CARDIOVASCULAR DISEASE

Cardiovascular disease is Australia's greatest health problem. It kills more people than any other disease (almost 53,000 deaths in 1997) and creates enormous costs for the health care system. It places a heavy burden on individuals and the community due to resulting disabilities. However, over the last decade there have been substantial falls in death rates, improvements in some risk factor levels and major advances in treatment and care.

WHAT IS CARDIOVASCULAR DISEASE?

In this report, cardiovascular disease refers to all diseases involving the heart and blood vessels. It includes International Classification of Diseases (ICD-9) codes 390–459.

In Australia, the types of cardiovascular diseases that pose the biggest cardiovascular problems are coronary heart disease, stroke, peripheral vascular disease and heart failure. Rheumatic fever and rheumatic heart disease are also significant conditions, due to their high levels among Indigenous Australians.

The main underlying problem in cardiovascular disease is atherosclerosis, a process that clogs blood-supply vessels with deposits of fat, cholesterol and other substances. It is most serious when it affects the blood supply to the heart, causing angina or heart attack, or to the brain, which can lead to a stroke.

DID YOU *know?*

- No other group of diseases in Australia costs the health care system more than cardiovascular diseases. In 1993–94, it accounted for $3.7 billion or 12% of total direct health system costs.
- People born in Australia are more likely to die from cardiovascular disease than Australian residents who were born overseas.
- Australians are 34% more likely to die from cardiovascular diseases than from cancers.

RISK FACTORS FOR CARDIOVASCULAR DISEASE

The major preventable risk factors for cardiovascular disease are tobacco smoking, high blood pressure, high blood cholesterol, overweight, insufficient physical activity, high alcohol use and type 2 diabetes. For stroke, atrial fibrillation is a further risk factor. Risk is higher for males than for females and strongly increases with age for both males and females.

HOW MANY AUSTRALIANS HAVE CARDIOVASCULAR CONDITIONS?

In 1995, an estimated 2.8 million Australians, or 16% of the population, had cardiovascular conditions.[1] High blood pressure was the most common condition for both males and females.

Sex and age

There was no significant difference in the proportion of males and females reporting cardiovascular conditions in 1995—16% for females and 14.5% for males.

The prevalence of cardiovascular conditions increases dramatically with age. For example, over 60% of people aged 75 and over had a cardiovascular condition in 1995 compared with less than 9% of those aged under 35.

Indigenous Australians [2]

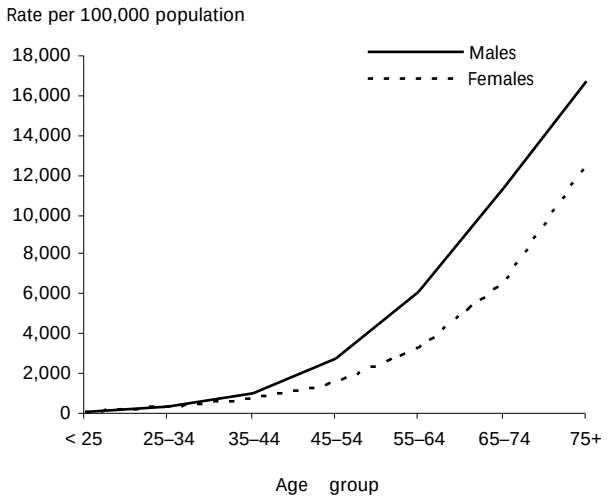
Indigenous Australians are more likely to have cardiovascular conditions than other Australians across almost all age groups. For example, in the 25–44 age group, 23% of Indigenous Australians reported cardiovascular conditions compared with 16% among other Australians.

1. This includes diseases of the circulatory sytem (ICD-9 codes 390–459) and circulatory-system-related congenital anomalies (ICD-9 codes 745–747).

2. Excludes Indigenous Australians living in remote areas.

HOSPITALISATION

In 1996–97, there were 421,516 hospitalisations for cardiovascular conditions (8% of all hospitalisations). Of these, 37% were attributed to coronary heart disease, 12% to stroke, 10% to heart failure, 3% to peripheral vascular disease and 0.4% to rheumatic fever and rheumatic heart disease.



Source: AIHW National Hospital Morbidity Database.

Hospital use for cardiovascular conditions, 1996–97

Sex and age

Males are more likely to be hospitalised for cardiovascular conditions than females, across all age groups.

Hospital use for cardiovascular conditions increases with age. Although men and women aged 65 and over represent only 12% of the total population, they account for almost 60% of hospitalisations for cardiovascular conditions.

Length of stay in hospital

There has been a decline in the average length of stay in hospital for cardiovascular conditions from 7.6 days in 1993–94 to 5.9 days in 1996–97. Those hospitalised for stroke tended to stay the longest (on average 10.5 days), followed by peripheral vascular disease (8.7 days), heart failure (8.6 days), rheumatic fever and rheumatic heart disease (7.4 days), and coronary heart disease (5 days). The average length of stay for non-cardiovascular conditions was 4 days.

Although men are more likely than women to be hospitalised for cardiovascular conditions, women tended to stay in hospital longer (on average 6.3 days compared with 5.6 days). Length of stay in hospital increases with age, with those aged 85 and over staying in hospital for 10 days on average.

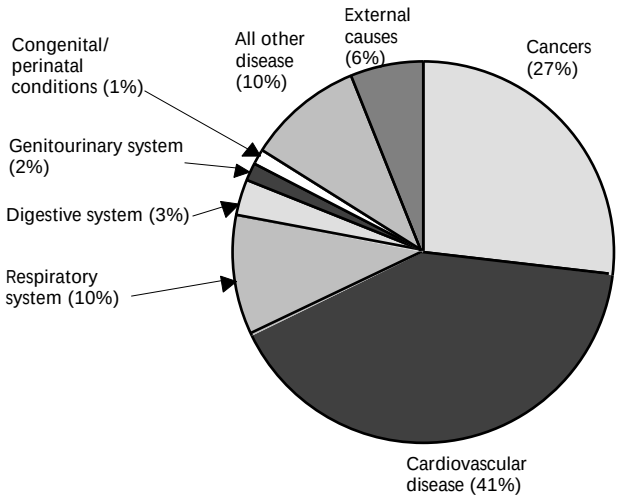
DEATHS

Cardiovascular disease was the leading cause of death among Australians in 1997, accounting for 52,641 deaths, 41% of all deaths.

Coronary heart disease was the major cardiovascular cause of death accounting for 55% of all such deaths, followed by stroke (23%), heart failure (5%), peripheral vascular disease (4%) and rheumatic fever and rheumatic heart disease (0.7%).

Trends

Over the period 1986–97, death rates from cardiovascular disease have been declining at a rate of 3.7% per year for males and 3.5% per year for females, a faster rate than for all causes overall. This decline is partly due to improved survival following cardiovascular events, and partly due to falls in the rate at which people get the disease due to improvements and better management of the associated risk factors.



Source: ABS 1999a.

Proportion of deaths by major disease categories, 1997

Sex and age

Males are more likely to die from cardiovascular disease than females across almost all age groups, with males aged under 75 experiencing death rates 2 to 3 times those of females in 1997. Among the elderly (75 and over age group), more women die from cardiovascular disease than men, with the age-specific death rates among elderly women approaching those of elderly men. This can be explained by the much greater number of women than men who live into old age.

Although cardiovascular disease is a common cause of death among middle-aged Australians, it kills an even greater proportion of older people. Among those aged 75 and over, cardiovascular disease accounts for 50% of all deaths.

Socioeconomic groups

People from lower socioeconomic groups are more likely to die from cardiovascular disease than are those from higher socioeconomic groups. In 1991, people aged 25–64 living in the lowest socioeconomic group died from cardiovascular disease at around twice the rate of those living in the highest socioeconomic group. This difference in death rates has existed since at least the 1970s.

Indigenous Australians [1]

Indigenous Australians died from cardiovascular disease at twice the rate of other Australians in 1995–97. The difference is even greater among those aged 25–64 where Indigenous death rates were 7 and 9 times those of other Australian men and women respectively.

Urban, rural and remote areas

Cardiovascular disease death rates were higher in rural areas compared with urban areas in Australia in 1995–97. Rates were not significantly different in remote areas.

States and Territories

Death rates for cardiovascular disease varied between the States and Territories from 20% above the national average to 10% below the national average in 1995–97. Death rates were highest in the Northern Territory and Tasmania, and lowest in Western Australia.

State and Territory prevalence rates of smoking, overweight and physical inactivity parallel the cardiovascular disease death levels, suggesting that variation in death rates can be partly explained by differences in the prevalence of risk factors.

FURTHER INFORMATION

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Detailed data

Refer to the Statistical tables section.

Main data sources

1995 National Health Survey (Australian Bureau of Statistics).

National Hospital Morbidity Database (Australian Institute of Health and Welfare).

National Mortality Database (Australian Institute of Health and Welfare).

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1. Includes data from Western Australia, South Australia and the Northern Territory only.

CORONARY HEART DISEASE

Coronary heart disease is the largest single cause of death in Australia, claiming over 29,000 lives in 1997. It kills over three times more people than lung and breast cancer combined, the third most common cause of death in Australia, and a far greater number than other leading causes of death. However, death rates from coronary heart disease have fallen substantially, by over 60% since the late 1960s.

WHAT IS CORONARY HEART DISEASE?

Coronary heart disease (ischaemic heart disease), ICD-9 codes 410–414, is the most common cause of sudden death in Australia. It comprises mainly heart attack and angina. A heart attack occurs when a vessel supplying blood to the heart muscle suddenly becomes blocked by a blood clot. This is a medical emergency and the blockage will lead to death of some heart muscle unless the clot can be quickly dissolved by drugs given in hospital. Angina is a temporary chest pain or discomfort caused by a reduced blood supply to the heart muscle.

Among Australians having a heart attack, over 4 in 10 will be dead within a year and over half of all heart attack deaths will occur before the person reaches hospital. About 25% of those who have a heart attack die within an hour of their first-ever symptoms. In individuals with known coronary heart disease having a second heart attack, the risk of sudden death may increase by 4 to 5 times.

RISK FACTORS FOR CORONARY HEART DISEASE

The major preventable risk factors for coronary heart disease are tobacco smoking, high blood cholesterol, high blood pressure, insufficient physical activity and overweight. Dietary factors and diabetes have also been associated with a higher risk of coronary heart disease. Men and older Australians are at greater risk of developing coronary heart disease.

HOW MANY AUSTRALIANS HAVE CORONARY HEART DISEASE?

No national data are available on the number of Australians who have coronary heart disease. However, the Universities of Newcastle and Western Australia and the Queensland Department of Health have developed a method to estimate the rate of heart attacks among people aged 35–69.

In 1995–96 there were an estimated 19,910 coronary heart disease events (mainly heart attacks) in Australia among people aged 35–69. Non-fatal heart attacks represented almost two-thirds of all such cases (12,955 cases).

Sex and age

Non-fatal heart attacks were three times more common among men than women in the 35–69 age group. Rates of heart attacks increase dramatically with age.

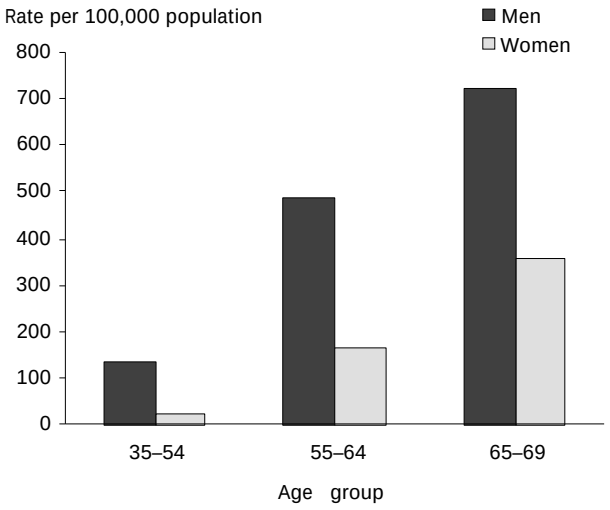
Trends

Trends in rates of heart attacks among men and women aged 35–64 have been monitored in Newcastle and Perth, as part of the World Health Organization's multinational Monitoring of Trends and Determinants in Cardiovascular Disease (MONICA) project. Rates of non-fatal heart attacks have fallen significantly between 2.5% and 3.7% per year during the period 1984–93.

Rates of first heart attacks (both fatal and non-fatal) among middle-aged Australians have been falling for at least the last decade.

DID YOU *know?*

- For a 40-year-old, the risk of having coronary heart disease at some time in their future life is 1 in 2 for men and 1 in 3 for women.
- Every day, around 80 Australians die from coronary heart disease.
- Coronary heart disease is the most costly cardiovascular disease for the health care system, accounting for 24% of total cardiovascular disease costs. In 1993–94, coronary heart disease amounted to $894 million in direct health system costs.
- Australians in 1997 are two-thirds as likely to die from coronary heart disease as their counterparts a decade earlier.



Source: AIHW 1998.

Non-fatal heart attacks, 1993–96

HOSPITALISATION

In 1996–97, there were 155,975 hospitalisations for coronary heart disease (3% of all hospitalisations). Coronary heart disease accounted for 37% of all hospitalisations for cardiovascular conditions. Around half of all hospitalisations for coronary heart disease were for diagnostic and surgical procedures in 1996–97.

Sex and age

Males were at least twice as likely to be hospitalised for coronary heart disease than females. Hospital use for coronary heart disease increases rapidly with age, with 58% of such cases being aged 65 and over in 1996–97.

Length of stay in hospital

The average length of stay in hospital for coronary heart disease was 5 days in 1996–97, a decline from 1993–94 when the average length of stay was 5.9 days. Those hospitalised for coronary heart disease tend to stay for a shorter period than those hospitalised for other major cardiovascular conditions, diabetes and most cancers.

DEATHS

Coronary heart disease (mainly heart attacks) was the leading cardiovascular cause of death, accounting for 29,051 deaths (23% of all deaths) in Australia in 1997.

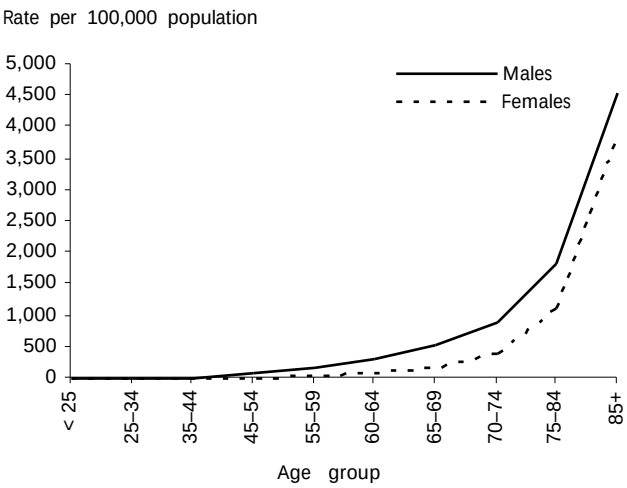
Trends

Coronary heart disease death rates have continued the decline that began in the 1960s and are falling at a rate of 4% per year among males and 3.8% per year among females for the period 1986–97.

Sex and age

Overall, males were almost twice as likely to die from coronary heart disease as females in 1997, with males aged under 70 having death rates 3 to 5 times those of females. However, in the 85 and over age group, twice as many women died from coronary heart disease than did men. This can be explained by the much greater number of women than men who live into old age.

Coronary heart disease is the leading cause of premature death among males, and for females is second only to breast cancer. Deaths under the age of 70 are considered premature because life expectancy is now 75 for males and 81 for females.



Source: AIHW National Mortality Database.

Death rates from coronary heart disease, 1997

Socioeconomic groups

In 1991, people aged 25–64 from the lowest socioeconomic group were at least twice as likely to die from coronary heart disease as those from the highest socioeconomic group. This pattern has been observed for at least the last 30 years.

Indigenous Australians [1]

Indigenous Australians died from coronary heart disease at around 1.7 times the rate of other Australians in 1995–97. The difference is even greater among adults aged 25–64 where Indigenous death rates were 6 and 7 times those of other Australian men and women respectively.

Urban, rural and remote areas

For males, coronary heart disease death rates were higher in rural areas compared with urban areas in Australia in 1995–97. For females, there was no significant differences in coronary heart disease death rates across urban, rural and remote areas.

States and Territories

Death rates from coronary heart disease were highest in Tasmania and Queensland in 1995–97, but for the remaining States and Territories there were no significant differences in coronary heart disease death rates.

1. Includes data from Western Australia, South Australia and Northern Territory only.

FURTHER INFORMATION

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Detailed data

Refer to the Statistical tables section.

Main data sources

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STROKE

Stroke is Australia's second greatest single killer after coronary heart disease, claiming over 12,000 lives in 1997. It is the leading cause of long-term disability in adults and it places great demands on family members and caregivers. Death rates from stroke have been falling since the late 1960s. Given the rapid ageing of the Australian population, however, and a slowing down of the decline in stroke death rates in recent years, the number of people dying from stroke and those surviving with a permanent disability is likely to increase in the future.

WHAT IS STROKE?

The term 'stroke' refers to cerebrovascular disease, ICD-9 codes 430–438. Stroke occurs when an artery supplying blood to a part of the brain suddenly becomes blocked, which occurs in 85% of the cases, or bleeds (15% of cases). This can damage part of the brain, which in turn impairs a range of functions including movement of body parts and communication.

About one-third of those who have had a stroke will die within 12 months. A further one-third are permanently disabled, with some degree of paralysis of one side of the body, difficulty in communicating, or a range of other problems that may affect their quality of life and their ability to function in society.

DID YOU *know?*

- For a 45-year-old, the risk of having a stroke before age 85 is 1 in 4 for men and 1 in 5 for women.
- Stroke is the cause of nearly 25% of all chronic disability in Australia.
- About 25% of all people who have a stroke die within the first month of their stroke.
- People who have a stroke are on average at least 10 years older than those who have heart attacks.
- Australians born in Europe are more likely to have a stroke than their Australian-born counterparts.

RISK FACTORS FOR STROKE

Risk factors for stroke include high blood pressure, tobacco smoking, heavy alcohol consumption, high blood cholesterol, overweight, and insufficient physical activity. Transient ischaemic attack (TIA), atrial fibrillation, diabetes and history of heart attacks are also associated with an increased risk of stroke.

HOW MANY AUSTRALIANS HAVE A STROKE?

Each year, around 40,000 Australians have a stroke, with 70% of these first-ever strokes. The 1995 National Health Survey estimated that 116,500 Australians, or 0.6% of the population, have had a stroke at some time in their lives. In the 1990 Perth Community Stroke Study it was estimated that 1.2% of the population in Perth have had a stroke. This equates to approximately 220,000 people in Australia.

Sex and age

More women are affected by stroke than men, due to the larger number of elderly women. However, the proportion of men with stroke is 30% higher than for women.

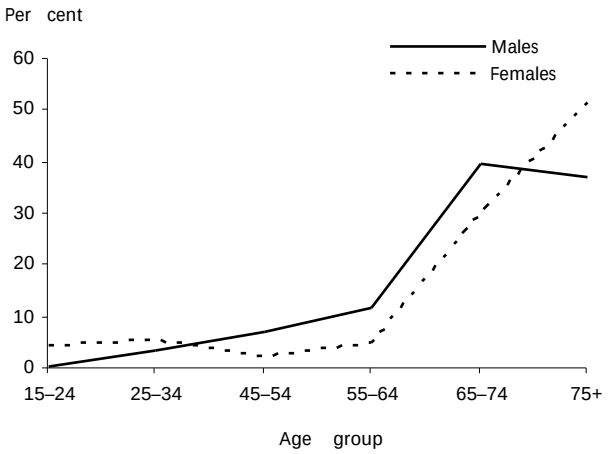
Stroke is more common among older Australians, with around 50% of all strokes occurring in those aged 75 years and over.

DISABILITY DUE TO STROKE

The 1993 Survey of Disability, Ageing and Carers found that, among Australians with a disability, an estimated 31,700 had stroke as the main cause of their disability. Paralysis and physical activity restrictions affected 1 in 3 stroke sufferers, and almost 2 in 3 needed assistance with mobility.

Sex and age

Females with a disability were more likely than males with a disability to have had a stroke. The prevalence of stroke among those with a disability increases markedly with age, with 80% of those with a stroke aged 65 years and over.



Source: AIHW analysis of the 1993 Survey of Disability, Ageing and Carers.

People whose disability is caused by stroke, 1993

HOSPITALISATION

In 1996–97, there were 51,854 hospitalisations for stroke (1% of all hospitalisations). Stroke accounted for 12% of all hospitalisations for cardiovascular conditions.

Sex and age

Males were 31% more likely to be hospitalised for stroke than females. Hospital use for stroke increases rapidly among older Australians, with over three-quarters of such cases being aged 65 and over in 1996–97.

Length of stay in hospital

The average length of stay in hospital for stroke was 10.5 days in 1996–97, a decline from 1993–94 when the average length of stay was 15.6 days. The length of stay in hospital for stroke was twice as long as that for other cardiovascular conditions (10.5 days compared with 5.3 days) in 1996–97. Length of stay in hospital was generally higher for females than for males (11.5 days compared with 9.6 days).

DEATHS

Stroke was the second most common cause of death among Australians in 1997, accounting for 12,133 deaths or 9% of deaths from all causes. Australian stroke death rates were among the lowest of the 17 countries for which data were compared.

Trends

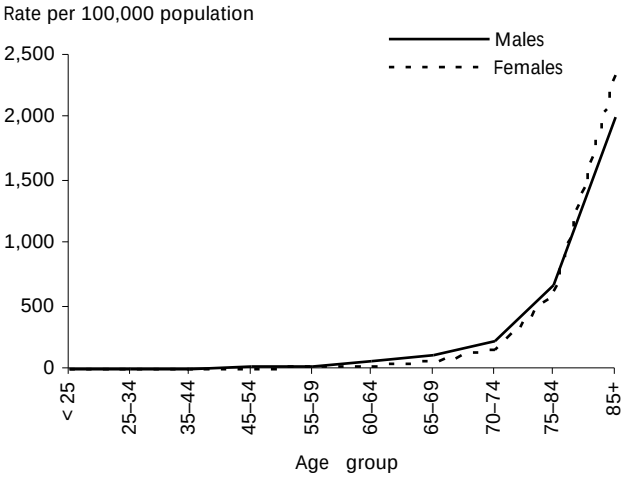
Between 1986 and 1997, death rates from stroke have been declining at a rate of 3.2% per year among males and 3.5% per year among females.

Sex and age

Males are slightly more likely to die from stroke than females across almost all age groups. Males aged 45–74 had death rates 1.5 times those of females in 1997. The difference in stroke death rates between males and females is not as marked as for coronary heart disease.

Although the age-specific death rates from stroke are generally higher among males than females (the exception being the 85 and over age group), the actual number of deaths is greater for females. This apparent inconsistency can be explained by the much greater number of women than men who live into old age, where death rates from stroke are considerably higher.

Stroke death rates increase dramatically with age, with 87% of all deaths from stroke occurring among those aged 70 and over.



Source: AIHW National Mortality Database.

Death rates from stroke, 1997

Socioeconomic groups

In 1991, people aged 25–64 from the lowest socioeconomic group were twice as likely to die from stroke as those in the highest socioeconomic group.

Indigenous Australians [1]

Indigenous males and females died from stroke at 3 and 1.7 times the rate of other Australians respectively in 1995–97. The difference is even greater among adults aged 25–64 where Indigenous death rates were 8 times those of other Australians.

Urban, rural and remote areas

There were no significant differences in stroke death rates across urban, rural and remote areas of Australia in 1995–97.

States and Territories

There were no significant differences in stroke death rates across the States and Territories in 1995–97.

1. Includes data from Western Australia, South Australia and Northern Territory only.

FURTHER INFORMATION

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Detailed data

Refer to the Statistical tables section.

Main data sources

1993 Survey of Disability, Ageing and Carers (Australian Bureau of Statistics).

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HEART FAILURE

Heart failure is common among middle-aged and elderly Australians and people who have had a heart attack. The prevalence of this condition is likely to increase considerably as the population ages. Heart failure accounts for almost 3,000 deaths each year. The cost of heart failure treatment exceeds that of all types of cancers combined.

WHAT IS HEART FAILURE?

Heart failure, ICD-9 code 428, occurs when the heart is unable to pump blood adequately to the rest of the body. There are many causes of heart failure, notably heart attack, high blood pressure or a damaged heart valve. Heart failure that causes swelling of the ankles and lung congestion is called congestive heart failure. Symptoms commonly seen in people with heart failure are fatigue and breathlessness.

The most common medical treatment for heart failure are diuretics and ACE (angiotensin converting enzyme) inhibitors.

RISK FACTORS FOR HEART FAILURE

The most important predisposing factors for heart failure are coronary heart disease and high blood pressure. High blood cholesterol, diabetes, tobacco smoking, overweight and insufficient physical activity have also been associated with an increased risk of heart failure.

HOW MANY AUSTRALIANS HAVE HEART FAILURE?

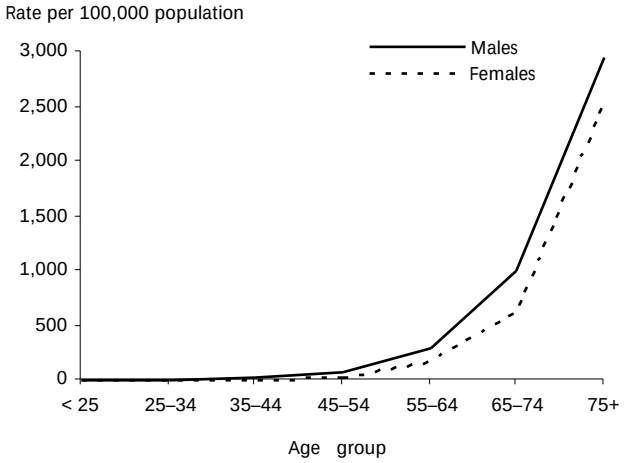
No national data are available on the number of Australians who have heart failure.

DID YOU *know?*

- Heart failure accounts for one of the largest number of patient days in hospital among cardiovascular conditions and ranks fifth highest for hospital patient days overall in 1996–97.
- Direct health care costs for heart failure amounted to $411 million in 1993–94 (11% of cardiovascular disease costs), the fourth highest among cardiovascular conditions after coronary heart disease, high blood pressure and stroke.

HOSPITALISATION

In 1996–97, there were 40,970 hospitalisations for heart failure (0.8% of all hospitalisations). Heart failure accounted for 10% of all hospitalisations for cardiovascular conditions.



Source: AIHW National Hospital Morbidity Database.

Hospital use for heart failure, 1996–97

Sex and age

Males are more likely to be hospitalised for heart failure than females. Hospital use for heart failure tends to increase with age, with those aged 70 and over accounting for over three-quarters of all hospitalisations for heart failure.

Length of stay in hospital

There has been a decline in the average length of stay in hospital for heart failure, from 10.6 days in 1993–94 to 8.6 days in 1996–97. Although males are more likely to be hospitalised for heart failure than females, females tended to have a longer average length of stay in hospital (9.1 days compared with 8.1 days).

DEATHS

Heart failure is the third largest cause of cardiovascular deaths in Australia. It accounted for 2,703 deaths or 2.1% of deaths from all causes in 1997.

Trends

Death rates from heart failure have been declining at a rate of 3.8% per year for males and 3.7% per year for females between 1986 and 1997.

Sex and age

In 1997, more females died from heart failure than males, but death rates among males aged under 85 were higher than for females. This apparent inconsistency can be explained by the much greater number of women than men who live to be over 85, where death rates from heart failure are considerably higher.

Deaths from heart failure occur predominantly among older Australians, with 94% of such deaths occurring among those aged 70 and over.

Socioeconomic groups

The number of heart failure deaths in the low and high socioeconomic groups is too small to draw any reliable conclusions.

Indigenous Australians [1]

Among Indigenous Australians there are relatively few deaths attributable to heart failure. This may be a reflection of the younger age structure of Indigenous Australians compared with the overall Australian population. Between 1992 and 1997, 33 Indigenous males and 36 Indigenous females died from heart failure over the five years. In 1995–97 there were no significant differences in heart failure death rates between Indigenous and other Australians.

Urban, rural and remote areas

Heart failure death rates were higher in rural areas compared with urban areas in 1995–97. Rates in remote areas were not significantly different.

Heart failure death rates, 1995–97

	Males	Females
	Rate per 100,000 population	
Urban areas	12.7	11.5
Rural areas	15.6	13.9
Remote areas	17.5	13.6
Australia	13.7	12.2

Note: Age-standardised to the 1991 Australian population.

Source: AIHW National Mortality Database.

States and Territories [2]

In 1995–97, heart failure death rates were generally lower in Queensland and Western Australia, and for the remaining States and Territories there were no significant differences in heart failure death rates.

FURTHER INFORMATION

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Detailed data

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Main data sources

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References/further reading

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1. Includes data from Western Australia, South Australia and the Northern Territory only.

2. The Northen Territory has been excluded from this analysis due to the small number of deaths occurring there.

PERIPHERAL VASCULAR DISEASE

Peripheral vascular disease occurs mainly among older people, and is likely to increase significantly as the population ages. Peripheral vascular disease directly claimed over 2,000 lives in Australia in 1997.

WHAT IS PERIPHERAL VASCULAR DISEASE?

Peripheral vascular disease, ICD-9 codes 441–444, occurs due to a reduced arterial blood supply to the legs. This ranges from asymptomatic disease, through pain on walking, to pain at rest and limb-threatening reduced blood supply that can lead to amputation. The major cause of death in people with peripheral vascular disease is coronary heart disease.

RISK FACTORS FOR PERIPHERAL VASCULAR DISEASE

The major preventable risk factors for peripheral vascular disease include diabetes, tobacco smoking, high blood pressure and high blood cholesterol.

HOW MANY AUSTRALIANS HAVE PERIPHERAL VASCULAR DISEASE?

No national data are available on the number of Australians who have peripheral vascular disease.

HOSPITALISATION

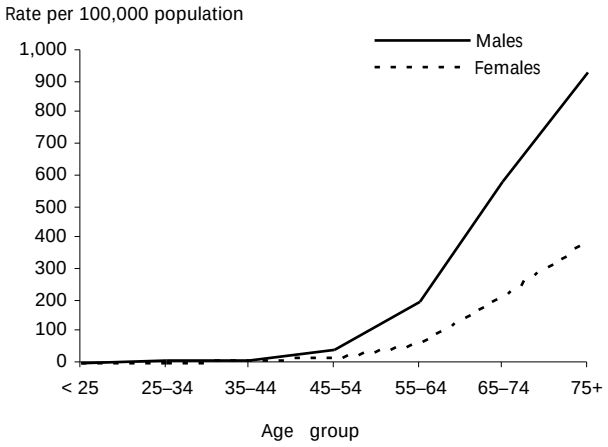
In 1996–97, there were 13,802 hospitalisations for peripheral vascular disease (0.3% of all hospitalisations). Peripheral vascular disease accounted for 3% of all hospitalisations for cardiovascular conditions.

Sex and age

Males are 2.5 times as likely to be hospitalised for peripheral vascular disease than females. Hospital use for peripheral vascular disease tends to increase with age, with those aged 65 and over accounting for over three-quarters of all hospitalisations for peripheral vascular disease.

DID YOU *know?*

- Direct health care costs for peripheral vascular disease amounted to $179.5 million in 1993–94, 5% of all cardiovascular disease costs.
- There were 635 amputations for peripheral vascular disease in 1996–97.



Source: AIHW National Hospital Morbidity Database.

Hospital use for peripheral vascular disease, 1996–97

Length of stay in hospital

The average length of stay in hospital for peripheral vascular disease was 8.7 days in 1996–97, a decline from 1993–94 where the average length of stay was 10.4 days. Males tended to have a slightly longer average length of stay than females, 8.8 days compared with 8.5 days. This pattern differs from cardiovascular disease overall, where females generally had a longer length of stay in hospital.

DEATHS

Peripheral vascular disease accounted for 2,181 deaths or 1.7% of deaths from all causes in 1997.

Trends

Deaths from peripheral vascular disease have been declining at a rate of 2.5% per year for males and 0.9% per year for females between 1986–97. Death rates from this disease have been falling at a slower rate than for the other major causes of cardiovascular disease.

Sex and age

In 1997, males were twice as likely to die from peripheral vascular disease than females. Peripheral vascular disease increases dramatically with age, with 83% of deaths occurring among those aged 70 and over.

Socioeconomic groups

People from lower socioeconomic groups are more likely to die from peripheral vascular disease than are those from higher socioeconomic groups.

Indigenous Australians [1]

Among Indigenous Australians there are relatively few deaths attributable to peripheral vascular disease. This may be a reflection of the younger age structure of Indigenous Australians compared with the overall Australian population. Between 1992 and 1997, 11 Indigenous males and 8 Indigenous females died from peripheral vascular disease over the five years. In 1995–97, there were no significant differences in peripheral vascular disease death rates between Indigenous and other Australians.

Urban, rural and remote areas

There were no significant differences in peripheral vascular disease death rates across urban, rural and remote areas of Australia in 1995–97.

Peripheral vascular disease death rates, 1995–97

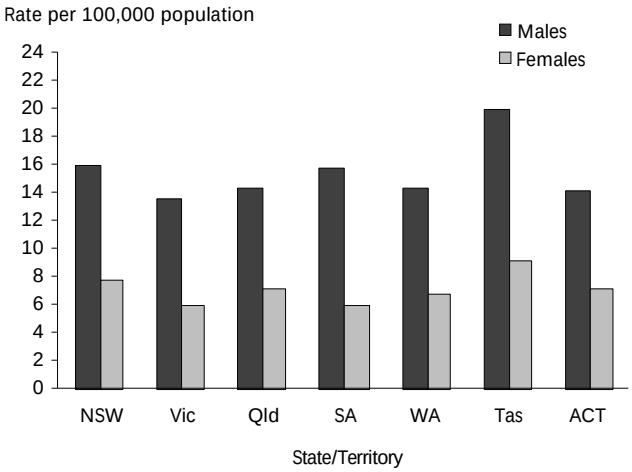
	Males	Females
	Rate per 100,000 population	
Urban areas	14.6	6.8
Rural areas	16.2	7.5
Remote areas	12.7	6.6
Australia	15.0	7.0

Note: Age-standardised to the 1991 Australian population.

Source: AIHW National Mortality Database.

States and Territories [2]

There were no significant differences in peripheral vascular disease death rates across the States and Territories in 1995–97.



Note: Age-standardised to the 1991 Australian population.

Source: AIHW National Mortality Database.

Death rates from peripheral vascular disease, 1995–97

FURTHER INFORMATION

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Detailed data

Refer to the Statistical tables section.

Main data sources

National Hospital Morbidity Database (Australian Institute of Health and Welfare).

National Mortality Database (Australian Institute of Health and Welfare).

References/further reading

Mathur S & Gajanayake I 1998. Surveillance of cardiovascular mortality in Australia 1985–96. Cardiovascular Disease Series No. 6. AIHW Cat. No. CVD 3. Canberra: AIHW.

Waters A-M, Armstrong T & Senes-Ferrari S 1998. Medical care of cardiovascular disease in Australia. Cardiovascular Disease Series No. 7. AIHW Cat. No. CVD 4. Canberra: AIHW.

1. Includes data from Western Australia, South Australia and the Northern Territory only.

2. The Northern Territory has been been excluded from this analysis due to the small number of deaths occurring there.

RHEUMATIC FEVER AND RHEUMATIC HEART DISEASE

Rheumatic fever and rheumatic heart disease account for less than 400 deaths each year. Although this disease is rare among the Australian population overall, rates among Indigenous Australians living in remote areas are very high. The incidence of acute rheumatic fever among Indigenous children in 1996 exceeds that of poor areas of urban Australia 50 years ago. Since the 1950s, acute rheumatic fever and rheumatic heart disease have largely become diseases of economically disadvantaged people.

WHAT ARE RHEUMATIC FEVER AND RHEUMATIC HEART DISEASE?

Rheumatic fever, ICD-9 codes 390–392, is caused by Group A Streptococcus bacteria which enter the bloodstream from infected sores or tonsils. It occurs mainly in children and young adults and may affect the heart valves, heart muscle and its lining, the joints and the brain. Recurrences of rheumatic fever can be almost prevented by strict follow-up and monthly injections of penicillin.

Rheumatic heart disease, ICD-9 codes 393–398, is the damage done to the heart muscle and heart valves by an attack of acute rheumatic fever.

RISK FACTORS FOR RHEUMATIC FEVER AND RHEUMATIC HEART DISEASE

Poverty and overcrowding, poor sanitary conditions, lack of education and limited access to medical care for adequate diagnosis and treatment are recognised as contributing factors to this disease in Australia.

DID YOU *know?*

- Prevalence of rheumatic heart disease among Indigenous Australians is one of the highest in the world.
- Rheumatic heart disease remains the leading cause of heart disease among children and young adults in many developing countries.
- The World Health Organization estimates that 12 million people worldwide are affected by rheumatic fever and rheumatic heart disease, with 400,000 deaths annually.

DISEASE RATES IN THE TOP END OF THE NORTHERN TERRITORY

A register of people with known or suspected rheumatic fever and rheumatic heart disease has been established in the Top End of the Northern Territory. This section draws on data from this register.

Acute rheumatic fever

Trends

Acute rheumatic fever among Indigenous children in the Top End has declined over the last decade. Between 1994 and 1998 the rate of Indigenous children aged 5–14 with acute rheumatic fever was 193 per 100,000 population, compared with 254 per 100,000 population in 1988–93.

Acute rheumatic fever among Indigenous Australians in the Top End of the Northern Territor y, 1988–98

	5-14 years		All ages	
Years	Rate [(a)]	No.	Rate [(a)]	No.
1988–93	254	91	—	—
1994	204	18	84.3	27
1995	148	13	78.0	25
1996	238	21	105.0	38
1997	159	14	69.0	25
1998	216	19	80.2	29
1994–98	193	85	83.4	144

(a) Rate per 100,000 population.

Source: Rheumatic Heart Disease Register.

Current rates

In 1998, Indigenous children aged 5–14 accounted for two-thirds of all cases of acute rheumatic fever among Indigenous Australians in the Top End of Australia's Northern Territory (19 cases). There were 216 cases for every 100,000 Indigenous children aged 5–14. In contrast, the rate among other Australian children was 12.8 per 100,000 (2 cases).

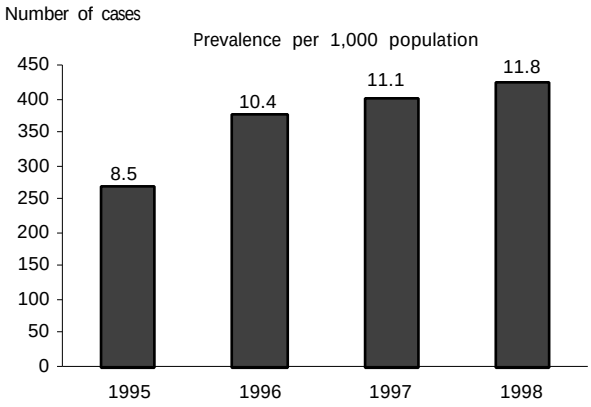
Rheumatic heart disease

Trends

The prevalence of rheumatic heart disease is increasing in the Top End of the Northern Territory. In 1998, there were 11.8 cases per 1,000 Indigenous people, compared with 8.5 per 1,000 in 1995. This increase could be due to an improvement in the reporting and awareness of the condition and its symptoms rather than a rise in the number of cases.

Current rates

In 1998, there were 451 people with rheumatic heart disease, of whom 95% were Indigenous Australians (426 cases). Rheumatic heart disease occurred in 34 children aged 5–14 (8% of all cases), of whom all were Indigenous Australians. The prevalence of rheumatic heart disease among Indigenous Australians was 11.8 per 1,000. In contrast, among other Australians the rate was 0.24 per 1,000.



Source: Rheumatic Heart Disease Register.

Rheumatic heart disease among Indigenous Australians, Top End of the Northern Territory, 1995–98

HOSPITALISATION

In 1996–97, there were 1,864 hospitalisations for rheumatic fever and rheumatic heart disease (0.03% of all hospitalisations) in Australia. Rheumatic fever and rheumatic heart disease accounted for 0.4% of all hospitalisations for cardiovascular conditions.

Although Indigenous Australians represent less than 2% of the population, they account for 14% of hospitalisations for rheumatic fever and rheumatic heart disease.

Sex and age

Females are more likely to be hospitalised for rheumatic heart disease than males, and for rheumatic fever there is little difference between males and females.

Hospital use for rheumatic heart disease increases with age up to age 80, with almost 60% of such cases aged 55–79. Rheumatic fever is more common among the younger age groups. Of the hospitalisations for rheumatic fever, 54% occur among those aged 5–19.

Length of stay in hospital

The average length of stay in hospital for rheumatic fever and rheumatic heart disease in 1996–97 was 7.4 days, a marginal decline from 1993–94 when the average length of stay was 7.9 days. Females tended to stay in hospital longer than males for this condition, on average 7.6 days compared with 7.1 days.

DEATHS

Rheumatic fever and rheumatic heart disease accounted for 348 deaths in Australia or 0.3% of deaths from all causes in 1997.

Trends

Death rates from rheumatic fever and rheumatic heart disease have been declining at a rate of 3.9% per year for males and 4.1% per year for females between 1986 and 1997. These death rates have been falling faster than for many of the other cardiovascular diseases. The rapid decline in death rates from this disease suggests improvement in living conditions and better access to medical care among disadvantaged Australians.

Sex and age

There were no significant differences in rheumatic fever and rheumatic heart disease death rates between males and females in 1997. Two in three of these deaths occurred among those aged 70 and over.

Socioeconomic groups

The number of deaths from rheumatic fever and rheumatic heart disease in the low and high socioeconomic groups is too small to draw any reliable conclusions.

Indigenous Australians [1]

Indigenous Australians are far more likely to die from rheumatic fever and rheumatic heart disease than other Australians. In 1995–97, Indigenous males were 19 times and Indigenous females 13 times as likely to die from rheumatic fever and rheumatic heart disease as other Australians.

Urban, rural and remote areas

Among females, death rates from rheumatic fever and rheumatic heart disease were higher in remote areas compared with urban and rural areas in 1995–97. For males, there were no significant differences in rheumatic fever and rheumatic heart disease death rates across urban, rural and remote areas of Australia.

States and Territories

Most deaths from rheumatic fever and rheumatic heart disease occurred in New South Wales, Victoria and Queensland. The remaining States and Territories accounted for 25% of all such deaths in 1995–97. There were no significant differences in rheumatic fever and rheumatic heart disease death rates across the States and Territories.

1. Includes data from Western Australia, South Australia and the Northern Territory only.

FURTHER INFORMATION

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Detailed data

Refer to the Statistical tables section.

Main data sources

National Hospital Morbidity Database (Australian Institute of Health and Welfare).

National Mortality Database (Australian Institute of Health and Welfare).

Rheumatic Heart Disease Register (Australian Institute of Health and Welfare and Department of Health and Aged Care).

References/further reading

Carapetis J, Wolff DR & Currie BJ 1996. Acute rheumatic fever and rheumatic heart disease in the Top End of Australia's Northern Territory. Medical Journal of Australia 164:146–49.

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