Heart Disease Statistics Update

Year Ending 31 March 2013

Publication date – 28 January 2014
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**Introduction**

Although coronary heart disease (CHD) is a preventable disease, there are approximately 8,000 deaths in Scotland each year (7,541 people in 2012) where CHD is the underlying cause. The disease is caused when the heart's blood vessels, the coronary arteries, become narrowed or blocked and cannot supply enough blood to the heart.

Scotland has a high prevalence of the risk factors associated with heart disease such as smoking, poor diet and physical inactivity. Treating and preventing heart disease is a national clinical priority for Scotland.

It is estimated that around 7.3% of men and 5.7% of women are living with CHD (Scottish Health Survey 2012).

This ‘Heart Disease Statistics Update’ is produced annually to provide information on a range of different heart conditions in Scotland including:

- All heart disease
- Acute myocardial infarction (a medical term for a heart attack)
- Angina
- Heart failure
- Coronary heart disease (also referred to as Ischaemic Heart Disease, a collective term that includes angina, heart attack and heart failure)

and the different types of procedures used to diagnose and treat heart disease, including:

- Angiography
- Angioplasty (full name percutaneous transluminal coronary angioplasty)
- Coronary Artery Bypass Graft

This update contains information on hospital activity, incidence, operations, 30 day survival following first emergency admission and GP prescribing up to the period 1 April 2012 - 31 March 2013 and mortality up to the period 1st January - 31st December 2012.

The information contained in this update has been published in line with proposals for presenting information as outlined in our September 2012 information consultation.

Please note that this publication uses population estimates that have been carried forward from the 2001 census (excluding 2011 onwards, which are based on the 2011 census) and the 1976 version of the European Standard Population (ESP1976) in the calculation of rates. Please refer to Appendix A1 for more information on the calculation of rates in future publications.

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1 Better Heart Disease and Stroke Care Action Plan, June 2009
Clarification of Terminology

Apparent differences in disease rates between areas or deprivation groups may be partially or entirely due to the fact that one population is different from the other in age structure. Information in this update has been 'standardised' using the 1976 European standard population. This makes allowances for differences in the age and sex structure of the population between areas or time periods and allows fairer comparisons to be made. Please refer to Appendix A1 for more information.

Different terms can be used when talking about heart disease conditions and operations and sometimes these are interchangeable. For consistency the following terms will be used throughout this report.

<table>
<thead>
<tr>
<th>Term used in report</th>
<th>Also known as</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angioplasty</td>
<td>Percutaneous transluminal coronary angioplasty (PTCA)</td>
<td>A procedure performed to treat coronary heart disease that involves passing a thin, hollow tube into the coronary arteries under X-ray guidance, from an artery in the groin or arm (under local anaesthetic). A device on the tube is then used to unblock the artery, and stretch the artery walls so that more blood and oxygen can flow to the heart muscle.</td>
</tr>
<tr>
<td>Coronary heart disease</td>
<td>Ischaemic heart disease</td>
<td>Disease of the coronary arteries that supply the heart. This includes acute myocardial infarction, angina and most cases of heart failure.</td>
</tr>
<tr>
<td>Heart attack</td>
<td>Acute myocardial infarction</td>
<td>The result of sudden complete blockage of the blood supply to part of the heart.</td>
</tr>
<tr>
<td>Heart failure</td>
<td>Cardiac failure</td>
<td>The failure of the heart to function properly as a pump.</td>
</tr>
</tbody>
</table>
Key points

- Coronary heart disease (CHD), which includes heart attacks, is a leading cause of illness and death in Scotland.

- The number of new cases of CHD (incidence) has decreased over the past decade. The age and sex standardised incidence rate decreased from 361.7 per 100,000 in 2003/04 to 262.8 in 2012/13, a decrease of 27.3%.

- There has been a steady downward trend in deaths from CHD in Scotland, UK and Europe over the last 10 years with the mortality rate in Scotland falling by 43.6%.

- The reduction in death rates for CHD over the decade 2003-2012 has been seen in both the most and least materially deprived communities. The percentage reduction in deaths in the most deprived category (37.6%) over the last 10 years is larger than that in the least deprived category (29.0%). The difference in the death rate between the most and least deprived areas has also decreased over the last decade.

- For those admitted to hospital as an emergency with their first heart attack, the chances of surviving at least 30 days have improved over the last ten years from 84.4% to 91.8%.

- Although the number of prescriptions for drugs to treat cardiovascular disease (all diseases of the circulation, including CHD) increased by 25.8% in the last 10 years, the overall costs of prescriptions dispensed for cardiovascular drugs fell in 2012/13 to £111.7 million, a reduction of 29.1% on the previous year. This is the lowest cost for these drugs over the last ten years (since 2003/04). Costs may continue to reduce as more medicines become available in less expensive non-branded (generic) form.
Results and Commentary

Hospital Activity

Discharges

This information shows the number of discharges from hospital with a specific heart disease condition. Note that one person can have more than one discharge from hospital within a given time period.

Figures on discharges provide an indication of hospital usage for the diagnosis and treatment of heart disease in either an inpatient or day case setting. This excludes activity relating to outpatients.

Coronary Heart Disease (CHD)

In coronary heart disease, the blood supply to the heart is reduced or blocked. This can cause heart attacks or chest pain on exercise (angina).

In the last decade the overall trend in the number of discharges from hospital with CHD has been decreasing. The 1976 European age and sex standardised discharge rate fell by 21.7% from 856.1 to 670.2 per 100,000 population.

Figure 1: Discharges from hospital with coronary heart disease\(^1\); 1976 European age and sex standardised discharge rates per 100,000 population\(^2\)

Notes:  1. Analysis includes ICD-10 codes I20-I25  
2. Rates are directly standardised to the 1976 European standard population  
Data Source: ISD SMR01 - discharges; National Records Scotland – Population

\(^2\) See Appendix A2 for details of completeness of hospital activity figures derived from SMR01 records.
The age and sex standardised rate for females is less than half that for males in 2012/13 and there has been a larger percentage decrease for females over the last decade (25.6% for females compared to 20.0% for males).

Comparing NHS Boards, in 2012/13 the age and sex standardised discharge rate was lowest in NHS Lothian (494.0 per 100,000 population) and highest in NHS Lanarkshire (977.8 per 100,000 population).

Tables AC1 and AC4 provide more detail at Health Board and Community Health Partnership (CHP) level.

**Heart Attacks**

A heart attack occurs as a result of a sudden complete blockage of the blood supply to part of the heart. This is also known as acute myocardial infarction (AMI).

**Figure 2: Discharges from hospital with a diagnosis of heart attack**

1976 European age and sex standardised discharge rates per 100,000 population

Notes: 1. Analysis includes ICD-10 codes I21-I22
2. Rates are directly standardised to the 1976 European standard population

Data Source: ISD SMR01 - discharges; National Records Scotland – Population

In the last decade the number of discharges from hospital with a diagnosis of heart attack, decreased until 2007/08. There was a large increase in the number of discharges with a diagnosis of heart attack between 2007/08 and 2010/11 and since then the number of discharges has remained relatively stable (Table AC1 and Figure 2).

The increase in the number of discharges from hospital with a diagnosis of heart attack since 2007/08 is likely to be due to a change in the way that heart attacks are diagnosed. The more sensitive troponin blood test is now routinely used to diagnose heart attacks. This means that cases that would previously not have been recorded as a heart attack are now correctly diagnosed. It is not possible to calculate the number of additional cases.
Information Services Division

diagnosed because of the use of the troponin test. More information on this test is provided in the background information in Appendix A2.

There are differences in trends between age groups: for example in the 45-64 age group, the age and sex standardised discharge rate has continued to rise since 2006/07 whereas in the over 75 age group the rate has fallen slightly in the last year (from 2,395 to 2,220 per 100,000 population (Table AC1).

Angina

Angina is chest pain on exertion as a result of CHD. In the period 2003/04 to 2012/13 there was a downward trend in the number of hospital discharges with a diagnosis of angina with the exception of 2007/08 where there was an increase. The age and sex standardised discharge rate was 246.5 per 100,000 population in 2003/04 compared to 95.0 in 2012/13.

The general downward trend in hospital discharges with angina is reflected in all age groups (0-44, 45-64, 65-74 and 75 & over) and both sexes between 2003/04 and 2012/13. The percentage decrease in the age and sex standardised rate is larger in the under 75 age group (64.0%) compared to the over 75 age group (51.5%) - Tables AC1 and AC4.

Heart Failure

Heart failure occurs when the heart cannot provide sufficient pump action to maintain blood flow. The age and sex standardised discharge rate fell from 167.9 per 100,000 population in 2003/04 to 140.7 per 100,000 population in 2006/07, after which it has fluctuated slightly. In 2012/13 the figure was 139.3 per 100,000 population (Table AC1).

Chest Pain

Chest pain can be symptomatic of other heart conditions. In the last 10 years, the age and sex standardised discharge rate for chest pain rose from 528.4 per 100,000 population to a peak of 615.6 per 100,000 population in 2007/08, after which it decreased to the current rate of 565.5 per 100,000 in 2012/13.

In the over 75 age group there was a steady increase in the age and sex standardised rate up to 2011/12, followed by a decrease between 2011/12 and 2012/13 (Table AC1).

Details of hospital activity for all heart disease, angina, chest pain, CHD, heart attacks and heart failure by age, gender, type of admission and health board area are given in Table AC1. Corresponding information by Community Health Partnership area can be found in Table AC4.

Please note that there are slight differences in the population estimates used to calculate 2011/12 and 2012/13 rates for Health Boards and those used to calculate 2011/12 and 2012/13 rates for Community Health Partnerships. Rates for Health Boards for 2011/12 and 2012/13 are based on the 2011 census population. Rates for Community Health Partnerships for 2011/12 and 2012/13 are based on small area population estimates that have been carried forward from the 2001 census. These were the most up to date population estimates available at the time that the analysis was carried out for this publication. Small area population estimates were recalculated by National Records of Scotland, based on the 2011 census, and were published by them in December 2013. These updated population estimates may result in slightly different rates for Community Health Partnerships when they are recalculated for future publications.
Incidence

Incidence is the number of new cases of a specific condition in a population during a defined time period. It is presented here as the number of people with a first hospital admission for CHD (or death from CHD without a prior admission to hospital). Information has been provided for CHD and heart attacks as it is likely that people with these conditions would be admitted to hospital. Further information is available in the glossary. The methodology is the same as that used in previous publications.

Standardised rates are presented here. Further information is available in the section on terminology.

**Coronary Heart Disease (CHD)**

The number of new cases of CHD has decreased over the past decade. The age and sex standardised incidence rate decreased from 361.7 per 100,000 in 2003/04 to 262.8 in 2012/13, a decrease of 27.3% (see figure 3).

**Figure 3: Coronary Heart Disease**

1976 European age and sex standardised incidence rates per 100,000 population

The incidence of CHD increases sharply with age. The age and sex standardised incidence rate for the under 75 age group in 2012/13 was 197.5 per 100,000 population but for the 75 and over age group, it was 1,829.2 per 100,000 population (see Table IC1).

Across all age groups, males are more likely than females to have a new diagnosis of CHD (Table IC1).
**Heart Attacks**

The incidence of heart attack decreased between 2003/04 and 2007/08 (a decrease in the age and sex standardised rate of 22.3%). Between 2007/08 and 2010/11 the number of new cases increased (see Table IC2), which was likely to be due to the introduction of more sensitive tests for diagnosis, meaning that more cases were now correctly diagnosed as heart attacks (see background information Appendix A2 for more information).
Operations

In CHD the blood supply to the heart is reduced or blocked. Two types of operation are used to improve the flow of blood to the heart. These are Coronary Artery Bypass Grafts (CABG) and angioplasties (full name Percutaneous Transluminal Coronary Angioplasty - PTCA).

A CABG is an operation in which a blood vessel from another part of the body is grafted to the coronary artery or arteries, to bypass narrowed sections and restore blood flow to the heart muscle. This usually involves a general anaesthetic and major open surgery.

An angioplasty involves passing a thin, hollow tube into the coronary arteries from an artery in the groin or arm. A device on the tube is then used to unblock the artery, and stretch the artery walls so that blood and oxygen can flow to the heart muscle. A small tube (or stent) may be left inside the vessel to ensure that it stays open. An angioplasty has the advantage that it is generally regarded as a less major procedure than a CABG.

Age and sex standardised discharge rates are presented here. Further information on standardisation is given in the terminology section.

Over the last decade there has been a decrease in the number of CABG operations. The standardised hospital discharge rate for CABG operations decreased from 45.5 per 100,000 population in 2003/04 to 21.7 per 100,000 population in 2012/13, a reduction of 52.4%. The general downward trend in the number of CABG operations reflects the increasing use of percutaneous coronary interventions (angioplasties) in the treatment of CHD. Over the same period there has been an increase in number of angioplasties for the treatment of CHD. The standardised hospital discharge rate for angioplasties increased from 73.5 per 100,000 population in 2003/04 to 121.6 in 2012/13, an increase of 65.3% (Table OC1 and figure 4).

Figure 4: Angioplasty
1976 European age and sex standardised discharge rates per 100,000 population

Notes: 1. Rates are directly standardised to the 1976 European standard population
Data Source: ISD SMR01 - discharges; National Records Scotland – Population
P = Provisional
CABG and angioplasty are collectively known as revascularisation procedures. The number of revascularisation procedures increased between 2009/10 and 2012/13 after remaining fairly stable for 4 years. The standardised rate increased from 136.6 per 100,000 population in 2009/10 to 143.2 in 2012/13 (Table OC1).

**Coronary Angiography**

Coronary angiography is carried out to diagnose coronary artery disease and also as part of its treatment, for example when angioplasty is carried out.

For diagnostic angiographies (angiography with no associated angioplasty), there has been a general downward trend in the last decade, with the age and sex standardised hospital discharge rate dropping from 219.4 per 100,000 population in 2003/04 to 165.3 in 2012/13, a reduction of 24.7%.

For diagnostic angiographies used to assist in treatment (angiographies done in association with angioplasty), the standardised hospital discharge rate increased nearly 4-fold from 26.0 per 100,000 population in 2003/04 to the current peak of 101.1 per 100,000 population in 2012/13. This, again, reflects the increased use of angioplasties in the treatment of CHD (Table OC1).
Survival

Thirty day survival is widely used as a measure of the outcome of hospital admission and reflects the severity of disease as well as the quality of care.

Heart Attacks

The percentage of people surviving 30 days or more following their first emergency admission to hospital with a heart attack improved over the period 2003/04 to 2012/13 (Figure 5). The percentage surviving 30 days for both sexes combined was around 85% until 2006/07 and increased to 91.8% in 2012/13 (Table S1 and Figure 5).

It should be noted that there was an increase in the number of discharges from hospital with a diagnosis of heart attack from 2007/08. More information is provided in the section on hospital activity.

For those aged 75 and over 30 day survival was 72.0% in 2003/04, rising to 82.9% in 2012/13.

Figure 5: Heart attack\(^1\);

Percentage of patients surviving 30 days or more after first emergency admission

![Heart Attack Graph](image)

Notes: 1. Analysis includes ICD-10 codes I21-I22
2. y-axis (percentage surviving 30 days) starts at 70% to enable clear comparison between sexes.
Data Source: ISD SMR01 - discharges; National Records Scotland – Population

Heart Failure

Heart failure is the failure of the heart as a pump to maintain sufficient blood flow. For heart failure, there has been a general increase in the number of people surviving 30 days following a first emergency admission to hospital. In the period 2003/04 to 2011/12, the percentage surviving 30 days rose from 83.1% to 86.7% but fell to 84.7% in 2012/13 (Table S3). For those aged 75 and over, there is a similar pattern with a figure of 81.1% in 2012/13.
Mortality

All Heart Disease

This section provides figures for all heart diseases combined. As well as CHD, this includes disease of the heart valves, high blood pressure, infections of the heart and other less common conditions.

As in the rest of UK, there is a continuing downward trend in mortality from heart disease (including CHD). As with other figures in this publication, the rates in Figure 6 have been standardised using the 1976 European standard population. Further information is available in the terminology section.

In Scotland, the age and sex standardised mortality rate for heart disease (including CHD) fell from 193.0 in 2003 to 119.4 per 100,000 population in 2012, a reduction of 38.1% in the last 10 years and a small reduction of 1.4% in the last year (Table MC1 and Figure 6).

Figure 6: All heart disease: all ages by sex 2003-2012
1976 European age and sex standardised mortality rates per 100,000 population

Notes: 1. Analysis includes ICD-10 codes I00-I52  
2. Rates are directly standardised to the 1976 European standard population  
Data Source: National Records Scotland - Deaths and Population

Between 2003 and 2012 the reduction in age and sex standardised mortality rates for all types of heart disease was slightly greater for males (38.7%) than females (37.1%). The difference in rates between men and women narrowed between 2003 and 2012 from 115 deaths per 100,000 population to 68 per 100,000 population.

The reduction in mortality for all types of heart disease was slightly greater for people under the age of 75 (39.7%) than for people aged 75 and over (36.7%) (Table MC1).

3 The figures included in this section refer to calendar years.
**Coronary Heart Disease (CHD)**

The age and sex standardised mortality rate for CHD fell from 158.2 per 100,000 population in 2003 to 89.2 in 2012, a reduction of 43.6% over the last 10 years and 3.0% in the last year (Table MC1).

Of the mainland NHS Health Boards, NHS Lanarkshire had the highest age standardised mortality rate in 2012 (101.0 per 100,000 population) and NHS Highland the lowest (76.4 per 100,000 population). NHS Fife had the highest percentage reduction in the age standardised mortality rate between 2003 and 2012 (46.1%). NHS Lothian had the lowest percentage reduction in the mortality rate among the mainland Health Boards between 2003 and 2012 (36.5%).

The target of a 60% reduction in CHD mortality rate in under 75s between 1995 and 2010 was reached in 2010. Table MC2 shows this information by NHS Boards.

**Heart Attacks**

The age and sex standardised mortality rate for heart attacks decreased substantially over the last ten years, falling by 50.2% from 95.3 per 100,000 population in 2003 to 47.4 in 2012 (Table MC1).

Details of mortality from all heart disease, CHD, heart attacks and heart failure by age, gender and health board area are given in Table MC1. Corresponding information by council area can be found in Table MC4.
Deprivation

Heart disease varies greatly between areas of greater or less material deprivation. In Scotland the Scottish Index of Multiple Deprivation (SIMD) is used to measure area deprivation. It is a measurement of multiple deprivation which combines information on income, employment, education, housing, health, crime and geographical access. More information is provided in the glossary and on the Scottish Government website. For this publication, areas in Scotland were divided into five equal groups (quintiles) with decreasing levels of deprivation.

Standardised rates are presented here. Further information is provided in the terminology section.

Coronary Heart Disease Mortality by Deprivation Quintile.

There has been a reduction in mortality in all the deprivation quintiles over the decade 2003-2012. The reduction in the age and sex standardised CHD mortality rate among the most deprived quintile (quintile 1) was 37.6% compared with 29.0% in the least deprived quintile (quintile 5) - see Table DC7 and Figure 7.

Figure 7: Coronary Heart Disease Deaths by Deprivation (SIMD) Quintile

1976 European age and sex standardised mortality rates per 100,000 population

Notes: 1. Analysis includes ICD-10 codes I20-I25
2. Uses 2012 version of SIMD
3. Rates are directly standardised to the 1976 European standard population
Data Source: National Records Scotland - Deaths and Population

The difference in the age and sex standardised mortality rate between the most deprived (quintile 1) and least deprived (quintile 5) quintiles also decreased over the last decade from 100.5 to 53.1.

4 The figures included in this section refer to calendar years.
The Deprivation topic area of the Heart Disease web pages provides links to detailed data tables relating to mortality by deprivation.

**Premature mortality**

CHD is a major cause of premature mortality (defined as death before the age of 75). For the figures shown below deprived areas are defined as the 15% most deprived datazones based on the Scottish Index of Multiple Deprivation. (More information on SIMD is provided in the glossary).

CHD mortality among those aged under 75 is a national indicator that informs progress in relation to the Scottish Government’s Healthier Strategic Objective. It has been previously published as Indicator 26 in the Technical Notes for the 2007 Spending Review.

**Coronary Heart Disease Mortality in Under 75s in the 15% Most Deprived Areas**

In the 15% most deprived areas in Scotland, the age and sex standardised under 75 mortality rate from CHD for both sexes combined decreased by 5.2% from 86.3 per 100,000 population in 2011 to 81.7 in 2012. However the rate for males increased by 3.2% from 128.9 per 100,000 population in 2011 to 133.1 in 2012 (Table DC3 and Figure 8).

**Figure 8: CHD Mortality Rates among under 75s in the 15% most deprived areas (SIMD); European age-standardised rate (EASR) per 100,000 population**

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1 Analysis includes ICD-10 codes I20-I25
2 SIMD 2009 has been applied from single years 2010 and 2011. SIMD 2012 has been applied for single year 2012.
3 Rates are directly standardised to the 1976 European standard population
Data Source: National Records Scotland - Deaths and Population

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5 Datazones are small geographical areas that have a population of around 750. See glossary.
Cardiovascular Prescribing

Cardiovascular disease covers a range of conditions including heart disease, strokes and diseases of the arteries and veins. This section describes statistics on drugs prescribed for the treatment of cardiovascular disease.

Of the prescriptions dispensed in the community, GPs write the vast majority. The remainder are written by nurses, dentists or are written in hospital to be dispensed in the community. Information on those NHS prescriptions is compiled by ISD’s Prescribing Team from data provided by Practitioner Services Division (PSD) of NHS National Services Scotland. PSD is responsible for the processing and pricing of all prescriptions dispensed in the community in Scotland. Note that these data exclude drugs dispensed within hospitals.

The overall cost of cardiovascular drugs reduced year on year for the last ten years, whilst the number of prescriptions rose up to 2009/10. The changing price of statin drugs (used to prevent heart disease) partly explains this. Simvastatin, pravastatin and atorvastatin, three of the most widely used drugs, have come out of patent during this time, allowing equivalent lower cost non-branded (generic) drugs to be made available. Since then, the prices of these drugs have continued to decline, resulting in reduced overall costs, despite growth in the total volume prescribed.

In addition, lower prices have now been set for the non-branded drugs, resulting in further reduction in costs. The introduction of targets for quality improvement in General Practice, as part of the Quality and Outcomes Framework (QOF), is likely to have added to the growth in prescribing volume of statins by providing incentives to identify and treat those at high risk of cardiovascular disease.

Atorvastatin, one of the drugs used to reduce the risk of cardiovascular disease, was amongst the Top 10 Drugs by Cost as detailed in the Prescribing area of ISD Scotland’s website. This drug came out of patent in 2012/13 and as a result, the gross ingredient cost has dropped from approximately £43 million in 2011/12 to approximately £13 million in 2012/13.

The data presented here are identical to those in the prescribing section of the Stroke Statistics publication. This is because many drugs can be used for the treatment of both stroke and heart disease and it is not possible from available data to distinguish whether a drug was used to treat stroke or heart disease.

Prescriptions Dispensed

Over the decade 2003/04 - 2012/13, the numbers of prescriptions dispensed for cardiovascular related drugs rose from 19,582,138 items to 24,637,822 items prescribed, an increase of 25.8%. However, there has been no appreciable change since 2009/10 (Table G1 and figure 9).
Figure 9: Volume and cost of cardiovascular prescribing, financial years ending 31 March 2004-2013

Data Source: Prescribing Information System

Gross Ingredient Costs

Gross ingredient cost indicates the total cost of a prescription drug. The overall cost of prescriptions dispensed for cardiovascular-related drugs fell in 2012/13 to £111.7 million, a reduction of 29.1% on the previous year. This is the lowest gross ingredient cost for cardiovascular drugs observed for any year over the last decade 2003/04 to 2012/13.

Cardiovascular related drugs form approximately 11.7% of the total gross ingredient cost in Scotland (see Prescription Cost Analysis 2012/13). This has reduced from 15.5% of the total gross ingredient cost in 2011/12.

The GP Prescribing topic area of the Heart Disease web pages provides links to detailed tables relating to cardiovascular prescribing.
## Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACS</td>
<td>Acute Coronary Syndrome - an inclusive term referring to AMI (see below) and unstable angina.</td>
</tr>
<tr>
<td>Acute Hospital</td>
<td>Acute Hospital Care/Activity includes services such as: consultation with specialist clinicians; emergency treatment; routine, complex and life saving surgery; specialist diagnostic procedures; close observation and short-term care of patients. 'Acute' hospital care includes activity occurring in major teaching hospitals, district general hospitals and community hospitals but excludes obstetric and psychiatric services.</td>
</tr>
<tr>
<td>AMI (also referred to as Heart Attack)</td>
<td>Acute myocardial infarction (heart attack): the result of sudden complete blockage of the blood supply to part of the heart.</td>
</tr>
<tr>
<td>Angina pectoris</td>
<td>Chest pain on exertion as a result of coronary heart disease.</td>
</tr>
<tr>
<td>Angiography</td>
<td>A procedure in which under X-ray guidance a long, thin tube is threaded into the coronary arteries via a blood vessel in the groin or arm. A dye, which can be seen on the X-ray screen, is injected, showing the pattern of the coronary arteries, and demonstrating where the artery is narrowed.</td>
</tr>
<tr>
<td>Angioplasty</td>
<td>A procedure performed to treat coronary heart disease that involves passing a thin, hollow tube into the coronary arteries under X-ray guidance, from an artery in the groin or arm (under local anaesthetic). A device on the tube is then used to unblock the artery, and stretch the artery walls so that more blood and oxygen can flow to the heart muscle. (The full name of the procedure is percutaneous transluminal coronary angioplasty - PTCA).</td>
</tr>
<tr>
<td>CABG</td>
<td>Coronary artery bypass graft. An operation in which a blood vessel from another part of the body is grafted to the coronary artery or arteries, to bypass narrowed sections and restore blood flow to the heart muscle.</td>
</tr>
<tr>
<td>Cardiovascular disease (CVD)</td>
<td>Cardiovascular disease describes disease of the heart or blood vessels, including strokes and other related conditions.</td>
</tr>
<tr>
<td>CHD (also referred to as Ischaemic Heart Disease)</td>
<td>Coronary heart disease. Disease of the coronary arteries that supply the heart. This includes acute myocardial infarction, angina and most cases of heart failure.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
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<tr>
<td>-----------------------------</td>
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<tr>
<td>Datazone</td>
<td>A small geographical area with a population between 500-1,000 household residents. They are based on groups of 2001 Census output areas.</td>
</tr>
<tr>
<td>Day case</td>
<td>This is when a patient makes a planned attendance to a specialty for clinical care, and requires the use of a bed or trolley in lieu of a bed.</td>
</tr>
<tr>
<td>Discharge</td>
<td>Discharges include transfers to other specialties/significant facilities and hospitals as well as routine discharges home or deaths in hospital. A patient could have more than one discharge in a year.</td>
</tr>
<tr>
<td>Emergency</td>
<td>An emergency admission occurs when, for clinical reasons, a patient is admitted at the earliest possible time after seeing a doctor.</td>
</tr>
<tr>
<td>European age-standardised rate</td>
<td>Apparent differences in disease rates in populations may be partly or entirely due to the fact that one population is older than the other. Standardised rates adjust for differences in age and sex structures between different populations or in the same population over time and allow fairer comparisons to be made. In this case the rates are directly standardised to the 1976 European standard population.</td>
</tr>
<tr>
<td>Generic drugs</td>
<td>When the patent expires on a branded drug, the manufacturer loses exclusive rights to produce it. Generic drugs are non-branded versions produced by different manufacturers that produce equivalent clinical effects. Normally, the differences in formulation, and the small variation in the amount of drugs absorbed, make no difference clinically. Generic drugs are generally cheaper than their branded equivalents.</td>
</tr>
<tr>
<td>Gross Ingredient Cost (GIC)</td>
<td>Cost of drugs and appliances reimbursed before deduction of any dispenser discount (note: this definition differs from other parts of the UK).</td>
</tr>
<tr>
<td>Heart attack</td>
<td>The result of sudden complete blockage of the blood supply to part of the heart. Also known as acute myocardial infarction (AMI).</td>
</tr>
<tr>
<td>Heart failure</td>
<td>Failure of the heart as a pump, the commonest cause being coronary heart disease.</td>
</tr>
<tr>
<td>Ischaemic Heart Disease (IHD) – also referred to as CHD</td>
<td>Disease that involves inadequate blood supply to the heart, and in practice is synonymous with coronary heart disease.</td>
</tr>
</tbody>
</table>
Incidence refers to the number of new cases of a condition in a defined population during a defined period and is typically expressed as the number of new cases per 100,000 population per year (or other suitable units). In this publication, an incident case is defined as the first admission to hospital (or death without a hospital admission). A first admission is defined as an admission where there has been no admission for the same condition in the previous 10 years. For example, a patient might be admitted with coronary heart disease in 2004 and again in 2005 for the same diagnosis. For the purpose of counting incidence, only the hospital admission in 2004 would be counted. The 2005 admission would not be counted because the previous admission occurred less than 10 years previously. First hospital admission is a reasonable measure of incidence for AMI and most forms of acute CHD since most cases are treated in hospital.

Inpatient This is when a patient occupies an available staffed bed in a hospital and either remains overnight whatever the original intention or is expected to remain overnight but is discharged earlier.

Items prescribed Prescription items are prescribed and dispensed in the community. GPs write the vast majority of these prescriptions, with the remainder written mainly by nurses and dentists. The totals for items prescribed include prescriptions written in hospitals and dispensed in the community, but exclude drugs dispensed within hospitals themselves.

Mainland Health Boards Health Boards in Scotland excluding the three Island Health Boards (Orkney, Shetland and Western Isles)

Mortality rate The number of deaths as a rate per 100,000 population per year.

Outpatient A patient who attends (outpatient attendance) a consultant or other medical clinic or has an arranged meeting with a consultant or a senior member of their team out with a clinic session.

PTCA Percutaneous Transluminal Coronary Angioplasty. The full name for an angioplasty.

A procedure performed to treat coronary heart disease that involves passing a thin, hollow tube into the coronary arteries under X-ray guidance, from an artery in the groin or arm (under local anaesthetic). A device on the tube is then used to unblock the artery, and stretch the artery walls so that more blood and oxygen can flow to the heart muscle.
QOF

The Quality & Outcomes Framework (QOF) represents one of the main sources of potential income for general practices (GP surgeries) across the UK. It is a major part of the new General Medical Services (GMS) contract, introduced on 1st April 2004. Participation by general practices in the QOF is voluntary. For those that do participate, the QOF measures achievement against a range of evidence-based indicators, with points and payments awarded according to the level of achievement.

Quintiles

Deprivation quintiles each contain 20% of the total population in Scotland. Deprivation quintile 1 contains the 20% of the population living in the most deprived datazones, while quintile 5 contains the 20% of the population living in the least deprived datazones.

Revascularisation

An inclusive term referring to CABG and angioplasty procedures.

SIMD

Deprivation for individuals is estimated from aggregate data derived from the census and other routine sources. These are used to estimate the deprivation of small geographical areas. The Scottish Index of Multiple Deprivation (SIMD) has seven domains (income, employment, education, housing, health, crime, and geographical access) at datazone level, which have been combined into an overall index to pick out area concentrations of multiple deprivation. See notes in tables as to which version of SIMD is used.

SMR01

An SMR01 is generated when a patient is discharged from hospital but also when a patient is transferred between hospitals, significant facilities, specialties or to the care of a different consultant.

Standardisation

See European age standardised rates.

30 day survival

Percentage of people who survive 30 days following a first emergency admission to hospital for a specific condition.

Unstable angina

Unstable angina is a form of acute coronary syndrome (ACS).
<table>
<thead>
<tr>
<th>Table No.</th>
<th>Name</th>
<th>Time period</th>
<th>File &amp; size</th>
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</thead>
<tbody>
<tr>
<td>AC1</td>
<td>Heart Disease discharges - by diagnosis (all heart disease, ischaemic heart disease, acute myocardial infarction, cardiac failure, angina, chest pain), health board, admission type, age group and sex for financial years 2003/04-2012/13; numbers, crude rates, age and sex standardised rates (direct to Europe).</td>
<td>2003/04-2012/13</td>
<td>Excel [3,090kb]</td>
</tr>
<tr>
<td>AC4</td>
<td>Heart Disease discharges - by diagnosis (all heart disease, ischaemic heart disease, acute myocardial infarction, cardiac failure, angina, chest pain), Community Health Partnership, admission type, age group and sex for financial years 2003/04-2012/13; numbers, crude rates, age and sex standardised rates (direct to Europe).</td>
<td>2003/04-2012/13</td>
<td>Excel [10,506kb]</td>
</tr>
<tr>
<td>IC1</td>
<td>Coronary heart disease (CHD) incidence by year, health board, age group and sex for financial years 2003/04 – 2012/13; numbers, crude rates and age and sex standardised rates (direct to Europe)</td>
<td>2003/04-2012/13</td>
<td>Excel [171kb]</td>
</tr>
<tr>
<td>IC2</td>
<td>Acute myocardial infarction incidence by year, health board, age group and sex for financial years 2003/04 – 2012/13; numbers, crude rates and age and sex standardised rates (direct to Europe)</td>
<td>2003/04-2012/13</td>
<td>Excel [207kb]</td>
</tr>
<tr>
<td>OC1</td>
<td>Operations by type (Coronary Artery Bypass Graft, Angioplasty, Angiography, Revascularisation, Valve Surgery) by year, health board, admission type, age group and sex for financial years 2003/04-2012/13; numbers, crude rates, age and sex standardised rates (direct to Europe). Information at Scotland and Health Board level</td>
<td>2003/04-2012/13</td>
<td>Excel [2,563kb]</td>
</tr>
<tr>
<td>S1</td>
<td>Survival after first emergency admission for acute myocardial infarction and unstable Angina; numbers of patients treated and % surviving 30 days for financial years 2003/04-2012/13.</td>
<td>2003/04-2012/13</td>
<td>Excel [59kb]</td>
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<tr>
<td>S3</td>
<td>Survival after first emergency admission for heart failure; numbers of patients treated and % surviving 30 days for financial years 2003/04-2012/13</td>
<td>2003/04-2012/13</td>
<td>Excel [54kb]</td>
</tr>
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<td>Code</td>
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</tr>
<tr>
<td>MC1</td>
<td>Number of deaths, with crude and age and sex standardised mortality rates, by age, health board of residence and year of death registration, 2003-2012.</td>
<td>2003-2012</td>
<td>Excel [552kb]</td>
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<td>MC2</td>
<td>Coronary heart disease Premature Mortality (ages under 75) - European age standardised rate of mortality by year from 1995.</td>
<td>1995-2012</td>
<td>Excel [64kb]</td>
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<td>MC4</td>
<td>Number of deaths, with crude and age and sex standardised mortality rates, by age, council area of residence and year of death registration, 2003-2012.</td>
<td>2003-2012</td>
<td>Excel [1,111kb]</td>
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<td>DC1</td>
<td>Coronary heart disease – Number of deaths, crude rates and standardised mortality ratios by Scottish Index of Multiple Deprivation decile (2008-2012 combined)</td>
<td>2008-2012 combined</td>
<td>Excel [74kb]</td>
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<td>DC3</td>
<td>Trends (2003-2012) in mortality rate from coronary heart disease among the under 75s in the 15% most deprived SIMD areas.</td>
<td>2003-2012</td>
<td>Excel [42kb]</td>
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<tr>
<td>DC4</td>
<td>Number of deaths and European age-standardised rates by NHS board; ages under 75; 15% most deprived SIMD areas.</td>
<td>3 year rolling averages 2001-2003 to 2010-2012</td>
<td>Excel [66kb]</td>
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<tr>
<td>DC5</td>
<td>Number of deaths and European age-standardised rates by community health partnership (CHP); ages under 75; 15% most deprived SIMD areas.</td>
<td>5 year rolling averages 2001-2005 to 2008-2012</td>
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<tr>
<td>DC6</td>
<td>Number of deaths and European age-standardised rates by local authority / council area; ages under 75; 15% most deprived SIMD areas.</td>
<td>5 year rolling averages 2001-2005 to 2008-2012</td>
<td>Excel [48kb]</td>
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<tr>
<td>G1</td>
<td>Cardiovascular prescribing (costs and number of prescriptions) for financial years ending 2003/04-2012/13.</td>
<td>2003/04-2012/13</td>
<td>Excel [69kb]</td>
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<tr>
<td>G2</td>
<td>Cardiovascular prescribing (costs, defined daily doses and numbers per 1000 population) by drug group and Health Board for year 2012/13.</td>
<td>2012/13</td>
<td>Excel [126kb]</td>
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<tr>
<td>G3</td>
<td>Cardiovascular prescribing (costs, defined daily doses and numbers per 1000 population) by drug group and Community Health Partnership for year 2012/13.</td>
<td>2012/13</td>
<td>Excel [322kb]</td>
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</tbody>
</table>
Contact

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Further Information

Further information on heart disease can be found on the Heart Disease area of the ISD website.

Corresponding information on stroke and cerebrovascular disease can be found on the Stroke area of the ISD website.

Further information on other ISD publications and datasets can be found on the ISD website.

Rate this publication

It is important that we understand the range of users and uses of the statistics and gain feedback on our publications so that we can make the data more useful to users.

Click here to provide feedback and rate this publication.
Appendix


This will be the last Heart Disease Statistics publication where the 1976 version of the European Standard Population (ESP1976) is used to produce standardised rates and where rates for all years (excluding 2011 onwards) are based on population estimates that have been carried forward from the 2001 census. The ESP and population estimates used within this publication were the most up-to-date available at the time analyses were carried out.

Future publications of Heart Disease Statistics will move to using the 2013 version of the European Standard Population (ESP2013). They will also make use of re-based Scottish population figures for 2002-2010, based on the 2011 census (note that rates for years 2011 onwards are already based on the 2011 census).

The use of re-based population estimates will have minimal impact on the statistics covered in this publication. However, it is expected that the move to ESP2013 will result in significant changes to the standardised rates, but it is anticipated that the key conclusions and descriptions of change over time conveyed in this publication will not change. The impact of these revisions will be explained in more detail in the next publication.

More information on 2013 European Standard Population can be found on the Office for National Statistics website.
A2 – Background Information

Heart Disease

Coronary heart disease (CHD) is a disease caused by the build up of fatty materials in the wall of the arteries blood vessels that supply the heart with oxygen. Obstruction of these arteries can cause a heart attack, chest pain or angina. Heart disease is more common in older people.

Risk factors associated with CHD

The main preventable risk factors for CHD are smoking, high blood pressure, low levels of physical activity and a poor diet. There is also a strong relationship between social deprivation and these risk factors.

Detailed information on the prevalence of these risk factors is available from the Scottish Health Survey, the latest published report being from 2012. The 2003 survey included a specific report on Cardiovascular Disease. Previous Scottish Health Survey reports are available for 1995 and 1998. The Scottish Health Survey is now operating as a rolling survey running continuously from 2008-2015.

Scottish Health Survey 2012
Scottish Health Survey 2011
Scottish Health Survey 2010
Scottish Health Survey 2009
Scottish Health Survey 2008
Scottish Health Survey 2003
Scottish Health Survey 2003 Cardiovascular Disease Report
Scottish Health Survey 1998
Scottish Health Survey 1995

Policy Context

NHS Scotland service provision for patients with CHD operates within the framework of Scottish Government policy. A chronology of policy documents that steer service provision for CHD and stroke patients is outlined below.

Coronary heart disease & stroke task force (2001)
Coronary heart disease & stroke strategy for Scotland (2002)
Delivering for Health (2005) (Scottish Government response to the "Kerr" report "Building a health service fit for the future")

Better health, better care - action plan. (2007)


Better heart disease & stroke care action plan (2009)

The 2009 action plan reiterated the target of reducing premature mortality from coronary heart disease by 60% between 1995 and 2010. Table MC2 shows the trend in CHD mortality among under 75s and indicates that the mortality rate fell from 124.6 per 100,000 in 1995 to 49.0 per 100,000 in 2010, a reduction of 60.7%, meeting this target.

Data Collection

Hospital Activity data

Hospital activity data are collected across NHS Scotland and are based on nationally available information routinely drawn from hospital administrative systems across the country. Hospital activity data includes inpatient and day case activity occurring in major teaching hospitals, district general hospitals and community hospitals but excludes obstetric and psychiatric services. This data collection is known as SMR01.

Tests for Heart Attacks (AMI)

The introduction of more sensitive tests such as troponin for the diagnosis of CHD - and the incorporation of troponin (and other biomarker) levels in definitions of heart attacks, has affected the diagnosis of heart attack over recent years. Since it is likely that cases previously undiagnosed would now be correctly determined as heart attack, variations in the definition, recording and coding of heart attack may affect inter-Health Board comparisons of heart attack incidence, and post-heart attack survival. ISD issued coding guidance in June 2007 covering the recording of troponin levels in acute coronary syndromes- see Coding Guidelines Number 20.

Troponin

Troponin is a protein that is produced by the body when heart muscle is damaged. During a heart attack, the levels of certain types of troponin increase in the bloodstream. Troponin levels in the blood can therefore be used to determine whether a heart attack has taken place. Prior to the introduction of troponin testing, less severe heart attacks may have been diagnosed as unstable angina.

Prescribing data

Practitioner Services (PSD), a division of NHS National Services Scotland, processes all NHS prescriptions for payment of pharmacists, dispensing doctors and appliance suppliers. Hospital dispensed prescriptions are NOT included in the figures.

Information on NHS prescriptions dispensed in the community in Scotland is compiled by ISD’s Prescribing Team from data provided by Practitioner Services Division (PSD). PSD are responsible for the processing and pricing of all prescriptions dispensed in Scotland.
**Deaths data**

Information on the quality of National Records of Data on Deaths can be found on the National Records of Scotland website;


**Data Completeness**

The hospital activity figures in this publication are sourced from SMR01 records and the levels of completeness of the SMR01 data are deemed to be fit for publication (99% of the expected figure at the time of extraction).

Information on SMR01 data completeness can be found on the Hospital Records Data Monitoring [SMR Completeness](#) web page, while information on the timeliness of SMR01 data submissions can be found on the [SMR Timeliness](#) web page. Details on completeness can also be found within the excel data files.

ISD are working with NHS Boards to resolve ongoing data submission issues. The majority of these issues have resulted from implementation of the new PMS TrakCare system and other existing system issues.

**Data Quality**

The ISD [Data Quality Assurance](#) (DQA) team is responsible for evaluating and ensuring SMR datasets are accurate, consistent and comparable across time and between sources. Details of the quality assurance process for SMRs can be found are published on the DQA [methodology](#) web page.

The DQA team’s [previous projects](#) web page contains details of past Data Quality Assurance Assessments, including final reports and findings.

The most recent report “[Assessment of SMR01 Data 2010-2011](#) [350kb]” was published in May 2012. This report includes feedback on clinical coding accuracy, sensitivity and completeness within defined groups and includes commonly encountered conditions including Ischaemic Heart Disease, Cerebrovascular Disease and Myocardial Infarction.

An earlier report, “[Towards Better Data from Scottish Hospitals: An Assessment of SMR01 and Associated Data 2004-2006](#) [1.77Mb]”, contains sub-sections on specific conditions and interventions, including some related to CHD.

In hospital discharge data, clinical information for diagnoses and operations/interventions is currently recorded using ICD10 (the International Classification of Diseases 10th Revision maintained by the World Health Organization) and OPCS4 (the Office of Population Censuses & Surveys 4th Revision Classification of Surgical Operations and Procedures maintained by NHS Connecting for Health (CfH)).

Lists of ICD10 codes are available at [http://www.who.int/classifications/icd/en/](http://www.who.int/classifications/icd/en/). OPCS4 codes are available from [http://www.connectingforhealth.nhs.uk/systemsandservices/data/clinicalcoding/codingstandards/opcs4](http://www.connectingforhealth.nhs.uk/systemsandservices/data/clinicalcoding/codingstandards/opcs4) (CfH). For an extract of OPCS4 codes related to the heart see the file below.
See the Extract from OPCS4 Classification of Surgical Operations and Procedures (Heart) [91kb] for details of the heart operations and procedures in its Chapter K. This document should be read in conjunction with the NHS Connecting for Health document Summary of Changes from OPCS-4.4 to OPCS-4.5 [118kb] for details of the latest updates to the coding classification.

Supporting information from ISD Scotland

Further information relating to heart disease and stroke is published by ISD Scotland:

1. ScotPHO – the Health and Well Being Profiles produce charts at NHS Board and CHP on premature mortality from CHD and CVD and patients hospitalised with CHD and CVD.

2. The Hospital Standardised Mortality Ratios updated quarterly produce information on deaths in hospitals participating in the Scottish Patient Safety Programme. Deaths will include those dying from heart disease and stroke.

3. Detailed tables on number/incidence of hospital episodes by diagnosis, including diseases of the circulatory system and number of procedures in main hospitals, including those associated with heart disease. This is available as part of the Hospital Care topic on the ISD website.

Independent and voluntary sector

Although there are a number of independent and voluntary sector organisations involved in the provision of information and services to CHD patients, two of the main ones, with links to NHSScotland, are the British Heart Foundation (BHF) and Chest, Heart & Stroke Scotland (CHSS). Both organisations are involved in the funding of research and provide extensive information for patients and carers on their respective web sites at http://www.bhf.org.uk/ and http://www.chss.org.uk/

Comparisons

UK comparisons

Hospital activity data relating to CHD in England, Wales and Northern Ireland are available separately. Please note that these figures are sometimes not directly comparable with published data from Scotland due to differences in recording and definitions. Prior to making comparisons, please check the definitions carefully for each of the sources.

England: NHS Hospital Episode Statistics (HES)

Wales: Health and care statistics

Northern Ireland: Hospital Statistics & Research

Mortality from specific causes, including heart disease, in England and Wales is available from the Office for National Statistics.
**International comparisons**

The [Scotland and European Health for All database](#) allows users to make comparisons of trends in CHD mortality in Scotland with countries in the rest of Europe. These include standardised death rates and hospital discharges for ischaemic heart disease and cerebrovascular disease. European comparisons indicate that while CHD mortality rates have fallen, Scotland still compares unfavourably with most other European countries.

**Further Information**

Our "[Links to other sources](#)" section offers a few examples of other information sources.
# A3 – Publication Metadata (including revisions details)

<table>
<thead>
<tr>
<th>Metadata Indicator</th>
<th>Description</th>
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<tbody>
<tr>
<td>Publication title</td>
<td>Heart Disease Statistics</td>
</tr>
<tr>
<td>Description</td>
<td>Annual update of heart disease statistics. Update including hospital activity, incidence, operations, 30 days survival, mortality, deprivation and prescribing.</td>
</tr>
<tr>
<td>Theme</td>
<td>Health and Social Care</td>
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<td>Conditions and Diseases</td>
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<td>Format</td>
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<td>Data source(s)</td>
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<td>Date that data are acquired</td>
<td>October 2013</td>
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<td>Release date</td>
<td>28th January 2014</td>
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<td>Frequency</td>
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<td>Timeframe of data and timeliness</td>
<td>10 years annual data up to 31-Mar-2013 (hospital activity, operations, prescribing, incidence, survival), 31-Dec-2012 (mortality) or 31-Mar-2013 (prescribing).</td>
</tr>
<tr>
<td>Continuity of data</td>
<td>Mortality data: Reports data since 1995. Mortality coding moved from ICD-9 to ICD-10 in 2000. ICD codes have been back-mapped to 1995 as accurately as possible for continuity of reporting. There was a change to the coding of causes of death by National Records of Scotland between 2010 and 2011. The overall scale of change was small. For full details, please consult the NRS website: <a href="http://www.gro-scotland.gov.uk/files2/stats/vital-events/changes-to-coding-of-causes-of-death-between-2010-2011.pdf">http://www.gro-scotland.gov.uk/files2/stats/vital-events/changes-to-coding-of-causes-of-death-between-2010-2011.pdf</a>. Prescribing data: The definition of the main measures such as gross ingredient cost and number of items are unchanged over this period. Types and value of dispensing fees are agreed the Scottish Government and set annually. Details can be found in the Scottish Drug Tariff and in Primary Care circulars issued by the Government. Drug products are first licensed as proprietary medicines but generic versions often appear once the original patent expires. This can affect the price and uptake of these drugs. The Scottish Government sets the reimbursement price of generic drug products via the Scottish Drug Tariff which is updated and issued quarterly. Hospital admissions: The introduction of more sensitive tests for the diagnosis of acute coronary ischaemia - e.g. troponin - and the incorporation of troponin (and other biomarker) levels in definitions of acute myocardial</td>
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</table>
Infarction (AMI), may have affected the recording of AMI over recent years. Variations in the definition, recording and coding of AMI may affect inter-hospital and inter-Health Board comparisons of AMI incidence, prevalence and post-AMI survival. ISD issued coding guidance in June 2007 covering the recording of troponin levels in acute coronary syndromes - see Coding Guidelines Number 20.

<table>
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<tr>
<th>Revisions statement</th>
<th>No revisions have occurred and there are no revisions planned.</th>
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<tr>
<td>Revisions relevant to this publication</td>
<td>None.</td>
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<tr>
<td>Concepts and definitions</td>
<td>See Glossary and Appendix A2 contained within this report.</td>
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</table>
| Relevance and key uses of the statistics | Uses of the data include:  
To allow NHS Boards and the Scottish Government to compare activity levels nationally;  
To provide health intelligence and performance information for NHS Boards and the Scottish Government;  
To provide information to support answers to Parliamentary Questions;  
To support the information requirements of voluntary sector organisations such as British Heart Foundation (BHF), including research and media activity;  
To allow members of the public to readily access information on heart disease;  
To respond to information requests for a variety of customers e.g. researchers, charities, public companies, Freedom of Information requests;  
To assist students and universities conducting studies on topics such as heart disease;  
To assist private companies interested in heart disease information in Scotland, such as pharmaceutical companies and consultancy companies. |
| Accuracy | Mortality: For coding of deaths see the website of the National Records of Scotland. Reported data are compared to previous years' figures and to expected trends.  
Prescribing: The data is sourced from a payment system and routine monthly checks are carried out by PSD on a random sample of approximately 5% of prescription payments. These check all data captured for payment and the accuracy of the payment calculation and have a target accuracy of 98% which is routinely met. Data that is captured but is not mandatory for payment purposes can be of lower quality; principally this includes the prescriber code which links a prescription back to the individual prescriber e.g. GP and their organisation including NHS Board. Routine monitoring of unallocated prescriptions is carried |
out and correct codes are applied before publication. This ensures that unallocated prescriptions account for under 2% of all prescriptions. For remaining unallocated prescriptions, the prescribing NHS Board is assumed to be the same as the dispensing NHS Board.

Hospital Activity: SMR01 data are subjected to validation on submission. The figures are compared to previous years’ figures and to expected trends. The SMR01 data are also assessed for accuracy by ISD’s Data Quality Assurance team – see Appendix A2.

Completeness

Mortality: Death registrations are deemed to be complete and finalised.

Prescribing: The Prescribing Information System holds information on 100% of NHS Scotland prescriptions dispensed within the community and claimed for payment by a pharmacy contractor (i.e. pharmacy, dispensing doctor or appliance supplier). It does not include data on prescriptions dispensed but not claimed (likely to be very small) or prescriptions prescribed but not submitted for dispensing by a patient. Some research has estimated these latter prescriptions to account for around 6% of all prescriptions issued to patients. It is not possible to determine from payment data how much of the medicine dispensed to patients is actually taken in accordance with dosage instructions.

Hospital Activity: Levels of SMR01 submission are deemed to be 99% complete compared to expected levels of submission at time of extraction.

Comparability

Prescribing: The main measures of drug ingredient cost and volumes of items dispensed in the community are comparable across the UK countries. However it should be noted that the Gross Ingredient Cost (GIC) within Scotland is equivalent to the Net Ingredient Cost (NIC) in England, i.e. the reimbursement cost of drugs before any pharmacy discounts are applied. Also each country determines its own dispensing fees based on separate contractual arrangements with dispensing contractors in each country. A common formulary called the British National Formulary (BNF) is used to classify drugs based on therapeutic use.

Hospital activity data relating to coronary heart disease in England, Wales and Northern Ireland are available separately. Please note that these figures are sometimes not directly comparable with published data from Scotland due to differences in recording and definitions. Prior to making comparisons, please check the definitions carefully.
<table>
<thead>
<tr>
<th>Accessibility</th>
<th>It is the policy of ISD Scotland to make its web sites and products accessible according to published guidelines.</th>
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<tr>
<td>Coherence and clarity</td>
<td>Relevant key statistics are presented on each Topic Area page. Statistics are presented within Excel spreadsheets. Geographical areas and national figures are presented using drop down menus. Further features to aid clarity: 1. Tables use drop down menus to display data by Age Band, Diagnostic and other Groupings. 2. Key data presented graphically. 3. Each Excel workbook contains a notes page.</td>
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| Value type and unit of measurement | The number of deaths in a given year is based on the date of registration. Rates are expressed as both a crude rate per 100,000 population and directly standardised for age only or both age and sex as detailed on the notes pages of the relevant Excel table.  

The main units of measure of drug reimbursement costs are Gross Ingredient Cost (GIC) and Net ingredient cost (NIC) quantity. The latter takes account of pharmacy discounts, the rates for which are set by the Scottish Government in the Scottish Drug Tariff. There are a large number of individual dispensing remuneration fees paid to dispensing contractors details of which can be found in the Scottish Drug Tariff. The main measures of drug volume are items (the number of individual drug items on a prescription form), quantity (the total number of tablets, capsules etc), and defined daily doses (DDDs - estimated average daily maintenance doses for a total quantity of prescribed).  

Hospital activity is based on hospital episodes, which if based on the date of discharge. Rates are expressed as both a crude rate per 100,000 population and directly standardised for age only or both age and sex as detailed on the notes page of the relevant Excel tables. |
<p>| Disclosure                 | The ISD protocol on Statistical Disclosure Protocol is followed. |
| Official Statistics designation | National Statistics |
| UK Statistics Authority     | April 2013 |</p>
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<td>Date form completed</td>
<td>16\textsuperscript{th} December 2013</td>
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A4 – Early Access details (including Pre-Release Access)

Pre-Release Access

Under terms of the "Pre-Release Access to Official Statistics (Scotland) Order 2008", ISD are obliged to publish information on those receiving Pre-Release Access ("Pre-Release Access" refers to statistics in their final form prior to publication). The standard maximum Pre-Release Access is five working days. Shown below are details of those receiving standard Pre-Release Access and, separately, those receiving extended Pre-Release Access.

Standard Pre-Release Access:

Scottish Government Health Department

NHS Board Chief Executives

NHS Board Communication leads

Extended Pre-Release Access

Extended Pre-Release Access of 8 working days is given to a small number of named individuals in the Scottish Government Health Department (Analytical Services Division). This Pre-Release Access is for the sole purpose of enabling that department to gain an understanding of the statistics prior to briefing others in Scottish Government (during the period of standard Pre-Release Access).

Scottish Government Health Department (Analytical Services Division)
A5 – ISD and Official Statistics

About ISD

Scotland has some of the best health service data in the world combining high quality, consistency, national coverage and the ability to link data to allow patient based analysis and follow up.

Information Services Division (ISD) is a business operating unit of NHS National Services Scotland and has been in existence for over 40 years. We are an essential support service to NHSScotland and the Scottish Government and others, responsive to the needs of NHSScotland as the delivery of health and social care evolves.

**Purpose:** To deliver effective national and specialist intelligence services to improve the health and wellbeing of people in Scotland.

**Mission:** Better Information, Better Decisions, Better Health

**Vision:** To be a valued partner in improving health and wellbeing in Scotland by providing a world class intelligence service.

Official Statistics

Information Services Division (ISD) is the principal and authoritative source of statistics on health and care services in Scotland. ISD is designated by legislation as a producer of ‘Official Statistics’. Our official statistics publications are produced to a high professional standard and comply with the Code of Practice for Official Statistics. The Code of Practice is produced and monitored by the UK Statistics Authority which is independent of Government. Under the Code of Practice, the format, content and timing of statistics publications are the responsibility of professional staff working within ISD.

ISD’s statistical publications are currently classified as one of the following:

- National Statistics (i.e. assessed by the UK Statistics Authority as complying with the Code of Practice)
- National Statistics (i.e. legacy, still to be assessed by the UK Statistics Authority)
- Official Statistics (i.e. still to be assessed by the UK Statistics Authority)
- other (not Official Statistics)

Further information on ISD’s statistics, including compliance with the Code of Practice for Official Statistics, and on the UK Statistics Authority, is available on the [ISD website](#).

The United Kingdom Statistics Authority has designated these statistics as National Statistics, in accordance with the Statistics and Registration Service Act 2007 and signifying compliance with the Code of Practice for Official Statistics. Designation can be broadly interpreted to mean that the statistics:

- meet identified user needs;
- are well explained and readily accessible;
- are produced according to sound methods, and
- are managed impartially and objectively in the public interest.

Once statistics have been designated as National Statistics it is a statutory requirement that the Code of Practice shall continue to be observed.