



## CVD STATISTICS – BHF ENGLAND FACTSHEET

ENGLAND

Last reviewed and updated February 2018.

### ABOUT THE BRITISH HEART FOUNDATION (BHF)

**Our mission is to win the fight against heart and circulatory disease.**

**Our vision is a world in which people do not die prematurely or suffer from heart and circulatory disease.**

For over 50 years we've pioneered research that has transformed the lives of millions of people living with heart disease.

We are the biggest independent funder of cardiovascular research in England.

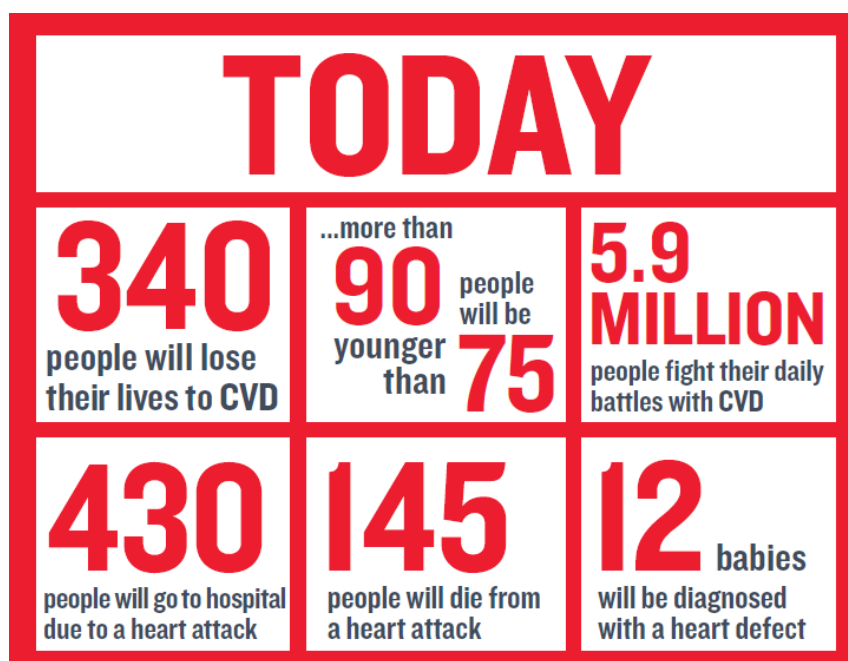
Our work has been central to the discoveries of vital treatments that are leading the fight against heart disease.

But **heart and circulatory disease still kills more than one in four people in England**, stealing them away from their families and loved ones. From babies born with life-threatening heart problems, to the many mums, dads and grandparents who survive a heart attack or endure their daily battles with heart failure.

### BHF HEART STATISTICS

Statistics are very important to the BHF. They give our staff, volunteers and supporters a sense of the scale of heart and circulatory disease's burden and the challenges we face as we fight for every heartbeat. We compile the most comprehensive UK statistics on the effects, prevention, treatment, costs and causes of heart disease in the UK. [bhf.org.uk/statistics](http://bhf.org.uk/statistics)

**For examples of how we are making a difference, look for the **BHF** sections throughout this factsheet.**



## Cardiovascular Disease (CVD; Heart and Circulatory Disease)

Cardiovascular disease (CVD) is an umbrella term that describes all diseases of the heart and circulation. It includes everything from conditions that are diagnosed at birth, or inherited, to developed conditions such as coronary heart disease, atrial fibrillation, heart failure, and stroke.

- Cardiovascular (heart and circulatory) disease causes more than a quarter (**25.4 per cent**) of all deaths in England; that's over 124,000 **deaths** each year – an average of 340 people each day or one death every four minutes.
- Around 34,000 people under the age of 75 in England die from CVD each year.
- Since the BHF was established the annual number of deaths from CVD in England has **fallen by more than half**.
- In 1961, more than half of all deaths in England were attributed to CVD (264,192 CVD deaths).
- Since 1961 the English death rate from CVD has declined by more than **three quarters**. Death rates have fallen more quickly than the actual number of deaths because people in this country are now living longer lives.



**Cardiovascular disease causes more than a quarter of all deaths in England**

### DEATHS FROM CVD AND NUMBERS LIVING WITH CVD

Nation	Number of People Dying from CVD (2016)	Number of People Under 75 Years Old Dying from CVD (2016)	Estimated Number of People Living with CVD
<b>England (2016/17)</b>	<b>124,615</b>	<b>33,812</b>	<b>5.9 million</b>
Scotland (2015/16)	15,131	4,644	685,000
Wales (2016/17)	8,655	2,495	375,000
Northern Ireland (2016/17)	3,629	1,070	225,000
United Kingdom	152,465	42,311	7 million +

Deaths BHF/University of Birmingham analysis from latest official statistics (ONS/NISRA/NRS); UK total includes non-residents (ONS data)  
Living with CVD estimates based on latest health surveys with CVD fieldwork and GP patient data

- There are around **5.9 million people** living with cardiovascular disease in England
- An ageing and growing population and improved survival rates from cardiovascular events could see these numbers rise still further.
- For more information about CVD, visit our website at [bhf.org.uk/heart-health/conditions/cardiovascular-disease](http://bhf.org.uk/heart-health/conditions/cardiovascular-disease)



**AROUND 5.9 MILLION**  
people in England are living with cardiovascular disease

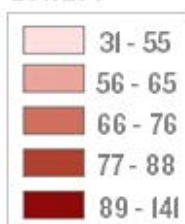
**BHF** Thanks to research we funded, the use of statins to help prevent CVD is now routine, saving thousands of lives every year in the UK. Read our [research timeline](#) to find out more.

**BHF** A groundbreaking study, co-funded by the BHF, investigated the effect of social inequalities on health. This research has helped shape public health policy in the UK and around the world. Read our [research timeline](#) to find out more. Subsequently, addressing health inequalities has become a key component in all innovation programmes that the BHF has piloted to improve services for people living with or at risk of CVD.

## PREMATURE CVD DEATH RATE

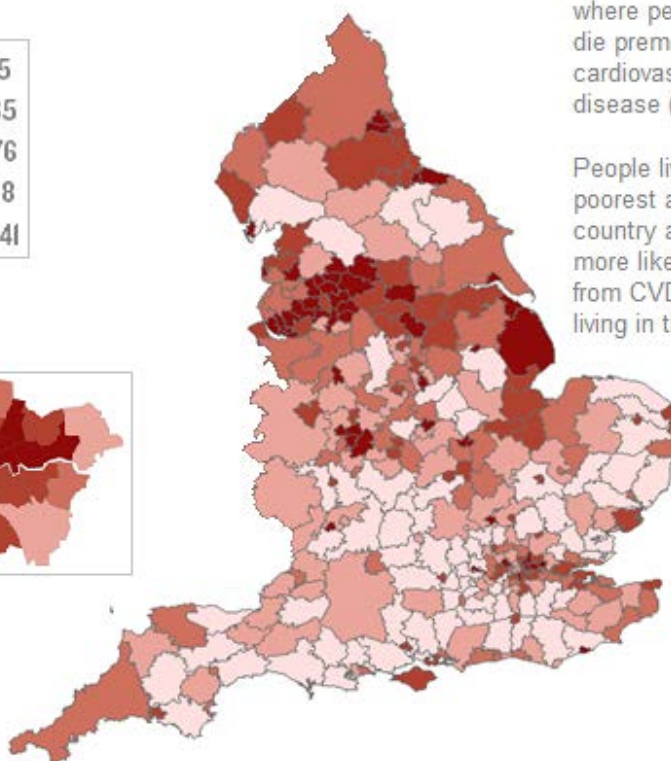
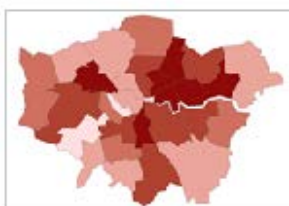
age standardised per 100,000 population

LOWEST



HIGHEST

LONDON



Our vision is a world where people do not die prematurely from cardiovascular disease (CVD).

People living in the poorest areas of the country are, on average, more likely to die early from CVD than those living in the richest.

BHF/University of Birmingham in collaboration with ONS (2014-16 data)

- Early deaths from CVD (before the age of 75) are most common in the North West, closely followed by the North East, and lowest in the South East of England.
- Death rates take the age structure (demography) of local areas into account to reveal the real differences in statistics. This is very important when there are big variations in the age profile of communities across England.
- The highest premature CVD death rates by England local authority (2014-16) were for the cities of Manchester and Blackpool.

### UK PREMATURE (UNDER 75 YEARS) CVD DEATH RATES 2014-16 - TOP 5 (ENG AVERAGE = 73.5)

Local Authority	Location	Death Rate per 100,000 Population	Annual Number of CVD Deaths Under 75 Years Old
Manchester	North West	140.7	376
Blackpool	North West	119.8	153
Blackburn with Darwen	North West	117.4	127
Middlesbrough	North East	114.9	123
Nottingham	East Midlands	112.5	210

- The premature (under 75) death rate for Manchester (140.7 per 100,000) is nearly 4 times higher than that for Mid Suffolk in the East of England (37.0 per 100,000)
- Regional and local UK statistics and rankings for CVD deaths can be found on our website at [bhf.org.uk/statistics](http://bhf.org.uk/statistics)

**BHF** A clinical trial, funded by us as part of a wider collaboration, showed that the benefits of treating high blood pressure in very elderly people outweighed the risk of side effects, allowing elderly people to receive the care they require. Read our [research timeline](#) to find out more.

**BHF** We have funded House of Care, an innovative programme designed to enable clinicians to empower patients to make informed decisions about their care, based on what is important to them, and provide support to patients to manage their own conditions from day to day. [bhf.org.uk/houseofcare](http://bhf.org.uk/houseofcare)

## The cost of CVD

- Healthcare costs relating to cardiovascular disease are estimated at £7.4 billion each year.
- CVD's cost to the wider economy in England (including premature death, disability and informal costs) is estimated to be £15.8 billion each year.

The total annual healthcare cost of cardiovascular disease in England is



## Coronary Heart Disease (CHD; Ischaemic Heart Disease)

Coronary heart disease (CHD) is the most common type of cardiovascular disease. It occurs when coronary arteries become narrowed by a build-up of atheroma, a fatty material within their walls. The pain or discomfort felt from such narrowing is called angina and if a blockage occurs it can cause a myocardial infarction (heart attack).

- CHD is the one of England's leading causes of death.
- It is also the **leading cause of death worldwide**.
- In England, nearly one in seven men and one in twelve women die from coronary heart disease (1 in 9 both sexes).
- CHD is responsible for **over 53,000 deaths** in England each year, an average of 147 people each day, or one death around every ten minutes.
- Most deaths from coronary heart disease are caused by a heart attack.



There are  
**1.8m**  
people living with  
coronary heart disease  
in England

**BHF** Our researchers have developed a scoring system to assess the risk of heart attack or death for patients with acute coronary syndrome (unstable angina or heart attack). The GRACE scoring system is now a reference standard, resulting in guideline changes in over 55 countries, leading to improved management of heart patients around the world.

[bhf.org.uk/heartattackhistory](https://bhf.org.uk/heartattackhistory)

**BHF** A trial that we funded has led the way in demonstrating that MRI – a non-invasive imaging technique – is more effective than a CT scan in identifying people at high risk of death or heart attack following chest pain suspected to be angina. These findings are important as MRI does not expose people to radiation.

[bhf.org.uk/MRIscans\\_highrisk](https://bhf.org.uk/MRIscans_highrisk)

- Nearly **18,000 people** under the age of 75 in England die from CHD each year.
- Since the BHF was established the annual number of CHD deaths in England has fallen by more than half.
- Regional and local UK statistics and rankings for CHD deaths can be found on our website at [bhf.org.uk/statistics](https://bhf.org.uk/statistics)
- CHD kills more than twice as many women in England as breast cancer.
- 1.8 million people are living with CHD in England
- For more information about CHD, visit our website at [bhf.org.uk/heart-health/conditions/coronary-heart-disease](https://bhf.org.uk/heart-health/conditions/coronary-heart-disease)

## Heart Attack (Myocardial Infarction, MI)

- Most deaths from coronary heart disease are caused by a heart attack.
- In England there are over 157,000 hospital visits each year due to heart attacks: that's **one every three minutes**.
- In the 1960s more than 7 out of 10 heart attacks in the UK were fatal. Today at least **7 out of 10 people survive**.
- An estimated 735,000 people alive in England today (517,000 men and 218,000 women) have survived a heart attack.
- For more information on heart attacks visit our website at [bhf.org.uk/heart-health/conditions/heart-attack](https://bhf.org.uk/heart-health/conditions/heart-attack)

**BHF** Professor Michael Davies was one of the first scientists to clearly demonstrate that blood clots in the heart's coronary arteries cause heart attacks. This breakthrough in the 1970s paved the way for scientists around the world to investigate how to prevent and treat blood clots. This has led to the development of life saving, clot-busting drugs.

[bhf.org.uk/heartattackhistory](http://bhf.org.uk/heartattackhistory)

**BHF** Large-scale studies, part-funded by us, showed that combined treatment with aspirin and a clot buster drug significantly increases survival rates after heart attacks. **BHF Research - Heart Attack**

**BHF** Research that we funded has shown that a new high-sensitivity blood test for troponin – a protein released from the heart during a heart attack – results in improved diagnosis of heart attack, particularly in women. [bhf.org.uk/heartattacktest](http://bhf.org.uk/heartattacktest)

## Atrial Fibrillation (AF)

Atrial fibrillation is one of the most common forms of abnormal heart rhythm (arrhythmia) and a major cause of stroke.

- Around **1.1 million** people in England have been diagnosed with atrial fibrillation.
- It is estimated that there are over 430,000 people living with undiagnosed AF in England.
- For more on atrial fibrillation, visit [bhf.org.uk/heart-health/conditions/atrial-fibrillation](http://bhf.org.uk/heart-health/conditions/atrial-fibrillation)

**BHF** We have funded arrhythmia care coordinator (ACC) posts to improve outcomes for people with arrhythmias. The programme is already preventing thousands of hospital admissions and has been adopted as a NICE Quality, Innovation and Productivity case study. [bhf.org.uk/bestpractice](http://bhf.org.uk/bestpractice)

## Heart Failure (HF)

Heart failure occurs when the heart is not pumping blood around the body as well as it should, most commonly when the heart muscle has been damaged – for example, after a heart attack.

- **Over 450,000** people in England have been diagnosed with heart failure.
- For more information on heart failure, visit our website at [bhf.org.uk/heart-health/conditions/heart-failure](http://bhf.org.uk/heart-health/conditions/heart-failure)

**BHF** Our researchers helped to show that angiotensin converting enzyme (ACE) inhibitors – drugs that lower blood pressure – increase survival and improve quality of life in patients with heart failure. [bhf.org.uk/treatmentsresearch](http://bhf.org.uk/treatmentsresearch)

**BHF** Our work has shown that heart failure specialist nurses (HFSNs) provide great benefit and comfort for heart patients and their carers. The use of HFSNs has been widely adopted across the UK. [Managing HF in the Community](#)

**BHF** We funded an innovative pilot delivering intravenous diuretics at home, leading to improved quality of life for heart failure patients. Patients preferred this over hospital-based treatment and the model has been replicated across the UK. [bhf.org.uk/communityivd](http://bhf.org.uk/communityivd)

## Stroke (Cerebrovascular Disease)

A stroke occurs when the blood supply to part of the brain is cut off, causing brain cells to become damaged. A transient ischaemic attack (TIA) is also known as a “mini-stroke” and is caused by a temporary disruption in the blood supply to part of the brain.

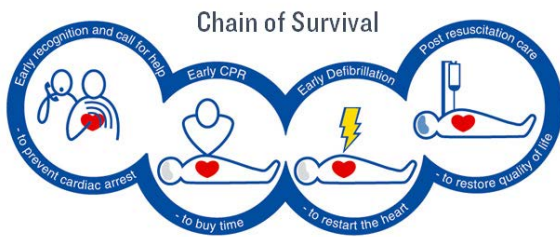
- Strokes cause **over 30,000 deaths** in England each year.
- In England over **200,000 hospital visits** are attributed to stroke each year.
- Over 1 million people living in England have survived a stroke or transient ischaemic attack (TIA).
- Nearly half of stroke survivors in England are under the age of 75.
- Regional and local UK statistics and rankings for stroke deaths can be found on our website at [bhf.org.uk/statistics](http://bhf.org.uk/statistics)
- For more information on strokes visit our website at [bhf.org.uk/heart-health/conditions/stroke](http://bhf.org.uk/heart-health/conditions/stroke)



## Out-of-Hospital Cardiac Arrest (OHCA)

Cardiac arrest is a serious medical emergency, where the heart stops pumping blood around the body. Unless treated immediately, it leads to death within minutes.

- There are **around 30,000** out-of-hospital cardiac arrests (OHCAs) in England each year.
- The overall survival rate in England is **1 in 11**.
- The Chain of Survival (below) is a sequence of steps that together maximise the chance of survival following cardiac arrest.
- Every minute without cardiopulmonary resuscitation (CPR) and defibrillation reduces the chance of survival by up to 10 per cent.
- Performing **CPR can double the chances of survival** in some cases (ventricular fibrillation).
- For more on cardiac arrest visit [bhf.org.uk/heart-health/conditions/cardiac-arrest](http://bhf.org.uk/heart-health/conditions/cardiac-arrest)



**BHF** By providing access to innovative resources for cardiopulmonary resuscitation (CPR) training, we aim to give people the skills and confidence to act when they witness a cardiac arrest and improve survival rates, thereby building a Nation of Lifesavers. Millions of adults and schoolchildren have participated in our CPR training schemes and now have life saving skills.

**BHF** We have also helped fund and place thousands of public access defibrillators (PADs) in communities across the country. We are making further investments to increase defibrillator awareness for emergency medical services and the public to ensure that PADs can be accessed quickly in an emergency.

[bhf.org.uk/survival](http://bhf.org.uk/survival)



There are around **30,000** out-of-hospital cardiac arrests in England each year

## Congenital Heart Disease

Congenital heart disease is a heart condition or defect that develops in the womb before a baby is born.

- Heart defects are diagnosed in at least 1 in 180 births - that's an average of **10 babies each day** in England - with more diagnoses later in life.
- Estimates suggest that as many as **1-2 per cent** of the population may be affected.
- Before the BHF existed, the majority of babies born in the UK with a heart defect did not survive to their first birthday. Today, thanks to research, around **8 out of 10 survive** to adulthood.
- For more information, visit [bhf.org.uk/heart-health/conditions/congenital-heart-disease](http://bhf.org.uk/heart-health/conditions/congenital-heart-disease)

**BHF** Professor Sir Magdi Yacoub developed surgical techniques to treat a complex congenital heart defect. The switch procedure which he pioneered is now used routinely, worldwide, to treat babies born with abnormally connected blood vessels.

**BHF** With our support, researchers at the Institute of Child Health mapped out the details of heart defects. This knowledge, combined with advances in imaging technology, helps to identify and treat abnormalities as early as possible, meaning babies have the best chance of survival

[bhf.org.uk/congenhistory](http://bhf.org.uk/congenhistory)



**10 babies a day** are diagnosed with a congenital heart defect in England

## Inherited (Genetic) Conditions

These are conditions which can be passed on through families, affect people of any age and be life-threatening.

- They include hypertrophic cardiomyopathy (HCM; estimated 1 in 500 people) and familial hypercholesterolaemia (FH; 1 in 250).
- It's estimated that **around 525,000 people** in England have a faulty gene which puts them at an unusually high risk of developing heart disease or dying suddenly at a young age.
- In the UK it is estimated that at least 12 young people (aged under 35) die every week from an undiagnosed heart condition.
- For more information, visit our website:-  
[bhf.org.uk/heart-health/conditions/inherited-heart-conditions](https://bhf.org.uk/heart-health/conditions/inherited-heart-conditions)  
[bhf.org.uk/heart-health/conditions/familial-hypercholesterolaemia](https://bhf.org.uk/heart-health/conditions/familial-hypercholesterolaemia)



**Around 525,000 people in England have a faulty gene that can cause an inherited heart-related condition**

**BHF** Professor Steve Humphries and his team have pioneered the development of genetic tests for familial hypercholesterolaemia (FH), an inherited condition which results in exceptionally high levels of cholesterol in the blood. Left untreated, this can greatly increase the risk of developing heart disease at an early age. Read our [research timeline](#) to find out more. Based on this research, the BHF has piloted FH cascade screening programmes across the UK since 2010, ensuring access to genetic testing, and resulting in thousands being diagnosed and getting the treatment they need.

**BHF** Professor Hugh Watkins and his team have led in the identification of the faulty genes that cause hypertrophic cardiomyopathy (HCM) – a dangerous condition that can lead to sudden death. Through the Miles Frost Fund, the BHF will pilot a programme to help ensure access to genetic testing for immediate family members of those diagnosed with HCM. [bhf.org.uk/HCMresearch](https://bhf.org.uk/HCMresearch)

## Medical Risk Factors

Many different risk factors increase your likelihood of developing cardiovascular disease.

### High Blood Pressure

- Around **28% of adults** in England report being treated for **high blood pressure**.
- People with high blood pressure are up to **three times** more likely to develop heart disease or have a stroke.

### High Blood Cholesterol

- **High blood cholesterol** is a significant risk factor for cardiovascular disease.

### Diabetes

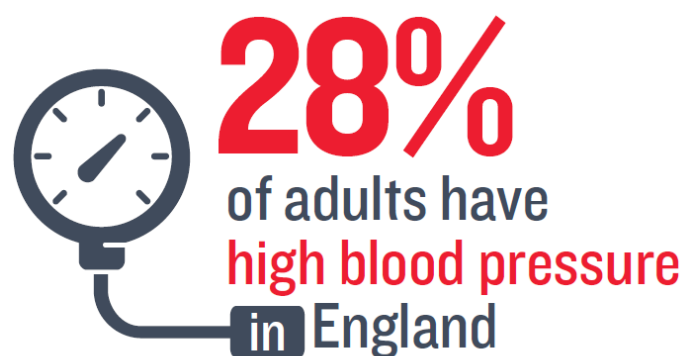
- Having diabetes can **double the risk** of developing cardiovascular disease.
- **3.1 million adults** in England have been diagnosed with **diabetes**.
- Around 10 per cent of those diagnosed are living with Type 1 diabetes and 90 per cent have Type 2.
- It's estimated that over **1 million people** in the UK are living with undiagnosed Type 2 diabetes.

For more information, visit our website:-

High Blood Pressure (Hypertension) [bhf.org.uk/heart-health/risk-factors/high-blood-pressure](https://bhf.org.uk/heart-health/risk-factors/high-blood-pressure)

High Cholesterol [bhf.org.uk/heart-health/risk-factors/high-cholesterol](https://bhf.org.uk/heart-health/risk-factors/high-cholesterol)

Diabetes [bhf.org.uk/heart-health/risk-factors/diabetes](https://bhf.org.uk/heart-health/risk-factors/diabetes)



## Lifestyle Risk Factors

Modifiable risk factors (e.g. cigarette smoking, physical inactivity and poor diet) contribute significantly to the risk of CVD.

### Smoking



adults smoke  
in England



16,000

English cardiovascular disease  
deaths are attributed to  
smoking each year

- More than one in six adults smoke cigarettes in England– that's over 8 million adults.
- Over **79,000 smokers in England die** from smoking-related causes each year.
- It's estimated that about **16,000** deaths in England each year from cardiovascular disease can be attributed to smoking.

### Overweight/Obesity

- An estimated 26 per cent of adults in England are **obese** and in addition more than a third are **overweight**.
- Around 28 per cent of children in England are overweight or obese.



26%

of adults in England  
are obese

### Diet and Exercise

- An estimated 40 per cent of adults in England do not meet current **physical activity** recommendations.
- Only one in four adults and one in six children in England consume the recommended five portions of **fruit and veg** per day.



40% of adults in England  
do not meet physical  
activity recommendations

## Other Risk Factors

- Outdoor **air pollution** contributes to an estimated 40,000 premature deaths in the UK each year, with a significant impact on cardiovascular health.
- Other risk factors can significantly increase your risk of developing cardiovascular disease, including age, gender, family history and ethnicity.

**BHF** Groundbreaking studies by our researchers have greatly advanced our understanding of how maternal nutrition and lifestyle during pregnancy can affect a child's long-term health. Read our [research timeline](#) to find out more.

**BHF** Our research has provided evidence of a causal relationship between air pollutants and cardiovascular disease. The researchers have also shown that fitting particle traps to diesel engine exhausts helps to prevent the damaging effects of some types of pollution. Some European countries have already started to adopt this simple intervention to limit the detrimental effects of pollution on health. Visit [our website](#) to find out more.





## About the British Heart Foundation (BHF)

For over 50 years we've pioneered research that has transformed the lives of millions of people living with heart disease. Our work has been central to the discoveries of vital treatments that are leading the fight against heart disease.

But heart and circulatory disease still kills more than one in four people in England, stealing them away from their families and loved ones. From babies born with life-threatening heart problems, to the many mums, dads and grandparents who survive a heart attack or endure their daily battles with heart failure.

Join our fight for every heartbeat in the UK. Every pound raised, minute of your time and donation to our shops will help make a difference to people's lives.

[bhf.org.uk/donate](https://bhf.org.uk/donate)



**BIGGEST**  
independent funder of  
cardiovascular disease  
research in England

## More BHF CVD Statistics

Including exclusive content, local statistics and maps

Visit our website [bhf.org.uk/statistics](https://bhf.org.uk/statistics)

This factsheet is compiled by the British Heart Foundation.

**Last reviewed and updated February 2018.**

Statistics are the latest available from the UK's health and statistical agencies.

For any queries, please [contact us](#) and we will do our best to help.

**Factsheets are also available for the UK, Scotland, Wales and Northern Ireland.**

# REFERENCES

STATISTIC	REFERENCE
<b>CARDIOVASCULAR DISEASE (CVD; HEART &amp; CIRCULATORY DISEASE)</b>	
CVD deaths, men/women [NCDs 2014]	England and Wales, Office for National Statistics (2017) Deaths registered by cause, gender and age. <a href="https://www.nomisweb.co.uk/home/release_group.asp?g=23">https://www.nomisweb.co.uk/home/release_group.asp?g=23</a>
CVD ASDRs (death rates); England CVD map	BHF/University of Birmingham calculated rates in collaboration with the Office for National Statistics (2014-16 data)
Numbers living with CVD	BHF estimate based on Quality & Outcomes Framework prevalence data and latest UK health surveys with CVD fieldwork 2016/17; NHS Digital
£15.8bn CVD economic cost ~ £7.4bn healthcare costs for CVD	BHF analysis of European Cardiovascular Disease Statistics 2017, EHN ( <a href="http://www.ehnheart.org/cvd-statistics/cvd-statistics-2017.html">www.ehnheart.org/cvd-statistics/cvd-statistics-2017.html</a> )
<b>CORONARY HEART DISEASE (CHD; ISCHAEMIC HEART DISEASE)</b>	
CHD deaths, vs breast cancer, biggest killer worldwide	England and Wales, Office for National Statistics (2017) Deaths registered by cause, gender and age. <a href="https://www.nomisweb.co.uk/home/release_group.asp?g=23">https://www.nomisweb.co.uk/home/release_group.asp?g=23</a> , World Health Organization, <i>The Top 10 Causes of Death</i>
CHD ASDRs (death rates)	BHF/University of Birmingham calculated rates in collaboration with the Office for National Statistics (2014-16 data)
1.8m living with CHD	Quality & Outcomes Framework prevalence data 2016/17; NHS Digital <a href="http://digital.nhs.uk/catalogue/PUB30124">http://digital.nhs.uk/catalogue/PUB30124</a>
<b>HEART ATTACK (MYOCARDIAL INFARCTION, MI)</b>	
157k heart attack hospital visits	Hospital Episode Statistics, 2016/17; NHS Digital
7/10 people survive heart attack ~ 1960s estimate	Case fatality rates in Smolina's 2012 BMJ paper on acute MI mortality ( <a href="http://www.bmj.com/content/344/bmj.d8059">www.bmj.com/content/344/bmj.d8059</a> ) ~ Goldacre's 2003 paper on myocardial infarction (Oxon)
735k survived MI	BHF analysis of 2013 Clinical Practice Research Datalink prevalence data and ONS population estimates
<b>ATRIAL FIBRILLATION (AF)</b>	
1.1m diagnosed with AF ~ undiagnosed	Quality & Outcomes Framework prevalence data 2016/17; NHS Digital ~ NCVIN (Public Health England)
<b>HEART FAILURE (HF)</b>	
450k+ living with heart failure	Quality & Outcomes Framework prevalence data 2016/17; NHS Digital <a href="http://digital.nhs.uk/catalogue/PUB30124">http://digital.nhs.uk/catalogue/PUB30124</a>
<b>STROKE (CEREBROVASCULAR DISEASE)</b>	
30k stroke deaths	England and Wales, Office for National Statistics (2017) Deaths registered by cause, gender and age. <a href="https://www.nomisweb.co.uk/home/release_group.asp?g=23">https://www.nomisweb.co.uk/home/release_group.asp?g=23</a>
200k+ stroke hospital visits	NHS Digital (2017). Hospital Episode Statistics 2016/17. <a href="https://digital.nhs.uk/catalogue/PUB30098">https://digital.nhs.uk/catalogue/PUB30098</a> (accessed Dec 2017).
1m+ stroke/TIA survivors	Quality & Outcomes Framework prevalence data 2016/17; NHS Digital <a href="http://digital.nhs.uk/catalogue/PUB30124">http://digital.nhs.uk/catalogue/PUB30124</a>
U75 stroke survivors	BHF analysis of 2013 Clinical Practice Research Datalink prevalence data and ONS population estimates
<b>CONGENITAL HEART DISEASE</b>	
1:180 babies diagnosed	BHF/Oxford University analysis of EUROCAT congenital anomaly registers 2010-14 (NB cases exclude BAV - bicuspid aortic valve)
Survival comparison (pre-BHF/today)	MacMahon BMJ ( <a href="http://heart.bmj.com/content/heartjnl/15/2/121.full.pdf">http://heart.bmj.com/content/heartjnl/15/2/121.full.pdf</a> ) and Wren & O'Sullivan, BMJ ( <a href="http://heart.bmj.com/content/85/4/438.long">http://heart.bmj.com/content/85/4/438.long</a> )
1-2% prevalence	Various estimates including Hoffman & Kaplan, JACC –19 per 1,000 includes BAVs which will eventually need cardiologic care ( <a href="http://www.sciencedirect.com/science/article/pii/S0735109702018867">www.sciencedirect.com/science/article/pii/S0735109702018867</a> )
<b>INHERITED (GENETIC) CONDITIONS</b>	
525K with faulty gene	PHG Foundation, <i>Heart to Heart: inherited cardiovascular conditions services</i> (2009); with revised FH prevalence estimates (see below) and DCM from Hershberger et al 2013 ( <a href="http://www.nature.com/nrcardio/journal/v10/n9/full/nrcardio.2013.105.html">www.nature.com/nrcardio/journal/v10/n9/full/nrcardio.2013.105.html</a> )
1:250 with familial hypercholesterolaemia (FH)	Benn, Watts et al. J Clin Endocrinol Metab Aug 2012 ( <a href="http://www.ncbi.nlm.nih.gov/pubmed/22893714">www.ncbi.nlm.nih.gov/pubmed/22893714</a> ) – with erratum Dec 2014; also in Eur Heart J Aug 2013, Nordestgaard et al ( <a href="http://eurheartj.oxfordjournals.org/content/early/2013/08/15/eurheartj.eht273">eurheartj.oxfordjournals.org/content/early/2013/08/15/eurheartj.eht273</a> )
1:500 with hypertrophic cardiomyopathy (HCM)	Priori et al, Task Force on Sudden Cardiac Death ESC ( <a href="http://eurheartj.oxfordjournals.org/content/ehj/22/16/1374.full.pdf">eurheartj.oxfordjournals.org/content/ehj/22/16/1374.full.pdf</a> )
Sudden cardiac deaths under-35s	Cardiac Risk in the Young ( <a href="http://www.c-r-y.org.uk/statistics">www.c-r-y.org.uk/statistics</a> )
<b>OUT-OF-HOSPITAL CARDIAC ARREST (OHCA)</b>	
30k+ OHCA/year, less than 10% survival	BHF UK estimate - volumes and survival rates are only routinely published for England: NHS England (2017). Ambulance Quality Indicators. Analytical Service ( <a href="http://www.england.nhs.uk/statistics/statistical-work-areas/ambulance-quality-indicators/">www.england.nhs.uk/statistics/statistical-work-areas/ambulance-quality-indicators/</a> )
Every min & CPR doubles survival	European Resuscitation Council, Guidelines for Resuscitation 2015 ( <a href="http://www.cprguidelines.eu">www.cprguidelines.eu</a> )

## REFERENCES

STATISTIC	REFERENCE
<b>RISK FACTORS</b>	
3.1m adults diagnosed with diabetes ~ undiagnosed*, type and double risk	QOF prevalence data 2016/17; NHS Digital <a href="http://digital.nhs.uk/catalogue/PUB30124">http://digital.nhs.uk/catalogue/PUB30124</a> ~ Diabetes UK, <i>Diabetes: Facts and Stats 2016</i> – *updated following PHE revisions
High blood pressure (hypertension)	BHF analysis of Health Survey for England 2016; NHS Digital and ONS population estimates
High BP/CVD risk	Vasan et al NEJM 2001 ( <a href="http://www.ncbi.nlm.nih.gov/pubmed/11794147">www.ncbi.nlm.nih.gov/pubmed/11794147</a> )
Smoking; number of smokers 79k/16k smoking/CVD deaths	Adult smoking habits in the UK: 2016 ONS <a href="https://www.ons.gov.uk/releases/adultsmokinghabitsingreatbritain2016">https://www.ons.gov.uk/releases/adultsmokinghabitsingreatbritain2016</a> Statistics on Smoking, England – 2017; NHS Digital <a href="https://digital.nhs.uk/catalogue/PUB24228">https://digital.nhs.uk/catalogue/PUB24228</a>
Obesity, physical activity, 5-a-day, alcohol	BHF analysis of Health Survey for England 2016(NHS Digital) and ONS population estimates
Air pollution	Royal College of Physicians report (2016) (link)