culturally competent non-Indigenous staff
- making important health services available in rural and remote locations (so Indigenous 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 Indigenous people who might otherwise not be able to afford them.

More detailed information about the health of Indigenous peoples, associated social and economic circumstances, and risk and protective factors, is available from the HealthInfoNet's web resource (www.healthinfonet.ecu.edu.au).

What is known about the Indigenous population?

Based on information from the 2011 Census, the ABS estimates that there were 698,583 Indigenous people living in Australia in 2013 [4]. NSW had the largest number of Indigenous people, and the NT had the highest percentage of Indigenous people. Indigenous people made up 3% of the total Australian population. For more details on the Indigenous population in each state and territory see the table below.

Table 1. Estimated Indigenous population, by state/territory and Australia, 30 June 2013

<table>
<thead>
<tr>
<th>State/territory</th>
<th>Number of Indigenous people</th>
<th>Proportion (%) of Indigenous population living in that state/territory</th>
<th>Proportion (%) of state/territory population that are Indigenous</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSW</td>
<td>216,612</td>
<td>31</td>
<td>2.9</td>
</tr>
<tr>
<td>Vic</td>
<td>49,715</td>
<td>7.1</td>
<td>0.9</td>
</tr>
<tr>
<td>Qld</td>
<td>198,206</td>
<td>28</td>
<td>4.3</td>
</tr>
<tr>
<td>WA</td>
<td>91,898</td>
<td>13</td>
<td>3.6</td>
</tr>
<tr>
<td>SA</td>
<td>38,981</td>
<td>5.6</td>
<td>2.3</td>
</tr>
<tr>
<td>Tas</td>
<td>25,269</td>
<td>3.6</td>
<td>4.9</td>
</tr>
<tr>
<td>ACT</td>
<td>6,517</td>
<td>0.9</td>
<td>1.7</td>
</tr>
<tr>
<td>NT</td>
<td>71,111</td>
<td>10</td>
<td>30</td>
</tr>
<tr>
<td>Australia</td>
<td>698,583</td>
<td>100</td>
<td>3.0</td>
</tr>
</tbody>
</table>


In 2011, around one-third of Indigenous people lived in major cities [5].

The number of Indigenous people counted in the 2011 Census was much higher than the number counted in the 2006 Census [6, 7]. This could be because:

- the number of Indigenous people has increased
- more Indigenous 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 Islanders, and 4% identified as both Aboriginal and Torres Strait Islander [5].

The Indigenous population is much younger overall than the non-Indigenous population (see Figure 1). In 2011, more than one-third of Indigenous people were aged less than 15 years, compared with one-fifth of non-Indigenous people [8, 9]. Almost 4% of Indigenous people were aged 65 years or over, compared with 14% of non-Indigenous people.

Figure 1 is a population pyramid; it shows a comparison of the age profiles of the Indigenous and non-Indigenous populations [10]. The bars show the percentage of the total population that falls within each age group. The general shapes of the Indigenous and the non-Indigenous pyramids are different. The Indigenous pyramid is wide at the bottom (younger age-groups) and narrow at the top (older age-groups); this shape shows that the Indigenous population is a young population. The non-Indigenous pyramid has a more even spread of ages through the population.
What is a ‘rate’?

One way of looking at how common a disease is in a population is by calculating a ‘rate’. A rate is the number of cases of a disease divided by the population, for a specific amount of time. By calculating rates, you can compare how common a disease is in different populations (like Indigenous and non-Indigenous people) or between sexes (men and women). You can also calculate rates for deaths and compare the number of deaths in two different populations.

There is a special calculation for ‘infant mortality rates’. To calculate this rate, the number of infants (children under one year of age) who died in one calendar year is divided by the number of live births in the same year.

What is known about Indigenous births?

In 2012, there were 18,295 births registered in Australia where one or both parents were Indigenous (six in every 100 births) [11]. Overall, Indigenous women had more children and had them at younger ages than did non-Indigenous women.

Indigenous women had, on average, 2.7 births in their lifetime (compared with 1.9 births for all Australian women) [11]. Around three-quarters of Indigenous mothers were 30 years or younger when they had their babies, compared with less than one-half of non-Indigenous mothers [Derived from 11]. Around 19 in 100 Indigenous mothers were teenagers, compared with 3 in 100 for non-Indigenous mothers.

In 2011, babies born to Indigenous mothers weighed an average of 3,187 grams, almost 200 grams less than those born to non-Indigenous mothers [12]. Babies born to Indigenous mothers were more than twice as likely to be of low birthweight (less than 2,500 grams) than those born to non-Indigenous mothers. Low birthweight can increase the risk of a child developing health problems.

What is known about Indigenous deaths?

Indigenous people are much more likely than non-Indigenous people to die before they are old [13, 14]. The most recent estimates from the ABS show that an Indigenous boy born in 2010-2012 was likely to live to 69.1 years, about 10 years less than a non-Indigenous boy (who could expect to live to 79.7 years) (Figure 2) [14]. An Indigenous girl born in 2010-2012 was likely to live to 73.7 years, which is almost 10 years less than a non-Indigenous girl (83.1 years). (There have been a number of changes to how these rates have been calculated throughout time, so recent estimates cannot be compared to older estimates.)
In 2012, there were 2,620 deaths registered to people identified as Indigenous [13]. 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 Indigenous people in 2012 were:
- cardiovascular disease (including heart attacks and strokes)
- cancer
- injury (including transport accidents and self-harm) [15].

Babies born to Indigenous women are twice as likely to die in their first year than those born to non-Indigenous women [13]. In 2010-2012, the Indigenous infant mortality rate (see boxed information for details) was highest in the NT and lowest in NSW.

**Specific health conditions**

What is known about heart health in the Indigenous population?

Cardiovascular disease (CVD) is a group of diseases affecting the heart and circulatory system [16]. The most common types of CVD are coronary heart disease (including heart attack), stroke, heart failure, and high blood pressure. Risk factors (a behaviour or characteristic that makes it more likely for a person to get a disease) for CVD include: smoking (both smoking tobacco and being exposed to second-hand smoke), high blood cholesterol, being overweight, not eating well, being physically inactive and having diabetes.

Many Indigenous people are affected by CVD. One-in-eight (12%) Indigenous people reported in the 2012-2013 Australian Aboriginal and Torres Strait Islander health survey (AATSIHS) that they had some form of CVD [17]. One-in-twenty-five (4%) Indigenous people reported having had heart, stroke and/or vascular diseases. One-in-twenty (5%) Indigenous people reported having had high blood pressure (hypertensive heart disease).

More Indigenous women (13%) reported having CVD than Indigenous men (11%) in 2012-2013 [17]. Indigenous people living in remote areas were more likely to report having heart disease than were those living in non-remote areas. Heart and related conditions were 1.2 times more common for Indigenous people than for non-Indigenous people.

CVD was the leading cause of death of Indigenous people in 2012. It was responsible for 25% of the deaths of Indigenous people living in NSW, Qld, WA, SA and the NT [15]. After age-adjustment, the death rate for Indigenous people was almost twice as high as that for non-Indigenous people.

Coronary heart disease was responsible for 61% of the CVD-related deaths among Indigenous men and 45% of those among Indigenous women. Cerebrovascular disease was responsible for 15% of deaths from CVD among Indigenous men and for 22% of those among Indigenous women.

Indigenous people are more likely to die from CVD when they’re young or in middle age than non-Indigenous people. In 2002-2005 in Qld, WA, SA and the NT, the death rates for all CVD were 8 to 12 times higher for Indigenous people in the 35-44 years and 45-54 years age-groups than the rates for their non-Indigenous counterparts [18].
What is known about cancer in the Indigenous 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) [19, 20]. 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’ [19]. Cancer can occur almost anywhere in the body.

In 2004-2008, the overall rate of new cases (incidence rate) of cancer was slightly higher for Indigenous people than for non-Indigenous people [21]. Incidence rates varied depending on the type of cancer. Indigenous people had higher incidence rates than did non-Indigenous people for:

- lung and other smoking-related cancers
- cervical cancer (for women)
- cancer of the uterus (for women)
- cancer of the pancreas
- liver cancer
- cancers of ‘unknown primary site’ (the part of the body where the cancer started) [21].

In 2004-2008, Indigenous people had lower incidence rates than did non-Indigenous people for:

- breast cancer (for women)
- prostate cancer (for men)
- bowel cancer
- non-Hodgkin lymphoma (the lymphoid system is part of the body’s immune system, the system that helps the body ward off diseases) [21].

The types of cancer that caused the most deaths among Indigenous people in 2007-2011 were lung cancer, liver cancer, breast cancer (for women), cancer of ‘unknown primary site,’ and bowel cancer [21].

The fact that Indigenous 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 Indigenous people may visit their doctor later and/or may not participate in screening programs)
- they are less likely to receive adequate treatment [22].

What do we know about diabetes among Indigenous people?

Diabetes is a chronic condition where the body cannot properly process glucose (a type of sugar) [23]. Normally the body can convert glucose into energy with the help of a hormone called insulin. If someone has diabetes, their body’s production of insulin is impaired. Without enough insulin, the body cannot turn glucose into energy, and it stays in the blood. The treatment of diabetes depends on the type of diabetes that a person has – if someone has type 1 diabetes they will need insulin injections; if someone has type 2 diabetes they may be able to manage it by living a healthy lifestyle or taking some medicines. It is possible for a person to have type 2 diabetes without knowing it.

Diabetes is a major health problem for Indigenous people, but it is hard to know just how many Indigenous people have the disease. Diabetes was reported by 8% of Indigenous people in the 2012-2013 AATSIHS [17]. After adjusting for age, the level of diabetes and/or high sugar levels for Indigenous people was three times higher than that for non-Indigenous people. More Indigenous women reported having diabetes and/or high sugar levels than Indigenous men.

According to the 2012-2013 AATSIHS, diabetes was more common for Indigenous people living in remote areas than for those living in non-remote areas [17]. Diabetes affected Indigenous people at a younger age than non-Indigenous people – 5% of Indigenous people aged between 25 years and 34 years had diabetes, and up to 39% of those aged over 55 years had the disease (Figure 3). Overall, diabetes is around four times more common among Indigenous people than among other Australians.
Diabetes was responsible for one-in-twelve deaths (201 deaths) of Indigenous people living in NSW, Qld, SA, WA and the NT in 2012 [15]. Diabetes was the second leading cause of death for Indigenous people. The overall death rate was seven times higher for Indigenous people than that for non-Indigenous people.

### What is known about the social and emotional wellbeing of Indigenous people?

Social and emotional wellbeing is a term used to talk about a person's overall social, emotional, psychological (mental), spiritual, and cultural wellbeing. Factors that are important to social and emotional wellbeing include a person's:

- connection to land
- ancestry (family history)
- relationships with family members and friends
- connection to community [24].

Social and emotional wellbeing is often confused with mental health, but it is much broader: social and emotional wellbeing is concerned with the overall wellbeing of the person. On the other hand, mental health describes how a person thinks and feels, and how they cope with and take part in everyday life. It is often seen, incorrectly, as simply the absence of a mental illness.

Many things can influence a person's social and emotional wellbeing, including:

- historical/past events
- serious illness or disability
- death of family members or friends
- substance and/or alcohol use
- social and economic factors (education, employment, income, housing) [24, 25].

Measuring social and emotional wellbeing is difficult, but it usually relies on self-reported feelings (like happiness or calmness) or ‘stressors’ (stressful events in a person’s life).

The 2012-2013 AATSISHS found that Indigenous adults were almost three times more likely to feel high or very high levels of psychological distress than were non-Indigenous adults [26]. Indigenous people may have higher levels of psychological distress because they experience more stressors than do non-Indigenous people.

Almost seven-in-ten Indigenous people experienced one or more significant stressors in the year before the survey, which was almost one-and-a-half-times higher than that experienced by the total Australian population [27]. Indigenous people most often reported stressors like:

- the death of a family member or friend
- serious illness
- unable to get a job
- alcohol or drug related problems
- mental illness.
These same stressors were also experienced by non-Indigenous people but at lower levels (Figure 4). Stressors like ‘trouble with the police’ and ‘gambling problems’ were five and six times more likely to be reported by Indigenous people than by the general population.

Figure 4. Proportions (%) of Indigenous and non-Indigenous people who experienced stressor(s), by type of stressor, 2012-2013

The 2008 National Aboriginal and Torres Strait Islander social survey (NATSISS) collected information on positive wellbeing and asked people to report on feelings of happiness, calmness and peacefulness, fullness of life, and energy levels [28]. The survey found that most (nine-in-ten) Indigenous people felt happy some, most, or all of the time [29]. Around four-in-five Indigenous people reported feeling calm and peaceful, full of life, and that they had a lot of energy some, most, or all of the time.

The most detailed information on the social and emotional wellbeing of Indigenous children comes from the Western Australian Aboriginal child health survey (WAACHS) [30]. This survey found that almost one-quarter of Indigenous children and young people were rated by their carer (parent or guardian) as being at high risk of ‘clinically significant emotional or behavioural difficulties’ (emotional or behavioural problems that affect a person’s day-to-day life); this compares with one-in-seven children for the general WA population. Indigenous children whose carers had been forcibly separated (taken away) from their families were at high risk of having ‘clinically significant emotional or behavioural difficulties’, more than twice the risk of children whose carer had not been forcibly separated [30]. These children also had twice the rates of alcohol and other drug use.

The WAACHS also found that seven-in-ten Indigenous children were living in families that had experienced three or more major life stress events (like a death in the family, serious illness, family breakdown, financial problems, or arrest) in the year before the survey, and one-in-five had experienced seven or more major stress events [30].

In 2011-12, Indigenous people were more than twice as likely to be hospitalised for ‘mental and behavioural disorders’ than were other Australians (‘mental and behavioural disorders’ occur when a person becomes unwell in the mind and experiences changes in their thinking, feelings, and/or behaviour that affects their day-to-day life) [31].

In 2006-2010, there were 312 Indigenous deaths from ‘mental and behavioural disorders’ [25]. Compared with the non-Indigenous population, Indigenous people were one-and-a-half times more likely to die from these disorders.

Deaths from ‘mental and behavioural disorders’ do not include deaths from ‘intentional self-harm’ (suicide). In 2012, Indigenous people were twice as likely to die from ‘intentional self-harm’ than were non-Indigenous people [32]. Deaths from intentional self-harm were especially high for Indigenous people younger than 35 years of age, with Indigenous men at a very high risk of death from ‘intentional self-harm’.
What is known about kidney health among Indigenous people?

Healthy kidneys help the body by removing waste and extra water, and keeping the blood clean and chemically balanced [33]. 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 [34]. End-stage kidney disease (ESKD) is when the kidneys have totally or almost totally stopped working. People with ESKD must either have regular dialysis (be hooked up to a machine that filters the blood) or have a kidney transplant to stay alive.

Kidney disease is a serious health problem for many Indigenous people. In 2008-2012, ESKD was seven times more common for Indigenous people than for non-Indigenous people [Derived from 35, 36-38].

ESKD affects Indigenous people when they are much younger than it does among non-Indigenous people. In 2008-2012, almost three-in-five Indigenous people who were diagnosed with kidney disease were younger than 55 years of age (less than one-third of non-Indigenous people were younger than 55 years of age) (Figure 5) [Derived from 35, 36-38].

The rates of ESKD were highest for Indigenous people living in the NT (16 times higher for Indigenous people than non-Indigenous people) and WA (11 times higher) [Derived from 35, 36-38].

![Figure 5. Rates (per million) of end-stage kidney disease for Indigenous and non-Indigenous people, by age-group (years) 2008-2012](image)

Source: Derived from ANZDATA, 2013 [38], ABS, 2010[35], ABS, 2001[36], ABS, 2009 [37]
Note: These rates show how many Indigenous and non-Indigenous people had ESKD per million. This means, for example, that for every 1 million Indigenous people aged 55-64 years, over 2,000 had ESKD in 2008-2012.

Dialysis was the most common reason for Indigenous people to be admitted to hospital in 2011-12 [39]. Almost one-half of all Indigenous hospital admissions were for dialysis. Indigenous people were admitted to hospital for dialysis around 12 times more often than were other Australians.

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) [40]. Accessing dialysis can sometimes be very difficult for Indigenous people who live in rural or remote locations and they may have to travel to receive treatment.

In 2006-2010, Indigenous people were almost four times more likely to die from kidney disease than were non-Indigenous people [41].

What is known about injury in the Indigenous population?

Injury can include both physical harm and non-physical harm, [42] but in public health terms injury generally refers to physical harm to a person’s body [43] including:

- assault
- self-harm
- environmental injuries (e.g. being bitten by a dog or being poisoned by inhaling poisonous fumes)
- transport accidents [42].

Culture and everyday life situations for Indigenous people can affect the types of injuries and the frequency of injuries experienced.
Some factors that can increase the risk of injury include:

- disruption to culture
- socioeconomic disadvantage [42]
- living in rural and remote locations (including increased use of roads)
- risky behaviour
- limited access to health services and support services [44].

Indigenous people were twice as likely as other Australians to be admitted to hospital for injuries in 2011-2012 [45]. Injury was the most common reason for Indigenous hospital admissions (after dialysis). The main causes of Indigenous injury-related hospital admissions in 2011-2012 were 'medical complications'; assault, and falls.

In 2012, injury was the third most common cause of death for Indigenous people [15]. The most common causes of injury-related death for Indigenous people were suicide and transport accidents. Indigenous people were more than twice as likely as non-Indigenous people to die from suicide and almost three times as likely to die from traffic accidents.

**What is known about respiratory health in the Indigenous 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 [46]. 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, and pneumonia.

Risk factors for respiratory disease include: infections, 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), poor living conditions, and other diseases (like diabetes, heart and kidney disease) [46].

Detailed information about respiratory disease is not yet available from the 2012-2013 AATSIHS, but respiratory disease was reported by around one-quarter of Indigenous people in the 2004-2005 National Aboriginal and Torres Strait Islander health survey (NATSIHS) [47]. Respiratory problems were reported more often by Indigenous people living in non-remote areas than by those living in remote areas.

In the 2012-13 AATSIHS, asthma was the respiratory condition most often reported by Indigenous people. It was nearly twice as common for Indigenous people than for non-Indigenous people [17].

In 2011-12, more than one-in-ten of all hospital admissions for Indigenous people were due to a respiratory condition (excluding hospital admissions for dialysis) [45]. Indigenous people were almost three times more likely than other Australians to be admitted into hospital for a respiratory condition.

In 2012, respiratory disease was the cause of 8% of Indigenous deaths. Indigenous people were more than twice as likely as other Australians to die from a respiratory disease [15].

**What is known about eye health in the Indigenous population?**

Having healthy eyes is important for everyday life; they are needed to read and study, play sports, drive, and work [48]. There are a number of problems that can affect the health of the eye [49]. The most common conditions are [50]:

- refractive error (problems focussing the eyes)
- cataract (clouding of the eyes' lenses)
- diabetic retinopathy (caused by diabetes and can lead to blindness)
- infectious diseases like trachoma.

Eye problems are associated with: getting older, smoking, injuries, exposure to ultra-violet (UV) light from the sun, and not eating enough healthy food [49]. Eye health problems can result in low vision (not being able to see properly). This can be corrected with glasses, contact lenses or eye surgery. Eye health problems can result in impaired eyesight and blindness.

Many Indigenous people do not have access to specialised eye health services, including optometrists and ophthalmologists (specialist eye doctors) [51, 52]. As a result, Indigenous people are more likely than non-Indigenous people to suffer from poor eye health that is preventable.
In the 2012-2013 AATSIHS, eye and sight problems were reported by one-third of Indigenous people [53]. The 2008 National Indigenous eye health survey (NIEHS) found that low vision was nearly three times more common for Indigenous adults than for other Australian adults [54]. Overall, 3% of Indigenous adults suffered vision loss caused by cataracts, but only 65% of Indigenous people who needed cataract surgery received it. Refractive error caused one-half of vision loss in both adults and children.

Diabetes, a major problem for Indigenous people, can cause eye disease and loss of vision [17, 55]. The 2008 NIEHS found that only one-in-five Indigenous people with diabetes had had an eye examination within the last year, and just over one-in-ten had sight problems [54].

According to the 2008 NIEHS, blindness was six times more common for Indigenous adults than for those in the total population [54]. The main causes of blindness for Indigenous adults were [56]:

- cataracts
- optic atrophy (damage to the eye's nerves)
- refractive error
- diabetic eye disease
- trachoma.

For Indigenous children, the 2008 NIEHS found they had better vision than other children in Australia, especially in remote areas [54]. The 2012-2013 AATSIHS found that one-in-eleven Indigenous children had an eye or sight problem [57].

What is known about ear health in the Indigenous population?

Ear health is very important for hearing, learning, and balance [58]. If ears get damaged, people might:

- not be able to hear properly, either for a short, 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 called otitis media (OM). OM occurs when the middle ear is affected by infection from bacteria or viruses. 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 crowded homes, exposure to smoking, living in poor conditions, and poor hygiene. Children who go to day-care centres are more likely than others to get ear infections.

Indigenous people, especially children and young adults, have more ear disease and hearing loss than other Australians [58, 59]. Diseases of the ear and mastoid and/or hearing problems were reported as a long-term health condition by one-in-eight Indigenous people in the 2012-2013 AATSIHS [17]. Ear/hearing problems were reported by 13% of Indigenous males and by 12% of Indigenous females. Ear/hearing problems were reported by the same proportion of Indigenous people in non-remote areas and remote areas (both 12%). Hearing loss was more common in older people.

The 2008 NATSISS found that one-in-ten Indigenous children had ear or hearing problems [28]. The WAACHS found that almost one-in-five Indigenous children had recurring ear infections [60]. Young children (0-11 years) were more likely to have recurring ear infections than older children (12-17 years). Hearing that wasn’t normal was reported by their carers for 7% of Indigenous children. There is a strong link between recurring ear infections and abnormal hearing: 28% of children who had recurring ear infections with discharge (runny ears) also had abnormal hearing, compared with 1% of those without ear infections.

Hearing health services in the NT in 2012-13 found seven-in-ten children who received audiology services were diagnosed with at least one type of middle ear condition [61]. The most common condition among the Indigenous children was otitis media with effusion (OME). Of the children who received audiology services, half had some form of hearing loss.

In the NT in 2007-2012, two-in-three Indigenous children who had child health checks with an ear, nose, and throat examination had at least one middle ear condition [62]. For Indigenous children who had a follow-up hearing test, more than one-half had hearing loss in at least one ear.

The hospitalisation rate for Indigenous people was 1.3 times higher than that for non-Indigenous people for diseases of the ear and mastoid process in 2011-12 [45].
What is known about oral health in the Indigenous population?

Oral health is a term used to talk about the health of a person's teeth and gums [63]. If people have unhealthy teeth and gums they will probably have some pain. Also, they may not be able to eat a variety of healthy foods or talk to other people comfortably.

Two common oral health problems are caries and gum diseases [63, 64]. Caries is caused by bacteria that decay (break down) the enamel (hard outer part of the tooth); if caries is not treated the tooth will continue to decay and will eventually have to be removed [64]. Caries is caused by eating a lot of sticky and sweet foods that let bacteria to grow and multiply. Gum disease (also known as periodontal disease) is caused by bacteria that attack the gums causing them to swell and bleed. If gum disease is not treated, the gums start to break down and the teeth will become loose because the gums won't be strong enough to hold them in place. Gum disease is caused by poor oral hygiene (poor care of the teeth and gums).

The oral health of Indigenous people is not as good as that of non-Indigenous Australians [65]. The oral health of young non-Indigenous children has improved in recent years, but the oral health of young Indigenous children has generally got worse. Indigenous children have more caries in their deciduous (baby) and permanent (adult) teeth than do non-Indigenous children, and their caries are often more severe. Indigenous children have more decayed, missing and filled teeth than do non-Indigenous children. In 2000-2003, Indigenous children also had more gingivitis (a mild form of periodontal disease) than non-Indigenous children.

Indigenous adults had more than twice as much caries as non-Indigenous adults, and had three times the number of decayed surfaces, which is often because of poor access to dental services [66]. Indigenous adults also suffered from more periodontal disease than did non-Indigenous adults. More Indigenous adults than non-Indigenous adults suffered from edentulism (losing all of their teeth), especially at younger ages.

What is known about disability in the Indigenous population?

Disability may affect how a person moves around and looks after themselves, how they learn, or how they communicate [67, 68]. There are a lot of different kinds of disability:

- 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, some people become disabled as the result of an event (such as a car crash).

A disability that is severe and affects how a person is able to live their life is classified as a 'profound/severe core activity restriction' [67].

In 2008, one-half of Indigenous adults had some form of disability [69]. Around one-in-twelve Indigenous adults had a profound/severe core activity restriction.

Disability becomes more common as people get older [29]. In 2008, disability, including profound/severe core restriction, was more common for Indigenous adults than non-Indigenous adults in every age-group (Figure 6), and a higher proportion of Indigenous adults required assistance with a core activity from a younger age. Overall, Indigenous adults were more than twice as likely as non-Indigenous adults to have a profound/severe core restriction [69].

Figure 6. Proportions (%) of Indigenous and non-Indigenous adults with a profound/severe core restriction, by age-group (years), Australia (non-remote areas), 2008

Source: SCRGSP, 2011 [29]
What is known about communicable diseases in the Indigenous population?

Communicable diseases are diseases that are passed from person to person either by direct contact with an infected person or indirectly, such as through contaminated (dirty/unclean) food or water. Another example of indirect transmission is when the disease is spread through the air, such as 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) [70].

Improvements to personal and environmental cleanliness, and the introduction of new immunisations (vaccines), have greatly reduced the number of people who catch some communicable diseases [68].

If a person contracts (catches/develops) certain communicable diseases (like tuberculosis), the disease must be ‘notified’; this means that the information is collected by health authorities. Data from state and territory collections are collected and published by the National Notifiable Disease Surveillance System (NNDSS), 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 [71].
  - Tuberculosis notifications were 11 times higher for Indigenous people than for non-Indigenous people in 2005-2009 [Derived from 37, 72, 73-76].

- **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 [77]. The most common types of hepatitis are hepatitis A, B, and C.
  - In 2010-2012:
    - hepatitis A notifications were lower for Indigenous people than for non-Indigenous people [ Derived from 37, 78-81]
    - hepatitis B notifications were three times higher for Indigenous people than for non-Indigenous people [Derived from 82, 83]
    - hepatitis C notifications were almost four times higher for Indigenous people than for non-Indigenous people [Derived from 82, 83].

- **Haemophilus influenzae type b** (Hib): a bacterium that can cause a range of illnesses, such as meningitis, septicaemia, and pneumonia [84-86].
  - Notification rates for Hib were 20 times higher for Indigenous people than for non-Indigenous people in 2010 [87].

- **Invasive pneumococcal disease** (IPD): caused by a bacterium and can lead to several major health conditions, such as pneumonia and meningitis [88].
  - Notification rates for IPD were almost four times higher for Indigenous people than for other Australians in 2007-2010 [88].

- **Meningococcal disease**: caused by a bacterium and can lead to meningitis, meningococcaemia without meningitis, and septic arthritis [88].
  - Notification rates for Indigenous children aged 0-4 years were nearly four times higher than those for non-Indigenous children in 2007-2010 [88].

- **Sexually transmissible infections**: caused by bacteria and viruses and can lead, if left untreated, to a range of health conditions, such as pelvic inflammatory disease in women [89-91].
  - Notification rates for gonorrhoea, syphilis, and chlamydia were higher for Indigenous people than for non-Indigenous people 2010-2012 [Derived from 82, 83, 92, 93].

- **HIV** (human immunodeficiency virus): an infection that destroys cells in the body’s immune system [94].
  - In 2012, the rate of HIV diagnosis was similar for Indigenous and non-Indigenous people [93].
What is known about factors contributing to ill-health in the Indigenous population?

Nutrition

If a person eats healthy food they are more likely to be healthy [95]. A healthy diet includes:

- fresh vegetables and fruits
- whole grains
- low-fat dairy products
- lean meats
- foods low in fat and salt.

Having access to healthy foods can be a challenge for some Indigenous people who live in remote locations because food that has to be shipped over long distances is not always available, or because fresh foods may be expensive [95].

The 2012-13 AATSIHS found that less than one-half of Indigenous people reported eating the recommended amount of fruit every day (43%) and only one-in-twenty people (5%) ate the recommended amount of vegetables every day [47, 96]. Women were more likely than men to have eaten an adequate amount of fruit (44% and 41% respectively) and vegetables (7% and 3% respectively) each day.

Levels of fruit and vegetable consumption were different for Indigenous people living in remote and non-remote areas; one-half of Indigenous people living in remote areas consumed the recommended number of servings of fruit each day compared with two-in-five of people in non-remote areas. Conversely, Indigenous people living in non-remote areas were more likely than those in remote areas to consume adequate amounts of vegetables (5% compared with 3%) each day.

Information about milk consumption, salt consumption, food security or the influence of other factors on dietary behaviour are not yet available from the 2012-13 AATSIHS, but the 2004-2005 NATSIHS found that most Indigenous people drank whole milk, and only around one-in-six Indigenous people drank reduced fat or skim milk [47]. About one-half of Indigenous people usually added salt to their food after it was cooked.

Physical activity

Keeping physically active is important for staying healthy. Physical exercise is good for a person’s social and emotional wellbeing and reduces the risks of heart problems, diabetes, and some cancers [97].

The 2012-13 AATSIHS reported 46% of Indigenous adults living in non-remote areas had met a target of 30 minutes of moderate intensity physical activity on most days (or a total of 150 minutes per week) [17]. More Indigenous men than Indigenous women living in non-remote areas met the target of 150 minutes of moderate intensity exercise per week (51% compared with 41%) and reported they had exercised for at least 150 minutes over five sessions in the previous week (44% compared with 36%). Indigenous men were more likely than Indigenous women to have exercised at moderate intensity (31% compared with 25%) and were twice as likely to have exercised at high intensity (14% compared with 7%) in the previous week.

In 2012-13, 62% of Indigenous adults reported that they were physically inactive (sedentary or had exercised at a low level) in the week prior to the survey; this level of physical inactivity was slightly higher than that for non-Indigenous adults [17].

Tobacco use

Smoking tobacco is a major cause of:

- heart disease
- stroke
- some cancers
- lung disease
- a variety of other health conditions [41].

Passive smoking (breathing in another person’s tobacco smoke) also contributes to poor health, particularly for children [41].

The proportion of Indigenous adults who smoke declined significantly between 2002 and 2012-2013 (from 51% to 43%), but smoking was still more than twice as common among Indigenous adults than among non-Indigenous adults in 2012-2013 [98, 99]. According to the 2008 NATSISS, two-in-three Indigenous current daily smokers had tried to quit in the previous year [69].
In 2008, around one-in-six Indigenous children aged 0-3 years and one-quarter of Indigenous children aged 4-14 years lived with someone who usually smoked inside the house [100, 101]. Around one-quarter of Indigenous adults were living with someone who usually smoked inside the house [69].

Tobacco use was responsible for one-in-five deaths among Indigenous people in 2003 [102].

**Alcohol use**

Drinking too much alcohol is associated with:

- health conditions like liver disease, diabetes, cardiovascular disease, and some cancers
- brain damage
- injury and violence
- self-harm [103].

If a woman drinks alcohol when she is pregnant, the unborn child may be affected by foetal 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 [104]. The 2008 NATSISS found that 80% of mothers of Indigenous children aged 0-3 years did not drink during pregnancy, and 16% drank less alcohol [105]. Only 3% drank the same amount or more alcohol during pregnancy.

Indigenous people are less likely to drink alcohol (abstain) than non-Indigenous people [106, 107]. The 2012-2013 AATSIHS found 23% of Indigenous people had never consumed alcohol or had not done so for more than 12 months [107]. Abstinence was 1.6 times more common among Indigenous peoples than non-Indigenous people; however the difference in abstinence is mostly due to those Indigenous people who did drink and have given up.

Levels of long-term/lifetime drinking risk (more than two standard drinks per day) were similar for Indigenous 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 [107]. However, Indigenous people were 1.4 times more likely to drink at levels of ‘high risk’ of lifetime harm than non-Indigenous people (2001 guidelines).

Levels of short term/single occasion drinking risk (more than four standard drinks on a single occasion) were similar for Indigenous and non-Indigenous people; around half of drinkers in 2012-2013, drank at levels exceeding the guidelines (52% compared with 45%). However Indigenous people were 1.4 times as likely to drink at levels of ‘high risk’ of short-term harm as non-Indigenous people (37% compared with 27%)(2001 guidelines).

For the five year period 2006-2010 in NSW, Qld, WA, SA and the NT, approximately 3.4% of total Indigenous deaths were related to alcohol use, with the majority of these due to alcoholic liver disease [25].
Concluding comments

Indigenous people in Australia are not as healthy as non-Indigenous people but there have been a number of improvements, including:

- reductions in death rates [41]
- a decrease in infant mortality rates [41]
- a decrease in some diseases, like trachoma [54] and tuberculosis [74, 108]
- reductions in some communicable diseases (largely because of vaccinations): routine immunisation coverage of Indigenous and other children up to 5 years of age are similar [25]
- a decrease in smoking [17, 109], and a decrease the number of cigarettes smoked per day by Indigenous people [110].

The reasons why the health of Indigenous people is worse than that of non-Indigenous people are complex, but represent a combination of general factors (like education, employment, income, and socioeconomic status) and factors having to do with the health sector (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 Indigenous people
- greater cultural competence of service providers.

The achievement of substantial health improvements for the Indigenous population will require the ongoing commitment by all Australian governments through the Council of Australian Governments (COAG) to ‘closing the gap’ in health and other disadvantages between Indigenous and other Australians.

In addressing the COAG ‘closing the gap’ commitments, the Australian and state and territory governments allocated $4.6 billion over four years to address early childhood development, health, housing, economic participation, and remote service delivery. COAG also achieved a number of supportive commitments by the corporate and community sectors.

The COAG commitments to date are encouraging, but ‘closing the gaps’ in health and other disadvantages will not be achieved in the short to medium-term. Achievement of the necessary improvements in the health and wellbeing of Indigenous people will depend largely on a long-term commitment by all Australian governments. This commitment will need to include strategies that fully address health services and the social and other factors that affect the health disadvantages faced by Indigenous people.
Abbreviations

AATSIHS - Australian Aboriginal and Torres Strait Islander Health Survey

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

COAG - Council of Australian Governments

CSOM - Chronic suppurative otitis media

CVD - Cardiovascular disease

ESRD - End-stage renal disease

FASD - Foetal alcohol spectrum disorder

Hib - Haemophilus influenzae type b

HIV - Human immunodeficiency virus

IPD - Invasive pneumococcal disease

NATSIHS - National Aboriginal and Torres Strait Islander Health Survey

NATSISS - National Aboriginal and Torres Strait Islander Social Survey

NIEHS - National Indigenous Eye Health Survey

NNDSS - National Notifiable Diseases Surveillance System

NSW - New South Wales

NT - Northern Territory

OM - Otitis media

Qld - Queensland

SA - South Australia

STI - Sexually transmitted infection

Tas - Tasmania

TB - Tuberculosis

UV - Ultraviolet

Vic - Victoria

WA - Western Australia

WAACHS - Western Australian Aboriginal Child Health Survey
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Bibdjool

Donna Lei Rioli - a Western Australian Indigenous artist - was commissioned by the HealthInfoNet in 2008 to create a new logo incorporating a gecko for the redevelopment of its website. The gecko was chosen because it is one of a few animals that are found across the great diversity of Australia.

Donna is a Tiwi/Nyoongar woman who is dedicated to the heritage and culture of the Tiwi people on her father’s side, Maurice Rioli, and the Nyoongar people on her mother’s side, Robyn Collard. Donna enjoys painting because it enables her to express her Tiwi and Nyoongar heritage and she combines the two in a unique way.

Donna interpreted the brief with great awareness and conveyed an integrated work that focuses symbolically on the pathway through life. This is very relevant to the work and focus of Australian Indigenous HealthInfoNet in contributing to improving the health and wellbeing of Indigenous Australians.
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