British Heart Foundation

Global Heart & Circulatory Diseases Factsheet

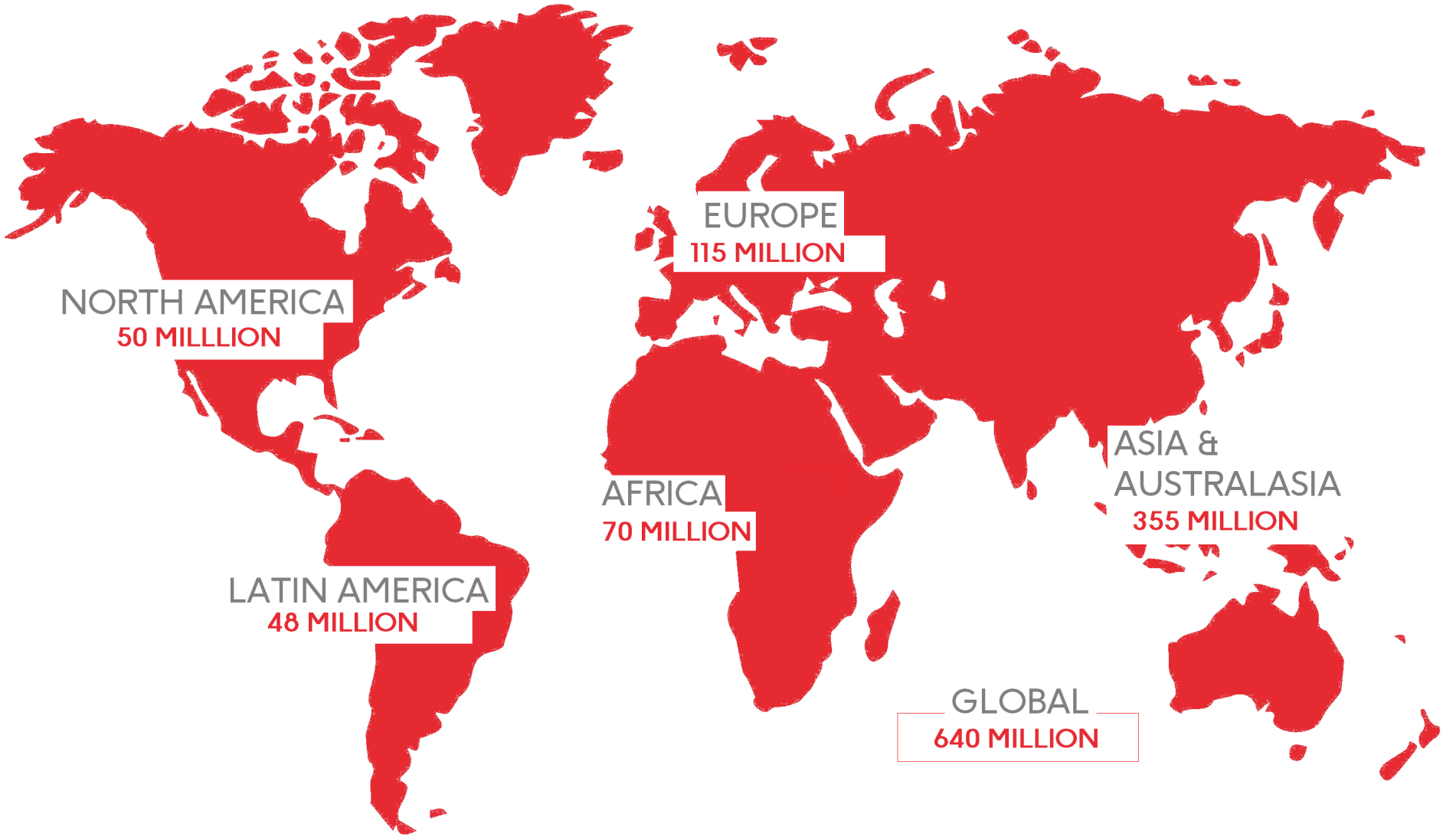
September 2024

Heart & Circulatory Diseases (Cardiovascular Disease; CVD)

Heart and circulatory diseases is an umbrella term for all diseases of the heart and circulation. It includes everything from conditions that are inherited or that a person is born with, to those that develop later, such as coronary heart disease, atrial fibrillation, heart failure, stroke and vascular dementia.

- There are around 640 million people living with heart and circulatory diseases across the world – this number has been rising due to changing lifestyles, an ageing and growing global population, and improved survival rates from heart attacks and strokes – and will continue to rise if these trends continue.
- Globally it's estimated that around 1 in 12 people are living with a heart or circulatory disease.
- In 2021 globally it's estimated that there were a similar number of men and women were living with heart and circulatory diseases – around 320 million of each sex.
- In 1990 an estimated 305 million people were living with heart and circulatory diseases globally; this rose to 375 million in 2000 and 480 million in 2010.
- Since 1993, the estimated number of people living with heart and circulatory diseases globally has doubled.
- The most common cardiovascular conditions are coronary (ischaemic) heart disease (global prevalence estimated at 250 million in 2021), peripheral arterial (vascular) disease (110 million), stroke (94 million) and atrial fibrillation (53 million).
- Each year around 67 million people across the world develop a heart or circulatory disease – that's almost the same as the entire population of the UK.

Global Heart & Circulatory Disease Prevalence in 2021



Global Deaths from Heart & Circulatory Diseases

- Heart and circulatory diseases cause nearly 1 in 3 deaths globally; an estimated 20 million deaths in 2021 - an average of 55,000 people each day or one death every 1.5 seconds. They are the world's biggest killers.
- Globally, heart and circulatory diseases killed an estimated 10.5 million men and 9.6 million women in 2021.
- The global number of deaths from heart and circulatory diseases is projected to rise further.
- Age-standardised death rates from heart and circulatory diseases have been falling across the world – this is primarily due to improvements in life expectancy. But such trends have led to more people living to an age when it is more common to develop, or die from, heart and circulatory diseases.

Biggest Killers Worldwide

NB coverage and accuracy will vary between nations, and 2021 estimates will be modelled on historical mortality data, where available. The Lancet's Global Burden of Disease (GBD) and the World Health Organization (WHO) have both produced 2021 estimates. We present GBD data on the next page; see references for alternative analysis and rankings by the WHO.

Biggest Killers Worldwide (GBD 2021 Estimates)

	MEN		WOMEN		TOTAL	
1	Coronary heart disease	5.0 million	Coronary heart disease	4.0 million	Coronary heart disease	9.0 million
2	**COVID-19**	4.8 million	Stroke	3.5 million	COVID-19	7.9 million
3	**Stroke**	3.8 million	COVID-19	3.1 million	Stroke	7.3 million
4	**COPD**	2.1 million	COPD	1.6 million	COPD	3.7 million
5	**Lung cancer**	1.3 million	Alzheimer's and dementia	1.3 million	Lower respiratory disease	2.2 million

NB some figures do not add up due to rounding; COPD = chronic obstructive pulmonary disease

- Heart and circulatory diseases are the world's biggest killers – in every recent year, bar the pandemic years of 2020 and 2021, coronary heart disease was the single biggest killer globally, and stroke was the second biggest.

- Other common cardiovascular causes of death are hypertensive heart disease, atrial fibrillation and rheumatic heart disease.

Highest & Lowest Cardiovascular Death Rates Worldwide

	HIGHEST	ASDR 2021
1	Nauru (Micronesia)	748.3
2	**Egypt**	612.1
3	**Afghanistan**	567.4
4	**North Macedonia**	560.3
5	**Turkmenistan**	552.3

	LOWEST	ASDR 2021
1	San Marino	66.9
2	Japan	72.5
3	Israel	75.2
4	Singapore	75.8
5	France	78.7

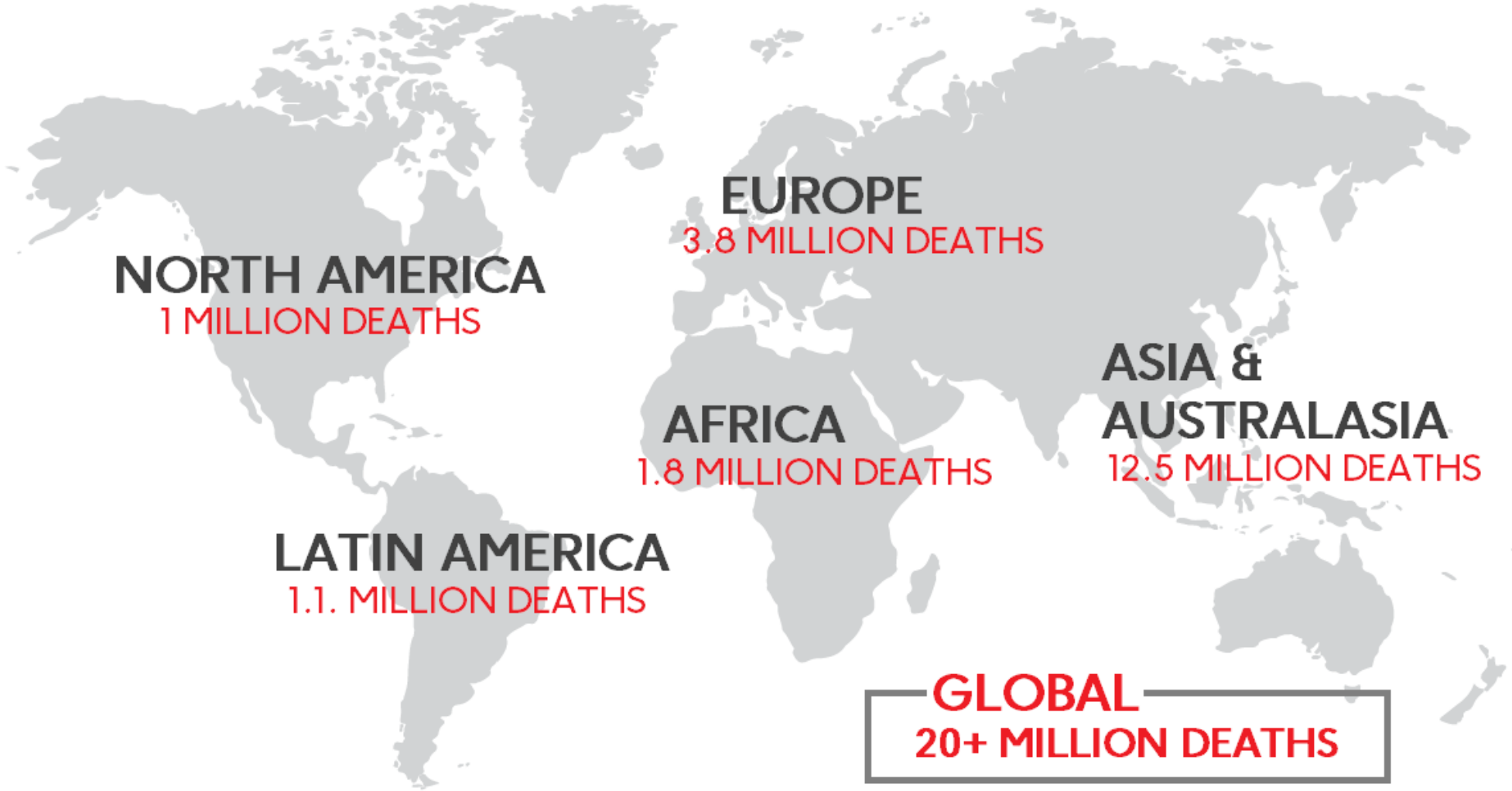
ASDR = Age-Standardised Death Rates for cardiovascular disease – heart and circulatory diseases - CVD (ICD-10 I00-99)

For comparative purposes, the UK ASDR in 2021 was 107 and the global ASDR was 235.

Please note that these are modelled estimates, based on national sources which may have different statistical and clinical definitions.

- The age-standardised death rate for heart and circulatory diseases (CVD) in Nauru in Micronesia is over ten times higher than that of Japan and San Marino.

Estimated Deaths from Heart & Circulatory Diseases (2021)



Coronary Heart Disease (Ischaemic Heart Disease; CHD)

- Coronary (ischaemic) heart disease is the most commonly diagnosed heart disease worldwide.
- It's estimated over 250 million people are living with coronary heart disease.
- Globally around 145 million men and 110 million women have coronary heart disease.
- Coronary heart disease kills an estimated nine million people each year – in 2021 it was the world's single biggest killer.
- Around 1 in 7 deaths globally are caused by coronary heart disease.
- Before the coronavirus pandemic, coronary heart disease had been the leading cause of death worldwide for at least 30 years.
- Worldwide, coronary heart disease is now killing more people each year than ever before.
- In 2011, CHD overtook neonatal disorders as the biggest cause of premature mortality worldwide (when defined as deaths before the 70th birthday) and remained at #1 until 2019 (COVID-19 was #1 in 2020 and 2021)

Stroke (Cerebrovascular Disease; CBVD)

- There are an estimated 94 million stroke survivors worldwide.
- Globally around 48 million men and 46 million women are stroke survivors.
- Stroke was the third most common killer globally in 2021, causing an estimated 7.3 million deaths (a record annual total).
- 1 in 9 deaths globally are caused by cerebrovascular disease (stroke).
- Stroke was the third biggest cause of premature mortality worldwide in 2021 (when defined as deaths before the 70th birthday).

Heart Failure

- It's estimated that heart failure affects at least 64 million worldwide (and numbers have been increasing).

Congenital Heart Disease

- Congenital heart disease is a large and rapidly emerging global problem in child health.
- Congenital heart disease is diagnosed in around 1 in 110 births globally, with more diagnoses later in life - that's an estimated 1.2 million babies a year - an average of 3,300 per day (or a diagnosis every 26 seconds)
- Globally congenital heart disease is the direct cause of at least 250,000 deaths each year, the majority are before the first birthday.
- It's estimated at least 16 million people are living with congenital heart disease worldwide; there are likely to be millions more undiagnosed.

Our vision is a world free from the fear of heart and circulatory diseases.

Risk Factors

- Globally more than 4 in 5 deaths from heart and circulatory diseases are associated with modifiable risk factors.
- Modifiable risk factors are often preventable; in most cases risk can be reduced with medical treatment and lifestyle changes **
- Environmental risk factors (e.g. air pollution) also have a significant impact on cardiovascular risk, as well as gender, age, family history and ethnicity.

Global Risk Factors for Heart & Circulatory Diseases (CVD)

Associated or attributable burden relating to cardiovascular mortality

	MODIFIABLE RISK FACTOR & ATTRIBUTABLE BURDEN	2021 CVD DEATHS	% OF BURDEN
1	High systolic blood pressure (hypertension)	10.4 million	54%
2	Dietary risks (poor diet)	5.8 million	30%
3	Air pollution (ambient particulate matter pollution)	4.1 million	23%
4	High LDL cholesterol (raised cholesterol)	3.6 million	19%
5	Tobacco (cigarette smoking; second-hand smoke)	2.8 million	15%
6	High fasting plasma glucose (diabetes)	2.2 million	11%
7	Kidney dysfunction (renal failure)	2.1 million	11%
8	High body-mass index (obesity and excess weight)	1.9 million	10%

Other modifiable risk factors include physical inactivity, built environment, non-optimal temperature (low/high) and alcohol misuse.

*NB ** modifiable risk factors are affected by the circumstances in which we live. Our social, physical and commercial environments all have an impact on factors like our access to healthier foods, exposure to environmental risks and health-related behaviours.*

"As much as 80% of cardiovascular disease can be prevented if we create better infrastructure, expand access to care, rethink the ways we produce and consume food and clean up the air we breathe,"

Professor Fausto Pinto, President of the World Heart Federation (WHF)

About the British Heart Foundation (BHF)

One in four of us in the UK and one in three globally die from heart and circulatory diseases. That's why the British Heart Foundation funds world-leading research into their causes, prevention and treatment. Advances from our research have saved and improved millions of lives, but heart diseases, stroke, vascular dementia and their risk factors such as diabetes still cause heartbreak on every street. With the public's support, our funding will drive the new discoveries to end that heartbreak.

This factsheet compiled by the British Heart Foundation - published September 2024.
Factsheets also available for the UK, England, Scotland, Wales and Northern Ireland.

For any queries contact healthinsights@bhf.org.uk and we will do our best to help

bhf.org.uk/donate

References

STATISTIC	REFERENCE
CVD here is all heart and circulatory diseases - cardiovascular disease (ICD-10 I00-99), congenital heart/circulatory diseases (Q20-28) and vascular dementia (F01) or ICD10 I00-99 alone, depending on the resource and statistic.	
CVD global mortality estimates; prevalence by continent; Modifiable risk factors, attributable burden; country ASDR rankings [2021 estimates]	Global Burden of Disease (2024) estimates for 2021 http://ghdx.healthdata.org/gbd-results-tool see also Lindstrom et al (2022) Global Burden of Cardiovascular Diseases and Risks Collaboration, 1990-2021, JACC www.sciencedirect.com/science/article/pii/S0735109722072497
CVD mortality forecasts	World Health Organization (WHO) (2018) projections *[NB this page is no longer available]*
Biggest killers/mortality rankings	Global Burden of Disease (2024) estimates for 2021 http://ghdx.healthdata.org/gbd-results-tool also World Health Organization (2024) Global Health Estimates for 2021 https://www.who.int/news-room/fact-sheets/detail/the-top-10-causes-of-death
CHD prevalence, deaths, time trends, premature mortality #1 (based on under-70s mortality # AND years of life lost (YLLs))	Global Burden of Disease (2024) estimates for 2021 http://ghdx.healthdata.org/gbd-results-tool
Stroke prevalence, deaths, premature mortality #2 (based on under-70s mortality # - #3 based on YLLs)	Global Burden of Disease (2024) estimates for 2021 http://ghdx.healthdata.org/gbd-results-tool
Heart failure prevalence	Bragazzi et al (2019) Burden of heart failure and underlying causes, EJPC https://academic.oup.com/eurjpc/advance-article/doi/10.1093/eurjpc/zwaa147/6133248
Congenital heart disease birth prevalence (incidence)	Liu et al (2019) Global birth prevalence of congenital heart defects 1970–2017: updated systematic review and meta-analysis https://academic.oup.com/ije/article/48/2/455/5345120 van der Linde et al (2011) Birth Prevalence of Congenital Heart Disease Worldwide: A Systematic Review and Meta-Analysis https://www.jacc.org/doi/full/10.1016/j.jacc.2011.08.025 BHF analysis of global birth data (estimated)
Congenital heart disease prevalence (living with)	Global Burden of Disease (2024) estimates for 2021 http://ghdx.healthdata.org/gbd-results-tool
World Heart Federation (WHF) quote	https://world-heart-federation.org/news/four-paths-to-better-cardiovascular-health-world-heart-vision-2030/

Please note this definition is relevant to premature mortality in developed nations, but would not be appropriate for the entire globe

For any queries please contact healthinsights@bhf.org.uk and we will do our best to help