Australian Government
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Heart Foundation

Women and heart disease

Summary

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Contents

Introduction

This summary report provides key findings from the main report *Women and heart disease: cardiovascular profile of women in Australia*, which describes the current impact of cardiovascular disease on Australian women. This report has been prepared to:

- provide a baseline picture against which future monitoring can be compared and assessed
- provide evidence that dispels the perception that cardiovascular disease is not an important threat to Australian women.

The key findings

Cardiovascular diseases are a major threat to the health of Australian women

- More than one in three women who died in 2006 did so as a result of a cardiovascular disease.
- Many of these deaths were premature, with cardiovascular disease responsible for more than one-quarter of premature deaths in women. In particular, coronary heart disease and stroke were the two leading causes of life lost to premature death for Australian women in 2003.
- About two million Australian women (one in five) have cardiovascular disease. About 226,000 of these women have coronary heart disease, 168,000 have had a stroke and 176,000 have heart failure.
- Coronary heart disease and stroke are in the 10 top causes of poor health and disability among Australian women.

Implications for the Australian health system

- Cardiovascular disease is a real burden to the health system, ranking second in terms of health expenditure on women—$2,682.8 million was spent treating cardiovascular disease in women in Australia in 2004–05.
- Cardiovascular disease is responsible for a significant proportion of general practitioners' workload. In 20% of general practice visits by women, at least one cardiovascular disease problem was treated. And about 200,000 admissions to hospital (5% of the total) for women related to cardiovascular disease in 2006–07.

- 36.5 million prescriptions for cardiovascular medicines were dispensed for women through the Pharmaceutical Benefits Scheme and Repatriation Pharmaceutical Benefits Scheme in 2007–08. This accounted for 52% of the total Pharmaceutical Benefits Scheme and Repatriation Pharmaceutical Benefits Scheme prescriptions filled for cardiovascular medicines.

Risk factors

- Most of the risk factors for cardiovascular disease are known, and many of them can be changed. For example, smoking, poor diet, physical inactivity and high blood pressure can be modified, and their burden reduced.
- Most women (91%) have at least one modifiable risk factor for cardiovascular disease, and half of all women have two or three.

Diagnosis and treatment

- Women hospitalised with cardiovascular conditions are significantly less likely to have several diagnostic tests and treatments than men. These include coronary angiography, echocardiography, coronary angioplasty or stenting, coronary artery bypass grafting, having a heart defibrillator implanted and carotid endarterectomy. In other areas of diagnosis and treatment, the gender balance is even. These areas are having heart valves repaired or replaced, or having a CT or MRI scan of the brain when hospitalised with stroke or its warning signs.

Summary

In summary, cardiovascular disease in Australian women imposes a high health burden and economic cost that could be greatly reduced with:

- lifestyle changes—relating to physical activity, diet, smoking, alcohol consumption
- improved assessment of cardiovascular disease risk, including excess weight, diabetes, high cholesterol and high blood pressure, which contribute to the development of cardiovascular disease
- effective management and treatment of these conditions.

Such reductions will only take place with concerted efforts at both an individual and population level.

What is cardiovascular disease?

Cardiovascular disease is a term used to describe many different conditions that affect the heart and blood vessels. The most common and serious types of cardiovascular disease are considered in this report. These are:

- coronary heart disease (includes both heart attack and angina)
- stroke
- heart failure.

Other types of cardiovascular disease, which are not covered in this report for lack of good data, include:

- peripheral vascular disease
- rheumatic fever and rheumatic heart disease.

Coronary heart disease

Coronary heart disease occurs when there is a blockage in blood vessels that supply blood to the heart muscle. This is also known as ischaemic heart disease. There are two major clinical forms: heart attack and angina. In a heart attack, the blood vessel is completely blocked. If not treated promptly, some of the heart muscle may die and the heart loses the ability to function properly; in the worst cases this can result in sudden death.

Angina is the less severe condition where the blood flow does not stop completely and the heart muscle doesn't die. For this report, angina has been grouped with heart attack.

Stroke

A stroke occurs when a blood vessel to the brain is either suddenly blocked or it ruptures and bleeds. Either way, the interruption to the blood flow to the brain means that part of the brain doesn't receive oxygen for a while. This causes brain damage ranging from very mild to fatal. Strokes can lead to problems with movement, vision, swallowing, thinking and communication.

Heart failure

Heart failure occurs when the muscles of the heart don't pump blood around the body as effectively as they should. Heart failure is usually gradual and painless. It can be mild, but tends to become more severe over the years, and can ultimately be fatal. In more severe cases, it can result in chronic tiredness, reduced capacity for physical exercise and shortness of breath.

continued

Interrelationship

The different types of cardiovascular disease are highly interrelated. They share common risk factors and are often the result of arteries becoming clogged by a process called atherosclerosis (see below). For example, women who have coronary heart disease are also at risk of stroke, and heart failure can be a result of an earlier heart attack.

What causes cardiovascular disease?

The most common underlying cause of cardiovascular disease is atherosclerosis.

Atherosclerosis occurs when blood vessels progressively thicken and harden due to a build-up of plaque (fat, cholesterol, immune cells, inflammatory cells and other substances) in the inner lining of the arteries.

This damage to the artery lining is life threatening when it restricts or totally blocks the flow of blood to the heart (causing heart attack or angina) or the brain (causing a stroke).

Women in Australia

Women make up half the population in Australia. In 2006, there were 10.4 million women out of a total population of 20.7 million people.

There are fewer women than men among people aged under 30 years, but after the age of 30 years, women form the majority. Women also live longer than men, although this gap is decreasing. Even so, after the age of 75 years, almost 60% of the population is female. And after the age of 85 years, more than two-thirds of the population is female.

Most women (63%) are aged 18–64 years; 23% per cent are under 18 years and 14% are over 65 years.

But as more women are living longer, the female population is getting older. The median age of women—the age at which half the population is older and half is younger—was 31.3 years in 1987. Twenty years later, it was 36.8 years.

About one-quarter (24%) of Australian women are born overseas, and 3% are Aboriginal or Torres Strait Islander.

More than one-third of Australian women (35%) have a chronic disease, and one-fifth (20%) have a disability.

Women account for almost three-quarters of primary carers (71%).

Socioeconomic status

The socioeconomic status of women is improving, with the proportion of women in the workforce rising from 49% in 1986–87 to 58% in 2006–07. Of those women who worked during that period, 45% worked part-time and 55% worked full-time.

And more women are becoming better educated, with the proportion holding some post-school qualification rising from 41% to 56% in the decade between 1996 and 2006.

But equality has not been achieved. There are still proportionately more women than men earning low incomes, and proportionately more men than women earning high incomes.

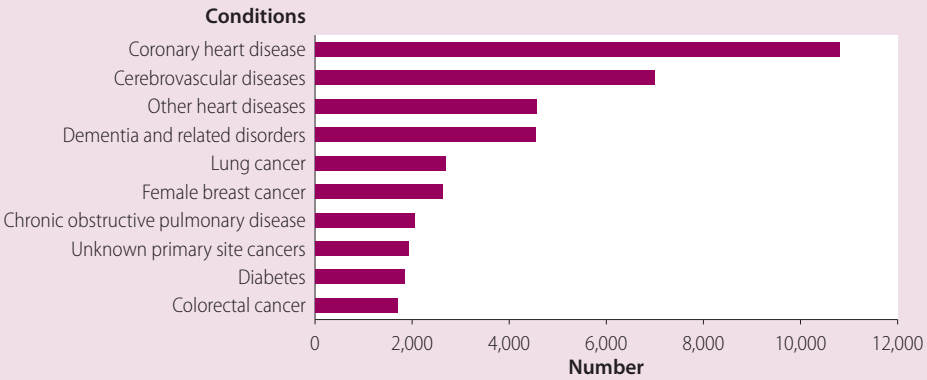
How serious is cardiovascular disease?

Cardiovascular disease is a serious condition. Its impact on Australian women can be measured in two ways—health and economic terms.

Health terms

In health terms, cardiovascular disease in women is a very serious issue. The three leading causes of death among Australian women, in terms of specific diseases, are:

- coronary heart disease
- stroke
- other heart diseases, such as heart failure.



Note: Underlying causes of death.

Source: AIHW National Mortality Database.

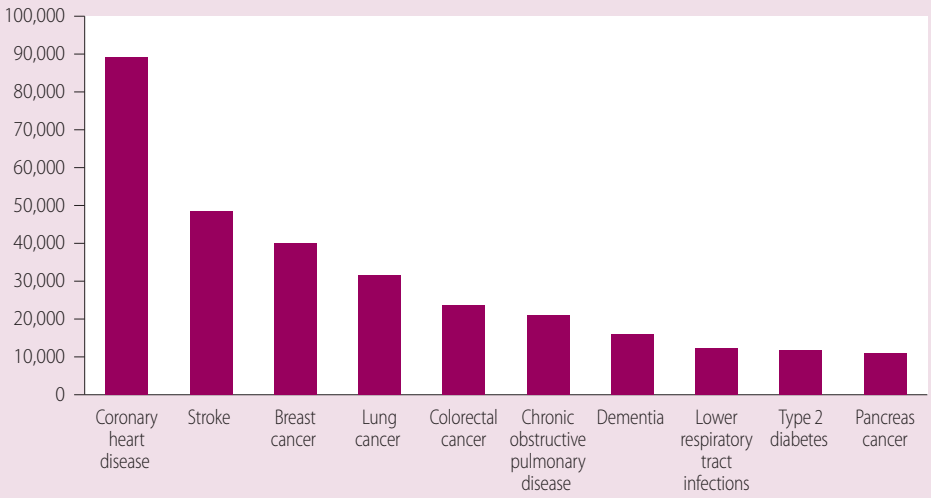
Figure 1: Leading specific causes of death for women, all ages, 2006

Grouped together, cardiovascular disease was responsible for more deaths among Australian women than any other group of conditions. In 2006, more than 24,100 women died of cardiovascular disease, which was more than one-third (37%) of all deaths among Australian women. In that same year, about 16,900 women died of cancer.

Many of the deaths caused by cardiovascular disease occur prematurely—that is, women die at a younger age than expected.

Based on statistical analysis that assesses the number of years of life lost due to a condition, coronary heart disease accounted for 16% of the years of life lost by women due to premature death in 2003. Stroke accounted for a further 9%. So, in total, coronary heart disease and stroke accounted for about one-quarter of the total years of life lost by women due to premature death.

The prevalence of each of the three most serious types of cardiovascular disease (coronary heart disease, stroke and heart failure) is similar—about two in every 100 women each. This amounts to about 226,000 women living with coronary heart disease, 168,000 who have had a stroke and 176,000 with heart failure, based on self-reports.



Note: Underlying causes of death.

Source: AIHW National Mortality Database.

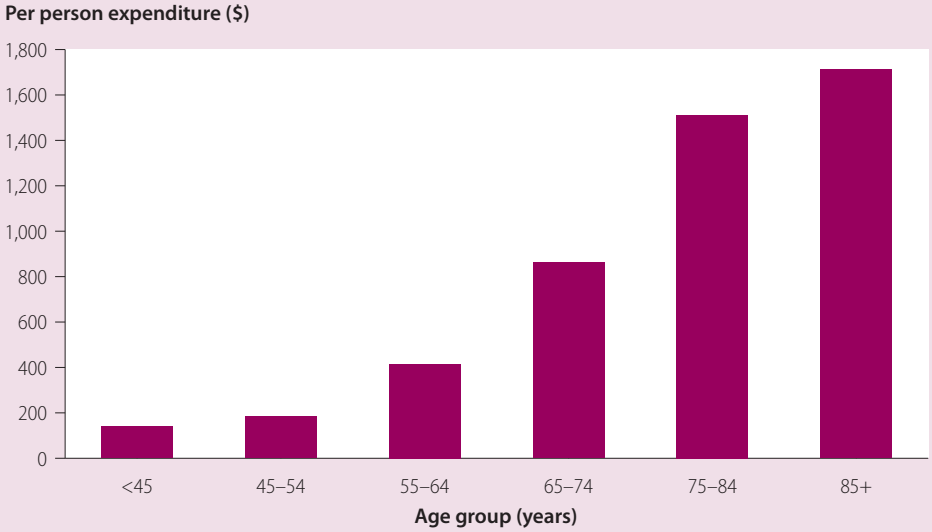
Figure 2: Leading causes of potential years of life lost due to premature death for women, 2003

Economic terms

In economic terms, the cost of preventing, diagnosing and treating cardiovascular disease in women is the second highest (behind oral health). In 2004–05, the cost to the Australian health system was about $2,682.8million.

Most of the spending goes on admissions to hospital, followed by prescription medicines, out-of-hospital medical services and research. This figure does not take into account costs incurred outside the health system—costs of travel to and from treatment, time off work and costs related to lost quality of life.

The amount spent per person rises significantly with age. A woman under the age of 25 years incurred an annual cost of $14 per person, which rose to $1,699 per person annually for women aged 85 years and over. On average, about 20% less was spent per person on women than men.



Source: AIHW Disease Expenditure Database.

Figure 3: Health care expenditure on cardiovascular disease among women, per person, by age, 2004–05

What puts women at risk of cardiovascular disease?

Some women are more likely to get cardiovascular disease than others. Much is known about the risk factors that are associated with cardiovascular disease. Some cannot be changed. Others—those relating to behaviours and lifestyle—*are* modifiable.

Non-modifiable	Modifiable		
	Behavioural	**Biological / medical**	**Psychological / social**
Age	Physical activity	Blood pressure	Depression
Gender	Diet	Cholesterol	Social support
Ethnicity	Tobacco smoking	Body weight	Perceived control over life circumstances
Genetics	Alcohol consumption	Diabetes	
		Chronic kidney disease	

Many of these risk factors are interrelated in complex ways. For example, cholesterol levels are affected by both genetics, which can't be changed, and diet, which can.

These risk factors affect large numbers of women. They include:

- poor diet—93% of women do not eat the recommended quantity of fruit and vegetables
- physical inactivity—76% of women do not exercise for the recommended 150 minutes per week of fairly moderately strenuous activity (enough to cause a light sweat)
- being overweight—55% of women are overweight or obese
- high cholesterol—48% of women aged 25 years and over have high cholesterol
- high blood pressure—27% of women aged 25 years and over are affected
- smoking—15% of women smoke daily
- depression—15% of women have depression at some point in their lives
- alcohol—10% of women drink too much alcohol
- Type 2 diabetes—2–7% of women are affected.

Half of all women have two or three of these modifiable risk factors.

Prevention of cardiovascular disease

Much of cardiovascular disease in women could be prevented if the above risk factors were reduced at an individual and population level.

Great improvements in the health of Australian women could be made with:

- more healthy lifestyles
- good access to health care, and early detection of increased risk for developing cardiovascular disease
- effective management and treatment of these health issues in their early stages.

Treatment of cardiovascular disease

Most women who receive treatment for cardiovascular disease do so in the community, with their condition being managed by general practitioners. Other treatment is provided by specialists and allied health professionals, or in a hospital setting.

General practice care

Cardiovascular disease is responsible for a significant proportion of general practitioners' workload. Cardiovascular disease was the third most common health problem in women managed by general practitioners in 2007–08 (behind respiratory diseases and general or unspecified conditions).

About 10.4 million visits by women to a general practitioner in 2007–08 involved discussion of at least one type of cardiovascular disease—that was about 20% of all consultations with women.

When a woman saw her general practitioner for a problem related to cardiovascular disease, she usually (for 77% of problems) received a prescription for medication. About a third of the time (36%), the woman had pathology tests ordered. On occasions, she was referred to a specialist (4%) or had X-rays or other forms of imaging (3%) ordered.

Women had about 36.5 million prescriptions for cardiovascular medicines filled through the Pharmaceutical Benefits Scheme or Repatriation Pharmaceutical Benefits Scheme in 2007–08. Most (92%) were for women aged 55 years and over. The most commonly dispensed medicines were those which treated high blood pressure, heart failure and high cholesterol levels.

Hospital care

Women were admitted to hospital for cardiovascular disease almost 200,000 times in 2006–07. A woman was more likely to be admitted to hospital as she aged—about four in five (79%) admissions with cardiovascular disease were in women aged 55 years and over.

The most common diagnostic procedures were:

- coronary angiographies (25,311 in 2006–07), which give a picture of the heart's arteries to find out whether, and where, the arteries are narrowed or blocked
- CT (computerised tomography) brain scans (16,429 in 2006–07), which use X-rays to generate images of the brain to see whether or not there has been a stroke, and, if so, the type and extent.

The most common treatments were:

- coronary angioplasties or stenting (8,842 in 2006–07), in which the arteries to the heart are re-opened, and in the case of stenting a small tube is inserted to keep the artery open
- heart valve repairs or replacements (3,001 in 2006–07), in which valves sitting in the centre of the heart are repaired or replaced
- coronary artery bypass grafting procedures (2,974 in 2006–07), in which the arteries to the heart are bypassed and replaced by blood vessels taken from the patient's own arm or leg.

Women and men

In many ways, cardiovascular disease is seen as a man's disease, and the impact on women is perceived to be less of a threat.

But the overall risk of developing cardiovascular disease is only slightly lower in women than men. And there are more similarities than differences between the sexes when it comes to cardiovascular disease.

Men and women are similar in the following ways. For both sexes:

- Cardiovascular disease is the leading cause of death.
- Cardiovascular disease is a significant cause of disability.
- Similar amounts of money were spent on out-of-hospital medical services and on prescription medications.
- The risk factors are the same, and overall are present among roughly similar proportions of the population.

There are some differences between the sexes.

- Although the overall numbers of cardiovascular prescriptions dispensed for men and women are similar, there are some differences in the types of medicines supplied. Women were

more likely to be supplied diuretics, calcium channel blockers and renin-angiotensin system agents, whereas for men, supply rates were higher for antithrombotics, cardiac therapy medicines and lipid-lowering medicines. Rates for beta-blockers were similar for both sexes.

- Women are slightly more likely than men to be physically inactive or have depression.
- And women are slightly less likely than men to have high blood pressure, smoke or be overweight or obese.

It must be stressed that these differences are slight—the sexes are more similar than different in these areas.

However, in a couple of areas, there is a large difference.

- Women are almost twice as likely as men to have heart failure, based on self-reports.
- Women are about half as likely to have coronary heart disease as men, and half as likely as men to be admitted to hospital with coronary heart disease.
- Women hospitalised with cardiovascular conditions are significantly less likely to have several diagnostic tests and treatments than men. These include coronary angiography, echocardiography, coronary angioplasty or stenting, coronary artery bypass grafting, having a heart defibrillator implanted and carotid endarterectomy. In other areas of diagnosis and treatment, the gender balance is even. These areas are having heart valves repaired or replaced, or having a CT or MRI (magnetic resonance imaging) scan of the brain when hospitalised with stroke or its warning signs.

Data gaps

The ability to effectively monitor cardiovascular disease and cardiovascular risk factors and to provide a baseline for comparison in the future is impaired by some important data gaps.

For example, it is difficult to know how much the differences in rates of procedures between the sexes reflect differences in rates or severity of cardiovascular disease, and how much they reflect a difference in the way men and women are treated within the health system.

Access to clinical records, which would provide information on interventions and outcomes such as case fatality, is unavailable at a national level. This lack of data makes it difficult to determine whether women are receiving appropriate and equitable access to recommended interventions for coronary heart disease.

Other areas where good quality, recent national data are missing include:

- the prevalence and incidence of some types of cardiovascular disease (for example, heart failure, peripheral vascular disease and rheumatic heart disease)
- the use of some services (for example, cardiac rehabilitation services).

In relation to some risk factors, it should be noted that the most recent measured national data available are from the 1999–2000 Australian Diabetes, Obesity and Lifestyle Study. These data on blood pressure, blood cholesterol and diabetes prevalence are now 10 years old. The last detailed information collected about food and nutrient intake was in 1995. More recent estimates for these risk factors from the ABS 2007–08 National Health Survey are based on self-reported data. The inevitable discrepancy between measured and self-reported data makes it difficult to draw reliable conclusions.

Some steps have been taken to start filling these gaps: a national health risk survey is being planned; a coordinated register for rheumatic heart fever covering Northern Territory, Queensland and Western Australia is being established; and a national clinical register for stroke is being piloted. But there is room for further efforts.

Implications

Cardiovascular disease is a leading cause of premature death among Australian women. Cardiovascular risk factors are known and widespread among women; some of them are on the rise. Many of these risk factors are modifiable, leaving ample scope for prevention of cardiovascular disease.

The ageing Australian female population, and the high prevalence of many cardiovascular risk factors have important implications for Australia's health care system. As the number of women with cardiovascular disease predictably increases there will be an increased demand for preventive, medical and care services and a corresponding escalation in the economic cost.

Cardiovascular disease poses an important health threat to women that needs to be recognised and managed accordingly not only by health professionals, but also by women, the community and government.

Acknowledgments

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The main report *Women and heart disease: cardiovascular profile of women in Australia*, condensed in this summary, is freely available in full at < www.aihw.gov.au>.