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

This month in Wales

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Number</th>
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<tbody>
<tr>
<td>People will die from a heart or circulatory disease</td>
<td>800</td>
</tr>
<tr>
<td>People will be younger than 75</td>
<td>220</td>
</tr>
<tr>
<td>People are living with a heart or circulatory disease</td>
<td>340,000</td>
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<tr>
<td>Hosp. admissions will be due to a heart attack</td>
<td>420</td>
</tr>
<tr>
<td>People will die from coronary heart disease</td>
<td>310</td>
</tr>
<tr>
<td>Babies will be diagnosed with a heart defect</td>
<td>18</td>
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Quick Links

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Heart and Circulatory Diseases (Cardiovascular Disease; CVD)

Heart and circulatory diseases is an umbrella term that describes 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 are develop later such as coronary heart disease, atrial fibrillation, heart failure, stroke and vascular dementia.

- Heart and circulatory diseases cause more than one in four (28 per cent) of all deaths in Wales, or around 9,600 deaths each year - that’s an average of 26 people each day.
- Heart and circulatory diseases kill 5,000 men and 4,600 women in Wales each year.
- Since the BHF was established the annual number of heart and circulatory deaths in Wales has fallen by half.
- Since 1961 the Welsh death rate from heart and circulatory diseases has declined by more than three quarters. Death rates have fallen more quickly than the actual number of deaths because people in Wales are now living longer.
- More than 2,600 people under the age of 75 in Wales die from heart and circulatory diseases (CVD) each year.
- There are around 340,000 people living with heart and circulatory diseases in Wales - an ageing and growing population and improved survival rates from heart and circulatory events could see these numbers rise still further in the future.

Deaths from and numbers living with heart & circulatory diseases (CVD)

<table>
<thead>
<tr>
<th>Nation</th>
<th>No. of People Dying from CVD (latest)</th>
<th>No. of People Under 75 Years Old Dying from CVD (latest)</th>
<th>Estimated Number of People Living with CVD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scotland (2018)</td>
<td>17,312</td>
<td>4,783</td>
<td>700,000</td>
</tr>
<tr>
<td>Wales (2018)</td>
<td>9,559</td>
<td>2,675</td>
<td>340,000</td>
</tr>
<tr>
<td>Northern Ireland (2017)</td>
<td>4,104</td>
<td>1,131</td>
<td>225,000</td>
</tr>
<tr>
<td>United Kingdom (latest)</td>
<td>170,379</td>
<td>45,306</td>
<td>7.4 million</td>
</tr>
</tbody>
</table>

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
• Premature death rates from heart and circulatory diseases (before the age of 75) are higher than in 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 the country.

• The highest premature heart and circulatory death rates by Welsh authority (2014-16) were for Blaenau Gwent and Merthyr Tydfil.

• The premature (under 75) death rate for Blaenau Gwent (116.4 per 100,000) is twice as high as for The Vale of Glamorgan / Bro Morgannwg (58.2 per 100,000).

• Regional and local statistics and rankings for heart and circulatory deaths can be found on our website.

Wales premature (under 75 years) heart & circulatory diseases (CVD) death rates 2015-17

<table>
<thead>
<tr>
<th>Unitary Authority – Top Five</th>
<th>Under 75 Death Rate per 100,000 Population</th>
<th>Under 75 Annual Number of CVD Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blaenau Gwent</td>
<td>116.4</td>
<td>76</td>
</tr>
<tr>
<td>Merthyr Tydfil / Merthyr Tudful</td>
<td>112.3</td>
<td>59</td>
</tr>
<tr>
<td>Caerphilly / Caerffili</td>
<td>98.2</td>
<td>161</td>
</tr>
<tr>
<td>Neath Port Talbot / Castell-nedd Port Talbot</td>
<td>97.9</td>
<td>132</td>
</tr>
<tr>
<td>Torfaen / Tor-faen</td>
<td>97.1</td>
<td>83</td>
</tr>
</tbody>
</table>

The Cost of Heart and Circulatory Diseases

Total NHS expenditure on CVD in Wales in 2016/17 was £469 million.
Coronary Heart Disease (CHD; Ischaemic Heart Disease)

Coronary heart disease (CHD) is the most common type of heart and circulatory 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).

- Around 118,000 people are living with CHD in Wales
- Coronary heart disease (CHD) is a leading cause of death in Wales. It is also the leading cause of death worldwide.
- CHD is responsible for around 3,800 deaths in Wales each year; that’s an average of 10 deaths each day.
- CHD kills 2,400 men and 1,400 women in Wales each year.
- Since the BHF was established the annual number of CHD deaths in Wales has fallen by more than half.
- In 1961, 9,082 deaths in Wales were attributed to CHD – over a quarter of all deaths that year.
- Since 1961 the age-standardised death rate from CHD has declined by more than three quarters.
- CHD kills more than twice as many women as breast cancer in Wales; it even kills more women prematurely.
- Nearly 1,400 people under the age of 75 in Wales die from CHD each year.
- Coronary heart disease is the leading cause of heart attacks

Linked conditions
- Individuals with coronary heart disease, or who have had a heart attack, are twice as likely to have a stroke as those who haven’t.

For more info please visit:
› Coronary Heart Disease

118,000 people are living with coronary heart disease in Wales
Heart Attack (Myocardial Infarction, MI)

- In Wales more than 5,000 hospital admissions each year are for heart attacks: that’s 14 each day or 1 around every 100 minutes.
- Nearly 10,000 hospital visits each year in Wales are due to a heart attack.
- 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.

Atrial Fibrillation (AF)

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

- Around 72,000 people in Wales have been diagnosed with atrial fibrillation.
- It is estimated that there are thousands more living with undiagnosed AF across Wales.
Heart Failure

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.

- Around 33,000 people in Wales have been diagnosed with heart failure by their GP.
- Estimates which include diagnoses at hospital show there are thousands more people living with the condition across the country.

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.

- Stroke causes over 2,000 deaths in Wales each year.
- In Wales around 7,000 hospital admissions are due to stroke each year.
- Over 67,000 people living in Wales have survived a stroke or transient ischaemic attack (TIA).
- More than half of stroke survivors in Wales are under the age of 75.

Linked conditions

- People with heart failure are 2-3 times more likely to have a stroke.
- People with diabetes are twice as likely to have a stroke as people without diabetes.
Vascular Dementia

Vascular dementia happens when there’s a problem with the blood supply to an area of your brain. The cells in the affected area of your brain don’t get enough oxygen or nutrients and start to die. This leads to symptoms such as concentration problems and personality changes.

- Vascular dementia causes hundreds of deaths each year in Wales – numbers could be higher as it can be difficult to diagnose the different types of dementia.
- Vascular dementia is the second most common type of dementia, seen in around 1 in 4 cases.
- Vascular dementia is estimated to affect at least 150,000 people in the UK.
- By 2050 it’s predicted that the numbers living with vascular dementia could double.

Linked conditions

- People with a history of heart diseases are at least twice as likely to develop vascular dementia
- Vascular dementia accounts for three quarters of dementia cases in stroke survivors
- People with diabetes are 2-3 times more likely to develop vascular dementia

For more info please visit:

Vascular dementia
Out-of-Hospital Cardiac Arrest (OHCA)

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

- Survival rates for Wales are not published, but less than 1 in 10 people survive an OHCA in the UK.
- There are more than 2,800 out-of-hospital cardiac arrests in Wales each year.
- Every minute without cardiopulmonary resuscitation (CPR) and defibrillation reduces the chance of survival by up to 10 per cent.
- Performing CPR can more than double the chances of survival in some cases (ventricular fibrillation).
- It’s estimated that public-access defibrillators (PADs) are used in less than five per cent of OHCAs.
- The Chain of Survival (below) is a sequence of steps that together maximise the chance of survival following cardiac arrest.

For more info please visit: Cardiac arrest

There are around 2,800 out-of-hospital cardiac arrests in Wales 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 around 1 in 150 births - that's an average of **15-18 babies each month** in Wales - with more diagnoses later in life.
- Estimates suggest that in total 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.

Inherited (Genetic) Conditions

These are conditions which can be passed on through families, affect people of any age and may 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 30,000 people in Wales 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.
- Using high intensity statins can reduce cholesterol levels by half. For many people with FH this will be reduced to a safe level, lowering the risk of death from heart disease.
Medical Risk Factors

Many different risk factors increase your likelihood of developing heart and circulatory diseases.

High Blood Pressure (Hypertension)

- High blood pressure is the leading risk factor for heart and circulatory disease in Wales.
- Around 700,000 adults in Wales have high blood pressure.
- More than 500,000 people are on their GP’s hypertension register, suggesting that up to 200,000 are undiagnosed.

Linked conditions

- Around 50% of heart attacks and strokes are associated with high blood pressure

Around 50% of heart attacks and strokes are associated with high blood pressure
Diabetes

Diabetes is a condition in which blood sugar levels are elevated over a prolonged period of time. This results in damage to the inner lining of blood vessels. Consequently, diabetes is an important risk factor for CVD.

- Around 195,000 adults in Wales have been diagnosed with diabetes.
- Around 90 per cent of those diagnosed are living with Type 2 diabetes and 10 per cent have either Type 1 or rarer types.
- It’s estimated that thousands more people across Wales are living with undiagnosed Type 2 diabetes.

Linked conditions

- Adults with diabetes are 2-3 times more likely to develop CVD, and are nearly twice as likely to die from heart disease or stroke as those without diabetes.
- In the UK, one third of adults with diabetes die from a heart or circulatory disease.

High Blood Cholesterol

High blood cholesterol is a significant risk factor for developing heart and circulatory diseases.
Other Risk Factors

- It’s estimated that poor air quality is responsible for an estimated **36,000 deaths** per year in the UK, with a significant impact on heart and circulatory health.
  
The **majority** of UK deaths attributable to outdoor air pollution are from heart and circulatory diseases.
- Other risk factors can significantly increase your risk of developing heart and circulatory diseases, including age, gender, family history and ethnicity.

For more information, visit our website:

- *High Blood Pressure (Hypertension)*
- *High Cholesterol*
- *Diabetes*
Lifestyle Risk Factors

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

Smoking
• Around one in six adults (17%) smoke cigarettes in Wales - that’s more than 400,000 adults.
• Around 5,400 smokers in Wales die from smoking-related causes each year.
• Each year an estimated 1,000 Welsh deaths from heart and circulatory diseases can be attributed to smoking.
• Over 26,000 hospital admissions for adults over 35 are attributable to smoking each year.

Overweight/Obesity
• Nearly a quarter (23%) of adults in Wales are obese and in addition more than a third (36%) are overweight.
• Around one third of children in Wales are overweight or obese.

Diet and Exercise
• An estimated 47 per cent of adults in Wales do not meet current physical activity recommendations.
• Less than a quarter (24%) of adults in Wales consume the recommended five portions of fruit and veg per day.
• Nearly one in five adults (18%) drink more than the weekly guideline amount of alcohol.
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, treatment and cure. 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.

We are the biggest independent funder of heart and circulatory disease research in Wales.

Find out more at bhf.org.uk

More BHF CVD Statistics

Including exclusive content, local statistics and maps
Visit our website  bhf.org.uk/statistics

This factsheet is compiled by the British Heart Foundation.
Last reviewed and updated August 2019.

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, England and Northern Ireland.
### References

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<thead>
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<th>STATISTIC</th>
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<tr>
<td><strong>HEART AND CIRCULATORY DISEASES (CARDIOVASCULAR DISEASE; CVD)</strong></td>
<td></td>
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<tr>
<td>CVD deaths</td>
<td>NOMIS - Office for National Statistics - Deaths registered by cause, gender and age, 2018. <a href="https://www.nomisweb.co.uk/articles/1171.aspx">https://www.nomisweb.co.uk/articles/1171.aspx</a></td>
</tr>
<tr>
<td>CVD death rates</td>
<td>BHF/University of Birmingham calculated rates in partnership with the Office for National Statistics (2015-17 data)</td>
</tr>
<tr>
<td>£469m CVD cost</td>
<td>NHS expenditure, Public Health Wales 2016/17</td>
</tr>
<tr>
<td><strong>CORONARY HEART DISEASE (CHD; ISCHAEMIC HEART DISEASE)</strong></td>
<td></td>
</tr>
<tr>
<td>CHD deaths, vs breast cancer ~ worldwide</td>
<td>NOMIS - Office for National Statistics - Deaths registered by cause, gender and age, 2018. <a href="https://www.nomisweb.co.uk/articles/1171.aspx">https://www.nomisweb.co.uk/articles/1171.aspx</a></td>
</tr>
<tr>
<td>World Health Organization, The Top 10 Causes of Death</td>
<td></td>
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<tr>
<td>CHD death rates</td>
<td>BHF/University of Birmingham calculated rates in partnership with the Office for National Statistics (2015-17 data)</td>
</tr>
<tr>
<td><strong>HEART ATTACK (MYOCARDIAL INFARCTION, MI)</strong></td>
<td></td>
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<tr>
<td>7/10 people survive heart attack ~ 1960s estimate</td>
<td>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)</td>
</tr>
<tr>
<td><strong>ATRIAL FIBRILLATION (AF)</strong></td>
<td></td>
</tr>
<tr>
<td>5 times more likely to have a stroke</td>
<td>Marini C, De Santis F, Sacco S. Contribution atrial fibrillation to incidence and outcome of ischemic stroke: results from a population-based study. <a href="http://www.ncbi.nlm.nih.gov/pubmed/15879330">www.ncbi.nlm.nih.gov/pubmed/15879330</a></td>
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<tr>
<td><strong>HEART FAILURE (HF)</strong></td>
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<tr>
<td><strong>STROKE (CEREBROVASCULAR DISEASE)</strong></td>
<td></td>
</tr>
<tr>
<td>U75 stroke survivors</td>
<td>The Health Intelligence Network (THIN), 2015</td>
</tr>
<tr>
<td><strong>VASCULAR DEMENTIA</strong></td>
<td></td>
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<tr>
<td><strong>CONGENITAL HEART DISEASE</strong></td>
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<tr>
<td>1:150 babies diagnosed</td>
<td>BHF estimates for Wales based on Public Health England, NCARDRS congenital anomaly statistics: 2017 data</td>
</tr>
<tr>
<td>1-2% prevalence</td>
<td>various estimates including Hoffman &amp; Kaplan, JACC –19 per 1,000 includes “BAVs which will eventually need cardiologic care ”</td>
</tr>
<tr>
<td>Survival comparison (pre-BHF/today)</td>
<td>MacMahon BMJ (<a href="http://heart.bmj.com/content/heartjn15/2/121.full.pdf">http://heart.bmj.com/content/heartjn15/2/121.full.pdf</a>) and Wren &amp; O’Sullivan, BMJ (<a href="http://heart.bmj.com/content/85/4/438.long">http://heart.bmj.com/content/85/4/438.long</a>)</td>
</tr>
</tbody>
</table>
**STATISTIC** | **REFERENCE**
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**INHERITED (GENETIC) CONDITIONS** | 
30k with faulty gene | BHF estimate based on prevalence rates in PHG Foundation’s Heart to Heart: inherited cardiovascular conditions services (2009); and revised FH prevalence estimates (see below) and DCM from Hershberger et al 2013 (www.nature.com/nrccardio/journal/v10/n9/full/nrccardio.2013.105.html)
1:250 with familial hypercholesterolaemia (FH) | consensus is 1:250 - Public Health England cite this but also 1:270 – refs include Benn, Watts et al, J Clin Endocrinol Metab 2012/14; Nordestgaard et al EUR Heart J Aug 2013, Akiyamem et al BMJ Open 2017
1:500 with hypertrophic cardiomyopathy (HCM) | Priori et al, Task Force on Sudden Cardiac Death ESC (eurheartj.oxfordjournals.org/content/ehj/22/16/1374.full.pdf)
UK 12 cardiac deaths/week under-35s | Cardiac Risk in the Young (www.c-r-y.org.uk/statistics)

**OUT-OF-HOSPITAL CARDIAC ARREST (OHCA)** | 
UK survival rate less than 1 in 10 | BHF UK estimate - survival rates are only routinely published for England and Scotland
Every min & CPR quadruples survival | European Resuscitation Council, Guidelines for Resuscitation 2015 https://cprguidelines.eu/

**RISK FACTORS** | 
**Hypertension (High Blood Pressure)** | 
High BP #1 risk factor CVD risk | Global Burden of Disease 2017 estimates for Wales (premature death and disability)

**Linked conditions:** Around 50% of heart attacks and strokes are associated with high blood pressure | Global Burden of Disease (GBD) UK risk burden estimate 2017

**Diabetes** | 
Diabetes UK www.diabetes.org.uk/professionals/position-statements-reports/statistics

**Linked conditions:** Adults with diabetes are 2-3 times more likely to develop CVD, and are nearly twice as likely to die from heart disease or stroke as those without diabetes https://www.ncbi.nlm.nih.gov/pubmed/20609967
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2809299/
https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(10)60484-9/fulltext

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<thead>
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<tbody>
<tr>
<td>5.5k smokers die, 26k hospital admissions</td>
<td>ASH Wales <a href="https://ash.wales/wales-headline-statistics/">https://ash.wales/wales-headline-statistics/</a></td>
</tr>
<tr>
<td>1.1K CVD deaths due to smoking</td>
<td>BHF estimate for Wales based on Statistics on Smoking – 2019; NHS Digital</td>
</tr>
</tbody>
</table>
| Air pollution deaths - up to 36,000 deaths per year | COMEAP 2018 – contributes to all mortality with equivalent impact of 28-36k deaths. https://www.gov.uk/government/collections/comeap-reports