

# *Summary of Aboriginal and Torres Strait Islander health status - selected topics 2020*





## Australian Indigenous HealthInfoNet

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

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

### Recognition statement

The HealthInfoNet recognises and acknowledges the sovereignty of Aboriginal and Torres Strait Islander people as the original custodians of the country. Aboriginal and Torres Strait Islander 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 identities, cultural practices and spiritualities. We recognise that the current health status of Aboriginal and Torres Strait Islander people has been significantly impacted by past and present practices and policies.

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

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# ***Summary of Aboriginal and Torres Strait Islander health status - selected topics 2020***

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## **Further information**

This *Summary* is based on our more comprehensive publication the *Overview of Aboriginal and Torres Strait Islander health status 2020 (Overview)*. The *Summary* does not cover all of the health topics found in the *Overview*, only those which receive specific funding through the HealthInfoNet funding partners. The *Overview* and *Summary* are produced annually and can be found at: [healthinfonet.ecu.edu.au/summaries](https://healthinfonet.ecu.edu.au/summaries) and [healthinfonet.ecu.edu.au/overviews](https://healthinfonet.ecu.edu.au/overviews).

## **Acknowledgements**

Special thanks are extended to staff at the Australian Indigenous HealthInfoNet for their assistance and support, and to the Australian Government Department of Health and other funding partners for their ongoing support of the work of the Australian Indigenous HealthInfoNet.

## ***Tell us what you think***

We value your feedback as part of our post-publication peer review process. Please let us know if you have any suggestions for improving this *Summary*. (See <https://healthinfonet.ecu.edu.au/contact-us>)



## Cover artwork

### **Bibdjool by Donna Lei Rioli**

Donna Lei Rioli, a Western Australian Indigenous artist - was commissioned by the HealthInfoNet to create a logo incorporating a gecko, chosen as 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 the Australian Indigenous HealthInfoNet in contributing to improving the health and wellbeing of Aboriginal and Torres Strait Islander people.

### **Featured icon artwork by Frances Belle Parker**

The HealthInfoNet commissioned Frances Parker, a proud Yaegl woman, mother and artist, to produce a suite of illustrated icons for use in our knowledge exchange products. Frances translates biomedical and statistically based information into culturally sensitive visual representations, to provide support to the Aboriginal and Torres Strait Islander workforce and those participating in research and working with Aboriginal and Torres Strait Islander people and their communities. Frances came to prominence winning the Blake Prize in 2000, making her the youngest winner and the first Indigenous recipient over the 65 year history of the prize.

*"Biirrinba is the Yaygirr name for the mighty Clarence River (NSW). It is this river that is the life giving vein for the Yaegl people. And it is this river which inspires much of my artwork. I am deeply inspired by my Mother's land (Yaegl land) and the Island in the Clarence River that my Mother grew up on, Ulgundahi Island. The stories which are contained within this landscape have shaped me as a person as an artist and most recently as a Mother. This is my history, my story and it will always... be my responsibility to share this knowledge with my family and my children."*





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# Introduction

Aboriginal and Torres Strait Islander people have lived on their traditional lands across Australia, including the Torres Strait Islands, for many thousands of years<sup>[1]</sup>. Before colonisation, Aboriginal and Torres Strait Islander people lived in family and community groups, and moved across the land following seasonal changes. The Aboriginal and Torres Strait Islander concept of health is not just about the individual person, but a whole-of-life view that includes the social, emotional and cultural wellbeing of the community<sup>[2]</sup>.

Australia was colonised by the British in the late 18th century. This led to many negative impacts on the health and wellbeing of Aboriginal and Torres Strait Islander people<sup>[1, 3]</sup>, including discrimination and the loss of identity, language, culture and land<sup>[4]</sup>. The health and wellbeing of Aboriginal and Torres Strait Islander people today is still affected in many ways by this colonial history.

Nationally, there has been a shift away from the deficit approach (focusing on the negative differences between Aboriginal and Torres Strait Islander people and non-Indigenous people) to focus on strength-based approaches to understanding and interpreting measures of health and wellness<sup>[4]</sup>. The *Summary of Aboriginal and Torres Strait Islander health status – selected topics 2020* aims to deliver the most important and up to date information about Aboriginal and Torres Strait Islander health while also limiting comparisons with other Australians.

The HealthInfoNet has prepared this *Summary* as part of our contribution to support those who work in the Aboriginal and Torres Strait Islander health sector. Key health topics are summarised in plain language and an infographic style to enable readers to digest data easily and quickly.

The accuracy of the identification of Aboriginal and Torres Strait Islander people in health data collections varies across the country. Information about hospitalisations is generally considered to be accurate for all jurisdictions: 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), however in some jurisdictions private hospital data are not included. Other statistical information is only considered to be sufficient and complete for certain jurisdictions, for example data about deaths are usually only provided for NSW, Qld, WA, SA and the NT. Please refer to the sources for full details on the statistical information presented here.

If you want more information about the health and wellbeing of Aboriginal and Torres Strait Islander people, you can:

- read our latest *Overview*<sup>[5]</sup> for a more comprehensive health status update
- read one of our health topic reviews ([healthinonet.ecu.edu.au/reviews](https://healthinonet.ecu.edu.au/reviews))
- visit our website ([healthinonet.ecu.edu.au](https://healthinonet.ecu.edu.au)).



In 2021, the HealthInfoNet will undertake a nation-wide consultation, led by Dr Uncle Mick Adams, HealthInfoNet's Senior Aboriginal Research Fellow, to develop policy and practice guidelines for the work of the HealthInfoNet. The focus of the consultation review will be on best practice in data sovereignty and governance.

## Statistical terms

- **Hospitalisation** refers to a period of hospital care for a person admitted to hospital. **Hospitalisation rates** are calculated as the total number of such periods of care divided by the total number of the population of interest. The rate is usually written per 1,000. Unless indicated, rates of hospitalisations provided in this *Summary* are **excluding dialysis separations** – these are the regular hospitalisations required by kidney disease patients for dialysis treatment.
- **Incidence** is the number of new cases of a disease or condition during a time period, the **incidence rate** is the number divided by the population of interest.
- **Median** is the middle number in a range where 50% fall below and 50% fall above.
- **Prevalence** is the proportion of people living with a disease or condition in a given time period.
- **Rates** are one way of looking at how common a disease or condition is in a population. A rate is calculated by taking the number of cases and dividing it by the population at risk, for a specific time period. A specific type of rate, called an **age-standardised rate** (or an age-adjusted rate), allows for comparison between populations that have different age profiles. These are different from **crude rates**. Unless stated otherwise, rates presented in this *Summary* are age-standardised.
- **Survival** is statistically measured as the likelihood of a person being alive for a given period of time after being diagnosed with a disease or condition.

## National surveys

Most of the information presented in this *Summary* is sourced from government reports, particularly those produced by the Australian Bureau of Statistics (ABS), the Australian Institute of Health and Welfare (AIHW), the Australian Health Ministers' Advisory Council (AHMAC) and the Steering Committee for the Review of Government Service Provision (SCRGSP). Data in these reports come from national health surveys, hospitals and other government agencies (including the birth and death registration systems).

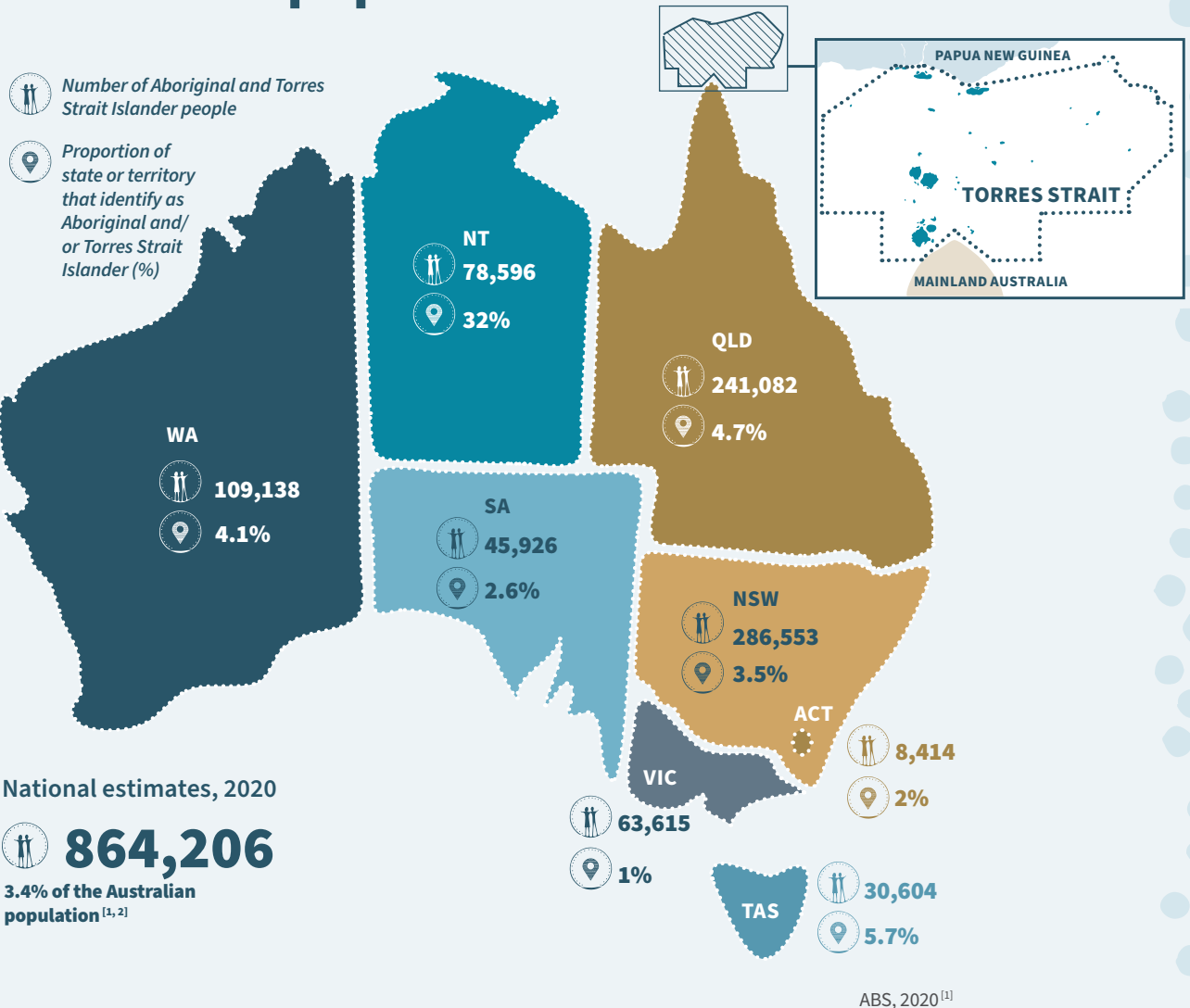
It's important to note that data presented from national health surveys were generally calculated from responses by people aged 15 years and over. For children aged 14 years and under, a parent or guardian of a child generally provided responses on behalf of the child.

### Surveys that have informed in this *Summary*

2012-13 Australian Aboriginal and Torres Strait Islander Health Survey	<b>2012-13 AATSIHS</b>
2014-15 National Aboriginal and Torres Strait Islander Social Survey	<b>2014-15 NATSISS</b>
2018-19 National Aboriginal and Torres Strait Islander Health Survey	<b>2018-19 NATSIHS</b>
2019 National Drug Strategy Household Survey	<b>2019 NDSHS</b>

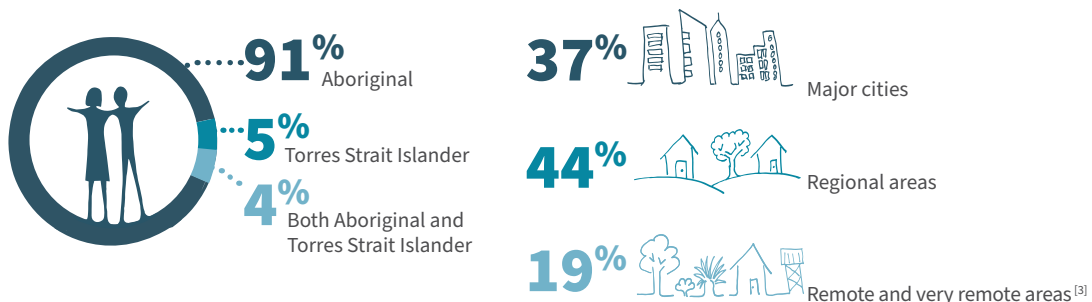


# Aboriginal and Torres Strait Islander population



The Aboriginal and Torres Strait Islander population is much younger overall than the non-Indigenous population<sup>[1,2]</sup>. In 2020, it was estimated that 1/3 of the Aboriginal and Torres Strait Islander population was aged <15 years and just over 5% of Aboriginal and Torres Strait Islander people were aged 65 years+.

More detailed information about the Aboriginal and Torres Strait Islander population can be found in the 2016 Census<sup>[3]</sup>.



32% of the total Aboriginal and Torres Strait Islander population were located in the regions of Brisbane, NSW Central and North Coast and Sydney-Wollongong<sup>[4]</sup>.

# Social and cultural determinants of health

## among Aboriginal and Torres Strait Islander people

Factors known as the ‘social and cultural determinants of health’ impact the health and wellness of individuals<sup>[1]</sup>. They are the conditions that people are born into, grow and live in and include<sup>[2]</sup>:


- early child development
- employment
- education
- access to health care
- social exclusion

Recent information about some of these social and cultural determinants is available for the Aboriginal and Torres Strait Islander population. These determinants play a large part in health inequities between population groups<sup>[2]</sup>, such as the differences between Aboriginal and Torres Strait Islander people and other Australians.

### Education

In 2020<sup>[3]</sup>:

There were **240,180** school students who identified as Aboriginal and/or Torres Strait Islander. The **retention rate**<sub>1</sub> for secondary students was **60%**.


 **Highest retention rates** were found in the **ACT** (99%) and **SA** (75%), while **lowest** the rates were found in the **NT** (36%) and **NSW** and **WA** (both 56%).


Aboriginal and Torres Strait Islander students at, or above the national minimum standard, 2019<sup>[4]</sup>

	Year 3	Year 5	Year 7	Year 9
<b>Reading</b>	83%	78%	78%	72%
<b>Writing</b>	85%	73%	65%	53%
<b>Numeracy</b>	81%	80%	76%	84%

The 2016 Australian Census reported for Aboriginal and Torres Strait Islander people<sup>[5]</sup>:

**47%**   
aged 20-24 years had completed year 12

**37%**   
aged 15 years+ had completed vocational or tertiary studies


**15,395**   
were studying at university

### Employment and income

The 2016 Australian Census reported for Aboriginal and Torres Strait Islander people<sup>[5]</sup>:

**70%**   
aged 15 to 24 years were either in full or part time employment, education or training

**53%**   
reported a household weekly income<sub>2</sub> of **\$150-\$799**

**47%**   
aged 15-64 years were employed

1. Students who started school in year 7/8 and continued through to year 12.

2. This is based on equivalised household income, which is a special calculation that allows us to compare the incomes of different types of households.

# Births and pregnancy

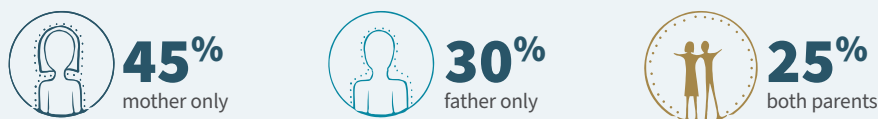
## among Aboriginal and Torres Strait Islander people

There were **21,925 births<sub>1</sub>** registered in Australia where one or both parents were Aboriginal and/or Torres Strait Islander in 2019<sup>[1]</sup>.

This represented **7.2% of all births** registered in Australia in 2019.



Aboriginal and/or Torres Strait Islander status of parents for births registered:



### Babies

Low birthweight (LBW) is a birthweight of less than 2,500 grams<sup>[2]</sup>. Babies with LBW are at greater risk of health problems and death<sup>[3]</sup>.

For babies born to Aboriginal and Torres Strait Islander mothers in 2018<sup>[4]</sup>:



### Mothers

Antenatal (pre-birth) care from health professionals during pregnancy supports positive health outcomes for mother and child, especially when provided during the first trimester (12 weeks) of pregnancy<sup>[5,6]</sup>.



For Aboriginal and Torres Strait Islander mothers who gave birth in 2019<sup>[1]</sup>:

**The median age was 26 years**  
**59% were aged 20-29 years**  
**11% were teenagers**

The total fertility rate<sub>2</sub> was

**2,316** births } **per 1,000** women



Smoking while pregnant is known to be a major factor in babies having LBW<sup>[7]</sup>.

In 2018, **2 out of 5 mothers reported smoking** during pregnancy<sup>[4]</sup>.

1. Likely to be underestimated as Indigenous status is not always identified, and there may be a delay in birth registrations.

2. The total fertility rate is the number of children born to 1,000 women at the current level and age pattern of fertility.

# Deaths

## among Aboriginal and Torres Strait Islander people

In 2019, there were **3,787 deaths**<sub>1</sub> registered for Aboriginal and/or Torres Strait Islander people<sup>[1]</sup>. This accounts for **2.2% of all deaths in Australia** for 2019. Deaths from **avoidable causes**<sub>2</sub> accounted for **61%** of all deaths in the five-year period 2014-2018<sup>[2]</sup>.

Leading causes of death<sup>[3]</sup>:



Ischaemic heart disease



Chronic lower respiratory disease



Diabetes



Lung and related cancers

In 2019<sup>[1]</sup>:

The age standardised death rate was **9.1 per 1,000**

The **median age at death** was **60.4 years**

The rate of deaths for **babies** 12 months or younger was **5.8 per 1,000**

The **life expectancy** for Aboriginal and Torres Strait Islander people born in 2015-2017 was<sup>[4]</sup>:



**71.6** years  
males



**75.6** years  
females

Life expectancy was **lower for people living in remote areas**



**males**



**72.1** years

in major cities



**females**



**76.5** years

in major cities



**65.9** years

in remote and very remote areas



**69.6** years

in remote and very remote areas



In July 2020, a new national agreement on *Closing the gap* was endorsed by Aboriginal and Torres Strait Islander leaders. Specific outcomes, targets and monitoring measures were set for life expectancy; deaths; leading causes of death; and potentially avoidable deaths<sup>[2]</sup>.

1. The ABS notes that the actual number of deaths may be slightly higher because of inaccurate data or delays in registration.

2. Deaths that could have been prevented with timely and effective health care, including early detection and effective treatment.

# Hospitalisations

## among Aboriginal and Torres Strait Islander people

Hospital statistics provide some information about the health of a population and give governments information on how well the health system is managing<sup>[1,2]</sup>. However, they provide only a part of the overall picture of health because:

- they only report on conditions that are serious enough to require hospitalisation
- depending on where they live, not everyone has access to hospitals
- different hospitals may have different admission policies and procedures for illnesses
- the statistics relate to events of hospitalisation rather than to individual patients, i.e. one person may be hospitalised several times in the time period<sup>[3-6]</sup>.

In 2018-19 there were<sup>[8]</sup>:

**558,553** hospitalisations

**4.9%** of all hospitalisations



**57%**  
Female



**43%**  
Male



**92%**  
Aboriginal people



**4.3%**  
Torres Strait Islander people



**4.2%**  
both Aboriginal and Torres Strait Islander

A key factor in the higher rates of hospitalisation for Aboriginal and Torres Strait Islander people is dialysis treatment for kidney disease, which involves repeat admissions for the same patients.

Leading causes of Aboriginal and Torres Strait Islander hospitalisation in 2018-19<sup>[8]</sup>:



**47%**

Dialysis



**6.7%**

Injuries



**5.4%**

Respiratory conditions



**5.2%**

Pregnancy and birth



**5.0%**

Digestive conditions



## Potentially preventable hospitalisations

Potentially preventable hospitalisations are hospitalisations that could have been avoided with preventative care actions and early disease management. They can be used as a way to measure how easily people can access primary health or community care and how effective it is<sup>[7]</sup>. These hospitalisations are calculated for chronic conditions (such as diabetes) and conditions that can be prevented with vaccinations.

In 2018-19, the rate of potentially preventable hospitalisations among Aboriginal and Torres Strait Islander people was **75 per 1,000**<sup>[8]</sup>.

The highest rates for potentially preventable hospitalisations were for:

Chronic conditions	<b>36</b>	} <b>per 1,000</b>
Acute conditions	<b>29</b>	
Vaccine-preventable conditions	<b>11</b>	

# Cardiovascular health

## among Aboriginal and Torres Strait Islander people

Cardiovascular disease (CVD) is the common term for all of the diseases and conditions that affect the heart and blood vessels<sup>[1]</sup>. These include<sup>[1,2]</sup>:

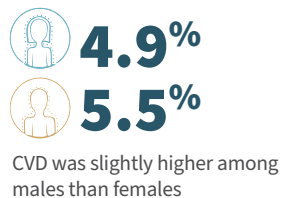
- ischaemic heart disease (IHD)
- heart failure
- peripheral vascular disease
- cerebrovascular disease (including stroke) which affects blood vessels in the brain
- rheumatic heart disease (RHD).

The term also includes high blood pressure which is associated with CVD<sup>[2]</sup>. CVD is a serious problem for the Aboriginal and Torres Strait Islander population<sup>[3]</sup>. Many people report having CVD, and it is a leading cause of both hospitalisation and death.



### Prevalence

The National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) 2018-19<sup>[4]</sup> reported:



### Risk factors

Risk factors for CVD include<sup>[5-7]</sup>:



Smoking



Drinking alcohol at risky levels



Lack of physical activity



Unhealthy weight



Depression and social isolation



Unhealthy diet



High blood pressure



High cholesterol

In 2018-19, about **one quarter of Aboriginal and Torres Strait Islander adults had high blood pressure**<sup>[4]</sup>. Other health conditions like diabetes and chronic kidney disease can also increase the risk of developing CVD<sup>[7]</sup>.

Due to the high prevalence of CVD among Aboriginal and Torres Strait Islander people, it is now recommended for all adults to participate in regular screening for CVD risk factors from the age of 18 years<sup>[7]</sup>.



## Hospitalisations

**16,124** hospitalisations for CVD in 2018-19<sup>[8]</sup>

**5.4%** of all Aboriginal and Torres Strait Islander hospitalisations

At a crude rate of **19 per 1,000**

Although rates of CVD are highest among older people, CVD is recognised as having a substantial impact on younger Aboriginal and Torres Strait Islander people.

**22 in every 1,000**

2015-17 rate of hospitalisations for CVD in Aboriginal and Torres Strait Islander people aged **35-44**<sup>[9]</sup>.

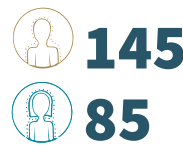


## Deaths

About one quarter of all deaths were caused by CVD in 2014-2018<sup>[9]</sup>.



IHD was the leading cause of deaths in 2019<sup>[10]</sup>.



per 100,000

The rates of deaths due to **IHD increased with age**, however, concerningly, it was the leading cause of death among the **35-44 year age group** and the fourth leading cause of death among the **25-34 year age group** in 2019<sup>[10]</sup>.



## Acute rheumatic fever (ARF) and rheumatic heart disease (RHD)

**ARF and RHD are preventable health problems** that affect many Aboriginal and Torres Strait Islander people and communities<sup>[11]</sup>. RHD occurs when ARF, a sickness caused by the germ *Streptococcus*, leads to permanent damage to the heart valves. Risk factors for ARF include overcrowding and poor sanitation<sup>[11, 12]</sup>.

In NSW, Qld, WA, SA and the NT, from 2015 to 2017<sup>1</sup>, there were<sup>[13]</sup>:

**1,265**  
Episodes of **ARF**



More than half of these episodes were in people aged **under 15 years**



**Nearly 60%** of episodes were in the NT

**730**  
New diagnoses of **RHD**

The rate for females was about double the rate for males<sup>[13]</sup>.



**x2**

A roadmap for ending RHD in Australia by 2031 was released in 2020<sup>[11]</sup>.

<sup>1</sup> Among Aboriginal and Torres Strait Islander people <45 years.

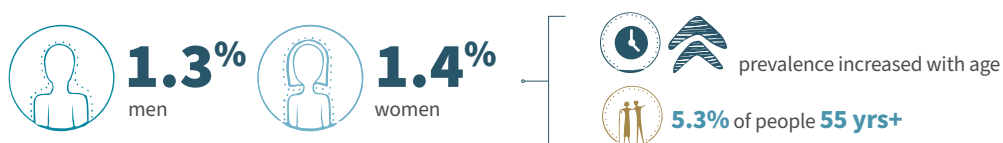
# Cancer


## among Aboriginal and Torres Strait Islander people

Cancer (also known as neoplasms) is the term used for a number of related diseases that cause damage to healthy body cells causing them to grow abnormally<sup>[1]</sup>. Cancer can start almost anywhere in the body and there are more than 200 types of cancer<sup>[2]</sup>. The location in the body where the cancer cells begin forming is known as the primary site. For example, lung cancer begins in the lungs. When cancer cells spread to other parts of the body parts it is known as 'metastasis'. The information available about cancer incidence, hospitalisations and deaths generally only identifies the primary site of cancer, even if it has spread.

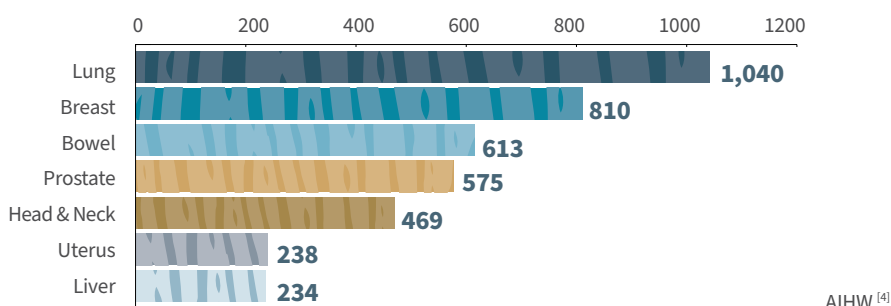
### Incidence and prevalence

In the 2018-19 NATSIHS<sup>[3]</sup>, **1.3%** of Aboriginal and Torres Strait Islander people reported having neoplasms (including both cancerous and non-cancerous tumours).



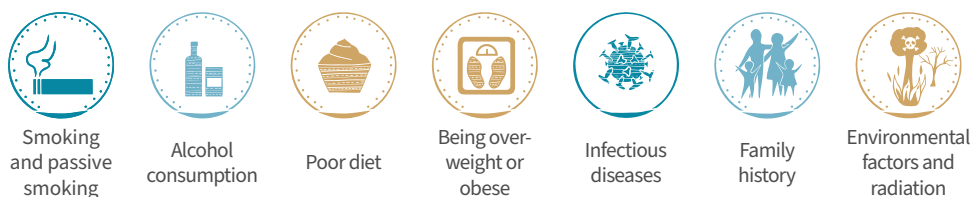
 In 2011-2015, **6,925** new cases of cancer were diagnosed, an average of **1,385** new cases per year<sup>[4]</sup>.

New cases of the most common cancers:



### Risk factors

Different types of cancer have different risk factors and sometimes cancers can develop for no known reason<sup>[5]</sup>. Risk factors for the common types of cancer include<sup>[6]</sup>:



The high incidence of some types of cancer among Aboriginal and Torres Strait Islander people can be partly explained by the higher level of risk factors, most notably smoking<sup>[7]</sup>. This is the main contributing factor to the high incidence of lung cancer.



## ✓ Survival

For the period 2006-2015, the likelihood of **surviving five years after a cancer diagnosis was 51%** <sup>[4]</sup>.



The relative survival rates for males was lower than for females.

The highest observed survival rates were found in prostate cancer, while lung cancer had the lowest <sup>[4]</sup>.



## ✚ Hospitalisations

In 2018-19, there were **9,357 hospitalisations** for cancer, representing **3.1%** of all hospitalisations <sup>[8]</sup>.

In 2015-17, there were **24,871 cancer-related hospitalisations** <sup>[4]</sup>.

Of these, **10,323** were for cancer as the principal diagnosis, at a rate of **12 per 1,000**



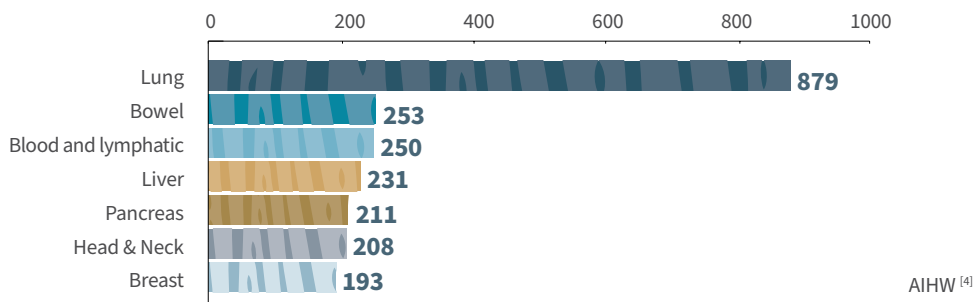
## ☔ Deaths

There were **3,340 deaths** due to cancer in 2014-2018, at a rate of **221 per 100,000** <sup>[4]</sup>



Cancers of the trachea, bronchus and lung combined were the **fourth highest overall cause of death** in 2019 <sup>[9]</sup>.

Number of deaths for selected cancers 2014-2018 <sup>[4]</sup>:



**Factors contributing to cancer deaths** <sup>[10-12]</sup>:

- Having the types of cancers that are more likely to be fatal.
- Being diagnosed with cancer at a later stage.
- Being more likely to present with co-morbidities (other chronic conditions).
- No treatment, or inadequate treatment.

# Diabetes

## among Aboriginal and Torres Strait Islander people

Diabetes (diabetes mellitus) is a chronic condition where the body cannot properly process glucose (sugar) from food<sup>[1]</sup>. Diabetes is treatable but can lead to life-threatening health complications if left untreated or not managed well<sup>[2]</sup>.

There are different types of diabetes with the three most common being:


- **type 1 diabetes**
- **type 2 diabetes**
- **gestational diabetes mellitus (GDM)** (a type of diabetes that occurs in pregnancy).

Diabetes is a serious problem for the Aboriginal and Torres Strait Islander population<sup>[2]</sup>. The most common form is type 2 diabetes, which occurs at earlier ages for Aboriginal and Torres Strait Islander people than for non-Indigenous people and is often undetected and untreated.

### Incidence and prevalence

In the 2018-19 NATSIHS **7.9%** of people self-reported diabetes<sup>[3]</sup>:



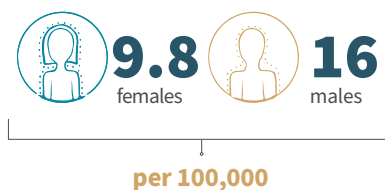
 WA and the NT had the highest levels of diabetes (both **11%**)



**High sugar levels (HSL) are a pre-cursor to diabetes.** In the 2018-19 NATSIHS, **13% of adults** reported having HSL and/or diabetes<sup>[4]</sup>:



In 2019, the incidence rate for **type 1 diabetes** was **13 per 100,000**<sup>[5]</sup>.



 In 2017-18, there were **1,715 new cases of GDM** among Aboriginal and Torres Strait Islander women aged 15-49 years<sup>[6]</sup>.



## Risk factors

Risk factors for diabetes include<sup>[1, 7]</sup>:



Smoking



Obesity



Family history



Other chronic conditions such as kidney disease, cardiovascular disease, liver disease and anaemia.



## Hospitalisations

Hospital services are usually required to treat the advanced stages of complications of diabetes or acute episodes<sup>[2]</sup>.

In 2015-17, there were **6,504 hospitalisations** for diabetes<sup>[4]</sup>:

Crude rate of **4.1** per 1,000

In 2017-18, there were **1,016 hospitalisations** for **type 1** diabetes as a main diagnosis<sup>[8]</sup>:

The crude rate as a main or additional diagnosis was **3.7** per 1,000



**3.7** females



**3.8** males

There were **2,504 hospitalisations** for **type 2** diabetes as a main diagnosis.

The crude rate as a main or additional diagnosis was<sup>[6]</sup> **85** per 1,000



**99** females



**71** males



**2.3x higher** for those living in remote and very remote areas (8.4 per 1,000) than for those living in major cities (3.6 per 1,000)<sup>[8]</sup>.



In 2017-18, there were **589 hospitalisations** for diabetes as the main diagnosis **during pregnancy (GDM)**<sup>[9]</sup>.



The rate of GDM was **more than 5x higher** for those living in remote and very remote areas (119 per 1,000) than for those living in major cities (22 per 1,000).



## Deaths

Diabetes was the **third leading cause of death** for Aboriginal and Torres Strait Islander people in 2019<sup>[10]</sup>.

**239** deaths, **7%** of all deaths



**136** females

Third leading cause of death



**103** males

Fifth leading cause of death



**Qld** recorded the highest number of deaths due to diabetes as an underlying cause

# Kidney health

## among Aboriginal and Torres Strait Islander people

Keeping the kidneys healthy is important because they help the body by removing waste and extra water, and keeping the blood clean and chemically balanced<sup>[1]</sup>. If the kidneys stop working properly, waste can build up in the blood and damage the body<sup>[2]</sup>. Many people are unaware that they have kidney disease as up to 90% of kidney function can be lost before symptoms appear.

Kidney disease is a serious health problem for many Aboriginal and Torres Strait Islander people, in particular chronic kidney disease (CKD) and end-stage kidney disease (ESKD).

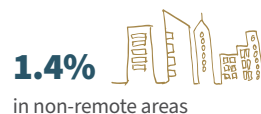
### Incidence and prevalence

For the 2012-13 AATSIHS, **18%** of Aboriginal and Torres Strait Islander adults **had biomedical signs of CKD**<sup>[3]</sup>.

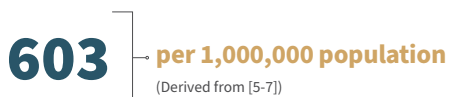
For the 2018-19 NATSIHS, **1.8%** of Aboriginal and Torres Strait Islander people reported kidney disease as a long-term health condition<sup>[4]</sup>.



Prevalence increased with age



For 2014-2018, the incidence rate of ESKD for Aboriginal and Torres Strait Islander people was:



### Risk factors

Risk factors for kidney disease which can be changed or controlled include<sup>[2, 8]</sup>:



Being overweight  
or obese



High blood  
pressure



High blood  
glucose (sugar)



Smoking

Risk factors for Aboriginal and Torres Strait Islander people that cannot be changed or controlled include:



Age (30yrs+)



Family history  
of CKD



Acute kidney  
injury



Vascular  
disease



## Hospitalisations

In 2017-18, the crude rate of **CKD** hospitalisation was **33 per 1,000**<sup>[2]</sup>



In 2018-19, there were **242,274** hospitalisations for **ESKD**<sup>[9]</sup>

In 2016-18, the crude rate of ESKD hospitalisation was **278 per 1,000**<sup>[9]</sup>



In 2016-18, the rate for people living in remote and very remote locations (681 per 1,000) was **5x higher** than for those living in major cities (137 per 1,000)<sup>[9]</sup>.

Managing kidney disease may involve dialysis, which involves artificially filtering the blood. This often requires the patient being admitted to hospital, although in some circumstances the treatment can be performed at home. If kidney disease is left untreated a kidney transplant may be required<sup>[2]</sup>. Kidney disease impacts a patient's quality of life as well as those who care for them<sup>[10-12]</sup>. Treatments can be expensive and require frequent travel to medical facilities<sup>[13]</sup>.

### Dialysis:



**Dialysis is the most common reason** Aboriginal and Torres Strait Islander people are hospitalised<sup>[14]</sup>.

In 2017-18, the rate of hospitalisation for regular dialysis was **284 per 1,000**<sup>[2]</sup>.

In 2019, **378** people commenced dialysis, **up from 322** in 2018<sup>[15]</sup>.

**Kidney transplants:** In 2019, there were **55 transplant operations**<sup>[15]</sup>.



### Deaths

In 2019, there were **83 deaths due to diseases of the urinary system** (including disorders of the bladder and urethra, as well as disease of the kidneys and ureters) It was the **8<sup>th</sup>** underlying cause of death for women and the **14<sup>th</sup>** underlying cause of death for men<sup>[16]</sup>.

For 2016-2018, the crude death rate for CKD as an underlying or associated cause of death was



In 2018, 217 Aboriginal and Torres Strait Islander people who were receiving dialysis died<sup>[17]</sup>. The most common causes of death for the dialysis patients were CVD (64 deaths) and withdrawal from treatment (51 deaths).

# Sexual transmitted infections

## among Aboriginal and Torres Strait Islander people

Sexually transmissible infections (STIs) are spread through sexual contact and include:

- **bacterial infections** such as chlamydia, gonorrhoea and syphilis
- **viral infections** such as human papillomavirus (HPV) and genital herpes
- **parasitic infections** such as trichomoniasis.

Most STIs are treatable although early detection is important<sup>[1]</sup>. Safe sex practices, such as using condoms, are recommended to prevent exposure and the spread of STIs.



### Incidence and prevalence of some notifiable<sup>1</sup> STIs

In 2018, there were<sup>[2]</sup>:

<b>6,897</b> notifications of chlamydia	<b>1,242</b>	} rate per 100,000
<b>4,439</b> notifications of gonorrhoea	<b>717</b>	
<b>791</b> notifications of syphilis	<b>101</b>	

Young people are particularly vulnerable to bacterial STIs<sup>[3]</sup>. The median age of diagnoses in 2017:



chlamydia	<b>21 years</b>
gonorrhoea	<b>22 years</b>
syphilis	<b>27 years</b>

In 2017, **people aged 15-29 years** accounted for **82% of chlamydia notifications** in the Aboriginal and Torres Strait Islander population.

In 2017<sup>[3]</sup>:



Females were **2x** more likely to be diagnosed with chlamydia than males.



Females were **1.2x** more likely to be diagnosed with gonorrhoea than males.



Syphilis notifications were **50%** for males and females.



In 2017, **Qld** (45%) and the **NT** (35%) accounted for **80% of the syphilis notifications** from all states and territories, with WA having the next highest reported notifications (9.2%)<sup>[3]</sup>.

For more information about STIs and other aspects of sexual health visit the Australian Indigenous HealthInfoNet's **new online sexual health portal** [healthinonet.ecu.edu.]

1. A disease required by law to be reported to government authorities in order to monitor its spread.

# Environmental health

## among Aboriginal and Torres Strait Islander people

Environmental health refers to the physical, chemical and biological factors which impact a person's health and wellbeing such as: housing conditions; drinking water; air quality; sanitation; disease control and food safety<sup>[1,2]</sup>. Health conditions associated with poor environmental health include:

- infectious diseases of the bowels (such as 'gastro')
- skin infections (such as scabies, boils)
- middle ear infections
- chronic diseases (such as ARF)
- respiratory issues
- some cancers<sup>[3,4]</sup>.

Aboriginal and Torres Strait Islander people are disproportionately affected by the diseases associated with environmental health due to:

- the remoteness of some communities
- lack of adequate housing
- lack of cleaning, health and personal care equipment
- poor infrastructure
- lack of access to tradespeople and repairs
- the cost of maintenance<sup>[2-5]</sup>.



### Overcrowding



**18%** of Aboriginal and Torres Strait Islander people were living in an **overcrowded house in 2016**<sup>[6]</sup>.

In 2018-19, overcrowding was:



Highest in the **NT (51%)** and lowest in the **ACT (8%)**<sup>[1]</sup>.



### Infrastructure

In 2018-19<sup>[1]</sup>:

✓ **94%** of households in major cities reported functioning facilities for washing people, bedding and clothes, preparing/storing food and sewerage.

✓ **80%** of Aboriginal and Torres Strait Islander households reported living in housing of an acceptable<sub>1</sub> standard.

! **33%** of Aboriginal and Torres Strait Islander households reported major structural issues, **compared with 26%** in 2014-15.

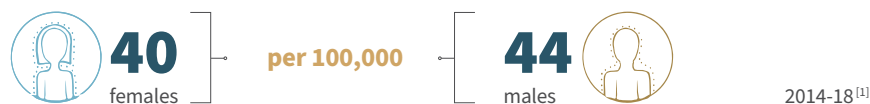
! Households with major structural issues **increased with remoteness.**



### Hospitalisations for diseases related to environmental health



### Deaths related to poor environmental health



1. Housing of an 'acceptable' standard must have at least four working household facilities and not more than two major structural problems<sup>[1]</sup>.

# Social and emotional wellbeing

(including mental health) among Aboriginal and Torres Strait Islander people

For many Aboriginal and Torres Strait Islander people, social and emotional wellbeing (SEWB) includes mental health and also:

- connection to country
- culture
- spirituality
- the body and emotions
- ancestry, family and community<sup>[1, 2]</sup>.

Colonisation has had a long-lasting impact on the wellbeing of Aboriginal and Torres Strait Islander people through experiences such as:

- discrimination and racism
- economic exclusion
- child removal by the state
- exposure to violence
- grief and loss
- intergenerational trauma<sup>[3-5]</sup>.

Factors that have been found to support wellbeing include:

- cultural continuity
- self-determination
- supporting Indigenous knowledge systems
- maintaining family networks
- strong community governance<sup>[2, 5]</sup>.



## Prevalence

### Psychological distress

In the 2018-19 NATSIHS, **31%** of Aboriginal and Torres Strait Islander respondents aged 18 years and over reported high or very high levels of psychological distress<sup>[6]</sup>.



**31%**

of Aboriginal people



**23%**

of Torres Strait Islander people

More women reported high or very high levels of psychological distress compared with men.



**35%**

Women



**26%**

Men

**28%**



in remote areas

**31%**



in non-remote areas



## Mental health conditions

In the 2018-19 NATSIHS <sup>[6]</sup>:

**25%** of Aboriginal and **17%** of Torres Strait Islander people aged two years and over were reported as having a mental and/or behavioural condition.



**17%**  
**Anxiety** was the most common mental health condition



**13%**  
**Depression** was the second most common mental health condition

Mental health conditions were more likely to be reported by people living in non-remote areas compared with remote areas.



## Hospitalisations

In 2018-19 <sup>[7]</sup>:

There were **23,700** hospitalisations of Aboriginal and Torres Strait Islander people for **mental** and **behavioural** disorders.

**8.0%**  
of all hospitalisations

Intentional **self-harm**<sub>1</sub> was responsible for **2,980** hospitalisations.

**0.5%**  
of all hospitalisations



## Deaths

In 2019, **195 people died** from intentional self-harm (suicide) <sup>[8]</sup>.

**Suicide was the fifth leading cause of death** overall in 2019 for Aboriginal and Torres Strait Islander people.

Suicide was



**x3** more likely to be a cause of death for males as for females

Between 2015-2019, the rate of suicide deaths increased from <sup>[8]</sup>:



**WA** consistently records the **highest death rates for suicide.**

1. Intentional self-harm as a principal diagnosis for external causes of injury or poisoning for Aboriginal and Torres Strait Islander people.

# Alcohol use

## among Aboriginal and Torres Strait Islander people

Drinking too much alcohol, both on single drinking occasions (binge drinking) and over a person's lifetime can lead to health and social harms including:

- chronic diseases
- injury and transport accidents
- mental health disorders
- intergenerational trauma
- violence

Alcohol use not only affects individuals, but also families and the wider community<sup>[1,2]</sup>.

The 2020 National Health and Medical Research (NHMRC) *Australian guidelines to reduce health risks from drinking alcohol* provide recommendations on reducing the risk of alcohol-related harm for adults, young people, and women who are pregnant or breastfeeding<sup>[3]</sup>:

- **Guideline 1** recommends that to reduce the risk of alcohol-related disease or injury, men and women should drink no more than four standard drinks on any day or no more than 10 standard drinks in a week.
- **Guideline 2** recommends that to reduce the risk of alcohol-related harm and injury, children and people aged under 18 years should not drink alcohol.
- **Guideline 3** recommends that to prevent alcohol-related harm to an unborn child, women who are planning a pregnancy, or who are pregnant, should not drink alcohol. For women who are breastfeeding, not drinking alcohol is the safest option for their baby.



## Abstinence and alcohol consumption

The following information was self-reported by participants in the 2018-19 NATSIHS<sup>[4]</sup>:

### Abstinence (no consumption of alcohol) in the last 12 months



26%

of Aboriginal people



23%

of Torres Strait Islander people

**aged 18 years or older** had not drunk alcohol or had not done so for more than 12 months.



The proportion of people who were abstinent was highest for **aged 55 years** and older.

43%

in very remote areas

19%

in major cities

The proportion of people who were abstinent was higher for people living in remote and very remote areas than non-remote areas

### Short-term risk (no more than four drinks on a single occasion)

54% of people reported **exceeding the short-term risk guideline**<sup>1</sup>

Men were **1.5x** more likely to exceed the guideline when compared with women



**65%**  
men



**43%**  
women

Young people were more likely to exceed the guideline.



**65%**  
aged 18-24 years

### Lifetime risk (no more than two standard drinks on a single day)



**20%**  
of Aboriginal



**24%**  
of Torres Strait Islander people

reported exceeding the guideline for lifetime risk<sup>1</sup>

Men were **3x** more likely to exceed the guideline for lifetime risk compared with women



**30%**  
men



**10%**  
women

**17%** **21%** The proportion of people exceeding the guideline for lifetime risk was higher for people living in non-remote areas compared with remote areas



## Hospitalisations

In 2016-18<sup>[5]</sup>, the crude alcohol-related hospitalisation rate was **7.6 per 1,000**



**6.8**  
females

per 1,000



**8.4**  
males



## Deaths

For 2014-2018<sup>[5]</sup>, the rate of deaths due to alcohol use was **2.9x higher for males** than for females.



**11**  
females

per 100,000



**31**  
males

The main cause of alcohol-related deaths was **alcoholic liver disease**.



Some good news was that between 2010 and 2019 there was a reduction in the proportion of Aboriginal and Torres Strait Islander people aged 14 years and older exceeding the 2009 alcohol guidelines for lifetime risk<sup>[6]</sup>.



**32%**  
in 2010



**19%**  
in 2019

In 2018-19, **90% of mothers of Aboriginal and Torres Strait Islander children** (aged 0-3 years) had not drunk alcohol during their pregnancy<sup>[7]</sup>.

1. The 2018-19 NATSIHS assessed a person's alcohol consumption for short-term and lifetime risk using the previous (2009) NHMRC alcohol guidelines.

# Illicit drug use

## among Aboriginal and Torres Strait Islander people

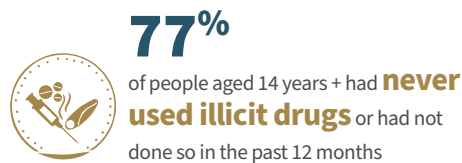
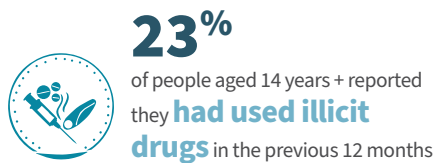
Illicit drug use is the use of illegal drugs such as cannabis, heroin, cocaine and methamphetamine, as well as the use of prescribed drugs, such as painkillers, in ways in which they were not intended or prescribed<sup>[1,2]</sup>. Illicit drug use is associated with an increased risk of mental illness, poisoning, self-harm, infection with blood borne viruses from unsafe injection practices, chronic disease and death<sup>[3-5]</sup>.

Most Aboriginal and Torres Strait Islander people do not use illicit drugs<sup>[6-8]</sup>.

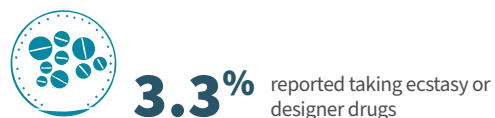


### Prevalence

In the 2019 National Drug Strategy Household Survey (NDSHS)<sup>[8]</sup>:



In the 2018-19 NATSIHS<sup>[7]</sup>, people aged 15 years + reported **specific drug** use over the previous 12 months:



Illicit drug use was **1.8x** higher among males than females<sup>[7]</sup>:



In 2018-19, the most common principal drugs of concern that Aboriginal and Torres Strait Islander people **sought treatment** for were **amphetamines, cannabis and heroin**<sup>[9]</sup>.

1. Drugs included in the 'other' category includes heroin, cocaine, petrol, LSD/synthetic hallucinogens, naturally occurring hallucinogens, kava, methadone and other inhalants.



## Hospitalisations

The top two reasons for **drug-related hospitalisations** among Aboriginal and Torres Strait Islander people in 2018-19 were **mental and behavioural disorders** (crude rate of 4.7 per 1,000) and **poisoning** (crude rate of 3 per 1,000)<sup>[10]</sup>.

The **most common drugs** to cause mental and behavioural disorders requiring hospitalisation in 2016-18 were<sup>[7]</sup>:



Hospitalisation rates due to drug use were higher in major cities than in inner and outer regional areas, and remote and very remote areas<sup>[10]</sup>.



## Deaths

For the period 2014-2018<sup>[10]</sup>:

Rates of drug induced deaths were **1.5x** higher for males (17 per 100,000) than for females (11 per 100,000)

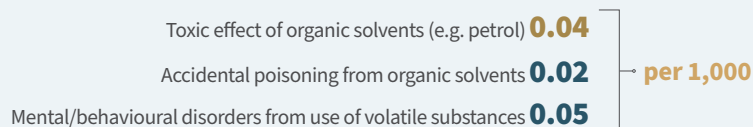


## Volatile substance use

Volatile substance use (VSU) involves sniffing inhalants - substances that give off fumes such as petrol, paint, glue or deodorants<sup>[11]</sup>. Sniffing can have serious short and long-term health effects, including a condition known as sudden sniffing death which causes the heart to stop within minutes<sup>[12]</sup>.

In the 2014-15 NATSISS, **0.7%** of Aboriginal and Torres Strait Islander people aged 15 years and over **reported using petrol and other inhalants** in the 12 months prior to the survey<sup>[13]</sup>.

Rates of hospitalisation caused by VSU for 2016-18<sup>[10]</sup>:



Overall, the number of people using volatile substances is small but the issue of VSU is still a concern in some communities<sup>[14]</sup>. Positively, one study reported a **95% reduction of VSU between 2006 and 2018**, attributed to the replacement of regular unleaded petrol with low aromatic fuel (LAF).

2. ICD code F15 hospitalisation from use of other stimulants includes amphetamine-related disorders and caffeine but not cocaine.

# Tobacco use

## among Aboriginal and Torres Strait Islander people

Tobacco smoking increases the risk of chronic disease, such as CVD, many forms of cancer, and lung diseases, as well as being a risk factor associated with preterm birth and LBW [1]. Environmental tobacco smoke (passive smoking) can also make people sick, especially children. Passive smoking is a risk factor for children who are particularly susceptible to middle ear infections, asthma and increased risk of SIDS.

### Smoking among Aboriginal and Torres Strait Islander people

In the 2018-19 NATSIHS [2]:

**37%** of people aged 15 years+ reported they were current daily smokers



**39%**  
males



**36%**  
females

The age-group with the **highest** proportion of current daily smokers was **35-44 years**



**47%**

People living in **remote areas** reported a **higher proportion** of current daily smokers than those living in non-remote areas



**49%**  
remote areas



**35%**  
non-remote areas



### Passive smoking reported in the 2014-15 NATSISS [3]



**57%** of Aboriginal and Torres Strait Islander children aged 0-14 years lived in households with a daily smoker.



For those children living with a daily smoker, **13%** were living in households where people smoked indoors.



The good news is the proportion of **young people starting to smoke has decreased**, which will result in improved health outcomes over time.

Daily smoking rates reduced between the 2012-13 AATSIHS and the 2018-19 NATSIHS [2]:

**15-17** year olds  
decreasing from 18% to

**9.7%**

**18-24** year olds  
decreasing from 42% to

**36%**

**25-34** year olds  
decreasing from 52% to

**44%**



In a 2017 survey, **70%** of Aboriginal and Torres Strait Islander students (aged 12-17 years) had **never smoked tobacco**, a significant increase from 49% in 2005 [4].



The proportion of Aboriginal and Torres Strait Islander mothers who reported smoking during pregnancy **has decreased** from 52% in 2009 to **44%** in 2018 [5].

# References

## Introduction

1. Dudgeon, P., Wright, M., Paradies, Y., Garvey, D., & Walker, I. (2014). Aboriginal social, cultural and historical contexts. In P. Dudgeon, H. Milroy & R. Walker (Eds.), *Working together: Aboriginal and Torres Strait Islander mental health and wellbeing principles and practice* (2nd ed., pp. 3-24). Canberra: Department of The Prime Minister and Cabinet.
2. National Aboriginal Community Controlled Health Organisation. (2013). *Healthy Futures 2013-2030: NACCHO 10 point plan*. Canberra: National Aboriginal Community Controlled Health Organisation.
3. Gee, G., Dudgeon, P., Schultz, C., Hart, A., & Kelly, K. (2014). Aboriginal and Torres Strait Islander social and emotional wellbeing. In P. Dudgeon, H. Milroy & R. Walker (Eds.), *Working together: Aboriginal and Torres Strait Islander mental health and wellbeing principles and practice* (2nd ed., pp. 55-68). Canberra: Department of The Prime Minister and Cabinet.
4. Steering Committee for the Review of Government Service Provision. (2016). *Overcoming Indigenous disadvantage: key indicators 2016 report*. Canberra: Productivity Commission.
5. Australian Indigenous HealthInfoNet. (2021). *Overview of Aboriginal and Torres Strait Islander health status 2020*. Perth: Australian Indigenous HealthInfoNet.

## Population

1. Australian Bureau of Statistics. (2020). *National, state and territory population*. Retrieved 19 December 2020 from <https://www.abs.gov.au/statistics/people/population/national-state-and-territory-population/latest-release#methodology>
2. Australian Bureau of Statistics. (2019). *Estimates and projections, Aboriginal and Torres Strait Islander Australians, 2006 to 2031*. Canberra: Australian Bureau of Statistics.
3. Australian Bureau of Statistics. (2018). *Estimates of Aboriginal and Torres Strait Islander Australians, June 2016*. Retrieved 31 August 2018 from <https://www.abs.gov.au/ausstats/abs@.nsf/mf/3238.0.55.001>
4. Australian Bureau of Statistics. (2017). *Census of population and housing - counts of Aboriginal and Torres Strait Islander Australians, 2016*. Canberra: Australian Bureau of Statistics.

## Social and cultural determinants of health

1. National Aboriginal Community Controlled Health Organisation. (2013). *Healthy Futures 2013-2030: NACCHO 10 point plan*. Canberra: National Aboriginal Community Controlled Health Organisation.
2. World Health Organization. (2016). *What are social determinants of health?* Retrieved 2016 from [http://www.who.int/social\\_determinants/sdh\\_definition/en/](http://www.who.int/social_determinants/sdh_definition/en/)
3. Australian Bureau of Statistics. (2021). *Schools, Australia, 2020*. Retrieved from <https://www.abs.gov.au/statistics/people/education/schools/2020>
4. Australian Curriculum Assessment and Reporting Authority. (2020). *National Assessment Program - Literacy and Numeracy: achievement in reading, writing, language conventions and numeracy: national report for 2019*. Sydney: Australian Curriculum Assessment and Reporting Authority.
5. Australian Bureau of Statistics. (2017). *Census of population and housing: reflecting Australia - stories from the Census, 2016: Aboriginal and Torres Strait Islander population*. Retrieved 28 June 2017 from <https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/2071.02016?OpenDocument>

## Births and pregnancy

1. Australian Bureau of Statistics. (2020). *Births, Australia, 2019*. Retrieved 9 December 2020 from <https://www.abs.gov.au/statistics/people/population/births-australia/2019>
2. World Health Organization. (2016). *International Statistical Classification of Diseases and Related Health Problems 10th Revision*. Retrieved 2016 from <http://apps.who.int/classifications/icd10/browse/2016/en#/XIX>
3. Australian Institute of Health and Welfare. (2014). *Birthweight of babies born to Indigenous mothers* (AIHW Catalogue no IHW 138). Canberra: Australian Institute of Health and Welfare.
4. Australian Institute of Health and Welfare. (2020). *Australia's mothers and babies 2018 - in brief*. Canberra: Australian Institute of Health and Welfare.
5. Australian Institute of Health and Welfare. (2020). *Antenatal care use and outcomes for Aboriginal and Torres Strait Islander mothers and their babies 2016-2017*. Canberra: Australian Institute of Health and Welfare.

6. Australian Government Department of Health. (2019). *Clinical practice guidelines: pregnancy care*. Canberra: Australian Government Department of Health.
7. Clarke, M., & Boyle, J. (2014). Antenatal care for Aboriginal and Torres Strait Islander women. *Australian Family Physician*, 43(1/2), 20-24.

## Deaths

1. Australian Bureau of Statistics. (2020). *Deaths, Australia, 2019*. Canberra: Australian Bureau of Statistics.
2. Australian Institute of Health and Welfare, & National Indigenous Australians Agency. (2020). *Aboriginal and Torres Strait Islander Health Performance Framework report*. Retrieved 9/12/2020 from <https://www.indigenoushpf.gov.au/>
3. Australian Bureau of Statistics. (2020). *Causes of death, Australia, 2019*. Retrieved 23 October 2020 from <https://www.abs.gov.au/statistics/health/causes-death/causes-death-australia>
4. Australian Bureau of Statistics. (2018). *Life tables for Aboriginal and Torres Strait Islander Australians, 2015-2017* (ABS Cat. no. 3302.0.55.003). Canberra: Australian Bureau of Statistics.

## Hospitalisations

1. Australian Institute of Health and Welfare, & Australasian Association of Cancer Registries. (2012). *Cancer in Australia: an overview 2012* (AIHW Catalogue no CAN 70, cancer series no 74). Canberra: Australian Institute of Health and Welfare.
2. Thomson, N., & Ali, M. (2003). Births, deaths, and hospitalisation. In N. Thomson (Ed.), *The health of Indigenous Australians* (pp. 44-74). South Melbourne: Oxford University Press.
3. Australian Institute of Health and Welfare, & National Indigenous Australians Agency. (2020). *Aboriginal and Torres Strait Islander Health Performance Framework report*. Retrieved 9/12/2020 from <https://www.indigenoushpf.gov.au/>
4. Australian Institute of Health and Welfare. (2018). *Australia's health 2018* (Australia's health series no. 16, Cat. no: AUS 221). Canberra: Australian Institute of Health and Welfare.
5. Australian Institute of Health and Welfare. (2019). *Data quality statement: Admitted Patient Care 2017-18*. Retrieved 27 November 2019 from <https://meteor.aihw.gov.au/content/index.phtml/itemId/724188>
6. Australian Institution of Health and Welfare. (2016). *Data quality statement: National Hospital Morbidity Database 2014-15*. Canberra: Australian Institute of Health and Welfare.

7. Australian Institute of Health and Welfare. (2020). *National Healthcare Agreement: Pl 18 - Selected potentially preventable hospitalisations, 2021*. Retrieved 16 September 2020 from <https://meteor.aihw.gov.au/content/index.phtml/itemId/725793>
8. Australian Institute of Health and Welfare. (2020). *Admitted patient care 2018-19*. Canberra: Australian Institute of Health and Welfare.

## Cardiovascular health

1. World Health Organization. (2017). *Cardiovascular diseases (CVDs) [factsheet]*. Retrieved 17 May 2017 from [https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-\(cvds\)](https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-(cvds))
2. World Health Organization. (2016). *International Statistical Classification of Diseases and Related Health Problems 10th Revision*. Retrieved 2016 from <http://apps.who.int/classifications/icd10/browse/2016/en#/XIX>
3. Australian Institute of Health and Welfare. (2016). *Australian Burden of Disease Study: impact and causes of illness and death in Aboriginal and Torres Strait Islander people 2011* (Australian Burden of Disease Study series no. 6, Cat no. BOD 7). Canberra: Australian Institute of Health and Welfare.
4. Australian Bureau of Statistics. (2019). *National Aboriginal and Torres Strait Islander Health Survey, 2018-19*. Canberra: Australian Bureau of Statistics.
5. Australian Institute of Health and Welfare. (2015). *Cardiovascular disease, diabetes and chronic kidney disease - Australian facts: risk factors* (AIHW Catalogue no CDK 004, cardiovascular, diabetes and chronic kidney disease series no 4). Canberra: Australian Institute of Health and Welfare.
6. World Heart Federation. (2017). *Cardiovascular risk factors*. Retrieved 30 May 2017 from <https://www.world-heart-federation.org/resources/risk-factors/>
7. Agostino, J. W., Wong, D., Paige, E., Wade, V., Connell, C., Davey, M. E., . . . Banks, E. (2020). Cardiovascular disease risk assessment for Aboriginal and Torres Strait Islander adults aged under 35 years: a consensus statement. *Medical Journal of Australia*, 212(9), 422-427.
8. Australian Institute of Health and Welfare. (2020). *Admitted patient care 2018-19*. Canberra: Australian Institute of Health and Welfare.
9. Australian Institute of Health and Welfare, & National Indigenous Australians Agency. (2020). *Aboriginal and Torres Strait Islander Health Performance Framework report*. Retrieved 9/12/2020 from <https://www.indigenoushpf.gov.au/>



10. Australian Bureau of Statistics. (2020). *Causes of death, Australia, 2019*. Retrieved 23 October 2020 from <https://www.abs.gov.au/statistics/health/causes-death/causes-death-australia>
11. Wyber, R., Noonan, K., Halkon, C., Enkel, S., Ralph, A., Bowen, A., . . . Carapetis, J. (2020). *The RHD Endgame Strategy: The blueprint to eliminate rheumatic heart disease in Australia by 2031*. Perth: The END RHD Centre of Research Excellence, Telethon Kids Institute.
12. Rheumatic Heart Disease Australia. (2020). *The 2020 Australian guideline for prevention, diagnosis and management of acute rheumatic fever and rheumatic heart disease (3rd edition)*. Darwin: Menzies School of Health Research.
13. Katzenellenbogen, J. M., Bond-Smith, D., Seth, R. J., Dempsey, K., Cannon, J., Stacey, I., . . . Ralph, A. P. (2020). Contemporary incidence and prevalence of rheumatic fever and rheumatic heart disease in Australia using linked data: the case for policy change. *Journal of the American Heart Association*, 9. Retrieved from: <https://doi.org/10.1161/JAHA.120.016851>
8. Australian Institute of Health and Welfare. (2020). *Admitted patient care 2018-19*. Canberra: Australian Institute of Health and Welfare.
9. Australian Bureau of Statistics. (2020). *Causes of death, Australia, 2019*. Retrieved 23 October 2020 from <https://www.abs.gov.au/statistics/health/causes-death/causes-death-australia>
10. Cunningham, J., Rumbold, A. R., Zhang, X., & Condon, J. R. (2008). Incidence, aetiology, and outcomes of cancer in Indigenous peoples in Australia. *The Lancet Oncology*, 9(6), 585-595.
11. Valery, P. C., Coory, M., Stirling, J., & Green, A. C. (2006). Cancer diagnosis, treatment, and survival in Indigenous and non-Indigenous Australians: a matched cohort study. *The Lancet*, 367(9525), 1842-1848.
12. Moore, S. P., Green, A. C., Bray, F., Garvey, G., Coory, M., Martin, J., & Valery, P. C. (2014). Survival disparities in Australia: an analysis of patterns of care and comorbidities among Indigenous and non-Indigenous cancer patients. *BMC Cancer*, 14. Retrieved from: <http://dx.doi.org/10.1186/1471-2407-14-517>

## Cancer

1. National Cancer Institute. (2015). *What is cancer?* Retrieved 2017 from <https://www.cancer.gov/about-cancer/understanding/what-is-cancer>
2. Australian Cancer Research Foundation. (2018). *What is cancer?* Retrieved 2018 from <https://www.acrf.com.au/support-cancer-research/what-is-cancer/>
3. Australian Bureau of Statistics. (2019). *National Aboriginal and Torres Strait Islander Health Survey, 2018-19*. Canberra: Australian Bureau of Statistics.
4. Australian Institute of Health and Welfare, & National Indigenous Australians Agency. (2020). *Aboriginal and Torres Strait Islander Health Performance Framework report*. Retrieved 9/12/2020 from <https://www.indigenoushpf.gov.au/>
5. Australian Institute of Health and Welfare. (2014). *Cancer in Australia: an overview 2014* (AIHW Catalogue no CAN 88, cancer series no 90). Canberra: Australian Institute of Health and Welfare.
6. Australian Indigenous HealthInfoNet. (2020). *Summary of cancer among Aboriginal and Torres Strait Islander people*. Perth: Australian Indigenous HealthInfoNet.
7. Australian Institute of Health and Welfare, & Cancer Australia. (2013). *Cancer in Aboriginal and Torres Strait Islander peoples of Australia: an overview* (AIHW Catalogue no CAN 75, cancer series no78). Canberra: Australian Institute of Health and Welfare.

## Diabetes

1. Australian Institute of Health and Welfare. (2016). *Australia's health 2016*. Canberra: Australian Institute of Health and Welfare.
2. Australian Institute of Health and Welfare. (2015). *Cardiovascular disease, diabetes and chronic kidney disease- Australian facts: Aboriginal and Torres Strait Islander people*. Canberra: Australian Institute of Health and Welfare.
3. Australian Bureau of Statistics. (2019). *National Aboriginal and Torres Strait Islander Health Survey, 2018-19*. Canberra: Australian Bureau of Statistics.
4. Australian Institute of Health and Welfare, & National Indigenous Australians Agency. (2020). *Aboriginal and Torres Strait Islander Health Performance Framework report*. Retrieved 9/12/2020 from <https://www.indigenoushpf.gov.au/>
5. Australian Institute of Health and Welfare. (2020). *Incidence of insulin-treated diabetes in Australia*. Retrieved 9 December 2020 from <https://www.aihw.gov.au/reports/diabetes/incidence-of-insulin-treated-diabetes/contents/incidence-of-insulin-treated-diabetes-in-australia>
6. Australian Institute of Health and Welfare. (2019). *Diabetes*. Retrieved 30 August 2019 from <https://www.aihw.gov.au/reports/diabetes/diabetes/contents/what-is-diabetes>

7. Australian Bureau of Statistics. (2014). *Australian Aboriginal and Torres Strait Islander health survey: biomedical results, 2012-13 - Australia: table 6.3 [data cube]*. Retrieved 10 September 2014 from [http://www.abs.gov.au/AUSSTATS/subscriber.nsf/log?openagent&4727.0.55.003\\_6.xls&4727.0.55.003&Data%20Cubes&F653985C855EA253CA257D4E00170316&0&2012-13&10.09.2014&Latest](http://www.abs.gov.au/AUSSTATS/subscriber.nsf/log?openagent&4727.0.55.003_6.xls&4727.0.55.003&Data%20Cubes&F653985C855EA253CA257D4E00170316&0&2012-13&10.09.2014&Latest)
8. Australian Institute of Health and Welfare. (2020). *Diabetes indicators for the Australian National Diabetes Strategy 2016-2020*. Retrieved 9 December 2020 from <https://www.aihw.gov.au/reports/diabetes/diabetes-indicators-strategy-2016-2020/contents/summary>
9. Australian Institute of Health and Welfare. (2018). *Diabetes indicators for the Australian National Diabetes Strategy 2016-2020*. Retrieved 10 October 2018 from <https://www.aihw.gov.au/reports/diabetes/diabetes-indicators-strategy-2016-2020/contents/summary>
10. Australian Bureau of Statistics. (2020). *Causes of death, Australia, 2019*. Retrieved 23 October 2020 from <https://www.abs.gov.au/statistics/health/causes-death/causes-death-australia>
7. Australian Bureau of Statistics. (2003). *Australian demographic statistics quarterly: September quarter 2002* (ABS catalogue no. 3101.0). Canberra: Australian Bureau of Statistics.
8. National Aboriginal Community Controlled Health Organisation, & Royal Australian College of General Practitioners. (2018). *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people: 3rd edition*. East Melbourne: Royal Australian College of General Practitioners.
9. Steering Committee for the Review of Government Service Provision. (2020). *Overcoming Indigenous disadvantage: key indicators 2020*. Canberra: Productivity Commission.
10. Hughes, J. T., Dembski, L., Kerrigan, V., Majoni, S. W., Lawton, P. D., & Cass, A. (2018). Gathering Perspectives - finding solutions for chronic and end stage kidney disease. *Nephrology*, 23(S1), 5-13.
11. Garrard, E., & McDonald, S. (2019). *Improving access to and outcomes of kidney transplantation for Aboriginal and Torres Strait Islander people in Australia: performance report*. Sydney: The Transplantation Society of Australia and New Zealand.
12. Schwartzkopff, K. M., Kelly, J., & Potter, C. (2020). Review of kidney health among Aboriginal and Torres Strait Islander people. *Australian Indigenous Health Bulletin*, 20(4). Retrieved from: <http://healthbulletin.org.au/articles/review-of-kidney-health-among-aboriginal-and-torres-strait-islander-people/>

## Kidney health

1. Kidney Health Australia. (2020). *Know your kidneys*. From <https://kidney.org.au/your-kidneys/know-your-kidneys>
2. Australian Institute of Health and Welfare. (2020). *Chronic kidney disease*. Retrieved 15 July 2020 from <https://www.aihw.gov.au/reports/chronic-kidney-disease/chronic-kidney-disease/contents/what-is-chronic-kidney-disease>
3. Australian Bureau of Statistics. (2014). *Australian Aboriginal and Torres Strait Islander health survey: biomedical results, 2012-13* (ABS Catalogue no 4727.0.55.003). Canberra: Australian Bureau of Statistics.
4. Australian Bureau of Statistics. (2019). *National Aboriginal and Torres Strait Islander Health Survey, 2018-19*. Canberra: Australian Bureau of Statistics.
5. Australian and New Zealand Dialysis and Transplant Registry. (2019). *End stage renal disease notifications, by Indigenous status, age, jurisdiction and year [2014 to 2018, unpublished]*. Australian and New Zealand Dialysis and Transplant Registry. Adelaide.
6. Australian Bureau of Statistics. (2019). *Estimates and projections, Aboriginal and Torres Strait Islander Australians, 2006 to 2031*. Canberra: Australian Bureau of Statistics.
13. Kidney Health Australia. (2020). *Chronic kidney disease (CKD) management in primary care: 4th edition*. Melbourne: Kidney Health Australia.
14. Australian Institute of Health and Welfare. (2020). *Admitted patient care 2018-19*. Canberra: Australian Institute of Health and Welfare.
15. Australia and New Zealand Dialysis and Transplant Registry. (2020). *The forty-third annual Australia and New Zealand Dialysis and Transplant Registry report 2020*. Adelaide: Australia and New Zealand Dialysis and Transplant Registry.
16. Australian Bureau of Statistics. (2020). *Causes of death, Australia, 2019*. Retrieved 23 October 2020 from <https://www.abs.gov.au/statistics/health/causes-death/causes-death-australia>
17. Australia and New Zealand Dialysis and Transplant Registry. (2019). *The forty-second annual Australia and New Zealand Dialysis and Transplant Registry report 2019*. Adelaide: Australia and New Zealand Dialysis and Transplant Registry.

## Sexual transmitted infections

1. Australian Government Department of Health. (2018). *Fourth National Sexually Transmissible Infections Strategy 2018-2022*. Canberra: Australian Government Department of Health.
2. Kirby Institute. (2020). *National update on HIV, viral hepatitis and sexually transmissible infections in Australia 2009-2018*. Sydney: Kirby Institute.
3. The Kirby Institute. (2018). *Bloodborne viral and sexually transmissible infections in Aboriginal and Torres Strait Islander people: annual surveillance report 2018*. Sydney: The Kirby Institute.

## Environmental Health

1. Steering Committee for the Review of Government Service Provision. (2020). *Overcoming Indigenous disadvantage: key indicators 2020*. Canberra: Productivity Commission.
2. Australian Government Department of Health. (2019). *Report card for the implementation plan for the National Aboriginal and Torres Strait Islander Health Plan 2013-2023*. Canberra: Australian Government Department of Health.
3. Clifford, H. D., Pearson, G., Franklin, P., Walker, R., & Zosky, G. R. (2015). Environmental health challenges in remote Aboriginal Australian communities: clean air, clean water and safe housing. *Australian Indigenous Health Bulletin*, 15(2), 1-14.
4. Lansbury Hall, N., Memmott, P., Barnes, S., Redmond, A., Go-Sam, C., Nash, D., . . . Simpson, P. (2020). *Pilyii papulu purrukaj-ji (good housing to prevent sickness): a study of housing, crowding and hygiene-related infectious diseases in the Barkly Region, Northern Territory*. Brisbane: University of Queensland Global Change Institute.
5. enHealth. (2010). *Environmental health practitioner manual: a resource manual for environmental health practitioners working with Aboriginal and Torres Strait Islander communities*. Canberra: Australian Government Department of Health.
6. Australian Bureau of Statistics. (2018). *Census of population and housing: characteristics of Aboriginal and Torres Strait Islander Australians, 2016*.

## Social and emotional wellbeing

1. Gee, G., Dudgeon, P., Schultz, C., Hart, A., & Kelly, K. (2014). Aboriginal and Torres Strait Islander social and emotional wellbeing. In P. Dudgeon, H. Milroy & R. Walker (Eds.), *Working together: Aboriginal and Torres Strait Islander mental health and wellbeing principles and practice* (2nd ed., pp. 55-68). Canberra: Department of The Prime Minister and Cabinet.

2. Dudgeon, P., Bray, A., Smallwood, G., Walker, R., & Dalton, T. (2020). *Wellbeing and healing through connection and culture*. Sydney: Lifeline.
3. Griffiths, K., Coleman, C., Lee, V., & Madden, R. (2016). How colonisation determines social justice and Indigenous health - a review of the literature. *Journal of Population Research*, 33(1), 9-30.
4. Adams, M., Adams, Y., & Drew, N. (2019). Indigenous psychology in Australia. In W. Wen Li, D. Hodgetts & K. Hean Foo (Eds.), *Asia-Pacific Perspectives on Intercultural Psychology* (pp. 175-197). Abingdon, United Kingdom: Routledge.
5. Zubrick, S. R., Shepherd, C. C. J., Dudgeon, P., Gee, G., Paradies, Y., Scrine, C., & Walker, R. (2014). Social determinants of social and emotional wellbeing. In P. Dudgeon, H. Milroy & R. Walker (Eds.), *Working together: Aboriginal and Torres Strait Islander mental health and wellbeing principles and practice* (2nd edition ed., pp. 93-112 (chapter 116)). Canberra: Department of The Prime Minister and Cabinet.
6. Australian Bureau of Statistics. (2019). *National Aboriginal and Torres Strait Islander Health Survey, 2018-19*. Canberra: Australian Bureau of Statistics.
7. Australian Institute of Health and Welfare. (2020). *Admitted patient care 2018-19*. Canberra: Australian Institute of Health and Welfare.
8. Australian Bureau of Statistics. (2020). *Causes of death, Australia, 2019*. Retrieved 23 October 2020 from <https://www.abs.gov.au/statistics/health/causes-death/causes-death-australia>

## Alcohol use

1. Australian Government Department of Health. (2017). *National drug strategy 2017-2026*. Canberra: Australian Government Department of Health.
2. Australian Institute of Health and Welfare. (2017). *National Drug Strategy Household Survey 2016: detailed findings*. Canberra: Australian Institute of Health and Welfare.
3. National Health and Medical Research Council. (2020). *Australian guidelines to reduce health risks from drinking alcohol*. Canberra: National Health and Medical Research Council.
4. Australian Bureau of Statistics. (2019). *National Aboriginal and Torres Strait Islander Health Survey, 2018-19*. Canberra: Australian Bureau of Statistics.
5. Steering Committee for the Review of Government Service Provision. (2020). *Overcoming Indigenous disadvantage: key indicators 2020*. Canberra: Productivity Commission.

6. Australian Institute of Health and Welfare. (2020). *National Drug Strategy Household Survey 2019* (Drug Statistics series no. 32. PHE 270). Canberra: Australian Institute of Health and Welfare.
7. Australian Institute of Health and Welfare, & National Indigenous Australians Agency. (2020). *Aboriginal and Torres Strait Islander Health Performance Framework report*. Retrieved 9/12/2020 from <https://www.indigenoushpf.gov.au/>
12. National Institute on Drug Abuse. (2012). *NIDA InfoFacts: inhalants*. Retrieved 2010 from <http://drugabuse.gov/infofacts/inhalants.html>
13. Australian Institute of Health and Welfare. (2018). *Aboriginal and Torres Strait Islander Health Performance Framework (HPF) report 2017*. Retrieved 5 December 2018 from <https://webarchive.nla.gov.au/awa/20190508233549/https://www.aihw.gov.au/reports/indigenous-health-welfare/health-performance-framework/contents/overview>

## Illicit drug use

1. Stafford, J., & Breen, C. (2016). *Australian drug trends 2015: findings from the Illicit Drug Reporting System (IDRS)* (Australian Drug Trend Series no. 145). Sydney: National Drug and Alcohol Research Centre.
2. Australian Government Department of Health. (2017). *National drug strategy 2017-2026*. Canberra: Australian Government Department of Health.
3. Degenhardt, L., & Hall, W. (2012). Extent of illicit drug use and dependence, and their contribution to the global burden of disease. *The Lancet*, 379(9810), 55-70.
4. Australian Institute of Health and Welfare. (2016). *Australian Burden of Disease Study: impact and causes of illness and death in Aboriginal and Torres Strait Islander people 2011* (Australian Burden of Disease Study series no. 6, Cat no. BOD 7). Canberra: Australian Institute of Health and Welfare.
5. The Kirby Institute. (2018). *Bloodborne viral and sexually transmissible infections in Aboriginal and Torres Strait Islander people: annual surveillance report 2018*. Sydney: The Kirby Institute.
6. Australian Bureau of Statistics. (2016). *National Aboriginal and Torres Strait Islander Social Survey, 2014-15*. Canberra: Australian Bureau of Statistics.
7. Australian Bureau of Statistics. (2019). *National Aboriginal and Torres Strait Islander Health Survey, 2018-19*. Canberra: Australian Bureau of Statistics.
8. Australian Institute of Health and Welfare. (2020). *National Drug Strategy Household Survey 2019* (Drug Statistics series no. 32. PHE 270). Canberra: Australian Institute of Health and Welfare.
9. Australian Institute of Health and Welfare. (2020). *Alcohol and other drug treatment services in Australia, 2018-19*. Canberra: Australian Institute of Health and Welfare.
10. Steering Committee for the Review of Government Service Provision. (2020). *Overcoming Indigenous disadvantage: key indicators 2020*. Canberra: Productivity Commission.
11. National Drug and Alcohol Research Centre. (2016). *What are inhalants?* (pp. 2). Sydney: National Drug and Alcohol Research Centre.

14. d'Abbs, P., Gillick, V., Hodson, S., Kavanagh, M., Payne, S., & Ray, T. (2019). *Longitudinal research into petrol sniffing and other substance abuse trends in Indigenous communities: final report*. Brisbane: The University of Queensland.

## Tobacco use

1. Australian Health Ministers' Advisory Council. (2017). *Aboriginal and Torres Strait Islander Health Performance Framework: 2017 report*. Canberra: Department of the Prime Minister and Cabinet.
2. Australian Bureau of Statistics. (2019). *National Aboriginal and Torres Strait Islander Health Survey, 2018-19*. Canberra: Australian Bureau of Statistics.
3. Australian Bureau of Statistics. (2016). *National Aboriginal and Torres Strait Islander Social Survey, 2014-15*. Canberra: Australian Bureau of Statistics.
4. Heris, C. L., Guerin, N., Thomas, D. P., Eades, S. J., Chamberlain, C., & White, V. M. (2020). The decline of smoking initiation among Aboriginal and Torres Strait Islander secondary students: implications for future policy. *Australian and New Zealand Journal of Public Health*, 44(5), 397-403.
5. Steering Committee for the Review of Government Service Provision. (2020). *Overcoming Indigenous disadvantage: key indicators 2020*. Canberra: Productivity Commission.







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