Chapter 1 MORTALITY

Deaths by cause, by gender and age, United Kingdom 2014

Deaths by cause in men, United Kingdom 2014

Deaths by cause in women, United Kingdom 2014

Deaths by cause, by gender and age, England, Wales, Scotland and Northern Ireland 2014

Deaths by cause in men under 75, United Kingdom 2014

Deaths by cause in women under 75, United Kingdom 2014

Age-standardised death rates from cardiovascular disease (CVD), all ages, England, Wales, Scotland, Northern Ireland and United Kingdom 1969 to 2013

Age-standardised death rate per 100,000 from CVD, by gender, United Kingdom 1968 to 2013

Age-standardised death rates from CVD, under 75, England, Wales, Scotland, Northern Ireland and United Kingdom 1969 to 2013

Age-standardised death rate per 100,000 from CVD, by gender, aged under 75, United Kingdom 1968 to 2013

Age-standardised death rates from coronary heart disease (CHD), all ages, England, Wales, Scotland, Northern Ireland and United Kingdom 1971 to 2013

Age-standardised death rate per 100,000 from CHD, by gender, United Kingdom 1974 to 2013

Age-standardised death rates from CHD, under 75, England, Wales, Scotland, Northern Ireland and United Kingdom 1969 to 2013

Age-standardised death rate per 100,000 from CHD, by gender, aged under 75, United Kingdom 1974 to 2013

Age-standardised death rates from stroke, all ages, England, Wales, Scotland, Northern Ireland and United Kingdom 1969 to 2013

Age-standardised death rate per 100,000 from stroke, by gender, United Kingdom 1968 to 2013

Age-standardised death rates from stroke, under 75, England, Wales, Scotland, Northern Ireland and United Kingdom 1969 to 2013

Excess winter mortality for CVD and CHD by gender and age, England 2010/11 to 2012/13

Excess winter mortality for CVD and CHD by gender and age, Wales 2010/11 to 2012/13

Excess winter mortality for CVD and CHD by gender and age, Northern Ireland 2011/12 to 2013/14

Excess winter mortality for CVD, England and Wales, 2007/08 to 2012/13

Numbers of deaths and age-standardised death rates from cardiovascular disease (CVD) in men and women, all ages and under 75, by region and country, United Kingdom 2011/13

Table 1.1

Table 1.1a

Table 1.1b

Table 1.2

Table 1.3

Table 1.3a

Table 1.3b

Table 1.4

Table 1.5

Table 1.5a

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Table 1.31
Inpatient episodes by main diagnosis in NHS hospitals, England, Scotland, Wales, Northern Ireland and United Kingdom, 2005/06 to 2013/14

Trends in inpatient episodes of specific cardiovascular conditions in England, 2006/07 to 2013/14

Trends in inpatient episodes of specific cardiovascular conditions in Scotland, 2009/10 to 2013/14

Trends in inpatient episodes of specific cardiovascular conditions in Wales, 2005/06 to 2013/14

Prevalence of selected cardiovascular conditions in Northern Ireland, 2010/11 to 2013/14

Prevalence of selected cardiovascular conditions by region and country, United Kingdom 2013/14

Prevalence of selected cardiovascular conditions, England 2004/05 to 2013/14

Prevalence of selected cardiovascular conditions, England 2004/05 to 2013/14

Prevalence of selected cardiovascular conditions, Scotland 2008/09 to 2013/14

Prevalence of selected cardiovascular conditions, Scotland 2008/09 to 2013/14

Prevalence of selected cardiovascular conditions, Wales 2006/07 to 2013/14

Prevalence of selected cardiovascular conditions, Wales 2006/07 to 2013/14

Prevalence of selected cardiovascular conditions, Northern Ireland 2004/05 to 2013/14

Prevalence of selected cardiovascular conditions, Northern Ireland 2004/05 to 2013/14

Prevalence of selected cardiovascular conditions in men by age, Great Britain 1988 to 2011

Prevalence of selected cardiovascular conditions in women by age, Great Britain 1988 to 2011

Prevalence of selected cardiovascular conditions by gender, Great Britain 1988 to 2011

Prevalence of selected cardiovascular conditions by gender, England 2003 to 2011

Prevalence of selected cardiovascular conditions by gender, England 2003 to 2011

Prevalence of selected cardiovascular conditions by gender, England 2003 to 2011

Prevalence of selected cardiovascular conditions by gender, Scotland 2003 to 2014

Prevalence of selected cardiovascular conditions by gender, Scotland 2003 to 2014

Prevalence of selected heart conditions by gender, Wales 2003/04 to 2014

Prevalence of selected heart conditions by gender, Wales 2003/04 to 2014

Prevalence of selected cardiovascular conditions, United Kingdom 2013/14

Cardiovascular disease, Wales 2005 to 2014

Cardiovascular disease, Scotland 2001/02 to 2014/15

Cardiovascular disease, Scotland 2001/02 to 2014/15

Cardiovascular disease, Northern Ireland 2000 to 2014

Cardiovascular disease, Northern Ireland 2000 to 2014

Prescriptions used in the prevention and treatment of cardiovascular disease, United Kingdom latest available year

Number of CABGs and PCs, United Kingdom 1977 to 2013

Number of coronary artery bypass operations and percutaneous coronary interventions per year, United Kingdom 1980 to 2013

Number of valve replacements and repairs, United Kingdom 2003 to 2012

Cardiothoracic transplant list, United Kingdom 2014/15

Cardiothoracic transplants and rate per million population, by country, United Kingdom 2010/11 to 2014/15


Percentage of NHS expenditure on CVD by care setting, England 2013/14

NHS expenditure on CVD by care setting and CVD type, England 2013/14

NHS expenditure on CVD by Care Group cluster, England 2013/14

NHS expenditure on CVD by Commissioning Region, England 2013/14

NHS expenditure on CVD by Health Board, Wales 2013/14

NHS expenditure on CVD by Health and Social Care Trust, Northern Ireland 2013/14

NHS expenditure on CVD by care setting and condition, Scotland 2011/12

Obesity

High blood pressure

Diabetes

Cholesterol

Smoking

Poor diet

Physical inactivity

Alcohol consumption
FOREWORD

This year, in addition to presenting our usual snapshot of the latest UK heart health statistics, this edition of Cardiovascular disease statistics also presents trend data relating to cardiovascular disease (CVD) in the UK over recent years. The British Heart Foundation (BHF) was founded 54 years ago to fund CVD research by doctors who were concerned about the seemingly unstoppable epidemic of coronary heart disease that was afflicting the UK at the time. The statistics presented here are a testament to the impressive progress that has been made since then.

Particularly satisfying are the continuing decreases in CVD death rates for all of the UK. Since 1980 age-standardised death rates from CVD have decreased by over two thirds for people of all ages and by more than three quarters for those under the age of 75 years. A number of factors have contributed to this success, including lifestyle changes such as smoking cessation and improved diet, as well as the increased use of drugs to treat risk factors such as high blood pressure and cholesterol and improved treatment of acute heart attacks and strokes in our hospitals. All of these changes have come about to a greater or lesser extent as a consequence of the BHF’s research and activities.

But despite this success, or even as a consequence of it, the number of hospital admissions for cardiovascular disease across the UK continues to grow as more and more people are living with the consequences of having survived a damaging heart attack or stroke, placing a heavy burden on our already stretched health and social services. GP patient data show a stubbornly high prevalence for many cardiovascular conditions. Each week in the UK thousands of patients suffer a heart attack or stroke. And whilst average mortality rates are falling, there are substantial regional and gender variations in the incidence of cardiovascular events that reflect inequalities in prevention and treatment. There is still an awful lot more to do to improve the cardiovascular health of our population.

Only by collecting accurate data on risk factors and unhealthy behaviours in the populations most at risk of cardiovascular disease can we hope, through research, to devise ways of reducing this continuing burden of disease so that people can live, not just longer, but healthy lives.

Professor Peter Weissberg  
Medical Director, British Heart Foundation

INTRODUCTION

In this, the twentieth edition of statistics related to heart disease published by the British Heart Foundation, we present trends in Cardiovascular disease statistics in the UK spanning the last thirty years or more. This builds on our Trends in Coronary Heart Disease, 1961–2011 report published in 2011 that presented statistics back to the inception of the BHF.

The compendium is divided into six chapters. Chapter one describes mortality from cardiovascular disease (CVD), including total CVD, coronary heart disease (CHD) and stroke. Data are presented for all ages and for those under 75 years (premature mortality), by gender and region. This includes trends in age-standardised death rates for CVD, CHD and stroke covering the last thirty years. This is the first time these have been calculated using the 2013 European Standard Population. Chapter two describes the current morbidity burden of cardiovascular disease in the UK along with trends in incidence and prevalence. Hospital episode statistics are used as a proxy for incidence whilst prevalence data come from health surveys from UK countries and for Great Britain, along with Quality and Outcomes Framework data for the whole of the UK.

Chapter three includes statistics on the treatment of CVDs, presenting trends in the prescribing of drugs for treating CVD for all UK nations. Trends and current statistics on surgical interventions for CVD such as the use of percutaneous coronary interventions (PCIs) and coronary artery bypass grafts (CABGs) are also presented, along with transplant rates and out-of-hospital cardiac arrest survival data. For the first time costs of treating CVD are included for all UK countries in chapter four, with these broken down by region where possible. Chapter five presents summary statistics on the main medical risk factors of CVD: obesity, blood pressure, diabetes and cholesterol. Chapter six presents summary statistics for key behavioural risk factors: smoking, diet, physical inactivity and alcohol consumption.

Chapters one to four contain a set of tables and figures to illustrate key points and a brief review of the data presented. These include graphs of the most recent statistics along with those for trends over previous years, sometimes decades. Chapters five and six present summary statistics and links to health surveys where more information can be found. More statistics around risk factors, along with all the tables and figures included in this publication, are available from the British Heart Foundation’s website at bhf.org.uk/statistics

The website aims to be the most comprehensive source of statistics on cardiovascular disease in the UK; it is updated on a regular basis and contains a wider range of tables and figures than is available in the Cardiovascular disease statistics series of publications. Copies of this publication can be downloaded or ordered from the website, along with supplements to the Cardiovascular disease statistics series and other titles, including:

- Physical Activity Statistics (2015)
- Children and Young People Statistics (2013)
- European Cardiovascular Disease Statistics (2012)
Chapter 1 MORTALITY

This section reports on cardiovascular disease (CVD) mortality in the United Kingdom, in the context of mortality from other chronic conditions: along with regional and seasonal differences and trends in CVD, coronary heart disease (CHD) and stroke.

- Diseases of the heart and circulatory system (or CVD) were the second most common cause of death in the United Kingdom in 2014, with a total of around 155,000 deaths. In 2014, CVD caused 27% of all deaths and cancers caused 29%.
- One quarter of premature deaths in men and 17% of premature deaths in women were from CVD in 2014. In total there were almost 41,000 premature deaths from CVD in the UK.
- CHD by itself is the biggest single cause of death in the UK. In 2014, 15% of male deaths and 10% of female deaths were from CHD, a total of around 69,000 deaths.
- Around 39,000 deaths were from stroke in 2014, with 6% and 8% of deaths from stroke in men and women respectively.
- Between 1980 and 2013, age-standardised CVD death rates declined by 69% in England, 67% in Wales and Scotland, and 74% in Northern Ireland.
- Between 1974 and 2013, UK age-standardised CHD death rates declined by 73% in those dying at any age and 81% for those dying before age 75.
- There is a pattern of excess winter cardiovascular mortality in the UK. In 2012/13, over 7,000 more people died of CVD in the winter months in England, Scotland and Wales. Between 2010/11 and 2012/13, excess winter mortality from CVD increased for those aged over 65.
- Age-standardised death rates in people aged below 75, for CVD, CHD and stroke, were highest in Scotland and the North of England; the lowest rates were found in the South of England.

Chapter 2 MORBIDITY

This section presents UK statistics for the incidence and prevalence of cardiovascular disease (CVD) and conditions including coronary heart disease (CHD), myocardial infarction (heart attack), heart failure and stroke.

- In the United Kingdom, there were almost 1.7 million episodes related to cardiovascular disease (CVD) in NHS hospitals, accounting for 10% of all inpatient episodes among men and 6.2% among women.
- The proportion of inpatient episodes attributed to CHD was more than twice as high among men as among women, accounting for 3.4% of all inpatient episodes in men and 1.4% in women in the United Kingdom.
- The number of hospital episodes attributed to CVD has been increasing in all UK nations in recent years.
- The incidence of other cardiovascular disease (not CHD or stroke) showed the greatest rises, increasing by 90% between 2005/06 and 2013/14 in England.
- Comparing between UK nations the prevalence of CVD is lowest in England. Within England prevalence rates are highest in the north.
- Using Quality and Outcomes Framework (QOF) data, the prevalence of CHD has decreased in all UK nations in recent years, whilst the prevalence of other conditions (including atrial fibrillation and stroke) has either increased or remained stable.

Chapter 3 TREATMENT

This chapter reports on different methods of treatment for cardiovascular disease (CVD), with a focus on treatments for coronary heart disease (CHD). The chapter includes tables and figures on the number of prescriptions, operations and cardiac arrest survival in the UK.

- In 2014, more than 313 million prescriptions were dispensed for CVD in England, more than six times as many as issued in 1981.
- In 2014, around 23 million prescriptions were dispensed for CVD in Wales, more than 24 million in Scotland and close to 9 million in Northern Ireland.
- Over 92,000 percutaneous coronary interventions (PCI) were carried out in the UK in 2013, more than two times higher than a decade ago.
- Aortic valve replacement has increased since 2003. In 2012 there were 4,561 isolated aortic valve replacements and a further 3,263 aortic valve replacements with coronary artery bypass graft surgery (CABGs) in the UK.

- Although the number of mitral valve repairs in the UK has increased since 2003 the number of mitral replacements has decreased. In 2012 there were 1,456 isolated mitral valve repairs and 638 isolated mitral valve replacements. There were a further 820 mitral valve surgeries with CABG in the UK.
- In 2014/15, there were 180 heart transplants, plus a further three heart/lung transplants. The overall heart transplant rate was 2.8 per million population, this was higher than found in 2010/11 when 126 heart transplants were performed (2.0 per million).
- In 2014, there were nearly 30,000 resuscitation attempts for out-of-hospital cardiac arrests (OHCA) in England and 8.8% of patients were discharged alive from hospital.

Chapter 4 HEALTHCARE COSTS

This chapter describes the burden of cardiovascular disease (CVD) within the UK. It presents total costs and costs per person to the NHS of treating CVD broken down by subtype, by NHS care setting and region for England. Costs by region and CVD subtype are also presented for Wales and Northern Ireland, and for the first time costs by care setting and condition are presented for Scotland.

- Data from Clinical Commissioning Groups (CCGs) do not cover as great a range of healthcare costs as previous data, with £4.3 billion spent on treating CVD through CCGs within the NHS in England in 2013/14. At 40% unscheduled care was the largest component of CCG CVD-related spending, with 23% within primary prescribing and 22% in scheduled care.
- Smaller CCGs with older populations and more rural areas demonstrated the highest expenditure per head (£878) and those in mixed communities in Inner London the lowest (£56).
- London had the lowest costs for CVD per head (£68) and the highest costs in England were in the North region.
- Expenditure data from the programme budget returns in Wales reported that in 2013/14 expenditure on CVD by the NHS within Wales came to more than £430 million.

- 2013/14 Welsh data showed that Powys Teaching UHB has the highest costs per head of population (£179) and Cardiff & Vale UHB the lowest (£106).
- Costs for inpatient episodes and day case attendances in acute hospital settings in Northern Ireland show the total expenditure on CVD in Northern Ireland in 2013/14 to be £393 million.
- Expenditure per head of population was greatest in Belfast (£448), more than twice that found for Northern Ireland as a whole (£215). The lowest expenditure by population is found in the Northern Trust with £128 spent on CVD per person.
- Programme budgeting data for Scotland show that in 2011/12 close to £800 million was spent on treating CVD, equating to more than £150 per person in the country.
GLOSSARY

This section provides a definition for some of the terms used throughout Cardiovascular disease statistics 2015 edition.

Age-standardised rate – a measure of the rate that a population would experience if it had a standard age structure. It is useful to present rates as age-standardised, as it allows for comparisons between populations with very different age structures.

Angina – the most common form of coronary heart disease. It is characterised by a heaviness or tightness in the centre of the chest which may spread to the arms, neck, jaw, face, back and/or stomach. Angina occurs when the arteries of the heart become narrow and not enough oxygen-rich blood can reach the heart muscle, especially when its demands are high, such as during exercise.

Angioplasty – a technique to widen a narrowed or obstructed blood vessel by inflating tightly folded balloons that have been passed into the narrowed location via a catheter. This technique squashes the fatty tissue that has caused the narrowing, hence widening the artery.

Atherosclerosis – a disease characterised by chronic inflammation in the artery walls. The disease is commonly referred to as ‘hardening’ or ‘furring’ of the arteries.

Atrial fibrillation – a heart condition that causes an irregular and often abnormally fast heart rate.

Blood pressure – the physical pressure of blood in the blood vessels. It is similar to the concept of air pressure in a car tyre. These values are quoted in units known as millimetres of mercury (mmHg). See systolic pressure and diastolic pressure.

Body Mass Index (BMI) – a formula relating body weight to height to assess whether a person is overweight. BMI is calculated by dividing a person’s weight (in kilograms) by their height (in metres) squared. Adults with a BMI of 25-30 are considered to be overweight. Those with a BMI of over 30 are considered obese.

British National Formulary (BNF) – a publication that provides key information on the selection, prescribing, dispensing and administration of all medicines that are generally prescribed in the UK.

Cardiovascular disease (CVD) – the collective term for all diseases affecting the heart and blood vessels.

Cerebrovascular disease – the collective term for all diseases affecting blood vessels that supply the brain. Technically, stroke (and the many subtypes of stroke) is a subset of cerebrovascular disease, but the two terms are often used interchangeably.

Coronary Artery Bypass Graft (CABG) – an operation to bypass a narrowed section of a coronary artery and improve the blood supply to the heart muscle.

Coronary Heart Disease (CHD) – the collective term for diseases that occur when the walls of the coronary arteries become narrowed by a gradual build-up of fatty material called atheroma. The two main forms of CHD are heart attack (also known as myocardial infarction) and angina.

Diabetes – a disease caused by a lack of insulin (type 1) or an increased resistance of the body to insulin (type 2). Diabetes is characterised by high blood glucose levels. The resulting chronic high blood glucose levels (hyperglycaemia) are associated with long-term damage, dysfunction and failure of various organs, especially the eyes, kidneys, nerves, heart and blood vessels.

Diastolic blood pressure – A common blood pressure reading might be 120/80 mmHg. The lower pressure (80) represents the pressure in the arteries when the heart is relaxed between beats. This pressure is called diastolic pressure.

The European Standard Population (ESP) – an artificial population structure, which is used in the weighting of mortality or incidence data to produce age-standardised rates. The ESP was updated in 2013 to better reflect the age distribution of Europe.

HDL (High-density Lipoprotein) cholesterol – the fraction of cholesterol that removes cholesterol (via the liver) from the blood. Low levels of HDL cholesterol are associated with an increased risk of atherosclerosis.

Heart attack – a condition where the heart muscle is starved of oxygen, most commonly caused by a blockage of one of the coronary arteries. A heart attack usually causes severe pain in the centre of the chest. The pain usually feels like a heaviness or tightness which may also spread to the arms, neck, jaw, face, back or stomach. There may also be sweating, light-headedness, nausea and/or shortness of breath. Sometimes a heart attack can be ‘silent’ and produce little or no discomfort.

Heart failure – a clinical syndrome which occurs when the heart muscle is unable to pump blood as efficiently around the body. It occurs because the heart is damaged or overworked. Some people with minor heart failure may have few or no symptoms. People with moderate or severe heart failure often suffer from a number of problems, including shortness of breath, general tiredness and swelling of the feet and ankles.

Hypertension – a clinical condition of having a high blood pressure. Mostly it is considered blood pressures of 140/90 mmHg and greater to be high although this is influenced by other factors.

Incidence – a measure of morbidity based on the number of new episodes of an illness arising in a population over a defined time period.

International Classification of Disease (ICD) – a coding system published by the World Health Organization that provides an internationally recognised method of coding diseases in order to categorise mortality and morbidity statistics. The ICD is revised approximately every ten years. The tenth and most recent revision (ICD-10) was introduced in 2000. Change between revisions can result in discontinuities in mortality and morbidity trends, such as the move from ICD-9 to ICD-10 which resulted in an artificial increase in the number of reported stroke incidents and mortalities.

LDL (Low-density Lipoprotein) cholesterol – the more harmful fraction of cholesterol which carries cholesterol from the liver to the cells of the body and causes atherosclerosis.

Microvascular infarction (MI) – see heart attack.

Peripheral Arterial Disease (PAD) – a condition in which a build-up of fatty deposits in the arteries restricts blood supply to parts of the body. PAD is also known as peripheral vascular disease (PVD).

Prevalence – a measure of morbidity based on the current level of a disease in the population at any particular time.

Primary prevention – interventions aimed at reducing the risk of disease before the disease has presented. Primary prevention interventions are usually aimed at populations, such as regulation of tobacco advertising.

Secondary prevention – interventions aimed at reducing the risk of disease recurrence after the disease has initially presented. Secondary prevention interventions are therefore targeted at individuals who have already experienced symptoms of or have been diagnosed with a disease.

Systolic blood pressure – a common blood pressure reading might be 120/80 mmHg. The higher pressure (120) represents the pressure in the arteries when the heart beats, pumping blood into the arteries. This pressure is called systolic pressure.

Systolic blood pressure – a common blood pressure reading might be 120/80 mmHg. The higher pressure (120) represents the pressure in the arteries when the heart beats, pumping blood into the arteries. This pressure is called systolic pressure.

Stroke – the consequence of an interruption to the flow of blood to the brain. A stroke can vary in severity from a passing weakness or tingling of a limb to a profound paralysis, coma and/or death.

Stent – a short tube of expandable mesh which is inserted at the part of the artery that is to be widened by coronary angioplasty. It helps to keep the artery open and prevent re-narrowing.

Waist Circumference (WC) – a measure of central obesity, where fat is concentrated in the abdomen. For men, central obesity is defined as a waist circumference of greater than 102cm. For women, central obesity is defined as a waist circumference of greater than 88cm.

The resulting chronic high blood glucose levels (hyperglycaemia) are associated with long-term damage, dysfunction and failure of various organs, especially the eyes, kidneys, nerves, heart and blood vessels.

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British National Formulary (BNF) – a publication that provides key information on the selection, prescribing, dispensing and administration of all medicines that are generally prescribed in the UK.

Cardiovascular disease (CVD) – the collective term for all diseases affecting the heart and blood vessels.
Chapter I

MORTALITY

This chapter reports on cardiovascular disease (CVD) mortality in the United Kingdom. It presents CVD mortality in the context of mortality from other chronic conditions; local, regional and seasonal differences and trends over time in CVD, coronary heart disease (CHD) and stroke. Where possible, the latest data along with historical trend data from routinely collected, national datasets have been used.

TOTAL MORTALITY

In 2014, cardiovascular disease (CVD) was the second biggest cause of death in the United Kingdom, causing 27 per cent of all deaths while cancer caused 29 per cent. CVD is no longer the biggest cause of death for women, causing 26 per cent of all female deaths; cancer was responsible for 27 per cent in 2014. In men, 28 per cent of deaths were from CVD and 32 per cent were from cancer (Table 1.1, Figures 1.1a and 1.1b).

The main forms of CVD are coronary heart disease (CHD) and stroke; just under half (45 per cent) of CVD deaths were from CHD and a quarter were from stroke (25 per cent). CHD by itself is the biggest single cause of death in the UK. In 2014, 15 per cent of male deaths and 10 per cent of female deaths were from CHD, a total of just over 69,000 deaths. The third biggest single cause of death is cerebrovascular disease (stroke). Around 39,000 deaths were from stroke, responsible for 6 per cent of all deaths in men and 8 per cent of all deaths in women (Table 1.1, Figures 1.1a and 1.1b).

Other heart diseases caused 17 per cent of all CVD deaths, and were mainly due to pulmonary heart diseases, heart failure and atrial fibrillation. About 19 per cent of CVD deaths in women were from other heart diseases, compared to 14 per cent in men. Of people dying from CVD under the age of 35, almost half (49 per cent) of these deaths were from these other heart diseases (Table 1.1, Figures 1.1a and 1.1b).

We age-standardise all rates in this chapter to the 2013 European Standard Population (ESP). Mortality rates are standardised to the ESP in order to account for different age structures between populations in different regions and across time. Mortality is related strongly to age; therefore, by accounting for the age structure of a population, we are able to compare mortality rates between populations and time periods with very different age structures. The ESP is a theoretical population that has been designed to reflect the average age structure of all European populations. By standardising rates to this population, we are comparing mortality rates as if all deaths had occurred in populations with the age structures of the European Standard population.

The 2013 ESP is an update from 1976 and reflects the older age structure of the present population of Europe. As CVD affects older age groups more than younger age groups, the larger number of older people in the 2013 ESP means that any age-standardised rates for CVD mortality calculated will be higher than if they were calculated using the old 1976 ESP. This means that the trends in ESP 2013 age-standardised mortality rates presented in this publication are not comparable to the trends that have been presented in older publications.

Within this chapter we present a selection of key tables and maps on mortality in the UK. A full selection of maps and tables related to mortality from CVD, CHD and stroke in men and women, for all ages and under-75s can be found on the BHF website at bhf.org.uk/statistics.
## Table 1.1
Deaths by cause, by gender and age, United Kingdom 2014

<table>
<thead>
<tr>
<th>Cause</th>
<th>All ages</th>
<th>Under 35</th>
<th>35-44</th>
<th>45-54</th>
<th>55-64</th>
<th>65-74</th>
<th>75-84</th>
<th>85+</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>All causes</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>278,455</td>
<td>7,232</td>
<td>6,244</td>
<td>14,139</td>
<td>27,734</td>
<td>55,484</td>
<td>86,823</td>
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<td>Women</td>
<td>291,886</td>
<td>4,315</td>
<td>3,839</td>
<td>9,495</td>
<td>18,871</td>
<td>39,532</td>
<td>79,610</td>
<td>136,224</td>
</tr>
<tr>
<td>Total</td>
<td>570,341</td>
<td>11,547</td>
<td>10,083</td>
<td>23,634</td>
<td>46,605</td>
<td>95,016</td>
<td>166,433</td>
<td>217,023</td>
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<td><strong>All causes of the circulatory system</strong></td>
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<tr>
<td>Men</td>
<td>78,240</td>
<td>430</td>
<td>1,153</td>
<td>3,722</td>
<td>7,605</td>
<td>15,034</td>
<td>25,667</td>
<td>24,626</td>
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<tr>
<td>Women</td>
<td>76,399</td>
<td>509</td>
<td>1,423</td>
<td>3,049</td>
<td>7,445</td>
<td>11,654</td>
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<td>Total</td>
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<td>2,576</td>
<td>6,771</td>
<td>16,059</td>
<td>26,682</td>
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<td><strong>Chronic rheumatic heart diseases</strong></td>
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<td>Men</td>
<td>519</td>
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<td>62</td>
<td>142</td>
<td>361</td>
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<td><strong>Hypertensive diseases</strong></td>
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PREMATURE MORTALITY

In the UK death before the age of 75 years is routinely considered to be premature. One quarter of premature deaths in men and around 17 per cent of premature deaths in women were from cardiovascular disease (CVD) in 2014. In total that year, there were over 41,000 premature deaths from CVD in the UK.

Coronary heart disease (CHD) by itself is the most common cause of premature death in the UK in men. About 15 per cent of male premature deaths in 2014 were from CHD, equating to around 16,800 deaths under the age of 75. In women, CHD by itself caused just under 7 per cent of premature deaths, equating to almost 5,500 deaths. Stroke accounted for about 7,500 premature deaths while other heart diseases totalled 5,500 (Table 1.2, Figures 1.2a and 1.2b).
### Table 1.2
Deaths by cause, by gender and age, England, Wales, Scotland and Northern Ireland 2014

<table>
<thead>
<tr>
<th>Cause of Death</th>
<th>All ages</th>
<th>Under 75</th>
</tr>
</thead>
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<tr>
<td>----------------</td>
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<tr>
<td><strong>All causes</strong></td>
<td>Men 229,116</td>
<td>15,341</td>
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<td>Women 239,759</td>
<td>16,098</td>
</tr>
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<td>468,875</td>
<td>31,439</td>
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<tr>
<td><strong>All diseases of the circulatory system (cardiovascular disease) (I00-I99)</strong></td>
<td>Men 64,181</td>
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<td>Women 62,501</td>
<td>4,348</td>
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<tr>
<td><strong>Total</strong></td>
<td>126,682</td>
<td>8,808</td>
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<td><strong>Chronic rheumatic heart diseases (IS0-IS9)</strong></td>
<td>Men 263</td>
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<tr>
<td></td>
<td>Women 491</td>
<td>42</td>
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<td><strong>Total</strong></td>
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<td>69</td>
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<td><strong>Hypertensive diseases (II0-II5)</strong></td>
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<td>Women 3,446</td>
<td>200</td>
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<td>5,760</td>
<td>340</td>
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<tr>
<td><strong>Coronary heart disease (I20-I25)</strong></td>
<td>Men 33,802</td>
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<tr>
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<td>Women 22,562</td>
<td>1,575</td>
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<tr>
<td><strong>Total</strong></td>
<td>56,364</td>
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<tr>
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<td>611</td>
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<tr>
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<td>Women 12,202</td>
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<tr>
<td><strong>Total</strong></td>
<td>21,316</td>
<td>1,465</td>
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<tr>
<td><strong>Stroke (I60-I69)</strong></td>
<td>Men 13,208</td>
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</tr>
<tr>
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<td>Women 18,579</td>
<td>1,353</td>
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<tr>
<td><strong>Total</strong></td>
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<td>2,316</td>
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<tr>
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<td><strong>Total</strong></td>
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<td><strong>Total</strong></td>
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**Coronary heart disease (CHD) is the most common cause of death in the UK.**

---

**Notes:**
- ICD-10 codes in parentheses.
- ¶ *Not classified elsewhere.*
- ¶ This table compiles data from the four countries of the UK.
- ¶ The data shown here do not add up to the United Kingdom totals in Table 1.1, as the separate England and Wales figures are only for people who were residing in the country at the time of death; therefore the mortality figures for England and Wales separately are different to the published mortality figures for England & Wales together.
TRENDS IN AGE-STANDARDISED MORTALITY RATES

Age-standardised death rates from CVD, CHD and stroke have been declining in the UK since 1969, for both deaths at all ages and premature deaths under 75. Deaths for CVD were coded differently in Northern Ireland until 1979 and so rates before this year would not be comparable with the rest of the UK. Between 1980 and 2013, age-standardised CVD death rates declined by 69 per cent in England, 67 per cent in Wales and Scotland, and 74 per cent in Northern Ireland (Table 1.3, Figure 1.3). Premature death rates also declined significantly during the same period, with a 77 per cent decrease for England, 76 per cent for Wales, 75 per cent for Scotland and 82 per cent for Northern Ireland (Table 1.4, Figure 1.4).
Figure 1.3
Age-standardised death rates per 100,000 from cardiovascular disease (CVD), by gender, United Kingdom, 1968 to 2013

Table 1.3
Age-standardised death rates per 100,000 from cardiovascular disease (CVD), all ages, United Kingdom and England, Wales, Scotland, Northern Ireland, 1969 to 2013

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<th>United Kingdom Women</th>
<th>United Kingdom Both</th>
<th>England Men</th>
<th>England Women</th>
<th>England Both</th>
<th>Wales Men</th>
<th>Wales Women</th>
<th>Wales Both</th>
<th>Scotland Men</th>
<th>Scotland Women</th>
<th>Scotland Both</th>
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CHAPTER 1  MORTALITY  CARDIOVASCULAR DISEASE STATISTICS, 2015  BRITISH HEART FOUNDATION

Figure 1.4
Age-standardised death rates per 100,000 from cardiovascular disease (CVD), by gender, aged under 75, United Kingdom, 1968 to 2013

Table 1.4
Age-standardised death rates per 100,000 from cardiovascular disease (CVD), under 75, United Kingdom and England, Wales, Scotland, Northern Ireland, 1969 to 2013

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Comparable death rates for coronary heart disease (CHD) are only available from 1974 for Northern Ireland and consequently, the UK as a whole. Between 1974 and 2013, UK age-standardised CHD death rates declined by 73 per cent in those dying at any age and 81 per cent for those dying before age 75. In England, Scotland and Wales, between 1971 and 2013, rates declined more in women than in men, declining by 73 per cent in England and Wales and 74 per cent in Scotland for women and by 73 per cent, 72 per cent and 74 per cent for men in the same countries. In Northern Ireland between 1974 and 2013, death rates decreased by 77 per cent in men and 76 per cent in women. Between 1974 and 2013 in those aged under 75, age-standardised death rates decreased by 81 per cent for the UK as a whole and England, by 80 per cent for Wales and Scotland and by 84 per cent in Northern Ireland (Tables 1.5 and 1.6, Figures 1.5 and 1.6).

Table 1.5
Age-standardised death rates per 100,000 from coronary heart disease (CHD), all ages, United Kingdom and England, Wales, Scotland, Northern Ireland, 1971 to 2013

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Table 1.6
Age-standardised death rates per 100,000 from coronary heart disease (CHD), under 75, United Kingdom and England, Wales, Scotland, Northern Ireland, 1969 to 2013

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Comparable annual death rates for stroke are available from 1968 for Northern Ireland and subsequently for the whole UK. Death rates declined by around 78% per cent for the UK between 1968 and 2013. Rates decreased by 75% per cent for England and Wales. In Scotland rates in this period decreased by 73% per cent and by 76% per cent in Northern Ireland (Table 1.7, Figure 1.7). In those dying from stroke aged under 75, UK rates declined by 85% per cent between 1968 and 2013. Under-75 death rates for the same time period decreased by 83% per cent in England, 85% per cent in Wales, 82% per cent in Scotland and 86 per cent in Northern Ireland (Table 1.8, Figure 1.8).

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Table 1.8
Age-standardised death rates per 100,000 from stroke, under 75, United Kingdom and England, Wales, Scotland, Northern Ireland, 1969 to 2013

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The UK age-standardised premature (under-75s) death rate for stroke fell by 85% between 1968 and 2013.

Figure 1.8
Age-standardised death rates per 100,000 from stroke, by gender, aged under 75, United Kingdom, 1968 to 2013
EXCESS WINTER MORTALITY (EWM)

There is a pattern of excess winter cardiovascular disease (CVD) mortality in the UK. In 2012/13, over 7,000 more people died of CVD in the winter months in England in comparison to non-winter months. Between 2010/11 and 2012/13, excess winter mortality from CVD increased for those aged over 65; in the 85+ age group, there were 14 per cent excess winter CVD deaths in 2010/11, but 21 per cent in 2012/13. Excess winter mortality for CHD also increased between 2010/11 and 2012/13; in women dying at all ages, excess winter CHD deaths increased from 16 per cent in 2010/11 to 22 per cent in 2012/13 (Table 1.9).

### Table 1.9

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<th>2012/13</th>
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Notes: Excess winter mortality calculation: winter deaths less average non-winter deaths. ¶ Excess winter mortality index calculation: excess winter mortality/average non-winter deaths*100 ¶ The figures for individual age groups may not sum up to the ‘all ages’ total due to rounding of figures. Source: Office for National Statistics (2015). Personal communication.

There is a pattern of excess winter mortality from cardiovascular disease in the UK.
In Wales in 2012/13, there were almost 600 excess winter deaths from CVD, with 21 per cent excess male deaths and 18 per cent excess female deaths. Winter deaths from CVD have increased in Wales from 17 per cent excess deaths in 2010/11 to 19.5 per cent excess winter deaths in 2012/13. Excess winter deaths in Wales have also increased for CHD. In 2010/11 there were 20 per cent excess CHD winter deaths compared to 26 per cent in 2012/13 (Table 1.10).

In Northern Ireland in 2013/14, there were 2 per cent excess male CVD deaths and 13 per cent excess female CVD deaths in winter compared to non-winter months. There were 18 per cent excess CHD winter deaths in men and 13 per cent in women. There is no clear trend over time in Northern Ireland, however, because the numbers are relatively small. Results from individual years should therefore be treated with caution (Table 1.11).

### Table 1.10

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<th>Cardiovascular disease (ICD-10 I00–I99)</th>
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</tr>
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<td><strong>Mortality index</strong></td>
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<td>5.9</td>
</tr>
<tr>
<td><strong>All</strong></td>
<td>90</td>
<td>39.8</td>
<td>10</td>
</tr>
<tr>
<td>65–74</td>
<td>40</td>
<td>18.2</td>
<td>40</td>
</tr>
<tr>
<td>75–84</td>
<td>90</td>
<td>20.0</td>
<td>50</td>
</tr>
<tr>
<td>85+</td>
<td>80</td>
<td>12.6</td>
<td>90</td>
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<tr>
<td>All</td>
<td>280</td>
<td>19.5</td>
<td>190</td>
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<tr>
<td><strong>Mortality index</strong></td>
<td>3.5</td>
<td>40</td>
<td>20.6</td>
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</tbody>
</table>

### Notes

- Excess winter mortality calculation: winter deaths less average non-winter deaths.
- Excess winter mortality index calculation: excess winter mortality / average non-winter deaths*100.
- Low numbers of CVD deaths of each age group in the winter months for Wales may mean that there are large percentage variations in EWM between each year, which could result from natural fluctuations rather than meaningful increases or decreases each year.
- The figures for individual age groups may not sum up to the ‘all ages’ total due to rounding of figures. Source: Office for National Statistics (2015). Personal communication.
 Longer-term trends in excess winter mortality for CVD are available for England and Wales combined. There is no consistent trend between 2007/08 and 2012/13, with quite large fluctuations between years for all age groups (Table 1.12). Overall, for excess winter deaths at all ages, there appears to have been a slight increase between 2007/08 and 2012/13 (16.5 per cent to 18.4 per cent), however excess winter deaths from CVD in this period peaked in 2008/09 with 25 per cent excess winter deaths from CVD (Table 1.12).

### Table 1.12
Excess winter mortality for cardiovascular disease (CVD), by gender and age, England and Wales, 2007/08 to 2012/13

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>Men</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>0-64</td>
<td>520</td>
<td>600</td>
<td>380</td>
<td>640</td>
<td>280</td>
<td>490</td>
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<tr>
<td>EWM Index (%)</td>
<td>11.9</td>
<td>14.5</td>
<td>9.1</td>
<td>16.6</td>
<td>7.7</td>
<td>13.6</td>
</tr>
<tr>
<td>65-74</td>
<td>670</td>
<td>930</td>
<td>780</td>
<td>500</td>
<td>600</td>
<td>580</td>
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<tr>
<td>EWM Index (%)</td>
<td>13.6</td>
<td>19.8</td>
<td>16.9</td>
<td>11.1</td>
<td>14.4</td>
<td>13.5</td>
</tr>
<tr>
<td>75-84</td>
<td>1,400</td>
<td>2,380</td>
<td>1,610</td>
<td>1,280</td>
<td>1,030</td>
<td>1,320</td>
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<tr>
<td>EWM Index (%)</td>
<td>15.1</td>
<td>27.7</td>
<td>19.6</td>
<td>16.5</td>
<td>14.0</td>
<td>17.7</td>
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<tr>
<td>85+</td>
<td>1,450</td>
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<td>1,610</td>
<td>1,040</td>
<td>1,390</td>
<td>1,490</td>
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<tr>
<td>EWM Index (%)</td>
<td>20.6</td>
<td>26.6</td>
<td>22.5</td>
<td>14.7</td>
<td>20.6</td>
<td>21.0</td>
</tr>
<tr>
<td>All ages</td>
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<td>5,790</td>
<td>4,370</td>
<td>3,460</td>
<td>3,310</td>
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<td>23.7</td>
<td>18.1</td>
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<td>15.1</td>
<td>17.3</td>
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<tr>
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<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>0-64</td>
<td>260</td>
<td>240</td>
<td>240</td>
<td>210</td>
<td>220</td>
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<tr>
<td>EWM Index (%)</td>
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<td>14.7</td>
<td>15.1</td>
<td>14.0</td>
<td>15.6</td>
<td>20.4</td>
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<tr>
<td>65-74</td>
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<td>380</td>
<td>400</td>
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<td>300</td>
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<tr>
<td>EWM Index (%)</td>
<td>14.3</td>
<td>14.5</td>
<td>16.4</td>
<td>13.4</td>
<td>10.0</td>
<td>13.5</td>
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<tr>
<td>75-84</td>
<td>1,500</td>
<td>1,960</td>
<td>1,540</td>
<td>1,010</td>
<td>1,060</td>
<td>1,140</td>
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<td>16.2</td>
<td>17.7</td>
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<tr>
<td>85+</td>
<td>2,560</td>
<td>4,110</td>
<td>3,070</td>
<td>1,850</td>
<td>2,360</td>
<td>2,660</td>
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<tr>
<td>EWM Index (%)</td>
<td>17.9</td>
<td>29.8</td>
<td>22.5</td>
<td>14.4</td>
<td>19.5</td>
<td>21.4</td>
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<tr>
<td>All ages</td>
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<td>6,680</td>
<td>5,240</td>
<td>3,390</td>
<td>3,860</td>
<td>4,390</td>
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<td>17.1</td>
<td>25.7</td>
<td>20.8</td>
<td>14.2</td>
<td>17.3</td>
<td>19.5</td>
</tr>
<tr>
<td><strong>All</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-64</td>
<td>770</td>
<td>840</td>
<td>620</td>
<td>850</td>
<td>500</td>
<td>780</td>
</tr>
<tr>
<td>EWM Index (%)</td>
<td>12.8</td>
<td>14.6</td>
<td>10.8</td>
<td>15.9</td>
<td>9.9</td>
<td>15.6</td>
</tr>
<tr>
<td>65-74</td>
<td>1,070</td>
<td>1,300</td>
<td>1,170</td>
<td>810</td>
<td>830</td>
<td>880</td>
</tr>
<tr>
<td>EWM Index (%)</td>
<td>13.9</td>
<td>17.9</td>
<td>16.7</td>
<td>11.9</td>
<td>12.9</td>
<td>13.5</td>
</tr>
<tr>
<td>75-84</td>
<td>2,900</td>
<td>4,330</td>
<td>3,150</td>
<td>2,300</td>
<td>2,090</td>
<td>2,450</td>
</tr>
<tr>
<td>EWM Index (%)</td>
<td>16.1</td>
<td>26.1</td>
<td>20.0</td>
<td>15.4</td>
<td>15.0</td>
<td>17.7</td>
</tr>
<tr>
<td>85+</td>
<td>4,010</td>
<td>6,000</td>
<td>4,670</td>
<td>2,890</td>
<td>3,750</td>
<td>4,140</td>
</tr>
<tr>
<td>EWM Index (%)</td>
<td>18.8</td>
<td>28.8</td>
<td>22.5</td>
<td>14.5</td>
<td>19.9</td>
<td>21.2</td>
</tr>
<tr>
<td>All ages</td>
<td>8,740</td>
<td>12,470</td>
<td>9,610</td>
<td>6,810</td>
<td>7,170</td>
<td>8,260</td>
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<tr>
<td>EWM Index (%)</td>
<td>16.5</td>
<td>24.7</td>
<td>19.5</td>
<td>14.6</td>
<td>16.2</td>
<td>18.4</td>
</tr>
</tbody>
</table>

Notes: Excess winter mortality calculation: winter deaths less average non-winter deaths. ¶ Excess winter mortality index calculation: (excess winter mortality / average non-winter deaths)*100. Source: Office for National Statistics (2015). Personal communication.
For men and women combined, age-standardised cardiovascular disease (CVD) death rates were the highest in Scotland and the lowest in the South West of England. For total CVD mortality, the rate in Scotland was 336 per 100,000 population whilst it was 257 in the South West. Within England, the all-ages CVD death rate was highest in Yorkshire and the Humber region, although the difference between this region and the North West was nominal; in 2010/12 the highest regional CVD death rate was for the North West region.

In those aged under 75, CVD deaths rates were also highest in Scotland at 95/100,000 and lowest in the South East of England at 60. A north-south gradient is seen in premature death rates. The North East, North West and Yorkshire & Humber regions all had age-standardised death rates above 79/100,000; whilst the South East and South West regions had rates of less than 62/100,000 (Table 1.13).

### Table 1.13
Number of deaths and age-standardised death rates per 100,000 for cardiovascular disease (CVD), all ages and under 75, by region and country, United Kingdom 2011/13

<table>
<thead>
<tr>
<th>Region</th>
<th>All-ages</th>
<th>Under 75</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Age-standardised CVD death rates per 100,000</td>
<td>Total number of CVD deaths 2011/13</td>
</tr>
<tr>
<td>Man Women Total</td>
<td>Man Women Total</td>
<td>Man Women Total</td>
</tr>
<tr>
<td>England</td>
<td>331.9 226.7 273.6</td>
<td>194,753 215,077</td>
</tr>
<tr>
<td>North East</td>
<td>343.2 238.0 284.9</td>
<td>10,201 10,287</td>
</tr>
<tr>
<td>North West</td>
<td>362.4 247.9 299.0</td>
<td>28,124 28,180</td>
</tr>
<tr>
<td>Yorkshire &amp; The Humber</td>
<td>368.0 244.7 299.3</td>
<td>21,330 21,522</td>
</tr>
<tr>
<td>East Midlands</td>
<td>372.8 228.7 277.3</td>
<td>17,269 17,225</td>
</tr>
<tr>
<td>West Midlands</td>
<td>343.2 225.0 277.5</td>
<td>21,576 20,898</td>
</tr>
<tr>
<td>East of England</td>
<td>372.3 276.2 294.9</td>
<td>21,988 22,535</td>
</tr>
<tr>
<td>London</td>
<td>321.3 219.0 264.3</td>
<td>20,499 20,098</td>
</tr>
<tr>
<td>South East</td>
<td>308.1 216.6 257.8</td>
<td>31,371 34,022</td>
</tr>
<tr>
<td>South West</td>
<td>311.5 215.5 257.6</td>
<td>22,015 23,262</td>
</tr>
<tr>
<td>Wales</td>
<td>375.3 250.9 305.9</td>
<td>13,911 13,823</td>
</tr>
<tr>
<td>Scotland</td>
<td>400.0 283.9 335.7</td>
<td>22,873 24,397</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td>342.7 238.0 286.2</td>
<td>7,842 3,529</td>
</tr>
<tr>
<td>UK</td>
<td>340.2 233.1 281.0</td>
<td>237,448 241,955</td>
</tr>
</tbody>
</table>

For people dying from coronary heart disease (CHD), for both all ages and those under 75, death rates were highest for Scotland and Wales and lowest for the South East of England. Scotland had the highest premature CHD death rate for both men (83/100,000) and women (28/100,000). Within England, CHD death rates for men were highest for Yorkshire & the Humber region at 202/100,000 and highest for the North West region for women at 101/100,000; in the previous years, the highest CHD regional death rates for men in England were for the North West. In men and women dying under 75, the highest rates within England were in the North West, at 72/100,000 in men and 25/100,000 in women (Table 1.14).

Scotland’s CHD death rate is 45% higher than the rate for South East England. For premature deaths the rate is 72% higher.

### Table 1.14

<table>
<thead>
<tr>
<th>Region</th>
<th>Total number of CHD deaths 2011/13</th>
<th>Average number of annual CHD deaths for 2011/13</th>
</tr>
</thead>
</table>

In men of all ages, death rates from stroke in UK nations were highest in Scotland, at 96/100,000 and lowest in England, at 70/100,000. For men and women combined, premature death rates from stroke were highest in Scotland, at 19/100,000 and lowest in England, at 13/100,000.

Patterns within England differ between those dying at all ages and those dying before the age of 75, and while a north-south gradient is still present, stroke death rates for all ages for the West Midlands (72/100,000) were comparable to English regions in the north. Within England, the highest rate was for Yorkshire & the Humber, although in previous years the highest regional rate in England has been for the North West. The lowest rate was for London (61/100,000). In those aged under 75, stroke death rates were the highest for the North East and the North West (16/100,000), but regions in the south of England did not all have lower rates than other regions. Although the South East and South West both have rates around 11/100,000, London has a rate of 13.5/100,000 which is similar to that for the West Midlands with 13.4/100,000 (Table 1.15).

Scotland has the highest stroke death rate and London has the lowest. For premature deaths South East England is lowest.
AT LOCAL AUTHORITY LEVEL

Age-standardised death rates for cardiovascular disease (CVD), coronary heart disease (CHD) and stroke all show a clear pattern for higher death rates in urban authorities and northern areas of the UK, which can be seen in the maps included here. To download maps for men and women separately, and for the full tables and rankings for CVD, CHD and stroke mortality by local authority, please visit bhf.org.uk/statistics

While there is some variation for each condition, overall, the highest CVD, CHD and stroke death rates were in Scotland and the North of England, and the lowest rates were found in the South of England.

Age-standardised death rates by local authority demonstrate a clear trend for high CVD rates in Scotland and the North of England, and low CVD rates in the South of England. West Dunbartonshire in Scotland had the highest CVD death rate for 2011/13 at 384/100,000. For mortality under 75, the highest CVD death rate was in Glasgow City at 135/100,000. Five of the local authorities with the highest ten CVD death rates in the UK were in Scotland, and the other five were in the North of England (Table 1.16, Figures 1.16a and 1.16b).

The City of London had the lowest death rates (124/100,000 for all-ages and 31/100,000 for under-75s), however its very small population makes it difficult to validly compare it to other UK authorities. For this reason we do not present data for the City of London in the following rankings. After the City of London, Waverley in the South East region of England had the lowest all ages CVD death rate for 2011/13 at 202/100,000. For premature CVD mortality, after the City of London, Hart in the South East region of England had the lowest premature CVD death rate at 34/100,000. Nine local authorities with the lowest under-75 CVD death rates were in the South and East of England, while the other one was from Yorkshire and the Humber (Table 1.16, Figures 1.16a and 1.16b).

Table 1.16
Rankings for ten local authorities with highest and lowest cardiovascular disease mortality rates, United Kingdom 2011/13

<table>
<thead>
<tr>
<th>Old code</th>
<th>New code</th>
<th>Local authority</th>
<th>Region/country</th>
<th>Age-standardised death rate per 100,000</th>
</tr>
</thead>
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<tr>
<td>00QG</td>
<td>S12000039</td>
<td>West Dunbartonshire</td>
<td>Scotland</td>
<td>383.8</td>
</tr>
<tr>
<td>00BT</td>
<td>E08000008</td>
<td>Tameside</td>
<td>North West</td>
<td>382.6</td>
</tr>
<tr>
<td>00QS</td>
<td>S12000046</td>
<td>Glasgow City</td>
<td>Scotland</td>
<td>382.1</td>
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<tr>
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<td>W06000019</td>
<td>Blaenau Gwent</td>
<td>Wales</td>
<td>380.4</td>
</tr>
<tr>
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<td>S12000005</td>
<td>Clackmannanshire</td>
<td>Scotland</td>
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</tr>
<tr>
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<td>Burnley</td>
<td>North West</td>
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</tr>
<tr>
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<td>Scotland</td>
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<tr>
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<td>Scotland</td>
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<tr>
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</tr>
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<td>Yorkshire &amp; The Humber</td>
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<td>South East</td>
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<td>E07000028</td>
<td>Epsom and Ewell</td>
<td>South East</td>
<td>213.0</td>
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<td>Hart</td>
<td>South East</td>
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</tr>
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<td>Christchurch</td>
<td>South West</td>
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<td>London</td>
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<td>London</td>
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<td>London</td>
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<td>South East</td>
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Table 1.16 (continued)
Rankings for ten local authorities with highest and lowest cardiovascular disease mortality rates, United Kingdom 2011/13

<table>
<thead>
<tr>
<th>Old code</th>
<th>New code</th>
<th>Local authority</th>
<th>Region/country</th>
<th>Age-standardised death rate per 100,000</th>
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<td>S12000446</td>
<td>Glasgow City</td>
<td>Scotland</td>
<td>135.0</td>
</tr>
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<td>Manchester</td>
<td>North West</td>
<td>124.6</td>
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<td>West Dunbartonshire</td>
<td>Scotland</td>
<td>120.8</td>
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<td>S12000444</td>
<td>North Lanarkshire</td>
<td>Scotland</td>
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<td>Blackpool</td>
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<td>Blaenau Gwent</td>
<td>Wales</td>
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<td>Scotland</td>
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<td>Newark and Sherwood</td>
<td>East Midlands</td>
<td>70.1</td>
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<td>Yorkshire &amp; The Humber</td>
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<tr>
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</tr>
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</tr>
</tbody>
</table>

* City of London had the lowest rates but is not included here as its small population makes comparison inappropriate. ¶ Isles of Scilly are included with Cornwall and not presented as a separate authority as was done in previous years.
A similar pattern of high death rates in Scotland and the North of England is also apparent for coronary heart disease (CHD). Tameside in Greater Manchester had the highest all-ages CHD death rate for 2011/13 at 238/100,000 and Glasgow City in Scotland had the highest premature CHD death rate (79/100,000). For CHD deaths at all ages, five of the local authorities with the top ten highest death rates were in the North West region of England, four were in Scotland and one was from the South East of England. For premature death rates, nine of the ten local authorities with the highest CHD death rates were in Scotland or the North West region of England, with one from the East of England region (Table 1.17, Figures 1.17a and 1.17b).

After the City of London, Kensington & Chelsea in London had the lowest all-ages CHD death rate (79/100,000). The ten local authorities with the lowest CVD death rates were all in the South of England (Table 1.17, Figures 1.17a and 1.17b).

Table 1.17
Rankings for ten local authorities with highest and lowest coronary heart disease mortality rates, United Kingdom 2011/13

<table>
<thead>
<tr>
<th>All ages</th>
<th>Old code</th>
<th>New code</th>
<th>Local authority</th>
<th>Region</th>
<th>Age-standardised death rate per 100,000</th>
</tr>
</thead>
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<tr>
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### Table 1.17 (continued)

#### Rankings for ten local authorities with highest and lowest coronary heart disease mortality rates, United Kingdom 2011/13

<table>
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<th>Under 75</th>
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<th>Local authority</th>
<th>Region</th>
<th>Age-standardised death rate per 100,000</th>
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</thead>
<tbody>
<tr>
<td><strong>Ten highest death rates</strong></td>
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<td>Scotland</td>
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<td>Tameside</td>
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<td>Hart</td>
<td>South East</td>
<td>18.8</td>
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</tr>
</tbody>
</table>

* City of London had the lowest rates but is not included here as its small population makes comparison inappropriate. ¶ Isles of Scilly are included with Cornwall and not presented as a separate authority as was done in previous years.
The highest age-standardised death rates from stroke were found in Northern Ireland, Scotland and Yorkshire & the Humber for deaths at all ages. Ballymena and Cookstown in Northern Ireland had the highest death rates from stroke in the UK, at 140/100,000 and 136/100,000 respectively, however six of the ten local authorities with the highest stroke death rates were in Scotland. For premature stroke deaths, the highest rates were in Scotland, the North West of England, Northern Ireland and the East Midlands. Glasgow City in Scotland had the highest stroke death rate in the UK at 27/100,000 (Table 1.18, Figures 1.18a and 1.18b).

The lowest death rates from stroke were in the City of London. The next lowest rates were in the East Midlands for stroke deaths at all ages and in the South East region of England and for premature stroke death rates (Table 1.18, Figures 1.18a and 1.18b).

Table 1.18
Rankings for ten local authorities with highest and lowest stroke mortality rates, United Kingdom 2011/13

<table>
<thead>
<tr>
<th>All ages</th>
<th>Ten highest death rates</th>
<th>Median death rate</th>
<th>Ten lowest death rates*</th>
</tr>
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<td>Local authority</td>
<td>Region</td>
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<td>Northern Ireland</td>
</tr>
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<td>95I</td>
<td>Cookstown</td>
<td>Northern Ireland</td>
</tr>
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<td>Scotland</td>
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<td>Scotland</td>
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<td>Yorkshire &amp; The Humber</td>
</tr>
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<td>South Ayrshire</td>
<td>Scotland</td>
</tr>
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<td>S1200046</td>
<td>Glasgow City</td>
<td>Scotland</td>
</tr>
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<td>S1200018</td>
<td>Inverclyde</td>
<td>Scotland</td>
</tr>
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<td>Ryedale</td>
<td>Yorkshire &amp; The Humber</td>
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<td>Orkney Islands</td>
<td>Scotland</td>
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<td>Westminster</td>
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<td>London</td>
</tr>
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<td>East of England</td>
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<td>East Midlands</td>
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Table 1.18 (continued)
Rankings for ten local authorities with highest and lowest stroke mortality rates, United Kingdom 2011/13

<table>
<thead>
<tr>
<th>Old code</th>
<th>New code</th>
<th>Local authority</th>
<th>Region</th>
<th>Age-standardised death rate per 100,000</th>
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* City of London had the lowest rates but is not included here as its small population makes comparison inappropriate. ¶ Isles of Scilly are included with Cornwall and not presented as a separate authority as was done in previous years.
Figure 1.18b
Age-standardised death rates from stroke in men and women under 75, per 100,000, by local authority, United Kingdom 2011/13

ENDNOTE
INCIDENCE

The incidence of a disease represents the number of new cases that develop within a population over a specified period of time. The incidence data we present here are derived from annual records of inpatient episodes from National Health Service (NHS) hospitals in England, Scotland, Wales and Northern Ireland. An episode is defined as the main diagnosis attributed to a patient when he or she is discharged from hospital. These hospital records represent the best available estimates of morbidity for the UK, although they also have several limitations as a source of incidence data which should be borne in mind. First, in cases where an individual has multiple hospital episodes over the course of the year, the true number of new cases may be overestimated. Conversely, the true number of new cases may be underestimated in cases where individuals suffering from a condition do not attend hospital. This is a particular problem for conditions with a high mortality rate where a significant number of sufferers are likely to die before reaching medical care, with the result that their episodes will not be noted in the hospital records.

Two main types of hospital episodes statistic are commonly reported: finished consultant episodes (FCE) and ordinary admissions. Here we report FCEs since they include both ordinary admissions and day cases. Sometimes, statistics based only on hospital admissions are used to estimate the incidence of diseases, but this results in an underestimate of incidence for conditions that do not require hospital admissions or long hospital stays.

In 2013/14 there were 1.7 million hospital episodes in the UK for cardiovascular disease.
### Table 2.1
Inpatient episodes by main diagnosis in National Health Service hospitals by gender, England, Scotland, Wales, Northern Ireland and United Kingdom 2013/14

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>England</th>
<th>Scotland</th>
<th>Wales</th>
<th>United Kingdom</th>
</tr>
</thead>
<tbody>
<tr>
<td>All diagnoses</td>
<td>8,110,876</td>
<td>10,010,289</td>
<td>723,863</td>
<td>808,471</td>
</tr>
<tr>
<td>All diseases of the circulatory system (I00-I99)</td>
<td>793,952</td>
<td>607,280</td>
<td>87,460</td>
<td>69,838</td>
</tr>
<tr>
<td>Coronary heart disease (I20-I25)</td>
<td>264,934</td>
<td>136,037</td>
<td>31,695</td>
<td>17,920</td>
</tr>
<tr>
<td>Stroke (I60-I69)</td>
<td>97,593</td>
<td>99,763</td>
<td>9,430</td>
<td>9,827</td>
</tr>
<tr>
<td>Other cardiovascular disease</td>
<td>431,425</td>
<td>371,444</td>
<td>46,335</td>
<td>42,091</td>
</tr>
</tbody>
</table>

#### Specific conditions

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>England</th>
<th>Scotland</th>
<th>Wales</th>
<th>United Kingdom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angina pectoris (I20)</td>
<td>60,756</td>
<td>40,483</td>
<td>4,270</td>
<td>3,166</td>
</tr>
<tr>
<td>Acute myocardial infarction (I21)</td>
<td>93,399</td>
<td>53,311</td>
<td>16,003</td>
<td>9,857</td>
</tr>
<tr>
<td>Heart failure (I50)</td>
<td>70,320</td>
<td>65,026</td>
<td>6,878</td>
<td>6,073</td>
</tr>
<tr>
<td>Diabetes (I10-I14)</td>
<td>39,357</td>
<td>32,905</td>
<td>4,514</td>
<td>3,980</td>
</tr>
<tr>
<td>Obesity (E66)</td>
<td>2,951</td>
<td>7,445</td>
<td>157</td>
<td>315</td>
</tr>
<tr>
<td>All cancer (C00-D48)</td>
<td>949,389</td>
<td>984,143</td>
<td>94,440</td>
<td>108,002</td>
</tr>
<tr>
<td>Colorectal cancer (C18-C21)</td>
<td>92,106</td>
<td>64,049</td>
<td>10,704</td>
<td>8,421</td>
</tr>
<tr>
<td>Lung cancer (C33-C34)</td>
<td>58,555</td>
<td>49,906</td>
<td>8,769</td>
<td>8,837</td>
</tr>
<tr>
<td>Breast cancer (C50)</td>
<td>9,106</td>
<td>190,229</td>
<td>92</td>
<td>21,941</td>
</tr>
<tr>
<td>Bladder cancer (C67)</td>
<td>59,399</td>
<td>18,657</td>
<td>3,248</td>
<td>1,555</td>
</tr>
<tr>
<td>All diseases of the nervous system (G00-G99)</td>
<td>191,210</td>
<td>225,870</td>
<td>17,337</td>
<td>21,073</td>
</tr>
<tr>
<td>All diseases of the respiratory system (J00-J99)</td>
<td>657,864</td>
<td>642,933</td>
<td>64,861</td>
<td>70,641</td>
</tr>
<tr>
<td>All diseases of the digestive system (K00-K93)</td>
<td>1,054,285</td>
<td>1,088,387</td>
<td>92,796</td>
<td>97,159</td>
</tr>
<tr>
<td>All diseases of the genitourinary system (N00-N99)</td>
<td>479,833</td>
<td>669,984</td>
<td>42,636</td>
<td>59,198</td>
</tr>
<tr>
<td>Injury and poisoning (S00-T98)</td>
<td>596,575</td>
<td>614,801</td>
<td>60,702</td>
<td>64,314</td>
</tr>
<tr>
<td>All other diagnoses</td>
<td>3,345,300</td>
<td>5,177,083</td>
<td>258,960</td>
<td>313,953</td>
</tr>
</tbody>
</table>

Along with cancers, digestive and intestinal conditions and respiratory diseases, cardiovascular conditions represent a major source of NHS hospital episodes in the UK and its constituent countries. In 2013/14 in the UK, there were almost 1.7 million episodes related to CVD in NHS hospitals. In men in the UK, CVD accounted for 10 per cent of all inpatient episodes while in women it accounted for 6.2 per cent. Amongst men, the incidence of CVD as a proportion of FCEs is highest in Scotland (12.1 per cent) and the lowest in Northern Ireland (8.3 per cent) with England (9.8 per cent) and Wales (11.5 per cent) falling in between. Amongst women, the incidence of CVD as a proportion of FCEs is also highest in Scotland (8.6 per cent) but lowest in England (6.1 per cent). In all UK nations, the proportion of FCEs for cardiovascular conditions is notably higher in men than in women (Table 2.1, Figures 2.1a to 2.1j).

There were more than 491,000 inpatient episodes of coronary heart disease (CHD) in NHS Hospitals in the UK in 2013/14. In England the figure was around 401,000; in Scotland it was just over 49,000; in Wales more than 25,000; and in Northern Ireland more than 15,000. The proportion of inpatient episodes attributed to CHD was more than twice as high amongst men (3.4 per cent) as amongst women (1.4 per cent) for the UK as a whole. This gender difference was also apparent in each UK nation (Table 2.1, Figures 2.1a to 2.1j).
In 2013/14, there were more than 146,000 inpatient episodes of acute myocardial infarction (MI) in England, just under 26,000 in Scotland, more than 9,000 in Wales, and over 5,000 in Northern Ireland, totalling 187,421 for the entire UK. If hospital episodes were an exact representation of disease incidence, this would translate to someone in the UK having a heart attack roughly every three minutes. MI accounts for about 1.2 per cent of all episodes in men and about 0.6 per cent of all episodes in women in the UK. This gender difference is found in all four UK nations (Table 2.1).

There were almost 160,000 inpatient episodes for heart failure in the UK in 2013/14, 84,222 of which occurred in men and 75,760 occurred in women. There were slightly more episodes among men than among women in every country except Northern Ireland (Table 2.1).
The overall number of stroke episodes in 2013/14 in the UK was 233,261, which translates as someone going to hospital just over every two minutes due to stroke. As a proportion of all conditions in the UK, stroke accounts for about 1.1 per cent of all hospital episodes. Unlike the other main cardiovascular conditions, the incidence of stroke was higher in women than in men in every UK country, with the exception of Northern Ireland. In England, 97,593 and 99,763 stroke episodes were recorded among men and women respectively (Table 2.1, Figures 2.1a to 2.1j).

8.3% CARDIOVASCULAR DISEASE

6.3% CARDIOVASCULAR DISEASE

Table 2.3a

Inpatient episodes by main diagnosis in National Health Service hospitals in men, England, Scotland, Wales, Northern Ireland and United Kingdom, 2005/06 to 2013/14

<table>
<thead>
<tr>
<th>Year</th>
<th>England</th>
<th>Scotland</th>
<th>Wales</th>
<th>Northern Ireland</th>
<th>United Kingdom</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005/06</td>
<td>694,974</td>
<td>80,575</td>
<td>40,598</td>
<td>24,499</td>
<td>920,216</td>
</tr>
<tr>
<td>2006/07</td>
<td>705,822</td>
<td>83,336</td>
<td>41,128</td>
<td>26,591</td>
<td>932,352</td>
</tr>
<tr>
<td>2007/08</td>
<td>715,200</td>
<td>83,040</td>
<td>41,525</td>
<td>26,154</td>
<td>931,211</td>
</tr>
<tr>
<td>2008/09</td>
<td>741,384</td>
<td>83,723</td>
<td>43,120</td>
<td>15,946</td>
<td>956,757</td>
</tr>
<tr>
<td>2009/10</td>
<td>759,672</td>
<td>87,460</td>
<td>44,510</td>
<td>15,915</td>
<td>931,211</td>
</tr>
<tr>
<td>2010/11</td>
<td>767,889</td>
<td>83,040</td>
<td>44,492</td>
<td>10,644</td>
<td>917,888</td>
</tr>
<tr>
<td>2011/12</td>
<td>777,921</td>
<td>83,040</td>
<td>44,902</td>
<td>8,864</td>
<td>917,888</td>
</tr>
<tr>
<td>2012/13</td>
<td>777,888</td>
<td>83,040</td>
<td>42,800</td>
<td>8,864</td>
<td>917,888</td>
</tr>
<tr>
<td>2013/14</td>
<td>793,952</td>
<td>83,040</td>
<td>42,800</td>
<td>8,864</td>
<td>917,888</td>
</tr>
</tbody>
</table>


This year, in addition to publishing incidence estimates for the current year, we present trend data on inpatient episodes for CHD, stroke, and other cardiovascular conditions by gender for each of the four UK nations.
Table 2.2b
Inpatient episodes by main diagnosis in National Health Service hospitals in women, England, Scotland, Wales, Northern Ireland and United Kingdom, 2005/06 to 2013/14

<table>
<thead>
<tr>
<th>Year</th>
<th>England</th>
<th>Scotland</th>
<th>Wales</th>
<th>Northern Ireland</th>
<th>United Kingdom</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005/06</td>
<td>34,220</td>
<td>34,207</td>
<td>34,456</td>
<td>35,594</td>
<td>37,089</td>
</tr>
<tr>
<td>2006/07</td>
<td>34,160</td>
<td>34,789</td>
<td>35,077</td>
<td>37,696</td>
<td>39,838</td>
</tr>
<tr>
<td>2007/08</td>
<td>20,026</td>
<td>18,721</td>
<td>18,622</td>
<td>18,388</td>
<td>18,938</td>
</tr>
<tr>
<td>2008/09</td>
<td>4,539</td>
<td>4,674</td>
<td>4,681</td>
<td>4,617</td>
<td>4,649</td>
</tr>
<tr>
<td>2009/10</td>
<td>1,506</td>
<td>1,506</td>
<td>1,506</td>
<td>1,506</td>
<td>1,506</td>
</tr>
<tr>
<td>2010/11</td>
<td>12,541</td>
<td>12,541</td>
<td>12,541</td>
<td>12,541</td>
<td>12,541</td>
</tr>
<tr>
<td>2011/12</td>
<td>1,649</td>
<td>1,649</td>
<td>1,649</td>
<td>1,649</td>
<td>1,649</td>
</tr>
<tr>
<td>2012/13</td>
<td>1,506</td>
<td>1,506</td>
<td>1,506</td>
<td>1,506</td>
<td>1,506</td>
</tr>
<tr>
<td>2013/14</td>
<td>1,649</td>
<td>1,649</td>
<td>1,649</td>
<td>1,649</td>
<td>1,649</td>
</tr>
</tbody>
</table>

Notes: Finished consultant episodes: ordinary admissions and day cases combined. Pregnancy cases not included. ICD-10 codes in parentheses. ¶ For England, data for females up to and including 2011/12 calculated as the difference between total finished consultant episodes and male consultant episodes. Source: Department of Health (2016). Hospital Episode Statistics system (CVD) (I00-I99) All diseases of the circulatory system (CVD) (I00-I99) Coronary heart disease (I20-I25) 428,262 427,913 424,247 423,334 407,675 405,096 409,508 404,689 401,007 Stroke (I60-I69) 178,321 176,452 178,999 190,101 203,705 199,335 194,436 199,081 197,354 Other cardiovascular disease 637,421 651,225 670,428 709,860 746,867 768,378 777,691 773,924 802,869

Table 2.2c
Inpatient episodes by main diagnosis in National Health Service hospitals, England, Scotland, Wales, Northern Ireland and United Kingdom, 2005/06 to 2013/14

<table>
<thead>
<tr>
<th>Year</th>
<th>England</th>
<th>Scotland</th>
<th>Wales</th>
<th>Northern Ireland</th>
<th>United Kingdom</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005/06</td>
<td>1,244,004</td>
<td>1,067,908</td>
<td>1,101,886</td>
<td>1,112,220</td>
<td>1,144,294</td>
</tr>
<tr>
<td>2006/07</td>
<td>1,255,590</td>
<td>1,085,672</td>
<td>1,131,720</td>
<td>1,142,500</td>
<td>1,177,100</td>
</tr>
<tr>
<td>2007/08</td>
<td>1,274,674</td>
<td>1,106,709</td>
<td>1,146,270</td>
<td>1,157,000</td>
<td>1,189,970</td>
</tr>
<tr>
<td>2008/09</td>
<td>1,322,295</td>
<td>1,130,900</td>
<td>1,160,420</td>
<td>1,170,500</td>
<td>1,198,400</td>
</tr>
<tr>
<td>2009/10</td>
<td>1,358,247</td>
<td>1,151,200</td>
<td>1,175,000</td>
<td>1,185,000</td>
<td>1,204,000</td>
</tr>
<tr>
<td>2010/11</td>
<td>1,371,809</td>
<td>1,166,300</td>
<td>1,180,400</td>
<td>1,190,000</td>
<td>1,210,000</td>
</tr>
<tr>
<td>2011/12</td>
<td>1,381,635</td>
<td>1,176,800</td>
<td>1,185,000</td>
<td>1,195,000</td>
<td>1,215,000</td>
</tr>
<tr>
<td>2012/13</td>
<td>1,401,232</td>
<td>1,195,000</td>
<td>1,195,000</td>
<td>1,205,000</td>
<td>1,225,000</td>
</tr>
<tr>
<td>2013/14</td>
<td>1,401,232</td>
<td>1,195,000</td>
<td>1,195,000</td>
<td>1,205,000</td>
<td>1,225,000</td>
</tr>
</tbody>
</table>

Notes: Finished consultant episodes: ordinary admissions and day cases combined. Pregnancy cases not included. ICD-10 codes in parentheses. ¶ For England, data for females up to and including 2011/12 calculated as the difference between total finished consultant episodes and male consultant episodes. Source: Department of Health (2016). Hospital Episode Statistics system (CVD) (I00-I99) All diseases of the circulatory system (CVD) (I00-I99) Coronary heart disease (I20-I25) 428,262 427,913 424,247 423,334 407,675 405,096 409,508 404,689 401,007 Stroke (I60-I69) 178,321 176,452 178,999 190,101 203,705 199,335 194,436 199,081 197,354 Other cardiovascular disease 637,421 651,225 670,428 709,860 746,867 768,378 777,691 773,924 802,869

CHAPTER 2 MORBIDITY CARDIOVASCULAR DISEASE STATISTICS 2015 BRITISH HEART FOUNDATION
For Scotland we present data for all years between 2009/10 and 2013/14. There has been a small continuous decline in the number of inpatient episodes due to coronary heart disease (CHD) in both men and women during this period. In men, the number of episodes declined by around 4 per cent from 274,816 to 264,934 between 2005/06 and 2013/14, whilst in women there was a decrease of around 11 per cent from 153,446 to 136,073. In all years between 2005/06 and 2013/14, the incidence of CHD in men was close to double that in women (Tables 2.2a and 2.2b, Figure 2.2a).

In England, between 2005/06 and 2009/10, the number of inpatient episodes due to stroke amongst men increased by about 12,800 and amongst women it increased by about 12,500. Between 2009/10 and 2013/14, the incidence of stroke has remained roughly constant in men, whereas in women the incidence declined. In all years between 2005/06 and 2013/14, the incidence of stroke in women has been slightly higher than that in men, although the gap between the genders has narrowed over the period (Tables 2.2a and 2.2b, Figure 2.2a).

There was a noticeable increase in the number of inpatient episodes due to other cardiovascular conditions in both men and women in England between 2005/06 and 2013/14. In men, the number of episodes increased across the period by around 29 per cent from 335,117 to 431,425, whilst in women the number of episodes increased by about 23 per cent from 302,304 to 371,444 (Tables 2.2 and 2.3, Figure 2.2a).

Incidence data for Scotland are presented for all years between 2009/10 and 2013/14. For both men and women the number of inpatient episodes due to CHD remained roughly constant during this period. In all years, the number of inpatient episodes due to CHD in men was almost double that in women (Tables 2.2a and 2.2b, Figure 2.2b).

The number of inpatient episodes due to stroke decreased in both men and women by about 14 per cent and 15 per cent respectively between 2009/10 and 2013/14. In all years, the number of inpatient episodes due to stroke in women was slightly greater than that in men (Tables 2.2a and 2.2b, Figure 2.2b).

Between 2009/10 and 2013/14, there was an increase in the number of inpatient episodes due to other cardiovascular conditions in Scotland. Across the period we present here the increase was around 19 per cent in men and 18 per cent in women. In both sexes, the greatest increase took place between 2012/13 and 2013/14 (Tables 2.2a and 2.2b, Figure 2.2b).
For Wales we present inpatient data for all years between 2005/06 and 2013/14. Amongst men the number of inpatient episodes due to CHD increased from 15,153 in 2005/06 to 15,946 in 2008/09. It then declined steadily back to 15,240 in 2011/12 before increasing to 16,808 in 2013/14. Amongst women, there was a continuous decline in the number of inpatient episodes due to CHD between 2005/06 and 2013/14. In all years shown here there have been more CHD inpatient episodes in men than in women, and in recent years this gap has widened (Tables 2.2a and 2.2b, Figure 2.2c).

The number of inpatient episodes due to stroke in Wales has fluctuated slightly in both men and women between 2005/06 and 2011/12. However, in both sexes there has been a slight overall increase of about 1,200 in men and about 450 in women across the period. In every year between 2005/06 and 2011/12, more inpatient episodes due to stroke occurred in women than men (Tables 2.2a and 2.2b, Figure 2.2c).

The number of inpatient episodes due to other cardiovascular conditions followed a similar pattern in men and women in Wales between 2005/06 and 2013/14. In men, there was a period of increase between 2005/06 and 2010/11. This was followed by a small decline between 2010/11 and 2011/12 before a sharp increase up until 2013/14. In women, the number of inpatient episodes for other cardiovascular conditions increased between 2005/06 and 2009/10. This was followed by a small decrease between 2009/10 and 2011/12 before a sharp increase up until 2013/14. In both men and women there was an overall increase of about 6,300 and about 4,300 respectively in the number of inpatient episodes due to other cardiovascular conditions between 2005/06 and 2013/14. In all years in this period, the number of episodes was greater in men than in women (Tables 2.2a and 2.2b, Figure 2.2c).
For Northern Ireland we present finished consultant episodes (FCE) data for all years between 2010/11 and 2013/14. Over this period, the number of episodes due to coronary heart disease (CHD) in men increased by about 900 with the greatest increase occurring between 2012/13 and 2013/14. In women, the incidence of CHD remained roughly constant between 2010/11 and 2013/14 (Tables 2.2a and 2.2b, Figure 2.2d).

Stoke in Northern Ireland between 2010/11 and 2013/14 exhibits a very similar pattern in men and women. The number of episodes declined between 2010/11 and 2011/12 by about 860 in men and about 820 in women. The incidence of stroke then remained roughly constant in both sexes between 2011/12 and 2013/14 (Tables 2.2a and 2.2b, Figure 2.2d).

For both sexes there has been no obvious trend in the number of inpatient episodes due to other cardiovascular conditions (Tables 2.2a and 2.2b, Figure 2.2d).

Figure 2.2d Inpatient episodes for specific cardiovascular conditions in Northern Ireland, 2010/11 to 2013/14

PREVALENCE

The prevalence of a disease describes the number of people in a population who are currently living with the disease, or in the case of cardiovascular events, the number of people living today who have ever suffered (and survived) an event.

One source of prevalence estimates for cardiovascular conditions in UK nations, as well as the regions of England, is the Quality and Outcomes Framework (QOF). This framework became part of general practice contracts in 2004 and rewards GPs for keeping records of the number of patients within their practices who have been diagnosed with certain conditions. According to QOF data, there are 2.29 million people in the UK living with CHD, around 1.18 million people living with stroke, around 9.25 million living with hypertension, 493,000 living with heart failure, 1.06 million diagnosed with atrial fibrillation, and 446,000 suffering from peripheral arterial disease (PAD) (Table 2.3).

Comparing the rates between UK nations, England had the lowest prevalence of all conditions except hypertension, for which the prevalence was lowest in Northern Ireland. Scotland had the highest prevalence of CHD, stroke and PAD, whilst Wales had the highest prevalence of hypertension, heart failure and atrial fibrillation (Table 2.3).

Comparing the rates for English regions, the overall prevalence of all selected cardiovascular conditions is higher in regions in the north than those in the south. The North East region had the highest prevalence of all conditions except atrial fibrillation, which was highest in the South West. London had the lowest prevalence of all conditions (Table 2.3).

It is important to note that these rates have not been adjusted to account for differences in the age structures of populations, an issue which is of significance for cardiovascular disease when old age is a prominent driver. As such, comparisons between regions and between countries should be treated with some caution.
TRENDS IN PREVALENCE

In this year’s compendium, in addition to publishing prevalence estimates for the current year, we are publishing prevalence trend data from a variety of sources.

Quality & Outcomes Framework (QOF) data on trends in the prevalence of heart failure, atrial fibrillation, CHD and stroke/TIA (transient ischaemic attack) are available for each UK country. These data relate to individuals of all ages. For England, QOF prevalence data for CHD and stroke/TIA are available from 2004/05 while data on the prevalence of heart failure and atrial fibrillation are available from 2006/07. There was little change in the prevalence of CVD conditions in England across the years with available data; there were slight decreases in heart failure and CHD and slight increases in atrial fibrillation and stroke/TIA (Table 2.4, Figure 2.4).

Table 2.3
Prevalence of selected cardiovascular conditions by region and country, United Kingdom

<table>
<thead>
<tr>
<th>Country/Government Office Region (GOR)</th>
<th>List size</th>
<th>Coronary Heart Disease Register</th>
<th>Stroke or Transient Ischaemic Attacks (TIA) Register</th>
<th>Hypertension Register</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N %</td>
<td>N %</td>
<td>N %</td>
<td>N %</td>
</tr>
<tr>
<td>North East</td>
<td>2,705,831</td>
<td>126,276  4.4</td>
<td>56,506  2.2</td>
<td>423,239  15.6</td>
</tr>
<tr>
<td>North West</td>
<td>7,436,971</td>
<td>288,461  3.9</td>
<td>141,365  1.9</td>
<td>1,061,265 14.3</td>
</tr>
<tr>
<td>Yorkshire and the Humber</td>
<td>5,563,908</td>
<td>215,969  3.9</td>
<td>106,463  1.9</td>
<td>784,928  14.1</td>
</tr>
<tr>
<td>East Midlands</td>
<td>4,772,165</td>
<td>178,279  3.6</td>
<td>86,947  1.8</td>
<td>666,799  14.4</td>
</tr>
<tr>
<td>West Midlands</td>
<td>5,894,626</td>
<td>200,154  3.4</td>
<td>105,947  1.8</td>
<td>869,479  14.6</td>
</tr>
<tr>
<td>East of England</td>
<td>6,162,937</td>
<td>198,639  3.2</td>
<td>103,986  1.7</td>
<td>870,841  14.1</td>
</tr>
<tr>
<td>London</td>
<td>9,078,343</td>
<td>191,752  2.1</td>
<td>95,776  1.1</td>
<td>1,003,148 11.1</td>
</tr>
<tr>
<td>South East</td>
<td>9,135,750</td>
<td>273,292  3.0</td>
<td>153,069  1.7</td>
<td>1,228,605 13.4</td>
</tr>
<tr>
<td>South West</td>
<td>5,578,752</td>
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<td>7,736,319 13.7</td>
</tr>
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<td>9,252,607 13.8</td>
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For Scotland, QOF trend data are available from 2008/09. Although there was a modest increase from 1.3 per cent to 1.6 per cent in the prevalence of atrial fibrillation, the prevalence of other conditions changed little across this period (Table 2.5, Figure 2.5).

Table 2.5
Prevalence of selected cardiovascular conditions, Scotland 2008/09 to 2013/14

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Notes: CHD: Coronary Heart Disease. ¶ TIA: Transient Ischaemic Attack. ¶ These data are raw prevalence rates: they are not adjusted to account for patient age distribution or other factors that may differ between general practices. Source: Scotland – ISD Scotland. QOF achievement data.

Figure 2.5
Prevalence of selected cardiovascular conditions, Scotland 2008/09 to 2013/14

Table 2.4
Prevalence of selected cardiovascular conditions, England 2004/05 to 2013/14

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Notes: CHD: Coronary Heart Disease. ¶ TIA: Transient Ischaemic Attack. ¶ These data are raw prevalence rates: they are not adjusted to account for patient age distribution or other factors that may differ between general practices. Source: England – Health and Social Care Information Centre. QOF achievement data.

Figure 2.4
Prevalence of selected cardiovascular conditions, England 2004/05 to 2013/14
For Wales, QOF data are available from 2006/07. As found for the other UK nations prevalence for cardiovascular conditions changed little over these years. There was a modest increase from 1.6 per cent to 1.9 per cent in the prevalence of atrial fibrillation whilst the prevalence of coronary heart disease decreased from 4.3 per cent to 3.9 per cent over this period; heart failure and stroke/TIA remained at fairly constant levels (Table 2.6, Figure 2.6).

Table 2.6  
Prevalence of selected cardiovascular conditions, Wales 2006/07 to 2013/14

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Notes: CHD: Coronary Heart Disease. ¶ TIA: Transient Ischaemic Attack. ¶ These data are raw prevalence rates; they are not adjusted to account for patient age distribution or other factors that may differ between general practices. Source: Wales – StatsWales, QOF achievement data.

QOF data for Northern Ireland showed that the prevalence of heart failure remained constant between 2006/07 and 2014/15 at 0.8 per cent. Slight increases in the prevalence of atrial fibrillation and stroke/TIA were found, whilst the prevalence of coronary heart disease declined steadily from 2004/05 when it was 4.2 per cent to its most recent rate of 3.8 per cent in 2014/15 (Table 2.7, Figure 2.7).

Table 2.7  
Prevalence of selected cardiovascular conditions, Northern Ireland 2004/05 to 2014/15

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Notes: CHD: Coronary Heart Disease. ¶ TIA: Transient Ischaemic Attack. ¶ These data are raw prevalence rates; they are not adjusted to account for patient age distribution or other factors that may differ between general practices. Source: Health, Social Services and Public Safety (2014). Quality and Outcomes Framework Achievement Data, Northern Ireland 2014/15. ¶ http://www.dhsspsni.gov.uk/index/statistics/qof/qof-achievement.htm (accessed June 2015).
Health surveys represent another source of estimates of cardiovascular disease prevalence over time. Unlike QOF data, the data from health surveys are self-reported. This difference in the method of data collection is likely to be responsible for at least some of the discrepancies in the estimates obtained from these two types of sources. It is also worth noting that, while the QOF prevalence estimates relate to all ages, those from the health surveys we present relate only to adults aged 16 years and older. This difference is unlikely to contribute significantly to the different prevalence estimates, however, since the number of cardiovascular events that occur between birth and 16 years of age is relatively small.

Since it is reported by individuals themselves, there is a risk of report bias associated with self-reported health survey data. This could influence the resulting prevalence estimates, which should therefore be interpreted with some caution. However, analysing the general trends in the prevalence of conditions is less problematic, if we assume that the extent of self-report bias remains roughly consistent between years.

The General Household Survey (up to 2005) and the General Lifestyle Survey (from 2006) collect data on the prevalence of myocardial infarction (MI), stroke, and cardiovascular disease (CVD) in Great Britain. Here we present these data from 1988 to 2011. The prevalence of MI in men in Great Britain remained around 2.3 per cent from 1988 to 1998. It then declined slightly to 1.7 per cent in 2011. In women, the prevalence of MI increased slightly between 1988 and 1996 before declining gradually to 1.0 per cent in 2011 (Tables 2.8a and 2.8b, Figure 2.8).

### Table 2.8a

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The prevalence of stroke in both sexes in Great Britain changed very little between 1988 and 2011, at around 0.8 per cent for men and 0.7 per cent for women. The prevalence of cardiovascular disease (CVD) in men increased from 7.3 per cent to 11.9 per cent between 1988 and 2002 after which it remained relatively constant at around 11 per cent. In women, the prevalence of CVD increased from 7.7 per cent to 11.9 per cent between 1988 and 2002 before declining slightly to 9.1 per cent in 2011 (Tables 2.8a and 2.8b, Figure 2.8).

**Table 2.8b**

Prevalence of cardiovascular conditions in women by age, Great Britain 1988 to 2011

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**Table 2.8a**

Prevalence of cardiovascular conditions in men by age, Great Britain 1988 to 2011

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Prevalence rates reported in the General Lifestyle Survey (GB) show a decrease in stroke and heart attacks. Overall CVD prevalence in this period peaked in 2006.

**Figure 2.8**

Prevalence of cardiovascular conditions by gender, Great Britain 1988 to 2011

Myocardial infarction (men) --- Myocardial infarction (women) --- Stroke (men) --- Stroke (women) --- CVD (men) --- CVD (women)
In 2011, the prevalence rate of angina in England was 3.9 per cent in men and 2.5 per cent in women. In both men and women there was a decrease in the prevalence between 2003 and 2011.

The prevalence of coronary heart disease (CHD), which includes both MI and angina, in England in 2011 was 5.7 per cent in men and 3.5 per cent in women. There was a notable decrease in the prevalence of CHD in both men and women between 2003 and 2011.

The prevalence of stroke shows a different pattern from that of the other conditions presented here. In men in England, there was no change in the prevalence of stroke between 2003 and 2006; then between 2006 and 2011 there was a slight increase from 2.4 per cent to 2.7 per cent. In women, there has been very little change in the prevalence of stroke between 2003 and 2011.
Prevalence trend data for Scotland are available for coronary heart disease (CHD) and stroke for 2003 and then for every year from 2008 to 2014. In men, the prevalence of CHD between 2003 and 2013 decreased from 8.2 per cent to 7.1 per cent, but 2014 saw a rise to 7.8 per cent. In women, the prevalence of CHD declined from 6.5 per cent in 2003 to 4.7 per cent in 2014 (Table 2.10, Figure 2.10).

Table 2.10
Prevalence of selected cardiovascular conditions by gender, Scotland 2003 to 2014

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Recent prevalence rates show a decrease in CHD and an increase in stroke in Scotland. Overall CVD prevalence in this period peaked in 2012 with rates for men and women diverging in 2014.
In Wales, prevalence trend data are available for MI, angina and heart failure for 2003/04 and then for every year between 2007 and 2014. In men, the prevalence of MI was the same in 2003/04 and 2008 (6.0 per cent). The prevalence of MI then dropped from 6.0 per cent to 5.0 per cent between 2008 and 2009 and remained around this level between 2009 and 2013 before a reported drop to 4.6 per cent for 2014. In women, there was an overall decrease in the prevalence of MI from 3.0 per cent in 2003/04 to 2.4 per cent in 2014 (Table 2.11, Figure 2.11).

There has been a strong decline in the prevalence of angina amongst both men and women in Wales between 2003/04 and 2014. In men, the prevalence declined from 6.0 per cent in 2003/04 to 3.3 per cent in 2014. In women, there was a continuous decline in the prevalence from 5.0 per cent in 2003/04 to 3.0 per cent in 2014 (Table 2.11, Figure 2.11).

Table 2.11
Prevalence of selected heart conditions by gender, Wales 2003/04 to 2014

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<td>2.0</td>
<td>10.0</td>
</tr>
<tr>
<td>2013</td>
<td>5.0</td>
<td>4.0</td>
<td>2.0</td>
<td>10.0</td>
</tr>
<tr>
<td>2014</td>
<td>4.6</td>
<td>3.3</td>
<td>2.4</td>
<td>9.6</td>
</tr>
</tbody>
</table>

Chapter 3

TREATMENT

This chapter reports on different methods of treatment for cardiovascular disease (CVD), with a focus on treatments for coronary heart disease (CHD). The chapter includes tables and figures for trends and latest statistics on the number of prescriptions, operations and cardiac arrest survival in the UK.

PRESCRIPTIONS

The Prescription Cost Analysis (PCA) data are based on the therapeutic groups used in the British National Formulary. A prescription item refers to a single item prescribed by a doctor or authorised prescribers, such as nurses and dentists, on a prescription form. Currently PCA data includes all prescriptions dispensed in the community. The rapid increase in the number of prescriptions for the treatment and prevention of CVD began in the late 1980s. In 2014, more than 313 million prescriptions were dispensed for CVD in England, more than six times as many as issued in 1981, and an increase of almost two per cent from the number of prescriptions in 2013 (Table 3.1). Since 1990, the number of prescriptions dispensed for antiplatelet drugs has increased steadily; there are now over 38 million prescriptions for antiplatelet drugs in England every year. The increase in the number of prescriptions of lipid-lowering drugs was slow until the late 1990s, but since then has been very rapid, with the number of prescriptions for lipid-lowering drugs now more than six times higher than in 2000. The number of prescriptions for antihypertensive and heart failure drugs increased from around 5 million in 1981 to more than 70 million in 2014 (Table 3.1, Figure 3.1).

In 2014 there were over 370 million prescriptions for cardiovascular disease in the UK.
In 2014 there were nearly seven times as many CVD prescriptions in England as there were dispensed in 1981.
The number of prescriptions dispensed for the treatment and prevention of CVD in Wales in 2014 was just over 23.5 million. This is almost 5.5 million more than in 2005 (Table 3.2, Figure 3.2).

### Table 3.2
Prescriptions used in the prevention and treatment of cardiovascular disease, Wales 2005 to 2014

<table>
<thead>
<tr>
<th>Prescriptions</th>
<th>Thousands (000s)</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digoxin and other positive inotropic drugs (2.1)</td>
<td>362</td>
<td>357</td>
<td>337</td>
<td>319</td>
<td>307</td>
<td></td>
</tr>
<tr>
<td>Diuretics (2.2)</td>
<td>3,083</td>
<td>3,091</td>
<td>3,028</td>
<td>3,000</td>
<td>2,979</td>
<td></td>
</tr>
<tr>
<td>Anti-arrhythmic drugs (2.3)</td>
<td>99</td>
<td>94</td>
<td>87</td>
<td>81</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>Beta-adrenoreceptor blocking drugs (2.4)</td>
<td>2,093</td>
<td>2,110</td>
<td>2,071</td>
<td>2,116</td>
<td>2,165</td>
<td></td>
</tr>
<tr>
<td>Antihypertensive and heart failure drugs (2.5)</td>
<td>3,442</td>
<td>3,774</td>
<td>4,124</td>
<td>4,402</td>
<td>4,601</td>
<td></td>
</tr>
<tr>
<td>Nitrates, calcium blockers and other antianginal drugs (2.6)</td>
<td>2,731</td>
<td>2,892</td>
<td>3,032</td>
<td>3,135</td>
<td>3,205</td>
<td></td>
</tr>
<tr>
<td>Antiplatelet and thrombolytic drugs (2.7)</td>
<td>2,628</td>
<td>2,714</td>
<td>2,780</td>
<td>2,816</td>
<td>2,803</td>
<td></td>
</tr>
<tr>
<td>Anticoagulants and protamine (2.8)</td>
<td>576</td>
<td>612</td>
<td>650</td>
<td>689</td>
<td>723</td>
<td></td>
</tr>
<tr>
<td>Antiplatelet drugs (2.9)</td>
<td>2,563</td>
<td>2,716</td>
<td>2,846</td>
<td>3,011</td>
<td>3,045</td>
<td></td>
</tr>
<tr>
<td>Anti-fibrinolytic drugs and haemostatics (2.11)</td>
<td>23</td>
<td>24</td>
<td>28</td>
<td>30</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Lipid-lowering drugs (2.12)</td>
<td>120</td>
<td>121</td>
<td>124</td>
<td>126</td>
<td>127</td>
<td></td>
</tr>
<tr>
<td>All prescriptions for disease of the circulatory system</td>
<td>18,073</td>
<td>19,296</td>
<td>20,188</td>
<td>21,082</td>
<td>21,691</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Prescriptions</th>
<th>Thousands (000s)</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digoxin and other positive inotropic drugs (2.1)</td>
<td>296</td>
<td>284</td>
<td>273</td>
<td>259</td>
<td>249</td>
<td></td>
</tr>
<tr>
<td>Diuretics (2.2)</td>
<td>2,971</td>
<td>2,960</td>
<td>2,940</td>
<td>2,897</td>
<td>2,860</td>
<td></td>
</tr>
<tr>
<td>Anti-arrhythmic drugs (2.3)</td>
<td>68</td>
<td>64</td>
<td>62</td>
<td>60</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Beta-adrenoreceptor blocking drugs (2.4)</td>
<td>2,237</td>
<td>2,322</td>
<td>2,424</td>
<td>2,505</td>
<td>2,584</td>
<td></td>
</tr>
<tr>
<td>Antihypertensive and heart failure drugs (2.5)</td>
<td>4,781</td>
<td>4,920</td>
<td>5,063</td>
<td>5,173</td>
<td>5,290</td>
<td></td>
</tr>
<tr>
<td>Nitrates, calcium blockers and other antianginal drugs (2.6)</td>
<td>3,263</td>
<td>3,314</td>
<td>3,390</td>
<td>3,437</td>
<td>3,488</td>
<td></td>
</tr>
<tr>
<td>Anticoagulants and protamine (2.8)</td>
<td>764</td>
<td>808</td>
<td>874</td>
<td>944</td>
<td>1,030</td>
<td></td>
</tr>
<tr>
<td>Antiplatelet drugs (2.9)</td>
<td>2,933</td>
<td>2,905</td>
<td>2,859</td>
<td>2,859</td>
<td>2,816</td>
<td></td>
</tr>
<tr>
<td>Anti-fibrinolytic drugs and haemostatics (2.11)</td>
<td>31</td>
<td>33</td>
<td>34</td>
<td>33</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>Lipid-lowering drugs (2.12)</td>
<td>4,693</td>
<td>4,788</td>
<td>4,956</td>
<td>5,076</td>
<td>5,149</td>
<td></td>
</tr>
<tr>
<td>All prescriptions for disease of the circulatory system</td>
<td>22,037</td>
<td>22,399</td>
<td>22,906</td>
<td>23,240</td>
<td>23,570</td>
<td></td>
</tr>
</tbody>
</table>


In Wales the number of prescriptions for cardiovascular disease continues to rise each year.
CHAPTER 3 TREATMENT

CARDIOVASCULAR DISEASE STATISTICS, 2015
BRITISH HEART FOUNDATION

In Scotland more than 24 million prescriptions were dispensed in the treatment of CVD in 2014/15 and this number has remained fairly consistent since 2008. Prescriptions for lipid-lowering drugs have increased by threefold since 2001 and those for antihypertensive and heart failure drugs have doubled over the same period (Table 3.3, Figure 3.3).

Table 3.3
Prescriptions used in the prevention and treatment of cardiovascular disease, Scotland 2001/02 to 2014/15

<table>
<thead>
<tr>
<th>Prescriptions</th>
<th>Thousands (000s)</th>
<th>2001/02</th>
<th>2005/06</th>
<th>2006/07</th>
<th>2007/08</th>
<th>2008/09</th>
<th>2009/10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digoxin and other positive inotropic drugs (2.1)</td>
<td>358</td>
<td>323</td>
<td>315</td>
<td>305</td>
<td>296</td>
<td>291</td>
<td></td>
</tr>
<tr>
<td>Diuretics (2.2)</td>
<td>3,469</td>
<td>3,914</td>
<td>3,810</td>
<td>3,660</td>
<td>3,597</td>
<td>3,544</td>
<td></td>
</tr>
<tr>
<td>Anti-arrhythmic drugs (2.3)</td>
<td>102</td>
<td>90</td>
<td>85</td>
<td>81</td>
<td>77</td>
<td>73</td>
<td></td>
</tr>
<tr>
<td>Beta-adrenoreceptor blocking drugs (2.4)</td>
<td>2,508</td>
<td>3,027</td>
<td>2,940</td>
<td>2,853</td>
<td>2,850</td>
<td>2,883</td>
<td></td>
</tr>
<tr>
<td>Antihypertensive and heart failure drugs (2.5)</td>
<td>2,298</td>
<td>2,777</td>
<td>2,127</td>
<td>2,462</td>
<td>2,693</td>
<td>2,675</td>
<td></td>
</tr>
<tr>
<td>Nitrates, calcium blockers and other antianginal drugs (2.6)</td>
<td>1,278</td>
<td>1,542</td>
<td>1,625</td>
<td>1,666</td>
<td>1,683</td>
<td>1,714</td>
<td></td>
</tr>
<tr>
<td>Anticoagulants and prostamine (2.8)</td>
<td>489</td>
<td>612</td>
<td>646</td>
<td>676</td>
<td>707</td>
<td>743</td>
<td></td>
</tr>
<tr>
<td>Antiplatelet drugs (2.9)</td>
<td>2,461</td>
<td>3,448</td>
<td>3,545</td>
<td>3,652</td>
<td>3,743</td>
<td>3,724</td>
<td></td>
</tr>
<tr>
<td>Lipid-lowering drugs (2.12)</td>
<td>1,667</td>
<td>2,218</td>
<td>2,212</td>
<td>2,291</td>
<td>2,312</td>
<td>2,312</td>
<td></td>
</tr>
<tr>
<td>All prescriptions for disease of the circulatory system</td>
<td>16,667</td>
<td>22,418</td>
<td>23,212</td>
<td>23,791</td>
<td>24,312</td>
<td>24,716</td>
<td></td>
</tr>
</tbody>
</table>


In Scotland the annual number of prescriptions for cardiovascular disease has remained fairly constant since 2008. Antiplatelet prescription numbers are in decline.

Figure 3.3
Prescriptions used in the prevention and treatment of CVD, Scotland 2001/02 to 2014/15

In Scotland more than 24 million prescriptions were dispensed in the treatment of CVD in 2014/15 and this number has remained fairly consistent since 2008. Prescriptions for lipid-lowering drugs have increased by threefold since 2001 and those for antihypertensive and heart failure drugs have doubled over the same period (Table 3.3, Figure 3.3).

Table 3.3
Prescriptions used in the prevention and treatment of cardiovascular disease, Scotland 2001/02 to 2014/15

<table>
<thead>
<tr>
<th>Prescriptions</th>
<th>Thousands (000s)</th>
<th>2010/11</th>
<th>2011/12</th>
<th>2012/13</th>
<th>2013/14</th>
<th>2014/15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digoxin and other positive inotropic drugs (2.1)</td>
<td>283</td>
<td>276</td>
<td>269</td>
<td>260</td>
<td>252</td>
<td></td>
</tr>
<tr>
<td>Diuretics (2.2)</td>
<td>3,457</td>
<td>3,382</td>
<td>3,269</td>
<td>3,154</td>
<td>3,053</td>
<td></td>
</tr>
<tr>
<td>Antihypertensive and heart failure drugs (2.5)</td>
<td>3,965</td>
<td>5,040</td>
<td>5,095</td>
<td>5,160</td>
<td>5,220</td>
<td></td>
</tr>
<tr>
<td>Nitrates, calcium blockers and other antianginal drugs (2.6)</td>
<td>2,209</td>
<td>2,957</td>
<td>2,998</td>
<td>3,084</td>
<td>3,102</td>
<td></td>
</tr>
<tr>
<td>Anticoagulants and prostamine (2.8)</td>
<td>273</td>
<td>189</td>
<td>884</td>
<td>958</td>
<td>1,015</td>
<td></td>
</tr>
<tr>
<td>Antiplatelet drugs (2.9)</td>
<td>3,577</td>
<td>3,506</td>
<td>3,404</td>
<td>3,295</td>
<td>3,218</td>
<td></td>
</tr>
<tr>
<td>Lipid-lowering drugs (2.12)</td>
<td>4,875</td>
<td>4,861</td>
<td>4,907</td>
<td>4,977</td>
<td>5,024</td>
<td></td>
</tr>
<tr>
<td>All prescriptions for disease of the circulatory system</td>
<td>24,649</td>
<td>24,660</td>
<td>24,657</td>
<td>24,703</td>
<td>24,764</td>
<td></td>
</tr>
</tbody>
</table>

There were more than 8.8 million prescriptions dispensed for the treatment and prevention of CVD in Northern Ireland in 2014, an increase of more than 4 million compared to 2000. Prescriptions for lipid-lowering drugs showed the greatest increase, from 376,000 dispensations in 2000 to just under 2 million in 2014 (Table 3.4, Figure 3.4).

### Table 3.4
Prescriptions used in the prevention and treatment of cardiovascular disease, Northern Ireland 2000 to 2014

<table>
<thead>
<tr>
<th>Prescriptions</th>
<th>Thousands (000s)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2000</td>
</tr>
<tr>
<td>Digoxin and other positive inotropic drugs (2.1)</td>
<td>132</td>
</tr>
<tr>
<td>Diuretics (2.2)</td>
<td>819</td>
</tr>
<tr>
<td>Anti-arrhythmic drugs (2.3)</td>
<td>41</td>
</tr>
<tr>
<td>Beta-adrenoceptor blocking drugs (2.4)</td>
<td>641</td>
</tr>
<tr>
<td>Antihypertensive and heart failure drugs (2.5)</td>
<td>602</td>
</tr>
<tr>
<td>Nitrates, calcium blockers and other antianginal drugs (2.6)</td>
<td>928</td>
</tr>
<tr>
<td>Antiocoagulants and protamine (2.8)</td>
<td>138</td>
</tr>
<tr>
<td>Antiplatelet drugs (2.9)</td>
<td>539</td>
</tr>
<tr>
<td>Anti- fibrinolytic drugs and haemostatics (2.11)</td>
<td>0</td>
</tr>
<tr>
<td>Lipid-lowering drugs (2.12)</td>
<td>376</td>
</tr>
<tr>
<td>All prescriptions for disease of the circulatory system</td>
<td>4,236</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Prescriptions</th>
<th>Thousands (000s)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2010</td>
</tr>
<tr>
<td>Digoxin and other positive inotropic drugs (2.1)</td>
<td>95</td>
</tr>
<tr>
<td>Diuretics (2.2)</td>
<td>992</td>
</tr>
<tr>
<td>Anti-arrhythmic drugs (2.3)</td>
<td>31</td>
</tr>
<tr>
<td>Beta-adrenoceptor blocking drugs (2.4)</td>
<td>1,020</td>
</tr>
<tr>
<td>Antihypertensive and heart failure drugs (2.5)</td>
<td>1,595</td>
</tr>
<tr>
<td>Nitrates, calcium blockers and other antianginal drugs (2.6)</td>
<td>1,124</td>
</tr>
<tr>
<td>Antiocoagulants and protamine (2.8)</td>
<td>249</td>
</tr>
<tr>
<td>Antiplatelet drugs (2.9)</td>
<td>1,192</td>
</tr>
<tr>
<td>Anti- fibrinolytic drugs and haemostatics (2.11)</td>
<td>14</td>
</tr>
<tr>
<td>Lipid-lowering drugs (2.12)</td>
<td>1,761</td>
</tr>
<tr>
<td>All prescriptions for disease of the circulatory system</td>
<td>8,073</td>
</tr>
</tbody>
</table>

When coronary artery obstruction develops due to atherosclerosis, surgical management is considered to improve the blood supply to the heart muscle. These operations fall into two main categories: coronary artery bypass graft (CABG) surgery and catheter-based percutaneous coronary interventions (PCI).

The total number of operations carried out to treat CHD is increasing in the UK. The number of PCIs carried out in the UK in 2013 was more than two times higher than a decade earlier; over 92,000 procedures are now carried out annually in the UK. But the number of CABG surgeries reached a peak in the late 1990s to early 2000s; these have become less common due to the more widespread use of less invasive procedures such as PCIs. Currently just under 17,000 CABG procedures are carried out in the UK each year (Table 3.6, Figure 3.6).

### OPERATIONS

Despite the increased number of prescriptions the cost of prescriptions dispensed for hypertension and heart failure therapy decreased by approximately £23 million between 2013 and 2014 to just over £175 million. However, the cost of prescriptions for cardiovascular diseases may not increase at the same rate as the increase in the number of prescriptions, as when commonly used drugs come out of patent they can be replaced by cheaper generic drugs.

---

**Table 3.5**

Prescriptions used in the prevention and treatment of cardiovascular disease, United Kingdom latest available year

<table>
<thead>
<tr>
<th>Prescriptions</th>
<th>Thousand (000s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digoxin and other positive inotropic drugs (2.1)</td>
<td>3,634</td>
</tr>
<tr>
<td>Diuretics (2.2)</td>
<td>36,208</td>
</tr>
<tr>
<td>Anti-arrhythmic drugs (2.3)</td>
<td>1,088</td>
</tr>
<tr>
<td>Beta-adrenoreceptor blocking drugs (2.4)</td>
<td>34,859</td>
</tr>
<tr>
<td>Antihypertensive and heart failure drugs (2.5)</td>
<td>70,071</td>
</tr>
<tr>
<td>Nitrates, calcium blockers and other antianginal drugs (2.6)</td>
<td>46,992</td>
</tr>
<tr>
<td>Anticoagulants and prolamine (2.8)</td>
<td>15,173</td>
</tr>
<tr>
<td>Antiplatelet drugs (2.9)</td>
<td>38,443</td>
</tr>
<tr>
<td>Antiarrhythmics and haemostatics (2.11)</td>
<td>408</td>
</tr>
<tr>
<td>Lipid-lowering drugs (2.12)</td>
<td>68,436</td>
</tr>
<tr>
<td>All prescriptions for disease of the cardiovascular system</td>
<td>313,342</td>
</tr>
</tbody>
</table>

Despite the substantial shift towards PCIs in the past years, CABG procedures will remain as one of the main surgical treatments for certain more complex conditions. For example it is recommended that CABGs remain as the standard revascularisation care for patients with complex coronary lesions or left main coronary diseases. Where patients are eligible for both CABG and PCI the National Institute for Health and Care Excellence (NICE) reports that although CABG is still effective it is not cost-effective when compared with PCI and so the latter procedure should be performed.

Table 3.6

<table>
<thead>
<tr>
<th>Year</th>
<th>Coronary artery bypass surgery (CABG)</th>
<th>Percutaneous coronary interventions (PCI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1977</td>
<td>2,297</td>
<td></td>
</tr>
<tr>
<td>1978</td>
<td>2,653</td>
<td></td>
</tr>
<tr>
<td>1979</td>
<td>2,918</td>
<td></td>
</tr>
<tr>
<td>1980</td>
<td>4,057</td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>5,130</td>
<td></td>
</tr>
<tr>
<td>1982</td>
<td>6,008</td>
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</tr>
<tr>
<td>1983</td>
<td>8,332</td>
<td></td>
</tr>
<tr>
<td>1984</td>
<td>9,433</td>
<td></td>
</tr>
<tr>
<td>1985</td>
<td>10,667</td>
<td></td>
</tr>
<tr>
<td>1986</td>
<td>10,767</td>
<td></td>
</tr>
<tr>
<td>1987</td>
<td>11,521</td>
<td></td>
</tr>
<tr>
<td>1988*</td>
<td>11,113</td>
<td></td>
</tr>
<tr>
<td>1989</td>
<td>12,648</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>14,431</td>
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<tr>
<td>1991</td>
<td>15,659</td>
<td>9,933</td>
</tr>
<tr>
<td>1992</td>
<td>19,241</td>
<td>11,575</td>
</tr>
<tr>
<td>1993</td>
<td>21,031</td>
<td>12,937</td>
</tr>
<tr>
<td>1994</td>
<td>22,056</td>
<td>14,624</td>
</tr>
<tr>
<td>1995</td>
<td>22,475</td>
<td>17,344</td>
</tr>
<tr>
<td>1996</td>
<td>22,160</td>
<td>20,111</td>
</tr>
<tr>
<td>1997</td>
<td>25,639</td>
<td>22,902</td>
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<tr>
<td>1998</td>
<td>25,083</td>
<td>24,899</td>
</tr>
<tr>
<td>1999</td>
<td>24,733</td>
<td>28,133</td>
</tr>
<tr>
<td>2000</td>
<td>25,127</td>
<td>33,256</td>
</tr>
<tr>
<td>2001</td>
<td>24,663</td>
<td>38,992</td>
</tr>
<tr>
<td>2002</td>
<td>25,277</td>
<td>44,913</td>
</tr>
<tr>
<td>2003</td>
<td>25,461</td>
<td>53,261</td>
</tr>
<tr>
<td>2004</td>
<td>25,160</td>
<td>62,780</td>
</tr>
<tr>
<td>2005</td>
<td>23,412</td>
<td>70,142</td>
</tr>
<tr>
<td>2006</td>
<td>23,623</td>
<td>73,692</td>
</tr>
<tr>
<td>2007</td>
<td>25,372</td>
<td>77,373</td>
</tr>
<tr>
<td>2008</td>
<td>22,846</td>
<td>80,331</td>
</tr>
<tr>
<td>2009</td>
<td>19,766</td>
<td>83,130</td>
</tr>
<tr>
<td>2010</td>
<td>17,986</td>
<td>87,676</td>
</tr>
<tr>
<td>2011</td>
<td>17,751</td>
<td>88,692</td>
</tr>
<tr>
<td>2012</td>
<td>16,791</td>
<td>92,445</td>
</tr>
<tr>
<td>2013</td>
<td>92,589</td>
<td></td>
</tr>
</tbody>
</table>


Figure 3.6

Number of coronary artery bypass operations and percutaneous coronary interventions per year, United Kingdom 1980 to 2013

Despite the substantial shift towards PCIs in the past years, CABG procedures will remain as one of the main surgical treatments for certain more complex conditions. For example it is recommended that CABGs remain as the standard revascularisation care for patients with complex coronary lesions or left main coronary diseases. Where patients are eligible for both CABG and PCI the National Institute for Health and Care Excellence (NICE) reports that although CABG is still effective it is not cost-effective when compared with PCI and so the latter procedure should be performed.
CARDIOTHORACIC TRANSPLANTS (HEART AND/OR LUNG TRANSPLANTS)

A heart, or cardiac, transplant is a surgical procedure in which a diseased heart is replaced by a healthy heart from a human donor. Patients who develop severe heart failure might need a heart transplant. Children may also require a heart transplant to treat congenital heart diseases. Since this is a very specialised activity, a relatively small number of operations are carried out in the country in a select number of hospitals; seven hospitals carry out heart transplants on adults. During 2014/15, 293 patients who required transplants joined the heart list and there were 547 patients in total on the list (Table 3.8).

The aortic valve lies between the left ventricle (which pumps blood to the brain and body) and the aorta (the main artery which carries oxygen-rich blood away from the heart). There are two main diseases associated with the aortic valve – stenosis and regurgitation. Stenosis is due to thickening of the valve and narrowing of the lumen. This will limit the blood flow during contractions of the heart. Regurgitation (also called valvular insufficiency) is due to the inability of the valve leaflets to close completely. It will allow ejected blood to flow back through the closed valve into the heart when it relaxes. In 2012 there were 4,561 isolated aortic valve replacements and a further 3,263 aortic valve replacements with CABGs (Table 3.7).

Heart valve disease can be congenital or acquired later in life. The aortic valve lies between the left ventricle (which pumps blood to the brain and body) and the aorta (the main artery which carries oxygen-rich blood away from the heart). There are two main diseases associated with the aortic valve – stenosis and regurgitation. Stenosis is due to thickening of the valve and narrowing of the lumen. This will limit the blood flow during contractions of the heart. Regurgitation (also called valvular insufficiency) is due to the inability of the valve leaflets to close completely. It will allow ejected blood to flow back through the closed valve into the heart when it relaxes. In 2012 there were 4,561 isolated aortic valve replacements and a further 3,263 aortic valve replacements with CABGs (Table 3.7).

The mitral valve is located between the left atrium and left ventricle, acting as a one-way valve which allows blood to flow into the ventricle when the atrium contracts. Disorders of the mitral valve are the most common of the valvular heart diseases. The main types of mitral valve diseases are bulging backwards during closure (prolapse), leaking blood when the valve is closed (regurgitation) and obstruction due to narrowing of the valve (stenosis). In 2012 there were 1,456 isolated mitral valve repairs and 638 isolated mitral valve replacements. There were a further 820 mitral valve surgeries with coronary artery bypass graft (CABG) surgery in the UK (Table 3.7).

### Table 3.7

<table>
<thead>
<tr>
<th>Operation</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isolated aortic valve replacement</td>
<td>3,361</td>
<td>3,494</td>
<td>3,549</td>
<td>3,627</td>
<td>4,051</td>
</tr>
<tr>
<td>Aortic valve replacement and coronary artery bypass graft (CABG)</td>
<td>2,445</td>
<td>2,520</td>
<td>2,797</td>
<td>2,912</td>
<td>3,111</td>
</tr>
<tr>
<td>Isolated mitral repair</td>
<td>771</td>
<td>911</td>
<td>1,019</td>
<td>1,119</td>
<td>1,189</td>
</tr>
<tr>
<td>Mitral repair and coronary artery bypass graft (CABG)</td>
<td>450</td>
<td>552</td>
<td>582</td>
<td>653</td>
<td>591</td>
</tr>
<tr>
<td>Isolated mitral replacement</td>
<td>797</td>
<td>805</td>
<td>742</td>
<td>734</td>
<td>845</td>
</tr>
<tr>
<td>Mitral replacement and coronary artery bypass graft (CABG)</td>
<td>347</td>
<td>341</td>
<td>308</td>
<td>350</td>
<td>325</td>
</tr>
</tbody>
</table>

### Table 3.8

<table>
<thead>
<tr>
<th>New registrations in 2014/15</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>%</td>
</tr>
<tr>
<td>Heart transplant list</td>
<td></td>
</tr>
<tr>
<td>Remained active / suspended</td>
<td>129</td>
</tr>
<tr>
<td>Transplanted</td>
<td>121</td>
</tr>
<tr>
<td>Removed</td>
<td>21</td>
</tr>
<tr>
<td>Died</td>
<td>22</td>
</tr>
<tr>
<td>Total</td>
<td>293</td>
</tr>
<tr>
<td>Heart/lung transplant list</td>
<td></td>
</tr>
<tr>
<td>Remained active / suspended</td>
<td>5</td>
</tr>
<tr>
<td>Transplanted</td>
<td>1</td>
</tr>
<tr>
<td>Removed</td>
<td>1</td>
</tr>
<tr>
<td>Died</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
</tr>
</tbody>
</table>

During the year ending 31 March 2015, there were 180 heart transplants in the UK, plus a further three heart/lung transplants. Northern Ireland did not report any transplants during this year and Scotland reported the highest transplant rate with 3.0 per million population (Table 3.9). From 2010/11 to 2014/15 the heart transplant rate in the UK increased from 2.0 to 2.8 per million.

### Table 3.9
Cardiothoracic transplants and rate per million population, by country, United Kingdom 2010/11 to 2014/15

<table>
<thead>
<tr>
<th>Country</th>
<th>2010/11</th>
<th>2011/12</th>
<th>2012/13</th>
<th>2013/14</th>
<th>2014/15</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>rate</td>
<td>n</td>
<td>rate</td>
<td>n</td>
<td>rate</td>
</tr>
<tr>
<td>England</td>
<td>94</td>
<td>1.8</td>
<td>113</td>
<td>2.2</td>
<td>119</td>
</tr>
<tr>
<td>Wales</td>
<td>6</td>
<td>2.0</td>
<td>8</td>
<td>2.7</td>
<td>5</td>
</tr>
<tr>
<td>Scotland</td>
<td>12</td>
<td>2.3</td>
<td>13</td>
<td>2.5</td>
<td>13</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td>14</td>
<td>7.6</td>
<td>4</td>
<td>2.2</td>
<td>5</td>
</tr>
<tr>
<td>UK</td>
<td>126</td>
<td>2.0</td>
<td>136</td>
<td>2.2</td>
<td>142</td>
</tr>
</tbody>
</table>

Notes: Excludes patients whose postcodes were unknown (n = totals do not match those in Table 3.8). Source: NHS Blood and Transplant (2015) and previous reports. Organ donation and transplantation. NHS

### OUT-OF-HOSPITAL CARDIAC ARRESTS

Survival rates for out-of-hospital cardiac arrests (OHCA) depend on several factors, such as the presence of bystanders, time to arrive for emergency medical services, prompt cardiopulmonary resuscitation (CPR) and pre-hospital return of spontaneous circulation. Improved response times and training on CPR for ambulance services have contributed to improvements in the survival rates. In 2014 nearly 30,000 patients received a resuscitation attempt for an OHCA in England and 8.8 per cent of them were discharged alive from hospital. Since records started in April 2011 the proportion of patients discharged alive from hospital has increased from 7.2 to 8.8 per cent. (Table 3.10).

### Table 3.10

<table>
<thead>
<tr>
<th>Year</th>
<th>2011 (Apr-Dec)</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resuscitation attempts</td>
<td>17,122</td>
<td>28,202</td>
<td>29,376</td>
<td>29,919</td>
</tr>
<tr>
<td>Discharged from hospital</td>
<td>1,230</td>
<td>2,152</td>
<td>2,477</td>
<td>2,625</td>
</tr>
<tr>
<td>Proportion discharged from hospital %</td>
<td>7.2</td>
<td>7.6</td>
<td>8.4</td>
<td>8.8</td>
</tr>
</tbody>
</table>

ENGLAND

The programme budgeting data return is an analysis of commissioning expenditure by healthcare condition (such as circulatory diseases) and care setting (e.g., scheduled and unscheduled care). It provides commissioner-level analysis of NHS expenditure on specific healthcare conditions. Estimates of expenditure are calculated using the price paid for specific activities and the services purchased from healthcare providers for each region. Regions follow standard guidance, procedures and mappings when calculating programme budgeting data. Previous programme budgeting data for England were collected by primary care trusts (PCTs) and covered around 80% of planned NHS funding in England. Data in this compendium come from 2013/14 and were reported by Clinical Commissioning Groups (CCGs), the PCT successor organisations. CCGs do not cover as great a range of NHS spending as PCTs used to, hence 2013/14 figures are much lower than those previously published. CCGs are not responsible for certain services commissioned directly by the NHS Commissioning Board, health improvement services commissioned by local authorities and health protection and promotion services provided by Public Health England.

Figure 4.1
Percentage of NHS expenditure on CVD by care setting and condition, England 2013/14

- Scheduled care 22%
- Unscheduled care 5%
- Community and end of life care 8%
- Running costs 2%
- Primary prescribing 23%
- Unbundled care 40%
Programme budgeting data for the whole of England, aggregated to care settings, demonstrate the expenditure on CVD by treatment type. The highest expenditure for all CVD is found within unscheduled care (£1,732 million), equating to 40 per cent of total CVD expenditure (£4,292 million). Unscheduled care also had the highest expenditure for stroke (£400 million), rhythm (£176 million) and other CVD (£842 million) subtypes. Primary prescribing demonstrated the highest expenditure for CHD (£346 million) and the second highest expenditure overall, making up 23 per cent of total expenditure. Scheduled care made up 22 per cent of total costs and the majority of total secondary care costs at £937 million, compared to £196 million from unbundled care. Running costs made up the smallest component of CVD costs (Table 4.1, Figure 4.1). Once again, due to changes in NHS structure and commissioning, these findings are not comparable to last year’s given changes to the care settings in which data are assigned. Definitions for 2013/14 care settings can be found in Box 4.1 below.

Box 4.1 Programme Budgeting Care Settings

<table>
<thead>
<tr>
<th>Care setting</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unscheduled Care</td>
<td>Expenditure on non-elective or emergency admissions to hospital for activity covered by the Payment by Results mandatory tariff. This should not include any unbundled or separately paid-for elements of care (e.g. chemotherapy, critical care, diagnostic services) – these are reported in the unbundled/high cost settings.</td>
</tr>
<tr>
<td>A&amp;E</td>
<td>Expenditure on core A&amp;E services. Other triage services based in A&amp;E departments (e.g. urgent care centres, GPs) should be included within Unscheduled Care. Other Urgent Care.</td>
</tr>
<tr>
<td>Emergency Transport</td>
<td>Includes Ambulance and other emergency transport expenditure (e.g. ambulance and helicopter services).</td>
</tr>
<tr>
<td>Other Urgent Care</td>
<td>Walk-in centres, minor injury units, urgent care centres, out-of-hours, GPs in A&amp;E, telephone triage services (including 111).</td>
</tr>
<tr>
<td>Scheduled Care</td>
<td>Expenditure on elective admissions to hospital or day case for activity covered by the Payment by Results mandatory tariff. This should not include any unbundled or separately paid-for elements of care (e.g. chemotherapy, critical care, diagnostic services) – these are reported in the unbundled/high cost settings.</td>
</tr>
<tr>
<td>Outpatient – (PBR and Non-PBR)</td>
<td>Expenditure on outpatient attendances and procedures. Should not include any unbundled or separately paid-for elements of care (e.g. chemotherapy, diagnostic services) – these are reported in the unbundled/high cost settings. Should not include expenditure on Obstetric Outpatients and Midwife Episodes which should be included within the Integrated Care setting.</td>
</tr>
<tr>
<td>Unbundled</td>
<td>Expenditure on diagnostic imaging activity unbundled from outpatients (e.g. MRI Scan, CT scan, DEXA scan, Contrast Fluoroscopy, Ultrasound Scan, nuclear medicine, flexible sigmoidoscopy and airflow studies).</td>
</tr>
<tr>
<td>Critical Care</td>
<td>Expenditure on adult, neonatal and paediatric critical care (allocated via the prior diagnostic of the normal inpatient admission).</td>
</tr>
<tr>
<td>Drugs and devices</td>
<td>Expenditure on high cost/unbundled drugs and devices.</td>
</tr>
<tr>
<td>Other</td>
<td>Expenditure on chemotherapy, radiotherapy, renal, cancer, IVF, cleft lip and palate.</td>
</tr>
<tr>
<td>Direct Access Diagnostic Imaging</td>
<td>Expenditure on direct access diagnostic imaging activity (e.g. plain film X-rays, MRI scan, CT scan, DEXA scan, contrast fluoroscopy, ultrasound scan, nuclear medicine, flexible sigmoidoscopy and airflow studies).</td>
</tr>
</tbody>
</table>

When comparing between CVD subtypes, ‘other CVD’ resulted in the highest total expenditure with around 34 per cent of the total costs and was the biggest proportion in each care setting. Although this subtype includes a large range of diseases (including rheumatic and hypertensive diseases) these data were not available broken down any further. Additionally, due to the way data are collected and classified, distinguishing between costs due to subtype can be challenging (Table 4.1).

Table 4.1 NHS expenditure on cardiovascular disease by care setting and condition, England 2013/14

<table>
<thead>
<tr>
<th>Expenditure (£ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary prescribing</td>
</tr>
<tr>
<td>Unbundled care</td>
</tr>
<tr>
<td>Coronary heart disease</td>
</tr>
<tr>
<td>Stroke</td>
</tr>
<tr>
<td>Rhythm</td>
</tr>
<tr>
<td>Other CVD</td>
</tr>
<tr>
<td>Total CVD</td>
</tr>
</tbody>
</table>

When comparing between CVD subtypes, ‘other CVD’ resulted in the highest total expenditure with around 34 per cent of the total costs and was the biggest proportion in each care setting. Although this subtype includes a large range of diseases (including rheumatic and hypertensive diseases) these data were not available broken down any further. Additionally, due to the way data are collected and classified, distinguishing between costs due to subtype can be challenging (Table 4.1).

When comparing between CVD subtypes, ‘other CVD’ resulted in the highest total expenditure with around 34 per cent of the total costs and was the biggest proportion in each care setting. Although this subtype includes a large range of diseases (including rheumatic and hypertensive diseases) these data were not available broken down any further. Additionally, due to the way data are collected and classified, distinguishing between costs due to subtype can be challenging (Table 4.1).
ENGLAND CCG CLUSTER

CCGs are categorised into clusters based on a number of measures, including indices of deprivation, population number, population density, population age distribution and ethnicity (Box 4.2).

Although CCGs in the Cube cluster show the highest overall expenditure, as there are unequal numbers of CCGs in each cluster, comparison of absolute costs will be misleading. Cube CCGs were found to have the second highest expenditure per head of population with £82.88, compared to the pyramid cluster which had the highest with £86.89 and spent a greater percentage of their total healthcare costs on CVD (7.4 per cent) than CCGs in any other cluster type. The tetrahedron cluster type, all Inner London CCGs, had the lowest CVD expenditure per head of population with £55.79 and the lowest percentage of total healthcare expenditure spent on CVD (4.6 per cent) (Table 4.2, Figure 4.2).

---

**Box 4.2**

<table>
<thead>
<tr>
<th>Cluster name</th>
<th>Cluster description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cone</td>
<td>Larger CCGs with older populations and more rural areas</td>
</tr>
<tr>
<td>Cube</td>
<td>Traditional communities with deprived areas and poorer health</td>
</tr>
<tr>
<td>Cylinder</td>
<td>Areas with lower deprivation and better health</td>
</tr>
<tr>
<td>Prism</td>
<td>Deprived urban areas with younger people and ethnic diversity, particularly Asian</td>
</tr>
<tr>
<td>Pyramid</td>
<td>Smaller CCGs with older populations and more rural areas</td>
</tr>
<tr>
<td>Sphere</td>
<td>Areas with younger adults and university cities</td>
</tr>
<tr>
<td>Tetrahedron</td>
<td>Mixed communities in Inner London</td>
</tr>
<tr>
<td>Torus</td>
<td>Deprived urban areas with younger people and ethnic diversity, particularly Black</td>
</tr>
</tbody>
</table>
As with the national costs, ‘other CVD’ was the highest expenditure for all clusters, with pyramid types spending the most per head on this category. Cube cluster types spent the most on CHD per head with pyramid cluster types spending the most for stroke and rhythm. CVD expenditure expressed as a percentage of total healthcare expenditure varied less, with clusters spending similar amounts of their total health expenditure on CVD conditions. However, tetrahedron cluster types spent the lowest proportion of their total healthcare expenditure on CVD and all subtypes.

### Table 4.2
NHS expenditure on CVD by CCG cluster, England 2013/14

<table>
<thead>
<tr>
<th></th>
<th>Cone</th>
<th>Cube</th>
<th>Cylinder</th>
<th>Prism</th>
<th>Pyramid</th>
<th>Sphere</th>
<th>Tetrahedron</th>
<th>Total CVD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Coronary Heart Disease</strong></td>
<td>17.51</td>
<td>19.48</td>
<td>16.21</td>
<td>15.41</td>
<td>18.14</td>
<td>14.50</td>
<td>10.78</td>
<td>15.57</td>
</tr>
<tr>
<td><strong>Stroke</strong></td>
<td>13.19</td>
<td>13.70</td>
<td>9.96</td>
<td>9.25</td>
<td>16.77</td>
<td>9.87</td>
<td>5.46</td>
<td>10.27</td>
</tr>
<tr>
<td><strong>Rhythm</strong></td>
<td>6.69</td>
<td>5.88</td>
<td>6.34</td>
<td>4.85</td>
<td>7.29</td>
<td>5.64</td>
<td>4.51</td>
<td>5.11</td>
</tr>
<tr>
<td><strong>Other CVD</strong></td>
<td>41.31</td>
<td>43.83</td>
<td>39.19</td>
<td>37.08</td>
<td>44.70</td>
<td>38.96</td>
<td>35.05</td>
<td>41.65</td>
</tr>
<tr>
<td><strong>Total CVD</strong></td>
<td>78.70</td>
<td>82.88</td>
<td>71.50</td>
<td>66.58</td>
<td>86.89</td>
<td>68.97</td>
<td>55.79</td>
<td>72.60</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Cone</th>
<th>Cube</th>
<th>Cylinder</th>
<th>Prism</th>
<th>Pyramid</th>
<th>Sphere</th>
<th>Tetrahedron</th>
<th>Gross Expenditure (£ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Coronary Heart Disease</strong></td>
<td>192.5</td>
<td>245.0</td>
<td>124.8</td>
<td>82.7</td>
<td>164.1</td>
<td>76.1</td>
<td>16.0</td>
<td>52.5</td>
</tr>
<tr>
<td><strong>Stroke</strong></td>
<td>145.1</td>
<td>172.3</td>
<td>76.7</td>
<td>49.6</td>
<td>151.7</td>
<td>51.8</td>
<td>8.1</td>
<td>34.6</td>
</tr>
<tr>
<td><strong>Rhythm</strong></td>
<td>73.5</td>
<td>73.9</td>
<td>47.3</td>
<td>26.0</td>
<td>65.9</td>
<td>29.6</td>
<td>6.7</td>
<td>17.3</td>
</tr>
<tr>
<td><strong>Other CVD</strong></td>
<td>454.3</td>
<td>551.3</td>
<td>301.7</td>
<td>199.0</td>
<td>404.4</td>
<td>204.5</td>
<td>52.0</td>
<td>140.5</td>
</tr>
<tr>
<td><strong>Total CVD</strong></td>
<td>865.4</td>
<td>1042.5</td>
<td>550.4</td>
<td>357.3</td>
<td>786.2</td>
<td>361.9</td>
<td>82.8</td>
<td>245.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Cone</th>
<th>Cube</th>
<th>Cylinder</th>
<th>Prism</th>
<th>Pyramid</th>
<th>Sphere</th>
<th>Tetrahedron</th>
<th>Percentage of total health care expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Coronary Heart Disease</strong></td>
<td>1.6</td>
<td>1.5</td>
<td>1.5</td>
<td>1.4</td>
<td>1.5</td>
<td>1.3</td>
<td>0.9</td>
<td>1.4</td>
</tr>
<tr>
<td><strong>Stroke</strong></td>
<td>1.2</td>
<td>1.1</td>
<td>0.9</td>
<td>0.9</td>
<td>1.4</td>
<td>0.9</td>
<td>0.5</td>
<td>0.9</td>
</tr>
<tr>
<td><strong>Rhythm</strong></td>
<td>0.6</td>
<td>0.5</td>
<td>0.6</td>
<td>0.4</td>
<td>0.6</td>
<td>0.5</td>
<td>0.4</td>
<td>0.5</td>
</tr>
<tr>
<td><strong>Other CVD</strong></td>
<td>3.8</td>
<td>3.5</td>
<td>3.7</td>
<td>3.4</td>
<td>3.8</td>
<td>3.4</td>
<td>2.9</td>
<td>3.7</td>
</tr>
<tr>
<td><strong>Total CVD</strong></td>
<td>7.2</td>
<td>6.6</td>
<td>6.8</td>
<td>6.1</td>
<td>7.4</td>
<td>6.0</td>
<td>4.6</td>
<td>6.4</td>
</tr>
</tbody>
</table>

### Notes
- Expenditure data included within this workbook are taken from the 2013-14 CCG programme budgeting returns. Programme budgeting returns represent a subset of overall NHS expenditure data.
- Analysis of programme budgeting data is complex and not all healthcare activity or services can be classified directly to a programme budgeting category or care setting. When it is not possible to reasonably estimate a programme budgeting category, expenditure is classified as ‘Other’. The allocation of expenditure to programme budgeting subcategories is not always straightforward, and subcategory level data should therefore be used with caution.
- Expenditure is calculated using unit price paid for specific activities and services purchased from healthcare providers.
- CCGs follow standard guidance, procedures and mappings when calculating programme budgeting data.
- CCGs are categorised into clusters based on a range of measures, including indices of deprivation, population numbers, population density, population age distribution and ethnicity.
- For more information on CCG clusters, see Box 4.2 and the source detailed below.

Expenditure data from Wales come from the programme budget returns from Health Boards (HBs). Total expenditure from this source on CVD in Wales in 2013/14 came to £431.3 million. These data show that Powys Teaching has the highest costs per head of population (£179.20) and Cardiff & Vale the lowest (£105.56). Cardiff & Vale had the lowest expenditure per head for all CVD subtypes, whilst Powys Teaching LHB had the highest expenditure per head for stroke and other CVD, Hywel Dda LHB the highest for CHD and Betsi Cadwaladr the highest for rhythm (Table 4.4).

Table 4.4
NHS expenditure on CVD by Health Board, Wales 2013/14

<table>
<thead>
<tr>
<th>Region</th>
<th>Expenditure per head / £</th>
<th>Health Board Total expenditure (£ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CHD</td>
<td>Stroke</td>
</tr>
<tr>
<td>London</td>
<td>14.60</td>
<td>6.59</td>
</tr>
<tr>
<td>Midlands and East</td>
<td>13.6</td>
<td>12.6</td>
</tr>
<tr>
<td>North</td>
<td>19.48</td>
<td>13.61</td>
</tr>
<tr>
<td>South</td>
<td>16.90</td>
<td>13.09</td>
</tr>
<tr>
<td></td>
<td>CHD</td>
<td>Stroke</td>
</tr>
<tr>
<td>London</td>
<td>1.3</td>
<td>0.8</td>
</tr>
<tr>
<td>Midlands and East</td>
<td>1.5</td>
<td>1.1</td>
</tr>
<tr>
<td>North</td>
<td>1.6</td>
<td>1.1</td>
</tr>
<tr>
<td>South</td>
<td>1.5</td>
<td>1.2</td>
</tr>
</tbody>
</table>

Notes: Expenditure data included within this workbook are taken from the 2013-14 CCG programme budgeting returns. Programme budgeting returns represent a subset of overall NHS expenditure data. Analysis of programme budgeting data is complex and not all healthcare activity or services can be classified directly to a programme budgeting category or care setting. Where it is not possible to reasonably estimate a programme budgeting category, expenditure is classified as ‘Other’. The allocation of expenditure to programme budgeting subcategories is not always straightforward, and subcategory level data should therefore be used with caution. Estimates of expenditure are calculated using prices paid for specific activities and services purchased from healthcare providers. CCGs follow standard guidance, procedures and mappings when calculating programme budgeting data. CCGs were allocated to commissioning regions following detailed at http://www.england.nhs.uk/about/regional-area-teams/ (accessed June 2015). Source: NHS England – Analytical Services Programme Budgeting Team (2015) 2013/14 Programme Budgeting Benchmarking Tool. https://www.england.nhs.uk/resources/resources-for-ccgs/prog-budgeting/ (accessed May 2015).

Expenditure data from Wales come from the programme budget returns from Health Boards (HBs). Total expenditure from this source on CVD in Wales in 2013/14 came to £431.3 million. These data show that Powys Teaching has the highest costs per head of population (£179.20) and Cardiff & Vale the lowest (£105.56). Cardiff & Vale had the lowest expenditure per head for all CVD subtypes, whilst Powys Teaching LHB had the highest expenditure per head for stroke and other CVD, Hywel Dda LHB the highest for CHD and Betsi Cadwaladr the highest for rhythm (Table 4.4).

Table 4.4
NHS expenditure on CVD by Health Board, Wales 2013/14

<table>
<thead>
<tr>
<th>Health Board</th>
<th>Expenditure per head / £</th>
<th>Health Board Total expenditure (£ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CHD</td>
<td>Stroke</td>
</tr>
<tr>
<td>Abertawe Bro Morgannwg LHB</td>
<td>36.6</td>
<td>30.24</td>
</tr>
<tr>
<td>Aneurin Bevan LHB</td>
<td>38.90</td>
<td>18.62</td>
</tr>
<tr>
<td>Betsi Cadwaladr UHB</td>
<td>39.10</td>
<td>29.95</td>
</tr>
<tr>
<td>Cardiff &amp; Vale UHB</td>
<td>28.32</td>
<td>18.29</td>
</tr>
<tr>
<td>Cwm Taf LHB</td>
<td>41.08</td>
<td>29.27</td>
</tr>
<tr>
<td>Hywel Dda LHB</td>
<td>42.96</td>
<td>27.40</td>
</tr>
<tr>
<td>Powys Teaching LHB</td>
<td>41.51</td>
<td>49.26</td>
</tr>
<tr>
<td>Wales</td>
<td>37.73</td>
<td>26.52</td>
</tr>
</tbody>
</table>

Notes: Health Boards allocate as much expenditure as they can, given the activity information available. The apportionment of the remainder means that some figures are approximate. Some services are commissioned on a ‘host’ authority basis and have not been recharged to HB area. Programme budget categories are defined by reference to ICD-10 codes. To calculate expenditure per head of population, the ONS revised mid-year population 2014 estimates were used. Source Financial Information Strategy, Public Health Wales (2015) Personal communication.
NORTHERN IRELAND

Although programme budgeting data are not available for Northern Ireland, information is available on the cost of inpatient episodes and day case attendances in an acute hospital setting. Hospital Information Branch identifies finished consultant episodes where a patient was treated for a diagnosis of coronary heart disease, stroke, or other cardiovascular disease using the relevant ICD-10 codes. To this activity information, Finance Directorate of The Department of Health, Social Services and Public Safety Northern Ireland (DHSSPSNI) has applied 2013/14 Healthcare Resource Group (HRG) reference costs derived from annual trust costing returns, in order to produce an estimate of the total cost. HRG reference costs are fully absorbed unit costs including capital charges. All costs relate only to inpatient and day case admitted care. Costs for some services are not collected at the level of detail required to enable an estimate on what has been spent on individuals with specific diagnoses. This means comparisons with other UK data cannot be made confidently (Table 4.5).

Table 4.5
NHS expenditure on CVD by Health and Social Care Trust, Northern Ireland 2013/14

<table>
<thead>
<tr>
<th>HSCT Name</th>
<th>Expenditure per head of population (£)</th>
<th>CVD expenditure (£ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CHD  Stroke Other CVD Total CVD</td>
<td>CHD Stroke Other CVD Total CVD</td>
</tr>
<tr>
<td>Belfast</td>
<td>172.76 23.60 252.85 446.20</td>
<td>60.4 7.9 88.4 156.7</td>
</tr>
<tr>
<td>Northern</td>
<td>49.49  9.64  68.78  127.91</td>
<td>23.1 4.5 32.1  59.7</td>
</tr>
<tr>
<td>Southern</td>
<td>62.62  10.66  83.67  156.95</td>
<td>22.9 3.9 30.6  57.4</td>
</tr>
<tr>
<td>South Eastern</td>
<td>68.70  9.69  102.34  180.74</td>
<td>24.1 3.4 35.9  63.4</td>
</tr>
<tr>
<td>Western</td>
<td>70.06  12.46  106.44  188.96</td>
<td>20.8 3.7 31.6  56.1</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td>82.69 12.79 119.47 214.95</td>
<td>151.3 23.4 218.6 393.3</td>
</tr>
</tbody>
</table>

*Note: Hospital Information Branch identifies finished consultant episodes where a patient was treated for a diagnosis of coronary heart disease, cardiovascular disease or stroke using the relevant ICD-10 codes. To this activity information, Finance Directorate has applied 2013/14 HRG reference costs derived from annual trust costing returns, in order to produce an estimate of the total cost. Costs relate only to inpatient and day case admitted care. Substantial A&E, outpatient, primary care, community and personal social services may also be provided to patients. Costs for these services are not collected at the level of detail required to enable an estimate on what has been spent on individuals with specific diagnoses.

The total expenditure on CVD in Northern Ireland in 2013/14 was estimated to be £393 million. Expenditure per head of population was greatest in Belfast (£446.20), more than twice that found for Northern Ireland as a whole (£214.95 per person). The lowest expenditure by population is found in the Northern Trust with £127.91 spent on total CVD per person. Comparison with figures in our previous compendium shows slight increases in some Trusts (Belfast, Northern and Western) and slight decreases in others (Southern and South Eastern) (Table 4.5).
ECONOMIC COSTS

Looking only at healthcare costs grossly underestimates the total cost and burden of cardiovascular disease (CVD) in the UK. Production losses from death and illness in those of working age contribute greatly to the overall financial burden. There are no data for production losses from CVD regularly published in the UK. However, a report by the Centre for Economics and Business Research (CEBR) published in 2014 analysed the healthcare costs of CVD in the UK, along with the costs from lost productivity due to mortality and morbidity, as part of a study of six European countries. Although results were published in euros we have used the 2014 average exchange rate of 1.24 euros to the pound when presenting results here. CEBR estimated healthcare costs of CVD in the UK in 2014 to be £11.3 billion, with costs from lost work days from mortality and morbidity to be £3.9 billion and £151.6 million respectively. This resulted in total estimated costs of CVD in the UK of £15.2 billion. The report also estimated that these total costs would rise to £18.7 billion in 2020, with the greatest increases coming through rising healthcare costs.

ENDNOTES


Table 4.6
NHS expenditure on CVD by care setting and condition, Scotland 2011/12

<table>
<thead>
<tr>
<th></th>
<th>Hospital Sector</th>
<th></th>
<th></th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Acute Services</td>
<td>Geriatric Long Stay</td>
<td>A&amp;E and outpatient services</td>
<td>Total Hospital Sector</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coronary heart disease</td>
<td>22.82</td>
<td>0.55</td>
<td>1.62</td>
<td>25.00</td>
<td>Stroke</td>
<td>17.63</td>
<td>3.43</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Family Health Services</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Coronary heart disease</td>
<td>18.41</td>
<td>1.64</td>
<td>20.05</td>
<td>45.05</td>
<td>Stroke</td>
<td>0.65</td>
<td>1.27</td>
</tr>
</tbody>
</table>

|                      | General Medical Services |                  |                  |                  |                      |                  |                  |
| Coronary heart disease | 120.9           | 2.9             | 8.6             | 132.5            | Stroke              | 0.65            | 1.27            | 1.91            | 23.87            | Rhythm             | 0.29             | 1.30            | 1.59            | 10.14            | Other CVD          | 15.46           | 15.16           | 30.62           | 71.25            |

|                      |                      |                  |                  |                  |                      |                  |                  |
| Coronary heart disease | 97.6            | 8.7             | 106.3            | 238.8            | Stroke              | 3.4             | 6.7             | 10.1            | 126.5            | Rhythm             | 1.5             | 6.9             | 8.4             | 53.7             | Other CVD          | 81.9            | 80.4            | 162.3            | 377.6            | Total CVD          | 184.5           | 102.7           | 287.2           | 796.6            |

Notes: Expenditure data included within this workbook are taken from the 2011/12 programme budgeting returns. Programme budgeting returns represent a subset of overall NHS expenditure. Programme budgeting in Scotland involves collating and presenting NHS expenditure on the basis of programmes of care rather than on the basis of inputs or accounting conventions. The 2011/12 Scottish Health Service Costs Book was used as the primary data source, with most of the programme budgeting category distribution based on analyses conducted using nationally available datasets. Scotland does not currently collect programme level cost information from NHS Boards. The principal cost data collection is the Scottish Health Service Costs Book, which represents costs by the basis of specialty or service (e.g. Family Health Services (FHS)). To calculate expenditure per head of population, the ONS revised mid-year population 2011 estimates were used. Source: Population Health, Analytical Services, Health Finance, eHealth and Analytics; Scottish Government (2015) Personal communication.
MEDICAL RISK FACTORS

Over the following pages we present summary statistics for a number of medical risk factors all of which are associated with cardiovascular disease (CVD). These include obesity, hypertension, diabetes and blood cholesterol. Statistics in this section are taken from health surveys collected in each UK nation. Some data, such as key anthropometric measurements, are updated annually, while others are only refreshed when surveys include additional cardiovascular fieldwork.

OBESITY

Being overweight or obese increases the risk of multiple diseases including CVD, cancer and type II diabetes. Adults with a body mass index (BMI) (kg/m²) of 25 to 30 are considered to be overweight. Those with a BMI of over 30 are considered obese. Both generalised and abdominal obesity are associated with increased risk of morbidity and mortality. Abdominal obesity (fat concentrated in the abdomen) is a predisposing factor for cardiovascular disease. Central abdominal obesity is measured using waist circumference and waist-hip ratio. The World Health Organization recommended cut-off points, above which individuals are at risk, are a waist circumference of 94cm for men and 80cm for women. For waist-hip ratio, cut-off points are 0.9 for men and 0.85 for women.

HIGH BLOOD PRESSURE

Risk of coronary heart disease (CHD) is directly related to higher levels of blood pressure. Unhealthy diet is estimated to be accountable for half of hypertension whereas physical inactivity and obesity are both accountable for about 20 per cent each. Drug treatment and lifestyle changes, particularly weight loss, physical activity and dietary improvements, can effectively lower blood pressure.

DIABETES

There are two main types of diabetes: type 1 and type 2. Diabetes substantially increases the risk of CHD and people who suffer from diabetes are at about three times the risk of heart attack compared to those without the condition. Recent data show that the CVD burden attributable to diabetes is on the rise.

BLOOD CHOLESTEROL

Blood cholesterol level is positively associated with coronary heart disease in both middle and old ages. Blood cholesterol levels can be reduced by physical activity, dietary changes and by drugs. High-density lipoprotein (HDL) cholesterol is an independent predictor of cardiovascular risk, high levels being protective and lower levels increasing the risk. NICE guidelines were revised in 2014, with a new recommendation to use non-HDL cholesterol, rather than the ratio of total/HDL cholesterol, as the optimal predictor of CVD risk.
**OBESITY**

**ADULTS**
- In England in 2013, the percentage of adults aged 16 years and over measured as overweight or obese (BMI > 25) was 67 per cent in men and 57 per cent in women; the percentage measured as obese was 26 per cent in men and 24 per cent in women.  
- In Scotland in 2014, 69 per cent of men and 61 per cent of women aged 16 years and over were overweight or obese, 26 per cent of men and 29 per cent of women were defined as obese.  
- In Northern Ireland in 2013/14, 67 per cent of men and 56 per cent of women were overweight or obese; 25 per cent of men and 23 per cent of women were obese.  
- In Wales in 2014, 61 per cent of men and 54 per cent of women aged 16 years and over were overweight or obese; 21 per cent of men and 22 per cent women were obese.  
- Unlike the data for England, Scotland and Northern Ireland, the height and weight data used for BMI calculations for Wales are self-reported. This gives rise to the possibility of report bias, whereby individuals report their measurements inaccurately. These data for Wales should therefore be treated with some caution.  
- In England in 2012, 44 per cent of women and 34 per cent of men had a very high waist circumference. A very high waist circumference is measured as greater than 102 cm in men and greater than 88 cm in women.  
- Taking data from each nation’s health survey and weighting results by population suggests that 26 per cent of men and 24 per cent of women in the UK are obese.

**CHILDREN**
- In England in 2013, 30 per cent of boys (aged 2-15 years) and 29 per cent of girls (aged 2-15 years) were classed as overweight or obese; 16 per cent of boys and 15 per cent of girls were measured as obese.  
- In Scotland in 2014, for those aged 2 to 15, 28 per cent of boys and 34 per cent of girls were at risk of being overweight or obese; 16 per cent of boys and 18 per cent of girls were considered to be at risk of obesity.  
- In Wales in 2013, 35 per cent of boys and 33 per cent girls were overweight or obese; 20 per cent of boys and 19 per cent of girls were obese. As with the Welsh adult data, the height and weight measurements used to calculate BMI for children in Wales are self-reported and should therefore be interpreted with some caution.

**HIGH BLOOD PRESSURE**
- In England, the prevalence of hypertension in adults has remained at a similar level over the last few years. In 2013 this was 31 per cent for men and 26 per cent for women.  
- In England, between 2003 and 2013, the percentage of the population with controlled hypertension increased from 5 per cent to 9 per cent among men, and from 6 per cent to 10 per cent among women.  
- In England, the percentage of men with uncontrolled hypertension was 6 per cent in both 2003 and 2013, while in women it decreased from 8 per cent to 6 per cent.  
- In England, the percentage of men with untreated hypertension decreased from 20 per cent in 2003 to 16 per cent in 2013, whilst the percentage of women with untreated hypertension decreased from 16 per cent in 2003 to 11 per cent in 2013.  
- In Scotland, in 2012/13, 29 per cent of both men and women aged 16 and over had hypertension. Nineteen per cent of men and 14 per cent of women had untreated hypertension.  
- In Wales, in 2014, 20 per cent of men and 19 per cent of women reported being treated for high blood pressure.  
- In Northern Ireland in 2013/14, 22 per cent of respondents reported that they had ever been diagnosed with high blood pressure. This percentage was the same for men and women.

**DIABETES**
- In England, the prevalence of doctor-diagnosed diabetes increased between 1994 and 2013 from 2.9 per cent to 6.9 per cent among men and from 1.9 per cent to 5.6 per cent among women.  
- In Wales, 8 per cent of men and 6 per cent of women reported currently being treated for diabetes.  
- In Scotland, the proportion of men with doctor-diagnosed diabetes has increased from 3.8 per cent in 2003 to 7.9 per cent in 2014; the proportion for women has increased from 3.7 per cent in 2003 to 5.2 per cent in 2014.  
- In Northern Ireland, 5 per cent of adults (6 per cent of men and 5 per cent of women) had doctor-diagnosed diabetes in 2013/14.  
- According to Quality and Outcomes Framework (QOF) data there were over 3.3 million diagnosed diabetes patients (aged 17 and over) in the UK in 2013/14.  
- It is estimated that there are around 590,000 people in the UK who have diabetes but have not been diagnosed.
CHOLESTEROL

- In England, average levels of total serum cholesterol were lower in men than women (5.1mmol/L and 5.2mmol/L respectively) in 2011.

- In England, 56 per cent of men and 57 per cent of women had total cholesterol levels above 5mmol/L (the audit level for those with CVD, diabetes or hypertension who are on drug treatment), while only 14 per cent and 12 per cent respectively had levels below 4mmol/L (the current target for the same group) in 2011.

- In Scotland, between 1995 and 2008-11 combined, mean total cholesterol in men aged 16 to 64 years declined from 5.6 to 5.2 mmol/L. The equivalent figures for women were 5.6mmol/L and 5.3 mmol/L.

- In Scotland, in 2008-11, more than half of men (56 per cent) and women (61 per cent) with a valid cholesterol measurement reported having a total cholesterol measurement of above 5 mmol/L.

ENDNOTES


14 Estimated from the Quality and Outcomes Framework (QOF) Achievement Prevalence and exceptions data 2013/14 for England, Wales, Scotland and Northern Ireland.


SMOKING

Tobacco smoking is one of the leading risk factors for disease. Among its many health consequences, smoking increases risk of coronary heart disease by raising blood pressure and the tendency of blood to clot while decreasing exercise tolerance and blood levels of HDL (‘good’ cholesterol). The long-term hazards of cigarette smoking have been studied over a long period of time, most notably by Sir Richard Doll and colleagues who demonstrated in a 50-year cohort study that smoking kills about half of all persistent smokers. In England in 2013, an estimated 78,200 deaths among adults aged 35 and older (around 17 per cent of deaths) were attributed to smoking, including 13 per cent of deaths (16,700) from circulatory diseases.

POOR DIET

Dietary patterns also influence risk of CVD. In particular, a high-sodium diet increases the risk of hypertension, which is a risk factor for CVD. High consumption of saturated and trans fats contributes to the development of atherosclerosis. Consumption of fruits and vegetables, by contrast, has a protective effect.

PHYSICAL INACTIVITY

Another key risk factor for CVD is physical inactivity. A sedentary lifestyle contributes to risk factors such as high blood pressure, elevated triglycerides, low HDL, diabetes and obesity.

ALCOHOL CONSUMPTION

Excessive alcohol consumption represents a major risk factor: it increases blood pressure and blood levels of triglycerides, which increase a person’s risk of atherosclerosis.
SMOKING

ADULTS

- The prevalence of cigarette smoking among adults (over 16 years) in Great Britain has fallen by more than half in the last 40 years, from 46 per cent in 1974 to 19 per cent in 2013.1
- This decline is the result of both fewer people taking up smoking and more previous smokers having quit.
- According to estimates from 2013, in England, 24 per cent of men and 17 per cent of women are current smokers.8
- In 2014 in Scotland, an estimated 23 per cent of men and 21 per cent of women were current smokers.9
- In 2014 in Wales, an estimated 22 per cent of men and 19 per cent of women were current smokers.10
- The prevalence of smoking in Northern Ireland has been declining since the 1980s. In 1983, 39 per cent of men and 29 per cent of women in Northern Ireland smoked. In 2013/14, 23 per cent of males and 21 per cent of females were current smokers.11

CHILDREN

- Overall, there has been a decline in the proportion of children in the UK who smoke regularly (defined as usually smoking at least one cigarette per week).
- In England, the prevalence of regular smoking among boys and girls aged 11 to 15 years decreased from 9 per cent in 2003 to 3 per cent in 2013.12 Historically, a higher percentage of girls have been regular smokers compared to boys. 17 per cent of boys and 11 per cent of girls in 2003, but the figures from recent years indicate that this gap is closing and similar proportions of boys and girls are regular smokers (4 per cent of boys and girls in 2013), but the figures from recent years indicate that this gap is closing and similar proportions of boys and girls are regular smokers (4 per cent of boys and girls in 2013).
- In Scotland, the prevalence of regular smoking among both 13- to 16-year-olds and 15- to 16-year-olds of both sexes is at its lowest level since 1982 when the Scottish national health survey began collecting data. Among 13-year-old boys, smoking prevalence has declined from 11 per cent in 1994 to 2 per cent in 2013. Among 13-year-old girls, smoking prevalence has declined from 10 per cent in 2000 to 2 per cent in 2013. Among 15-year-old regular, smoking prevalence peaked at 34 per cent for girls (in 1984) and 30 per cent for boys (in 1996), and has now declined to 8 per cent for boys and 9 per cent for girls.13
- Consistent with the UK trend, the prevalence of regular smoking among young people in Wales increases with age. According to the most recent estimates, 3 per cent of boys and 6 per cent of girls aged 13 years smoked regularly, while among 15-year-olds, 16 per cent of girls and 11 per cent of boys reported regular smoking in 2011. The prevalence of weekly smoking in Wales has shown a continuous decline in both boys and girls since 1998 when the prevalence was 22 per cent amongst 15-year-old boys and 29 per cent amongst 15-year-old girls.14
- In Northern Ireland, there was an increase between 2006 and 2013 in the proportion of 11- to 16-year-old boys who reported smoking at least once a week, from 5 per cent to 8 per cent. Among females, by contrast, the prevalence decreased from 10 per cent to 8 per cent. In 2013, 9 per cent of pupils aged 11 to 16 reported that they had smoked at least one whole cigarette in the last year.15

POOR DIET

ADULTS CONSUMPTION OF FAT

- Current guidelines recommend that adults and children should aim to eat at least five portions of fruit and vegetables, including up to one portion each of fruit juice and beans or pulses, each day. The latest National Diet and Nutrition Survey provides an assessment of the quality of the diet for adults in the United Kingdom. These results, which relate to 2008/09 to 2010/11 combined, suggest that adults aged 19 to 64 years consumed an average of 4.3 portions of fruit and vegetables per day.26
- In general, household food purchases do not match recommendations in terms of the proportions of food types that compose a healthy diet. Household purchases of vegetables (particularly fresh vegetables) declined between 2005 and 2013, when purchases fell 4.7 per cent from 1.156 grams to 1.102 grams per person per week.27

ADULTS CONSUMPTION OF SALT

- Average intake of total fat should account for no more than 35 per cent and saturated fatty acids no more than 11 per cent of food energy intake. Between 2001-02 and 2013, the percentage of energy from saturated fatty acids decreased from 14.8 per cent to 14.3 per cent, whilst the percentage of energy from fat was generally stable, with an average of 38.3 per cent. Percentage energy intake of both fat and saturated fat in 2013 exceeds the recommended levels.28

ADULTS CONSUMPTION OF SALT

- The best available estimates indicate that the average daily intake of salt among adults in the UK exceeds the recommended target of no more than 6g per day.
- A 2008 study estimated salt intake by analysing the urine of a representative sample of UK adults and found that both men and women exceeded recommendations: the estimated daily salt intake was 9.7 grams for men and 7.7 grams for women (8.6 g/day overall).16

CHILDREN CONSUMPTION OF FAT

- Mean consumption of oily fish fell below the recommended portion (140g per week) in all age groups: the mean consumption in adults was 5.4 grams per week.17

CHILDREN CONSUMING 5 A DAY

- According to the latest National Diet and Nutrition Survey, which relates to the years 2008/09 to 2010/11 combined, the mean consumption among children aged 11 to 18 years was 3.6 portions of fruit/vegetables per day for boys and 2.8 portions per day for girls.30
- According to the Health Survey for England, in 2013 16 per cent of boys and 17 per cent of girls consumed at least five portions of fruit and vegetables per day. Boys consumed an average of 2.8 portions per day and girls an average of 3.2. This reflects an overall increase in mean intake since 2001, from 2.4 and 2.6 daily portions among boys and girls respectively.
PHYSICAL INACTIVITY

2011 UK GUIDELINES FOR PHYSICAL ACTIVITY

ADULTS AGED BETWEEN 19 AND 64
- Adults should aim to be active daily. Over a week, activity should add up to at least 150 minutes (2½ hours) of moderate intensity activity in bouts of 10 minutes or more – one way to approach this is to do 30 minutes on at least 5 days a week.
- Alternatively, comparable benefits can be achieved through 75 minutes of vigorous intensity activity spread across the week or combinations of moderate and vigorous intensity activity.
- Adults should also undertake physical activity to improve muscle strength on at least two days a week.
- All adults should minimise the amount of time spent being sedentary (sitting) for extended periods.

CHILDREN AND YOUNG PEOPLE AGED BETWEEN 5 AND 18
- All children and young people should engage in moderate to vigorous intensity physical activity for at least 60 minutes and up to several hours every day.
- Vigorous intensity activities, including those that strengthen muscle and bone, should be incorporated at least three days a week.
- All children and young people should minimise the amount of time spent being sedentary (sitting) for extended periods.

CHILDREN AGED UNDER 5 WHO CAN WALK
- Children of pre-school age who are capable of walking unaided should be physically active daily for at least 180 minutes (3 hours), spread throughout the day.
- All under-5s should minimise the amount of time spent being sedentary (being restrained or sitting) for extended periods (except time spent sleeping).

ADULTS
- In England in 2012, 67 per cent of men and 55 per cent of women aged 16 and over met the most recent physical activity guidelines. These guidelines were updated in 2011 to allow for more flexibility in how the recommended levels for adults can be achieved.
- Figures for adults aged over 16 were similar in Scotland, with 68 per cent of men and 59 per cent of women meeting the guidelines in 2014.
- Activity levels are lower in Northern Ireland with 60 per cent of men and 47 per cent of women aged over 19 meeting the physical activity guidelines in 2013/14.
- The data for Wales are in relation to pre-2011 guidelines so are not comparable to data from the other UK nations. In Wales in 2014, 38 per cent of men and 23 per cent of women met the previous physical activity guidelines, which was similar to previous years. The pre-2011 guidelines recommended 30 minutes of moderate activity on at least five days a week.
- The proportion of people meeting the physical activity guidelines decreases with age in all countries of the UK.

CHILDREN
- In 2012, 9 per cent of boys and 10 per cent of girls in England aged 2 to 4 years were active for at least 180 minutes on all 7 days in the previous week, excluding activity in school.
- In Scotland in those aged 2 to 4 in 2012, 82 per cent of boys and 72 per cent of girls were active for at least 60 minutes on all seven days in the previous week.
- In 2012, of those aged 5 to 15 years in England, 21 per cent of boys and 16 per cent of girls met the physical activity guidelines for children and young people.
- In Wales in 2012, in those aged 4 to 14, 40 per cent of boys and 29 per cent of girls were physically active every day of the previous week.
- In Scotland in 2014, 79 per cent of boys and 73 per cent of girls amongst children aged 2 to 15 years met the physical activity guidelines for children and young people.
**ALCOHOL CONSUMPTION**

**ADULTS**

- Current government guidelines advise that men should not drink more than four units of alcohol per day, while women should not drink more than three units of alcohol per day.
- In England, the proportion of men consuming more than four units of alcohol on the heaviest day’s drinking in a surveyed week showed a small decrease between 2006 and 2013 (37 per cent in 2013), as did the proportion of men that drank more than twice the recommended amount (21 per cent in 2013).
- In England, the proportion of women consuming more than three units on the heaviest day’s drinking in the previous week also exhibited a decrease between 2006 (33 per cent) and 2013 (27 per cent), as did the proportion of women drinking more than twice the recommended amount (from 16 per cent in 2006 to 13 per cent in 2013).
- In Wales, in 2013, 46 per cent of men and 35 per cent of women reported drinking above the recommended daily allowance.
- In Scotland, the proportion of men consuming more than four units on the heaviest day’s drinking in a surveyed week showed a steady decrease between 2003 (45 per cent) and 2014 (41 per cent), and the proportion drinking more than twice the recommended amount on that day decreased from 29 per cent in 2003 to 24 per cent in 2014.

- The proportion of women in Scotland consuming more than three units on the heaviest day’s drinking in a surveyed week decreased between 2003 and 2014 from 37 per cent to 33 per cent, and the proportion drinking more than twice the recommended amount on that day decreased from 19 per cent in 2003 to 16 per cent in 2014.
- In Northern Ireland, around three-quarters (76 per cent) of respondents aged 18 and over stated that they drank alcohol. This was highest amongst males (81 per cent) than females (73 per cent). About one quarter of males (25 per cent) drank above the recommended weekly limits (more than 21 units per week), whereas this was the case for only 12 per cent of females (for which the recommended weekly limit is defined as 14 units per week). There has been a reduction from 2011/12 in the proportion of adults in Northern Ireland drinking above recommended weekly limits from 19 per cent to 16 per cent in 2013/14. This is primarily attributable to a reduction among males.

**CHILDREN**

- In England in 2013, 20 per cent of boys and 23 per cent of girls aged 8-15 years had drunk a proper alcoholic drink at least once. The proportion of children of both sexes who have ever had an alcoholic drink increased from 3 per cent among 8- to 10-year-olds to 45 per cent of 13- to 15-year-olds.
- In Scotland, 32 per cent of 13-year-old pupils (33 per cent of boys and 30 per cent of girls) and 70 per cent of 15-year-olds (67 per cent of boys and 72 per cent of girls) reported ever having had a proper alcoholic drink. These figures are the lowest of any time since 1996.
- In Wales, 17 per cent of boys and 14 per cent of girls (aged 11-16 years) reported drinking alcohol at least once a week, 2009/10.

**ENDNOTES**

BRITISH HEART FOUNDATION RESOURCES

The following resources will give you more information on making changes to your lifestyle and reducing your risk of diseases of the heart and circulation.

These are our resources most closely related to the topics in this publication. For more information on the services, programmes and resources that are available from the British Heart Foundation please order our Heart Health Resources and Services catalogue (order code: M116).

Information for teachers, parents and youth workers of 3- to 18-year-olds can also be found in our Teaching Heart Disease a Lesson catalogue (order code: G66).

Details of how to order our resources are provided at the end of this list.

MEDICAL RISK FACTORS

Blood pressure (order code: HIS4)
This booklet is for people who want to know more about blood pressure. It may be particularly useful for people with high blood pressure, and for their family and friends.

10 minutes to change your life – High blood pressure (order code: G933)
This simple guide is for people who have been told they have high blood pressure, or are at risk of getting it. It explains what high blood pressure is, what can cause it, and what you can do to lower it. This booklet comes with a planner for you to track your salt intake, alcohol intake, and physical activity, then set a goal to help reduce your blood pressure.

Reducing your blood cholesterol (order code: HIS3)
This booklet explains what cholesterol is, its role in coronary heart disease, what causes high levels and how it can be kept under control. It also explains which medicines are used to treat high levels.

10 minutes to change your life – Lowering cholesterol (order code: G991)
This simple guide is for people who have been told they have high cholesterol, or are at risk of getting it. It explains what high cholesterol means, what can cause it, and what you can do to lower it. This booklet comes with a challenge chart for you to track your physical activity and saturated fat intake over a week, then set a goal to help reduce your cholesterol.

Diabetes and your heart (order code: HIS22)
This booklet is for people who have diabetes, and for their families and friends. It may also be useful if you don’t have diabetes but you have been told you may develop it in the future.

Risking It (order code: DVD21)
This series of short motivational films is designed to help identify and tackle risk factors for coronary heart disease. The films cover high cholesterol, high blood pressure, smoking, weight loss and more. Following six people who decide to take positive action to lower their risk of CHD, these films show how small changes can make a big difference.

For more information, visit bhf.org.uk/riskfactors
DIET

Eating well (order code: G186)
If you want to eat more healthily to look after your health and reduce your risk of heart disease, then our Eating Well booklet can help. It explains the benefits of a balanced diet and how you can follow a healthy eating plan as part of your daily life.

Cut the saturated fat (order code: M4)
Our wall chart includes information on the different types of fat in food and advice on the healthiest options to choose, both when cooking or eating out.

Cut down on salt (order code: G160)
This booklet provides practical tips and recipe ideas. It describes guideline levels of salt intake for adults and how to identify high salt foods.

This label could change your life (order code: G54)
Our new guide helps people choose which foods to shop for, and which to drop. It includes a small card that explains colour-coded labels on foods and drinks. These labels could change lives by helping people to check, compare and choose heart-healthy options.

10 minutes to change your life – Time to eat well (order code: G923)
This booklet explains what to eat and what not to eat to help keep your heart healthy. It comes with a challenge chart to help track how much fruit and veg you’re eating, and tells you which foods are high in saturated fat and salt.
For more information, visit bhf.org.uk/healthyeating

PHYSICAL INACTIVITY

Get active, stay active (order code: G12)
This A5 booklet helps you understand why you need to keep your heart healthy with physical activity. It also gives you tips and tools to work physical activity into your daily routine.

10 minutes to change your life – Time to get moving (order code: G924)
This simple guide to getting active includes information about why you should be active, and tells you what type of activity you need to do to help your heart. It comes with a challenge chart to help you track your activity over a week and set yourself a goal for the future.
For more information, visit bhf.org.uk/active

ALCOHOL

10 minutes to change your life – Call time on alcohol (order code: G989)
This booklet is a simple guide to how alcohol can affect your heart. It comes with a challenge chart to help you track how much you’re drinking, and set a goal to cut down if you need to.
For information on alcohol and cardiovascular disease, go to bhf.org.uk/alcohol
Use our Alcohol Calculator to see how many units are in your drinks.

SMOKING

Stop smoking (order code: G118)
This booklet provides practical tips for smokers who are thinking about giving up and helps them to understand more about why they smoke and how they can stop smoking for good. It explains the link between smoking and heart disease and discusses different approaches to quitting, with tips and activities to help you on your journey.

10 minutes to change your life – Time to quit (order code: G925)
A quick guide explaining why it’s important to quit smoking. It talks about different ways to quit and how to find people who can help you. It comes with a chart to help you plan how you’re going to quit, and tick off your smoking-free days.
For more information, visit bhf.org.uk/smoking

HEART CONDITIONS

Quick guides for patients (order codes: G960–G970)
Our new quick guides cover 11 of the most common heart and circulatory conditions, tests and treatments. These guides provide information on a range of topics including heart attack, stroke, atrial fibrillation, cardiac rehab and atherosclerosis.

Inherited heart conditions (order codes: M111A–M111F)
Our series of six inherited heart conditions booklets cover topics such as familial hypercholesterolaemia, cardiomyopathies and heart rhythm disturbances. They describe the conditions, diagnosis and treatments for a condition and how they can be passed on through families.
For more information, visit bhf.org.uk/conditions
ORDERING RESOURCES

To order any of our resources:
− call the BHF Orderline on 0870 600 6566, or
− email orderline@bhf.org.uk or
− visit bhf.org.uk/publications

Most of our booklets can also be downloaded from bhf.org.uk/publications

Our resources and services are free of charge, but we rely on donations to continue our vital work. If you’d like to make a donation, please call our donation hotline on 0300 330 3322 or visit our website at bhf.org.uk/donate

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bhf.org.uk/publications
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 changing the fight against heart disease.

But heart and circulatory disease still kills around one in four people in the UK, 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 and endure the daily battles of 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.

Text FIGHT to 70080 to donate £3*

*This is a charity donation service for the BHF. Texts cost £3 + 1 standard rate msg. The BHF will receive 100% of your donation to fund our life saving research.
To opt out of calls and SMS text NOCOMMS BHF to 70060, or if you have any questions about your gift call 02032827863.
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