

# *Summary of cardiovascular health among Aboriginal and Torres Strait Islander people*



## Australian Indigenous Health/InfoNet

The Australian Indigenous Health/InfoNet's mandate 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 Health/InfoNet also provides easy-to-read and summarised material for students and the general community.

The Health/InfoNet 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 its website ([healthinfonet.ecu.edu.au](http://healthinfonet.ecu.edu.au)). The research involves analysis and synthesis of data and other information obtained from academic, professional, government and other sources. The Health/InfoNet's work in knowledge exchange aims to facilitate the transfer of pure and applied research into policy and practice to address the needs of a wide range of users.

### Recognition statement

The Australian Indigenous Health/InfoNet 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 identity, cultural practices and spiritualities. We recognise that the current health status of Aboriginal and Torres Strait Islander people has been significantly impacted by past and present practices and policies.

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

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### Tell us what you think

We welcome and value your feedback as part of our post-publication peer review process, so please let us know if you have any suggestions for improving this summary.

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# Summary of cardiovascular health among Aboriginal and Torres Strait Islander people

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The summary, reviews and more information about cardiovascular health among Aboriginal and Torres Strait Islander people can be viewed at: [healthinonet.ecu.edu.au/CVD](https://healthinonet.ecu.edu.au/CVD)

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### Cover artwork

Ceremonial Grounds by Jimmy Njamme Tjampitjin

### 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.

*“Birrriba 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.”*



## About this summary

This plain language and visual summary provides key information about cardiovascular health among Aboriginal and Torres Strait Islander people in Australia in a style that is easy to engage with and does not require our readers to have an academic or medical background.

This summary mostly uses information from journal articles, government reports, national data collections and national surveys that can be accessed through the HealthInfoNet’s publication database.

The accuracy of the identification of Aboriginal and Torres Strait Islander people for health statistics varies across the country. Information about hospitalisations is generally considered to be accurate for all states and territories: New South Wales (NSW), Victoria (Vic), Queensland (Qld), Western Australia (WA), South Australia (SA), Tasmania (Tas), the Australian Capital Territory (ACT) and the Northern Territory (NT). Other statistics are usually from the following jurisdictions: NSW, Qld, WA, SA and the NT. Please refer to the sources for full details on the information presented here. Rates and proportions of hospital separations provided in this Summary are excluding dialysis separations – these are admissions for kidney disease patients who are hospitalised for a blood filtering treatment called ‘dialysis’. As there are a very high number of hospital separations for dialysis, we exclude these from calculations.

## Introduction

This Summary describes different types of cardiovascular disease (CVD) and how common they are among Aboriginal and Torres Strait Islander people. It highlights the differences in how groups of Aboriginal and Torres Strait Islander people – such as women and men, or older and younger people – experience CVD. It describes some improvements in the cardiovascular health of Aboriginal and Torres Strait Islander people. It also gives examples of the many good things that are being done on the ground to prevent illness and improve CVD care for Aboriginal and Torres Strait Islander people.

## Historical, social and cultural context

### Historical factors



Aboriginal and Torres Strait Islander people have lived and continue to live on their traditional lands across Australia, including the islands of the Torres Strait, for many thousands of years [1]. Before colonisation, Aboriginal and Torres Strait Islander people lived in family and community groups and moved across the land as the seasons changed. Colonisation of Australia occurred around 1788 and led to many changes in the way Aboriginal and Torres Strait Islander people lived [1-4]. Colonisation had and continues to have significant negative impacts on the health and wellbeing of Aboriginal and Torres Strait Islander people. Among these impacts was an increase in chronic diseases like CVD caused by disruption to traditional diets [5].

Despite the problems faced by Aboriginal and Torres Strait Islander people since colonisation, communities have survived, and many have thrived. This shows the resilience of individuals, families and communities [6]. This resilience is increasingly recognised as important to improving the health and wellbeing of Aboriginal and Torres Strait Islander people across Australia [7].

### Socioeconomic factors



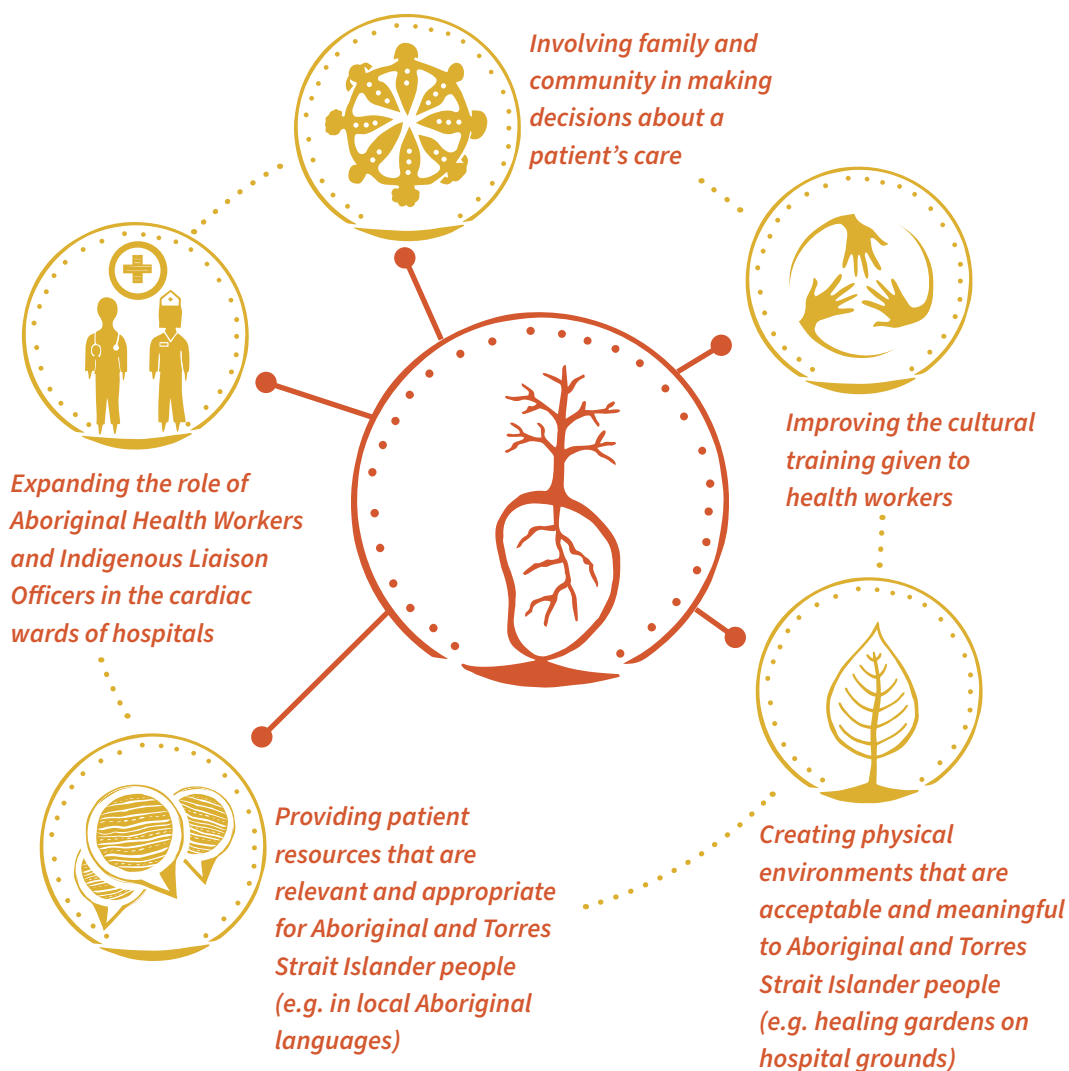
Poor cardiovascular health can be common among people with lower ‘socioeconomic status’. Socioeconomic status is a term used to talk about the education, money, and social status a person has, as well as their access to transportation, mobile phones, the internet, where they live and the type of house they live in. These socioeconomic factors have a big impact on a person’s health and wellbeing. If a person has a low socioeconomic status, they are more likely to be sick more often and to pass away when they are younger than people with higher socioeconomic status. There is currently a substantial gap in socioeconomic status between Aboriginal and Torres Strait Islander people and non-Indigenous people in Australia [8], and this is a well-recognised cause of the high levels of chronic disease including CVD among Aboriginal and Torres Strait Islander people [9].

### Aboriginal and Torres Strait Islander culture and community



Maintaining links to traditional culture and values is vital to the health and wellbeing of Aboriginal and Torres Strait Islander people. When cardiovascular health services do not show awareness of and respect for Aboriginal and Torres Strait Islander culture, it can impact on health outcomes for Aboriginal and Torres Strait Islander people.

A lot of research has been done into the cultural competence of cardiovascular health services, and recommendations made about how things could improve [10-18]. Recommendations include:



## Cardiovascular disease (CVD)

Cardiovascular disease (CVD) is the term for all diseases and conditions that affect the heart and the blood vessels that carry the blood through the body [19]. Types of CVD include ischaemic heart disease (which is a condition that includes heart attack), cerebrovascular disease (which includes stroke), high blood pressure, acute rheumatic fever and rheumatic heart disease [20].

The health behaviours that protect a person against getting CVD include eating healthy food, being physically active, not smoking, and not drinking risky amounts of alcohol [21, 22].

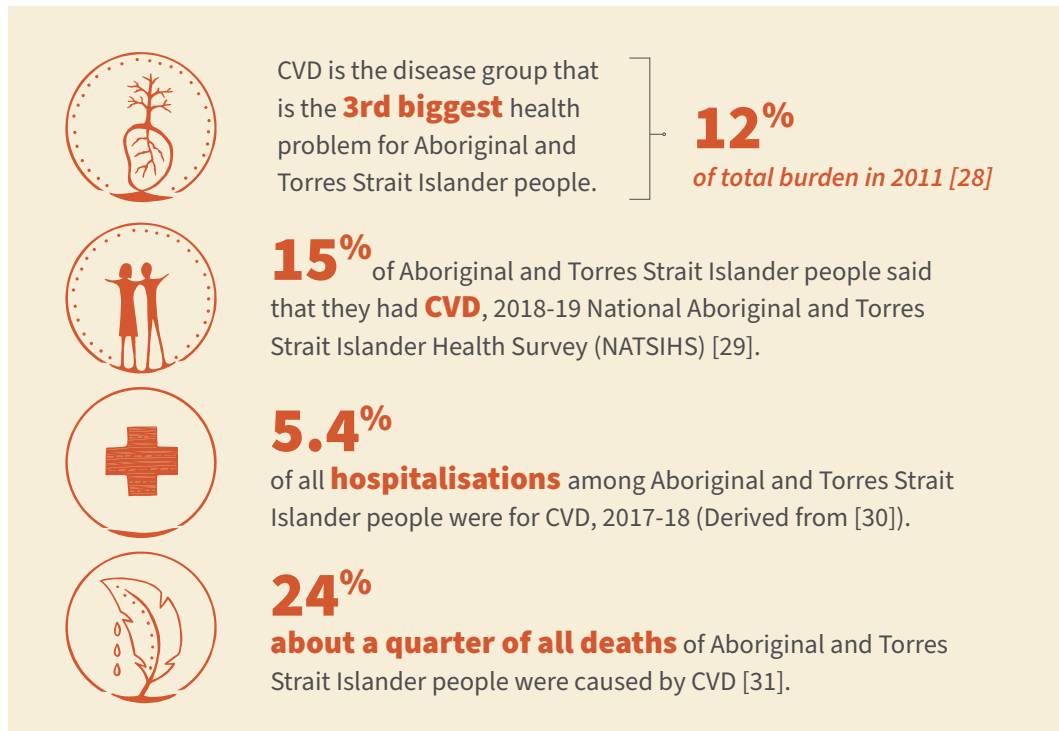
Primary health care workers (like Aboriginal Health Workers and GPs) play an important role in identifying if Aboriginal and Torres Strait Islander people are at risk of getting CVD, and supporting Aboriginal and Torres Strait Islander people to make healthy behaviour changes if they are at risk [23-26].

CVD is a major health problem for all Australians. If different groups of diseases are ranked in terms of how much total poor health and early death they cause, then CVD is the disease group that is the second-biggest health problem for Australian people [27]. It is also a sizeable problem for Aboriginal and Torres Strait Islander people.

## Measuring the total amount of poor health and early death: disease burden

This Summary sometimes refers to 'disease burden' or just 'burden'. Total disease burden is a measure of how much total poor health and early death a disease causes in a population [28].

### How common is CVD?



### How does it affect different groups of people?

Not all Aboriginal and Torres Strait Islander people experience CVD the same way. There are differences between how groups of Aboriginal and Torres Strait Islander people are impacted by CVD.

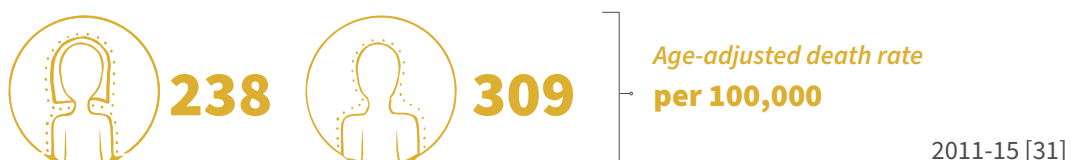
#### Older and younger people

CVD becomes more common as Aboriginal and Torres Strait Islander people get older. In the 2018-19 NATSIHS, the proportion of people who said they had CVD increased with age:

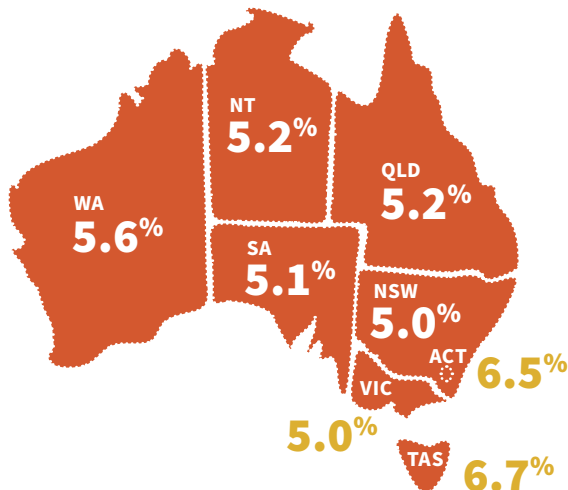


#### Men and women

CVD causes the death of more Aboriginal and Torres Strait Islander men than women.



## People who live in different parts of Australia



*In the 2018-19 NATSIHS, Tasmania and the ACT had the highest percentage of Aboriginal and Torres Strait Islander people who said they had heart, stroke or vascular disease, while NSW and Vic had the lowest [29]*

## What are the health inequalities?

CVD is one of the main disease groups responsible for the difference in health between Aboriginal and Torres Strait Islander and non-Indigenous people. Notably, it affects Aboriginal and Torres Strait Islander people at younger ages than non-Indigenous people.



**19% gap in health** between Aboriginal and Torres Strait Islander and non-Indigenous people due to CVD in 2011 [28].



In 2011, the total amount of disease burden caused by CVD was **3x higher** for Aboriginal and Torres Strait Islander people than non-Indigenous people [28].



**The gap in CVD hospitalisation** rates was greatest at ages 35–44 and 45–54, **3x as high** as non-Indigenous rates [32].



## What is the good news?

CVD is a big problem, but there is some good news.

**2003**  **2011**

*There was a significant reduction in the age standardised rate of total burden due to CVD for Aboriginal and Torres Strait Islander people, driven by a decrease in fatal burden from CHD and stroke [28].*

And some great things are happening in terms of people working together to:

- stop Aboriginal and Torres Strait Islander people getting sick from CVD, and
- improve the care that Aboriginal and Torres Strait Islander people receive if they do get CVD.

## Coronary heart disease (CHD)

There are many specific diseases that make up the cardiovascular disease (CVD) group. The most common of these is coronary heart disease (CHD).


CHD occurs when there is narrowing in the blood vessels of the heart. CHD can cause heart attacks and angina [33]. Other names for coronary heart disease include 'heart disease' and ischaemic heart disease.

CHD is an enormous problem for all Australians; in fact, it's the leading specific cause of total poor health and early death for the general population [27].

It is also a major health problem for Aboriginal and Torres Strait Islander people.

### How common is CHD?



**CHD**  **7% of the total health burden**

CHD was the biggest specific health problem for Aboriginal and Torres Strait Islander people in 2011 [28].



**6% of Aboriginal and Torres Strait Islander people** said they had **CHD** (after age-adjustment) in the 2012-13, Australian Aboriginal and Torres Strait Islander Health Survey (AATSIHS) [32].



In 2012, the age-standardised rate of **heart attacks** (or other 'acute coronary events') for Aboriginal and Torres Strait Islander people was **995 per 100,000** [32].



In 2013-14, there were **4,771 hospitalisations** for Aboriginal and Torres Strait Islander people for CHD, with a rate of **6.8 per 1,000**. CHD accounted for **39%** of CVD hospitalisations in 2013-15 [32].



In 2018, **CHD was the leading cause of death** in Aboriginal and Torres Strait Islander people, responsible for the deaths of **390 people** [34].

## How does it affect different groups of people?

Not all Aboriginal and Torres Strait Islander people experience CHD the same way. There are differences between how groups of Aboriginal and Torres Strait Islander people are impacted by CHD.

### Older and younger people

CHD becomes more common as Aboriginal and Torres Strait Islander people get older. In the 2012-13 AATSIHS, the proportion of people who said they had CHD increased with age:



### Men and women

CHD is more common among Aboriginal and Torres Strait Islander men than women.

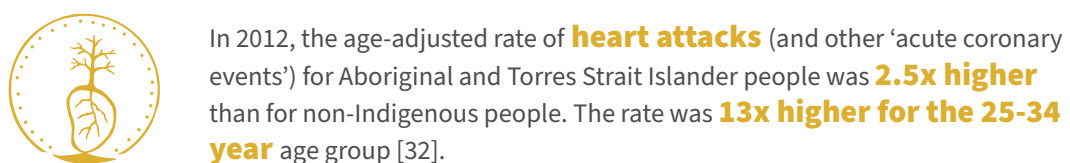


### People who live in different parts of Australia



### What are the health inequalities?

CHD is also one of the main diseases responsible for the difference in health between Aboriginal and Torres Strait Islander and non-Indigenous people. Notably, CHD affects Aboriginal and Torres Strait Islander people at younger ages than non-Indigenous people.





In 2013-14, Aboriginal and Torres Strait Islander people were **hospitalised for CHD at 2.4 times** the rate for non-Indigenous people. The gap between Aboriginal and Torres Strait Islander and non-Indigenous rates was **8 times as high at ages 25–34** [32].



**CHD death rates** for Aboriginal and Torres Strait Islander people in NSW, Qld, WA, SA and the NT in 2018 were **2.0 times higher** than for non-Indigenous people. Those **aged 25-34 years were nearly 12 times as likely** to die from CHD as non-Indigenous people [34].

Aboriginal and Torres Strait Islander people and non-Indigenous people with CHD also have different experiences of the health system. Aboriginal and Torres Strait Islander who go to hospital because of a heart attack or chest pain:

- on average do not receive the same level of care as non-Indigenous patients [18]
- are more likely to pass away from CHD while in hospital [18].

Aboriginal and Torres Strait Islander people with CHD are:

- more likely than non-Indigenous people to leave hospital before their doctor thinks they're ready to [11]
- less likely to join rehabilitation programs that are designed to stop people having another heart attack [35-39].



### What is the good news?

But there is some good news. Aboriginal and Torres Strait Islander people are having fewer heart attacks and passing away because of CHD less frequently than before.



In 2012, the rate of **heart attacks** (and other 'acute coronary events') for Aboriginal and Torres Strait Islander people was 995 per 100,000; **this is a decline from 2007** (1,048 per 100,000) [32].



The CHD death rates for Aboriginal and Torres Strait Islander people between 1998 and 2012 **declined by 48%** [32]

And some great things are happening in terms of people working together to prevent Aboriginal and Torres Strait Islander people getting sick from CHD:



Smoking can really increase a person's risk of getting CHD. Nearly 40 Aboriginal and Torres Strait Islander organisations across Australia are working to help people in their communities quit smoking as part of the **Tackling Indigenous Smoking** program [40].



Regular health checks can help prevent chronic disease, including CHD. A special health check (sometimes called a **'715 health check'** because of its Medicare item number) is offered to Aboriginal and Torres Strait Islander people across Australia. The health check includes a calculation of a person's risk of getting heart disease.

Patients who are found to have a high risk of heart disease are supported by their Aboriginal Health Workers, GPs, nurses and other health professionals to improve their health. The number of people who have the 715 health check is increasing [41].

Improvements have been made in the care given to Aboriginal and Torres Strait Islander people if they do get sick with CHD:



Hospitals across Australia are working hard to make sure that Aboriginal and Torres Strait Islander people who come to hospital with a heart attack or chest pain receive the same medical treatment as non-Indigenous patients, and that this treatment meets the standards outlined in clinical guidelines. Hospitals are also working

hard to make the physical environment more culturally safe for Aboriginal and Torres Strait Islander heart patients. This collective effort by hospitals is known as the **Lighthouse Hospital Project** [18].



Cardiac rehabilitation (cardiac rehab) is a coordinated program of exercise and education that a patient can join to help prevent another heart attack. It is an important part of heart attack recovery for patients, but the number of Aboriginal and Torres Strait Islander people who join cardiac rehab is typically low [37]. To boost the

number of Aboriginal and Torres Strait Islander people who do cardiac rehab, **culturally safe Aboriginal and Torres Strait Islander cardiac rehabilitation** programs are running or being trialled in a number of places across Australia [42].

These include the Yeddung Gaur (Good Heart) trial in Canberra, the long-running Heart Health 'For Our People, by Our People' program at Derbarl Yerrigan Health Service Aboriginal Corporation in Perth, the Burlu Kirra Kirra/NA program in far western New South Wales (NSW), and the Healthy Hearts trial in the Shoalhaven region of NSW [42].

There are many more good things being done on the ground to stop Aboriginal and Torres Strait Islander people getting CHD, and to improve their health if they do get heart disease.

## Cerebrovascular disease

Another specific disease in the CVD group is cerebrovascular disease, or stroke.

A stroke occurs when there is low blood flow to the brain tissue caused by a blockage or bleeding in the blood vessels [43].

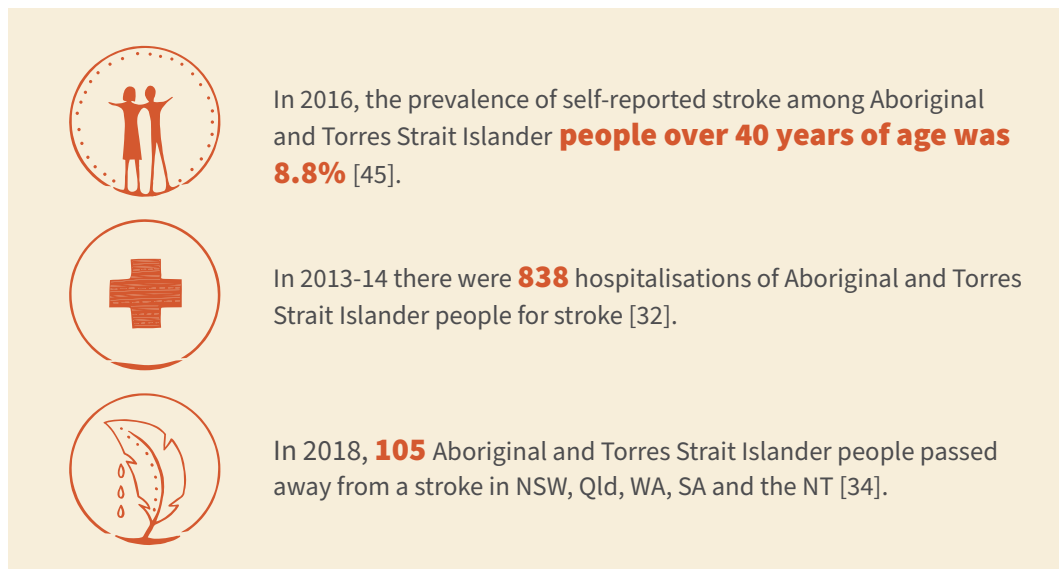
The symptoms of a stroke can include muscle weakness, slurred speech, loss of vision, dizziness and confusion. Having a stroke is a big health issue as it can cause disability or death [43].

If a person has a stroke, their care and outcomes are likely to be better if they are treated in a hospital that has a special 'stroke unit' (with specialist staff and services specifically for stroke) [44].

Stroke is the eighth biggest cause of combined poor health and early death for all Australians [27].

Stroke is a health concern for Aboriginal and Torres Strait Islander people too.

### How common is stroke?

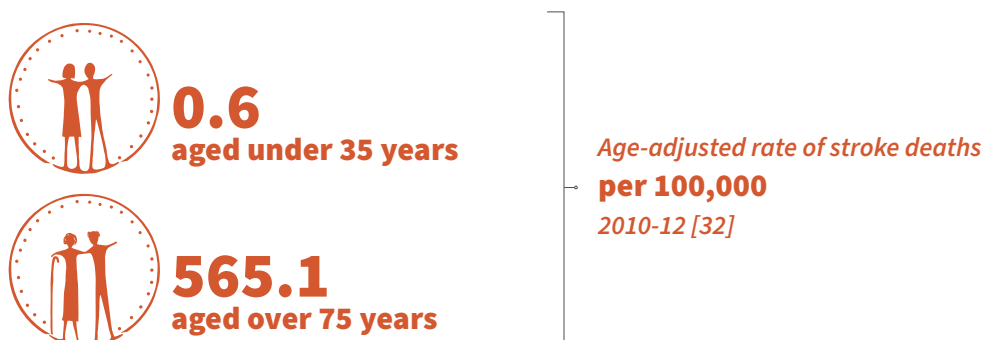


### How does it affect different groups of people?

Not all Aboriginal and Torres Strait Islander people experience stroke the same way. There are differences between how groups of Aboriginal and Torres Strait Islander people are impacted by stroke.

#### Older and younger people

The rate of stroke deaths increases as Aboriginal and Torres Strait Islander people get older.



## Men and women

Aboriginal and Torres Strait Islander men were hospitalised because of a stroke more frequently than women in 2013-14.



## People who live in different parts of Australia



Aboriginal and Torres Strait Islander people who live in urban areas are more likely to have access to a stroke unit than those who live in rural and remote areas [15]. In 2014-18, **WA had the highest number** of Aboriginal and Torres Strait Islander people who passed away from a stroke and NSW had the lowest [34].

## What are the health inequalities?

Stroke is also one of the main diseases responsible for the difference in health between Aboriginal and Torres Strait Islander and non-Indigenous people.



In a 2016 survey, Aboriginal and Torres Strait Islander people **aged 40 and over were 3 times more likely** to have had a stroke than non-Indigenous people [45].



In 2018, Aboriginal and Torres Strait Islander people were **1.3 times more likely** to pass away from a stroke than non-Indigenous people [34].

Aboriginal and Torres Strait Islander people and non-Indigenous people who have a stroke also have different experiences of the health system. Aboriginal and Torres Strait people who survive a stroke are less likely than non-Indigenous people to receive quality stroke care and have access to stroke treatment and rehabilitation services [15].



## What is the good news?

But there is some good news. Together, people around Australia are working together to prevent Aboriginal and Torres Strait Islander people having strokes:



As there are a number of lifestyle behaviours which can cause a stroke it is important to work towards preventing these risk factors. The **Kaat Koort: Aboriginal Brain Health Study** is testing how the brain health of Aboriginal and Torres Strait Islander people can be protected by improving heart health [46]. The project will be testing an Aboriginal and Torres Strait Islander Health Worker-led program to prevent vascular dementia by addressing CVD risk factors. Vascular dementia is a condition which can develop after a stroke. The CVD risk factors which the program will address are diet, exercise, mental health, smoking cessation and disease management.

Improvements have been made in the care given to Aboriginal and Torres Strait Islander people if they do have a stroke:



Having a stroke can often have a huge effect on the brain. Research programs are working hard to improve the rehabilitation and treatment Aboriginal and Torres Strait Islander people receive after a stroke. The **Healing Right Way** project is creating the first culturally secure intervention package for Aboriginal and Torres Strait Islander people who have survived a brain injury [47]. This program aims to improve the care Aboriginal and Torres Strait Islander people receive after a stroke or brain injury, improve the health of Aboriginal and Torres Strait Islander brain injury survivors and provide an economic evaluation to support the funding of new rehabilitation services.

There are many more good things being done on the ground to stop Aboriginal and Torres Strait Islander people having a stroke, and to improve their health if they do have a stroke.

## Hypertension

Another specific disease in the CVD group is hypertension.

Hypertension is sometimes called high blood pressure and is a risk factor for other health issues such as stroke, CHD, kidney disease, blindness and peripheral vascular disease [48].

Hypertension is often caused from un-healthy habits which means it can be prevented by making some changes. These unhealthy habits include physical inactivity, poor diet, obesity and high alcohol consumption [8].

Having hypertension as a child means there is a high chance of having hypertension as an adult as well [49].

Hypertension is a concern for all Australians. In 2011, about 5% of the total amount of poor health and early death experienced by Australian people was attributable to high blood pressure [27].

Hypertension is also a health concern for Aboriginal and Torres Strait Islander people.

### How common is hypertension?



In the 2018-19 NATSIHS, **8.3%** of Aboriginal and Torres Strait Islander people had **self-reported hypertension** [29].



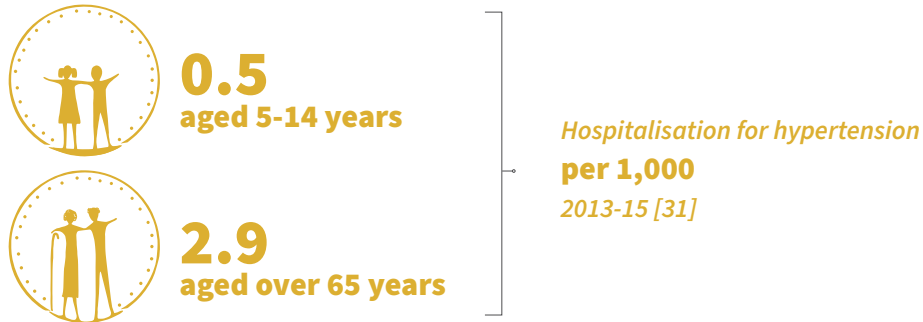
In 2013-14 there were **356 hospitalisations** among Aboriginal and Torres Strait Islander people for hypertension accounting for 3% of CVD hospitalisations [32].

## How does it affect different groups of people?

Not all Aboriginal and Torres Strait Islander people experience hypertension the same way. There are differences between how groups of Aboriginal and Torres Strait Islander people are impacted by hypertension.

### Older and younger people

During 2013-15, hospitalisation for hypertension for Aboriginal and Torres Strait Islander people aged 5 years and over increased with age.



### Men and women

In the 2018-19 NATSIHS, there were slightly more Aboriginal and Torres Strait Islander women who reported that they had hypertension than men [29].



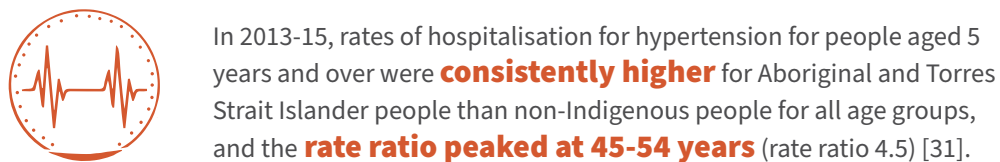
### People who live in different parts of Australia

More Aboriginal and Torres Strait Islander people who live in remote areas reported that they had hypertension than those who lived in urban areas in the 2018-19 NATSIHS [29].



## What are the health inequalities?

Hypertension is also responsible for part of the difference in health status between Aboriginal and Torres Strait Islander and non-Indigenous people:





## What is the good news?

But there is some good news. People are working together to prevent Aboriginal and Torres Strait Islander people from getting hypertension:



The good news about hypertension is that it can be prevented through healthy lifestyle choices. The **Kworpadding Koort (Healing Heart)** program aims to help Aboriginal and Torres Strait Islander people in Western Australia improve their health [50]. This includes those with high blood pressure and many other risk factors for hypertension. The program offers Aboriginal and Torres Strait Islander people activities and services such as a gym, health education, food and nutrition education, mobile health services, a walking group and a place to yarn over morning tea and lunch.

and produce the evidence that is necessary to drive change:



The recent **2018-19 National Aboriginal and Torres Strait Islander Health Survey** included data from voluntary blood pressure readings by participants aged 18 and above [29]. As a high reading can mean that a person may have hypertension, and may be at risk of other chronic diseases, blood pressure readings are an important indicator.

There are many more good things being done in Aboriginal and Torres Strait Islander and mainstream primary health care settings to stop people getting hypertension, and to improve their health if they do have high blood pressure.

## Risk factors for CVD

A risk factor is something that increases a person's chances of developing a disease.

The risk factors for major types of CVD, including CHD and stroke, include smoking, being physically inactive, unhealthy eating (poor nutrition), drinking alcohol, being overweight, having low levels of social and emotional wellbeing, and having one or more comorbidities (health problems that occur at the same time as a main health problem).

Aboriginal and Torres Strait Islander people generally have high levels of the risk factors for chronic diseases including CVD, but there is some good news.

### Smoking



Rates of tobacco smoking are high among Aboriginal and Torres Strait Islander people [29]. About 40% of Aboriginal and Torres Strait Islander people 15 years and over said they were current smokers in the 2018-19 NATSIHS.



The good news is that over the past 15 years the number of Aboriginal and Torres Strait Islander adults living in urban areas who smoke **has been decreasing**, from 49% in 2004-05, to 37% in 2018-19 [29].

## Physical activity



Most Aboriginal and Torres Strait Islander adults do not get the recommended amount of exercise each day. In the 2018-19 NATSIHS, 89% of Aboriginal and Torres Strait Islander people over the age of 15 years in non-remote areas did not get the recommended amount of physical activity [29].



The good news is that Aboriginal and Torres Strait Islander children often get more than the recommended amount of exercise. Aboriginal and Torres Strait Islander children aged 5-17 years living in non-remote areas were reported to **get more than the recommended amount** of physical activity per day in the 2012-13 AATSIHS [51].

## Nutrition



Fruit and vegetable consumption is often low amongst Aboriginal and Torres Strait Islander people [29]. In 2018-19, only 4% of Aboriginal and Torres Strait Islander people aged 15 years and over met the 2013 dietary guidelines for the recommended number of serves of vegetables per day, and only 39% met the guidelines for number of serves of fruit.

Unfortunately, healthy foods often cost more in rural towns and remote communities which makes healthy eating harder [52].

About 80,000 Aboriginal and Torres Strait Islander people who live in remote areas do not always have fresh and healthy food available in their community [53].

## Overweight and obesity



In 2018-19 NATSIHS, 71% of Aboriginal and Torres Strait Islander people over 15 years old were overweight [29].

In the 2018-19 NATSIHS, more than half of Aboriginal and Torres Strait Islander children (54%) were recorded as having a normal weight [29].

## Alcohol



Aboriginal and Torres Strait Islander people who drink alcohol often drink at harmful levels [8, 54]. In the 2018-19 NATSIHS, more than half of Aboriginal and Torres Strait Islander adults reported having had more than the recommended four standard drinks on one occasion in the last year [29].



However, there has been a positive increase in the amount of Aboriginal and Torres Strait Islander people who don't drink alcohol [29]. The proportion who **did not drink alcohol** in the previous 12 months or **had never consumed alcohol** was higher in the 2018-19 NATSIHS (26%) than in 2012-13 AATSIHS (23%).

## Social and emotional wellbeing



In the 2018-19 NATSIHS, just under one third (31%) of Aboriginal and Torres Strait Islander adults said that they experienced high levels of psychological distress [29].

Anxiety was recorded as the most common mental health condition Aboriginal and Torres Strait Islander people experience, with depression being the second most common [29].

Factors that enhance the social and emotional wellbeing of Aboriginal and Torres Strait Islander people include connection to country, spirituality, ancestry, kinship, self-determination, community governance and cultural continuity [3].

## Comorbidity



It is common for Aboriginal and Torres Strait Islander people who have CVD to also have diabetes and/or kidney disease [32]. In 2012-13, among Aboriginal and Torres Strait Islander adults who reported that they had CVD, 13.3% reported also having diabetes, 14.6% reported also having chronic kidney disease (CKD), and 17.6% reported also having both diabetes and CKD (Derived from [32]).

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

Acute rheumatic fever (ARF) and rheumatic heart disease (RHD) are also types of CVD, although the factors that underpin them are quite different to the factors that underpin conditions like CHD and stroke.

Acute rheumatic fever (ARF) is caused by a throat or skin infection from a common type of bacteria called Group A Streptococcus (or 'Strep A') [55]. Untreated ARF can lead to heart valve damage called rheumatic heart disease (RHD). RHD can cause life-threatening heart failure and early death if untreated.

Living in overcrowded conditions and having limited access to facilities to wash people, clothes and bedding increases the risk of Strep A infections, ARF and RHD [56].

People who have had ARF need to have monthly penicillin injections for at least 10 years to prevent damage to their hearts from re-infection [56]. RHD control programs in a number of states and territories keep a register of those people who have had ARF or RHD so that care and follow-up can be provided [57].

ARF and RHD are health concerns for Aboriginal and Torres Strait Islander people.

## How common are ARF and RHD?



**4,549** Aboriginal and Torres Strait Islander people had been **hospitalised with ARF or RHD** and live with the consequence of the disease in the NT, WA, Qld and SA in mid-2016 [58]



**Young** Aboriginal and Torres Strait Islander people **aged 5–14 years have the highest risk** of being diagnosed with **ARF** [59]



**RHD is about twice as common** in Aboriginal and Torres Strait Islander **women** as men [56, 60].



**Rates of ARF and RHD were higher** among Aboriginal and Torres Strait Islander people **in the NT** than in other states and territories of Australia in 2018 [60]



**RHD is less common than types of CVD like CHD and stroke**, and caused only about **5% of the total CVD burden** for Aboriginal and Torres Strait Islander people in 2011 [28]

## What are the health inequalities?

Although ARF and RHD are less common than other types of CVD, they are very significant diseases because Aboriginal and Torres Strait Islander people experience them many times more than non-Indigenous people.



In 2014–2018, there were **were 1,963 new diagnoses (89 per 100,000) for ARF** among Aboriginal and Torres Strait Islander people in NT, Qld, WA and SA, accounting for **95% of all diagnoses** [60].



For 2014–2018, there were **1,314 new diagnoses (60 per 100,000) for RHD** among Aboriginal and Torres Strait Islander people in NT, Qld, WA and SA, accounting for **83% of all diagnoses** [60]. The rate was about **100 times the rate** for non-Indigenous people (0.6 per 100,000) [60].



In 2011 **RHD** represented the **biggest difference in total disease and death rates** between Aboriginal and Torres Strait Islander and non-Indigenous people of any type of CVD, and the fifth highest difference of any specific disease [28, 61].

Because the factors that cause ARF and RHD include poverty, overcrowded housing and lack of access to medical care, this inequality in disease rates highlights the relative social disadvantage of Aboriginal and Torres Strait Islander people and make these very important diseases to address.



## What is the good news?

Although RHD is a devastating condition and unfairly affects Aboriginal and Torres Strait Islander people, there is some good news.

There have been some improvements in the percentage of Aboriginal and Torres Strait Islander people in the NT who are having their scheduled penicillin injections (medication to prevent damage to the heart from re-infection with Strep A) since 2014 [62].

Across Australia, people are working together to stop Aboriginal and Torres Strait Islander people getting ARF and RHD:



Aboriginal Environmental Health Workers in communities in the NT and northern WA are working to establish 'strep-free zones' in the homes of people living with ARF and RHD [63, 64]. These Aboriginal Environmental Health Workers are monitoring health hardware (washing machines, sinks and toilets) in homes, educating people on the importance of early detection and treatment of sore throats and skin sores, and encouraging patients to stick with their ARF/RHD treatment. The trial programs that support this work are known as **SP Plus** and **END RHD Communities**.



Scientists from the Telethon Kids Institute in WA, in collaboration with experts from around Australia and the world, are currently fast-tracking a **vaccine against the Strep A** bacteria that causes ARF and RHD [65]. The availability of a vaccine against Strep A would mean that Aboriginal and Torres Strait Islander children could be protected from ARF and RHD.

and to improve the care given to Aboriginal and Torres Strait Islander people if they do have ARF or RHD:



Australian scientists are investigating ways to develop a **better form of penicillin** that will provide a less painful method of RHD treatment and protection for Aboriginal and Torres Strait Islander children and young people [66].



A network of Aboriginal and Torres Strait Islander people who have lived experience of RHD are using their personal stories and leadership skills to raise awareness about RHD, advocate for change, and start conversations about how we can prevent ARF and RHD in children and young people [67]. The program that supports this work is known as **Champions4change**.

There are many more good things being done on the ground to stop Aboriginal and Torres Strait Islander children and young people from getting sick with ARF and RHD, and to look after them if they do get sick with these illnesses.

A national research group is planning an approach for ending RHD in Australia [68]. It will include an 11-year plan to achieve disease control by 2031, reducing the occurrence of ARF and bringing the levels of RHD for Aboriginal and Torres Strait Islander people down to the same levels as for non-Indigenous Australians.

## Policies and strategies



It is important that approaches to improving the cardiovascular health of Aboriginal and Torres Strait Islander people are properly planned and funded. There is a range of policies and strategies at national, state, local government and community levels that aim to improve the cardiovascular health of Aboriginal and Torres Strait Islander people.

- **The Aboriginal and Torres Strait Islander Health Plan 2013-2023** provides an overarching framework for policies and strategies that aim to improve Aboriginal and Torres Strait Islander cardiovascular health [69].
- **The National Strategic Framework for Chronic Conditions** is the largest Australian policy for tackling chronic disease including CVD [70]. It highlights Aboriginal and Torres Strait Islander people as a priority group and recognises the impact of social and cultural factors on health.
- **Better Cardiac Care** for Aboriginal and Torres Strait Islander People is a joint project of Australian, state and territory governments that started in 2014 [71]. It identifies the actions that health services across Australia should be taking to improve the cardiac health of Aboriginal and Torres Strait Islander people. Progress on these actions is monitored by the Australian Institute of Health and Welfare and documented in a series of annual reports.
- **Many state and territory governments** have their own strategies for tackling heart disease among Aboriginal and Torres Strait Islander people, with some focusing on improvement in CVD prevention and diagnosis and others on cardiac rehabilitation [72-76].
- **The ESSENCE project** (Essential Service Standards for Equitable National Cardiovascular Care for Aboriginal and Torres Strait Islander People) defines minimum service standards for the prevention, risk factor management, and acute and chronic care that can provide a framework for evaluating progress in overcoming CVD inequalities in Australia [25, 77].
- **The Australian Government** provides funding under the **national Rheumatic Fever Strategy to support RHD control programs** in Qld, WA, SA and the NT [60].
- **The END RHD Centre of Research Excellence** is working on an 11-year plan to achieve RHD disease control by 2031 [68].
- **The Heart Foundation** advocates for actions to improve the heart health of Aboriginal and Torres Strait Islander people [37, 78].

## Future directions

Important areas for action to improve Aboriginal and Torres Strait Islander cardiovascular health were identified by participants at Cardiac Society of Australia and New Zealand (CSANZ) Indigenous Cardiovascular Health Conferences [79].

Important areas for action included:



- increasing the number of Aboriginal and Torres Strait Islander people working in primary and tertiary health services
- improving communication between health providers
- defining and overcoming barriers to cardiac specialist care in regional and remote settings
- establishing Aboriginal and Torres Strait Islander CVD coordinator positions in tertiary hospitals
- strategic advocacy
- ensuring that programs are culturally sensitive and integrated.



Any actions to improve Aboriginal and Torres Strait Islander cardiovascular health need to be grounded in the principles outlined in the Redfern Statement [80], the Uluru Statement from the Heart [81], and the Closing the Gap refresh statement [82]. These include:

- strengths-based approaches
- authentic partnerships
- co-design
- community-led solutions
- an evidence-based approach
- whole of government (including state and territory) approach
- clearly articulated accountabilities.

## Concluding comments

Cardiovascular illnesses among Aboriginal and Torres Strait Islander people are serious, important and too common. CVD affects Aboriginal and Torres Strait Islander people at relatively young ages. ARF is a disease that in Australia almost exclusively affects Aboriginal and Torres Strait Islander people and highlights inequalities in wealth and living conditions.



The good news is that **cardiovascular diseases are mostly preventable** and there is a lot that can be done to reduce CVD. Major national projects have been funded to improve cardiac care for Aboriginal and Torres Strait Islander people and to plan the elimination of RHD. In recent years, **the rate of heart attacks and of CVD deaths has fallen** for Aboriginal and Torres Strait Islander people. It is encouraging that more Aboriginal and Torres Strait Islander people are having preventive health checks, and that less young people are taking up smoking.

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