
Cardiovascular Diseases



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Cardiovascular diseases claim 18.6 million lives each year - we can avert that

Cardiovascular disease (CVD) - including heart disease and stroke - kills more people globally than any other disease, with around 80% of these deaths in low-and-middle-income countries. Meanwhile, there are many affordable policies that countries can implement to reduce the CVD burden and improve population health. Read more about the most common cardiovascular diseases and how we can better prevent and manage chronic diseases to save lives, yield economic benefits and achieve sustainable development goal 3.4.

The human heart beats around 100,000 times and pumps up to 7,500 litres of blood every day, carrying oxygen and nutrients to every cell in our body. It is our strongest muscle, and is essential for life. That's why it is so important to protect our hearts from cardiovascular disease, the world's leading cause of death and disability.

Fast facts

- Cardiovascular disease (CVD) is a class of diseases that affect the heart and blood vessels (veins and arteries).
- CVD, including heart disease and stroke, is the world's leading cause of death claiming 18.6 million lives each year - 33% of all global deaths. Of these deaths, 85% are due to ischemic heart diseases (e.g. heart attacks) and cerebrovascular diseases (e.g. strokes).
- More than 75% of CVD deaths are in low- and middle-income countries.
- Cases of [cardiovascular disease nearly doubled](#) [1] from 271 million in 1990 to 550 million in 2019, with deaths rising from 12.1 million to 18.6 million across the same time period.
- About 80% of premature deaths (between the ages of 30 and 70) from cardiovascular diseases can be prevented.
- Key risk factors for CVD include smoking, lack of physical activity, and unhealthy diet as well as co-morbidities

such as diabetes and hypertension.

- Interventions to address CVD which are affordable and scalable, even to LMICs with limited health system resources, are already available.

What is cardiovascular disease?

Cardiovascular disease is a class of diseases that affect the heart and blood vessels (veins and arteries). They are usually caused by fatty deposits that build up inside the arteries and result in an increased risk of blood clots, but can also be linked to damage in the arteries of organs like the brain, heart, kidneys and eyes. Strokes can be caused by bleeding from a blood vessel in the brain or from blood clots.

There are many different types of cardiovascular disease. Here are some of the most common ones.

Ischemic heart disease

Ischemic heart disease, sometimes called coronary artery disease or coronary heart disease, is the most common type of heart disease. It is caused by narrowed coronary arteries that supply blood to the heart muscle. When arteries are narrowed, less blood and oxygen reaches the heart muscle, which can cause a heart attack. For many people, a heart attack will be the first time they realise they are living with ischemic heart disease.

Heart attack

A heart attack, or myocardial infarction, is a medical emergency that occurs when something, usually a blood clot, cuts off the flow of blood to the heart. Without oxygen and nutrients, the heart muscle begins to die. A heart attack may not be fatal, especially if you receive immediate medical attention and treatment, but it can still cause lasting damage to the heart. A heart attack is often accompanied by symptoms such as chest pain or severe anxiety. It is among the most common causes of death.

Stroke

Stroke occurs when the blood supply to the brain is disrupted, resulting in oxygen starvation, brain damage and loss of function. It is most frequently caused by a clot in an artery supplying blood to the brain. It can also be caused by hemorrhage when a burst vessel causes blood to leak into the brain. Stroke can cause permanent damage, including partial paralysis and impairment in speech, comprehension and memory. The part of the brain affected and the length of time the blood supply has been stopped affects the type and the severity of disability.

Stroke has already reached [epidemic proportions](#). [2] Globally 1 in 4 adults over the age of 25 will have a stroke in their lifetime. 12.2 million people worldwide will have their first stroke this year and 6.5 million will die as a result. The incidence of stroke increases significantly with age. However, over 60% of strokes happen to people under the age of 70 and 16% happen to those under the age of 50. One of the main clinical risk factors for stroke is high blood pressure.

Rheumatic heart disease

Rheumatic heart disease (RHD) is a preventable and life-threatening cardiovascular disease which affects [40 million people worldwide](#) [3], mostly children and young adults. Every year, it claims more than 300,000 lives, accounting for nearly 2% of all CVD deaths. Most RHD patients do not reach 40 years of age.

RHD starts with the bacterium *Streptococcus pyogenes*, which can pass easily from person to person through upper respiratory tract infections that are most common in childhood. In some cases, repeated strep infections can lead to rheumatic fever, which causes inflammation and scarring to the heart valves and the heart itself. This scarring and inflammation causes rheumatic heart disease.

Strep infections are easily treated with penicillin in high-income countries; that's why there is almost no RHD in these

countries. But in low- and middle-income countries, penicillin is hard to come by, so strep infections often lead to rheumatic fever and RHD. RHD also appears in high-income countries among the most marginalised communities, including indigenous populations. It is truly a disease of poverty.

Other conditions

The diseases above account for the vast majority of CVD deaths and disability, but the [conditions below](#) [4] are also part of the CVD burden.

- **Arrhythmia** – irregular or abnormal heartbeat
- **Aortic disease** (including aortic aneurysm) – a disease that causes the aorta to widen or tear
- **Cardiomyopathies** – diseases of the heart muscle
- **Congenital heart disease** – problems with the heart or blood vessels that exist at birth
- **Deep vein thrombosis and pulmonary embolism** – blood clots in the leg veins, which can break loose and travel to the heart and lungs
- **Heart failure** – when your heart isn't pumping as well as it should be
- **Heart valve disease** – a disease of the heart valves that keep blood flowing through the heart
- **Pericardial disease (pericarditis)** – inflammation of the thin tissue sac that surrounds the heart
- **Vascular disease (blood vessel disease)** – any condition that affects your circulatory system
- **Peripheral vascular disease** (including peripheral arterial disease) – a disease of blood vessels supplying the arms and legs

Cardiovascular disease risk factors and prevention

The [risk factors and causes](#) [5] behind CVD are diverse and include high blood pressure, high cholesterol, diabetes, obesity, and kidney disease, as well as physical inactivity, an unhealthy diet, air pollution, tobacco use, alcohol use and stress. Millions of people worldwide struggle to control the risk factors that lead to cardiovascular disease, while many others are unaware that they are at high risk.

At least 75% of the world's deaths from CVDs occur in low- and middle-income countries (LMICs), which often do not have strong and widely accessible primary health care programmes for early detection of CVD and key risk factors such as hypertension and diabetes. As a result, for many people in these countries, detection comes late in the course of the disease when complications have already developed. This results in higher treatment costs, which often must be paid out-of-pocket and can be catastrophic to households and can prevent people from pursuing or adhering to treatment. At the macro-economic level, CVDs place a heavy burden on the economies of all countries, especially LMICs.

It is estimated that [80% of CVD](#) [5] can be prevented. Stopping smoking, eating less salt and more fruit and vegetables, getting regular physical activity, and avoiding alcohol have been shown to reduce the risk of cardiovascular disease. However, while individual choices play a part in these behaviours, health policies also have an important role in ensuring people have what they need to live a healthy life, including clean air, affordable healthy food, and urban spaces that encourage an active lifestyle.

Policies for CVD

There are many affordable policies that countries can implement to reduce the CVD burden and improve population health. The [WHO Best Buys](#) [6] for instance are both cost-effective and feasible for countries to implement. The 16 interventions cover six policy areas: tobacco use; harmful use of alcohol; unhealthy diet; physical inactivity; the management of cardiovascular disease and diabetes; and the management of cancer. Implementing the Best Buys would cost about US\$ 1.27 per person in LMICs, and would prevent over 17 million cases of ischemic heart disease and stroke by 2030. In fact, they would reduce premature deaths (between 30 and 70 years of age) from NCDs by 15%, also generating US\$ 350 billion in health care savings and increased productivity by the same year.

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A [2022 study](#) [7] carried out as part of the Lancet NCD Countdown 2030 builds on the Best Buys, identifying an additional five interventions to avert 39 million deaths and generate an average net economic benefit of US\$ 2.7 trillion, or US\$ 390 per capita, between 2023 and 2030. The realistic investment required would allow most countries to achieve or nearly achieve the Sustainable Development Goal target 3.4 to reduce premature mortality from NCDs by one third by 2030.

Related Resource: [World Heart Day 2016 policy brief](#) [8]

[Eight steps toward a world free from stroke](#) [9]

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Links

- [1] <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7755038/>
- [2] <https://www.world-stroke.org/world-stroke-day-campaign/why-stroke-matters/learn-about-stroke>
- [3] <https://world-heart-federation.org/what-we-do/rheumatic-heart-disease/>
- [4] <https://world-heart-federation.org/what-is-cvd/>
- [5] [https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-\(cvds\)](https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-(cvds))
- [6] <https://www.who.int/publications/i/item/9789240041059>
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- [8] <https://old.ncdalliance.org/resources/world-heart-day-2016-policy-brief>
- [9] <https://ncdalliance.org/news-events/blog/eight-steps-toward-a-world-free-from-stroke>
- [10] <https://old.ncdalliance.org/news-events/blog/cardiovascular-health-the-doctor%E2%80%99s-office-is-one-part-of-the-solution>
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- [12] <https://old.ncdalliance.org/taxonomy/term/57>