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 Northern Ireland.
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 one in four people in Northern Ireland, 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 statistics on the effects, prevention, treatment, costs and causes of heart disease in Northern Ireland and the UK. 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 nearly a quarter of all deaths in Northern Ireland, or over **3,600 deaths** each year – that’s an average of 10 people each day.
- Since the 1960s, CVD death rates in Northern Ireland have fallen by three-quarters.
- Death rates have fallen more quickly than the actual number of deaths because people in Northern Ireland are now living longer lives.
- Around **1,070 people** under the age of 75 in Northern Ireland die from CVD each year.

### DEATHS FROM CVD AND NUMBERS LIVING WITH CVD

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

Deaths BHF/University of Birmingham analysis from latest official statistics (NISRA 2015 data)
Living with CVD estimates based on latest UK health surveys with CVD fieldwork and GP patient data

- There are an estimated **225,000 people** living with cardiovascular disease in Northern Ireland.
- 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

**BHF** Thanks to research we funded, the use of statins to help prevent CVD is now routine, saving lives every year in Northern Ireland. 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 across 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 death rates from CVD (before the age of 75) in Northern Ireland are broadly similar to those for 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 CVD death rate by Northern Ireland council area (2014-16) was for Belfast.

### NORTHERN IRELAND PREMATURE CVD DEATH RATES 2014-16 – (NI AVERAGE = 73)

<table>
<thead>
<tr>
<th>Local Council</th>
<th>Death Rate per 100,000 Population</th>
<th>Annual Number of CVD Deaths Under 75 Years Old</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belfast</td>
<td>98.7</td>
<td>237</td>
</tr>
<tr>
<td>Derry &amp; Strabane</td>
<td>77.9</td>
<td>88</td>
</tr>
<tr>
<td>Mid &amp; East Antrim</td>
<td>74.9</td>
<td>91</td>
</tr>
<tr>
<td>Armagh, Banbridge &amp; Craigavon</td>
<td>70.4</td>
<td>112</td>
</tr>
<tr>
<td>Mid Ulster</td>
<td>69.6</td>
<td>72</td>
</tr>
<tr>
<td>Causeway Coast &amp; Glens</td>
<td>68.7</td>
<td>83</td>
</tr>
<tr>
<td>North Down &amp; Ards</td>
<td>66.3</td>
<td>102</td>
</tr>
<tr>
<td>Newry, Mourne &amp; Down</td>
<td>65.0</td>
<td>86</td>
</tr>
<tr>
<td>Fermanagh &amp; Omagh</td>
<td>64.1</td>
<td>60</td>
</tr>
<tr>
<td>Antrim &amp; Newtonabbey</td>
<td>63.2</td>
<td>71</td>
</tr>
<tr>
<td>Lisburn &amp; Castlereagh</td>
<td>59.1</td>
<td>69</td>
</tr>
</tbody>
</table>

- The premature (under 75) death rate for CVD in Belfast (98.7 per 100,000) is 67 per cent higher than for Lisburn & Castlereagh (59.1 per 100,000).
- Regional and local statistics and rankings for CVD deaths can be found on our website at bhf.org.uk/statistics
- Total NHS expenditure on CVD in Northern Ireland in 2014/15 was £412 million.

The total annual healthcare cost of cardiovascular disease in Northern Ireland

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

- 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.
- 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
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).

- Coronary heart disease (CHD) is one of Northern Ireland’s leading causes of death. It is also the leading cause of death worldwide.
- CHD is responsible for over 1,600 deaths in Northern Ireland each year, an average of around 4 deaths each day.
- In Northern Ireland, more than 1 in 8 men and more than 1 in 13 women die from coronary heart disease.
- Since the 1960s, CHD death rates in Northern Ireland have fallen by three-quarters.

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

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/MRIscreans_highrisk

- Regional and local statistics and rankings for CHD deaths can be found on our website at bhf.org.uk/statistics
- CHD kills more than twice as many women as breast cancer in Northern Ireland.
- Nearly 60 people under the age of 75 in Northern Ireland die from CHD each year.
- Around 74,000 people are living with CHD in Northern Ireland; over 60 per cent are estimated to be men.
- Most deaths from coronary heart disease are caused by a heart attack.
- For more information about CHD, visit our website at 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.
- There are over 5,900 hospital visits attributed to heart attack in Northern Ireland each year; that’s 1 every 88 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.
- More than 29,000 people alive in Northern Ireland today (20,400 men and 8,900 women) have survived an MI.
- For more information on heart attacks visit our website at bhf.org.uk/heart-health/conditions/heart-attack
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

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

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

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Atrial Fibrillation (AF)

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

- Nearly **35,000 people** in Northern Ireland have been diagnosed with atrial fibrillation.
- It is estimated that there are thousands more living with undiagnosed AF.
- For more on atrial fibrillation, visit bhf.org.uk/heart-health/conditions/atrial-fibrillation

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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 16,700 people** in Northern Ireland have been diagnosed with heart failure.
- For more information on heart failure, visit our website at bhf.org.uk/heart-health/conditions/heart-failure

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Stroke (Cerebrovascular Disease)

A stroke occurs when the blood supply to part of the brain is cut off, causing brain cells to become damaged.

- Strokes cause over **1,000 deaths** in Northern Ireland each year.
- Nearly **37,000 people** living in Northern Ireland today have survived a stroke or transient ischaemic attack (TIA).
- Over half of stroke survivors in Northern Ireland are under the age of 75.
- Regional and local statistics and rankings for stroke deaths can be found on our website at bhf.org.uk/statistics
- For more health information on strokes visit our website at bhf.org.uk/heart-health/conditions/stroke

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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

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

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 country. 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 country. bhf.org.uk/communityivd
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 1,400 out-of-hospital cardiac arrests in Northern Ireland each year.
- Less than 1 in 10 people survive.
- 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

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. Thousands of adults and schoolchildren in Northern Ireland 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

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Congenital Heart Disease

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

- 1 in 180 babies are diagnosed with a heart defect at birth – that’s an average of 11 each month in Northern Ireland - 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

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
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 to affect 1 in 500) and familial hypercholesterolaemia (FH; 1 in 250).
- It’s estimated that around 17,500 people in Northern Ireland 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
  bhf.org.uk/heart-health/conditions/familial-hypercholesterolaemia

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

Medical Risk Factors

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

High Blood Pressure

- An estimated 22 per cent of adults in Northern Ireland are 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.
- Over 92,000 adults in Northern Ireland 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 thousands more people in Northern Ireland will be 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
High Cholesterol bhf.org.uk/heart-health/risk-factors/high-cholesterol
Diabetes bhf.org.uk/heart-health/risk-factors/diabetes
Lifestyle Risk Factors

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

Smoking

- An estimated 20 per cent of adults smoke in Northern Ireland - that's around 300,000 adults.
- Around 2,300 smokers in Northern Ireland die from smoking-related causes each year.
- Around 18,000 hospital admissions are attributed to smoking each year.

Overweight/Obesity

- An estimated 27 per cent of adults in Northern Ireland are obese and in addition more than a third are overweight.
- One quarter of children in Northern Ireland are overweight or obese.

Diet and Exercise

- An estimated 45 per cent of adults in Northern Ireland do not achieve recommended levels of physical activity.
- Over half (57 per cent) of adults in Northern Ireland do not eat the recommended five portions of fruit and vegetables per day.
- One in five adults in Northern Ireland regularly exceed national guidelines for weekly alcohol intake; no level of use is without risk.

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 which can significantly increase the risk of developing cardiovascular disease include 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 one in four people in Northern Ireland, 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. 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

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 February 2018.

Statistics are the latest available from Northern Ireland and 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, England, Scotland and Wales
UK 12 cardiac deaths/week under-35s
(HCM) 1:500 with hypertrophic cardiomyopathy
(FH) 1:250 with familial hypercholesterolaemia
17.5k with faulty gene

INHERITED (GENETIC) CONDITIONS
Survival comparison (pre-BHF/today)
1-2% prevalence
various estimates including Hoffman & Kaplan, JACC –19 per 1,000 includes “BAVs which will eventually need cardiologic care” (www.sciencedirect.com/science/article/pii/S0735109702018867)

HEART FAILURE (HF)
16.7k+ living with heart failure – gender split

STROKE (CEREBROVASCULAR DISEASE)
1k+ stroke deaths
37k stroke/TIA survivors
U75 stroke survivors
BHf analysis of 2013 Clinical Practice Research Datalink prevalence data and ONS population estimates

CONGENITAL HEART DISEASE
1:180 babies diagnosed
BHf/Oxford University analysis of EUROCAT congenital anomaly registers 2010–14 (NB cases exclude BAV - bicuspid aortic valve)

1-2% prevalence
various estimates including Hoffman & Kaplan, JACC –19 per 1,000 includes “BAVs which will eventually need cardiologic care” (www.sciencedirect.com/science/article/pii/S0735109702018867)

Survival comparison (pre-BHF/today)
MacMahon BMJ (http://heart.bmj.com/content/heartjn/15/2/121.full.pdf) and Wren & O’Sullivan, BMJ (http://heart.bmj.com/content/85/4/438.long)

INHERITED (GENETIC) CONDITIONS
17.5k with faulty gene
BHf estimate for Ni 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/ircardio/journal/v10/n8/full/ircardio.2013.105.html)

1:250 with familial hypercholesterolaemia (FH)

1:500 with hypertrophic cardiomyopathy (HCM)
Priori et al, Task Force on Sudden Cardiac Death ESC (eurheartj.oxfordjournals.org/content/ejh/22/16/1374.full.pdf)

UK 12 cardiac deaths/week under-35s
Cardiac Risk in the Young (www.c-r-y.org.uk/statistics)
## STATISTIC
### OUT-OF-HOSPITAL CARDIAC ARREST (OHCA)

<table>
<thead>
<tr>
<th>STATISTIC</th>
<th>REFERENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every min &amp; CPR doubles survival</td>
<td>European Resuscitation Council, Guidelines for Resuscitation 2015 (<a href="http://www.cprguidelines.eu">www.cprguidelines.eu</a>)</td>
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## RISK FACTORS

<table>
<thead>
<tr>
<th>STATISTIC</th>
<th>REFERENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults high BP</td>
<td>DHNI, results from 2013/14 Health Survey Northern Ireland</td>
</tr>
<tr>
<td>Adults 20% smoke ~ 300k</td>
<td>Health Survey Northern Ireland: first results 2016/17 and ONS Population estimates</td>
</tr>
<tr>
<td>2.3k smoker deaths/year</td>
<td>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></td>
</tr>
<tr>
<td>18K hospital admissions from smoking-related causes</td>
<td>Tobacco Control Northern Ireland 2015; Public Health Agency</td>
</tr>
<tr>
<td>Obesity, 5-a-day, alcohol Physical activity</td>
<td>Health Survey Northern Ireland: first results 2016/17</td>
</tr>
<tr>
<td>Air pollution</td>
<td>Royal College of Physicians report (2016) (link)</td>
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