



Cardiovascular disease in Australian women—a snapshot of national statistics

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Cardiovascular disease (CVD) is a leading cause of illness and death among Australian women.

Some aspects of CVD risk factors, prevention, presentation, treatment, management and outcomes are unique to women, and these gender differences are increasingly being recognised.

Chronic conditions, including CVD, are priorities for action in the National Women's Health Strategy 2020–2030 (Department of Health 2018).

This report looks at the impact on women of common forms of CVD—coronary heart disease, stroke, heart failure, and cardiomyopathy—including:

- the number of women with CVD
- hospitalisations
- procedures performed in hospitals
- deaths
- the burden of disease
- the impact on Aboriginal and Torres Strait Islander women.

In 2017–18:



an estimated **510,000** Australian women had CVD



206,000 women had **coronary heart disease**



37,000 women had **heart failure**

In 2016:



22,200 women died from CVD—or 3 in 10 of all female deaths

In 2012–13:



Indigenous women were almost **twice as likely** as non-Indigenous women to have CVD

What is cardiovascular disease?

Cardiovascular disease is a broad term used to describe the many different conditions that affect the heart and blood vessels. This report looks at 3 of the most common forms of CVD.

Coronary heart disease

Coronary heart disease, or ischaemic heart disease, is the most common CVD, which has 2 main clinical forms—heart attack and angina.

Heart attack occurs when a blood vessel supplying the heart is suddenly blocked, leading to damage of the heart muscle, and compromising its functions.

Angina is chest pain caused by reduced blood flow to the heart. Unstable angina is an accelerating pattern of chest discomfort, and is the more dangerous form.

Stroke

Stroke occurs when a blood vessel supplying blood to the brain either suddenly becomes blocked (known as an ischaemic stroke), or ruptures and begins to bleed (known as a haemorrhagic stroke).

Heart failure and cardiomyopathy

Heart failure refers to the heart functioning less effectively in pumping blood around the body. It can occur suddenly, but usually develops slowly, as the heart gradually becomes weaker and works less effectively.

It can result from various diseases and conditions that impair or overload the heart, notably heart attack, high blood pressure, a damaged heart valve, or primary heart muscle weakness—known as cardiomyopathy.

More than half a million women have cardiovascular disease

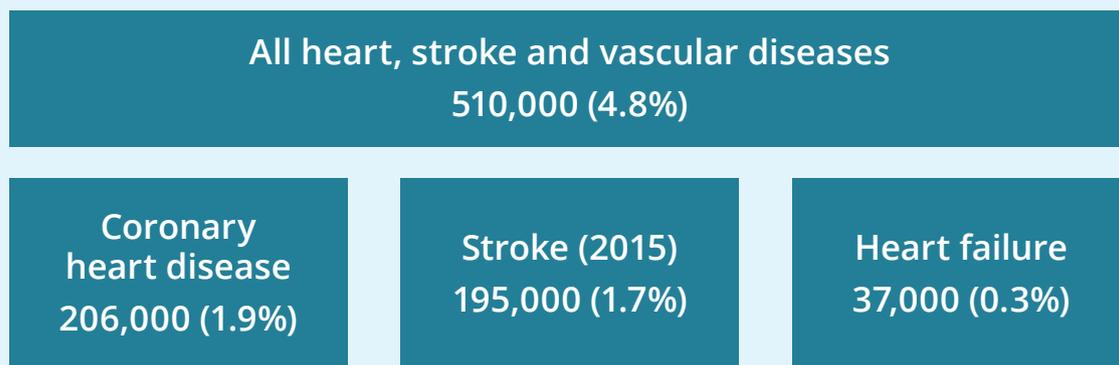
In 2017–18, an estimated 510,000 (4.8%) Australian women aged 18 and over had 1 or more heart, stroke and vascular diseases, based on self-reported data.

About 206,000 women had coronary heart disease, and 37,000 had heart failure.

In 2016, almost 22,200 women aged 25 and over had an acute coronary event (heart attack or unstable angina)—about 60 events per day.

In 2015, an estimated 195,000 women had had a stroke at some time in their lives, and 17,900 women had a stroke in that year—about 50 per day.

Prevalence of heart, stroke, and vascular diseases among women, 2017–18



Note: Percentages are age-standardised to the 2001 Australian population.

Sources: ABS 2019, ABS 2018, ABS 2016.

A major cause of illness and death

CVD is a leading contributor to the burden of disease, and a leading cause of death among Australian women.

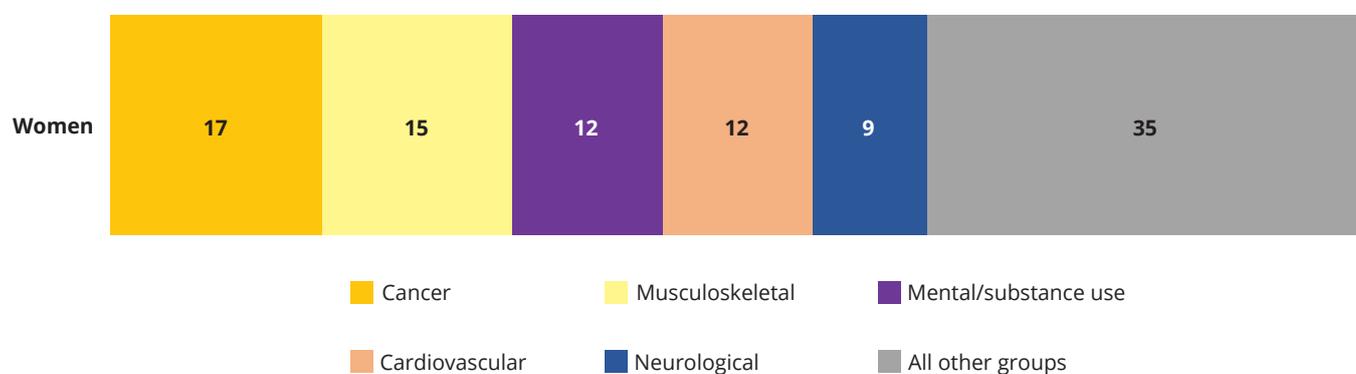
What is burden of disease?

Burden of disease analysis is useful to measure the impact of different diseases, conditions, injuries, and risk factors on a population. It uses information from various sources to quantify the fatal and non-fatal effects of these diseases.

In 2015, CVD accounted for 12% of the total burden of disease and injury among Australian women—ranking fourth behind cancer, musculoskeletal conditions, and mental and substance use disorders (Figure 1).

Coronary heart disease was responsible for 5.0% of the total burden—greater than any other specific disease—and stroke accounted for 2.9%.

Figure 1: Leading contributors to the total burden of disease, by disease group, 2015 (%)



Source: AIHW 2019, based on analyses of the Australian Burden of Disease Database 2015.

The vast majority (78%) of the CVD burden for women in 2015 was fatal—that is, it was due to premature death. As a disease group, CVD was the second leading cause of fatal burden, behind cancer. The other 22% was non-fatal—the burden from living with ill health caused by CVD. CVD was the fifth largest cause of non-fatal disease burden for women, behind musculoskeletal conditions, mental and substance use disorders, respiratory diseases, and neurological conditions.

Despite its contribution to the total burden of disease in Australia, the CVD burden fell by 37% among women between 2003 and 2015. There were similar falls for coronary heart disease (47%) and stroke (41%).

Deaths from cardiovascular disease

Of the 76,600 females who died in Australia in 2016, 22,200 (29%) died from CVD. CVD caused more female deaths than any other disease group.

In 2016, coronary heart disease (11%) and cerebrovascular diseases (mostly stroke, 8.0%) were 2 of the top 3 leading specific causes of female deaths (along with dementia and Alzheimer disease, which accounted for 11% of female deaths).

Lifestyle changes can reduce risk

Many chronic conditions, including CVD, share common risk factors that are largely preventable, such as tobacco use, risky alcohol consumption, overweight and obesity, physical inactivity, and high blood pressure.

Reducing exposure to these and other risk factors can help to reduce the risk of developing CVD and experiencing CVD events, such as heart attack and stroke.

Behavioural risk factors

In 2017–18:



11% of women smoked daily



59% did not meet the guideline for physical activity



8.9% drank alcohol at levels that exceeded lifetime risk guidelines



89% did not eat the recommended daily serves of vegetables



44% did not eat the recommended daily serves of fruit

Biomedical risk factors

In 2017–18:



60% of women were overweight or obese



20% had uncontrolled high blood pressure.

In 2011–12:



63% had abnormal blood lipids (dyslipidaemia)



2.1% had impaired fasting glucose

Sources: ABS 2019, ABS 2013.

Small lifestyle changes—such as eating a healthy diet and being more active—can help to reduce these disease risk factors.

Smoking levels have declined substantially in recent decades—in 1989–90, 24% of women aged 18 and over smoked daily, falling to 11% in 2017–18.

By contrast, more Australians are now overweight or obese. Between 1995 and 2017–18, the proportion of women who were overweight or obese rose from 49% to 60%.

Absolute risk

As a woman's number of risk factors rises, so does her risk of developing CVD. A comprehensive individual risk assessment takes into account all risk factors—modifiable, non-modifiable, and related conditions.

What is absolute risk?

Absolute CVD risk is the probability of an acute coronary event occurring within a 5-year period. It reflects a person's overall risk of developing CVD, replacing the traditional method that considers various risk factors, such as high cholesterol or high blood pressure, in isolation (NVDPA 2012).

A 2016 study estimated that about 14% of Australian women aged 45–74 (522,000 women) were at high absolute risk of a future CVD event over the following 5 years. A further 2.9% (108,000 women) were at moderate risk (Banks et al. 2016).

Of those women at high absolute risk who already had CVD, many were not receiving recommended treatment, with only 48% receiving lipid-lowering medication, 63% receiving blood pressure-lowering medication, and 34% receiving both blood pressure and lipid-lowering medication.

Disease is linked to age

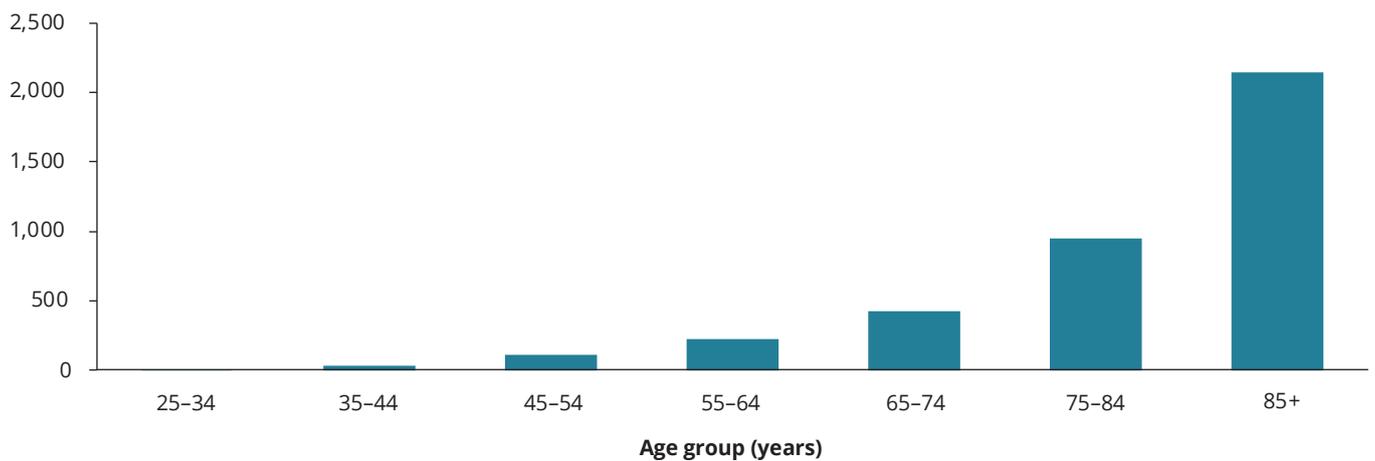
Older women are much more likely to have CVD, be hospitalised due to CVD, and die from CVD.

In 2016, acute coronary events occurred at a rate of:

- 2,148 per 100,000 women aged 85 and over
- 223 per 100,000 women aged 55–64
- 5 per 100,000 women aged 25–34 (Figure 2).

Figure 2: Acute coronary events among women, by age group, 2016

Acute coronary events per 100,000



Sources: AIHW National Hospital Morbidity Database; AIHW National Mortality Database.

CVD hospitalisation rates also increased with age—from 139 per 100,000 females aged under 25, to 13,900 per 100,000 aged 85 and over in 2015–16.

In 2016, nearly 4 in 10 (38%) deaths of women aged 85 and over were due to CVD. But CVD also has a big impact among younger women, accounting for nearly 1 in 10 deaths (8.4%) among females aged under 45.

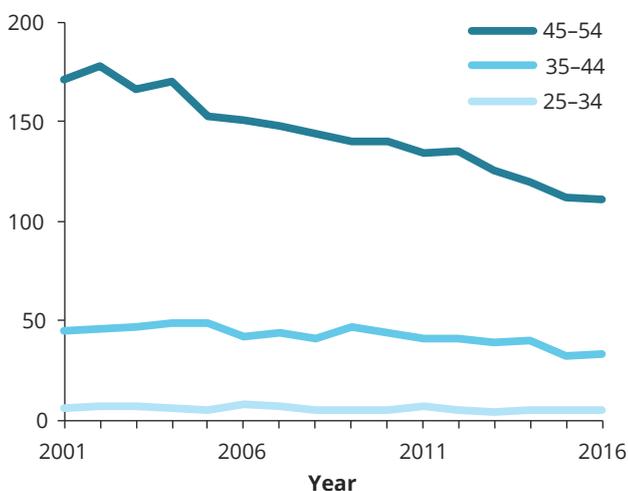
Heart attacks and deaths have fallen over time

Despite the impact of CVD on Australian women, rates of acute coronary events (heart attack or unstable angina) and deaths have fallen substantially over recent decades (Figure 3).

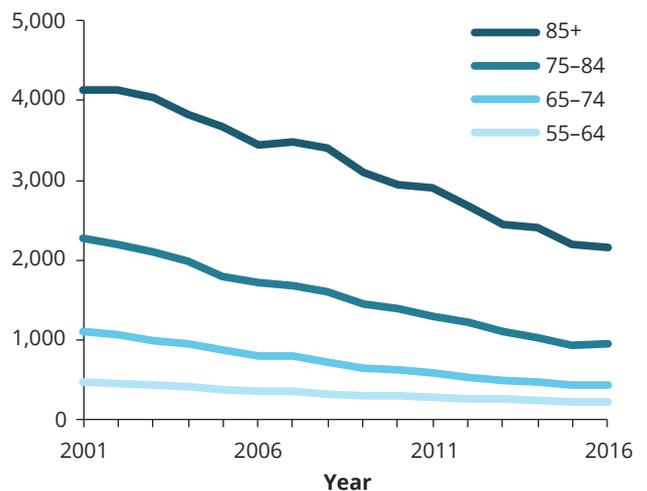
Between 2001 and 2016, the rate of acute coronary events among women fell by 57%, from 465 to 215 events per 100,000.

Figure 3: Trends in acute coronary events among women, by age group, 2001–2016

Acute coronary events per 100,000



Acute coronary events per 100,000



Sources: AIHW National Mortality Database; AIHW National Hospital Morbidity Database.

Between 2001 and 2015, the incidence of stroke among women fell by 25%, from 148 to 113 events per 100,000.

Between 2006 and 2016, the share of total female deaths due to CVD also fell—from 37% to 29%—with similar patterns for coronary heart disease (from 17% to 11% of all Australian females) and stroke (from 8.0% to 6.4% of all Australian females).

Smaller improvements—and a rise in strokes—among younger women

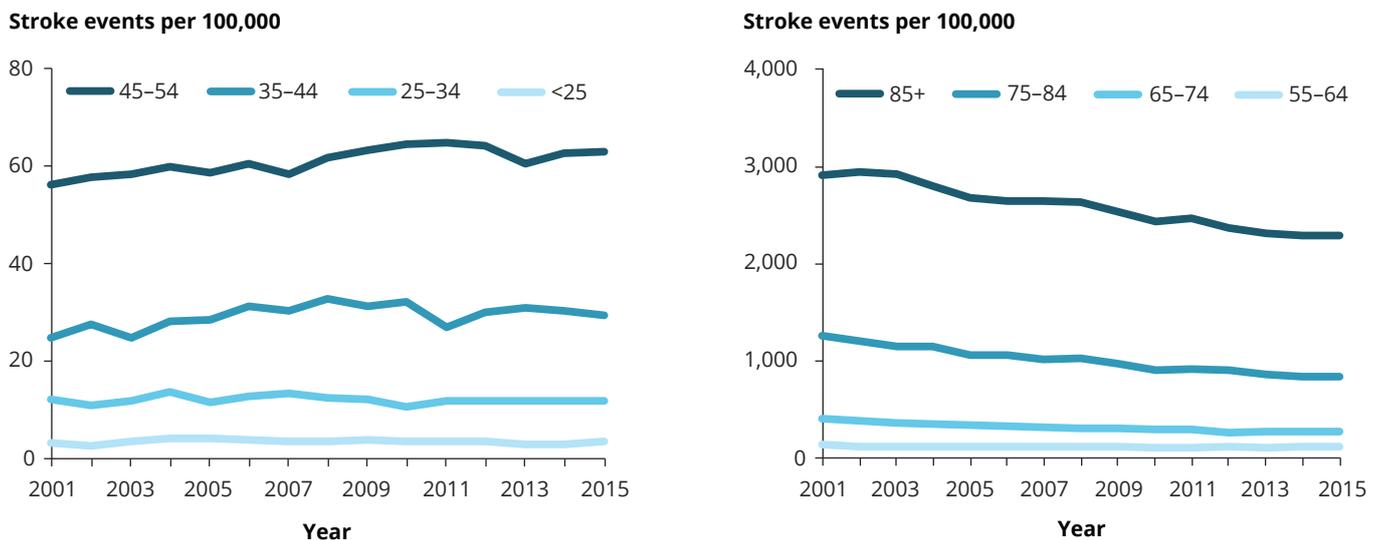
Improvements in the incidence of CVD have been smaller among younger women.

Between 2001 and 2015, the incidence of acute coronary events fell by 22% for women aged 35–44, but by 65% for women aged 65–74.

Between 2006 and 2016, CVD death rates fell by 13% for women aged 45–54, but by more than 40% for women aged 65–74 and 75–84.

Although the overall incidence of stroke for women fell by 25% between 2001 and 2015, rates rose among younger women—by 16% for those aged 35–44, and by 12% for those aged 45–54 (Figure 4).

Figure 4: Trends in stroke events among women, by age group, 2001–2015



Sources: AIHW National Hospital Morbidity Database; AIHW National Mortality Database.

Hospitalisation rates rising for younger women

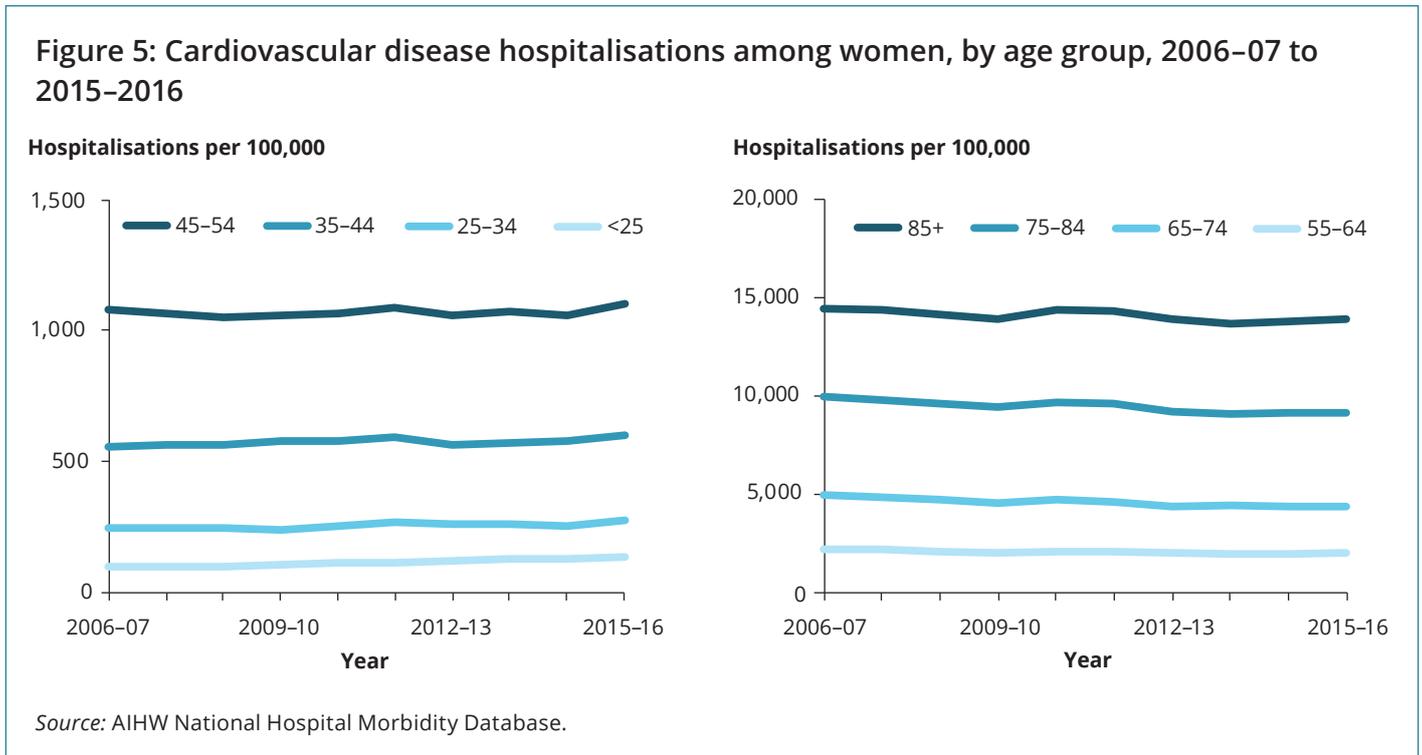
In 2015–16, there were 208,000 hospitalisations for females with CVD as the principal diagnosis—equivalent to 3.7% of all hospitalisations for females.

Of these:

- 22% had a principal diagnosis of coronary heart disease
- 14% had a principal diagnosis of heart failure
- 8.2% had a principal diagnosis of cardiomyopathy.

Between 2006–07 and 2015–16, the total CVD hospitalisation rate for females fell by 5.3%, from 1,490 to 1,420 per 100,000.

But rates rose among younger women—by 11% for women aged 25–34, and by 4.7% for women aged 35–44 (Figure 5).



Between 2006–07 and 2015–16, the rates of female hospitalisations:

- for coronary heart disease fell for those aged 25 and over
- for stroke fell for women aged 65 and over, and remained steady for women aged 25–64
- for heart failure and cardiomyopathy rates rose by 41% for women aged 45–54 and by 18% for women aged 55–64.

Cardiovascular disease procedures among women

Many procedures are used to diagnose and treat CVD—they identify the type, severity and location of problems, and treat problems once they have been identified.

Among women hospitalised in 2015–16, there were:

- 31,000 coronary angiographies (26 per 100 selected CVD hospitalisations)
- 9,500 percutaneous coronary interventions (20 per 100 coronary heart disease hospitalisations)
- 1,900 coronary artery bypass grafts (4.2 per 100 coronary heart disease hospitalisations)
- 5,400 pacemaker insertions (3.8 per 100 selected CVD hospitalisations)
- 836 cardiac defibrillator implants (0.9 per 100 selected CVD hospitalisations)
- 607 carotid endarterectomies (2.3 per 100 selected CVD hospitalisations)
- 38 heart transplants (0.3 per 100,000 hospitalisations).

Types of CVD procedures

Coronary angiography provides a picture of the coronary arteries. A catheter is guided to the heart, and a special dye is released into the coronary arteries when an X-ray is taken.

Percutaneous coronary intervention is used to restore blood flow to blocked coronary arteries. Two types of procedures are used:

- coronary angioplasty (inserting a catheter with a small balloon into a coronary artery, which is inflated to clear the blockage)
- coronary stenting (inserting a stent—an expandable mesh tube—into affected coronary arteries).

Coronary artery bypass graft is a surgical procedure using blood vessel grafts to bypass blockages in the coronary arteries, and restore adequate blood flow to the heart muscle.

Cardiac defibrillator implants are devices implanted into a patient's chest that monitor the heart rhythm, and deliver electric shocks to the heart when required to eliminate abnormal rhythms.

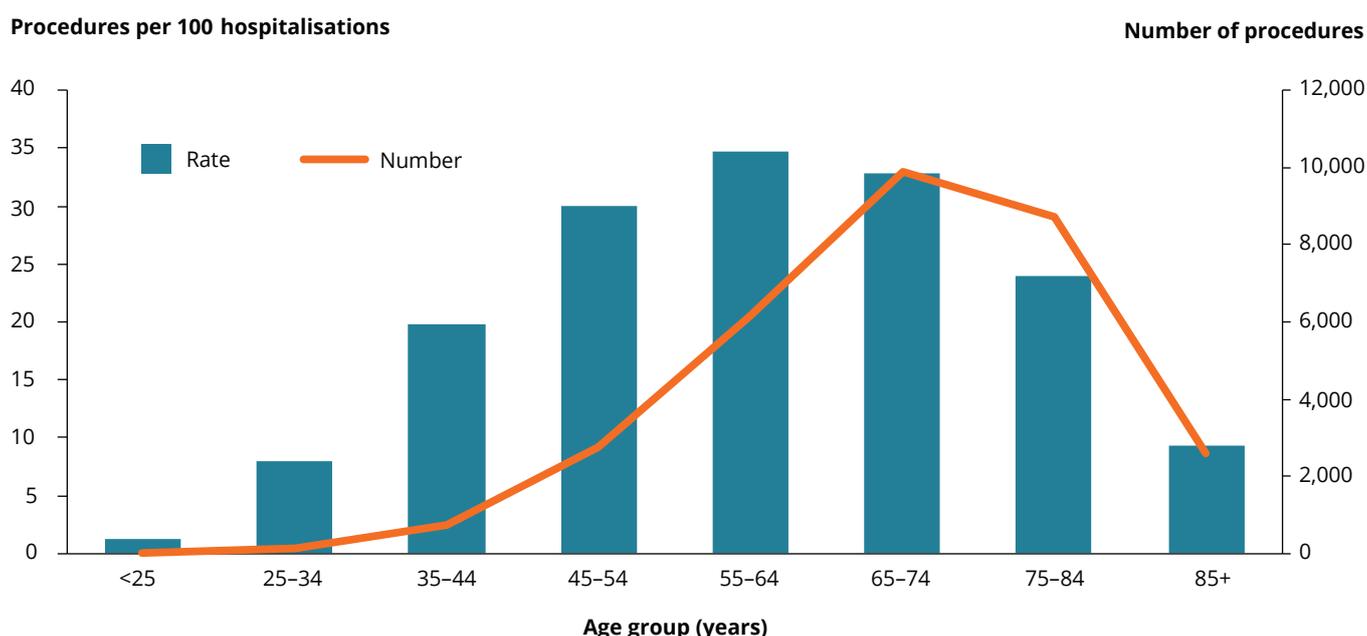
Carotid endarterectomy is a procedure where atherosclerotic plaques are surgically removed from the carotid arteries in the neck, which supply blood to the brain. This procedure is used to reduce the risk of stroke caused by blockage.

Heart transplant involves implanting a working heart from a recently deceased organ donor into a patient. This procedure is usually used for the treatment of the most severe forms of heart failure or coronary heart disease.

In the 10 years to 2015–16, overall procedure rates for women, after adjusting for age, rose for coronary angiography, percutaneous coronary interventions, pacemaker insertion, and cardiac defibrillator implants. Rates fell for carotid endarterectomy procedures over this period.

The rate of coronary angiography rose with age up to those aged 55–64, then fell in the older age groups (Figure 6).

Figure 6: Coronary angiography procedures among women, by age group, 2015–16 (number and rate)



Source: AIHW National Hospital Morbidity Database.

Cardiovascular disease in Indigenous women

In 2012–13, an estimated 12,500 Aboriginal and Torres Strait Islander women had 1 or more heart, stroke and vascular diseases. Of these, 7,100 had coronary heart disease.

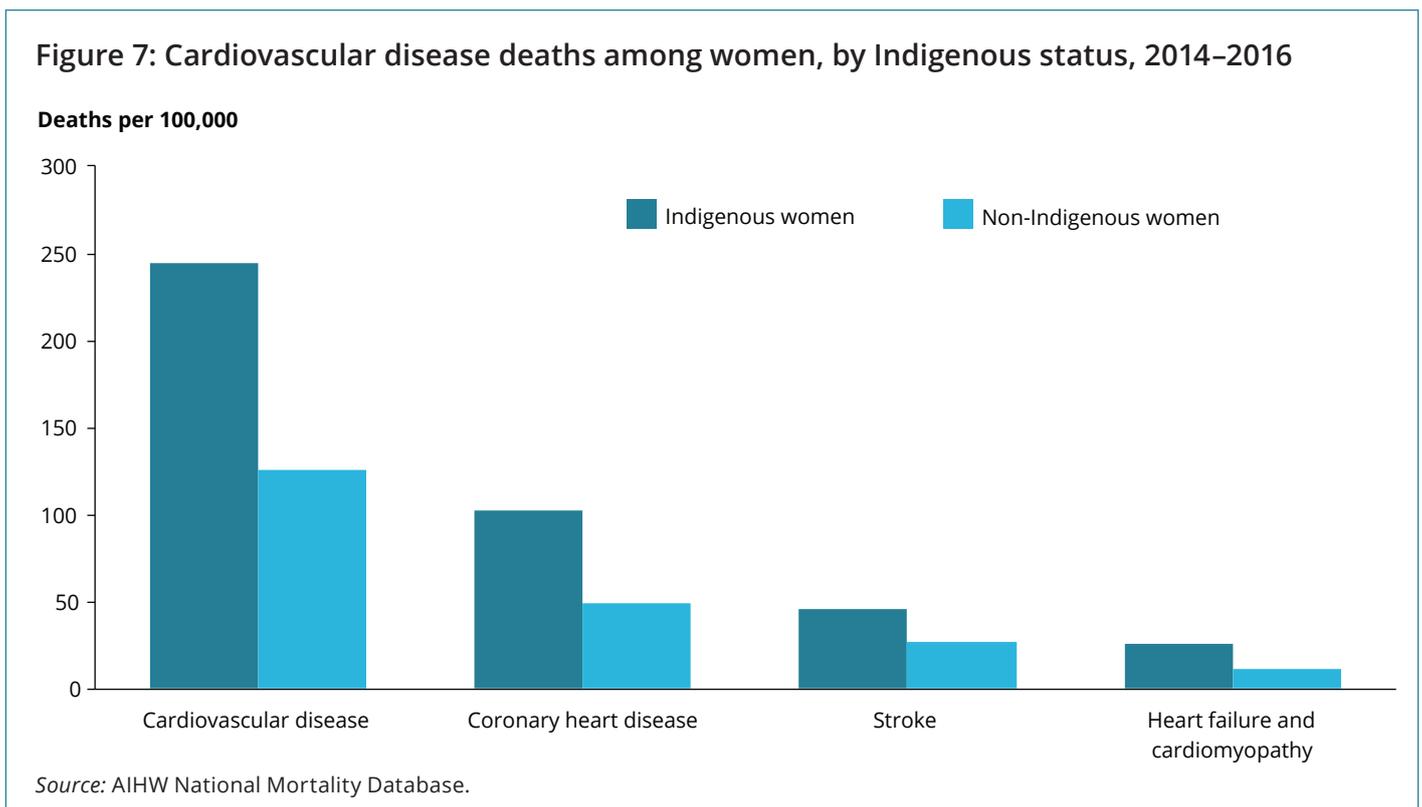
After adjusting for age, Indigenous women (6.9%) were almost twice as likely as non-Indigenous women (3.8%) to have CVD.

Absolute CVD risk was high among Indigenous women, with 23% aged 35–74 at high absolute risk of a future CVD event (Calabria et al. 2018).

In 2011, CVD was the third leading cause of burden of disease in Indigenous women—accounting for 11% of the total burden (AIHW 2016). The burden of disease from CVD for Indigenous women was 3.2 times as high as the burden for non-Indigenous women. CVD accounted for nearly one-fifth (18%) of the total gap in disease burden between Indigenous and non-Indigenous women.

In 2015–16, there were about 6,500 CVD hospitalisations for Indigenous women (1,174 per 100,000 population). Hospitalisation rates for different forms of CVD among Indigenous women were up to 4 times as high as among non-Indigenous women.

Between 2014 and 2016, CVD was responsible for 867 deaths among Indigenous women (42 per 100,000 population). Indigenous women were up to twice as likely as non-Indigenous women to die from CVD, coronary heart disease, or stroke (Figure 7).



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More information

For more information see:

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