



Coronary heart disease

What is coronary heart disease?

Coronary heart disease (CHD), also known as ischaemic heart disease, is the most common form of cardiovascular disease in Australia. CHD is due to blockages in the heart's own (coronary) arteries and presents as a heart attack (or acute myocardial infarction), angina or sudden death (AIHW 2015a).

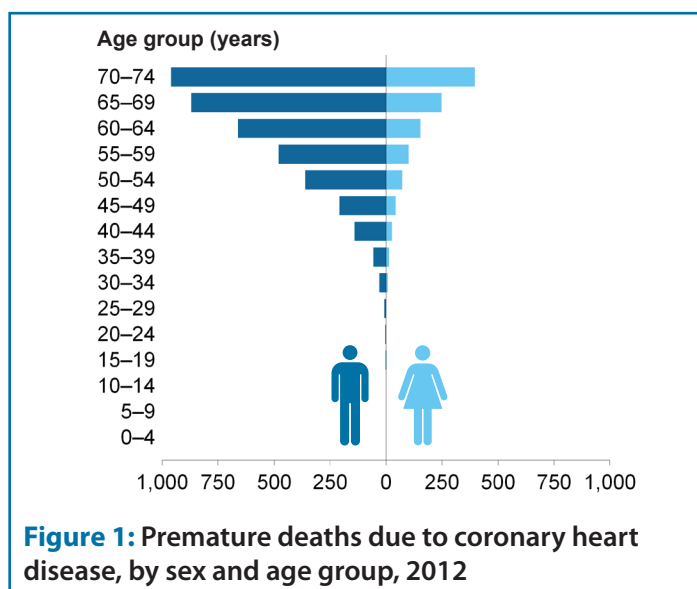
The primary cause of CHD—atherosclerosis—is a slow build-up of fatty deposits in the coronary arteries which reduces the flow of blood to the heart (National Heart Foundation of Australia 2015).

Premature mortality refers to deaths that occur at a younger age than a selected cut-off. For this analysis, deaths among people under the age of 75 are considered premature.

Who dies prematurely from coronary heart disease?

In 2012, there were 4,825 premature deaths due to CHD in Australia. This makes CHD the biggest killer of Australians under the age of 75. More than 3 times as many males as females died prematurely from CHD (3,773 and 1,052 deaths, respectively) (Figure 1).

Premature deaths from CHD increased with age. Between the ages of 50–54 and 70–74, the age-standardised mortality rate increased sixfold—from 28 deaths per 100,000 population to 179 deaths per 100,000. There were relatively few deaths among people under the age of 40.



Quick facts

Coronary heart disease was the leading (1st) cause of premature death in Australia in 2010–2012.

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More than 3 in 4 premature deaths due to coronary heart disease in 2012 were among males (78%).



The premature death rate due to coronary heart disease decreased by 85% over the 3 decades from 1982 to 2012.

85%

What population-level approaches target premature deaths due to coronary heart disease?

Both individual and population-level interventions can modify an individual's risk of CHD. 'Modifiable' risk factors—which health practitioners and individuals can take action to address—include:

- smoking (active smoking and exposure to second-hand smoke)
- high blood cholesterol
- high blood pressure (also known as hypertension)
- diabetes
- physical inactivity
- being overweight
- depression, social isolation and a lack of social support (National Heart Foundation of Australia 2015).

Monitoring even moderate risk factors in the wider population helps to identify people who may benefit from preventive interventions (AIHW 2015a).

Mortality from cardiovascular diseases, including CHD, can be reduced by detection and management of high blood pressure and high blood cholesterol levels through lifestyle changes, medication and long-term management (National Heart Foundation 2010).

A range of programs and initiatives support prevention, optimal detection and treatment of CHD in developed countries like Australia (Department of Health 2015);



however some risk factors which can be targeted at the population-level, such as obesity, continue to grow here and internationally (Fuster & Kelly 2010). Broader social and environmental factors mean that individual behaviour change is difficult and many people do not have the resources to seek appropriate health care. There has been improvement in some risk factors, for example through the delivery of clinical prevention in high-risk patients and reductions in smoking (Fuster & Kelly 2010).

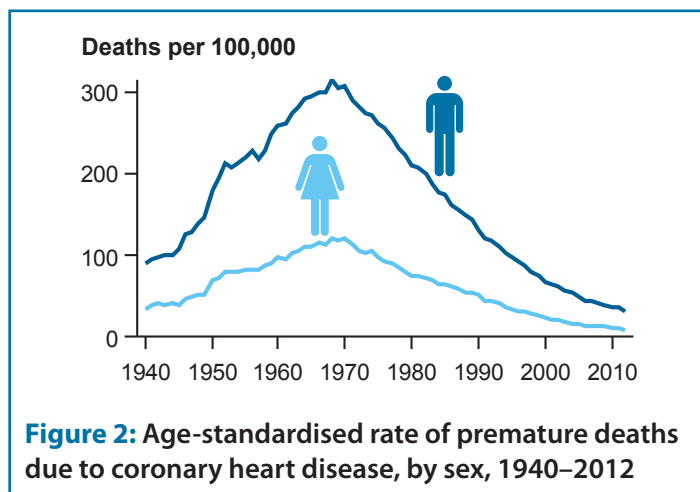
Strategies controlling tobacco use and exposure to second-hand smoke are some of the most well-developed areas of policy targeting cardiovascular health, and are supported by strong evidence (Fuster & Kelly 2010).

Australia is a signatory of the WHO Framework Convention on Tobacco Control which focuses on both demand reduction and supply control including taxation, health warnings on tobacco products, advertising controls and quit smoking services (WHO 2008).

Premature deaths due to coronary heart disease are classified as 'potentially avoidable in the context of the present health system' according to nationally agreed definitions (AIHW 2015b). The definition includes deaths from conditions that are potentially preventable through individualised care and/or treatable through existing primary or hospital care.

How have premature death rates due to coronary heart disease changed over time?

Historically, premature mortality from CHD has been consistently higher among males (Figure 2). Both males and females have experienced substantial declines in CHD death rates over the past 4 decades.



The age-standardised rate for males peaked at 315 deaths per 100,000 population in 1968 and fell to 32 deaths per 100,000 in 2012—a 90% decrease. The age-standardised rate for females declined from a peak of 120 in 1970 to 8.8 deaths per 100,000 in 2012—a 93% decrease.

While there have been decreases in the age-standardised premature mortality rate among both sexes, the rate ratio between the sexes has increased. Between 1992 and 2012 the age-standardised rate ratio increased from 2.7 to 3.6. In other words, males were still 3.6 times as likely as females to die prematurely from CHD in 2012.

While the overall downward trend in CHD death rates has occurred in each age group, the rate of decline for both males and females aged between 40 and 69 has slowed in the decade to 2011 (AIHW 2014).

What has influenced trends in premature deaths due to coronary heart disease?

Both prevention and treatment (including medical and surgical) methods have contributed to the decrease in premature deaths from CHD. There have been marked increases in the use of statins to treat high cholesterol and of anti-hypertensive medications to treat high blood pressure (Briffa et al. 2009), as well as improvements in the rates of smoking, high blood pressure and other risk factors (Taylor et al. 2006).

For people with established CHD, significant reductions in coronary events and deaths have been achieved through revascularisation procedures that restore good blood supply to the heart by either reducing or bypassing coronary artery blockages. Better emergency care has also contributed to improved premature mortality rates (AIHW 2014).

Where can I find out more?

Premature mortality in Australia (including references):
<<http://www.aihw.gov.au/deaths/premature-mortality/>>.

AIHW GRIM books:
<<http://www.aihw.gov.au/deaths/grim-books/>>.

AIHW web pages and publications:
<<http://www.aihw.gov.au/cardiovascular-disease/>>.

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