Coronary heart disease statistics

A compendium of health statistics

2012 edition

British Heart Foundation Health Promotion Research Group
Department of Public Health, University of Oxford

British Heart Foundation

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Foreword

This latest edition of *Coronary Heart Disease Statistics* documents major successes in the fight against coronary heart disease (CHD). However, it also highlights areas in which we must continue to make progress if we are to sustain and build on this good work.

Mortality rates from cardiovascular disease (CVD) continue to fall and in this publication we feature data showing that all countries in Great Britain have now reached mortality targets set by their governments. In England, the targets to reduce both premature CVD mortality and the inequality gap by 40% by 2010 were reached in 2005 and 2008 respectively. In Scotland the target to reduce premature CHD mortality by 60% by 2010 was achieved. Whilst in Wales the target of a one-third reduction in CHD mortality in 65 to 74 year olds by 2012 was met in 2006. These targets were achieved as a result of a concerted effort to tackle CVD, which has led to decreases in both the incidence of cardiovascular events and the case fatality associated with these events.

Any public health approach to tackle conditions such as CHD must be multifactorial and within this publication we present statistics for a number of factors which will have influenced these mortality rates. In the last decade the treatment has changed dramatically, with huge increases in the prescription of both lipid-lowering and antihypertensive drugs to counter the medical risk factors of CVD. At the same time the use of percutaneous coronary interventions, which improve survival rates after a CHD event, have become more commonplace. We have also seen population changes in behavioural risk factors linked to CVD. The prevalence of regular smoking has fallen dramatically in the last forty years. Over a similar period of time the consumption of dietary fat has decreased, and the intake of fresh fruit has risen.

These decreases in the mortality rates are not the only story. CVD still remains the biggest killer in the UK, resulting in more than 45,000 deaths amongst individuals aged less than 75 years in 2010. We still find regional and socioeconomic differences in both incidence and case fatality, along with behavioural inequalities. Regular smoking is more prevalent amongst the lower socioeconomic groups, whilst higher income individuals are more likely to eat fruit and vegetables and take physical activity. The United Kingdom also has one of the highest prevalence of heavy drinking amongst adults in Europe. Although mortality rates have fallen, the prevalence of some of the medical risk factors for CVD, including type 2 diabetes and obesity, has increased. If left unchecked these increases risk undoing the good work of the preceding decades. There are already signs that some of the improvements in behaviour, such as dietary choice, smoking and physical activity, have stalled and it is only with continued resolve that we will be able to maintain these.

Although we should celebrate our successes it would be premature and dangerous to rest on our laurels. We must continue to target inequalities where they exist and build on our work by tackling the root causes of coronary heart disease throughout the population.

Professor Peter Weissberg
Medical Director, British Heart Foundation

Introduction

This is the eighteenth edition of *Coronary Heart Disease Statistics* published by the British Heart Foundation. The series of publications began over twenty years ago with the aim of documenting the burden of coronary heart disease (CHD) in the United Kingdom. Since then the publication has expanded to include information on other cardiovascular conditions including stroke and heart failure as well as dedicated sections on cardiovascular risk factors.

Coronary Heart Disease Statistics is designed for health professionals, medical researchers and anyone with an interest in CHD. It is a compendium of the latest statistics drawn from a variety of sources including national statistics, hospital episode statistics, national and international surveys and peer-reviewed journal articles. Most of the information that appears in the compendium has been previously published elsewhere, but there are a number of tables and figures that are new to this publication (for example: estimates of the incidence of heart attack by region in England).

The compendium is divided into six chapters. Chapter one describes social, ethnic and geographic patterns in mortality from cardiovascular diseases. Chapter two describes the morbidity burden of cardiovascular diseases in the UK, focusing on estimates of incidence, case fatality and prevalence. Chapter three describes treatment levels for cardiovascular diseases. Chapter four details the prevalence of behavioural risk factors for CHD (smoking, poor diet, physical inactivity and alcohol consumption), describing differences in prevalence by social group, ethnicity, geographic region and describing the burden amongst children. Chapter five details the prevalence of medical risk factors for CHD (raised blood pressure, raised cholesterol, overweight and obesity, diabetes), describing differences in prevalence by social group, ethnicity and geographic region. Chapter six provides estimates of the economic costs of cardiovascular diseases to the UK economy and health systems. Wherever possible, the situation in the UK is contrasted with international data.

Each chapter contains a set of tables and figures to illustrate key points and a brief review of the data presented. Where appropriate, public health targets for England, Wales, Scotland and Northern Ireland are also presented.

All of the tables and figures in the compendium are also available from the British Heart Foundation's website at **bhf.org.uk/research/statistics.aspx**. This website aims to be the most comprehensive and up-to-date source of statistics on cardiovascular disease in the UK. The website is updated on an ongoing basis and contains a wider range of tables and figures than is available in the *Coronary Heart Disease Statistics* series of publications. Further copies of this publication can be downloaded from the website, as well as copies of recent supplements to the *Coronary Heart Disease Statistics* series, including:

– *European Cardiovascular Disease Statistics* (2012)

– *Physical Activity Statistics* (2012)

– *Trends in Coronary Heart Disease, 1961–2011* (2011)

– *Ethnic Differences in Cardiovascular Disease* (2010)

– *Stroke Statistics* (2009)

Summary

- In 2010, cardiovascular diseases (CVD) were the UK's biggest killer.
- In 2010, almost 180,000 people died from CVD around 80,000 of these deaths being from coronary heart disease (CHD) and around 49,000 from strokes.
- In 2010, CVD caused around 46,000 premature deaths in the UK; 68% of these were men.
- In recent years CHD death rates have been falling more slowly in younger age groups.
- In England, death rates from heart attack have halved since 2002.
- Death rates from CHD are highest in Scotland and lowest in England.
- Within England, death rates from CHD and heart attacks are highest in the North West and lowest in the South East and South West.
- Death rates from CHD are highest in areas of greatest deprivation.
- The incidence of myocardial infarction has decreased in all regions of England; the North West still has the highest incidence rate.
- There are around 150,000 incidents of stroke every year in the UK.
- For men the incidence of angina is highest in Wales, for women it is highest in Scotland. It is lowest for both sexes in England.
- In 2011, around 292 million prescriptions were issued for CVD in England.
- Over 87,000 percutaneous coronary interventions (PCIs) are now carried out every year in the UK, more than three times as many as a decade ago.
- In 2010/11, the number of inpatient episodes for CHD was 405,000 in England, 50,200 in Scotland, 24,300 in Wales and 14,600 in Northern Ireland.
- The prevalence of smoking amongst adults is lower in England (20%) than in Northern Ireland (24%), Scotland (25%) and Wales (25%).
- Less than one-third of both men and women consume the recommended five or more portions of fruit and vegetables a day.
- Only around one-fifth of boys and girls aged 5 to 15 consume the recommended five or more portions of fruit and vegetables a day.
- A higher percentage of men meet government recommendations for physical activity than women, although this is still under half of men in the UK.
- In 2010, more than a third of men (36%) and over a quarter of women (28%) regularly exceeded the Government's recommended alcohol intake.
- Around one in three adults in England and Scotland are hypertensive and nearly half of them are not receiving treatment.
- Around six in ten adults in England have high blood cholesterol levels (5mmol/l or above).
- More than a quarter of adults in England are obese.
- Around 30% of boys and girls aged 2-15 years in England and Scotland are overweight or obese.
- The prevalence of diabetes in the UK is around 5% among women and 6% among men.
- In 2009, CVD cost the UK health care system £8.7 billion.
- In 2009, CVD cost the UK economy £19 billion in total.
- The cost per capita for CVD in the UK is €156, which is lower than average for the European Union.

Glossary

This section provides a definition for some of the terms used throughout *Coronary heart disease statistics* 2012 edition.

Accelerometer – hip mounted motion sensor that measures acceleration in 1, 2 or 3 dimensions. Accelerometers are used as an objective measure of physical activity or exertion.

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 or stomach. Angina occurs when the arteries become so narrow that not enough oxygen-containing blood can reach the heart 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.

Blood pressure – Blood pressure is simply 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 circulatory system (heart, arteries, blood vessels).

Case fatality rate – the ratio of the number of deaths caused by a specified disease to the number of diagnosed cases of that disease, it is commonly expressed as a percentage.

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.

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.

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 – the condition caused by a blockage of one of the coronary arteries when the heart is starved of oxygen. A heart attack usually causes severe pain in the centre of the chest. The pain lasts for more than fifteen minutes, and may last for many hours. 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 or shortness of breath. Sometimes a heart attack can be 'silent' and produce little discomfort.

Heart failure – a clinical syndrome which occurs when the heart is unable to pump enough blood to meet the demands of the body. It occurs because the heart is damaged or overworked. Some people with moderate heart failure may have very few symptoms. People with moderate or severe heart failure suffer from a number of problems, including shortness of breath, general tiredness and swelling of the feet and ankles.

Hospital Inpatient Episodes – Periods of continuous admitted patient care under the same consultant.

Glossary (Continued)

Hypertension – Hypertension is 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. For example, in patients with diabetes, the definition of hypertension is considered by some to be pressures greater than 130/80.

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.

Meta-analysis – methods which allow results from a number of different studies to be contrasted and combined.

Myocardial infarction (MI) – see heart attack.

National Statistics Socio-Economic Classification (NS-SEC) – a statistical classification based on occupation and details of employment status.

Non-Milk Extrinsic Sugars (NMES) – generally added sugars that are not integrally present in the cells of food like fruit and vegetables, and that are not naturally present in milk.

Non-Starch Polysaccharides (NSP) – complex carbohydrates that are the major part of dietary fibre and can be measured more precisely than total dietary fibre.

Office of Population, Censuses and Surveys Classification of Surgical Operations and Procedures 4th Revision (OPCS-4) – a classification system for surgical operations and procedures conducted in the National Health Service.

Percutaneous Coronary Intervention (PCI) – A minimally invasive approach to open narrowed coronary arteries (see angioplasty) by accessing them through small needle-size punctures in the skin.

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 already at high-risk of disease.

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.

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 death.

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.

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 greater than 102cm. For women, central obesity is defined as a waist circumference of greater than 88cm.

Waist to Hip Ratio (WHR) – a measure of central obesity, where fat is concentrated mainly in the abdomen. For men, central obesity is defined as a WHR of 0.95 or over. For women, central obesity is defined as a WHR of 0.85 or over.

1. Mortality

1. Mortality

This chapter reports on mortality from cardiovascular disease (CVD), coronary heart disease (CHD) and heart attack in the UK. CVD and CHD mortality in the context of mortality from other chronic conditions are presented, as well as seasonal and temporal trends in CHD mortality. Regional, socioeconomic, and international differences are also described. Where possible, the latest data from routinely collected, national datasets have been used.

Public health targets

Recent trends indicate that the *Our Healthier Nation* target, set in 1999, to reduce the death rate from CHD, stroke and related diseases in people under 75 years in England by at least two fifths by 2010 will be met – in 2009, the figure was already below the target rate (Table 1.1, Figures 1.1a). The targets in Scotland and Wales have already been reached; the Scottish target for reduction in CVD death rates was met in 2010, and the Welsh target for a reduction in CHD deaths by 2012 was surpassed in 2006 (1.1c and 1.1d).

Progress towards the 2010 target for reducing CVD inequalities in England has also been successful. The aim was for a 40% reduction in the gap for death rates between the population as a whole and the 20% of the most deprived areas; this target was met in 2008 (Figure 1.1b).

Total mortality

Diseases of the heart and circulatory system (cardiovascular disease or CVD) are the main cause of death in the UK and accounted for almost 180,000 deaths in 2010 – around one in three of all deaths that year (Table 1.2). The main forms of CVD are CHD and stroke. Almost half (45%) of all CVD deaths are from CHD and over a quarter (28%) are from stroke.

CHD by itself is the most common cause of death in the UK. In 2010, just below one in five male deaths and one in ten female deaths were from the disease – a total of around 80,000 deaths. Stroke caused almost 50,000 deaths in the UK, and there were a further 49,000 deaths from other circulatory diseases. Acute myocardial infarction (or heart attack) is also a significant cause of death in the UK, with the majority of deaths happening over the age of 85 (Tables 1.3 and 1.4, Figures 1.3a and 1.3b).

Premature mortality

CVD is one of the main causes of premature death in the UK (death before the age of 75). 28% of premature deaths in men and 19% of premature deaths in women were from CVD in 2010. CVD caused 46,000 premature deaths in the UK in 2010 (Table 1.3, Figures 1.3c and 1.3d).

CHD, by itself, is the most common cause of premature death in the UK. Just under one fifth (17%) of premature deaths in men and one in twelve (8%) premature deaths in women were from CHD, which caused over 25,000 premature deaths in the UK in 2010 (Table 1.3 and Figures 1.3c and 1.3d).

Excess winter mortality

There is a pattern of excess winter cardiovascular mortality in the UK. In 2009/10, almost 10,000 more people died of CVD in the winter months compared to the summer months. This amounts to about 18% more male deaths and 21% more female deaths. Excess winter mortality tends to increase with age (Table 1.5) [1].

Recent trends in death rates in the UK

Death rates from CVD have been falling in the UK since the early 1970s. For people under 75 years, death rates have fallen by 44% in the last ten years (Figure 1.1a).

In recent years, CHD death rates have been falling more slowly in younger age groups and fastest in those aged 55 and over. For example, between 2000 and 2010 there was a 43% fall in the CHD death rate for men aged 55 to 64 in the UK, compared to a 21% fall in men aged 35 to 44 years. In women, there was a 52% fall in those aged 55 to 64 years and the rate in those aged 35 to 44 years barely changed. There is some evidence that these rates are beginning to level off in younger age groups [2]. Death rates from all heart attacks and heart attacks that are immediately fatal have also declined, with around a 50% decrease in men and women since 2002. Premature death rates from heart attacks have also declined, with a 58% reduction between 2002 and 2010 (Tables 1.6 to 1.8, Figures 1.6a, 1.6b and 1.8).

A 2004 study aimed to explain the decline in mortality from CHD over the last two decades of the twentieth century in England and Wales. Combining and analysing data on uptake and effectiveness of cardiologic treatments and risk factor trends, the authors examined how much of the decline in CHD mortality in England and Wales between 1981 and 2000 could be attributed to medical and surgical treatments and how much to changes in cardiovascular risk factors.

They concluded that more than half (58%) of the CHD mortality decline in England and Wales during the 1980s and 1990s was attributable to reductions in major risk factors, principally smoking. Treatments to individuals, including secondary prevention, explained the remaining two-fifths (42%) of the mortality decline[3].

National and regional differences

Death rates from CHD are highest for both men and women in Scotland and lowest in England. In 2010, the premature CHD death rate in Scotland was 37% higher for men and 60% for women, as compared to England. Within England, premature CHD death rates are highest in the North West and lowest in the South East and South West. These rates have been consistently higher in Scotland for more than 25 years (Table 1.9a and 1.9b).

A North-South gradient is apparent in death rates from myocardial infarction, as well as in maps of CHD mortality by local authority in the UK. These maps also demonstrate that the highest mortality rates are concentrated in urban areas of the UK (Tables 1.10 and 1.11, Figures 1.11a and 1.11b).

Socioeconomic differences

Socioeconomic differences in health can be measured using individual-level and area-level measures of socioeconomic status. Individual-level measures define socioeconomic status on the basis of an individual's occupation, income, wealth, education or a combination of these factors. Area-level measures define socioeconomic status on the basis of where an individual lives and tend to be based on a 'deprivation index' – a score for an area that is constructed using data on an area's population, resources, geographical features or a combination of these factors. Estimates of social differences in health are often based on area-level measures because deprivation indices are freely available and only require limited knowledge about individuals. However it should be remembered that not all people who live in affluent areas are themselves affluent, and vice versa.

The most recent data for individual-level measures comes from 2001/03; death rates in 2001/03 from CVD, CHD and stroke were all highest in the lowest socioeconomic group and lowest in the highest socioeconomic group, with a clear gradient across the social groups. This inequality was more striking in women than men, with the CHD death rate in female workers with routine jobs five times higher than those with managerial or professional jobs (Table 1.12 and Figure 1.12).

'A more recent target within England concerns inequalities in CVD mortality on the basis of area-level measures of deprivation. This looks at the absolute difference in death rates between the most deprived groups and the rest of the population. Using this absolute measurement, inequalities in CVD mortality are declining, as the difference in the rate of deaths between these two groups is reducing. An alternative way of measuring inequality is to look at relative inequalities between the most and least deprived areas. When using the relative measure, Great Britain demonstrates a strong positive relationship between CHD mortality rates and increasing level of deprivation. This relationship has persisted over the past 14 years, and shows little sign of improvement. While deaths from CHD have declined overall, there appears to have been no narrowing of the relative difference between the most deprived and the least deprived (Table 1.13, Figures 1.13a and 1.13b).

International differences

Despite the decline in death rates from CVD in the UK, rates are still relatively high compared to other Western European countries, at 211 per 100,000 CVD deaths in men in 2009. In Western Europe, only Ireland, Germany, Sweden and Luxembourg had a higher death rate than the UK in the same year. In countries of Eastern and Central Europe, where death rates have been rising rapidly recently, the death rates were generally higher than in the UK, with Russia and Ukraine having the highest CVD mortality in Europe for men; for women the Republic of Moldova and the Ukraine had the highest CVD death rates in 2009 (Tables 1.14a and 1.14b, Figure 1.14).

CHD mortality is declining across most of Europe, with the exception of some Eastern European countries. While there were some fluctuations in death rates between 1998 and 2008, overall Russia and Ukraine both experienced an increase in CHD mortality, most notably death rates for men in the Ukraine rose by 16% between 1998 and 2008. However, data from 2009 and 2010 indicate that CHD death rates in both countries have decreased since 2008. The death rate from CHD in the UK has been falling at one of the fastest rates in Europe and decreased by 45% between 1998 and 2008, with only Ireland, Norway and Austria having a larger decrease over this time. The decline in female CHD mortality tells a similar story (Tables 1.15a and 1.15b, Figure 1.15).

1. Excess winter deaths are calculated by subtracting the actual number of deaths in winter (usually December to March), from the number of deaths which would have been expected for this period, calculated on the basis of the actual number of deaths occurring in the surrounding non-winter months. It is postulated that excess winter mortality is partially preventable through improvements to cold damp housing – see Olsen N (2001) Prescribing warmer, healthier homes. BMJ, 322: 748-749.
2. Allender S, Scarborough P, O'Flaherty M, Capewell S (2008). 20th century CHD morality in England and Wales: population trends in CHD risk factors and coronary death. BMC Public Health 8: 148.
3. Unal B, Critchley JA, Capewell S (2004). Explaining the decline in coronary heart disease mortality in England and Wales between 1981 and 2000. Circulation, 109: 1101-1107.

Table 1.1
Cardiovascular disease (CVD) mortality targets for the United Kingdom

England [1,2]	
CVD – Target	**Target set in 1999** To reduce the death rate from CHD, stroke and related diseases in people under 75 years by at least two fifths by 2010 – saving up to 200,000 lives in total.
CVD – Inequalities target	**Target set in 2004** To reduce the inequalities gap in death rates from CHD, stroke and related diseases between the fifth of areas with the worst health and deprivation indicators and the population as a whole in people under 75 years by 40% by 2010.
Wales [3]	
CHD – Health outcome target	**Target set in 2004** To reduce CHD mortality in 65-74 year olds from 600 per 100,000 in 2002 to 400 per 100,000 in 2012.
CHD – Health inequality target	To improve CHD mortality in all groups and at the same time aim for a more rapid improvement in the most deprived groups.
Scotland [4]	
CHD – Target	**Target set in 2007** To reduce mortality rates from CHD among people under 75 years by 60% between 1995 and 2010, from the 1995 baseline of 124.6 to 49.8 per 100,000 population (standardised to the European Standard Population).
CHD – Inequalities target	To reduce the death rate from CHD of those aged under 75 years living in the most deprived 15% of areas in Scotland. Reduce mortality from CHD among the under 75s in deprived areas.
Northern Ireland	
No target set.	

1. Department of Health (1999) Our Healthier Nation. DH: London. ¶ 2. Department of Health (2004) National Standards, Local Action: Health and Social Care Standards and Planning Framework 2005/06 and 2007/08. DH: London. ¶ 3. Welsh Assembly Government (2008) See Chief Medical Officer Wales website http://wales.gov.uk/topics/health/research/research/gain/targets/health-gain (Accessed June 2010). ¶ 4. Scottish Executive (2008). Spending Review 2007, Scottish Government. The Scottish Executive: http://www.scotland.gov.uk/Publications/2007/11/30090722/34 and http://www.scotland.gov.uk/Publications/2004/12/20325/47433 (Accessed June 2010)

Figure 1.1a

Tracking the English cardiovascular disease (CVD) mortality target: Age-standardised death rates per 100,000 from CVD, under 75s, England 1970 to 2009

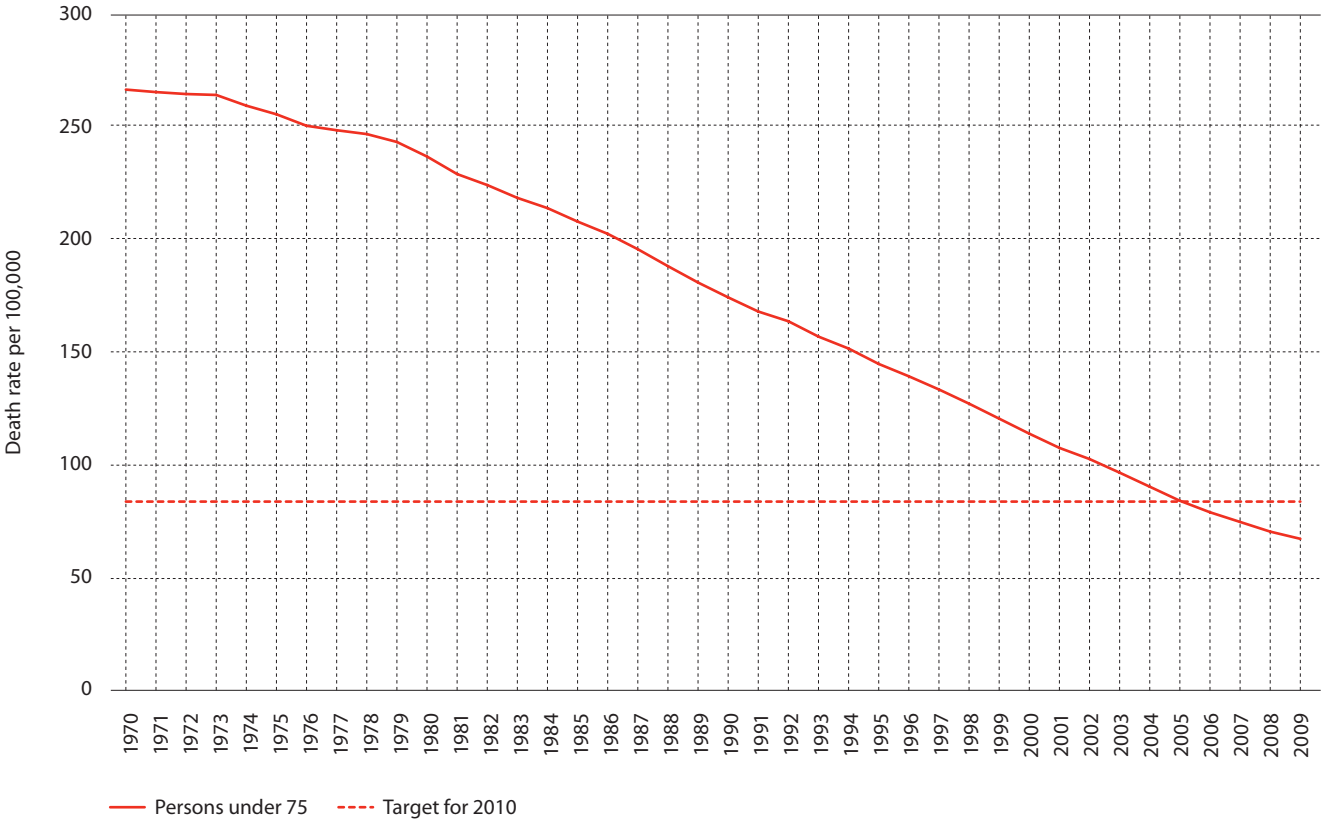


Figure 1.1b

Tracking the English cardiovascular disease (CVD) inequality target: Absolute gap in CVD age-standardised death rates per 100,000 population between least and most deprived 20% of local authorities, under 75s, England 1996 to 2009

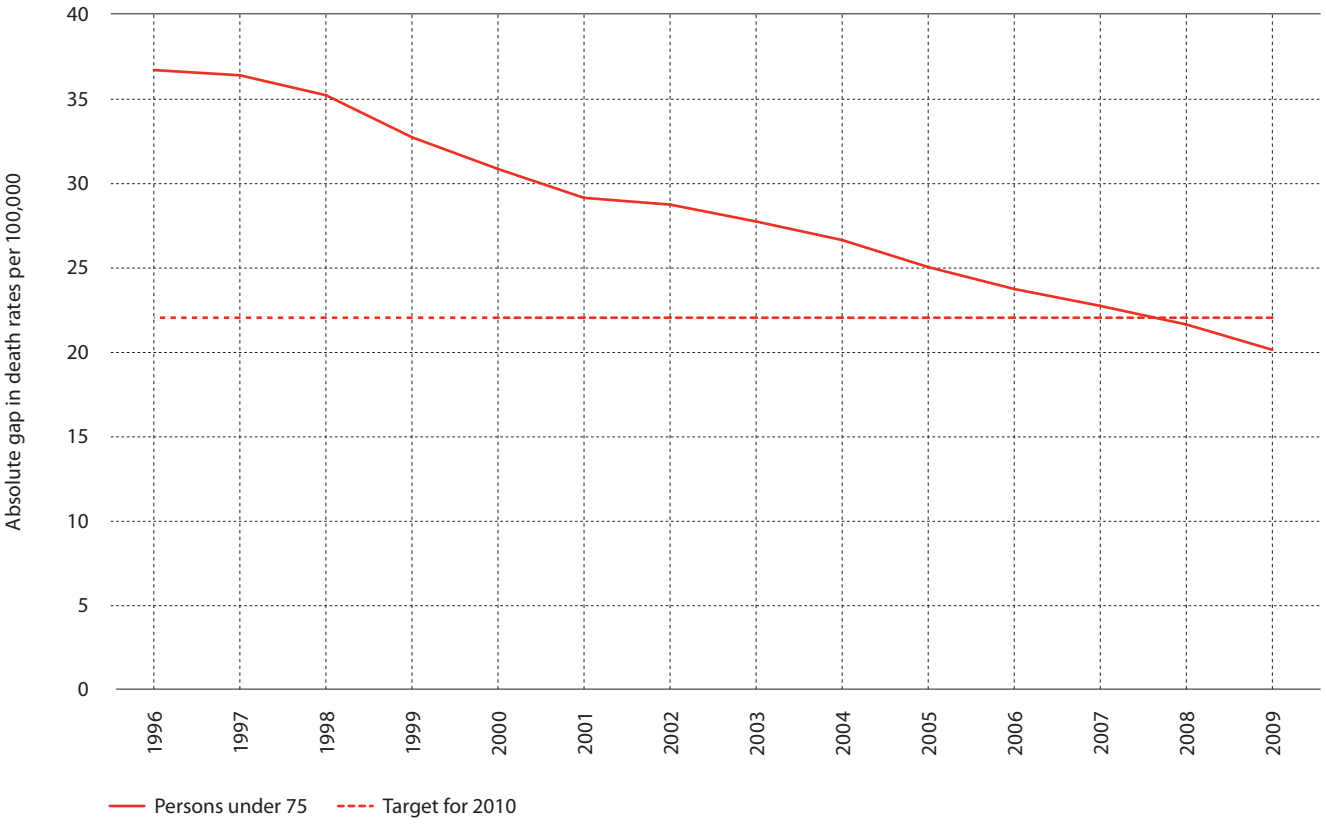


Figure 1.1c

Tracking the Scottish coronary heart disease (CHD) mortality target: Age-standardised death rates per 100,000 from CHD, under 75s, Scotland 1995 to 2010

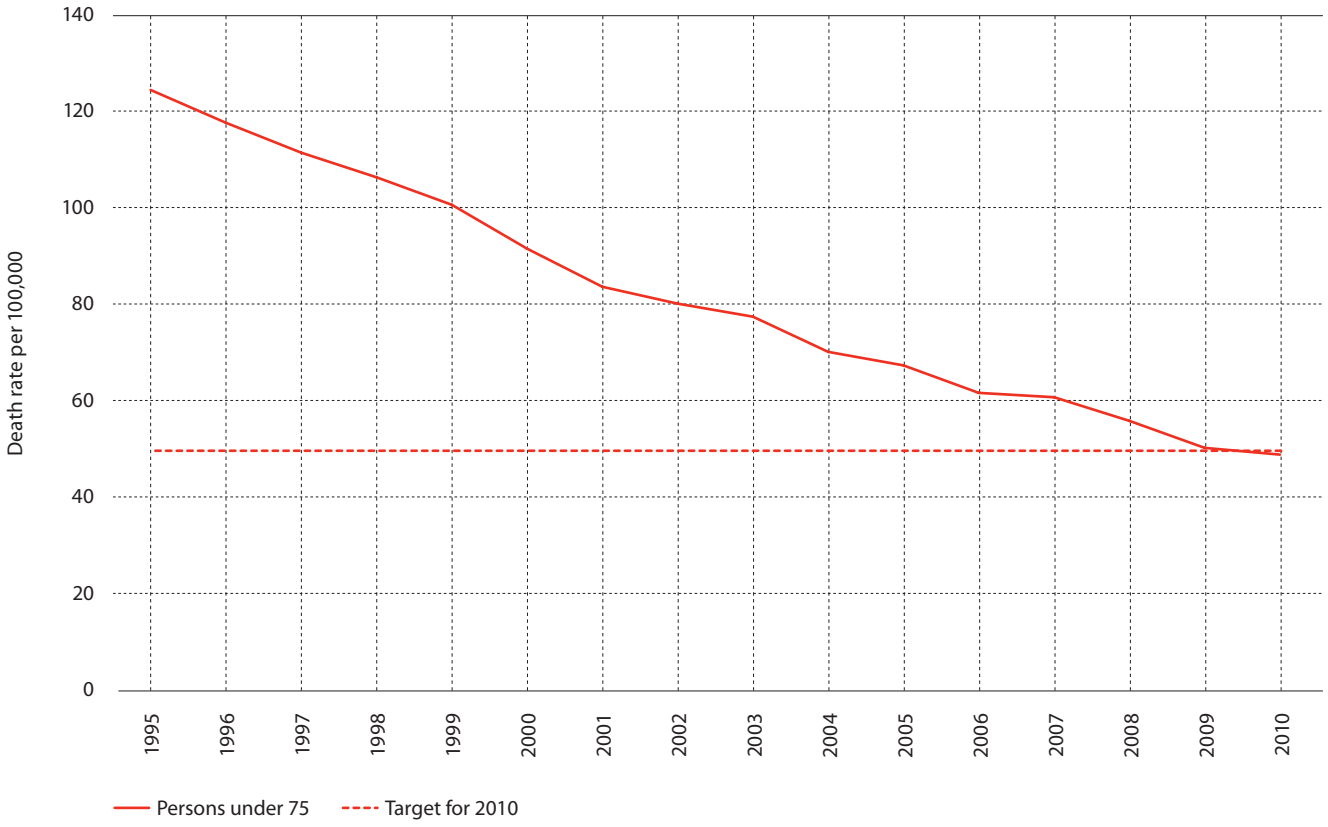


Figure 1.1d

Tracking the Welsh coronary heart disease (CHD) mortality target: Age-standardised death rates per 100,000 from CHD in adults aged 65 to 74, Wales 2001 to 2010

Table 1.2
Deaths by cause, by sex and age, United Kingdom 2010

		All ages	Under 35	35-44	45-54	55-64	65-74	75+
All causes	Men	270,945	8,015	6,997	14,120	30,587	54,052	157,174
	Women	290,721	4,639	4,209	9,531	20,366	38,205	213,771
	Total	561,666	12,654	11,206	23,651	50,953	92,257	370,945
All diseases of the circulatory system (I00-I99)	Men	87,528	504	1,409	3,984	8,982	16,766	55,883
	Women	91,550	274	566	1,523	3,382	9,004	76,801
	Total	179,078	778	1,975	5,507	12,364	25,770	132,684
Coronary heart disease (I20-I25)	Men	46,591	102	681	2,539	5,899	9,952	27,418
	Women	33,977	36	166	586	1,495	4,084	27,610
	Total	80,568	138	847	3,125	7,394	14,036	55,028
Stroke (I60-I69)	Men	19,287	91	224	515	1,126	2,883	14,448
	Women	30,079	62	131	425	813	2,326	26,322
	Total	49,366	153	355	940	1,939	5,209	40,770
Other diseases of the circulatory system (I00-I19, I26-I59, I70-I99)	Men	21,650	311	504	930	1,957	3,931	14,017
	Women	27,494	176	269	512	1,074	2,594	22,869
	Total	49,144	487	773	1,442	3,031	6,525	36,886
Diabetes (E10-E14)	Men	2,895	51	79	140	261	563	1,801
	Women	3,285	40	58	85	168	386	2,548
	Total	6,180	91	137	225	429	949	4,349
Cancer (C00-D48)	Men	84,373	682	1,131	4,108	12,604	23,033	42,815
	Women	76,802	664	1,612	4,607	10,956	17,593	41,370
	Total	161,175	1,346	2,743	8,715	23,560	40,626	84,185
Colo-rectal cancer (C18-C21)	Men	8,732	40	95	449	1,339	2,423	4,386
	Women	7,323	30	96	360	782	1,419	4,636
	Total	16,055	70	191	809	2,121	3,842	9,022
Lung cancer (C33, C34)	Men	19,453	13	160	841	3,301	6,220	8,918
	Women	15,488	12	117	753	2,607	4,461	7,538
	Total	34,941	25	277	1,594	5,908	10,681	16,456
Breast cancer (C50)	Men	78	1	0	5	11	17	44
	Women	11,578	57	547	1,270	2,056	2,287	5,361
	Total	11,656	58	547	1,275	2,067	2,304	5,405
Other cancers (C00-C17, C22-C32, C35-C49, C51-D48)	Men	56,110	628	876	2,813	7,953	14,373	29,467
	Women	42,413	565	852	2,224	5,511	9,426	23,835
	Total	98,523	1,193	1,728	5,037	13,464	23,799	53,302
Respiratory disease (J00-J99)	Men	35,499	216	261	670	2,416	6,092	25,844
	Women	40,559	192	199	542	1,878	4,731	33,017
	Total	76,058	408	460	1,212	4,294	10,823	58,861
Injuries and poisoning (V01-Y98)	Men	12,220	2,960	1,975	1,805	1,387	1,029	3,064
	Women	7,680	871	597	683	601	652	4,276
	Total	19,900	3,831	2,572	2,488	1,988	1,681	7,340
All other causes	Men	48,430	3,602	2,142	3,413	4,937	6,569	27,767
	Women	70,845	2,598	1,177	2,091	3,381	5,839	55,759
	Total	119,275	6,200	3,319	5,504	8,318	12,408	83,526

Notes:
ICD-10 codes in parentheses.

Source:
England and Wales, Office for National Statistics (2010) Deaths registered by cause, sex and age. www.statistics.gov.uk (accessed April 2011). ¶ Scotland, General Register Office (2011) Registrar General Annual Report. GRO: Edinburgh. ¶ Northern Ireland, Statistics and Research Agency (2011) Registrar General Annual Report. NISRA: Belfast.

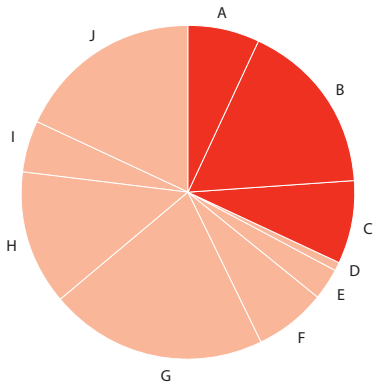
Table 1.3
Deaths by cause in all adults and adults under 75, by sex, England, Wales, Scotland, Northern Ireland and United Kingdom 2010

		All ages					Under 75				
		England	Wales	Scotland	Northern Ireland	United Kingdom	England	Wales	Scotland	Northern Ireland	United Kingdom
All causes	Men	222,966	14,950	25,963	7,066	270,945	91,814	6,227	12,322	3,408	113,771
	Women	239,079	16,247	28,004	7,391	290,721	61,765	4,260	8,675	2,250	76,950
	Total	462,045	31,197	53,967	14,457	561,666	153,579	10,487	20,997	5,658	190,721
All diseases of the circulatory system (I00-I99)	Men	72,247	5,013	8,068	2,200	87,528	25,663	1,747	3,354	881	31,645
	Women	75,496	5,328	8,449	2,277	91,550	11,778	850	1,687	434	14,749
	Total	147,743	10,341	16,517	4,477	179,078	37,441	2,597	5,041	1,315	46,394
Coronary heart disease (I20-I25)	Men	38,034	2,687	4,599	1,271	46,591	15,384	1,081	2,142	566	19,173
	Women	27,439	2,036	3,539	963	33,977	4,976	359	839	193	6,367
	Total	65,473	4,723	8,138	2,234	80,568	20,360	1,440	2,981	759	25,540
Stroke (I60-I69)	Men	15,824	1,085	1,889	489	19,287	3,927	246	526	140	4,839
	Women	24,743	1,711	2,875	750	30,079	2,984	235	416	122	3,757
	Total	40,567	2,796	4,764	1,239	49,366	6,911	481	942	262	8,596
Other diseases of the circulatory system (I00-I19, I26-I59, I70-I99)	Men	18,389	1,241	1,580	440	21,650	6,352	420	686	175	7,633
	Women	23,314	1,581	2,035	564	27,494	3,818	256	432	119	4,625
	Total	41,703	2,822	3,615	1,004	49,144	10,170	676	1,118	294	12,258
Diabetes (E10-E14)	Men	2,228	165	408	94	2,895	771	60	209	54	1,094
	Women	2,664	166	346	109	3,285	532	38	138	29	737
	Total	4,892	331	754	203	6,180	1,303	98	347	83	1,831
Cancer (C00-D48)	Men	69,789	4,478	7,941	2,165	84,373	34,002	2,239	4,129	1,188	41,558
	Women	62,990	4,189	7,677	1,946	76,802	28,830	1,925	3,701	976	35,432
	Total	132,779	8,667	15,618	4,111	161,175	62,832	4,164	7,830	2,164	76,990
Colo-rectal cancer (C18-C21)	Men	7,186	514	793	239	8,732	3,553	262	392	139	4,346
	Women	6,002	400	736	185	7,323	2,170	147	294	76	2,687
	Total	13,188	914	1,529	424	16,055	5,723	409	686	215	7,033
Lung cancer (C33,C34)	Men	15,781	1,026	2,107	539	19,453	8,484	549	1,175	327	10,535
	Women	12,347	823	1,948	370	15,488	6,235	426	1,062	227	7,950
	Total	28,128	1,849	4,055	909	34,941	14,719	975	2,237	554	18,485
Breast cancer (C50)	Men	56	7	10	5	78	26	3	4	1	34
	Women	9,653	637	1,022	266	11,578	5,157	339	550	171	6,217
	Total	9,709	644	1,032	271	11,656	5,183	342	554	172	6,251
Other cancers (C00-C17, C22-C32, C35-C49, C51-D48)	Men	46,766	2,931	5,031	1,382	56,110	21,939	1,425	2,558	721	26,643
	Women	34,988	2,329	3,971	1,125	42,413	15,268	1,013	1,795	502	18,578
	Total	81,754	5,260	9,002	2,507	98,523	37,207	2,438	4,353	1,223	45,221
Respiratory disease (J00-J99)	Men	29,566	1,997	3,080	856	35,499	7,896	575	940	209	9,620
	Women	33,370	2,343	3,816	1,030	40,559	5,994	429	910	453	7,786
	Total	62,936	4,340	6,896	1,886	76,058	13,890	1,004	1,850	662	17,406
Injuries and poisoning (V01-Y98)	Men	9,579	717	1,359	565	12,220	7,072	524	1,086	474	9,156
	Women	6,108	443	854	275	7,680	2,650	189	404	161	3,404
	Total	15,687	1,160	2,213	840	19,900	9,722	713	1,490	635	12,560
All other causes	Men	39,557	2,580	5,107	1,186	48,430	16,410	1,082	2,604	602	20,698
	Women	58,451	3,778	6,862	1,754	70,845	11,981	829	1,835	197	14,842
	Total	98,008	6,358	11,969	2,940	119,275	28,391	1,911	4,439	799	35,540

Notes:
ICD-10 codes in parentheses.

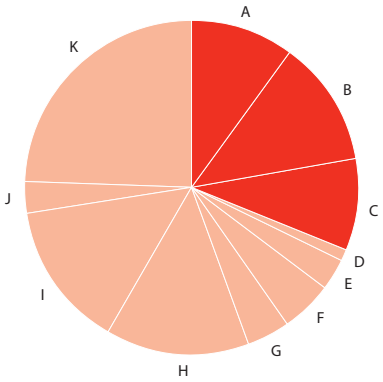
Source:
England and Wales, Office for National Statistics (2012) Deaths registered by cause, sex and age. www.statistics.gov.uk (accessed April 2012). ¶ Scotland, General Register Office (2011) Registrar General Annual Report. GRO: Edinburgh. ¶ Northern Ireland, Statistics and Research Agency (2011) Registrar General Annual Report. NISRA: Belfast.

Figure 1.3a
Deaths by cause in men, United Kingdom 2010



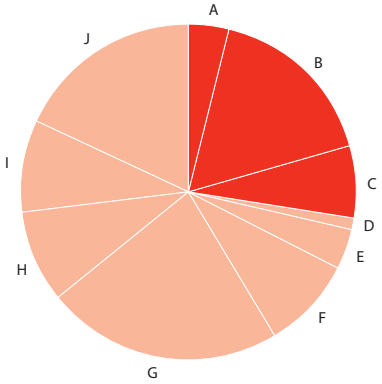
A. Stroke (7%)
B. Coronary heart disease (17%)
C. Other cardiovascular disease (8%)
D. Diabetes (1%)
E. Colo-rectal cancer (3%)
F. Lung cancer (7%)
G. Other cancers (21%)
H. Respiratory disease (13%)
I. Injuries and poisoning (5%)
J. All other causes (18%)

Figure 1.3b
Deaths by cause in women, United Kingdom 2010



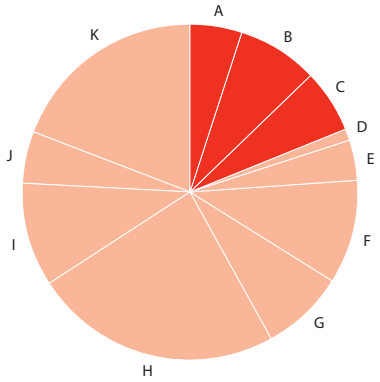
A. Stroke (10%)
B. Coronary heart disease (12%)
C. Other cardiovascular disease (9%)
D. Diabetes (1%)
E. Colo-rectal cancer (3%)
F. Lung cancer (5%)
G. Breast cancer (4%)
H. Other cancers (14%)
I. Respiratory disease (14%)
J. Injuries and poisoning (3%)
K. All other causes (24%)

Figure 1.3c
Deaths by cause in men under 75, United Kingdom 2010



A. Stroke (4%)
B. Coronary heart disease (17%)
C. Other cardiovascular disease (7%)
D. Diabetes (1%)
E. Colo-rectal cancer (4%)
F. Lung cancer (9%)
G. Other cancers (23%)
H. Respiratory disease (9%)
I. Injuries and poisoning (9%)
J. All other causes (18%)

Figure 1.3d
Deaths by cause in women under 75, United Kingdom 2010



A. Stroke (5%)
B. Coronary heart disease (8%)
C. Other cardiovascular disease (6%)
D. Diabetes (1%)
E. Colo-rectal cancer (4%)
F. Lung cancer (10%)
G. Breast cancer (8%)
H. Other cancers (24%)
I. Respiratory disease (10%)
J. Injuries and poisoning (5%)
K. All other causes (19%)

Table 1.4
Age-standardised death rates per 100,000 population for myocardial infarction, by sex and age, England and Scotland 2010

	Men	Women
England		
30-54	1	0
55-64	6	2
65-74	14	6
75-84	35	19
85+	85	58
Under 75	20	6
All ages	**40**	**18**
Number of events	*14,980*	*11,069*
Scotland		
0-44	2	1
45-64	68	18
65-74	279	128
75+	916	572
Under 75	40	14
All ages	**75**	**37**
Number of deaths	*2,536*	*2,041*

Notes:
ICD-10 codes I21-22. ¶ England rates are age-standardised to the European Standard Population. ¶ Scotland rates are age-sex-standardised to the European Standard Population.

Source:
Smolina K, Wright L, Rayner M, Goldacre M (2012). Determinants of the decline in mortality from acute myocardial infarction in England between 2002 and 2010: linked national database study. BMJ; 344. DOI: 10.1136/bmj.d8059 ¶ Unit of Health-Care Epidemiology, Department of Public Health, University of Oxford (2010) Personal communication. ¶ ISD Scotland Table MC1: Trends in mortality 2001-2010 (2012). http://www.isdscotland.org/Health-Topics/Heart-Disease/Topic-Areas/Mortality (Accessed September 2012)

Figure 1.4
Age-standardised death rates per 100,000 population for myocardial infarction, by sex and age, England 2010

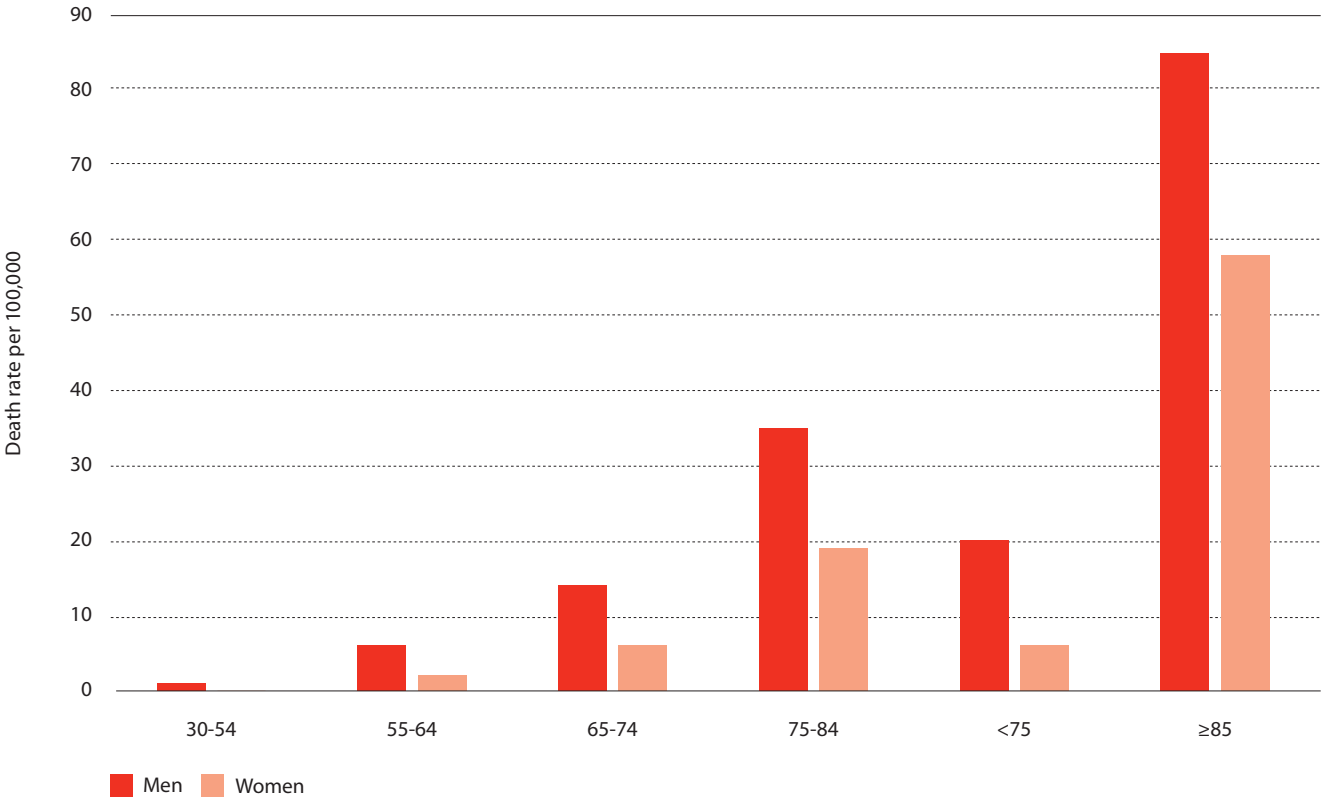


Table 1.5
Excess winter cardiovascular disease (CVD) mortality, by sex, England and Wales 2009/10

	Men		Women	
	Excess winter mortality	Excess winter mortality index	Excess winter mortality	Excess winter mortality index
0-64	380	9.1	240	15.1
65-74	780	16.9	400	16.4
75-84	1,610	19.6	1,540	20.4
85 +	1,610	22.5	3,070	22.5
All ages	4,370	18.1	5,240	20.8

Notes:
Excess winter mortality calculation: winter deaths - average non-winter deaths. ¶ Excess winter mortality index calculation: (Excess winter mortality/average non-winter deaths) *100.

Source:

Office for National Statistics (2011). http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-235062 (accessed September 2012).

Table 1.6
Age-specific death rates per 100,000 population from coronary heart disease (CHD) by sex, United Kingdom 1968 to 2010

	35–44		45–54		55–64		65–74	
	Men	Women	Men	Women	Men	Women	Men	Women
1968	65	11	253	46	714	198	1,639	726
1969	63	11	262	47	728	202	1,660	731
1970	65	11	267	46	727	204	1,631	704
1971	69	10	280	50	724	200	1,634	698
1972	69	11	297	54	759	218	1,718	739
1973	66	11	296	56	755	220	1,692	731
1974	68	12	298	55	758	226	1,696	725
1975	63	11	298	54	742	215	1,684	717
1976	60	12	279	55	752	220	1,687	721
1977	61	11	281	53	732	209	1,678	714
1978	62	11	288	55	754	216	1,705	725
1979	57	9	286	57	749	215	1,665	706
1980	56	9	270	50	733	215	1,621	688
1981	53	9	260	49	702	203	1,601	692
1982	47	8	245	48	696	206	1,588	688
1983	46	7	242	46	705	213	1,618	692
1984	42	7	227	45	696	213	1,591	695
1985	43	7	221	43	687	213	1,601	702
1986	42	6	217	40	662	204	1,529	681
1987	41	6	201	39	638	201	1,489	661
1988	37	6	188	36	610	191	1,441	639
1989	37	6	170	32	567	180	1,373	627
1990	37	6	159	33	536	179	1,352	594
1991	34	6	153	30	512	169	1,312	593
1992	32	6	142	28	490	155	1,274	571
1993	29	5	136	26	478	147	1,266	567
1994	27	5	118	24	427	131	1,173	520
1995	26	5	117	24	408	124	1,133	498
1996	25	5	112	22	384	119	1,073	465
1997	23	5	107	21	361	110	983	434
1998	23	4	103	22	343	104	952	420
1999	22	5	97	20	317	94	902	387
2000	19	5	92	20	291	84	823	347
2001	20	4	93	19	271	79	763	328
2002	21	4	89	19	250	72	707	304
2003	19	5	85	18	238	66	660	275
2004	19	4	81	16	219	57	599	250
2005	19	4	73	16	204	54	558	225
2006	18	4	72	15	194	52	500	207
2007	17	4	69	15	188	49	471	187
2008	17	4	67	14	175	47	443	179
2009	16	3	61	14	167	41	397	149
2010	15	4	62	14	165	40	396	148

Source:
1968 to 1999: World Health Organization (2002) http://www.who.int/gho/en/ (accessed August 2012). ¶ From 2000: Office for National Statistics (personal communication).

Figure 1.6a

Age-specific death rates from coronary heart disease (CHD) as a percentage of the rate in 1968, in men, United Kingdom 1968 to 2010

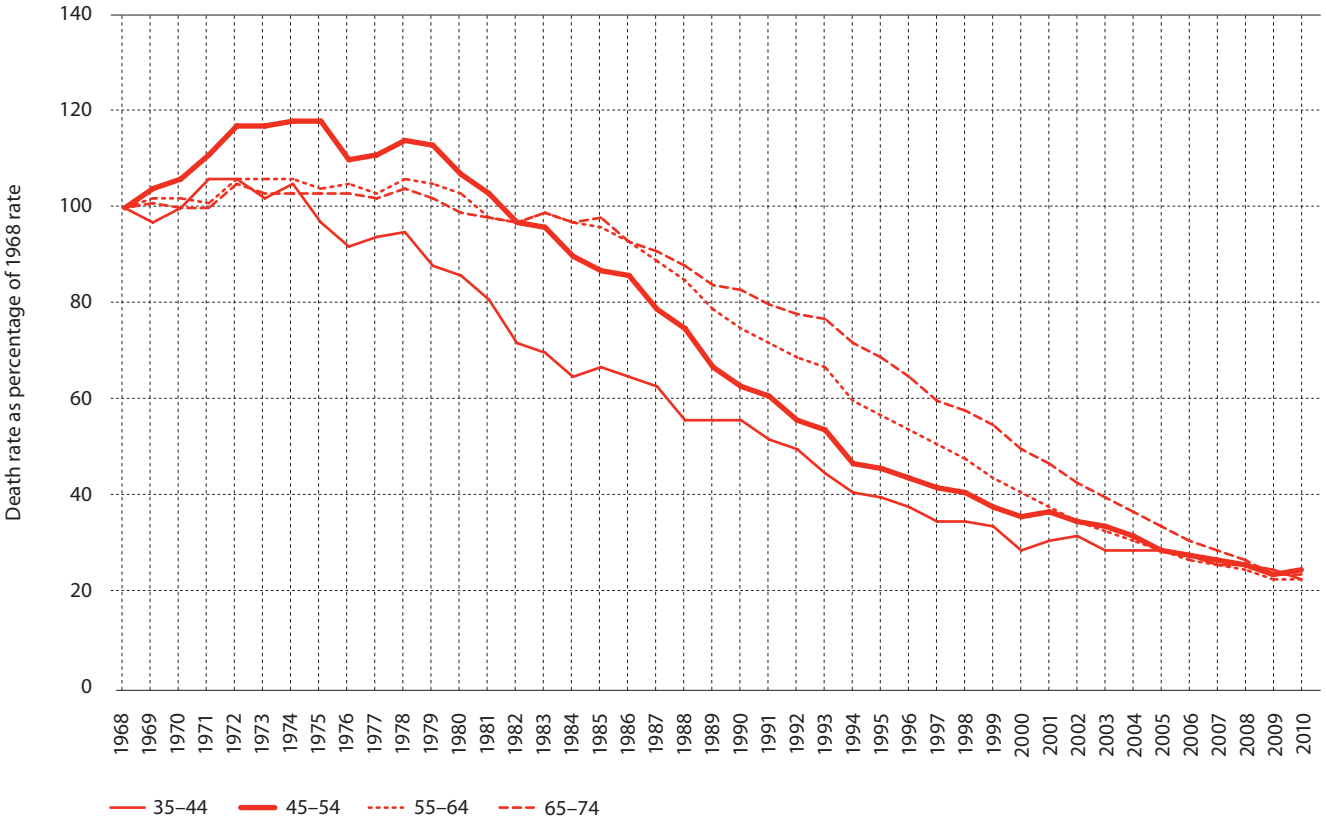


Figure 1.6b

Age-specific death rates from coronary heart disease (CHD) as a percentage of the rate in 1968 in women, United Kingdom 1968 to 2010

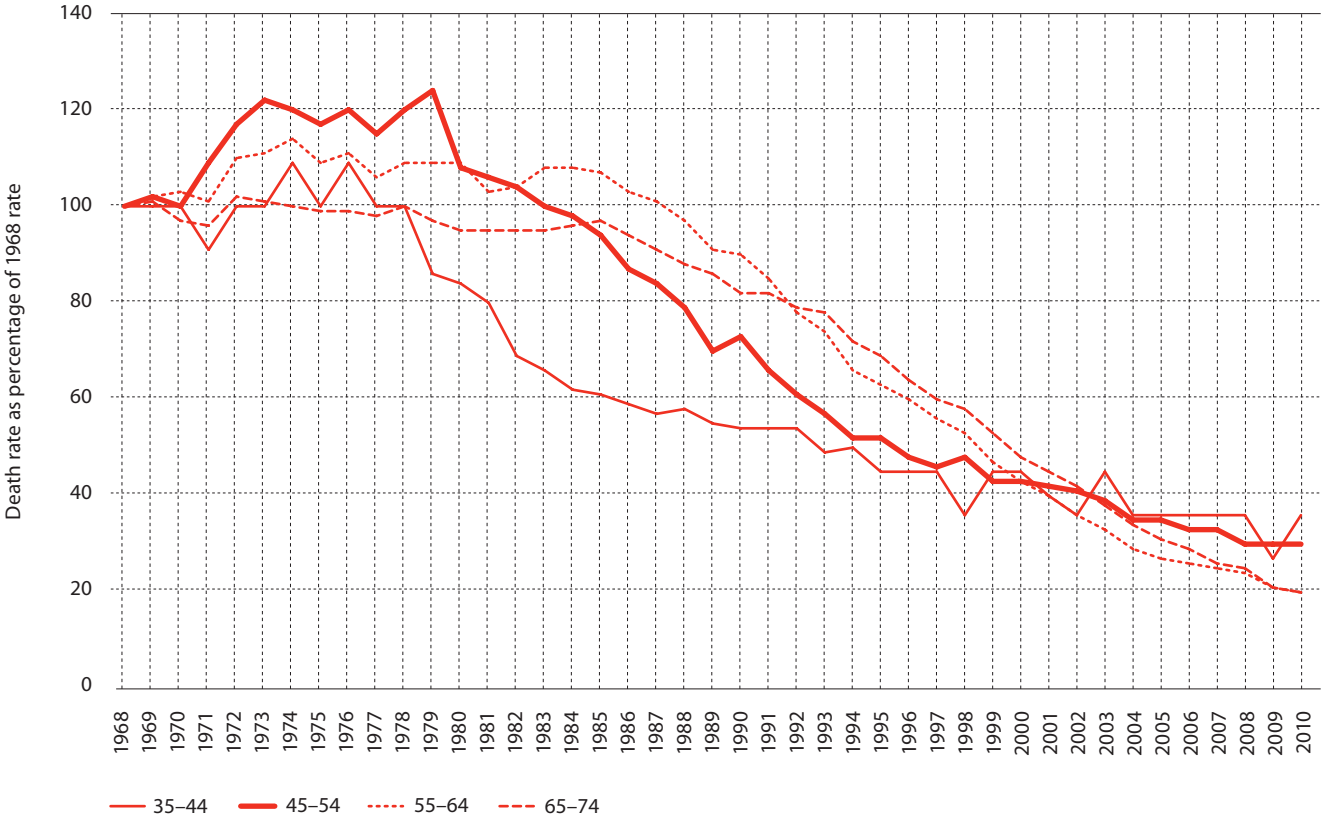


Table 1.7
Death rates from myocardial infarction per 100,000 population, by sex and age, England and Scotland 2002 to 2010

	England				Scotland			
	All ages		Under 75		All ages		Under 75	
	Men	Women	Men	Women	Men	Women	Men	Women
2002	78.7	37.3	41.4	14.9	132.8	68.5	70.7	29.3
2003	73.6	35.2	38.0	13.3	125.9	64.6	68.0	26.7
2004	66.5	31.1	34.1	11.4	112.2	57.4	57.6	22.5
2005	60.3	28.5	30.9	10.5	107.4	53.4	57.0	21.3
2006	54.6	25.3	28.0	9.2	93.6	49.6	50.6	20.6
2007	49.9	23.2	25.8	8.2	93.8	44.7	51.4	18.2
2008	46.1	21.4	24.1	7.8	84.3	42.0	46.4	16.8
2009	42.7	19.2	22.4	6.8	77.9	38.5	40.5	15.4
2010	39.2	17.7	20.3	6.3	74.7	36.7	39.6	14.4

Notes:
ICD-10 codes I21-22. ¶ England rates are age-standardised to the European Standard Population. ¶ Scotland rates are age-sex-standardised to the European Standard Population.

Source:
Smolina K, Wright FL, Rayner M, Goldacre M. Determinants of the decline in mortality from acute myocardial infarction in England between 2002 and 2010: A linked database study. BMJ 2012; 344. DOI: 10.1136/bmj.d8059. ¶ Unit of Health-Care Epidemiology, Department of Public Health, University of Oxford (2012) Personal Communication. ¶ ISD Scotland Table MC1: Trends in mortality 2001-2010 (2012). http://www.isdscotland.org/Health-Topics/Heart-Disease/Topic-Areas/Mortality (Accessed September 2012)

Table 1.8
Age-standardised sudden death rate per 100,000 population for myocardial infarction, by sex and age, England 2002 to 2010

	All ages		Under 75	
	Men	Women	Men	Women
2002	61	27	34	11
2003	57	26	31	10
2004	52	22	28	9
2005	47	20	26	8
2006	43	19	24	7
2007	39	17	21	6
2008	37	16	20	6
2009	34	14	19	5
2010	32	13	18	5
Number of events (most recent year)	11,018	7,369	5,000	1,609

Notes:
Sudden deaths were those deaths with acute myocardial infarction coded as the underlying cause of death on the death certificate and with no linked hospital admission for acute myocardial infarction in the previous 30 days. ¶ Rates are age-standardised to the European Standard Population.

Source:
Smolina K, Wright FL, Rayner M, Goldacre M. Determinants of the decline in mortality from acute myocardial infarction in England between 2002 and 2010: A linked database study. BMJ 2012; 344. DOI: 10.1136/bmj.d8059 Unit of Health-Care Epidemiology, Department of Public Health, University of Oxford (2012) Personal communication.

Figure 1.8
Age-standardised sudden death rate per 100,000 population for myocardial infarction, by sex and age, England 2002 to 2010

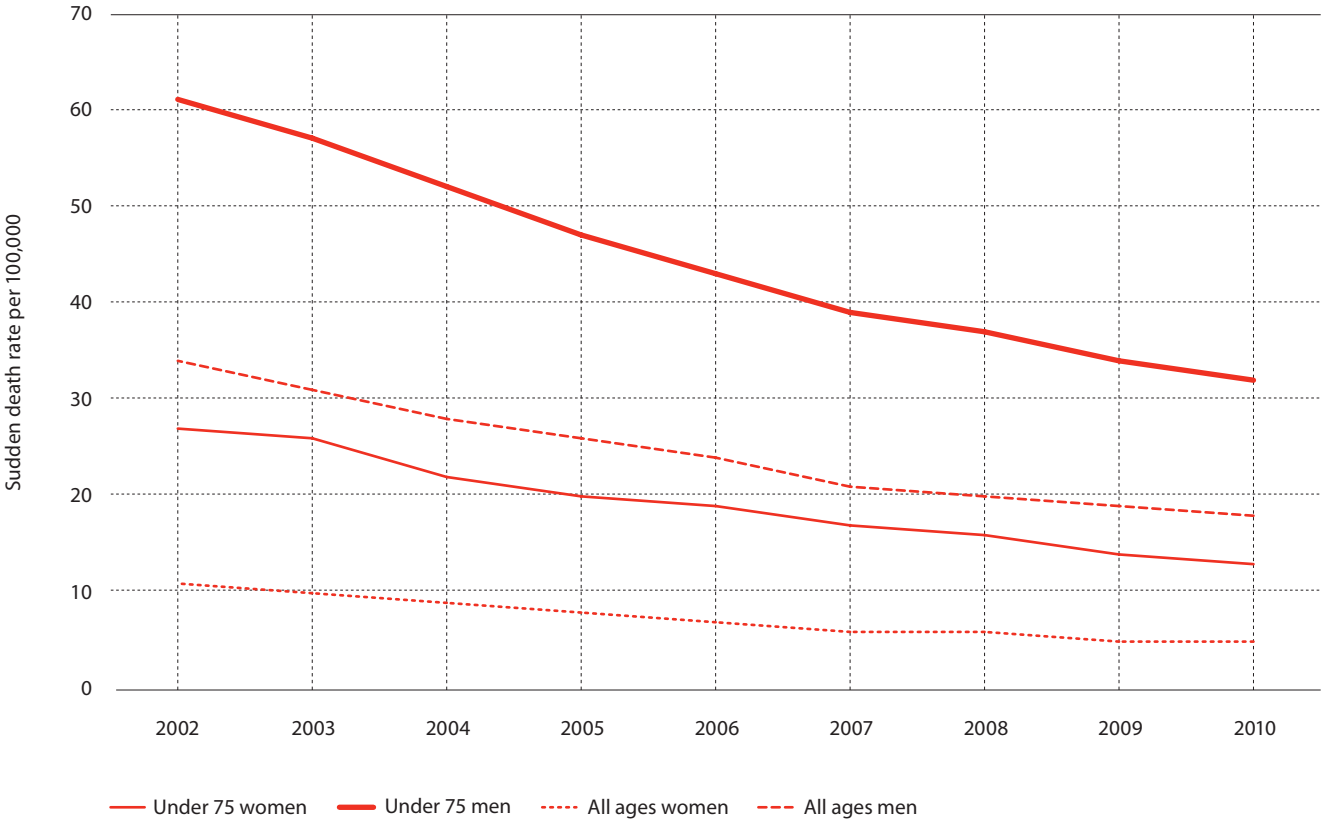


Table 1.9a

Age-standardised death rates from coronary heart disease (CHD) per 100,000 population in men, by country and region of England, United Kingdom 1978 to 2010

	United Kingdom	England	North East	North West	Yorkshire and the Humber	East Midlands	West Midlands	East of England	London	South East	South West	Wales	Scotland	Northern Ireland
Men aged 35-74														
1978	266	241	282	281	277	246	239	212		214	225	289	302	300
1980	240	230	273	268	257	231	230	199		207	218	267	283	303
1982	228	220	259	264	251	225	229	177		193	200	245	279	262
1984	226	217	265	259	245	218	227	193		188	197	238	274	275
1986	216	207	248	248	243	205	221	176		177	192	231	267	277
1988	199	190	238	237	225	196	200	154		161	169	215	247	259
1990	181	173	215	212	201	177	191	141		147	153	197	221	222
1992	168	160	206	190	181	162	171	133		140	141	174	211	201
1994	149	141	173	172	157	138	147	124		125	126	158	188	175
1996	134	129	155	155	143	129	142	110		115	112	146	171	155
1997	136	120	155	144	134	120	131	100	114	100	103	135	160	149
1998	120	116	149	141	133	119	121	95	113	93	101	128	153	139
1999	112	108	130	128	117	110	119	93	106	91	91	128	146	133
2000	104	100	122	121	111	101	108	87	103	80	88	113	133	115
2001	98	94	114	115	109	92	104	81	92	77	80	109	120	105
2002	92	88	106	106	98	92	97	73	91	70	75	104	113	99
2003	87	83	103	101	92	87	90	69	87	69	67	95	112	90
2004	80	77	94	96	81	78	82	65	77	63	65	83	101	89
2005	74	71	86	88	79	71	78	60	73	58	57	82	98	80
2006	69	66	78	84	76	64	70	57	66	53	54	75	88	76
2007	65	62	75	76	70	63	68	53	64	51	52	69	89	74
2008	61	59	70	72	69	60	63	49	62	47	50	65	81	65
2009	56	54	61	66	63	57	59	48	54	46	44	65	71	54
2010	55	53	60	65	61	54	57	46	52	43	43	58	71	62

Notes:

ICD-9 codes 410-414 for pre-2001 data, ICD-10 codes I20-25 thereafter. ¶ Age-standardised using the European Standard Population. ¶ Government Office Regions replaced Standard regions in England in 1997. ¶ Pre-1997, "North East" was "North"; "East Anglia was "East". ¶ There was no data for London as a separate region. ¶ 1978 to 1996 are by standard region; 1997 to 2010 are by Government Office region.

Source:

Pre 1997: Office for Population Censuses and Surveys (1994) Mortality Statistics 1992, DH5 series, HMSO: London and previous editions; Office for National Statistics 1993-1996 figures, personal communication. 1997-2010: England and Wales: Office for National Statistics, personal communication. ¶ Scotland and Northern Ireland: raw data from the General Register Office for Scotland, and the Northern Ireland Statistics and Research Agency.

Table 1.9b

Age-standardised death rates from coronary heart disease (CHD) per 100,000 population in women, by country and region of England, United Kingdom 1978 to 2010

	United Kingdom	England	North East	North West	Yorkshire and the Humber	East Midlands	West Midlands	East of England	London	South East	South West	Wales	Scotland	Northern Ireland
Women aged 35-74														
1978	93	79	108	101	94	78	81	67		64	68	90	118	107
1980	80	75	100	97	88	76	77	62		62	63	94	111	105
1982	79	73	101	94	90	74	77	57		60	58	84	113	104
1984	79	75	102	97	94	79	80	58		60	63	86	105	94
1986	77	72	97	94	87	77	77	56		59	61	83	101	95
1988	72	67	96	89	84	69	74	48		53	52	76	101	96
1990	67	63	90	82	80	65	67	46		49	52	71	93	81
1992	62	58	81	77	71	59	62	43		48	45	65	84	77
1994	55	50	73	66	58	48	53	39		41	40	58	74	70
1996	48	46	62	59	53	46	51	35		37	35	52	64	58
1997	45	42	61	53	51	44	47	33	38	31	32	50	63	53
1998	43	41	57	55	46	45	44	34	37	30	31	45	59	49
1999	39	37	52	48	41	39	42	29	36	29	30	41	54	46
2000	36	34	46	43	40	35	35	27	34	26	26	40	50	41
2001	35	32	40	41	38	33	36	26	32	24	25	39	45	38
2002	32	30	39	39	35	34	32	23	29	24	23	36	44	36
2003	30	28	38	33	30	29	32	22	28	21	23	33	41	30
2004	27	25	33	32	28	27	26	20	25	20	18	32	37	30
2005	24	23	29	29	27	25	24	18	22	17	18	27	35	28
2006	22	21	30	27	25	22	22	17	19	17	16	25	33	27
2007	21	19	26	26	22	20	20	14	20	15	15	23	30	23
2008	20	19	22	23	22	21	20	15	21	14	14	21	28	22
2009	17	16	20	22	19	16	17	12	17	12	12	21	25	22
2010	16	15	17	21	20	16	16	14	15	11	11	18	24	19

Notes:

ICD-9 codes 410-414 for pre-2001 data, ICD-10 codes I20-25 thereafter. ¶ Age-standardised using the European Standard Population. ¶ Government Office Regions replaced Standard regions in England in 1997. ¶ Pre-1997, "North East" was "North"; "East Anglia was "East". ¶ There was no data for London as a separate region. ¶ 1978 to 1996 are by standard region; 1997 to 2010 are by Government Office region.

Source:

Pre 1997: Office for Population Censuses and Surveys (1994) Mortality Statistics 1992, DH5 series, HMSO: London and previous editions; Office for National Statistics 1993-1996 figures, personal communication. 1997-2010: England and Wales: Office for National Statistics, personal communication. ¶ Scotland and Northern Ireland: raw data from the General Register Office for Scotland, and the Northern Ireland Statistics and Research Agency.

Table 1.10
Death rates from myocardial infarction per 100,000 population by Government Office Region, England 2002 to 2010

	North East	North West	Yorkshire and the Humber	East Midlands	West Midlands	East of England	London	South East	South West
2002	65.2	67.9	69.4	55.3	58.3	48.0	47.9	45.2	51.7
2003	61.7	64.8	65.1	49.6	54.7	45.7	46.7	43.4	45.0
2004	53.3	58.1	57.0	44.3	49.1	41.9	42.3	39.4	40.7
2005	48.4	52.2	53.8	41.4	47.7	36.7	38.4	35.4	35.7
2006	43.2	48.8	48.3	37.5	42.7	34.5	32.4	30.5	33.3
2007	40.1	47.2	41.9	36.4	37.5	29.5	31.5	28.2	30.0
2008	36.3	41.7	40.5	33.2	34.3	28.1	30.7	26.4	26.6
2009	35.3	38.8	37.3	29.1	31.6	26.1	29.1	23.2	23.8
2010	29.0	35.4	34.7	27.0	30.1	25.2	27.0	21.2	21.3

Source:
Smolina K, Wright FL, Rayner M, Goldacre M. Determinants of the decline in mortality from acute myocardial infarction in England between 2002 and 2010: A linked database study. BMJ 2012; 344. DOI: 10.1136/bmj.d8059. Unit of Health-Care Epidemiology, Department of Public Health, University of Oxford (2012) Personal Communication.

Table 1.11

Numbers of deaths and age-standardised death rates from coronary heart disease (CHD) in men and women, all ages and under 75, by local authority, United Kingdom 2008/10

		Under 75				All ages			
LA code	LA name	Men		Women		Men		Women	
		Number of deaths 2008-2010	Age-standardised death rate/100,000	Number of deaths 2008-2010	Age-standardised death rate/100,000	Number of deaths 2008-2010	Age-standardised death rate/100,000	Number of deaths 2008-2010	Age-standardised death rate/100,000
United Kingdom		**59,236**	**57.9**	**20,221**	**17.9**	**143,026**	**114.3**	**107,783**	**53.1**
England		**47,468**	**55.7**	**15,737**	**16.8**	**116,720**	**112.5**	**87,124**	**50.8**
North East		2,902	64.0	985	19.9	6,611	123.7	4,743	55.8
00EJ	County Durham	621	63.7	214	21.1	1,383	121.9	1,027	61.3
00EH	Darlington	129	73.9	30	15.6	271	132.2	179	48.1
00CH	Gateshead	232	68.2	84	22.0	512	130.7	399	62.5
00EB	Hartlepool	106	69.9	28	16.2	213	127.2	148	52.7
00EC	Middlesbrough	149	71.0	54	22.9	330	132.0	234	58.7
00CJ	Newcastle upon Tyne	274	70.2	106	24.2	662	133.5	457	56.9
00CK	North Tyneside	224	66.1	73	19.2	514	123.9	375	53.9
00EM	Northumberland	348	54.2	97	14.4	858	113.4	595	49.2
00EE	Redcar and Cleveland	141	54.7	47	16.6	329	107.8	229	47.1
00CL	South Tyneside	168	64.3	66	21.7	428	131.4	329	59.8
00EF	Stockton-on-Tees	193	61.2	60	17.4	393	112.0	233	44.0
00CM	Sunderland	317	66.7	126	23.7	718	132.3	538	63.1
North West		8,119	68.4	2,911	22.5	17,972	131.4	13,792	62.4
16UB	Allerdale	117	67.8	54	25.4	293	139.9	237	66.6
16UC	Barrow-in-Furness	80	50.1	36	24.4	189	102.6	151	60.4
00EX	Blackburn with Darwen	170	69.1	78	35.8	373	139.1	303	90.1
00EY	Blackpool	244	101.3	70	23.4	484	175.5	324	62.5
00BL	Bolton	310	71.8	112	23.9	684	141.5	476	61.2
30UD	Burnley	135	82.8	31	20.2	266	140.3	187	66.2
00BM	Bury	206	67.3	74	21.2	441	130.1	346	61.8
16UD	Carlisle	130	68.0	47	22.1	322	141.8	241	61.8
00EQ	Cheshire East	348	50.9	103	13.7	892	107.2	715	49.8
00EW	Cheshire West and Chester	299	49.0	104	15.3	751	103.6	611	51.5
30UE	Chorley	105	53.7	39	18.9	233	109.9	178	55.5
16UE	Copeland	95	70.4	32	21.9	179	119.6	139	60.7
16UF	Eden	57	40.6	19	15.5	166	99.1	130	58.7
30UF	Fylde	62	40.3	23	12.3	206	96.6	184	44.9
00ET	Halton	143	32.1	64	30.2	319	64.7	233	77.8
30UG	Hyndburn	103	67.4	44	29.4	248	145.5	212	83.6

		Under 75				All ages			
LA code	LA name	Men		Women		Men		Women	
		Number of deaths 2008-2010	Age-standardised death rate/100,000	Number of deaths 2008-2010	Age-standardised death rate/100,000	Number of deaths 2008-2010	Age-standardised death rate/100,000	Number of deaths 2008-2010	Age-standardised death rate/100,000
00BX	Knowsley	210	90.1	70	25.4	377	148.9	267	63.3
30UH	Lancaster	171	82.5	48	18.5	397	152.2	274	53.3
00BY	Liverpool	539	83.1	185	25.0	1,017	138.4	728	62.3
00BN	Manchester	527	101.1	187	33.8	958	158.8	721	75.8
00BP	Oldham	284	80.6	109	28.8	576	151.4	395	66.7
30UJ	Pendle	108	73.1	47	29.5	232	139.0	206	74.5
30UK	Preston	141	67.6	58	27.6	303	121.3	233	68.4
30UL	Ribble Valley	70	53.5	19	15.4	175	116.8	138	60.5
00BQ	Rochdale	256	79.2	103	28.9	531	145.4	394	70.4
30UM	Rossendale	77	53.3	31	26.7	178	110.4	123	64.9
00BR	Salford	312	91.8	88	23.1	615	157.0	447	66.0
00CA	Sefton	309	60.9	109	17.3	761	119.8	557	49.8
16UG	South Lakeland	103	51.6	37	15.4	309	124.7	271	51.8
30UN	South Ribble	94	55.2	35	16.1	215	111.2	185	52.0
00BZ	St. Helens	246	75.9	103	29.3	502	151.1	373	70.3
00BS	Stockport	294	59.0	121	22.1	739	125.8	644	62.9
00BT	Tameside	353	97.5	117	30.3	742	185.3	640	96.0
00BU	Trafford	208	61.9	62	15.5	550	126.9	386	52.7
00EU	Warrington	230	78.7	86	22.6	514	164.2	408	70.0
30UP	West Lancashire	110	60.6	40	17.5	264	132.2	196	54.1
00BW	Wigan	407	72.6	135	22.6	756	134.0	546	63.2
00CB	Wirral	352	64.7	142	21.9	877	130.3	718	59.9
30UQ	Wyre	114	52.2	49	17.1	338	121.4	275	52.3
Yorkshire & The Humber		5,605	64.8	1,960	20.4	13,357	130.7	10,016	59.4
00CC	Barnsley	293	73.3	118	27.5	622	143.7	487	70.6
00CX	Bradford	547	77.1	198	25.6	1,193	145.0	823	62.3
00CY	Calderdale	190	56.2	61	16.5	442	113.7	357	54.0
36UB	Craven	57	47.5	19	14.0	168	110.5	132	48.2
00CE	Doncaster	362	71.6	125	21.8	850	142.6	571	60.9
00FB	East Riding of Yorkshire	356	59.0	109	13.9	959	135.7	693	50.5
36UC	Hambleton	78	47.1	34	15.9	214	108.9	162	47.8
36UD	Harrogate	148	63.3	56	17.1	401	135.5	347	53.5
00FA	Kingston upon Hull, City of	310	90.6	107	26.7	619	156.5	429	63.5
00CZ	Kirklees	414	64.4	138	20.1	954	130.3	791	64.9
00DA	Leeds	735	66.5	252	20.3	1,756	129.6	1,279	57.0
00FC	North East Lincolnshire	186	44.8	68	21.8	437	88.6	322	60.0

		Under 75				All ages			
LA code	LA name	Men		Women		Men		Women	
		Number of deaths 2008-2010	Age-standardised death rate/100,000	Number of deaths 2008-2010	Age-standardised death rate/100,000	Number of deaths 2008-2010	Age-standardised death rate/100,000	Number of deaths 2008-2010	Age-standardised death rate/100,000
00FD	North Lincolnshire	191	65.5	66	19.7	447	129.6	321	57.2
36UE	Richmondshire	60	48.4	13	12.5	138	96.3	75	42.2
00CF	Rotherham	304	67.4	134	27.9	754	150.6	615	78.2
36UF	Ryedale	65	36.5	23	17.5	183	81.7	152	64.9
36UG	Scarborough	134	72.3	63	24.5	410	174.4	356	70.2
36UH	Selby	68	48.2	18	11.5	176	111.4	139	52.3
00CG	Sheffield	539	64.9	174	18.6	1,344	131.7	987	56.1
00DB	Wakefield	410	72.3	131	21.7	875	138.0	602	60.0
00FF	York	158	50.8	53	14.3	415	106.5	376	52.0
East Midlands		4,469	57.5	1,466	17.7	10,676	114.2	7,818	53.3
17UB	Amber Valley	157	82.6	49	19.7	366	163.3	288	63.8
37UB	Ashfield	135	62.0	43	19.3	290	115.8	226	58.9
37UC	Bassetlaw	132	66.2	32	14.0	284	128.1	220	55.2
31UB	Blaby	83	43.9	24	12.3	223	99.5	120	38.0
17UC	Bolsover	104	61.7	38	25.2	234	115.0	180	71.2
32UB	Boston	75	54.0	31	23.8	180	109.5	131	58.4
37UD	Broxtowe	108	52.9	33	15.1	257	108.9	175	46.1
31UC	Charnwood	120	46.9	42	15.1	336	103.5	245	48.2
17UD	Chesterfield	129	65.3	35	17.4	319	133.7	201	50.6
34UB	Corby	58	49.0	20	19.5	122	83.2	70	48.4
34UC	Daventry	70	40.3	8	5.4	165	80.3	87	34.7
00FK	Derby	245	70.1	111	28.9	612	136.0	530	71.3
17UF	Derbyshire Dales	74	49.6	11	8.0	197	107.9	126	38.8
32UC	East Lindsey	188	71.7	53	14.7	472	144.2	335	54.4
34UD	East Northamptonshire	51	38.8	16	10.0	142	94.8	120	42.1
17UG	Erewash	111	56.3	36	17.1	273	115.3	204	52.4
37UE	Gedling	124	59.7	38	16.4	270	108.4	217	51.2
31UD	Harborough	84	50.7	17	10.2	202	102.1	130	42.9
17UH	High Peak	110	67.4	34	20.1	243	124.4	180	58.0
31UE	Hinckley and Bosworth	85	38.4	26	12.2	213	81.1	144	39.8
34UE	Kettering	83	56.2	27	16.5	187	110.0	121	41.7
00FN	Leicester	342	91.8	135	33.0	723	162.3	508	74.9
32UD	Lincoln	76	62.1	28	20.7	174	110.1	174	60.4
37UF	Mansfield	124	67.2	54	28.0	269	124.1	224	70.4
31UG	Melton	39	34.8	11	11.4	111	81.6	80	43.5
37UG	Newark and Sherwood	121	56.0	44	19.1	283	110.8	208	51.6

		Under 75				All ages			
LA code	LA name	Men		Women		Men		Women	
		Number of deaths 2008-2010	Age-standardised death rate/100,000	Number of deaths 2008-2010	Age-standardised death rate/100,000	Number of deaths 2008-2010	Age-standardised death rate/100,000	Number of deaths 2008-2010	Age-standardised death rate/100,000
17UJ	North East Derbyshire	104	51.1	45	20.5	261	109.7	236	64.7
32UE	North Kesteven	107	42.3	27	11.8	271	87.9	171	42.6
31UH	North West Leicestershire	101	56.2	33	18.9	234	113.6	155	52.4
34UF	Northampton	170	66.6	57	17.2	404	133.2	290	49.5
00FY	Nottingham	284	110.9	103	28.0	614	195.8	431	65.4
31UJ	Oadby and Wigston	41	42.0	7	6.1	143	107.1	87	37.0
37UJ	Rushcliffe	93	48.4	19	8.8	241	101.4	175	40.7
00FP	Rutland	29	16.3	13	14.6	81	37.4	60	41.1
17UK	South Derbyshire	88	53.4	28	16.6	188	102.6	170	60.6
32UF	South Holland	90	54.4	34	16.3	244	113.3	201	53.5
32UG	South Kesteven	114	47.2	34	12.1	305	103.7	245	48.9
34UG	South Northamptonshire	65	40.3	16	9.6	157	89.6	114	41.8
34UH	Wellingborough	70	36.7	18	13.0	164	74.8	100	41.7
32UH	West Lindsey	85	45.7	36	18.3	222	97.1	139	44.9
West Midlands		5,510	59.9	1,803	17.9	12,654	115.0	8,776	49.4
00CN	Birmingham	985	73.9	373	25.4	2,166	132.3	1,468	56.9
47UB	Bromsgrove	84	44.8	30	15.1	209	89.0	154	41.8
41UB	Cannock Chase	91	52.7	30	17.4	209	101.5	163	58.1
00CQ	Coventry	273	62.0	88	17.7	626	113.2	391	43.4
00CR	Dudley	323	57.3	104	16.7	683	105.7	509	47.7
41UC	East Staffordshire	118	75.3	34	15.8	271	144.7	190	51.0
00GA	Herefordshire, County of	192	52.6	61	16.0	539	115.8	347	44.8
41UD	Lichfield	108	56.0	28	13.2	261	124.7	176	49.3
47UC	Malvern Hills	64	33.1	23	12.6	199	78.5	150	40.0
41UE	Newcastle-under-Lyme	121	55.6	43	16.9	319	124.3	232	51.9
44UB	North Warwickshire	74	48.7	16	12.6	172	93.9	90	44.1
44UC	Nuneaton and Bedworth	123	65.2	39	17.0	282	128.8	181	49.0
47UD	Redditch	80	55.2	19	14.0	168	100.7	93	44.0
44UD	Rugby	85	54.9	21	11.7	180	101.7	125	38.2
00CS	Sandwell	371	82.1	152	31.0	761	143.0	551	66.5
00GG	Shropshire	297	46.2	96	14.3	766	98.1	617	50.0
00CT	Solihull	195	54.1	42	10.1	442	101.3	301	37.0
41UF	South Staffordshire	104	45.7	23	9.5	285	113.7	156	37.3
41UG	Stafford	107	46.3	41	14.7	281	100.3	232	47.2
41UH	Staffordshire Moorlands	103	49.0	32	14.7	252	106.4	176	46.5
00GL	Stoke-on-Trent	255	73.0	97	22.4	590	147.1	445	59.2

		Under 75				All ages			
LA code	LA name	Men		Women		Men		Women	
		Number of deaths 2008-2010	Age-standardised death rate/100,000	Number of deaths 2008-2010	Age-standardised death rate/100,000	Number of deaths 2008-2010	Age-standardised death rate/100,000	Number of deaths 2008-2010	Age-standardised death rate/100,000
44UE	Stratford-on-Avon	90	37.8	32	11.7	251	89.1	166	34.0
41UK	Tamworth	83	50.0	24	18.1	140	78.1	112	59.5
00GF	Telford and Wrekin	175	57.2	61	20.9	370	107.8	222	52.3
00CU	Walsall	335	78.4	97	20.1	694	138.0	446	54.3
44UF	Warwick	108	51.2	25	10.2	260	101.3	146	31.3
00CW	Wolverhampton	254	67.3	85	20.5	569	118.2	430	56.0
47UE	Worcester	97	61.6	31	18.9	203	109.3	148	52.9
47UF	Wychavon	104	49.7	29	11.2	274	113.0	207	42.9
47UG	Wyre Forest	111	58.9	27	12.9	232	108.8	152	40.6
East of England		4,734	47.7	1,499	13.6	13,039	104.7	9,804	47.0
42UB	Babergh	84	45.0	16	8.2	245	107.2	177	43.3
22UB	Basildon	148	60.0	44	13.5	385	121.1	277	49.2
00KB	Bedford	141	54.0	43	16.4	332	111.2	249	54.7
22UC	Braintree	95	35.3	49	18.5	283	83.6	262	53.7
33UB	Breckland	121	45.3	45	15.7	401	117.6	269	47.9
22UD	Brentwood	56	31.6	22	14.6	171	74.9	122	42.3
33UC	Broadland	96	39.6	25	8.4	307	100.2	237	41.2
26UB	Broxbourne	62	36.2	24	13.9	166	85.2	121	44.0
12UB	Cambridge	59	46.2	15	9.6	159	93.2	139	39.1
22UE	Castle Point	81	39.3	16	7.0	214	85.1	166	44.6
00KC	Central Bedfordshire	209	49.7	70	15.0	517	109.4	387	50.8
22UF	Chelmsford	108	47.2	28	8.8	300	107.5	229	40.2
22UG	Colchester	108	43.8	35	11.4	291	99.6	237	40.8
26UC	Dacorum	87	39.7	27	11.1	270	94.8	207	42.7
12UC	East Cambridgeshire	57	29.7	22	14.1	170	72.4	139	47.4
26UD	East Hertfordshire	89	45.1	27	11.4	260	110.5	201	46.4
22UH	Epping Forest	117	49.5	33	13.6	333	112.4	255	53.2
12UD	Fenland	104	60.3	29	15.7	257	121.6	163	45.3
42UC	Forest Heath	44	40.3	21	21.2	126	98.5	99	56.3
33UD	Great Yarmouth	89	41.3	46	22.1	259	92.6	227	59.1
22UJ	Harlow	77	46.2	25	18.3	166	82.7	135	54.1
26UE	Hertsmere	61	34.3	9	5.3	205	84.8	138	34.2
12UE	Huntingdonshire	103	41.4	30	9.5	264	94.7	205	38.5
42UD	Ipswich	105	56.9	44	21.2	333	133.6	237	58.7
33UE	King's Lynn and West Norfolk	171	59.2	50	15.2	447	118.6	321	50.8
00KA	Luton	205	72.4	57	21.2	403	126.3	252	59.6

		Under 75				All ages			
LA code	LA name	Men		Women		Men		Women	
		Number of deaths 2008-2010	Age-standardised death rate/100,000	Number of deaths 2008-2010	Age-standardised death rate/100,000	Number of deaths 2008-2010	Age-standardised death rate/100,000	Number of deaths 2008-2010	Age-standardised death rate/100,000
22UK	Maldon	53	32.1	13	9.3	125	66.5	91	38.7
42UE	Mid Suffolk	94	55.9	24	11.7	256	128.9	178	47.4
26UF	North Hertfordshire	98	45.9	31	14.1	284	106.2	272	57.3
33UF	North Norfolk	109	48.2	33	11.6	367	113.3	262	43.2
33UG	Norwich	115	53.8	42	21.7	308	105.8	240	54.7
00JA	Peterborough	181	72.6	52	17.9	405	131.9	294	59.0
22UL	Rochford	57	39.0	16	9.7	201	105.3	120	37.3
12UG	South Cambridgeshire	90	40.0	26	10.0	239	84.7	171	34.8
33UH	South Norfolk	104	43.5	27	9.4	286	88.9	198	38.7
00KF	Southend-on-Sea	149	57.4	50	16.6	437	127.0	344	55.9
26UG	St Albans	84	44.8	27	11.5	253	104.5	181	41.0
42UF	St Edmundsbury	79	40.7	29	12.7	229	91.6	177	43.9
26UH	Stevenage	72	48.3	27	19.7	184	101.0	127	56.1
42UG	Suffolk Coastal	116	48.3	34	11.6	358	112.2	301	49.4
22UN	Tendring	179	68.9	60	16.1	525	142.9	366	45.2
26UJ	Three Rivers	66	40.5	11	6.7	193	90.6	117	31.3
00KG	Thurrock	123	51.1	40	15.0	288	107.4	228	44.9
22UQ	Uttlesford	49	33.6	12	8.3	141	80.1	106	38.6
26UK	Watford	50	43.2	15	12.1	140	96.4	119	47.9
42UH	Waveney	110	50.0	43	16.1	339	110.6	259	46.4
26UL	Welwyn Hatfield	79	52.2	35	19.5	217	106.6	202	56.0
London		5,282	56.2	1,843	17.5	12,239	108.3	8,981	49.3
00AB	Barking and Dagenham	151	75.1	53	24.3	347	137.9	274	62.0
00AC	Barnet	218	47.4	47	8.9	612	102.3	502	43.6
00AD	Bexley	175	50.1	65	15.7	454	103.3	392	51.8
00AE	Brent	209	61.9	67	17.5	436	111.2	295	49.9
00AF	Bromley	185	38.7	73	12.7	604	92.3	478	41.0
00AG	Camden	150	66.8	41	15.7	325	121.5	185	44.5
00AA	City of London	6	39.4	0	0.0	14	75.4	3	10.5
00AH	Croydon	220	46.1	74	14.1	594	101.2	448	49.9
00AJ	Ealing	293	75.4	86	20.3	546	122.7	310	48.0
00AK	Enfield	204	51.8	72	16.3	486	102.0	386	48.8
00AL	Greenwich	187	69.2	81	27.0	417	135.5	321	60.7
00AM	Hackney	160	77.2	65	29.5	313	132.3	222	67.4
00AN	Hammersmith and Fulham	96	53.7	33	15.4	198	92.0	152	42.0
00AP	Haringey	161	66.5	63	22.9	324	126.9	227	58.7

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00AQ	Harrow	141	43.9	52	14.0	405	100.7	285	44.3
00AR	Havering	225	59.6	72	15.7	571	116.9	423	48.5
00AS	Hillingdon	187	53.1	50	12.8	419	100.4	315	43.4
00AT	Hounslow	179	63.0	58	19.1	360	116.5	248	52.8
00AU	Islington	156	86.0	58	28.2	304	147.2	172	59.6
00AW	Kensington and Chelsea	70	30.5	23	8.1	176	57.6	118	24.3
00AX	Kingston upon Thames	91	43.2	30	12.8	221	85.7	202	45.3
00AY	Lambeth	167	65.4	65	22.0	342	115.5	242	56.5
00AZ	Lewisham	184	66.4	82	26.0	438	138.6	314	63.1
00BA	Merton	122	50.1	46	17.0	281	93.7	232	44.4
00BB	Newham	223	89.3	73	28.6	393	148.3	223	64.3
00BC	Redbridge	189	54.1	81	21.5	488	115.3	370	56.0
00BD	Richmond upon Thames	97	37.6	25	9.0	265	83.9	198	34.3
00BE	Southwark	153	55.9	47	15.4	324	101.0	224	43.7
00BF	Sutton	96	35.5	45	14.9	279	82.0	286	48.1
00BG	Tower Hamlets	180	99.3	44	23.3	338	156.6	169	61.3
00BH	Waltham Forest	168	64.4	72	25.0	371	127.1	308	65.3
00BJ	Wandsworth	129	48.6	48	15.8	344	102.1	286	48.8
00BK	Westminster	110	38.8	52	16.4	250	70.0	171	35.5
South East		6,431	45.6	1,957	12.5	17,495	97.6	13,428	42.8
45UB	Adur	45	26.9	18	12.4	150	70.9	133	44.1
45UC	Arun	140	47.9	45	11.7	467	109.1	370	39.7
29UB	Ashford	103	59.4	28	12.7	257	120.9	198	49.4
11UB	Aylesbury Vale	122	44.9	36	11.7	310	103.5	222	42.3
24UB	Basingstoke and Deane	116	46.8	43	15.4	294	105.8	249	56.0
00MA	Bracknell Forest	76	40.7	14	5.2	173	86.1	96	22.0
00ML	Brighton and Hove	197	62.2	48	12.8	493	122.7	353	44.1
29UC	Canterbury	138	62.4	37	12.5	386	131.0	297	46.0
38UB	Cherwell	96	43.5	19	7.8	252	97.4	156	34.0
45UD	Chichester	111	56.6	25	8.8	320	117.7	249	39.5
11UC	Chiltern	58	33.0	21	11.2	178	81.5	140	39.1
45UE	Crawley	62	31.2	26	17.1	177	60.8	131	45.9
29UD	Dartford	83	51.2	25	16.4	157	83.9	95	38.9
29UE	Dover	119	52.1	39	15.6	326	111.8	260	54.2
24UC	East Hampshire	65	33.5	23	9.9	233	95.0	178	39.2
21UC	Eastbourne	95	71.6	17	8.1	300	147.4	234	38.3

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24UD	Eastleigh	91	40.5	19	8.7	255	97.8	191	43.6
43UB	Elmbridge	63	27.8	36	15.8	219	69.2	216	44.9
43UC	Epsom and Ewell	37	23.3	13	9.7	130	58.2	105	36.5
24UE	Fareham	83	40.6	19	7.3	235	87.1	175	35.8
24UF	Gosport	66	42.5	22	13.7	154	81.5	141	47.4
29UG	Gravesham	77	49.0	28	15.6	162	87.0	147	46.9
43UD	Guildford	78	38.4	22	9.1	232	87.3	154	33.1
24UG	Hart	46	26.2	14	8.4	125	58.6	97	34.1
21UD	Hastings	95	68.0	22	13.0	223	132.4	165	43.7
24UH	Havant	105	54.2	29	11.3	301	113.9	205	40.0
45UF	Horsham	74	31.2	30	11.8	271	83.4	225	42.9
00MW	Isle of Wight	147	49.8	37	11.2	424	107.6	290	38.6
21UF	Lewes	46	24.3	20	9.2	236	74.1	175	32.4
29UH	Maidstone	123	50.8	40	14.4	307	105.0	258	51.0
00LC	Medway	266	73.4	80	21.4	519	131.0	417	69.3
45UG	Mid Sussex	63	31.1	38	14.0	237	83.6	250	49.5
00MG	Milton Keynes	218	71.7	74	23.5	464	144.8	305	64.0
43UE	Mole Valley	62	42.9	17	9.4	195	99.3	150	39.5
24UJ	New Forest	139	46.6	43	10.5	483	109.5	367	36.9
38UC	Oxford	73	43.4	31	17.8	189	83.8	159	45.6
00MR	Portsmouth	171	58.2	45	14.3	391	111.9	271	39.5
00MC	Reading	130	74.5	29	13.4	264	127.7	172	41.4
43UF	Reigate and Banstead	83	38.6	26	11.0	262	92.1	193	37.6
21UG	Rother	105	55.8	22	9.7	294	109.1	263	41.3
43UG	Runnymede	52	37.0	18	12.0	149	78.8	119	39.4
24UL	Rushmoor	57	36.0	9	6.9	144	71.7	92	32.2
29UK	Sevenoaks	52	26.1	21	8.8	195	79.1	157	34.3
29UL	Shepway	117	51.3	30	13.8	328	116.3	224	49.0
00MD	Slough	115	59.5	45	27.3	226	103.2	159	56.5
11UE	South Bucks	44	25.0	14	10.4	151	68.3	105	39.9
38UD	South Oxfordshire	79	34.7	25	10.1	221	80.6	150	33.2
00MS	Southampton	178	55.4	60	19.4	437	104.9	317	50.2
43UH	Spelthorne	67	38.3	21	12.3	178	77.1	155	45.9
43UJ	Surrey Heath	66	46.9	11	6.9	151	91.8	109	38.0
29UM	Swale	146	64.6	41	16.9	314	123.1	213	53.6
43UK	Tandridge	47	31.1	22	13.5	145	69.4	125	37.5
24UN	Test Valley	81	30.1	27	12.1	218	62.5	171	38.4

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29UN	Thanet	155	67.7	52	18.4	450	145.2	358	59.2
29UP	Tonbridge and Malling	87	40.5	20	8.5	224	91.6	188	46.1
29UQ	Tunbridge Wells	78	38.9	36	18.1	196	76.7	159	42.0
38UE	Vale of White Horse	78	40.0	19	8.7	232	91.2	176	39.1
43UL	Waverley	74	39.2	26	11.0	227	91.2	228	42.8
21UH	Wealden	98	36.7	33	9.0	320	85.5	286	38.0
00MB	West Berkshire	90	29.1	19	8.2	251	73.4	152	36.4
38UF	West Oxfordshire	63	32.1	20	9.7	189	75.0	153	35.9
24UP	Winchester	65	37.2	29	12.6	217	93.4	215	45.7
00ME	Windsor and Maidenhead	108	51.3	32	14.3	285	107.7	235	56.2
43UM	Woking	53	37.4	16	10.3	159	84.4	117	36.5
00MF	Wokingham	99	44.4	29	10.7	239	93.9	148	33.9
45UH	Worthing	87	43.7	29	14.2	316	109.9	261	46.5
11UF	Wycombe	128	54.6	33	11.1	288	104.3	204	39.3
South West		4,416	45.6	1,313	12.4	12,677	99.5	9,766	44.2
00HA	Bath and North East Somerset	121	36.9	33	9.7	381	86.9	281	38.7
00HN	Bournemouth	138	45.9	41	14.1	458	102.3	375	47.6
00HB	Bristol, City of	331	71.4	101	17.3	816	138.3	589	49.8
23UB	Cheltenham	70	31.8	25	12.7	235	70.4	237	47.7
19UC	Christchurch	33	28.7	12	8.7	158	82.3	126	38.3
00HE	Cornwall	547	46.2	157	12.8	1,525	102.9	1,182	48.0
23UC	Cotswold	65	39.6	27	14.3	202	95.7	204	52.4
18UB	East Devon	112	40.8	26	7.8	425	103.8	342	37.9
19UD	East Dorset	71	41.3	18	7.4	270	103.0	189	34.7
18UC	Exeter	85	51.0	25	13.2	206	99.7	198	45.3
23UD	Forest of Dean	80	46.1	25	14.0	200	95.4	164	49.9
23UE	Gloucester	111	62.8	25	12.7	297	131.9	160	43.1
00HF	Isles of Scilly UA	0	0.0	1	35.0	8	40.0	3	45.0
40UB	Mendip	79	39.8	14	6.1	234	92.2	144	29.5
18UD	Mid Devon	83	41.8	16	9.8	197	74.7	125	40.4
18UE	North Devon	87	47.8	25	11.5	255	108.9	194	43.2
19UE	North Dorset	48	38.3	13	8.8	153	83.4	118	38.5
00HC	North Somerset	149	32.5	46	10.3	481	78.5	405	42.8
00HG	Plymouth	267	64.5	77	25.5	597	122.0	427	75.7
00HP	Poole	96	36.0	36	12.5	356	91.1	304	41.6
19UG	Purbeck	31	23.6	14	11.9	118	59.8	78	35.5

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40UC	Sedgemoor	111	59.3	37	15.8	304	129.1	236	50.8
00HD	South Gloucestershire	192	44.7	58	12.3	487	92.6	356	43.4
18UG	South Hams	75	44.3	30	14.9	225	103.2	186	47.9
40UD	South Somerset	138	49.2	33	9.2	411	110.1	252	33.9
23UF	Stroud	93	47.0	35	15.1	259	106.3	230	49.5
00HX	Swindon	140	48.7	53	16.8	368	99.2	282	49.0
40UE	Taunton Deane	93	45.1	29	12.6	279	101.9	213	42.8
18UH	Teignbridge	121	51.7	53	17.5	343	106.0	306	48.1
23UG	Tewkesbury	77	46.7	14	7.7	192	93.1	150	42.0
00HH	Torbay	156	88.4	43	12.4	419	168.1	323	42.0
18UK	Torridge	57	34.7	14	9.4	177	88.7	139	44.0
18UL	West Devon	49	30.8	12	11.5	130	61.6	91	38.4
19UH	West Dorset	73	38.0	27	11.4	277	97.7	225	39.4
40UF	West Somerset	31	17.8	10	9.0	102	42.6	95	37.6
19UJ	Weymouth and Portland	60	51.0	17	12.1	163	102.6	126	42.6
00HY	Wiltshire	346	42.1	91	10.0	969	94.3	711	39.8
Wales		**3,412**	**63.2**	**1,181**	**19.9**	**8,359**	**127.3**	**6,404**	**58.8**
00PL	Blaenau Gwent	106	90.1	42	20.5	200	150.7	187	55.8
00PB	Bridgend	135	46.2	52	18.9	325	91.3	270	56.4
00PK	Caerphilly	215	65.9	86	33.0	480	128.5	359	87.1
00PT	Cardiff	259	73.7	91	22.1	599	138.7	461	59.7
00NU	Carmarthenshire	230	76.3	78	22.1	572	156.3	501	75.0
00NQ	Ceredigion	60	34.6	22	11.0	197	86.3	157	37.2
00NE	Conwy	134	68.8	47	18.8	414	151.4	365	66.2
00NG	Denbighshire	122	58.6	45	18.7	322	125.0	287	57.5
00NJ	Flintshire	158	60.6	47	16.6	417	131.6	297	60.5
00NC	Gwynedd	134	54.9	43	19.6	354	113.7	279	64.7
00NA	Isle of Anglesey	70	34.4	21	10.1	208	81.9	148	33.7
00PH	Merthyr Tydfil	96	68.5	32	14.7	181	112.5	130	35.3
00PP	Monmouthshire	90	54.5	28	15.2	219	111.0	173	48.4
00NZ	Neath Port Talbot	198	70.1	73	22.3	438	129.8	300	52.0
00PR	Newport	171	81.4	55	23.5	385	155.3	279	64.5
00NS	Pembrokeshire	158	61.5	56	23.8	402	125.4	288	67.5
00NN	Powys	130	44.7	41	15.0	397	109.7	271	49.0
00PF	Rhondda, Cynon, Taff	291	82.1	113	29.6	664	162.6	515	78.4
00NX	Swansea	256	75.0	88	20.8	656	147.9	483	60.6

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00PD	The Vale of Glamorgan	118	49.8	35	12.9	300	103.8	196	42.1
00PM	Torfaen	120	57.4	47	27.1	281	114.8	201	69.6
00NL	Wrexham	161	71.5	39	13.8	348	135.1	257	51.8
Scotland		**6,668**	**74.7**	**2,673**	**26.2**	**14,051**	**126.7**	**11,202**	**68.0**
00QA	Aberdeen City	202	69.1	79	19.6	457	120.4	404	53.5
00QB	Aberdeenshire	230	51.1	102	23.3	553	96.6	481	67.4
00QC	Angus	130	50.2	51	16.1	317	94.2	254	48.3
00QD	Argyll & Bute	129	46.1	44	19.9	293	85.6	236	61.6
00QF	Clackmannanshire	73	56.2	26	19.1	134	87.8	115	55.6
00QH	Dumfries & Galloway	219	77.5	71	21.9	526	141.0	371	69.6
00QJ	Dundee City	232	100.9	81	38.0	478	158.7	363	96.9
00QK	East Ayrshire	172	99.8	77	34.6	335	160.6	258	78.2
00QL	East Dunbartonshire	78	43.1	51	19.3	193	83.3	196	47.2
00QM	East Lothian	114	52.6	52	22.2	282	98.6	228	58.2
00QN	East Renfrewshire	82	44.8	38	18.4	212	84.6	190	55.8
00QP	Edinburgh City	502	97.8	179	31.3	1,146	166.5	934	85.1
00RJ	Eilean Siar	46	45.3	14	13.1	100	79.7	55	31.4
00QQ	Falkirk	169	72.8	86	33.8	404	138.5	315	81.0
00QR	Fife	437	90.9	182	24.1	989	158.2	783	61.9
00QS	Glasgow City	897	119.7	370	56.3	1,607	179.8	1,327	122.5
00QT	Highland	268	87.7	88	15.7	589	150.0	450	48.2
00QU	Inverclyde	125	70.1	54	12.7	236	113.7	185	26.8
00QW	Midlothian	103	33.4	38	15.1	221	60.7	162	40.5
00QX	Moray	108	28.7	31	18.0	233	52.4	179	60.1
00QY	North Ayrshire	221	70.0	94	35.8	408	110.5	337	88.6
00QZ	North Lanarkshire	494	125.4	192	39.8	856	189.3	655	98.7
00RA	Orkney Islands	20	25.7	11	8.1	50	54.7	44	21.8
00RB	Perth & Kinross	161	65.5	61	13.9	407	121.6	348	49.8
00RC	Renfrewshire	239	87.2	104	43.5	478	143.1	355	101.2
00QE	Scottish Borders	153	46.6	65	23.7	393	95.9	269	60.4
00RD	Shetland Islands	18	43.2	1	0.6	51	101.7	37	14.2
00RE	South Ayrshire	188	76.3	61	33.6	403	127.3	302	94.0
00RF	South Lanarkshire	414	92.0	161	32.3	836	151.9	661	84.3
00RG	Stirling	87	74.3	34	9.9	187	129.9	158	29.4
00QG	West Dunbartonshire	137	79.1	68	37.3	273	131.0	258	91.2
00RH	West Lothian	220	61.5	107	35.5	404	101.8	292	78.6

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Northern Ireland		**1,688**	**60.4**	**630**	**21.0**	**3,896**	**127.0**	**3,053**	**63.0**
95T	Antrim	45	32.2	17	20.8	95	62.9	85	75.0
95X	Ards	76	47.7	73	50.4	168	96.7	318	139.7
95O	Armagh	49	57.0	16	16.1	138	160.9	102	67.8
95G	Ballymena	55	47.4	27	22.7	150	113.7	109	57.6
95D	Ballymoney	28	45.7	20	36.4	79	112.5	114	137.4
95Q	Banbridge	43	52.3	20	26.0	98	111.6	109	91.1
95Z	Belfast	321	122.9	90	19.5	668	217.8	384	48.0
95V	Carrickfergus	41	60.4	18	24.5	92	129.5	82	71.8
95Y	Castlereagh	52	27.4	18	14.7	136	59.7	106	46.3
95C	Coleraine	55	65.3	16	14.9	149	155.7	85	46.2
95I	Cookstown	38	56.2	15	27.8	93	117.5	80	88.3
95N	Craigavon	108	89.8	23	15.7	211	163.5	114	49.9
95A	Derry	113	98.6	27	16.7	216	200.5	114	52.2
95R	Down	60	52.2	20	17.6	146	113.6	94	50.9
95M	Dungannon	43	42.4	18	22.6	114	110.4	77	62.1
95L	Fermanagh	63	61.4	14	13.3	141	125.5	101	53.4
95F	Larne	42	66.0	16	27.7	92	130.4	58	64.6
95B	Limavady	29	44.0	17	34.3	66	96.4	64	91.0
95S	Lisburn	77	59.2	43	22.8	219	157.0	198	71.2
95H	Magherafelt	27	48.6	14	22.0	77	128.4	87	87.6
95E	Moyle	17	21.7	12	39.6	38	47.0	55	106.6
95P	Newry & Mourne	78	70.2	28	19.2	182	164.5	129	59.6
95U	Newtownabbey	69	71.2	12	7.5	164	151.7	93	35.8
95W	North Down	70	49.8	25	15.7	177	111.9	154	50.3
95K	Omagh	53	57.2	15	19.2	110	110.4	73	60.8
95J	Strabane	36	41.2	16	24.7	77	79.4	68	76.6

Notes:
ICD-10 codes I20-I25; directly standardised using the European Standard Population.

Source:
England and Wales: rates calculated in partnership with the Office for National Statistics. ¶ Scotland: Rates calculated in partnership with the General Register Office for Scotland. ¶ Northern Ireland: Rates calculated in partnership with Northern Ireland Statistics and Research Agency.

Figure 1.11a

Age-standardised death rates from coronary heart disease (CHD) per 100,000, for men under 75 by local authority, 2008/10, United Kingdom

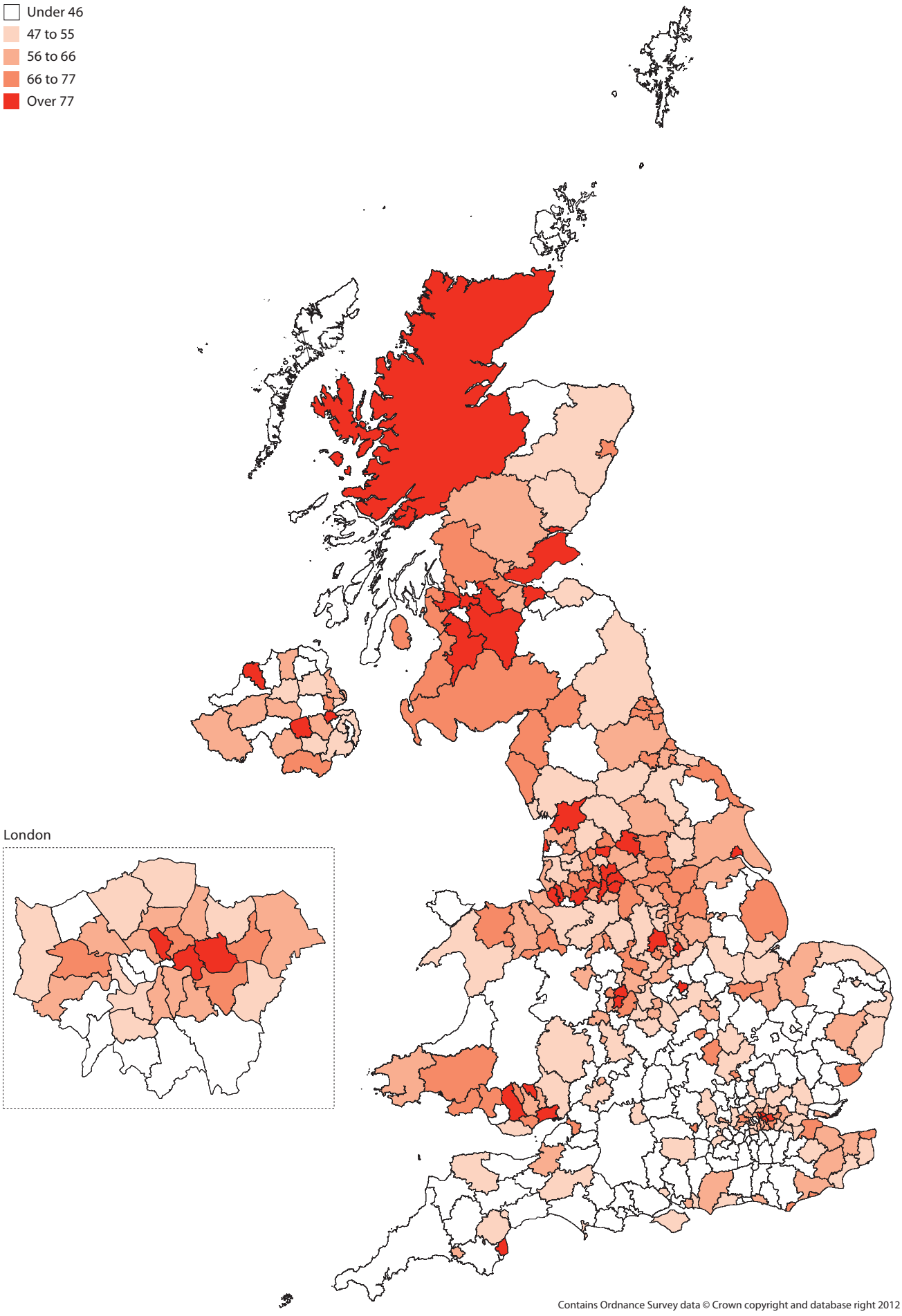

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Figure 1.11b

Age-standardised death rates from coronary heart disease (CHD) per 100,000, for women under 75 by local authority, 2008/10, United Kingdom

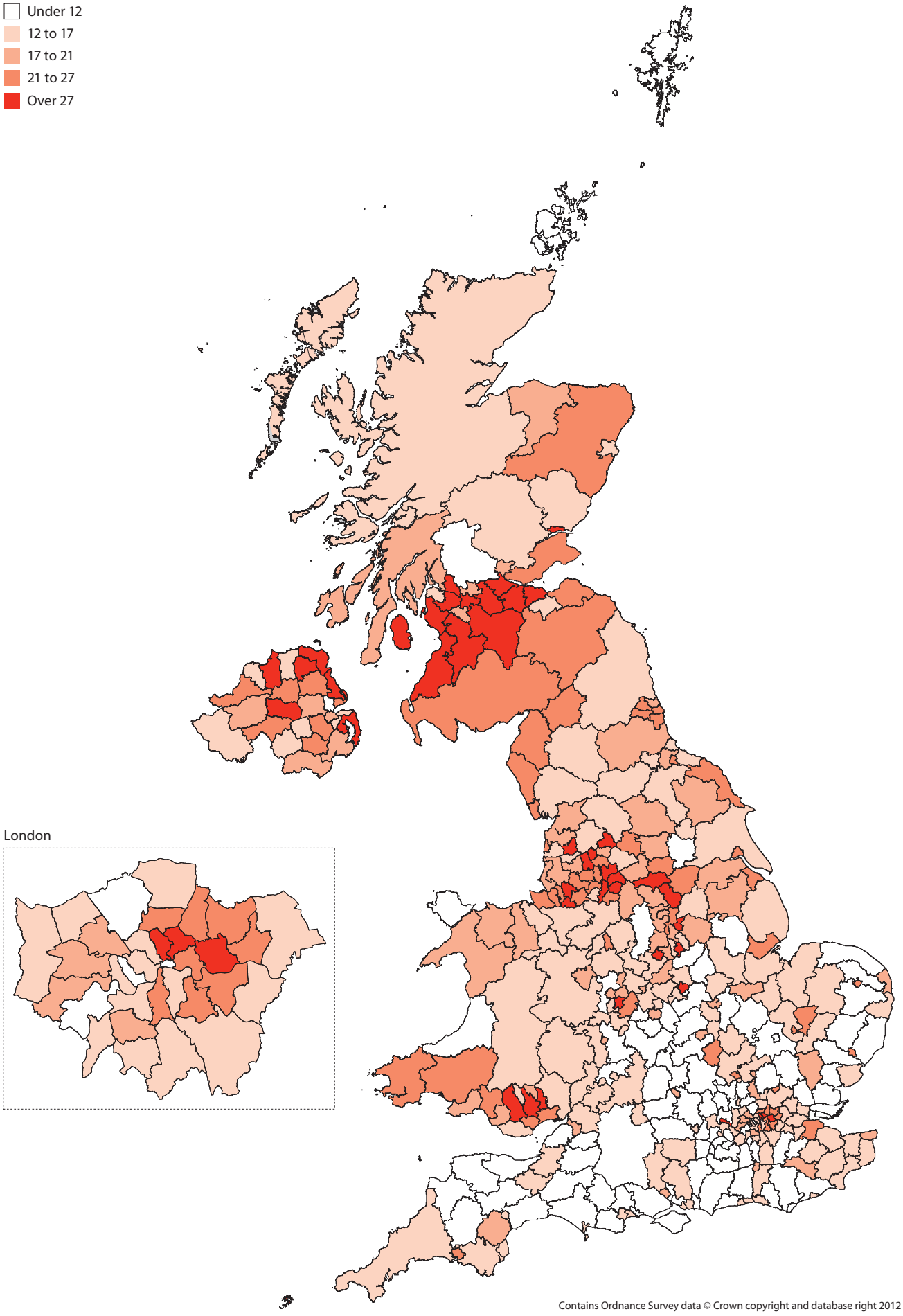

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Table 1.12
Cardiovascular disease (CVD) mortality rates, by sex and socioeconomic status, England and Wales 2001-03

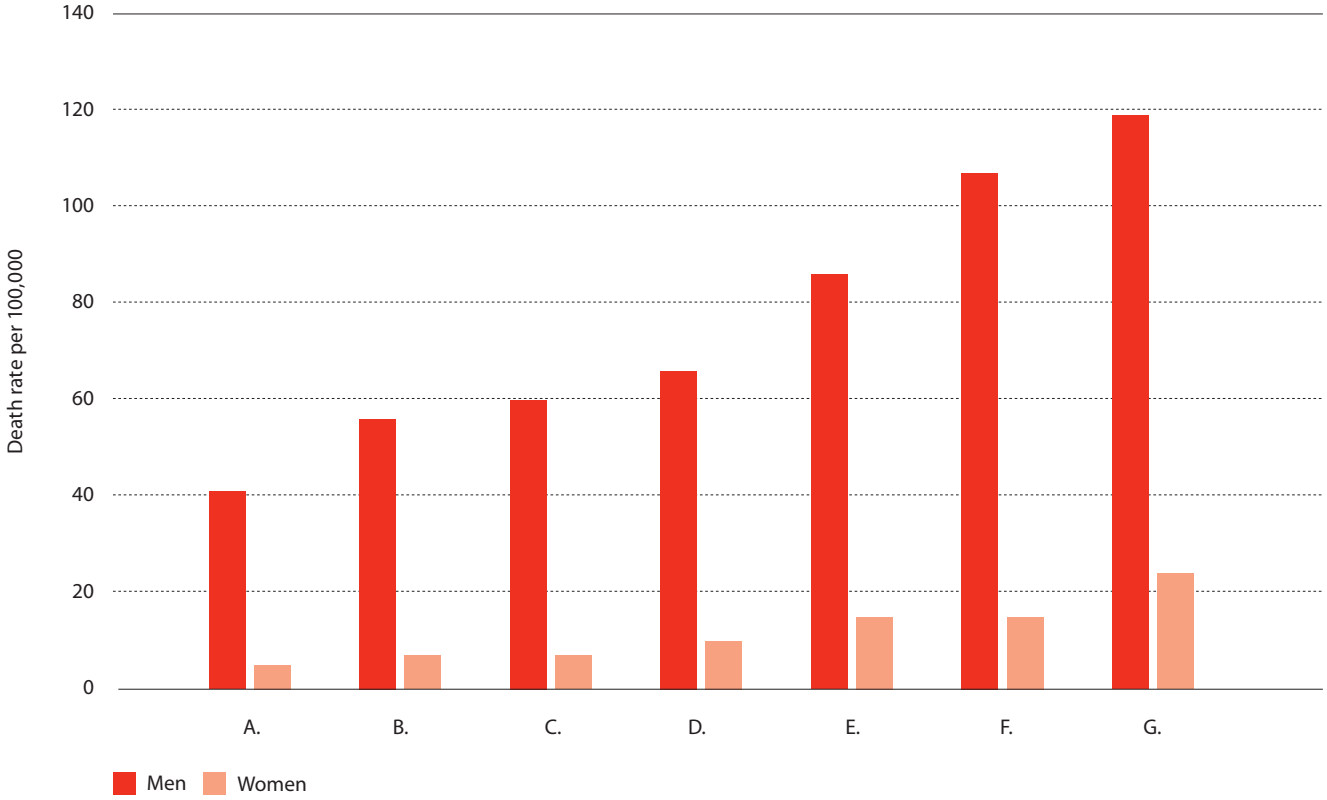
	CVD		CHD		Stroke	
	Men	Women	Men	Women	Men	Women
High managerial and professional	61	13	41	5	8	5
Lower managerial and professional	84	19	56	7	12	7
Intermediate	90	19	60	7	12	7
Small employers and own account workers	100	27	66	10	15	9
Lower supervisory and technical	125	34	86	15	17	11
Semi-routine	158	35	107	15	23	11
Routine	172	51	119	24	23	14
Rate ratio	*2.8*	*3.8*	*2.9*	*5.0*	*2.9*	*3.0*

Notes:
Rates are directly age-standardised to the European Standard Population, and presented per 100,000. ¶ Socioeconomic status categories defined by National Statistics Socio Economic Classification (NS-SEC). ¶ Age range for men is 25 to 64. ¶ Age range for women is 25 to 59. ¶ Rate ratio compares the 'routine' and 'high managerial and professional' categories.

Source:
Langford A, Johnson B (2009). Social inequalities in female mortality by region and by selected causes of death, England and Wales, 2001–03. Health Statistics Quarterly; 44: 7-26 White C, Edgar G and Siegler V (2008). Social inequalities in male mortality for selected causes of death by the National Statistics Socio-economic Classification, England and Wales, 2001–03. Health Statistics Quarterly; 38: 34-46

Figure 1.12

Coronary heart disease (CHD) death rates per 100,000 population, by sex and socioeconomic status, England and Wales 2001/03



A. High managerial and professional
B. Lower managerial and professional
C. Intermediate
D. Small employers and own account workers
E. Lower supervisory and technical
F. Semi-routine
G. Routine

Table 1.13

Trends in coronary heart disease (CHD) death rates per 100,000 population, by sex and deprivation quintile, Great Britain 1994 to 2008

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Men, all ages															
Quintile 1	222	211	207	193	186	172	164	152	146	138	128	122	110	104	98
Quintile 2	240	233	223	209	199	191	181	167	164	154	146	131	122	116	105
Quintile 3	255	249	239	221	213	210	191	184	178	170	154	143	133	125	118
Quintile 4	276	272	259	248	236	226	210	203	192	182	171	157	145	140	131
Quintile 5	296	292	280	268	256	240	231	221	208	203	183	173	162	156	142
Ratio	*1.3*	*1.4*	*1.4*	*1.4*	*1.4*	*1.4*	*1.4*	*1.4*	*1.4*	*1.5*	*1.4*	*1.4*	*1.5*	*1.5*	*1.5*
Women, all ages															
Quintile 1	105	98	96	92	86	82	74	72	67	66	60	55	52	47	44
Quintile 2	112	107	103	100	98	89	85	80	76	75	67	61	56	53	50
Quintile 3	119	117	115	104	103	95	91	85	85	81	71	69	63	59	55
Quintile 4	134	129	123	115	116	104	101	97	94	88	80	76	70	67	61
Quintile 5	146	140	132	130	124	119	108	105	101	96	89	84	76	72	69
Ratio	*1.4*	*1.4*	*1.4*	*1.4*	*1.4*	*1.5*	*1.5*	*1.5*	*1.5*	*1.5*	*1.5*	*1.5*	*1.5*	*1.5*	*1.6*
Men, under 75															
Quintile 1	113	104	101	93	91	81	79	71	66	60	58	53	48	46	44
Quintile 2	124	121	114	105	98	94	88	79	76	69	66	58	56	52	48
Quintile 3	137	133	127	116	110	107	97	92	85	81	74	69	64	60	57
Quintile 4	156	151	142	134	128	123	109	104	97	91	85	79	72	69	68
Quintile 5	172	170	162	156	146	135	129	122	115	113	99	95	89	85	81
Ratio	*1.5*	*1.6*	*1.6*	*1.7*	*1.6*	*1.7*	*1.6*	*1.7*	*1.7*	*1.9*	*1.7*	*1.8*	*1.8*	*1.9*	*1.8*
Women, under 75															
Quintile 1	37	34	33	31	28	26	23	22	20	18	16	15	15	12	12
Quintile 2	41	39	37	36	35	30	29	26	23	24	19	19	16	16	15
Quintile 3	47	45	44	39	40	36	33	31	30	27	22	23	20	18	17
Quintile 4	58	55	51	47	48	40	40	36	35	30	27	25	24	23	21
Quintile 5	66	63	59	59	54	52	47	45	42	39	37	33	31	28	28
Ratio	*1.8*	*1.8*	*1.8*	*1.9*	*1.9*	*2.0*	*2.1*	*2.1*	*2.1*	*2.1*	*2.3*	*2.1*	*2.1*	*2.3*	*2.3*

Notes:
Quintile 1 is the least deprived and quintile 5 is the most deprived. ¶ Ratio refers to quintile 5 compared to quintile 1. Deprivation measured using the Carstairs index for local authorities.

Source:
McCartney D, Scarborough P, Webster P, Rayner M (2012). Trends in social inequalities for premature coronary heart disease mortality in Great Britain, 1994 – 2008: a time trend ecological study. BMJ Open; 2: e000737.

Figure 1.13a

Trends in coronary heart disease (CHD) death rates per 100,000 population in men , by deprivation quintile, Great Britain 1994 to 2008

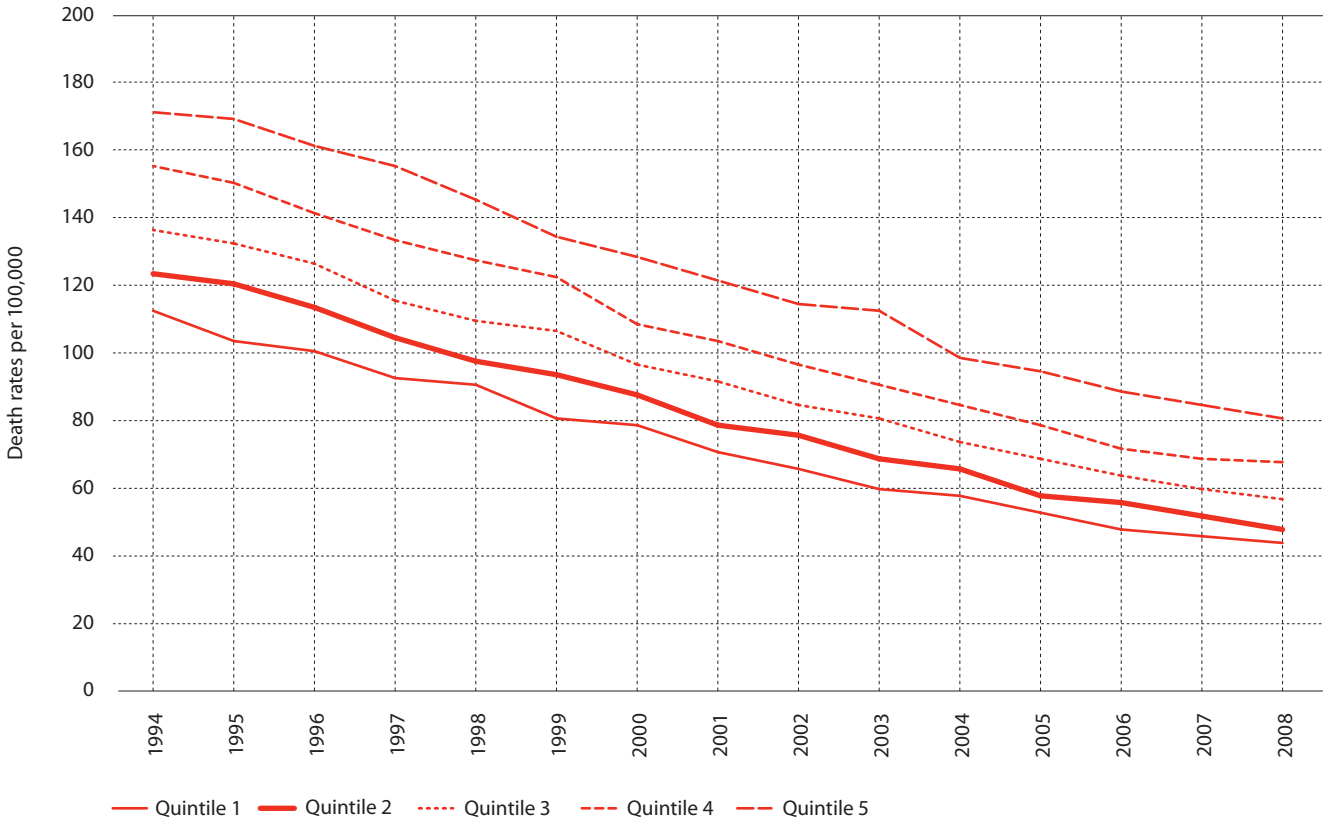


Figure 1.13b

Trends in coronary heart disease (CHD) death rates per 100,000 population in women, by deprivation quintile, Great Britain 1994 to 2008

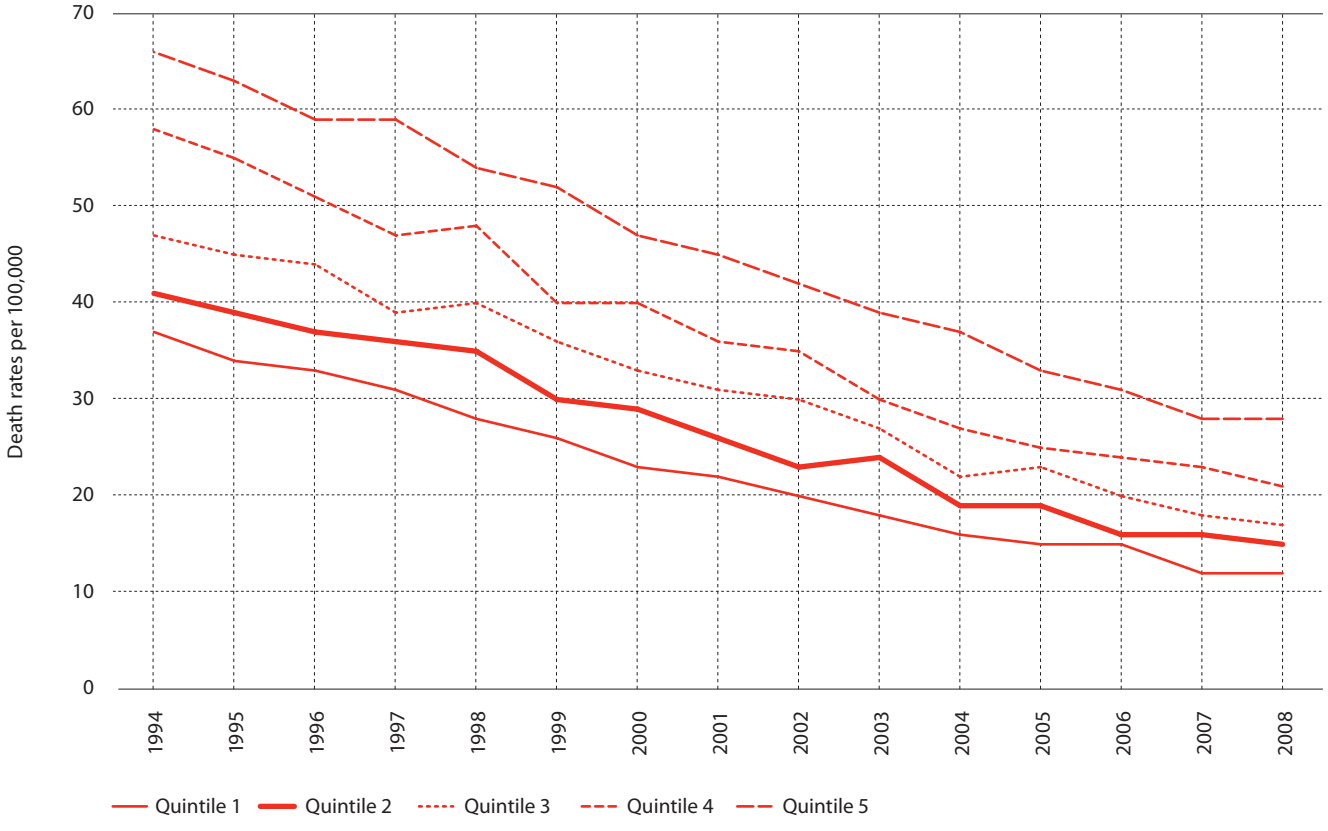


Table 1.14a

Age-standardised cardiovascular disease (CVD) death rates per 100,000 population in men, WHO European region 1980 to 2010

Men	1980	1985	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Albania				514	656	450	479	525	491						
Armenia		580	671	782	617	684	736	751					659	640	
Austria	638	599	493	464	385	374	351	321	298	287	278	272	259	259	252
Azerbaijan		775	724	821	775	707	731	737	720			617			
Belarus		830	704	856	901	953	991	988	967	996		866	874	894	
Belgium	525	462	364	328					258	244	224				
Bosnia and Herzegovina		492	614												
Bulgaria	716	826	813	871	877	854	873	868	841	833	822	796	751	745	771
Croatia		701	668	586	680	586	590	601	498	526	505	499	486	461	440
Cyprus									298	291	261	268	245	235	
Czech Republic	819	850	834	708	577	568	561	569	531	508	478	454	437	436	424
Denmark	555	513	473	408	316	321	307	300	278	258	244				
Estonia		1,013	927	930	768	777	753	754	706	692	689	657	634	589	567
Finland	696	671	563	476	390	368	361	352	335	321	317	312	299	295	288
France	382	345	267	241	222	215	210	208	191	186	175	169	166		
Georgia		873	777	1,012	694	817				796	768	744		638	
Germany			510	443	365	355	349	346	315	304	286	277	264	257	246
Greece	403	424	416	398	380	365	361	355	344	321	310	299	282	271	
Hungary	843	852	806	752	660	635	639	648	619	644	591	585	554	548	
Iceland	470	421	360	376	274	280	283	264	281	220	229	230	220	219	
Ireland	705	655	547	495	401	373	354	323	306	285	266	263	240	238	
Israel	518	417	360	365	238	228	216	210	199	188	176	182	158	144	
Italy	517	460	374	343	294	280	274	270			225	219	214		
Kazakhstan		776	766	1,040	1,071	1033	1057	1135	1070	1091	1078	1068	977	818	
Kyrgyzstan		689	666	826	809	788	831	841	775	841	870	872	841	836	
Latvia	940	975	879	1,048	803	816	814	796	792	804	779	781	717	673	
Lithuania		775	738	768	660	704	722	725	706	750	741	745	701	672	
Luxembourg	600	594	454	375	316	301	314	341	290	271	284	255	248	247	
Malta	1,270	629	474	349	398	334	349	351	294	317	318	273	274	263	213
Netherlands	473	461	391	358	303	287	283	274	253	239	222	210	197	187	181
Norway	510	505	464	396	319	310	301	273	255	237	222	223	214	198	191
Poland	738	781	768	687	576	560	531	536	510	493	480	473	464	465	
Portugal	567	527	467	394	323	311	310	299	271			223	216	208	
Republic of Moldova		978	682	910	1,001	980	1020	1015	965	1024	943	880	837	860	875
Romania	826	836	775	877	772	772	822	808	762	755	727	683	665	656	647
Russian Federation	946	950	863	1,065	1,056	1068	1109	1184	1126	1145	1053	994	979	927	
San Marino				344	253					242					
Serbia					733	677	681	676	647	670	633	604	578	562	
Slovakia	743	729	774	722	662	669	660	655	627	635	628	607	583	559	
Slovenia		663	557	464	407	387	373	376	354	360	322	322	290	278	
Spain	445	401	337	289	239	231	227	227	211	209	195	193	184	175	
Sweden	568	527	446	393	330	319	308	299	278	274	262	252	245	235	228
Switzerland	485	419	377	318	265	250	238	236	216	219	208	202			
Tajikistan		507	558	711	664	672	726	762	712	673					
TFYR Macedonia				670	657	631	689	682							
Turkmenistan		831	833	1,033											
Ukraine		931	742	1,000	1,002	986	1040	1063	1063	1094	1057		1038	970	957
United Kingdom	**620**	**566**	**475**	**413**	**332**	**327**	**317**	**305**	**281**	**264**	**246**	**235**	**225**	**211**	
Uzbekistan		708	721	898	873	842	866	841	799	858					
European Region	675	671	607	651	601	592	601	613	582	582	550	529	515	495	492
EU	570	551	497	453	384	374	368	362	338	328	310	300	289	282	280

Source:
European Health for All database (HFA-DB). http://data.euro.who.int/hfadb/ (Accessed April 2012).

Table 1.14b
Age-standardised cardiovascular disease (CVD) death rates per 100,000 population in women, WHO European region 1980 to 2010

Women	1980	1985	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Albania				322	421	299	332	369	355						
Armenia		472	489	556	497	477	537	536					463	451	
Austria	434	391	321	304	262	252	241	231	210	203	192	186	177	177	171
Azerbaijan		509	463	527	565	529	541	563	553			489			
Belarus		560	447	476	510	533	532	514	495	508		427	417	428	
Belgium	331	285	227	207					169	162	149				
Bosnia and Herzegovina		438	491												
Bulgaria	568	636	586	601	620	591	602	587	560	551	541	526	500	492	504
Croatia		508	472	419	495	413	404	425	356	372	350	353	335	327	313
Cyprus									193	207	188	177	171	153	
Czech Republic	543	552	513	455	379	382	379	384	357	351	318	307	292	296	282
Denmark	316	293	280	247	196	195	193	184	171	160	154				
Estonia		647	558	530	448	432	435	427	393	377	360	343	337	320	311
Finland	383	356	312	267	220	207	209	198	182	178	171	168	164	158	154
France	230	206	159	139	127	126	123	125	111	110	101	97	96		
Georgia		584	529	641	574	528				454	430	397		368	
Germany			327	278	239	234	237	239	219	211	198	192	186	180	173
Greece	327	338	330	314	299	296	290	297	285	266	259	251	236	219	
Hungary	574	557	524	476	421	409	408	410	394	401	366	354	339	331	
Iceland	256	255	225	207	188	156	166	161	148	142	152	128	136	132	
Ireland	452	402	319	297	244	221	213	200	186	169	160	164	150	151	
Israel	427	336	273	268	165	156	153	146	139	139	130	128	113	102	
Italy	354	309	249	228	195	184	179	182			151	148	142		
Kazakhstan		524	499	651	621	659	667	697	666	679	659	643	595	493	
Kyrgyzstan		510	457	568	570	561	620	616	578	609	620	597	595	575	
Latvia	609	647	543	573	465	475	462	465	444	434	421	423	374	354	
Lithuania		530	483	498	418	432	434	424	428	436	440	420	401	385	
Luxembourg	432	369	306	224	190	209	200	213	189	191	193	178	158	144	
Malta	959	461	383	291	271	247	245	240	222	233	218	196	187	172	167
Netherlands	270	251	217	205	182	174	173	165	156	148	139	134	129	121	119
Norway	288	268	252	217	190	182	179	169	159	141	144	138	130	124	119
Poland	464	494	462	421	353	344	329	331	314	304	292	285	277	276	
Portugal	418	368	338	285	233	227	223	221	194			165	159	152	
Republic of Moldova		781	519	658	731	715	756	759	701	750	683	656	629	613	628
Romania	719	718	645	641	581	573	601	592	558	557	531	493	472	462	454
Russian Federation	610	634	561	634	629	633	650	673	639	640	607	571	559	525	
San Marino				165	147					156					
Serbia					592	546	562	557	528	545	508	488	473	455	
Slovakia	519	495	479	473	439	444	432	435	412	417	408	395	373	364	
Slovenia		444	371	308	251	239	235	236	223	235	212	211	191	192	
Spain	326	293	246	201	162	156	153	153	141	140	128	127	122	115	
Sweden	324	295	256	221	197	194	192	183	172	163	163	159	154	148	145
Switzerland	308	247	225	187	168	156	153	152	141	137	131	129			
Tajikistan		408	423	562	554	546	561	539	504	486					
TFYR Macedonia				546	519	494	548	530							
Turkmenistan		602	588	758											
Ukraine		657	499	642	650	639	648	666	646	656	637		614	590	591
United Kingdom	**367**	**334**	**281**	**248**	**204**	**202**	**198**	**193**	**177**	**167**	**156**	**149**	**144**	**134**	
Uzbekistan		526	517	698	690	669	690	659	612	662					
European Region	451	452	400	415	388	381	385	388	366	364	347	333	324	311	309
EU	379	363	323	290	250	244	241	240	223	216	204	196	189	184	182

Source:
European Health for All database (HFA-DB). http://data.euro.who.int/hfadb/ (Accessed April 2012).

Figure 1.14

Cardiovascular disease (CVD) death rates per 100,000, by sex, selected countries 2008

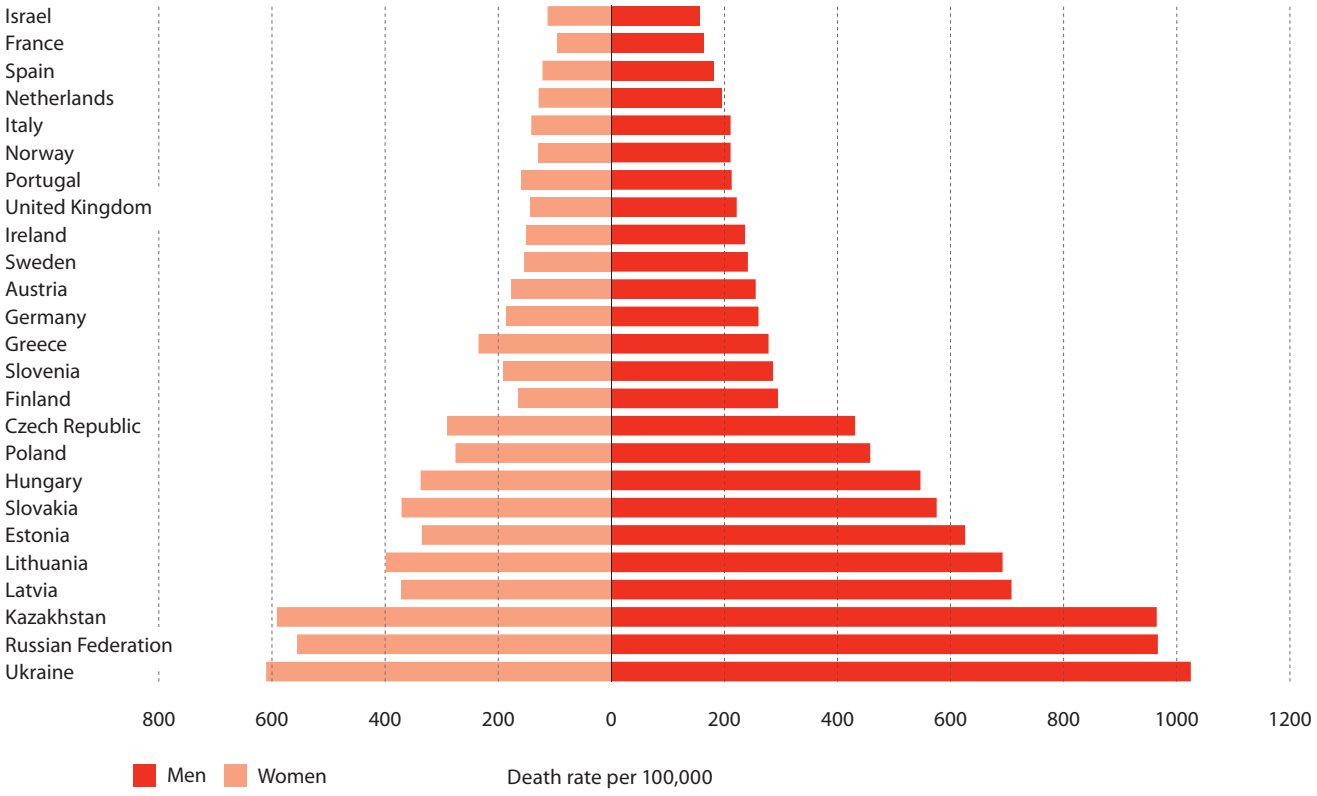


Table 1.15a
Age-standardised coronary heart disease (CHD) death rates per 100,000 population in men, WHO European region 1980 to 2010

Men	1980	1985	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Albania				121	171	115	143	168	156						
Armenia		389	463	533	435	480	480	491					417	407	
Austria	229	240	221	212	183	176	175	162	152	147	145	142	131	131	133
Azerbaijan		481	524	576	543	492	515	481	352			149			
Belarus		594	459	578	618	653	677	678	631	694		606	618	643	
Belgium	196	171	129	127					104	99	87				
Bosnia and Herzegovina		126	144												
Bulgaria	233	296	288	306	247	244	254	240	225	219	203	188	174	159	156
Croatia		137	124	236	261	214	210	242	198	220	208	200	205	201	207
Cyprus									115	122	112	123	106	108	95
Czech Republic	410	439	439	355	256	253	243	238	220	231	223	239	227	218	213
Denmark	383	345	293	227	154	155	134	127	119	107	98				
Estonia		686	608	594	468	488	460	445	414	388	376	350	330	299	295
Finland	434	427	359	304	255	237	234	222	211	203	201	193	182	179	177
France	112	112	91	81	76	72	70	68	64	62	57	55	53	52	
Georgia		491	487	520	490	465				226	186	164		155	
Germany			225	217	177	170	166	162	149	141	133	126	117	116	111
Greece	122	130	136	130	124	124	121	126	124	112	108	106	96	97	
Hungary	318	333	332	345	302	299	293	309	309	347	319	303	289	289	
Iceland	341	304	233	225	166	160	171	167	171	128	129	138	134	117	
Ireland	387	399	339	307	234	213	203	180	174	159	148	159	144	144	131
Israel	272	231	188	194	128	116	109	110	95	92	89	96	82	74	
Italy	179	149	135	127	106	102	102	106			89	86	84	80	
Kazakhstan		437	422	582	589	576	594	615	512	525	510	511	475	334	266
Kyrgyzstan		396	355	428	437	422	454	476	428	476	501	497	494	520	534
Latvia	641	641	549	603	465	450	436	419	436	433	410	440	397	378	375
Lithuania		591	560	534	417	463	473	480	459	491	476	467	449	429	436
Luxembourg	200	223	163	142	120	104	108	129	109	90	103	86	87	69	69
Malta	518	260	280	215	228	204	190	189	173	199	194	162	161	155	132
Montenegro					96					111	93	86	83	83	
Netherlands	258	248	194	164	125	117	109	106	93	87	80	73	68	63	59
Norway	309	317	278	224	164	160	155	138	126	115	104	103	99	92	88
Poland	173	174	194	168	205	194	182	181	170	164	160	151	148	140	133
Portugal	131	118	114	98	86	84	88	83	79			64	60	57	57
Republic of Moldova		677	426	607	700	676	718	704	662	710	639	582	550	578	597
Romania	184	230	241	311	283	282	295	290	277	273	269	255	248	240	238
Russian Federation	540	531	458	559	544	551	573	612	579	594	556	532	527	505	515
San Marino				57	20					31					
Serbia					168	162	161	164	157	178	169	154	155	148	140
Slovakia	322	310	432	387	367	367	362	369	351	338	316	337	357	339	334
Slovenia		186	161	156	148	147	130	140	115	117	99	97	102	94	95
Spain	115	114	106	103	95	92	90	90	83	82	76	74	69	67	65
Sweden	405	354	270	230	176	171	167	161	147	144	137	130	125	116	111
Switzerland	184	174	163	157	129	118	113	112	101	103	98	93	89	85	80
Tajikistan		283	332	358	304	291	331	315	304	284					
TFYR Macedonia				146	150	155	156	151	142	142	144	130	124	119	113
Turkmenistan		497	565	648											
Ukraine		630	427	623	663	656	697	711	707	738	713		700	662	656
United Kingdom	**380**	**367**	**309**	**260**	**200**	**191**	**182**	**174**	**161**	**150**	**138**	**132**	**124**	**116**	**114**
Uzbekistan		475	472	559	521	473	467	453	431	454					
European Region	331	331	292	325	303	297	301	306	288	290	274	264	258	246	245
EU	228	225	209	194	166	160	156	153	144	139	131	126	120	116	113

Source:
European Health for All database (HFA-DB). http://data.euro.who.int/hfadb/ (Accessed October 2012).

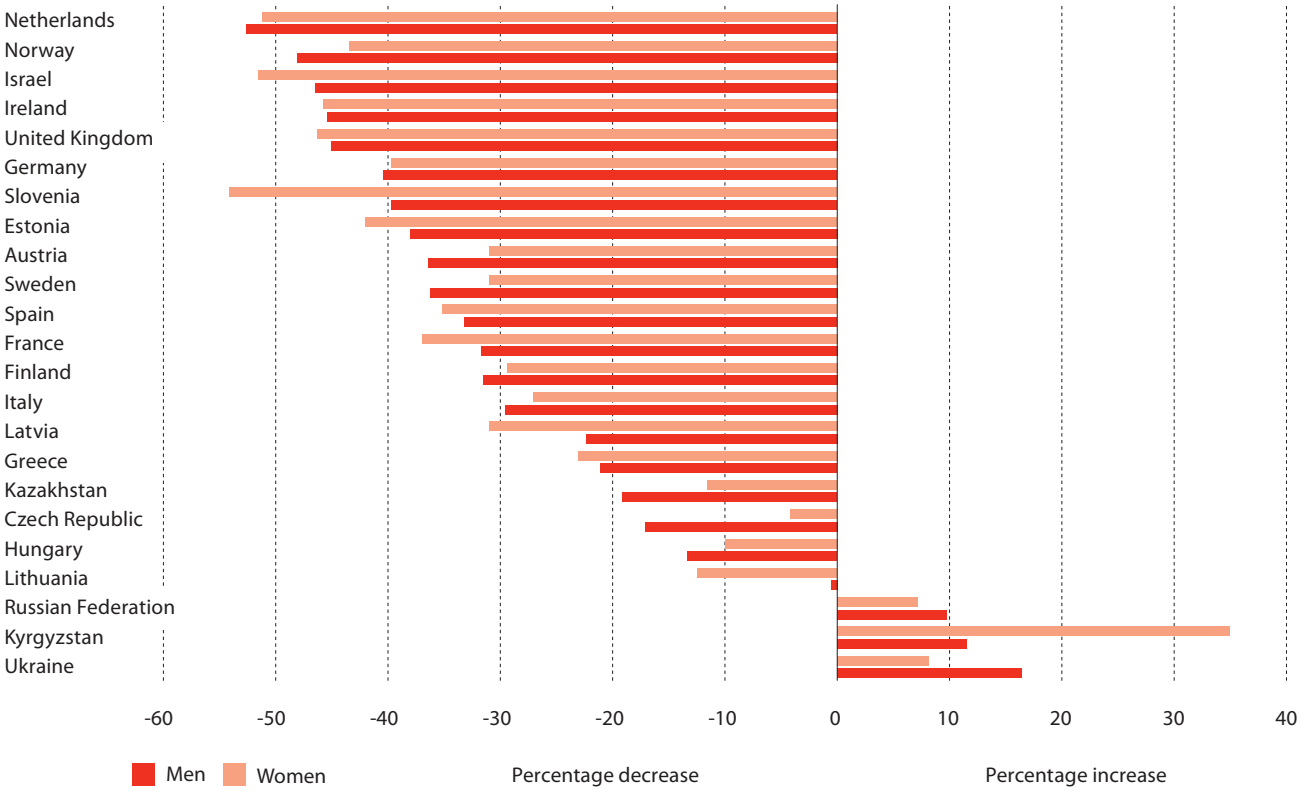
Table 1.15b

Age-standardised coronary heart disease (CHD) death rates per 100,000 population in women, WHO European region 1980 to 2010

Women	1980	1985	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Albania				53	90	61	78	94	90						
Armenia		291	307	348	316	288	314	312					260	252	
Austria	103	110	109	108	95	93	99	96	89	86	81	77	73	73	69
Azerbaijan		288	302	339	355	336	350	328	207			93			
Belarus		378	262	287	321	339	333	325	307	13		276	275	284	
Belgium	81	75	55	56					47	44	38				
Bosnia and Herzegovina		62	68												
Bulgaria	142	201	180	175	149	145	150	138	127	117	104	94	88	82	81
Croatia		52	44	146	158	125	121	147	121	130	124	119	120	124	131
Cyprus									47	51	49	52	44	36	35
Czech Republic	219	224	220	192	137	136	134	132	123	138	129	146	137	134	123
Denmark	187	166	148	116	79	79	71	66	59	55	52				
Estonia		397	334	309	259	240	240	233	203	192	183	170	163	150	144
Finland	171	172	158	141	120	114	115	108	97	97	90	91	88	80	79
France	48	48	39	33	30	30	28	28	25	24	22	21	20	20	
Georgia		313	310	306	301	286				113	86	73		77	
Germany			107	108	92	89	89	88	81	76	71	66	62	59	57
Greece	45	53	61	58	56	56	56	59	57	49	48	47	41	41	
Hungary	162	167	171	179	173	173	171	178	180	201	185	172	166	163	
Iceland	143	147	118	97	90	70	78	71	66	63	68	49	61	55	
Ireland	182	182	157	145	111	102	101	91	85	77	71	78	68	69	61
Israel	169	151	118	124	71	66	62	62	54	55	52	51	46	38	
Italy	90	69	63	61	52	50	50	55			45	44	42	40	
Kazakhstan		268	239	319	294	322	333	345	277	286	279	280	264	175	124
Kyrgyzstan		264	213	262	277	276	318	324	302	327	347	338	351	370	373
Latvia	377	370	293	288	233	218	207	212	206	199	196	211	184	178	174
Lithuania		379	340	318	240	266	261	257	260	267	263	255	240	229	239
Luxembourg	98	95	68	55	48	52	50	57	48	44	53	43	36	25	27
Malta	334	151	189	147	130	125	117	118	99	111	103	86	90	85	85
Montenegro					55					49	47	50	47	40	
Netherlands	108	101	82	71	56	52	50	47	43	39	35	33	31	28	27
Norway	128	122	116	94	79	73	71	66	60	52	53	50	46	45	42
Poland	60	55	65	61	96	91	85	85	80	79	76	70	69	66	60
Portugal	65	57	59	50	45	43	44	46	39			34	32	31	30
Republic of Moldova		528	313	424	499	486	517	517	470	502	448	425	408	402	424
Romania	126	163	168	197	187	184	188	182	175	174	169	158	151	148	146
Russian Federation	314	315	251	272	268	269	280	294	280	285	280	269	266	256	263
San Marino				31	18					8					
Serbia					93	92	100	98	95	107	103	94	91	91	82
Slovakia	185	169	240	220	234	232	229	236	221	219	197	216	223	217	210
Slovenia		89	95	81	75	68	62	63	58	54	45	44	42	42	41
Spain	51	50	48	46	41	40	39	39	37	36	32	31	29	28	27
Sweden	194	158	120	102	83	82	80	77	71	67	68	64	62	58	54
Switzerland	73	70	71	71	65	60	59	57	51	50	47	45	43	41	38
Tajikistan		205	230	254	219	204	229	182	186	173					
TFYR Macedonia				71	74	72	75	79	80	72	74	70	64	63	57
Turkmenistan		324	376	426											
Ukraine		422	253	370	405	400	408	421	409	425	416		402	390	391
United Kingdom	**164**	**167**	**145**	**123**	**94**	**91**	**87**	**83**	**76**	**71**	**65**	**61**	**58**	**52**	**50**
Uzbekistan		333	317	417	394	357	351	330	312	321					
European Region	183	186	156	172	164	161	163	164	153	150	145	142	138	132	132
EU	108	107	101	95	84	82	80	79	74	71	67	64	61	58	56

Source:
European Health for All database (HFA-DB). http://data.euro.who.int/hfadb/ (Accessed October 2012).

Figure 1.15
Percentage change in coronary heart disease (CHD) death rates, by sex, selected countries 1998 to 2008



2. Morbidity

2. Morbidity

This chapter reports on country-level estimates of incidence, case fatality and prevalence of the following conditions: myocardial infarction (heart attack), stroke, angina and heart failure. Additional estimates for coronary heart disease (CHD) and cardiovascular disease (CVD) are provided where possible. Measuring the morbidity of a disease is much more complicated than counting the number of deaths that have occurred due to a disease. For example, people may be suffering from a disease and not be aware of it or the exact time of onset of disease may not be known. As such, the estimates provided in this chapter should be treated with more caution than those from chapter one, yet they represent the best available estimates of the morbidity from CHD for countries within the UK. The estimates provided in this chapter are drawn from a number of different data sources, including samples of GP registers, hospital episode and mortality statistics and national survey data, each of which have their own strengths and limitations.

Incidence

Incidence of myocardial infarction has decreased in a number of developed countries during the past three decades, including the UK, driven by favourable changes in risk factors. The most recent estimates of incidence of myocardial infarction in the UK are based on national-level data from linked hospital and mortality statistics. These suggest that in Scotland the incidence rate of myocardial infarction decreased by about 25% between 2000 and 2009 in both men and women whilst the incidence rate in England decreased by around a third between 2002 and 2010 (Table 2.1, Figure 2.1). Although decreases have been found for all regions in England over this period, some regional differences are still apparent with the highest incidence rates found in the North and the lowest in the South (Table 2.2, Figure 2.2). The incidence of acute myocardial infarction resulting in hospitalisation has also decreased in both sexes over this period of time (Table 2.3, Figure 2.3).

In general, incidence of myocardial infarction increases sharply with age. It is also higher in men than in women but the difference between sexes decreases with increasing age (Table 2,4, Figure 2.4).

Using the most recent data available from Scotland and England, we estimate that there are around 50,000 heart attacks in English men and 32,000 in English women every year, and 8,000 heart attacks in Scottish men and 5,000 in Scottish women every year. If the rates of heart attack in Wales and Northern Ireland were comparable to that in England, then there would be approximately 103,000 heart attacks in the UK every year (Table 2.1 and Figure 2.1).

Similar to rates of myocardial infarction, incidence of stroke has decreased in many developed countries during the past three decades, including the UK. On average around the world, stroke occurs around 30% more often in men than in women but the difference between sexes decreases with increasing age [2]. Data from the South London Stroke Register suggest that stroke incidence decreased by 18% in men and by 24% in women from 1995/96 to 2003/04 [3], while the Oxford Vascular Study reported a 40% reduction in stroke incidence over the past two decades [4,5]. Recent national-level data from England and Scotland also show that stroke incidence rates are around 25% higher in men than in women and increase with age. They also show that the incidence of stroke is higher in Scotland than in England, but the difference is not as large as for myocardial infarction (Table 2.5 and Figure 2.5).

Using the most recent data available from Scotland and England, we estimate that there are around 57,000 strokes in English men and 68,000 in English women every year, and 6,500 strokes in Scottish men and 8,000 in Scottish women every year. Despite higher incidence rates in men than in women, there are a greater number of events in women because women tend to live longer than men. If the rates of stroke in Wales and Northern Ireland were comparable to that in England, then there would be approximately 152,000 strokes in the UK every year (Table 2.5).

Estimates of the incidence of angina and heart failure can be provided from representative samples of GP registries. The General Practice Research Database (GPRD) contains anonymised records from such a sample in England, Wales, Scotland and Northern Ireland. GPRD data suggest that in 2011 the incidence rate of angina was highest amongst men in Wales and highest amongst women in Scotland, it was lowest for both sexes in England. Overall in the UK, incidence rates were 80% higher in men compared to women. Incidence rates generally increase with age and are highest in the 65-74 age group in both men and women. Using these incidence rates, we estimate there are over 20,000 new cases of angina in the UK every year (Table 2.6).

Data from the GPRD were used to provide the most recent estimates of occurrence of heart failure in the UK. In 2011, incidence of heart failure was highest in Northern Ireland and lowest in England for both men and women. Overall in the UK, incidence rates of heart failure were about 60% higher in men compared to women. Incidence of heart failure increased with age and was highest in adults over 75 years. Using these incidence rates, we estimate there are over 25,000 new cases of heart failure in the UK every year (Table 2.7).

Case fatality

A case fatality rate is the ratio of the number of deaths caused by a specified disease to the number of diagnosed cases of that disease; it is commonly expressed as a percentage. In England, over 10% men and 15% of women who were admitted to hospital with myocardial infarction in 2010 had died within 30 days (Table 2.8). Case fatality rates in Scotland in 2008 were higher, with 12% of men and 19% of women admitted with myocardial infarction dying within 30 days. Case fatality rates in England have dropped since 2002 (Table 2.9, Figure 2.9). Although there have been decreases in all regions in England the highest case fatality rates are found in London and the West Midlands with the lowest rates found in the North East (Table 2.10, Figure 2.10).

Case fatality from myocardial infarction increases with age and is higher in women than in men. However, this gender difference is largely a reflection of the different age distribution of the female patient population, with more elderly women surviving to be admitted for myocardial infarction compared to elderly men (Table 2.11, Figure 2.11).

Case fatality rates for stroke are higher than for myocardial infarction, but are measured over a different time period (60 days rather than 30 days). In England, estimates based on linked hospital and mortality data show that about 17% of men and 25% of women admitted to hospital for stroke in 2006 died within 60 days. In Scotland, similar analysis shows that 19% of men and 25% of women admitted to hospital for stroke in 2008 died within 60 days (Table 2.12).

In both England and Scotland, case fatality rates for myocardial infarction and stroke were substantially lower in individuals under 75 years of age compared to the rate in all age groups (Tables 2.8, 2.9, 2.11 and 2.12).

Prevalence

The prevalence of cardiovascular conditions such as myocardial infarction, stroke and angina increases with age and is higher in men than in women. The most recent national survey data suggests that in comparison with the rest of the UK, the prevalence of previous myocardial infarction, those who have ever suffered a heart attack, is in Wales and Northern Ireland, whilst the prevalence of angina is highest in Northern Ireland. However, the differences between countries are not very large (Tables 2.13 to 2.16 and Figures 2.16a, b and c).

Age and sex-specific prevalence estimates from national surveys can be used to estimate the number of people living in the UK who have previously had a myocardial infarction or stroke, or are currently suffering from angina or coronary heart disease. It must be noted, however, that the most recent data from England and Northern Ireland come from 2006, whilst those from Wales and Scotland from 2010. This means that direct comparisons between countries are difficult and that data from different years are being used to calculate current population estimates for the UK. Using these figures, we estimate that there are around 1 million men and nearly 500,000 women who have had a myocardial infarction; nearly 600,000 individuals of each sex in the UK who have had a stroke; and over 1.6 million men and more than 1 million women in the UK with CHD (Tables 2.13 and 2.14).

The GPRD can also be used to estimate the prevalence of angina and heart failure within the UK, leading to different population estimates than obtained from national survey data. The prevalence of angina calculated using the GPRD data are lower than estimates provided by national survey data. For example, the prevalence of angina in English men aged 75 and over is estimated as 16% using 2010 GPRD data (Table 2.17) but 23% using the 2006 Health Survey for England (Table 2.13). Overall estimates on prevalence from health surveys results in national estimates of 1.2 million men and over 900,000 women in the UK suffering from the chronic condition angina (Tables 2.13 to 2.16), whilst estimates calculated from the GPRD suggests around 725,000 men and 575,000 women currently suffer from the condition (Table 2.17).

Using GPRD data to calculate the number of people in the UK suffering heart failure leads to an estimate of around 800,000 individuals. Comparing heart failure estimates from survey data in Wales to GPRD data from the same country and same year suggest that this leads to similar estimates in the number of men with heart failure (around 20,000) but a difference of around 5,000 individuals when calculating national estimates for women. National survey data suggests an estimated 16,000 women in Wales are currently being treated for heart failure; whilst the GPRD estimates that over 22,000 women in the country have been diagnosed with the condition (Tables 2.15 and 2.18). These discrepancies illustrate the difficulties in interpreting morbidity data and using them to calculate population estimates. This is complicated further as both data describe diagnosed conditions, therefore we are unable to estimate the hidden burden of heart disease which comes from undiagnosed CVD.

Estimates derived from national survey data of the number of people in the UK who have CHD or have had a stroke (given above) are broadly supported by results from the Quality Outcomes Framework. This framework became part of general practice contracts in 2004, and rewards GPs for keeping up-to-date records of the number of patients within their practices who are suffering from certain conditions. Data from the Quality Outcomes Framework suggest that in 2010/11 there were around 2.3 million people suffering from CHD and 1.1 million people suffering from stroke. The prevalence of CHD was higher in Scotland (4.4%), Wales (4.0%) and Northern Ireland (4.0%) than in England (3.4%). Prevalence rates were also higher in the North of England than in the South. Prevalence rates for stroke follow a similar geographic pattern. Prevalence rates for CHD show a wide variation, with lowest rates in London (2.2%) and highest rates in the Western Isles of Scotland (6.1%). However, these rates have not been adjusted to account for differences in the age structure of populations, and so differences in rates should be treated with caution (Table 2.19).

Temporal trends in the prevalence of CHD and CVD can be estimated using data from national health surveys. The Health Survey for England series suggest that between 1994 and 2006 the prevalence of CHD increased from 6.0% to 6.5% in men and remained stable for women (from 4.1% in 1994 to 4.0% in 2006). An increase in the prevalence of CVD (defined here as either CHD or stroke) was also obtained in the Health Survey for England, increasing from 7.1% to 8.1% in men and from 5.2% to 5.6% in women between 1994 and 2006. These increases were found in the majority of age groups in both men and women, with the most consistent increase in trend found in the oldest age group (75 years and over) [6].

Age-specific prevalence rates for CVD have been measured since 1988 in the General Household Survey series. They suggest that for men prevalence of CVD increased between 1988 and the mid-2000s. Although there have been some decreases since then 2010 data suggest that the prevalence for all men in 2010 (11.7%) is close to the peak found in 2002 (11.9%). For women, prevalence rates also peaked in the early to mid-2000s and have declined since. Although prevalence rates in 2010 were slightly higher than in recent years the overall prevalence of CVD in women in 2010 (10.1%) was still lower than the peak in 2002 (11.9%) (Table 2.20 and Figure 2.20).

1. Age-specific rates have been calculated but are not presented in this publication.
2. Appelros P, Stegmayr B, Terent A (2009). Sex differences in stroke epidemiology. A systematic review. Stroke, 40; 1082-1090.
3. Heuschmann P, Grieve A, Toschke A, Rudd A, Wolfe C (2008). Ethnic group disparities in 10-year trends in stroke incidence and vascular risk factors: The South London Stroke Register (SLSR). Stroke, 39: 2204-2210.
4. Rothwell P, Coull A, Giles M, Howard S, Silver L, Bull L, Gutnikov S, Edwards P, Mant D, Sackley C, Farmer A, Sandercock P, Dennis M, Warlow C, Bamford J, Anslow P (2004). Change in stroke incidence, mortality, case-fatality, severity and risk factors in Oxfordshire, UK, from 1981 to 2004 (Oxford Vascular Study). Lancet, 363 (9425): 1925-1933.
5. Scarborough P, Peto V, Bhatnagar P, Kaur A, Leal J, Luengo-Fernandez R, Gray A, Rayner M, Allender S (2009). Stroke Statistics. British Heart Foundation & The Stroke Association: London.
6. Joint Health Surveys Unit (2007). Health Survey for England 2006. The Information Centre: Leeds.

Table 2.1
Incidence of myocardial infarction, by sex and age, Scotland 2000 to 2009 and England 2002 to 2010

	Incidence rate per 100,000											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Number of events (most recent year)
Scotland												
Men												
Under 75	242					190	175	172	179	183		5,026
All ages	334					275	252	245	248	255		7,971
Women												
Under 75	90					71	66	62	61	67		2,087
All ages	152					127	118	107	109	113		5,330
England												
Men												
Under 75			156	149	145	134	129	124	118	115	104	29,027
All ages			230	222	215	201	191	183	175	168	154	50,071
Women												
Under 75			95	93	90	85	80	77	74	71	66	10,478
All ages			52	49	47	44	42	40	39	37	34	32,181

Notes:
Incident cases include all mortalities and hospital admissions for myocardial infarction (ICD-10 I21-22) with no previous hospital admission for the same condition in the previous 30 days. ¶ Incident cases potentially include misdiagnoses and further investigation of earlier myocardial infarctions. ¶ Rates are age-standardised to the European Standard Population.

Source:
Smolina K, Wright FL, Rayner M, Goldacre M. Determinants of the decline in mortality from acute myocardial infarction in England between 2002 and 2010: A linked database study. BMJ 2012; 344. DOI: 10.1136/bmj.d8059. Unit of Health-Care Epidemiology, Department of Public Health, University of Oxford (2012) Personal communication. Information Services Division Scotland (2010) Personal communication.

Figure 2.1
Incidence of myocardial infarction, by sex and age, Scotland 2000 to 2009 and England 2002 to 2010

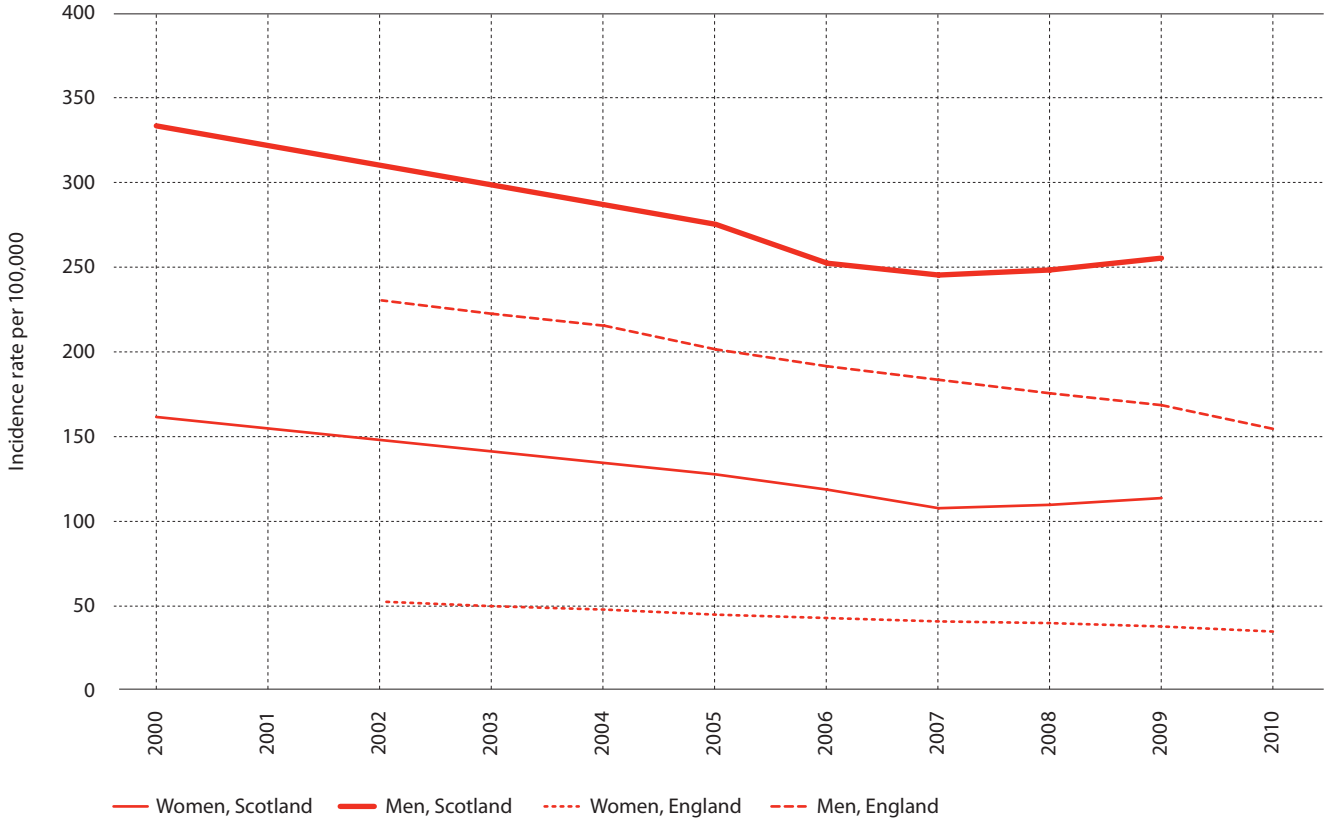


Table 2.2
Incidence of acute myocardial infarction, by Government Office Region, England 2002-10

	Incidence rate per 100,000								
	2002	2003	2004	2005	2006	2007	2008	2009	2010
Government Office Region									
North East	206	205	187	171	155	138	125	150	143
North West	192	186	178	165	158	155	146	140	136
Yorkshire and the Humber	183	175	164	154	152	150	147	142	123
East Midlands	163	157	155	149	142	146	141	127	120
West Midlands	163	158	154	142	130	127	120	115	114
East of England	148	143	140	134	128	118	116	103	91
London	126	124	119	117	109	107	110	111	98
South East	129	126	126	120	113	105	101	95	82
South West	141	137	135	123	119	112	103	96	91

Notes:
Incident cases include all mortalities and hospital admissions for myocardial infarction (ICD-10 I21-22) with no previous hospital admission for the same condition in the previous 30 days. ¶ Incident cases potentially include misdiagnoses and further investigation of earlier myocardial infarctions. ¶ Rates are age-standardised to the European Standard Population.

Source:
Smolina K, Wright FL, Rayner M, Goldacre M. Determinants of the decline in mortality from acute myocardial infarction in England between 2002 and 2010: A linked database study. BMJ 2012; 344. DOI: 10.1136/bmj.d8059. Unit of Health-Care Epidemiology, Department of Public Health, University of Oxford (2012) Personal communication.

Figure 2.2
Incidence of acute myocardial infarction, by Government Office Region, England 2002 and 2010

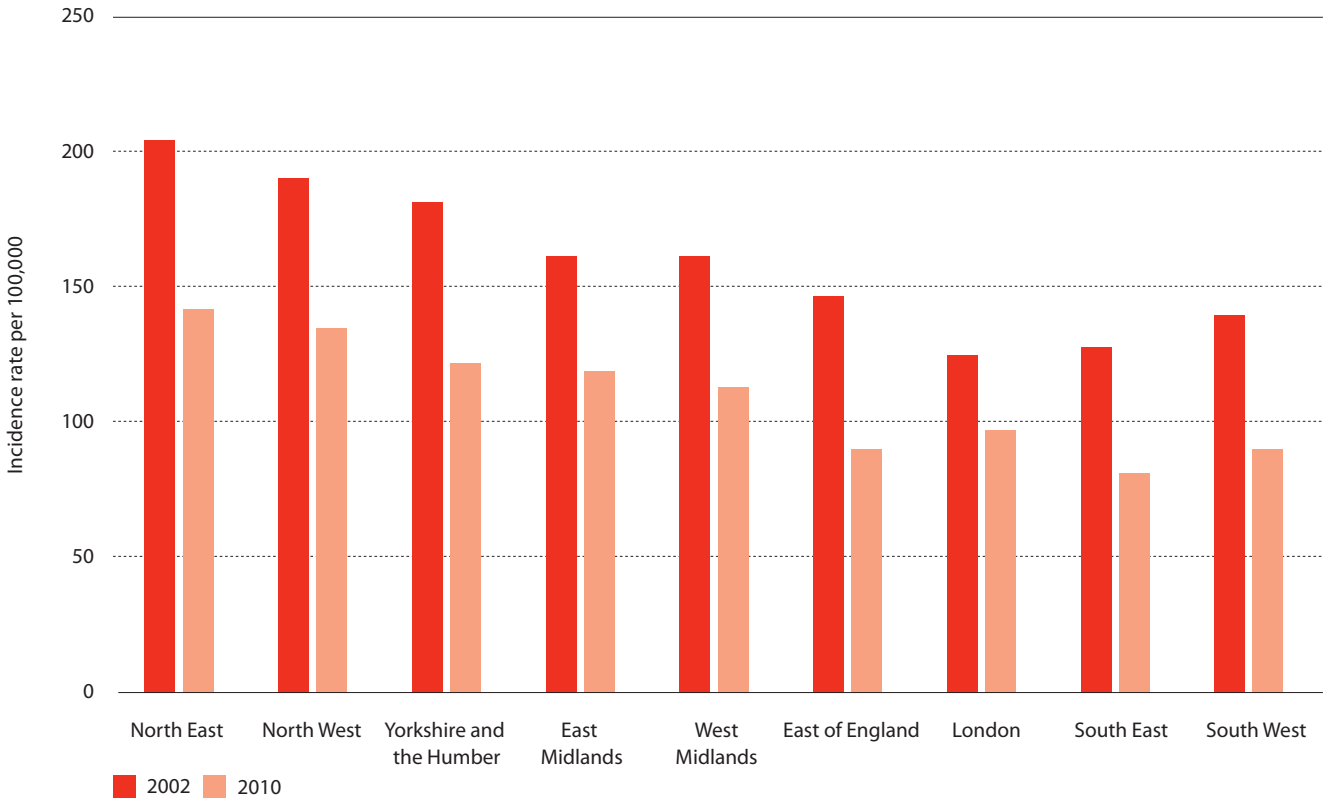


Table 2.3
Incidence of hospitalised acute myocardial infarction, by sex and age, England 2002 to 2010

	Incidence rate per 100,000									
	2002	2003	2004	2005	2006	2007	2008	2009	2010	Number of events (most recent year)
England										
Men										
Under 75	123	117	117	108	106	103	98	96	86	24,027
All ages	169	165	163	154	148	144	138	134	122	39,053
Women										
Under 75	41	39	38	36	35	34	32	32	29	8,869
All ages	68	68	67	65	62	60	59	56	53	24,811

Notes:
Hospitalised acute myocardial infarction (AMI) was defined as a hospitalization for AMI an emergency hospital admission with a primary diagnosis of AMI (ICD-10 codes I21-I22) and a length of stay of more than one day for someone discharged alive. ¶ Rates are age-standardised to the European Standard Population.

Source:
Smolina K, Wright FL, Rayner M, Goldacre M. Determinants of the decline in mortality from acute myocardial infarction in England between 2002 and 2010: A linked database study. BMJ 2012; 344. DOI: 10.1136/bmj.d8059. Unit of Health-Care Epidemiology, Department of Public Health, University of Oxford (2012) Personal communication.

Figure 2.3
Incidence of hospitalised acute myocardial infarction, by sex and age, England 2002 to 2010

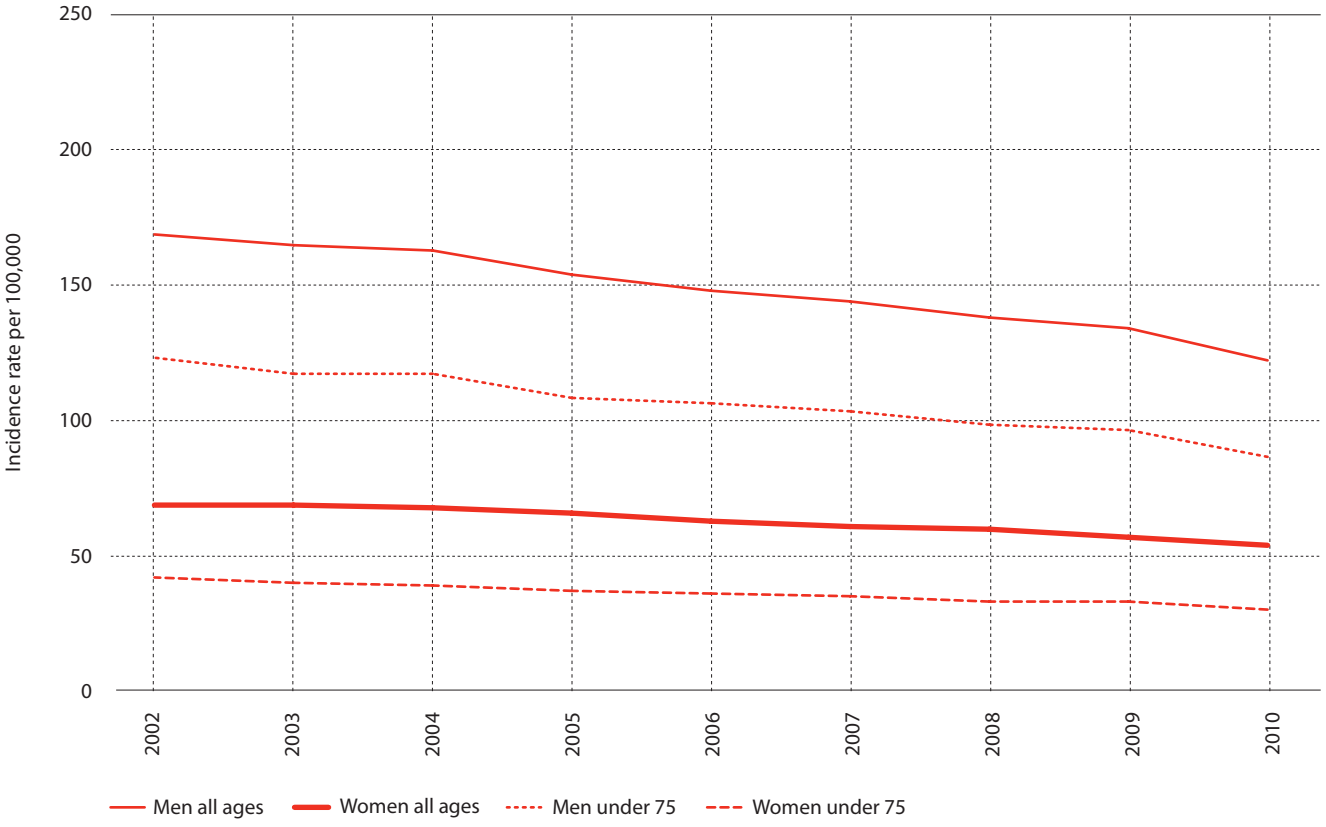


Table 2.4
Incidence of acute myocardial infarction, by sex and age, England 2010

	Incidence per 100,000	
Age	Men	Women
30-54	9	2
55-64	32	9
65-74	53	24
75-84	102	60
≥85	199	139
<75	104	34
All ages	154	66
Number of events	50,071	32,181

Notes:
Incident cases include all mortalities and hospital admissions for myocardial infarction (ICD-10 I21-22) with no previous hospital admission for the same condition in the previous 30 days. ¶ Incident cases potentially include misdiagnoses and further investigation of earlier myocardial infarctions. ¶ Rates are age-standardised to the European Standard Population.

Source:
Smolina K, Wright FL, Rayner M, Goldacre M. Determinants of the decline in mortality from acute myocardial infarction in England between 2002 and 2010: A linked database study. BMJ 2012; 344. DOI: 10.1136/bmj.d8059. Unit of Health-Care Epidemiology, Department of Public Health, University of Oxford (2012) Personal communication.

Figure 2.4
Incidence of acute myocardial infarction, by sex and age, England 2010

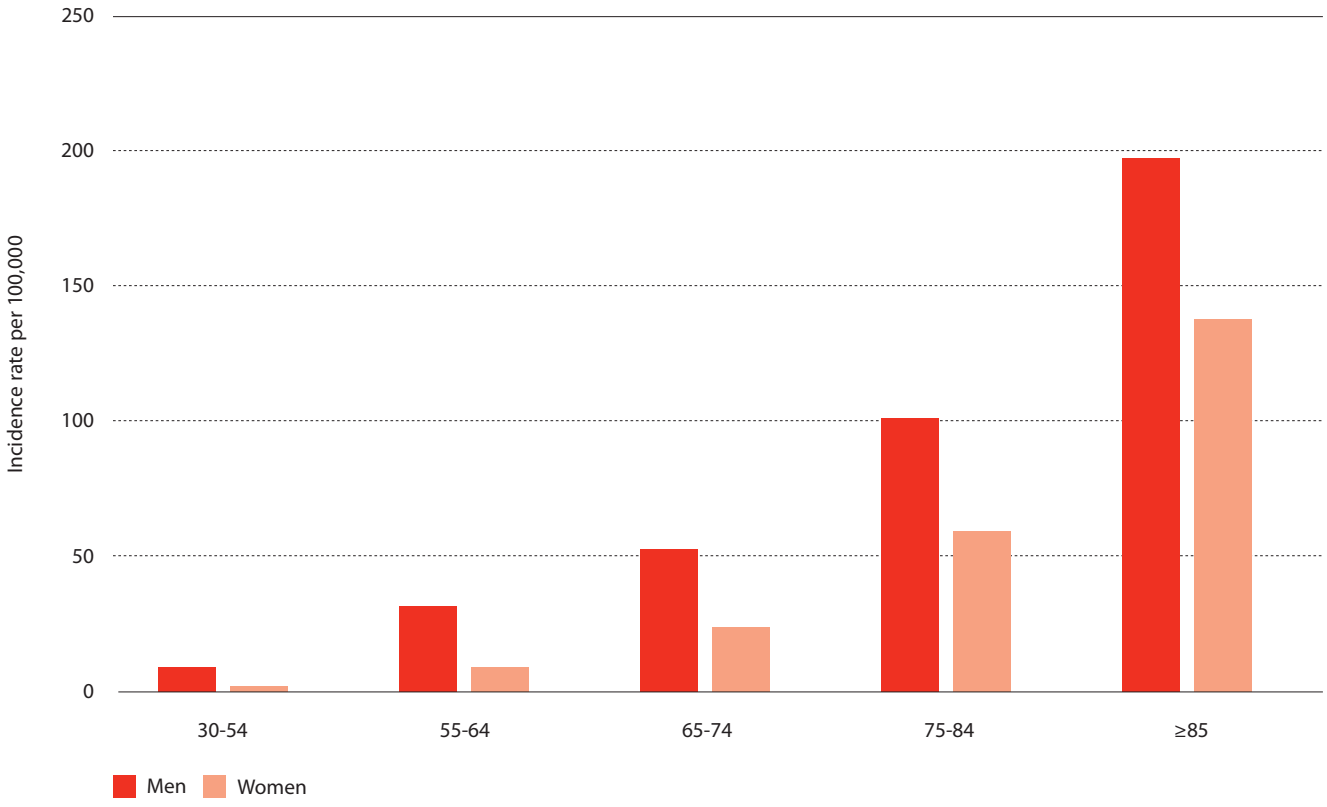


Table 2.5
Incidence of stroke, by sex and age, Scotland 2000 to 2009 and England 2005 to 2007

	Incidence rate per 100,000						
	2000	2005	2006	2007	2008	2009	Number of events (most recent year)
Scotland							
Men							
Under 75	163	133	128	124	127	122	3,409
All ages	277	227	216	208	209	202	6,532
Women							
Under 75	108	94	86	84	84	87	2,673
All ages	208	180	169	159	162	160	7,830
England							
Men							
Under 75		105	101	99			26,835
All ages		193	184	178			57,488
Women							
Under 75		71	68	66			19,047
All ages		152	144	139			68,457

Notes:
Incident cases include all mortalities and hospital admissions for stroke (ICD-10 I60-69) with no previous hospital admission for the same condition in the previous 60 days. ¶ Incident cases potentially include misdiagnoses and further investigation of earlier strokes. ¶ Rates are age-standardised to the European Standard Population. ¶ Estimates for England are provisional, and may be updated in future publications.

Source:
Unit of Health-Care Epidemiology, Department of Public Health, University of Oxford (2010) Personal communication. Information Services Division Scotland (2010) Personal communication.

Figure 2.5
Incidence of stroke, by sex and age, England and Scotland 2007

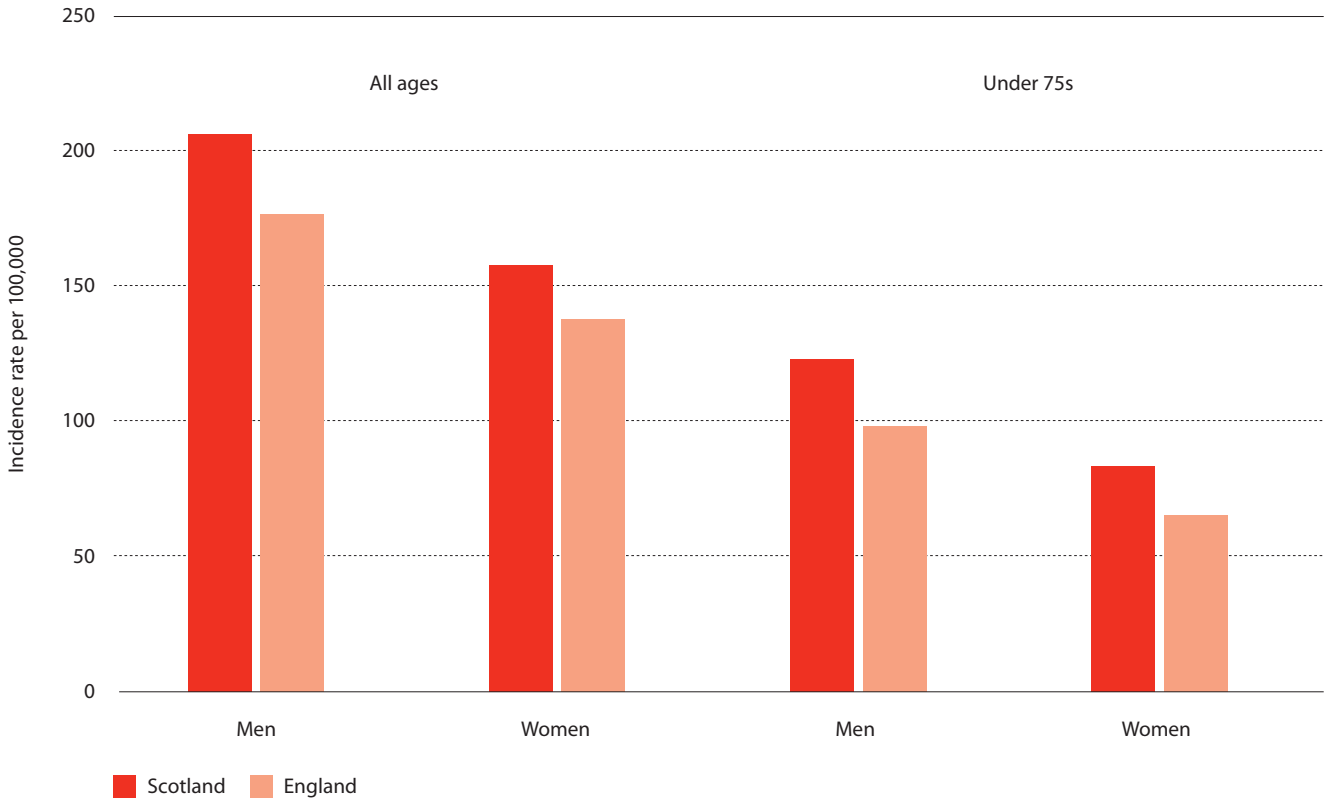


Table 2.6
Incidence of angina, by sex and age, England, Scotland, Wales and Northern Ireland 2011

	Incidence rate per 100,000				
	England	Scotland	Wales	Northern Ireland	United Kingdom
Men					
0-44	3.2	1.7	4.6	1.4	3.2
45-54	44.7	59.2	55.1	56.8	47.0
55-64	109.3	142.8	195.0	134.4	119.7
65-74	151.5	263.5	225.4	248.1	169.3
75+	98.3	125.9	139.5	155.6	105.2
All ages	34.9	48.6	53.5	47.2	37.9
Women					
0-44	1.4	2.5	1.8	1.2	1.5
45-54	29.0	46.2	30.3	39.7	24.2
55-64	45.3	119.3	85.1	80.8	55.7
65-74	96.4	166.5	118.4	98.8	104.0
75+	74.2	120.9	127.5	77.4	82.2
All ages	19.7	37.7	28.1	25.2	21.0
Number of cases					
Men	1,695	231	260	72	2,258
Women	1,096	199	178	43	1,516

Notes:
Estimates are based on records from a sample of general practices in each of the constituent countries of the United Kingdom. ¶ Incidence rates are provided per 100,000 person years, as opposed to per 100,000 persons per year. ¶ These two denominators are broadly comparable provided that mortality rates in the groups are reasonably low. ¶ Estimates for all ages are age-standardised to the European Standard Population.

Source:
General Practice Research Database (2012) Personal communication. ¶ This table is based on data from the General Practice Research Database, 2012. ¶ Copyright and database rights over the data belong to the Crown. ¶ The interpretation and conclusions contained in this report are those of the authors alone.

Table 2.7
Incidence of heart failure, by sex and age, England, Scotland, Wales and Northern Ireland 2011

	Incidence rate per 100,000				
	England	Scotland	Wales	Northern Ireland	United Kingdom
Men					
0-44	1.9	3.9	4.6	1.4	2.3
45-54	18.1	32.8	30.3	22.7	20.4
55-64	63.1	121.2	96.1	93.8	71.5
65-74	160.2	199.7	234.0	288.4	173.1
75+	272.3	365.5	329.3	412.2	287.5
All ages	32.8	49.0	47.3	51.1	35.8
Women					
0-44	0.9	2.5	2.7	0.0	1.2
45-54	9.4	19.5	10.1	17.0	10.5
55-64	26.6	46.5	48.3	64.3	31.0
65-74	90.2	114.9	144.7	154.2	98.7
75+	229.4	303.9	263.8	306.3	239.8
All ages	20.3	29.6	29.1	32.5	22.1
Number of cases					
Men	2,161	291	310	103	2,865
Women	1,916	242	260	89	2,507

Notes:
Estimates are based on records from a sample of general practices in each of the constituent countries of the United Kingdom. ¶ Incidence rates are provided per 100,000 person years, as opposed to per 100,000 persons per year. ¶ These two denominators are broadly comparable provided that mortality rates in the groups are reasonably low. ¶ Estimates for all ages are age-standardised to the European Standard Population.

Source:
General Practice Research Database (2012) Personal communication. ¶ This table is based on data from the General Practice Research Database, 2012. ¶ Copyright and database rights over the data belong to the Crown. ¶ The interpretation and conclusions contained in this report are those of the authors alone.

Table 2.8
Case fatality rates of those admitted to hospital for myocardial infarction, by sex and age, Scotland 2008 and England 2010

	Scotland	England
	%	%
Men		
Under 75	6.2	5.3
All ages	12.0	10.6
Women		
Under 75	8.2	7.4
All ages	18.7	15.1
Number of events		
Men		
Under 75	236	1,255
All ages	651	4,014
Women		
Under 75	118	657
All ages	626	3,716

Notes:
Case fatality is defined as the percentage of all MI events that were sudden deaths from AMI or admissions to hospital for AMI that had a death record within 30 days of admission, irrespective of the cause or place of death. ¶ Estimates for England are provisional, and may be updated in future publications.

Source:
Smolina K, Wright FL, Rayner M, Goldacre M. Determinants of the decline in mortality from acute myocardial infarction in England between 2002 and 2010: A linked database study. BMJ 2012; 344. DOI: 10.1136/bmj.d8059. Unit of Health-Care Epidemiology, Department of Public Health, University of Oxford (2012) Personal communication. Information Services Division Scotland (2010) Personal communication.

Table 2.9
Case fatality rates of acute myocardial infarction, by sex and age, England 2002 to 2010

	2002	2003	2004	2005	2006	2007	2008	2009	2010	Number of events (most recent year)
	%	%	%	%	%	%	%	%	%	
England										
Men										
Under 75	28.9	27.8	26.0	25.5	24.3	23.3	23.0	22.1	22.1	29,027
All ages	42.0	41.0	38.6	37.1	36.2	34.6	33.2	32.3	32.1	50,071
Women										
Under 75	29.2	28.1	25.2	25.1	22.9	22.0	21.7	19.7	19.9	10,478
All ages	42.2	40.6	37.4	36.5	34.5	33.5	31.9	30.3	29.9	32,181

Notes:
Case fatality is defined as the percentage of all MI events that were sudden deaths from AMI or admissions to hospital for AMI that had a death record within 30 days of admission, irrespective of the cause or place of death. ¶ Estimates for England are provisional, and may be updated in future publications.

Source:
Smolina K, Wright FL, Rayner M, Goldacre M. Determinants of the decline in mortality from acute myocardial infarction in England between 2002 and 2010: A linked database study. BMJ 2012; 344. DOI: 10.1136/bmj.d8059. Unit of Health-Care Epidemiology, Department of Public Health, University of Oxford (2012) Personal communication.

Figure 2.9
Case fatality rates as a percentage of all events of acute myocardial infarction, by sex and age, England 2002 to 2010

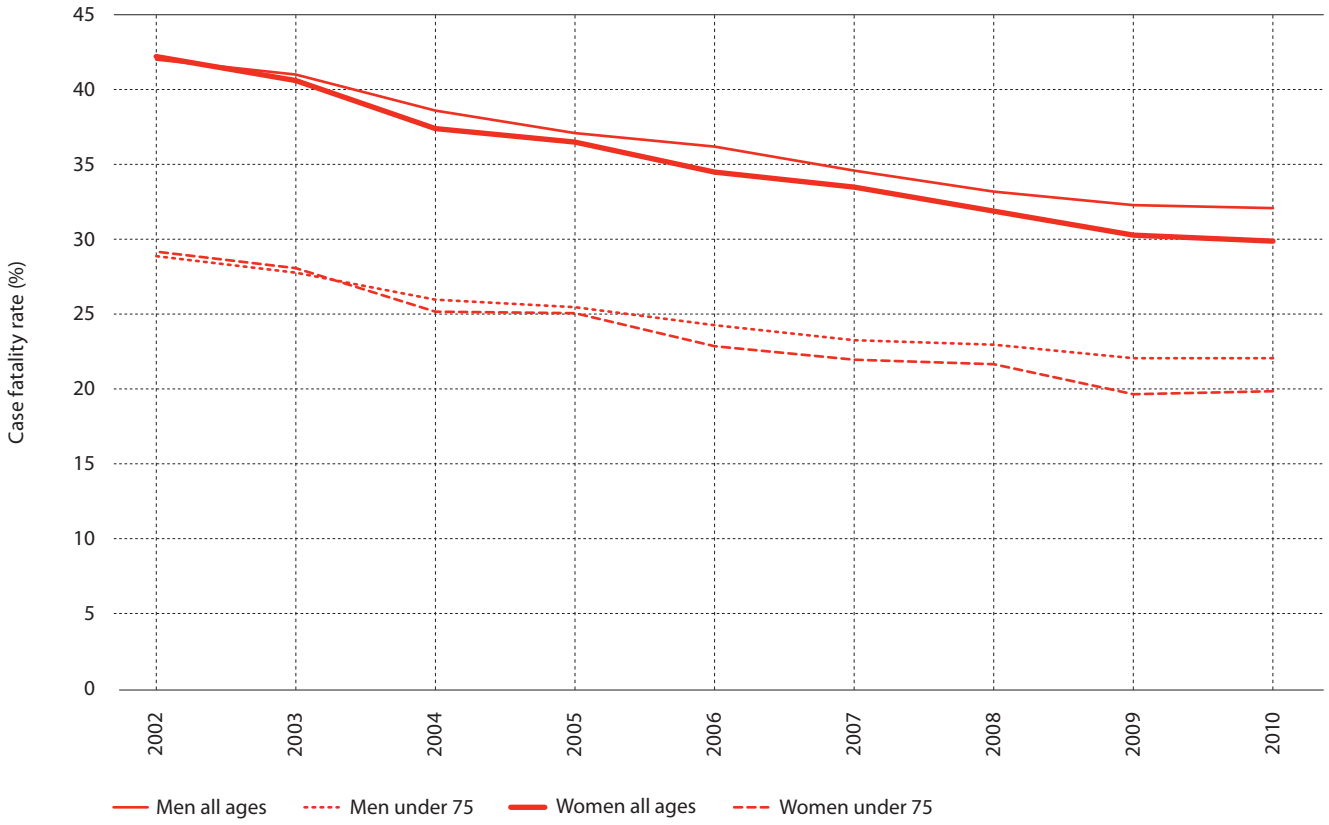


Table 2.10
Case fatality rates of myocardial infarction, by Government Office Region, England 2002 to 2010

	2002	2003	2004	2005	2006	2007	2008	2009	2010
	%	%	%	%	%	%	%	%	%
Government Office Region									
North East	34.0	32.6	31.1	30.7	30.3	31.2	30.1	25.7	22.6
North West	37.0	36.4	34.1	33.8	33.1	32.7	30.8	29.9	28.3
Yorkshire and the Humber	39.3	38.1	36.0	36.1	33.6	30.1	29.6	28.6	30.1
East Midlands	34.1	33.4	32.1	29.4	29.1	27.2	26.5	26.7	28.7
West Midlands	38.7	37.0	34.9	36.1	35.4	33.2	31.4	30.7	29.4
East of England	35.7	33.4	30.8	30.1	28.7	27.3	26.3	25.2	24.8
London	40.9	40.2	37.9	35.2	32.7	31.8	30.2	28.7	29.2
South East	37.0	36.2	33.1	31.2	29.5	28.7	27.9	26.6	27.5
South West	37.9	34.5	31.7	30.6	29.9	29.1	27.8	26.9	25.3

Notes:
Incident cases include all mortalities and hospital admissions for myocardial infarction (ICD-10 I21-22) with no previous hospital admission for the same condition in the previous 30 days. ¶ Incident cases potentially include misdiagnoses and further investigation of earlier myocardial infarctions. ¶ Rates are age-standardised to the European Standard Population. ¶ Estimates for England are provisional, and may be updated in future publications.

Source:
Smolina K, Wright FL, Rayner M, Goldacre M. Determinants of the decline in mortality from acute myocardial infarction in England between 2002 and 2010: A linked database study. BMJ 2012; 344. DOI: 10.1136/bmj.d8059. Unit of Health-Care Epidemiology, Department of Public Health, University of Oxford (2012) Personal communication.

Figure 2.10
Case fatality rates of myocardial infarction, by Government Office Region, England 2002 and 2010

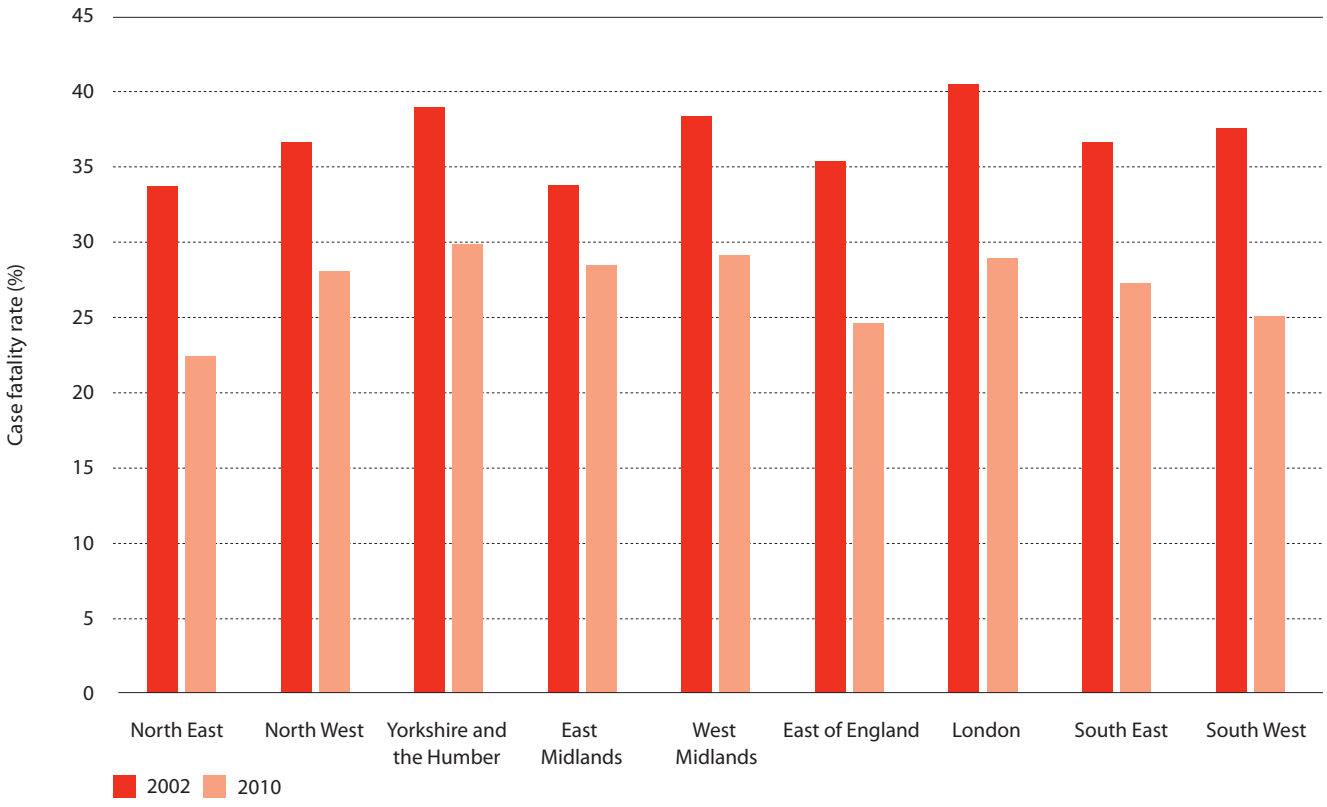


Table 2.11
Case fatality rates of myocardial infarction, by sex and age, England 2010

	Case fatality %	
Age	Men	Women
30-54	14	13
55-64	14	18
65-74	20	25
75-84	28	36
≥85	38	46
<75	22	20
All ages	32	30
Number of events	*50,071*	*32,181*

Notes:
Case fatality is defined as the percentage of all acute myocardial infarction (AMI) events that were sudden deaths from AMI or admissions to hospital for AMI that had a death record within 30 days of admission, irrespective of the cause or place of death. ¶ Estimates for England are provisional, and may be updated in future publications.

Source:
Smolina K, Wright FL, Rayner M, Goldacre M. Determinants of the decline in mortality from acute myocardial infarction in England between 2002 and 2010: A linked database study. BMJ 2012; 344. DOI: 10.1136/bmj.d8059. Unit of Health-Care Epidemiology, Department of Public Health, University of Oxford (2012) Personal communication.

Figure2.11
Case fatality rate as a percentage of all events of myocardial infarction, by sex and age, England 2010

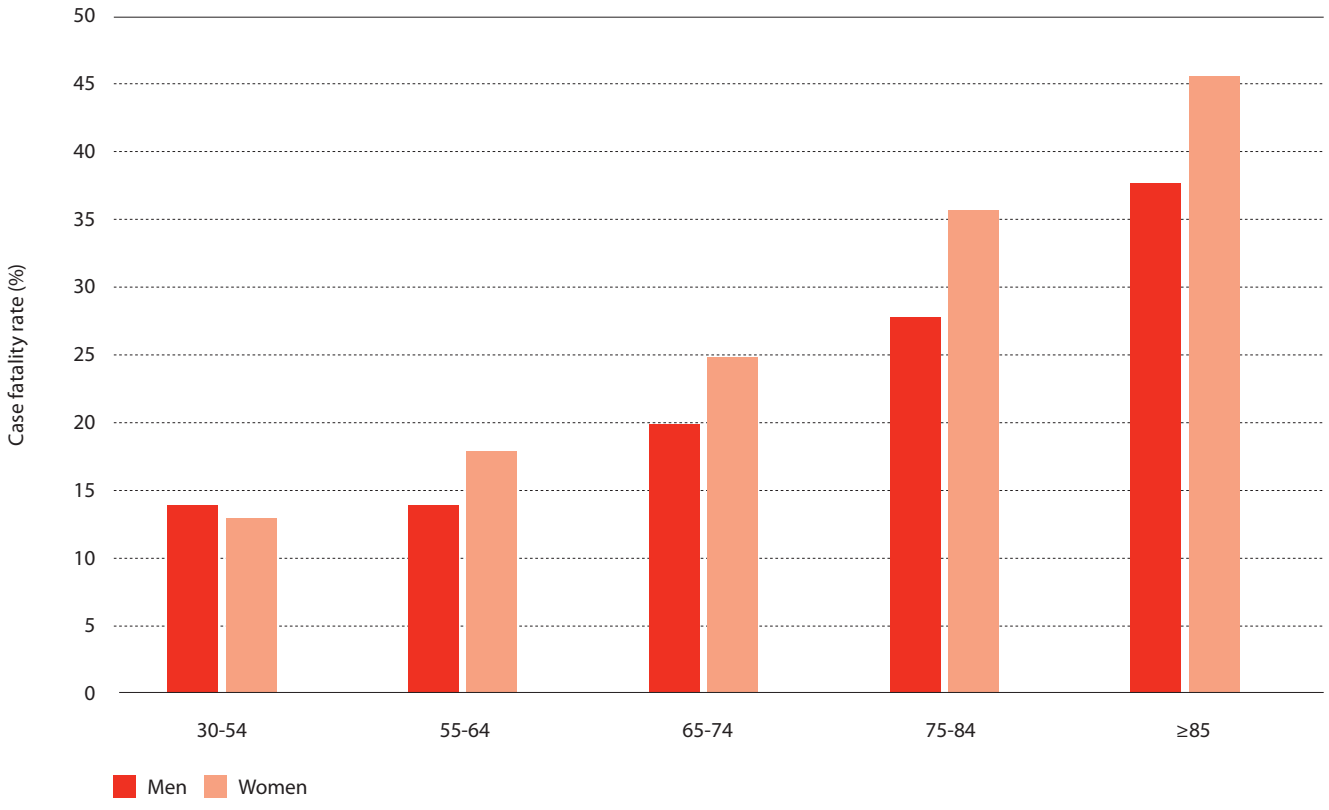


Table 2.12
Case fatality rates of those admitted to hospital for stroke, by sex and age, Scotland 2008 and England 2006

	Scotland	England
	%	%
Men		
Under 75	12.8	10.3
All ages	18.7	17.1
Women		
Under 75	14.6	13.1
All ages	25.2	24.7
Number of events		
Men		
Under 75	*406*	*2,404*
All ages	*1,009*	*7,615*
Women		
Under 75	*349*	*2,188*
All ages	*1,463*	*12,119*

Notes:
Incident cases include all hospital admissions for stroke (ICD-10 I60-69) with no previous admission for the same condition in the previous 60 days. ¶ All mortalities from any cause are included in the numerator. ¶ Estimates for England are provisional, and may be updated in future publications.

Source:
Unit of Health-Care Epidemiology, Department of Public Health, University of Oxford (2010) Personal communication. Information Services Division Scotland (2010) Personal communication.

Table 2.13
Prevalence of CHD, stroke, myocardial infarction and angina, by sex and age, England 2006

	CHD	Stroke	Myocardial infarction	Angina	CVD	*Base*
	%	%	%	%	%	
Men						
16-24	0.1	0.0	0.0	0.1	3.2	*650*
25-34	0.2	0.0	0.2	0.1	4.7	*862*
35-44	0.6	0.5	0.6	0.3	5.6	*1,183*
45-54	3.6	1.2	2.1	2.4	10.9	*1,050*
55-64	10.6	3.0	6.3	8.0	18.5	*1,126*
65-74	20.8	7.1	14.4	14.2	34.1	*437*
75+	28.6	13.1	16.6	22.7	44.4	*317*
All ages	6.5	2.4	4.1	4.8	13.6	*5,625*
Women						
16-24	0.1	0.2	0.0	0.1	4.5	*794*
25-34	0.1	0.1	0.0	0.1	5.7	*1,148*
35-44	0.3	0.4	0.1	0.2	7.8	*1,494*
45-54	1.3	0.9	0.7	1.2	10.3	*1,279*
55-64	3.5	2.3	1.6	3.2	15.2	*1,269*
65-74	10.0	4.2	3.3	8.3	21.2	*470*
75+	19.3	10.7	9.1	15.9	36.9	*471*
All ages	4.0	2.2	1.7	3.3	13.0	*6,925*

Notes:
Prevalence rates are weighted for non-response. ¶ Respondents were prompted to recall whether they had ever been diagnosed with each of the conditions by a doctor. ¶ Informants were classified as having any CVD condition if they reported ever having any of the following conditions confirmed by a doctor: angina, heart attack, stroke, heart murmur, or irregular heart rhythm.

Source:
Joint Health Surveys Unit (2008). Health Survey for England 2006: Cardiovascular disease and risk factors. The Information Centre: Leeds. The Information Centre: Leeds. Copyright © 2010, Re-used with the permission of The Health and Social Care Information Centre. All rights reserved.

Table 2.14
Prevalence of CHD, stroke, myocardial infarction and angina, by sex and age, Scotland 2010

	CHD	Stroke	Myocardial infarction	Angina	CVD	*Base*
	%	%	%	%	%	
Men						
16-24	0.0	0.1	0.0	0.0	5.2	*274*
25-34	0.5	0.4	0.5	0.0	4.1	*421*
35-44	0.9	1.2	0.7	0.2	8.1	*478*
45-54	4.4	1.5	2.8	3.1	12.2	*565*
55-64	11.0	5.8	7.4	7.3	23.0	*555*
65-74	22.6	8.5	13.0	18.1	37.9	*488*
75+	31.0	12.7	19.2	20.2	49.4	*331*
All ages	7.5	3.3	4.7	5.2	16.3	*3,112*
Women						
16-24	0.0	0.0	0.0	0.0	5.1	*373*
25-34	0.5	0.1	0.4	0.3	7.3	*565*
35-44	1.0	1.4	0.2	1.0	8.1	*682*
45-54	2.6	0.8	1.1	1.8	10.1	*762*
55-64	6.9	3.3	2.8	5.6	15.3	*701*
65-74	15.1	5.7	4.9	13.9	28.2	*574*
75+	16.8	9.3	7.5	13.5	33.4	*470*
All ages	5.2	2.5	2.1	4.4	14.0	*4,127*

Notes:
Prevalence rates are weighted for non-response. ¶ Respondents were prompted to recall whether they had ever been diagnosed with each of the conditions by a doctor. ¶ Participants were classified as having any CVD condition if they reported ever having any of the following conditions confirmed by a doctor: angina, heart attack, stroke, heart murmur, abnormal heart rhythm, or 'other heart trouble'.

Source:
Scottish Centre for Social Research (2012). Scottish Health Survey 2010. The Scottish Government: Edinburgh.

Table 2.15
Prevalence of any heart condition, stroke, myocardial infarction, angina and heart failure, by sex and age, Wales 2010

	Having ever been diagnosed with:		Currently being treated for:			*Base*
	Myocardial infarction	Stroke	Angina	Heart Failure	Any heart condition	
	%	%	%	%	%	
Men						
16-24	0	0	0	0	0	*882*
25-34	0	0	0	0	1	*831*
35-44	1	0	0	0	2	*1,082*
45-54	2	2	2	1	5	*1,333*
55-64	7	4	5	2	12	*1,361*
65-74	14	9	12	5	27	*1,109*
75+	23	10	19	8	42	*822*
All ages	5	3	4	2	9	*7,420*
Women						
16-24	0	0	0	0	0	*919*
25-34	0	0	0	0	1	*1,073*
35-44	0	0	0	1	2	*1,330*
45-54	1	1	1	0	3	*1,472*
55-64	3	2	3	1	8	*1,520*
65-74	6	5	9	3	18	*1,247*
75+	10	8	14	6	29	*1,018*
All ages	3	2	3	1	7	*8,579*

Notes:
Prevalence rates are weighted for non-response. ¶ Respondents were prompted to recall whether they had ever been diagnosed with heart attack or stroke, and whether they are currently being treated for angina, heart failure or other heart conditions by a doctor. ¶ Prevalence of 'any heart condition' includes heart failure and is hence not comparable with estimates of the prevalence of coronary heart disease it does not include high blood pressure.

Source:
Welsh Assembly Government (2011). Welsh Health Survey 2010. Welsh Assembly Government: Cardiff.

Table 2.16
Prevalence of stroke, myocardial infarction and angina, by sex and age, Northern Ireland 2005/06

	Stroke	Myocardial infarction	Angina	*Base*
	%	%	%	
Men				
16-24	0	0	1	*153*
25-34	1	1	0	*278*
35-44	0	0	0	*344*
45-54	1	5	5	*305*
55-64	2	11	13	*275*
65-74	6	16	20	*236*
75+	12	18	24	*152*
All ages	2	5	6	*1,743*
Women				
16-24	0	0	0	*254*
25-34	0	0	0	*428*
35-44	0	0	0	*501*
45-54	1	0	4	*417*
55-64	2	2	2	*334*
65-74	3	6	15	*312*
75+	6	11	24	*251*
All ages	1	2	5	*2,497*

Notes:
Prevalence rates are weighted for non-response. ¶ Respondents were prompted to recall whether they had ever been diagnosed with each of the conditions by a doctor.

Source:
Central Survey Unit (2007). Northern Ireland Health and Wellbeing Survey 2005/06. Northern Ireland Statistics and Research Agency: Belfast.

Figure 2.16a

Prevalence of myocardial infarction, by sex and country, United Kingdom latest available year

Figure 2.16b
Prevalence of stroke, by sex and country, United Kingdom latest available year

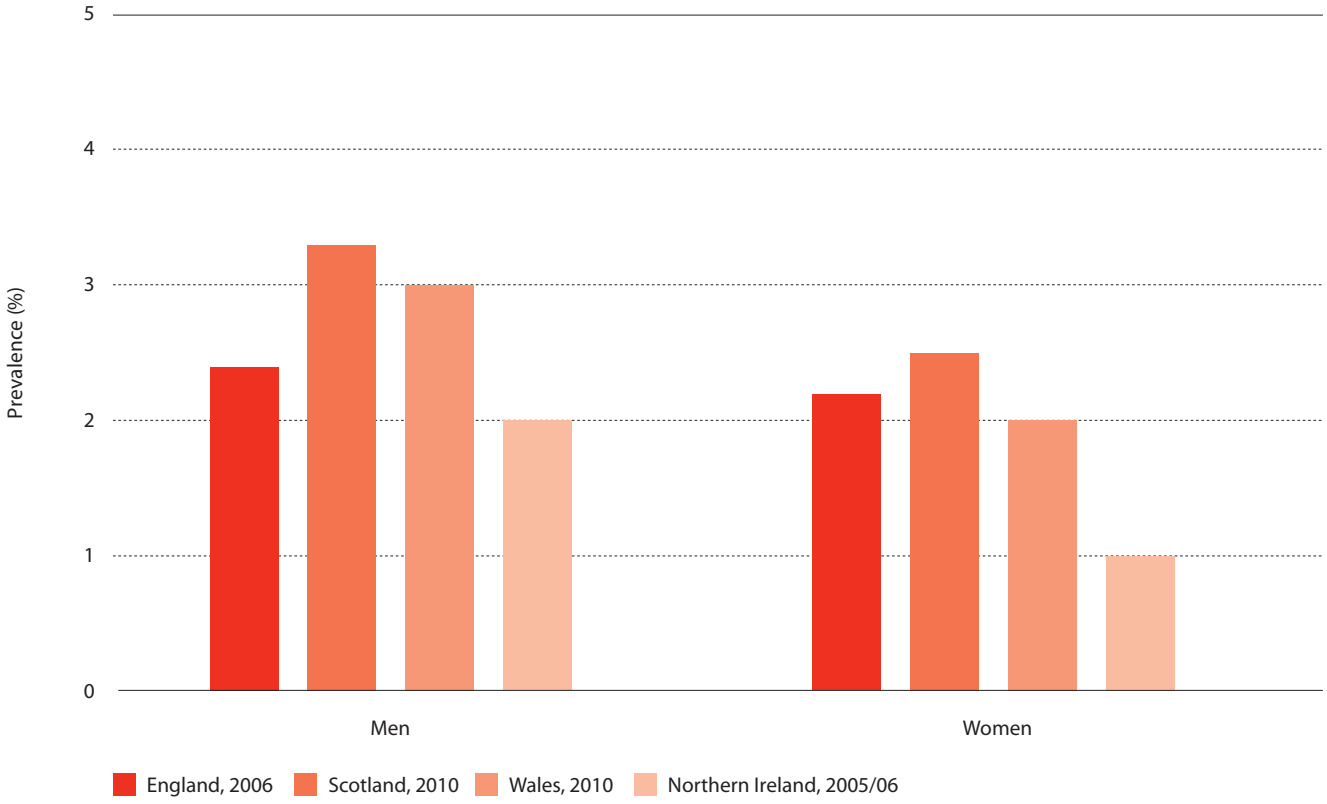


Figure 2.16c

Prevalence of angina, by sex and country, United Kingdom latest available year

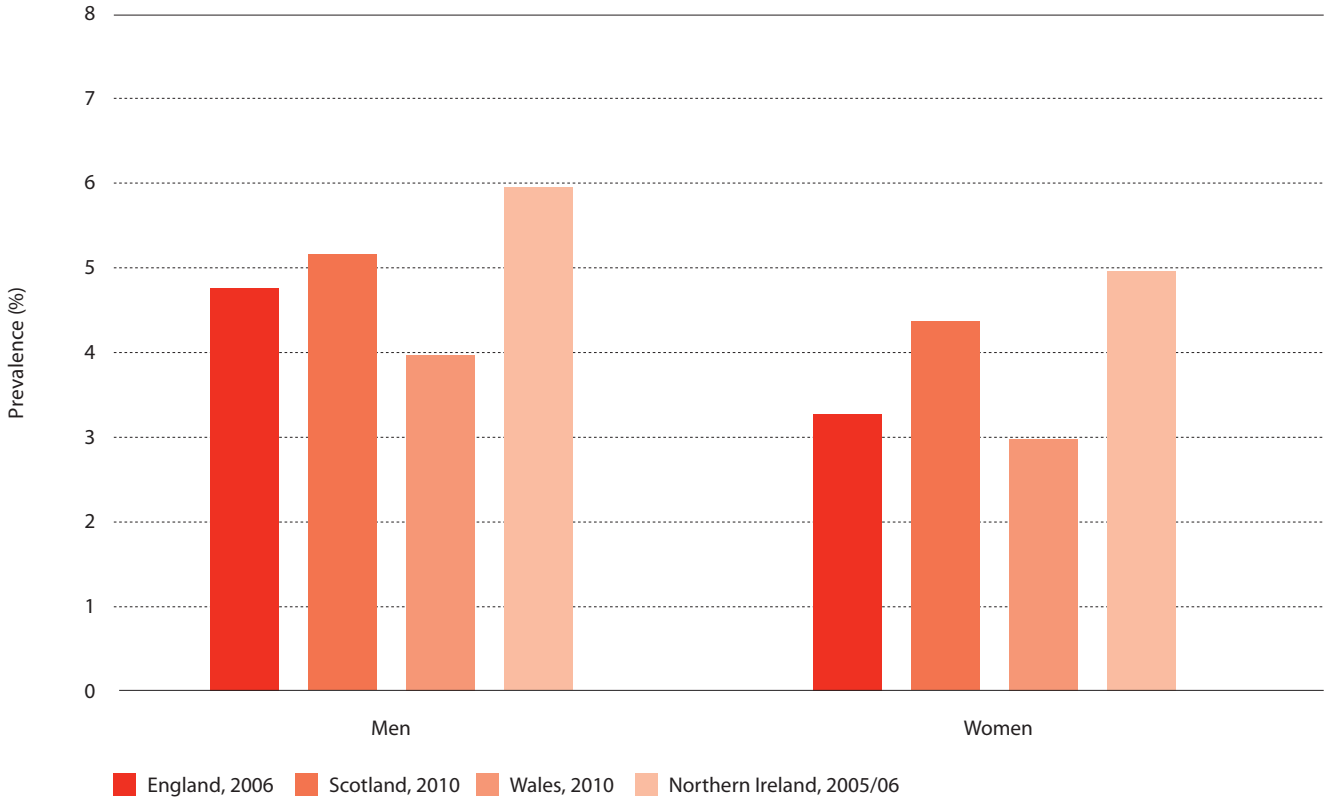


Table 2.17
Prevalence of angina, by sex and age, England, Scotland, Wales and Northern Ireland 2011

	England	Scotland	Wales	Northern Ireland	United Kingdom
	%	%	%	%	%
Men					
0-44	0.1	0.0	0.0	0.0	0.0
45-54	0.9	0.9	0.9	0.9	0.9
55-64	3.4	4.2	4.1	4.2	3.6
65-74	8.4	10.5	10.4	11.2	8.8
75+	16.2	18.1	17.5	20.6	16.6
All ages	1.8	2.1	2.0	2.2	1.9
Women					
0-44	0.1	0.0	0.0	0.0	0.0
45-54	0.5	0.6	0.5	0.5	0.5
55-64	1.7	2.5	2.1	2.0	1.8
65-74	4.8	7.4	6.3	6.9	5.2
75+	11.3	13.9	12.9	15.6	11.7
All ages	1.1	1.5	1.3	1.4	1.1
Number of cases					
Men	123,559	13,367	14,859	4,834	156,619
Women	99,887	11,948	12,465	4,363	128,663

Notes:
Estimates are based on records from a sample of general practices in each of the constituent countries of the United Kingdom. ¶ Estimates for all ages are age-standardised to the European Standard Population. ¶ Calculating the total number of cases should always take account of the prevalence rate in each age group, rather than applying the 'all ages' prevalence to national population figures.

Source:

General Practice Research Database (2012) Personal communication. ¶ This table is based on data from the General Practice Research Database, 2012. ¶ Copyright and database rights over the data belong to the Crown. ¶ The interpretation and conclusions contained in this report are those of the authors alone.

Table 2.18
Prevalence of heart failure, by sex and age, England, Scotland, Wales and Northern Ireland 2011

	England	Scotland	Wales	Northern Ireland	United Kingdom
	%	%	%	%	%
Men					
0-44	0.0	0.0	0.0	0.1	0.0
45-54	0.2	0.2	0.3	0.2	0.2
55-64	0.8	1.2	1.0	1.0	0.9
65-74	2.7	3.7	3.3	3.7	2.9
75+	13.1	12.7	12.8	15.0	13.1
All ages	0.9	1.0	0.9	1.0	0.9
Women					
0-44	0.0	0.0	0.0	0.0	0.0
45-54	0.1	0.1	0.1	0.1	0.1
55-64	0.3	0.4	0.4	0.6	0.4
65-74	1.3	2.0	1.8	2.2	1.5
75+	11.9	11.4	12.1	13.5	11.9
All ages	0.6	0.7	0.7	0.8	0.7
Number of cases					
Men	75,875	7,184	8,406	2,735	94,200
Women	84,844	7,555	9,527	3,188	105,114

Notes:
Estimates are based on records from a sample of general practices in each of the constituent countries of the United Kingdom. ¶ Estimates for all ages are age-standardised to the European Standard Population. ¶ Calculating the total number of cases should always take account of the prevalence rate in each age group, rather than applying the 'all ages' prevalence to national population figures.

Source:
General Practice Research Database (2012) Personal communication. ¶ This table is based on data from the General Practice Research Database, 2012. ¶ Copyright and database rights over the data belong to the Crown. ¶ The interpretation and conclusions contained in this report are those of the authors alone.

Table 2.19

Prevalence of coronary heart disease (CHD), stroke and hypertension, by health authority, England, Scotland, Wales and Northern Ireland 2010/11

	Registered GP patients	CHD		Stroke		Hypertension	
		Register count	Prevalence	Register count	Prevalence	Register count	Prevalence
United Kingdom	**65,437,967**	**2,308,733**	**3.5%**	**1,151,994**	**1.8%**	**8,890,858**	**13.6%**
England	**55,169,643**	**1,877,518**	**3.4%**	**944,099**	**1.7%**	**7,460,497**	**13.5%**
North East	2,678,976	124,394	4.6%	58,105	2.2%	410,357	15.3%
North West	7,381,814	298,317	4.0%	140,577	1.9%	1,030,582	14.0%
Yorkshire and the Humber	5,456,644	221,747	4.1%	105,683	1.9%	756,106	13.9%
East Midlands	4,636,678	169,105	3.6%	82,371	1.8%	652,882	14.1%
West Midlands	5,801,090	203,324	3.5%	103,944	1.8%	845,535	14.6%
East of England	5,986,835	198,148	3.3%	100,406	1.7%	834,662	13.9%
London	8,845,268	192,142	2.2%	93,927	1.1%	970,554	11.0%
South East	4,582,266	148,830	3.2%	80,903	1.8%	632,487	13.8%
South Central	4,333,806	126,415	2.9%	67,646	1.6%	543,580	12.5%
South West	5,466,266	195,096	3.6%	110,537	2.0%	783,752	14.3%
Scotland	**5,216,925**	**228,074**	**4.4%**	**109,694**	**2.1%**	**705,994**	**13.5%**
Ayrshire & Arran	387,577	20,723	5.3%	9,621	2.5%	59,329	15.3%
Borders	116,285	5,756	4.9%	2,870	2.5%	16,380	14.1%
Dumfries & Galloway	155,370	8,222	5.3%	3,756	2.4%	24,009	15.5%
Fife	375,671	16,268	4.3%	8,110	2.2%	53,841	14.3%
Forth Valley	302,146	14,143	4.7%	6,298	2.1%	41,739	13.8%
Grampian	573,533	22,661	4.0%	10,580	1.8%	74,117	12.9%
Greater Glasgow & Clyde	1,313,117	55,986	4.3%	26,784	2.0%	165,839	12.6%
Highland	322,350	14,754	4.6%	7,623	2.4%	48,358	15.0%
Lanarkshire	591,826	27,308	4.6%	12,047	2.0%	80,551	13.6%
Lothian	589,109	20,013	3.4%	10,489	1.8%	68,478	11.6%
Orkney	20,502	855	4.2%	355	1.7%	3,292	16.1%
Shetland	22,769	789	3.5%	351	1.5%	3,473	15.3%
Tayside	419,217	18,928	4.5%	10,134	2.4%	61,136	14.6%
Western Isles	27,453	1,668	6.1%	676	2.5%	5,452	19.9%
Wales	**3,168,721**	**128,114**	**4.0%**	**65,203**	**2.1%**	**486,533**	**15.4%**
Betsi Cadwaladr ULHB	704,259	30,025	4.3%	14,539	2.1%	111,496	15.8%
Powys Teaching LHB	138,580	5,803	4.2%	3,267	2.4%	23,274	16.8%
Hywel Dda LHB	390,645	17,147	4.4%	8,808	2.3%	63,318	16.2%
ABM ULHB	541,356	22,847	4.2%	12,101	2.2%	81,003	15.0%
Cwm Taf LHB	303,942	12,604	4.1%	6,159	2.0%	50,723	16.7%
Cardiff & Vale ULHB	494,659	15,169	3.1%	8,546	1.7%	62,294	12.6%
Aneurin Bevan LHB	595,280	24,519	4.1%	11,783	2.0%	94,425	15.9%
Northern Ireland	**1,882,678**	**75,027**	**4.0%**	**32,998**	**1.8%**	**237,834**	**12.6%**
Belfast	423,863	17,424	4.1%	7,811	1.8%	52,049	12.3%
Southern Eastern	323,465	13,666	4.2%	6,258	1.9%	42,986	13.3%
Northern	445,172	18,745	4.2%	8,008	1.8%	59,163	13.3%
Southern	370,927	13,525	3.6%	5,780	1.6%	44,947	12.1%
Western	319,251	11,667	3.7%	5,141	1.6%	38,689	12.1%

Notes:

England - Copyright © Health and Social Care Information Centre 2009. ¶ Stroke refers to stroke and transient ischaemic attack. ¶ Prevalence (unadjusted) = (number on disease register / registered GP patients) * 100%. ¶ Prevalence estimates for Shetland and Orkney are relatively unstable, due to their being based on a smaller number of patients.

Source:

England - Information Centre QOF achievement data 2010/11. ¶ Wales - StatsWales. QOF 20010/11 achievement data. ¶ Scotland - ISD Scotland. QOF achievement data 2010/11. ¶ Northern Ireland - Department of Health, Social Services and Public Safety. QOF achievement data at health and social services board level.

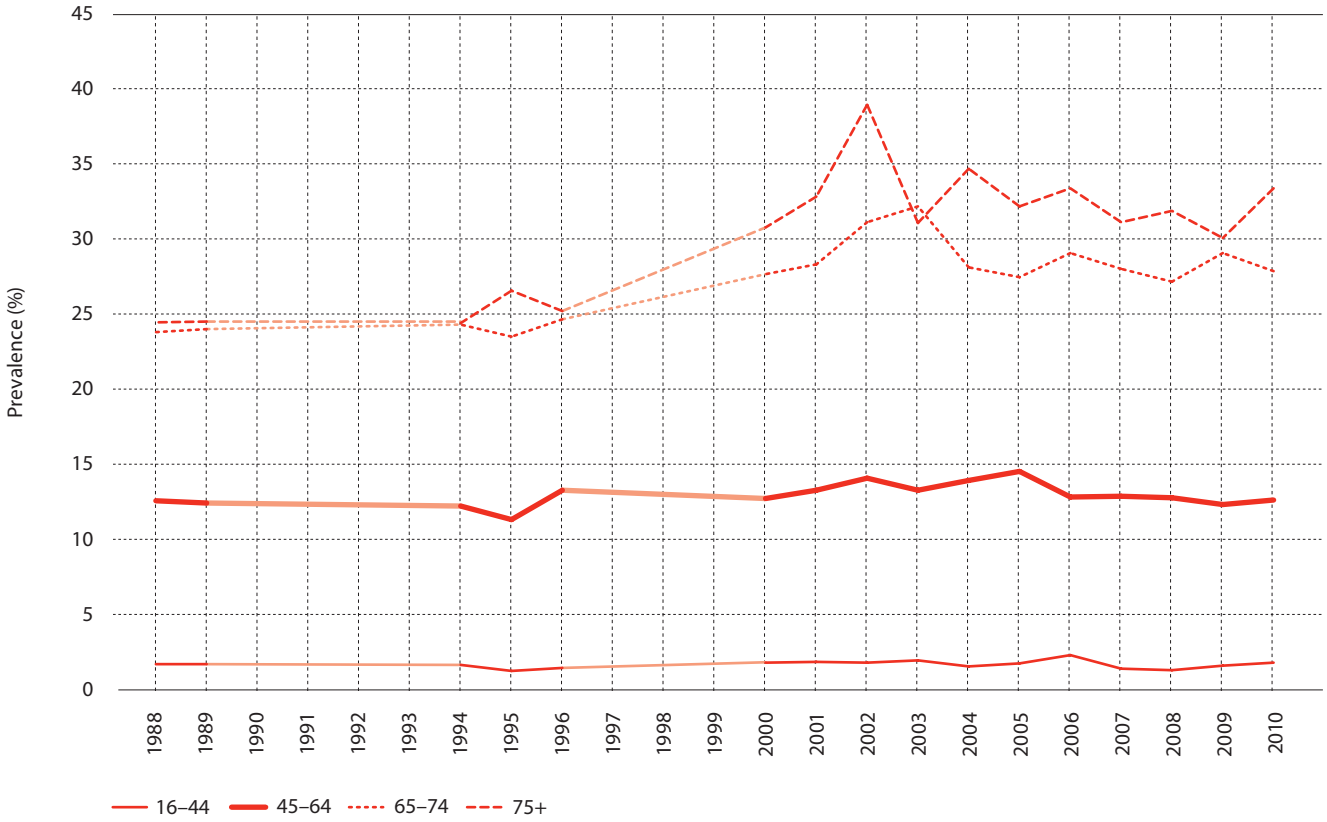
Table 2.20
Prevalence of cardiovascular disease, by sex and age, Great Britain 1988 to 2010

	All ages	16-44	45-64	65-74	75+
	%	%	%	%	%
Men					
1988	7.3	1.7	14.3	24.7	22.3
1989	6.9	1.2	13.3	25.9	22.1
1994	9.3	1.6	13.8	24.6	23.6
1995	9.3	1.2	12.9	27.2	23.8
1996	9.9	1.4	14.1	26.8	24.9
1998	11.3	1.9	15.5	28.1	31.0
2000	10.7	1.8	13.7	29.0	30.8
2001	11.0	2.2	15.0	31.3	33.3
2002	11.9	1.7	15.2	33.0	39.8
2003	11.3	1.7	14.7	34.5	31.7
2004	11.1	1.4	14.6	29.5	37.3
2005	11.4	1.5	16.7	28.8	32.9
2006	11.5	2.3	12.8	29.0	33.3
2007	10.9	1.0	14.7	32.0	33.8
2008	11.1	1.4	15.6	31.2	31.1
2009	11.4	1.6	14.9	32.3	33.7
2010	11.7	1.5	14.6	33.9	35.5
Women					
1988	7.7	1.7	10.8	22.8	26.5
1989	7.7	2.2	11.5	22.0	26.8
1994	9.2	1.7	10.6	23.9	25.1
1995	8.7	1.3	9.7	19.7	29.2
1996	9.5	1.5	12.4	22.4	25.4
1998	9.9	1.3	10.6	26.8	29.9
2000	10.4	1.8	11.7	26.2	30.6
2001	10.2	1.5	11.5	25.2	32.2
2002	11.9	1.9	12.9	29.1	37.9
2003	10.9	2.2	11.8	29.7	30.3
2004	11.0	1.7	13.2	26.6	31.9
2005	10.8	2.0	12.3	26.0	31.3
2006	11.5	2.3	12.8	29.0	33.3
2007	9.7	1.8	11.0	23.9	27.7
2008	9.4	1.2	9.9	23.0	32.5
2009	9.5	1.7	9.8	26.2	27.5
2010	10.1	2.1	10.6	22.3	31.7

Notes:
From 2000 data are weighted for non-response. ¶ See source for details.

Source:
Office for National Statistics (2011). General Lifestyle Survey 2010. Results published online at http://www.ons.gov.uk/ons/rel/ghs/general-lifestyle-survey/2010/index.html (Accessed May 2010).

Figure 2.20
Prevalence of cardiovascular disease (CVD), by age, Great Britain 1988 to 2010



3. Treatment

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 hospital episodes for CVD in the UK, with temporal trends and comparisons with other countries in Europe where possible. The chapter also includes a discussion of the impact of the National Service Framework for Coronary Heart Disease [1], which was introduced in 2000 and covered different aspects of treatment for CHD within the NHS over a ten year period finishing in 2010. An assessment of staffing levels and rehabilitation for CHD is also provided.

Prescriptions

The rapid increase in the number of prescriptions for the treatment and prevention of CVD began in the late 1980s. In 2011, around 292 million prescriptions were issued for CVD in England, nearly six times as many as issued in 1986, and an increase of 2% from the number of prescriptions in 2010 (Table 3.1). Total number of prescriptions issued for CVD in the UK was around 348 million (Table 3.2).

Since 1990, the number of prescriptions for antiplatelet drugs has increased steadily, and 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. The number of prescriptions for lipid lowering drugs is more than fifteen times higher than a decade ago (Table 3.1 and Figure 3.1). In 2011 antihypertensive drugs were the most prescribed drugs for CVD in England, Scotland and Wales. In Northern Ireland it was lipid lowering drugs followed by the antihypertensive drugs (Table 3.2).

The cost of prescriptions for hypertension and heart failure therapy decreased by approximately £64 million between 2010 and 2011, to just over £330 million [2]. 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 (Figure 3.1).

Operations

The total number of operations carried out to treat CHD is increasing. The number of percutaneous coronary interventions (PCIs) carried out in the UK in 2010 was more than three times higher than a decade earlier; over 80,000 procedures are now carried out annually in the UK. But the amount of coronary artery bypass graft (CABG) surgery reached a plateau in the late 1990s, driven by more widespread use of less invasive procedures (e.g. stents). Currently around 25,000 CABG procedures are carried out in the UK each year (Table 3.3 and Figure 3.3).

Rates of CABG and PCI vary substantially across the UK. In the most recent atlas of coronary revascularisation rates for men and women by local authority in England in 2002 showed a greater than six fold difference between the lowest and highest rates [3]. More recently, rates of operations for CHD have been shown to vary greatly around England for both men and women, with higher operation rates found in urban and metropolitan areas, and in rural areas in the North and South West of England [4].

Inpatient hospital episodes

Overall, there were around 405,000 inpatient episodes of CHD in National Health Service hospitals in 2010/11 in England, and a further 50,000 in Scotland and 24,000 in Wales. These represent 3.4% of all inpatient episodes in men and 1.4% in women in England (4.8% and 2.3% for men and women respectively in Scotland). The number of inpatient episodes of CHD has increased by 7% in the last ten years [5] (Table 3.4 and Figures 3.4a, 3.4b, 3.4c and 3.4d).

Medical risk factors for CHD, such as diabetes and obesity, also result in a sizeable burden to the National Health Service. In 2010/11 there were around 38,000 inpatient episodes of diabetes, and over 12,000 of obesity in England (Table 3.4).

Staffing levels

In 2002, a report on the provision of services for patients with heart disease in the UK claimed there was a shortage of all types of health care professionals involved in cardiovascular care [6]. However, since then the numbers of consultant cardiologists and cardiothoracic surgeons have increased considerably. In 2011, there were 947 cardiologists and 306 cardiothoracic surgeons working in England [7]. In the same time period, there were 165 and 62 in Scotland, 136 and 38 in Wales and 47 and 7 in Northern Ireland. The total number of cardiologists (full time equivalence) currently working in the UK is around 1,295 (which equates to around 20 per million). This level of staffing is around 80% higher than in 2002 [8].

Rehabilitation

The National Audit of Cardiac Rehabilitation monitors access to cardiac rehabilitation around the UK (except Scotland). Its most recent report (2011) [9] found that in 2009/10 only 42% of heart attack and revascularisation patients started a cardiac rehabilitation programme. The audit team also found large geographical inequalities in access to cardiac rehabilitation – for example, the percentage of myocardial infarction patients that started a rehabilitation programme ranged from 30% to 59% in different Strategic Health Authorities in England. In Scotland percentage of completing cardiac rehabilitation programmed ranged from 36% to 79% in different NHS Boards [10].

International differences

Country-level rates of hospitalisation for CVD are dependent upon a number of factors including prevalence of disease, service provision and primary care referrals practice. Therefore, international comparisons of hospitalisation rates for CVD should be made with caution.

Rates of hospitalisations for CVD vary considerably across Europe. For example, the hospitalisation rate in Belarus is four times higher than in Portugal. In general, high hospitalisation rates for CVD, CHD and stroke are found in Eastern European and Scandinavian countries (Tables 3.5 to 3.7).

Within Europe, there is an East-West divide in temporal trends for hospitalisation for CVD. Rates in some Eastern European and former Soviet countries have increased rapidly since 1995, whereas rates in Western European countries have remained relatively stable. For example, the rate of hospitalisations for CHD in Ukraine has nearly trebled since 1995, whereas the United Kingdom rate has changed little over this time period (Tables 3.5 to 3.7, Figures 3.6 and 3.7).

National Service Framework for Coronary Heart Disease

The National Service Framework (NSF) outlined a series of priorities, milestones and goals to be achieved to improve service quality, tackle variations in care and reduce the number of deaths from CHD over the ten-year period 2000-2010. It is clear that there have been some impressive successes in implementing the programme outlined in the NSF. For example, three immediate priorities were achieved quickly: the introduction of specialist smoking cessation clinics by health authorities to help 150,000 people quit smoking; the setting up of 50 rapid-access chest pain clinics to assess people with new symptoms for angina within two weeks of referral; and the reduction of call-to-needle times for thrombolysis for heart attacks, by improving ambulance response times and increasing the proportion of accident and emergency (A&E) departments able to provide thrombolysis. By 2010/11, over 700,000 people in England attended NHS smoking cessation services, and of these, 49% reported that they were not smoking four weeks after their quit date (Table 3.8) [11]. By June 2001, there were 150 rapid-access chest pain clinics open across England [12]. By 2004/05, only the South East Coast had missed the target of 75% of category A (immediately life threatening) calls responded to within eight minutes [13]. This is compared to only 3 out of 32 ambulance services achieving this target in 2000/01. From 2008/09, the measurement for response time was changed, but across England 74% of emergency and urgent calls were responded to in less than eight minutes. The Scottish Ambulance Service reported that they responded to 72% of emergency calls within eight minutes in 2010/11 [14] (Table 3.9).

Further targets that were achieved by the NSF regarded treatment for CHD once patients arrived at hospital. These included targets to increase to 75% the proportion of heart attack patients receiving thrombolysis within 30 minutes of arriving at hospital; to improve the use of effective medicines after heart attack so that 80 to 90% of people discharged from hospital following a heart attack are prescribed aspirin, beta-blockers and statins; and to increase the total number of revascularisation procedures by 3,000. As discussed earlier, the number of revascularisation procedures carried out in the UK is still increasing – in 2008 there were nearly 45,000 more revascularisation procedures in the UK than in 2000.

The Myocardial Ischaemia National Audit Project (MINAP) has monitored the achievement of the other two targets. MINAP data show that by April 2002, 59% of eligible heart attack patients were receiving thrombolysis within 30 minutes of arriving in hospital. As the number of patients having primary angioplasty has increased, the number having thrombolytic treatment, either before or on arrival at hospital, has fallen. By 2010/11, the level was 75% in England and 62% in Wales. MINAP data further show that in 2010/11, at least 95% of people discharged from hospital following a heart attack in England were prescribed secondary prevention medicine (Table 3.10) [15].

The NSF also outlined the importance of cardiac rehabilitation. It set an overall goal that in every hospital over 85% of people discharged with a primary diagnosis of heart attack or after coronary revascularisation should be offered cardiac rehabilitation. However, as discussed earlier, the rate of CHD patients actually starting cardiac rehabilitation programmes is still much lower than this level (42% in 2009/10) [9].

The Department of Health have monitored the implementation of the NSF for CHD, and periodically report on its findings. The most recent report in 2009 highlighted improvements in waiting time for CABGs: in April 2002, there were 7,558 people waiting for a CABG and 4,364 of them had been waiting three months or more; by December 2008, this had fallen to 1,670 people waiting and only six people had been waiting longer than three months [16]. However, the review acknowledged that many things have changed since 2000 and identified several areas to be focussed on, such as preventing vascular disease and not just treating it, removing inequalities of access, and ensuring that those with chronic vascular conditions who require long-term and end-of-life care get the same level and quality of services that those with acute conditions are currently receiving.

1. Department of Health (2000). National Service Framework for Coronary Heart Disease. The Stationery Office: London.
2. Office for National Statistics (2008). Prescription cost analysis. The Information Centre: London, and previous editions.
3. Otreba P, Rayner M, Hill A, Goldacre M (2003) An atlas of coronary heart disease mortality, hospital admissions and coronary revascularisations in South East England. SEPHO: Oxford. This publication contains maps of CHD mortality, hospital admissions and coronary revascularisations by local authority across England as well as the South East Region. See www.heartstats.org/chd_atlas
4. Scarborough P, Allender S, Peto V, Rayner M (2008). Regional and social differences in Coronary Heart Disease 2008. British Heart Foundation: London. This publication contains maps of mortality, morbidity and treatment rates for coronary heart disease, and local estimates of the prevalence of behavioural risk factors for CHD. See www.heartstats.org/publications.
5. In 2000/2001, the number of inpatient episodes for CHD was 378,532 in National Health Service hospitals in England. See Table 3.5 in Petersen S, Peto V and Rayner M (2003) Coronary heart disease statistics. British Heart Foundation: London.
6. Hall R, More R, Camm J et al (2002). Fifth report on the provision of services for patients with heart disease. Heart; 88 (Suppl III): iii1-iii59.
7. Office for National Statistics (2012). Medical and Dental Workforce Census 2011. The Information Centre: Leeds.
8. Data from NHS workforce statistics (2011/12) and national statistical agencies.
9. National Audit of Cardiac Rehabilitation (2011). Annual Statistical Report 2011. British Heart Foundation: London.
10. Cardiac Rehabilitation in Scotland (2011). Information Services Division. Edinburgh.
11. Four week self-reported quit rates only give an indication of the true short-term quit rates achieved by smoking cessation services. In 2003/04, carbon monoxide (CO) validation was offered to clients of smoking cessation services as a tool to aid smoking cessation. Around 70% of those who reported having successfully quit smoking at the 4-week follow-up had the level of carbon monoxide in their bloodstream measured. In 88% of cases this test confirmed they were not smoking at 4-weeks. Longer term success rates are currently unknown.
12. Department of Health Heart Team, personal communication.
13. Department of Health Statistical Bulletin (2005) Ambulance services, England: 2004-2005. Department of Health: London.
14. Working for you, Scottish Ambulance Service Annual Report and Accounts 2010/2011. NHS Scotland: Edinburgh. (accessed August 2012).
15. For more results from the MINAP project, including hospital level data, see Royal College of Physicians (2011) How the NHS Manage Heart Attacks. Tenth Public Report of the Myocardial Infarction National Audit Project. Royal College of Physicians: London. Also available at www.rcplondon.ac.uk/pubs.
16. Department of Health (2009). The Coronary Heart Disease National service framework report. Building on excellence, maintaining progress. Progress report for 2008. Department of Health: London.

Table 3.1
Prescriptions used in the prevention and treatment of cardiovascular disease, England 1981 to 2011

Prescriptions (thousands)	1981	1986	1991	1996	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Digoxin and other positive inotropic drugs (2.1)	4,243	3,722	3,822	3,871	3,983	4,031	4,029	4,043	4,088	4,103	4,126	4,141	4,149	4,119	4,088	4,006
Diuretics (2.2)	20,678	21,996	22,195	23,106	27,738	30,203	32,185	34,432	36,546	37,619	37,582	37,355	37,536	37,511	37,687	37,563
Anti-arrhythmic drugs (2.3)	232	334	532	840	1,214	1,292	1,338	1,343	1,325	1,292	1,265	1,247	1,226	1,188	1,174	1,156
Beta-adrenoreceptor blocking drugs (2.4)	9,827	12,525	14,282	14,375	18,321	20,439	22,439	24,336	26,361	27,460	27,378	26,810	27,634	28,529	29,686	30,924
Antihypertensive and heart failure drugs (2.5)	4,912	4,424	6,431	12,125	21,075	25,047	29,591	33,788	38,580	42,865	47,742	53,634	57,823	60,838	63,571	65,449
Nitrates, calcium blockers & other antianginal drugs (2.6)	5,156	10,314	16,718	21,971	25,394	26,814	27,994	29,156	30,715	32,309	34,707	37,214	39,100	40,575	42,043	43,086
Sympathomimetics (2.7)	15	6	19	7	3	2	2	3	4	4	5	6	8	12	16	17
Anticoagulants and protamine (2.8)	629	900	1,356	2,609	4,152	4,609	4,975	5,389	5,871	6,294	6,790	7,309	7,991	8,546	9,157	9,773
Antiplatelet drugs (2.9)	281	1,058	3,619	9,002	16,552	18,891	21,601	24,428	27,356	30,218	32,779	35,382	38,124	39,107	38,182	38,351
Anti-fibrinolytic drugs and haemostatics (2.11)					267	282	289	300	310	311	327	352	358	363	373	392
Lipid-lowering drugs (2.12)	295	247	1,066	3,138	10,331	13,523	17,604	22,655	29,444	35,568	42,098	47,412	52,190	56,452	59,550	61,649
Local sclerosants (2.13)					1	1	0	0	0	0	0	0	0	0	0	0
All prescriptions for disease of the circulatory system	46,267	55,526	70,041	91,044	129,030	145,134	162,046	179,872	200,598	218,043	234,798	250,862	266,138	277,244	285,530	292,370

Notes:
The data up to 1990 are not consistent with data from 1991 onwards. ¶ Figures up to 1990 are based on fees and on a sample of 1 in 200 prescriptions dispensed by community pharmacists and appliance contractors only. ¶ Figures from 1991 are based on items and cover all prescriptions dispensed by community pharmacists, appliance contractors, dispensing doctors and prescriptions submitted by prescribing doctors for items personally administered. British National Formulary (BNF) codes in parentheses.

Source:
Office for National Statistics (2012). Prescription cost analysis 2011. The Information Centre: Leeds, and previous editions.

Figure 3.1

Prescriptions used in the prevention and treatment of CVD, selected BNF drug groups, England 1981 to 2011

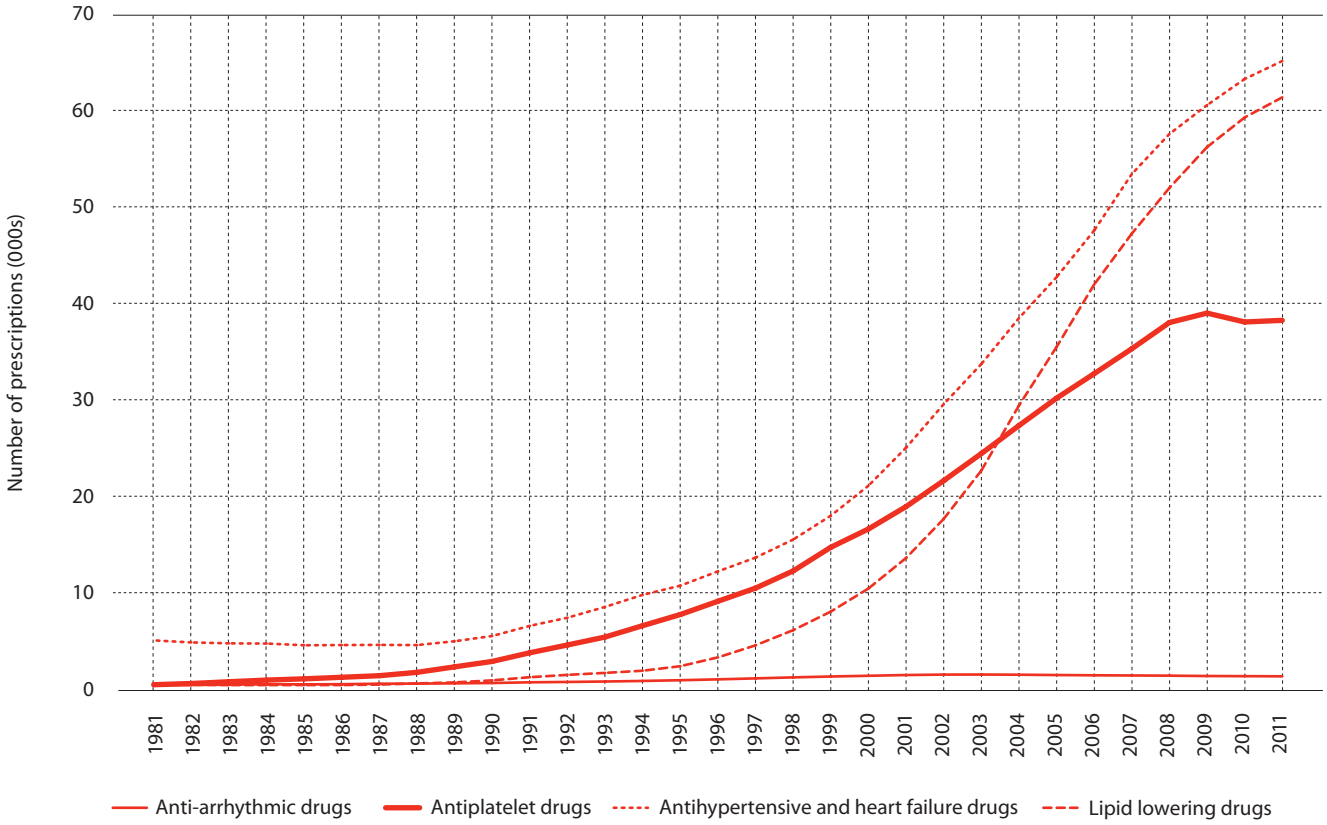


Table 3.2
Prescriptions used in the prevention and treatment of cardiovascular disease, UK latest available year

Prescriptions (thousands)	England 2011	Wales 2011	Scotland 2011/12	Northern Ireland 2011	UK
Digoxin and other positive inotropic drugs (2.1)	4,006	284	276	93	4,659
Diuretics (2.2)	37,563	2,960	3,382	1,002	44,907
Anti-arrhythmic drugs (2.3)	1,156	64	71	32	1,323
Beta-adrenoreceptor blocking drugs (2.4)	30,924	2,322	2,957	1,059	37,262
Antihypertensive and heart failure drugs (2.5)	65,449	4,920	5,045	1,640	77,054
Nitrates, calcium blockers & other antianginal drugs (2.6)	43,086	3,314	3,699	1,154	51,253
Sympathomimetics (2.7)	17	1	1	0	19
Anticoagulants and protamine (2.8)	9,773	808	819	274	11,674
Antiplatelet drugs (2.9)	38,351	2,904	3,506	1,223	45,984
Antifibrinolytic drugs & haemostatics (2.11)	392	33	44	15	484
Lipid-lowering drugs (2.12)	61,649	4,788	4,861	1,838	73,136
Local sclerosants (2.13)	0	0	0	0	0
All prescriptions for disease of the cardiovascular system	292,370	22,399	24,660	8,330	347,759

Notes:
Numbers are rounded to nearest 000. ¶ Figures are based on items and cover all prescriptions dispensed by community pharmacists, appliance contractors, dispensing doctors and prescriptions submitted by prescribing doctors for items personally administered. ¶ British National Formulary (BNF) codes in parentheses.

Source:
Office for National Statistics (2012). Prescription cost analysis 2011. The Information Centre: Leeds. ¶ Welsh Government (2012). Prescription Cost Analysis 2011. Health Statistics and Analysis Unit:Cardiff. ¶ ISD Scotland (2012). Prescription Cost Analysis 2011/12. NHS National Services: Edinburgh. ¶ HSC (2012). Prescription Cost Analysis 2011. Business Services Organisation: Belfast.

Table 3.3
Number of CABGs and PCIs, United Kingdom 1977 to 2010

	Coronary artery bypass surgery (CABG)	Percutaneous coronary interventions (PCI)
1977	2,297	
1978	2,653	
1979	2,918	
1980	4,057	
1981	5,130	
1982	6,008	
1983	8,332	
1984	9,433	
1985	10,667	
1986	10,767	
1987	11,521	
1988*	11,113	
1989	12,648	
1990	14,431	
1991	15,659	9,933
1992	19,241	11,575
1993	21,031	12,937
1994	22,056	14,624
1995	22,475	17,344
1996	22,160	20,511
1997	25,639	22,902
1998	25,083	24,899
1999	24,733	28,133
2000	25,127	33,256
2001	24,663	38,992
2002	25,277	44,913
2003	25,461	53,261
2004	25,160	62,780
2005	23,412	70,142
2006	23,623	73,692
2007	25,372	77,373
2008	22,846	80,331
2009	19,766	83,130
2010	17,822	87,676

Notes:
Data are not available for PCIs until after 1990. ¶ * One centre did not make a return this year. ¶ Operations performed within the private sector are not included.

Source:
British Cardiovascular Intervention Society (2009). Personal communication. ¶ British Cardiovascular Intervention Society (2012). BCIS Audit returns. Personal communication.

Figure 3.3

Number of coronary artery bypass operations and percutaneous coronary interventions per year, United Kingdom 1980 to 2010

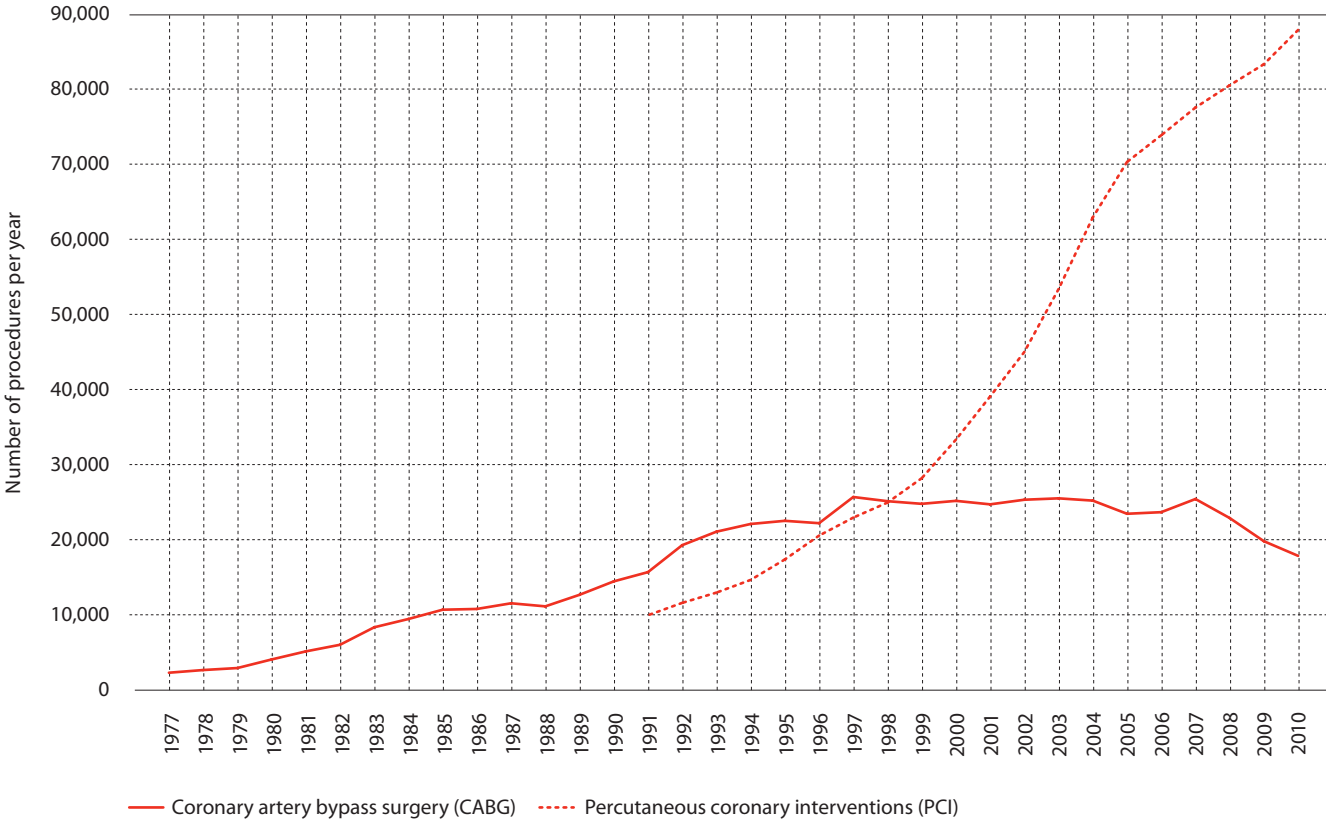


Table 3.4

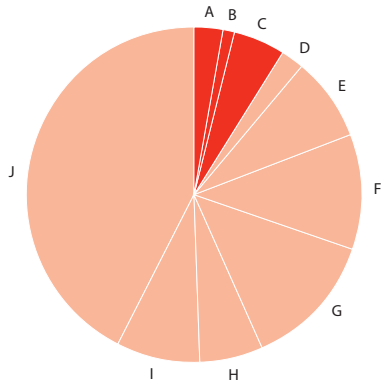
Inpatient episodes by main diagnosis in National Health Service hospitals, by sex, England, Scotland, Wales and Northern Ireland 2010/11

	England		Scotland		Wales		Northern Ireland	
	Men	Women	Men	Women	Men	Women	Men	Women
All diagnoses	7,628,685	9,641,197	668,172	745,613	388,768	497,554	302,301	330,859
All diseases of the circulatory system (I00-I99)	767,889	603,920	83,249	65,620	44,492	36,410	26,019	20,265
Coronary heart disease (I20-I25)	263,538	141,558	32,378	17,809	15,621	8,679	9,903	4,732
Angina pectoris (I20)	60,496	43,692	5,457	3,979	3,883	2,834	2,343	1,245
Acute myocardial infarction (I21)	55,566	36,501	15,133	9,253	3,575	2,347	1,783	1,087
Other coronary heart disease	147,476	61,365	11,788	4,577	8,163	3,498	5,777	2,400
Heart failure (I50)	60,223	56,811	6,168	5,567	4,430	4,170	2,037	2,160
Stroke (I60-I69)	96,364	101,971	10,936	11,675	6,045	6,426	3,453	3,586
Diabetes (E10-E14)	19,742	18,545	3,851	3,542	2,668	2,065	2,431	1,987
Obesity (E66)	3,180	9,099	154	263	24	58	10	13
All cancer (C00-D48)	850,394	889,510	89,474	104,956	31,704	29,654	28,607	31,151
Colo-rectal cancer (C18-C21)	88,894	63,908	11,747	9,280	3,116	2,067	3,993	2,672
Lung cancer (C33-C34)	57,536	44,148	8,980	8,626	2,571	2,040	2,669	1,702
Breast cancer (C50)	948	180,151	130	23,577	14	3,486	33	6,898
Bladder cancer (C67)	65,549	21,207	3,624	1,483	3,030	1,141	1,991	604
All diseases of the nervous system (G00-G99)	178,326	207,224	15,123	18,356	8,239	10,369	4,146	5,159
All diseases of the respiratory system (J00-J99)	590,963	576,234	57,089	60,768	39,473	39,078	20,681	20,728
All diseases of the digestive system (K00-K93)	985,122	1,031,740	89,932	97,048	51,962	54,608	35,087	37,824
All diseases of the genitourinary system (N00-N99)	441,529	656,723	36,112	54,708	23,954	36,632	75,416	65,111
Injury and poisoning (S00-T98)	584,203	580,201	60,239	57,667	32,018	31,478	19,086	17,289
All other diagnoses	3,207,337	5,068,001	232,949	282,685	154,234	257,202	90,818	131,332

Notes:
Finished consultant episodes; ordinary admissions and day cases combined. ¶ Pregnancy cases are not included. ¶ ICD-10 codes in parentheses.

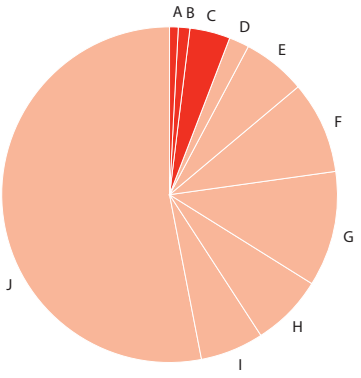
Source:
Department of Health (2012) Hospital Episode Statistics 2010/11. www.hesonline.nhs.uk (accessed May 2012). ¶ Information Services Division Scotland (2012) Main diagnosis discharges from hospital 2010/11. www.isdscotland.org (accessed May 2012). ¶ NHS Wales Informatics Service (2011) The Patient Episode Database for Wales - 2010/11. www.infoandstats.wales.nhs.uk (accessed May 2012). ¶ Hospital Information Branch(2012) Northern Ireland Episode Based Acute Inpatient and Day Case Activity Data 2010/11.Personal communication.

Figure 3.4a
Inpatient episodes by main diagnosis in men for National Health Service hospitals, England 2010/11



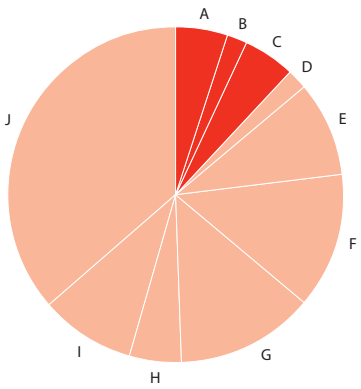
A. Coronary heart disease (3%)
B. Stroke (1%)
C. Other cardiovascular disease (5%)
D. Nervous system disease (2%)
E. Respiratory disease (8%)
F. Cancer (11%)
G. Digestive system disease (13%)
H. Genitourinary disease (6%)
I. Injury and poisoning (8%)
J. All other causes (42%)

Figure 3.4b
Inpatient episodes by main diagnosis in women for National Health Service hospitals, England 2010/11



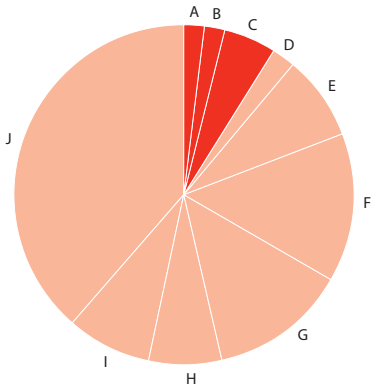
A. Coronary heart disease (1%)
B. Stroke (1%)
C. Other cardiovascular disease (4%)
D. Nervous system disease (2%)
E. Respiratory disease (6%)
F. Cancer (9%)
G. Digestive system disease (11%)
H. Genitourinary disease (7%)
I. Injury and poisoning (6%)
J. All other causes (53%)

Figure 3.4c
Inpatient episodes by main diagnosis in men for National Health Service hospitals, Scotland 2010/11



A. Coronary heart disease (5%)
B. Stroke (2%)
C. Other cardiovascular disease (5%)
D. Nervous system disease (2%)
E. Respiratory disease (9%)
F. Cancer (13%)
G. Digestive system disease (13%)
H. Genitourinary disease (5%)
I. Injury and poisoning (9%)
J. All other causes (36%)

Figure 3.4d
Inpatient episodes by main diagnosis in women for National Health Service hospitals, Scotland 2010/11



A. Coronary heart disease (2%)
B. Stroke (2%)
C. Other cardiovascular disease (5%)
D. Nervous system disease (2%)
E. Respiratory disease (8%)
F. Cancer (14%)
G. Digestive system disease (13%)
H. Genitourinary disease (7%)
I. Injury and poisoning (8%)
J. All other causes (38%)

Table 3.5
Age-standardised cardiovascular disease (CVD) hospital discharge rates per 100,000, Europe 1980 to 2009

	1980	1985	1990	1995	2000	2005	2006	2007	2008	2009
Albania				417	540	623	668	719	705	785
Andorra					586	701	677	683	753	726
Armenia	1,092	1,236	1,225	762	639	931	972	1,035	1,142	1,224
Austria			3,004	3,320	3,630	3,746	3,769	3,804	3,777	
Azerbaijan			1,481	595	472	572	616	641	672	653
Belarus				3,444	4,577	5,165	5,374	5,599	5,750	5,786
Belgium				2,235	2,356	2,233	2,204	2,168		
Bosnia and Herzegovina	964	905								
Bulgaria	1,451	1,790	1,779	1,774	1,869	2,835	3,024	3,180	3,331	3,712
Croatia		1,136	1,265	1,232	1,760	1,850	1,947	1,926	1,904	1,892
Cyprus	607	690	809	549	818	813	757	844	670	
Czech Republic				3,051	3,261	3,514	3,368	3,254	3,151	3,168
Denmark			2,292	2,201	2,543	2,559	2,538	2,469	2,423	2,501
Estonia			2,338	2,664	3,239	3,243	3,360	3,372	3,494	3,327
Finland			3,293	3,858	3,785	3,121	3,033	2,913		
France					2,307	2,283	2,302	2,268	2,273	
Georgia			1,635	507	454	649	762	837	975	971
Germany				2,955	3,267	3,310	3,323	3,392	3,463	
Greece	1,191	1,404	1,593	2,010	2,309	2,708	2,797			
Hungary				3,171	4,239	4,495	4,376	3,861	3,863	
Iceland			1,935		1,863	1,830	1,545	1,480		
Ireland				1,440	1,420	1,268	1,241	1,202	1,181	1,163
Israel			1,754	2,047	1,911	1,638	1,600	1,502	1,482	
Italy			2,128	2,349	2,582	2,363	2,330	2,248	2,179	
Kazakhstan			1,597	1,207	1,314	1,805	1,856	1,817	1,899	1,970
Kyrgyzstan	1,158	1,217	1,257	903	1,041	1,130	1,257	1,385	1,326	
Latvia	1,898	2,423	2,445	2,598	3,144	3,636	3,816	3,900	3,893	3,190
Lithuania	1,978	2,628	2,687	3,201	4,102	4,154	4,047	4,059	4,226	4,283
Luxembourg					2,612	2,236	2,249	2,172		
Malta					666	727	751	656	942	1,183
Montenegro			1,059	1,249	1,400	1,636	1,710	1,670	1,654	1,677
Netherlands		1,338	1,414	1,583	1,403	1,558	1,572	1,580	1,626	
Norway				2,194	2,349	2,467	2,495	2,449	2,452	2,368
Poland	1,344	1,530	1,814	2,052		2,556	2,645	2,550	3,085	
Portugal				944	1,125	1,206	1,194	1,332	1,388	
Republic of Moldova	1,316	1,626	1,727	1,580	1,315	2,023	2,100	2,153	2,300	2,327
Romania	1,784	1,914	1,737	2,024	2,422	2,589	3,159	2,826	3,057	3,178
Russian Federation			2,226	2,255	2,763	3,414	3,479			
Serbia					1,455	1,812	1,823	1,932	2,094	2,160
Slovakia				2,534	2,443	2,679	2,688	2,463	2,684	2,697
Slovenia	1,286	1,391	1,424	1,560	1,685	1,851	1,960	1,940	1,918	1,976
Spain	537	691	775	1,059	1,333	1,339	1,323	1,323	1,315	
Sweden			2,796	2,996	2,639	2,467	2,455	2,441		
Switzerland						1,680	1,719	1,735	1,775	
Tajikistan			939	653	533	771	879	918	925	933
TFYR Macedonia		759		1,184	1,267	1,556	1,430	1,443		
Turkey	270	390	531	896	909	1,146	1,047	1,183	1,180	
Turkmenistan				821	1,405	1,225	1,249	1,368	1,426	1,522
Ukraine	2,119	2,601	2,792	2,568	2,612	3,462	3,586	3,677	3,781	3,744
United Kingdom					**1,422**	**1,353**	**1,321**	**1,304**	**1,311**	**1,305**
Uzbekistan				1,217	959	1,394	1,444	1,552	1,558	1,586
European Region			1,920	2,021	2,226	2,430	2,458	2,453	2,494	2,498
EU			1,979	2,191	2,396	2,397	2,420	2,378	2,436	

Notes:
Blank cells indicate no data were available. ¶ Age standardised for European population

Source:
WHO Europe (2010) Health for All Database (HFA-DB) http://data.euro.who.int/hfadb/ (Accessed June 2012).

Table 3.6
Age-standardised coronary heart disease (CHD) hospital discharge rates per 100,000, Europe 1980 to 2009

	1980	1985	1990	1995	2000	2005	2006	2007	2008	2009
Albania				121	157	187	188	204	196	250
Andorra						120	149	150	179	157
Armenia	334	437	521	318	282	382	411	434	469	505
Austria			391	587	748	982	994	990	954	
Azerbaijan			499	201	154	175	179	186	214	230
Belarus				1,635	2,212	2,569	2,641	2,720	2,713	2,864
Belgium				689	736	678	653	632		
Bosnia and Herzegovina	181	139								
Bulgaria	460	524	545	553	542	721	854	932	1,017	1,273
Croatia		295	334	309	495	503	486	470	469	490
Cyprus	223	293	339	222	332	279	194	257	198	
Czech Republic				1,223	1,041	983	905	851	776	771
Denmark			700	684	790	823	766	731	684	695
Estonia			936	990	1,117	998	1,090	1,002	999	900
Finland			1,153	1,369	1,160	923	865	791		
France					503	513	519	504	497	
Georgia			677	181	194	333	404	399	483	463
Germany				947	1,060	977	959	938	916	
Greece	296	412	521	722	777	936	970			
Hungary				961	1,113	876	857	791	808	
Iceland			790		724	704	576	571		
Ireland				477	457	422	418	392	375	354
Israel			834	938	823	619	577	516	501	
Italy			493	520	600	582	570	550	529	
Kazakhstan			522	436	419	606	533	547	684	721
Kyrgyzstan	324	321	365	156	322	385	364	394	497	
Latvia	849	1,094	1,163	1,166	1,263	1,381	1,456	1,453	1,472	1,189
Lithuania		1,283	1,327	1,526	1,415	1,376	1,311	1,304	1,297	1,312
Luxembourg					819	738	689	606		
Malta					184	271	238	188	288	351
Montenegro				342	421	541	555	521	509	565
Netherlands		500	543	612	523	539	529	527	526	
Norway				890	876	952	981	972	952	899
Poland	332	397	541	598		774	778	742	884	
Portugal				225	277	276	254	328	339	
Republic of Moldova	508	689	665	562	419	547	588	592	656	659
Romania				637	752	473	492	364	367	374
Russian Federation			888	936	1,103	1,313	1,330			
Serbia					373	490	507	570	629	644
Slovakia				1,089	955	884	836	737	810	780
Slovenia	309	313	349	347	366	411	433	417	397	411
Spain	102	164	202	278	363	338	328	317	302	
Sweden			868	959	905	786	766	745		
Switzerland						502	498	484	498	
Tajikistan				174	122	217	249	264	265	266
TFYR Macedonia		141		321	480	666	605	551		
Turkey	38	56	99	144	206	365	454	534	524	
Turkmenistan				269	56	34	28	27	19	24
Ukraine	614	719	728	665	1,197	1,646	1,712	1,761	1,825	1,809
United Kingdom					**523**	**488**	**471**	**458**	**444**	**421**
Uzbekistan				321	300	443	472	588		448
European Region			609	643	738	795	802	801	804	803
EU			575	652	707	664	655	632	631	

Notes:
Blank cells indicate no data were available.

Source:
WHO Europe. Health for All Database (HFA-DB) http://data.euro.who.int/hfadb/ (Accessed June 2012).

Figure 3.6

Age-standardised coronary heart disease (CHD) hospital discharge rates per 100,000, selected countries 1980 to 2009

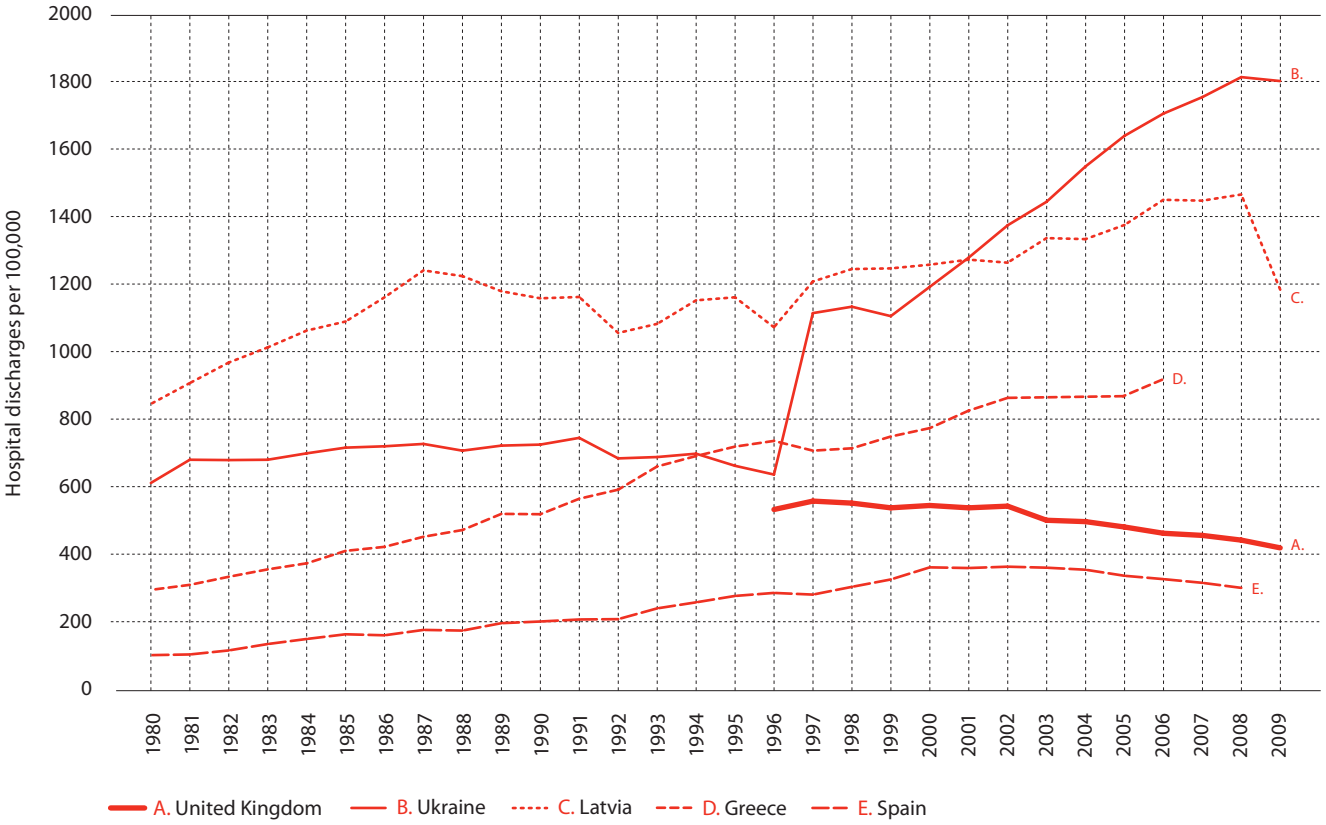


Table 3.7
Age-standardised stroke hospital discharge rates per 100,000, Europe 1970 to 2009

	1970	1975	1980	1985	1990	1995	2000	2005	2006	2007	2008	2009
Albania						45	80	94	108	124	130	150
Andorra								117	106	107	84	94
Armenia			101	128	194	132	130	172	162	177	187	195
Austria					194	427	671	577	570	559	549	
Azerbaijan					113	53	45	52	62	65	71	73
Belarus						569	896	1,063	1,092	1,143	1,154	1,163
Belgium						362	390	368	363	358		
Bosnia and Herzegovina			131	119								
Bulgaria			134	268	293	323	426	592	616	615	622	613
Croatia				233	297	281	411	409	437	426	411	410
Cyprus			116	131	143	89	140	120	126	157	120	
Czech Republic						558	619	615	601	572	543	550
Denmark					430	394	452	384	373	364	356	358
Estonia					380	497	502	619	613	639	705	714
Finland					681	820	658	561	564	550		
France							222	228	227	223	229	
Georgia					192	54	74	98	102	132	142	149
Germany						487	462	497	506	513	526	
Greece	117	190	230	256	274	330	404	448	464			
Hungary						598	832	1,276	1,217	1,051	1,053	
Iceland					244		237	207	180	149		
Ireland						234	250	171	169	165	166	168
Israel					203	253	259	247	246	237	235	
Italy					394	436	489	475	470	457	446	
Kazakhstan					176	169	210	351	355	362	377	405
Kyrgyzstan			91	107	145	124	153	174	188	229	236	
Latvia			282	383	445	542	638	795	838	852	838	692
Lithuania				408	512	671	780	839	826	816	874	859
Luxembourg							233	167	165	168		
Malta							79	54	71	58	68	107
Montenegro						163	169	197	183	192	203	206
Netherlands				181	175	193	184	224	229	226	229	
Norway						382	320	342	345	331	331	309
Poland			130	159	191	232		345	355	344	388	
Portugal						287	336	327	308	305	310	
Republic of Moldova			181	230	293	270	271	475	518	540	543	608
Romania						280	328	523	669	629	580	587
Russian Federation					370	458	595	760	769			
Serbia							338	431	420	410	419	459
Slovakia						491	452	518	515	458	483	462
Slovenia			219	268	249	255	230	228	235	226	218	232
Spain			89	107	112	176	213	223	225	223	223	
Sweden					613	617	446	417	410	397		
Switzerland								207	218	211	220	
Tajikistan					109	31	38	56	65	66	64	69
TFYR Macedonia				121		199	218	243	247	261		
Turkey			27	50	71	106	148	152	96	100	100	
Turkmenistan						82	132	145	153	183	192	209
Ukraine			244	358	486	467	540	770	798	828	859	862
United Kingdom							**204**	**212**	**210**	**207**	**213**	**223**
Uzbekistan						112	79	116	117	116	127	120
European Region					299	333	380	440	442	438	442	443
EU					304	342	367	393	399	389	392	

Notes:
Blank cells indicate no data were available

Source:
WHO Europe. Health for All Database (HFA-DB) http://data.euro.who.int/hfadb/ (Accessed June 2012).

Figure 3.7
Age-standardised stroke hospital discharge rates per 100,000, Europe 1980 to 2009

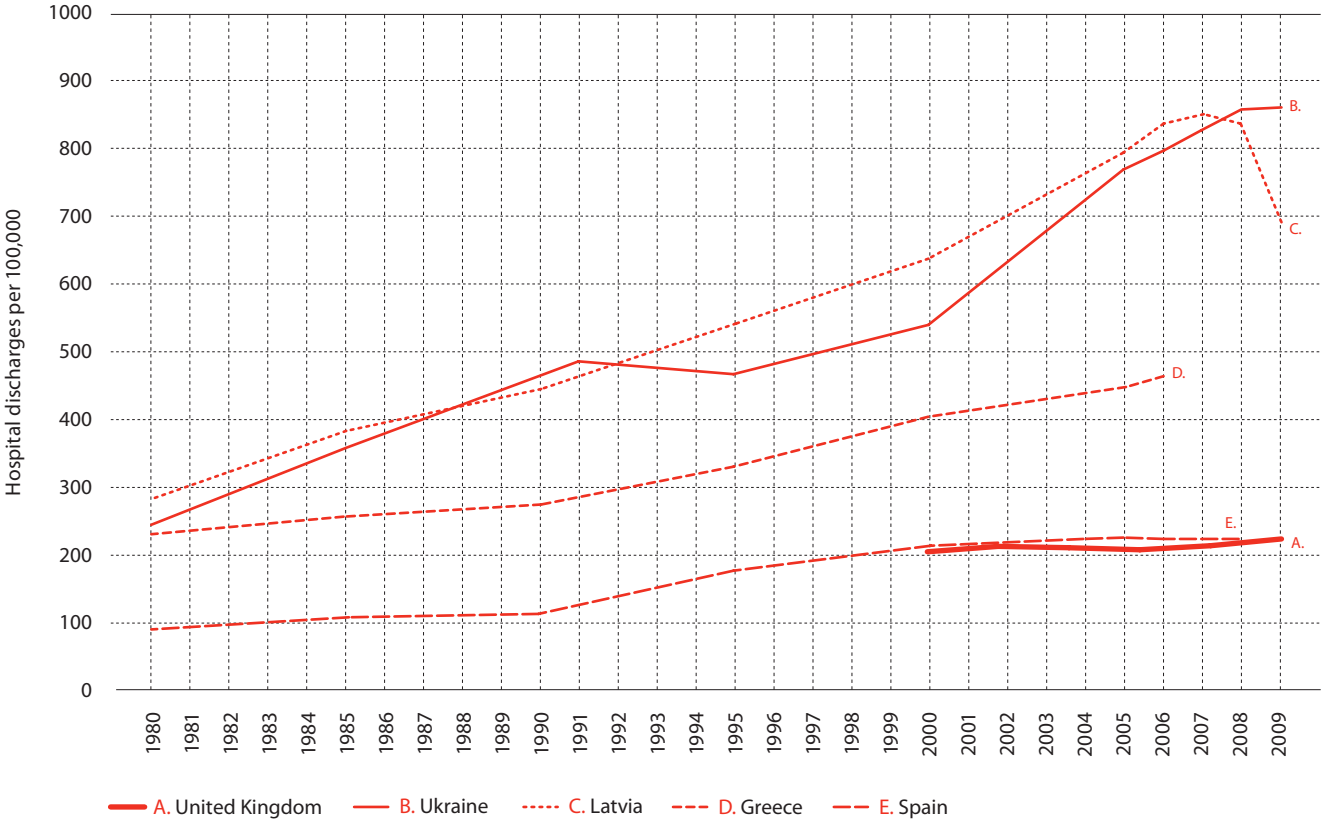


Table 3.8
Outcome at 4 weeks in people using National Health Service smoking cessation services, England, Scotland and Northern Ireland 1999/00 to 2010/11

	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2010/11
England											
Total number setting a quit date	14,600	132,500	227,335	234,858	361,224	529,567	602,820	600,410	680,289	671,259	787,527
% Who had successfully quit at 4 week follow-up (self report)	39%	49%	53%	53%	57%	56%	55%	53%	52%	50%	49%
Scotland											
Total number setting a quit date									44,019	50,121	79,672
% Who had successfully quit at 4 week follow-up (self report)									38%	38%	39%
Northern Ireland											
Total number setting a quit date						7,369	8,702	13,795	21,476	23,383	34,386
% Who had successfully quit at 4 week Follow-up (self report)						51%	47%	52%	51%	51%	52%

Notes:
A client is counted as having successfully quit smoking at the 4 week follow-up if he/she has not smoked at all since two weeks after the quit date. ¶ Scottish data are based on calendar years.

Source:
Health and Social Care Information Centre (2011) Statistics on NHS stop smoking services in England, April 2010 to March 2011. Information Centre: Leeds and previous editions. ¶ Galbraith L, Hecht G (2011) NHS smoking cessation service statistics (Scotland) 1st January to 31st December 2010. The Scottish Public Health Observatory: Edinburgh, and previous editions. ¶ Northern Ireland Statistics & Research Agency (2011) Statistics on smoking cessation services in Northern Ireland: 2010/11. Department of Health, Social Services and Public Safety: Belfast.

Table 3.9
Responses to emergency calls within eight minutes by ambulance service, England 2004/05 to 2010/11 and Scotland 2010/11

	Emergency calls			Emergency and urgent calls		
	2004/05	2005/06	2006/07	2007/08	2008/09	2010/11
	%	%	%	%	%	%
Ambulance service						
North East	77.3	75.2	76.3	78.5	75.7	75.8
North West	76.7	74.3	72.7	75.6	74.3	73.6
Yorkshire	75.1	72.7	72.4	73.5	69.4	73.7
East Midlands	75.8	75.1	75.9	79.5	76.0	72.4
West Midlands	79.4	77.9	77.2	80.9	75.4	76.8
East of England	76.3	76.6	75.2	75.0	74.6	74.6
London	76.6	75.1	75.2	78.9	75.5	75.1
South East Coast	74.8	76.0	75.1	77.2	75.2	76.0
South Central	76.2	76.0	73.8	75.1	72.6	77.5
Great Western	72.7	74.0	72.8	72.2	68.4	74.3
South Western	75.7	75.9	74.1	78.9	78.0	76.9
Isle of Wight	77.2	75.7	78.0	81.7	77.0	77.3
England	76.2	75.3	74.6	77.1	74.3	74.9
Scotland						72.0

Notes:
From 2007/08 urgent calls are included (previous years relate to emergency calls only). ¶ From 2008/09 the starting point for response time measurement was changed – comparisons with earlier years should be treated with caution. ¶ Response to life-threatening Category A emergencies across Scotland within 8 minutes

Source:
Office for National Statistics(2011) Ambulance services, England:2010-11. Leeds: Information Centre. ¶ Working for you,Scottish Ambulance Service Annual Report and Accounts 2010/2011. NHS Scotland: Edinburgh.

Table 3.10
Thrombolytic treatment, use of aspirins, beta blockers and statins after a heart attack, England and Wales 2004/05 to 20010/11

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
	%	%	%	%	%	%	%
Percentage of patients having thrombolytic treatment within 30 mins of arrival at hospital							
Target	75	75	75	75	75	75	75
England National Average	84	83	84	84	83	79	75
Wales National Average	70	74	70	67	73	67	62
Percentage of patients having thrombolytic treatment within 60 mins of calling for help							
England							
Target	58	68	68	68	68	68	68
National Average	54	58	64	71	72	69	68
Wales							
Target						70	70
National Average	28	30	41	49	48	55	53

	Aspirin	Beta blockers	Statins	ACE inhibitors	Clopidogrel/ Thienopyridine inhibitor
	%	%	%	%	%
Percentage of patients discharged on secondary prevention medication 2010/1					
Target	80	80	80	n/a	n/a
England National Average	99	96	97	94	95
Wales National Average	98	95	95	91	92
Belfast Average	99	99	99	97	98

Notes:
Data are from the MINAP project, based at the Royal College of Physicians. ¶ For more details of the project see www.rcplondon.ac.uk/index.asp
No national targets for ACE inhibitors and Clopidogrel.

Source:
Royal College of Physicians (2011) Myocardial Infarction National Audit Project. How the NHS manages heart attacks. Tenth public report 2011. UCL: London, and previous editions.

4. Behavioural risk factors

4. Behavioural risk factors

This chapter reports on the prevalence of behavioural risk factors for coronary heart disease (CHD), including sections on smoking, poor diet, physical inactivity and alcohol consumption. Patterns in the prevalence of each of these risk factors by age, sex, socio-economic status, geographic region and ethnicity are explored. Prevalence rates in the United Kingdom are compared against rates found in other countries. Temporal trends in the prevalence of these risk factors are also reported.

Smoking

Smoking increases the risk of CHD. The long-term risk of smoking to individuals has been demonstrated by a 50-year cohort study of British doctors. This study found that CHD mortality was around 60% higher in smokers (and 80% higher in heavy smokers) compared to non-smokers. After observing smokers and non-smokers over a 50 year period, the study concluded that "about half of all regular smokers will eventually be killed by their habit" [1].

In Great Britain, 20% of adults smoke cigarettes. The younger age groups tend to have a higher prevalence, with men aged 25 to 34 and women aged 20 to 24 having the highest prevalence of smoking. The lowest prevalence is found in those aged over 60 in both sexes. In Northern Ireland, smoking prevalence is at 24%, with the highest rates being found in those aged 20 to 34 in men and 20 to 24 in women. Smoking has been declining since the 1970s in both Great Britain and since the 1980s in Northern Ireland. All countries of the United Kingdom now have a ban on smoking in enclosed public places, whilst England, Wales and Northern Ireland also have a ban on the sale of cigarettes in vending machines. It is hoped that this will lead to reductions in the prevalence rate of smoking amongst young people (Tables 4.1 and 4.2, Figure 4.1).

There is little variation in smoking rates by region of England, however rates are marginally higher in the North compared to the South. Scotland and Wales both have the highest rates at 25%, although prevalence in Northern Ireland is 24%, higher than England with 20% (Table 4.3).

Smoking is socially patterned, with the prevalence lower in the professional groups compared to the routine and manual groups. In Great Britain in 2008, 28% of those in the routine and manual group smoked, compared to 20% in the intermediate group and 13% of those in the managerial and professional group. Similar results are found for both sexes in Great Britain. While there is an overall gradient of this kind in Northern Ireland, the trend across the social groups is not as smooth. The gradient in men is slightly steeper compared to women, with 9% of professional men and 4% of professional women smoking compared to 44% of unskilled men and 33% of semi-skilled women (Table 4.4, Figures 4.4a and 4.4b).

Smoking rates vary noticeably between ethnic groups in the UK. In 2004, 40% of Bangladeshi men smoked, compared to 21% of Black African and Chinese men.

With the exception of Black Caribbean women, the prevalence of smoking among the ethnic minority women was low, with only 2% of Bangladeshi women and 10% of Black African women smoking. For all minority ethnic groups the prevalence of men smoking was 20% or over, for women this only occurred in the Irish and Black Caribbean ethnic groups. Chewing tobacco is more common in the Bangladeshi community and 16% of Bangladeshi women consume tobacco in this way [2] (Table 4.5).

In 2010, 4% of boys and 6% of girls in England aged 11 to 15 regularly smoked cigarettes. The latest data from Wales, Scotland and Northern Ireland all show a higher prevalence of smoking in girls than in boys. Since the early 1980s, there has been a decline in smoking amongst young people in England, Scotland and Northern Ireland. In Wales the prevalence has remained the same in boys and increased in girls (Table 4.6).

Data from the World Health Organization's (WHO) Global Burden of Disease study show that smoking prevalence in men in the UK is well below the average for the European region (26% compared to 45%). For women the prevalence is comparable. The most recent data from the WHO show that smoking prevalence for men ranges from 70% in the Russian Federation to 9% in Ethiopia. In women the prevalence ranges from 0.2% in Algeria to 54% in Nauru (Table 4.7).

Poor diet

A poor diet increases the risk of chronic diseases, particularly CVD and cancer. Diet affects CVD in a variety of ways. An energy imbalance, where more energy is taken in than expended can result in weight gain and obesity. High saturated fat raises cholesterol levels, high salt intake can raise blood pressure, and low intakes of fibre, fruit and vegetables can lead to a greater susceptibility to CVD.

The National Food Survey, and more recently the Family Food Survey, allows us to examine trends in diet over time in Great Britain. Overall intake of calories, fat and saturated fat has decreased since the 1970s. This trend is accompanied by a decrease in sugar and salt intake, and an increase in fibre and fruit and vegetable intake (Table 4.8).

This change in pattern may in part be due to a change in the type of foods purchased. Since the 1940s purchase of lard has dramatically reduced whilst the amount of butter purchased has also dropped, with more reduced fat spreads being purchased. Similarly, the purchase of whole milk has gradually been replaced with skimmed milks, reducing total fat and saturated fat content of the diet (Table 4.9, Figures 4.9a, 4.9b and 4.9c).

The latest National Diet and Nutrition Survey provides an estimate of the quality of the diet for adults in Great Britain. The results suggest that in 2008-10, the percentage of food energy obtained from fat was within dietary recommendations; however targets for percentage of food energy coming from saturated fat and non-milk extrinsic sugars (NMES) were not being met. NMES include the sugar released from fruit when it is blended or juiced, table sugar, the sugar in products such as honey and sugars that are added to foods, as well as some of the sugars in canned, stewed, dried or preserved fruits. Average intake of fibre is also too low (at 14g per day compared to a recommendation of 18g per day), and that less than one third of both men and women currently consume the recommended five portions of fruit and vegetables a day (Table 4.10).

The best estimates of salt intake levels are provided by analysis of urine samples. In 2006, urinary analyses were conducted for samples of the adult population in all countries of Great Britain, although more recent data were collected for the UK (2008), Scotland (2009) and England (2011). Results suggest that average salt intake in all countries was above the target of 6g per day. Average consumption in men was between 9g per day in Wales (2006) and England (2011) and 10g per day in Scotland (2009). Consumption levels in women were lower but still over the recommended levels (Table 4.11).

Consumption of fat, saturated fat, and non-milk extrinsic sugars is fairly similar around the UK. There is minimal variation of fibre and fruit and vegetable consumption. Calorie (kcal) consumption does vary considerably, with people in the North and London consuming the least amount of calories. People in the South West consume the most. Although differences between UK countries are small, people in Wales consume the most calories, the most fat and saturated fat, as well as the most sugars. They also purchase more fruit and vegetables than people in other UK countries (Table 4.12).

The Family Food Survey provides consumption by income quintile. A gradient can be observed in the consumption of fat, saturated fat, total sugars and non-milk extrinsic sugars, with those in the lower income groups consuming more of these than those on a higher income. An opposite gradient is found with fruit and vegetables purchased, with those with a higher income buying more (Table 4.13 and Figure 4.13).

Differences in consumption by ethnic group are also apparent. In 2008, the White group had the highest intake of saturated fat, both absolutely and as a percentage of total energy (15%) they also consumed more calories per day than other ethnic groups. The lowest intake of saturated fat as a percentage of total energy was in the Black and Black British group, at 11%. Salt consumption also varied considerably, with Asian and Asian British consuming 3.5 grams and the White group consuming 3 grams more at 6.5g per day[3] (Table 4.14).

In 2010, the Health Survey for England estimated that 19% of boys and 20% of girls aged 5 to 15, were consuming 5 or more portions of fruit and vegetables a day – the recommended daily amount. This is compared to 11% for both groups in 2001 (Table 4.15).

Data from the WHO for 2007 show that the availability of fruit and vegetables was generally higher in Southern European countries, as compared to Northern, Western, Central and Eastern European countries. The proportion of energy available from fat varied widely, ranging from 16% in Azerbaijan to 42% in France and Spain. At 38% the proportion of energy available from fat in the UK was higher than the European average of 36% (Table 4.16).

Physical inactivity

People who are physically active are at lower risk of CHD. To produce the maximum benefit, exercise needs to be regular and aerobic. This should involve the use of the major large muscle groups steadily and rhythmically, so the heart rate and breathing increase significantly.

Guidelines issued by the four Chief Medical Officers (CMOs) of England, Scotland, Wales and Northern Ireland in 2011, emphasise for the first time the importance of physical activity for people of all ages. The guidelines bring different aspects of physical activity together including a life course approach, the flexibility to combine moderate and vigorous intensity activities and reduce sedentary behaviour[4]. The guidelines also highlight the importance of minimising the amount of time spent being sedentary.

The new CMOs' guidelines on physical activity were published in July 2011. Currently available data were collected in reference to the previous guidelines published in 2004. These guidelines recommended 30 minutes of physical activity on at least five days a week for adults[5] and at least one hour of moderate intensity activity a day for children aged 5 to 18 years[6]. Data presented in this publication, therefore, correspond to the 2004 guidelines rather than those from 2011.

The percentage of individuals of both sexes meeting physical activity recommendations in England increased between 1997 and 2008. Small increases have also been found in Scotland between 1998 and 2010. These figures seem to have remained stable in Wales whereas a new survey in Northern Ireland suggests large increases between 2001 and 2010, although as comparing between surveys can be problematic these findings should be viewed with caution. Despite these increases, physical activity levels in the UK still remain relatively low. Men in Scotland exercise the most, with 45% exercising above the recommended levels. However in Wales the percentage meeting the recommended levels is 36%. The percentage of women meeting the recommended levels is lower in all UK countries, at 33% in Scotland and 23% in Wales. There is also a considerable difference by age, with those aged 65 consistently showing the lowest percentage of those achieving the recommended. The highest levels tend to be found in those aged under 45 (Tables 4.17 and 4.18).

The 2008 Health Survey for England had a focus on physical activity [7]. Physical activity levels are normally self-reported, however for this report a sub-sample was selected to use accelerometers to objectively measure their physical activity levels. Based on the accelerometry data, only 6% of men and 4% women met the government's recommended levels of physical activity in comparison to the self-reported levels of 39% for men and 29% for women, suggesting that physical activity levels are often over-reported. Accelerometers measure frequency, intensity and duration of physical activity, but are not waterproof and may not accurately record activities such as cycling or rowing. People were asked to wear the accelerometers while awake for seven consecutive days, but to take them off when swimming or showering. Due to issues of consent, eligibility, compliance and faults with the devices only 49% of men and 46% of women from the 4,507 adults selected to wear accelerometers provided sufficient data to be included in the analyses of daily average wear. Of the 1,707 children aged 4 to 15 selected 43% of boys and 47% of girls provided sufficient data6. Despite its limitations, self-report is the most commonly used method of assessment and is therefore still reported on in this chapter.

There is some variation in those meeting the recommended levels by region of England, although it is not marked. In men, the lowest percentage is found in the North East (33%) and the highest in South West (44%). For women, the lowest is in the West Midlands (25%) and the highest is in the South East Coast (34%) (Table 4.19).

The Health Survey for England 2008 shows a substantial difference in physical activity levels by equivalised household income quintile. There were a higher percentage of men and women meeting the recommended levels in the highest income quintiles compared to the lowest. The gradient is stronger in men with 42% compared to 31%, but 34% compared to 26% in women (Table 4.20).

The 2004 Health Survey for England had a focus on the health of ethnic minorities, it is the most recent to do so. Compared with the general population in 2004, Indian, Pakistani, Bangladeshi and Chinese men and women were less likely to meet physical activity recommendations. Of the men, Bangladeshi and Pakistani men had the lowest prevalence of meeting the recommendations (26% and 28%). This pattern was also true of the women from these groups, at 11% and 14% respectively. Irish men and Black Caribbean women had the highest prevalence of meeting the recommendations (Table 4.21).

Self-reported levels of physical activity in children vary by country of the UK. In Scotland for children aged 2 to 15, 75% of boys and 72% of girls reported meeting the recommended levels of activity. For the same age group in England however, only 32% of boys and 24% of girls did. While the percentage of boys meeting the recommendations shows a varying pattern by age in both England and Scotland, for girls in these countries there was a notable decrease after age 10. Results between countries are not directly comparable, however, due to the differences in data collection (Table 4.22).

European levels of exercising or playing sport (defined as exercising at least five times a week) range from 3% in Bulgaria to 23% in Ireland. The UK is among the higher levels in Europe (14%) and is above the EU average of 9% (Table 4.23 and Figure 4.23). Differences are also found between countries in the levels of exercise outside of sport, ranging from the highest prevalence of regular exercise in Latvia (44%) to Italy (7%). The UK is again amongst the higher levels with 37%, higher than the EU average of 27% (Table 4.24, Figure 4.24).

Alcohol consumption

While moderate alcohol consumption (one or two drinks a day) does not increase the risk of CVD, at high levels of intake – particularly in 'binges' – the risk of CVD is increased. The World Health Report 2002 estimated that 2% of CHD and almost 5% of stroke in men in developed countries was due to alcohol. However, the impact of alcohol consumption in women in developed countries was estimated to be positive – if no alcohol were consumed, there would have been a 3% increase in CHD and a 16% increase in stroke [8].

The most recent Government advice is that regular consumption of between three and four units a day for men, and between two and three units a day for women will not lead to significant health risk [9]. Consuming over these levels is not advised. The benchmark for heavy drinking is set at more than eight units in one day for a man and more than six units in one day for a woman.

In Great Britain in 2010 more than a third of men (36%) and over a quarter of women (28%) regularly exceeded the Government's recommended level of alcohol intake. Nineteen percent of men and 13% of women exceeded the Government definition of heavy drinking – in both instances the highest rate of alcohol consumption was found in the 25 to 44 age group (Table 4.25, Figure 4.25).

Since 1998 the General Household Survey has measured the prevalence of heavy drinking in Great Britain. Consistently over this time period, 16 to 24 year olds were the most likely group to drink heavily, and men were more likely than women to drink heavily. However, the prevalence of heavy drinking in 16 to 24 year olds has decreased over the last ten years and now men and women aged 22 to 64 are more likely to drink than the younger age group (Table 4.26, Figure 4.26).

The prevalence of drinking alcohol in people aged under 16 also seems to be in decline from a peak in the mid 1990s. In England, alcohol consumption in 11 to 15 year old boys fell from 27% in 1996 to only 13% in 2010, and from 26% to 13% in girls of the same age. A similar pattern is found in Scotland, where prevalence of alcohol consumption in 15 year old boys fell from 48% to 35% between 1996 and 2010, and from 46% to 34% in girls of the same age. Alcohol consumption levels in girls and boys of the same age seem to be higher in England than in Scotland (Tables 4.27 and 4.28).

Within Great Britain, there is considerable geographic variation in the prevalence of heavy drinking. For both men and women, the highest prevalence rates are found in the North of England, with 24% of men in the North West regularly drinking more than eight units on the heaviest drinking day in 2010, compared to only 15% in the East and West Midlands. For women, the lowest prevalence rate of heavy drinking (more than six units) was found in the West Midlands (8%) and the highest rate was found in the North West (18%). Between countries, Scotland had the highest prevalence of heavy drinking for both men and women (Table 4.29, Figures 4.29a and 4.29b).

The socioeconomic gradient in exceeding drinking recommendations and heavy drinking in Great Britain is contrary to patterns in other behavioural risk factors. In 2010, for both men and women, the highest rate of both heavy drinking and exceeding recommendations was found in the managerial and professional social class although gradients across socio-economic classification were greater for women than men. Sixteen percent of women in the managerial and professional social class exceeded six units on their heaviest drinking day compared to only 10% of women in the routine and manual social class. This gradient was even steeper for exceeding recommendations in alcohol consumption (Table 4.30, Figure 4.30).

The amount of alcohol consumed on a regular basis varies dramatically by ethnic group. Drinking any alcohol at all is rare in the Pakistani and Bangladeshi ethnic groups, and abstention from alcohol is far more common in the Indian, Black and Chinese ethnic groups than in the general population. In England in 2004, a quarter of men (25%) and 14% of women regularly drink heavily – levels are much lower for the Black Caribbean, Black African, Indian, Pakistani, Bangladeshi and Chinese ethnic groups. Only the Irish ethnic group had a higher prevalence rate for heavy drinking (Table 4.31).

In 2009, more people in the United Kingdom reported drinking heavily (34%) than the average level for the 27 member states of the European Union (29%). The highest reported rate was in Ireland (44%). In general, countries in Eastern Europe had lower reported rates than in the rest of Europe (e.g. Latvia 11%, Poland 19%) (Table 4.32).

1. Doll R, Peto R, Boreham J, Sutherland I (2004) Mortality in relation to smoking: 50 years' observations on male British doctors. BMJ; 328: 1519-27.
2. Department of Health (2005) Health Survey for England 2004. The Health of Minority Ethnic Groups - headline tables. NHS Health and Social Care Information Centre.
3. This is likely to be an underestimate of salt consumption, as it does not include salt added during cooking or at the table.
4. Department of Health, Physical Activity, Health Improvement and Protection (2011). 'Start active, stay active: a report on physical activity from the four home countries' Chief Medical Officers: London.
5. Department of Health (2004). At least five a week: evidence on the impact of physical activity and its relationship to health. Department of Health: London.
6. Department of Health (2005) Choosing Activity: a physical activity action plan. Department of Health: London.
7. Department of Health (2010) Health Survey for England 2008. The Stationery Office: London.
8. World Health Organization (2002). The World Health Report 2002. Reducing Risks, Promoting Healthy Life. World Health Organization: Geneva.
9. Department of Health (1995) Sensible drinking. The report of an inter-departmental working group. Department of Health: London. See also www.nhs.uk/LiveWell/Alcohol (accessed June 2010).

Table 4.1
Cigarette smoking in adults, by sex and age, Great Britain 1972 to 2010

	1972	1974	1976	1978	1980	1982	1984	1986	1988	1990	1992	1994
	%	%	%	%	%	%	%	%	%	%	%	%
Men												
16-19	43	42	39	35	32	31	29	30	28	28	29	28
20-24	55	52	47	45	44	41	40	41	37	38	39	40
25-34	56	56	48	48	47	40	40	37	37	36	34	34
35-49	55	55	50	48	45	40	39	37	37	34	32	31
50-59	54	53	49	48	47	42	39	35	33	28	28	27
60+	47	44	40	38	36	33	30	29	26	24	21	18
All ages	52	51	46	45	42	38	36	35	33	31	29	28
Unweighted base	*10,351*	*9,852*	*10,888*	*10,480*	*10,454*	*9,199*	*8,417*	*8,874*	*8,673*	*8,106*	*8,417*	*7,642*
Women												
16-19	39	38	34	33	32	30	32	30	28	32	25	27
20-24	48	44	45	43	40	40	36	38	37	39	37	38
25-34	49	46	43	42	44	37	36	35	35	34	34	30
35-49	48	49	45	43	43	38	36	34	35	33	30	28
50-59	47	48	46	42	44	40	39	35	34	29	29	26
60+	25	26	24	24	24	23	23	22	21	20	19	17
All ages	41	41	38	37	37	33	32	31	30	29	28	26
Unweighted base	*12,143*	*11,480*	*12,554*	*12,156*	*12,100*	*10,641*	*9,788*	*10,304*	*10,122*	*9,445*	*9,764*	*9,108*
Total												
16-19	41	40	37	34	32	30	31	30	28	30	27	27
20-24	51	48	46	44	42	40	38	39	37	38	38	39
25-34	52	51	46	45	45	38	38	36	36	35	34	32
35-49	51	52	47	45	44	39	37	36	36	34	31	30
50-59	50	51	47	45	45	41	39	35	33	29	29	27
60+	34	34	31	30	29	27	26	25	23	21	20	17
All ages	46	45	42	40	39	35	34	33	32	30	28	27
Unweighted base	*22,494*	*21,332*	*23,442*	*22,636*	*22,554*	*19,840*	*18,205*	*19,178*	*18,795*	*17,551*	*18,181*	*16,750*

Notes:
From 2000 data are weighted for non-response. ¶ Pre-2000 data are unweighted. ¶ The effect of weighting on smoking data appears slight: it increased the overall prevalence of smoking in 2000 by one percentage point, from 26% to 27%.

Source:
Office for National Statistics (2012) General Lifestyle Survey 2010. Results published online at http://www.ons.gov.uk/ons/rel/ghs/general-lifestyle-survey/2010/index.html (accessed May 2012).

1996	1998	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
%	%	%	%	%	%	%	%	%	%	%	%	%
26	30	30	25	22	27	23	23	20	22	18	24	20
43	42	35	40	37	38	36	34	33	32	29	24	25
38	37	39	38	36	38	35	34	33	29	30	27	28
30	32	31	31	29	32	31	29	26	25	24	26	25
28	27	27	26	27	26	26	25	23	22	23	22	21
18	16	16	16	17	16	15	14	13	13	13	15	13
29	28	29	28	27	28	26	25	23	22	22	22	21
7,172	*6,579*	*6,593*	*7,055*	*6,837*	*8,097*	*6,868*	*10,038*	*7,677*	*7,240*	*6,700*	*6,160*	*6,080*
32	31	28	31	29	25	25	26	20	20	26	24	17
36	39	35	35	38	34	29	30	29	30	31	28	29
34	33	32	31	33	31	28	29	26	23	25	24	25
30	28	27	28	27	28	28	26	25	23	23	23	23
26	27	28	25	24	23	22	23	22	21	20	20	20
19	16	15	17	14	14	14	13	12	12	12	13	13
28	26	25	26	25	24	23	23	21	20	21	20	20
8,501	*7,830*	*7,496*	*8,299*	*7,951*	*9,327*	*8,029*	*11,627*	*9,005*	*8,380*	*7,930*	*7,290*	*7,210*
29	31	29	28	25	26	24	24	20	21	22	24	19
39	40	35	37	38	36	32	32	31	31	30	26	27
36	35	35	34	34	34	31	31	30	26	27	25	26
30	30	29	29	28	30	29	27	25	24	24	25	24
27	27	27	26	26	25	24	24	22	21	22	21	20
18	16	16	17	15	15	14	14	12	12	13	14	13
28	27	27	27	26	26	25	24	22	21	21	21	20
15,673	*14,409*	*14,089*	*15,354*	*14,788*	*17,424*	*14,897*	*21,665*	*16,682*	*15,620*	*14,630*	*13,450*	*13,290*

Figure 4.1
Prevalence of smoking in adults, by sex, Great Britain 1972 to 2010

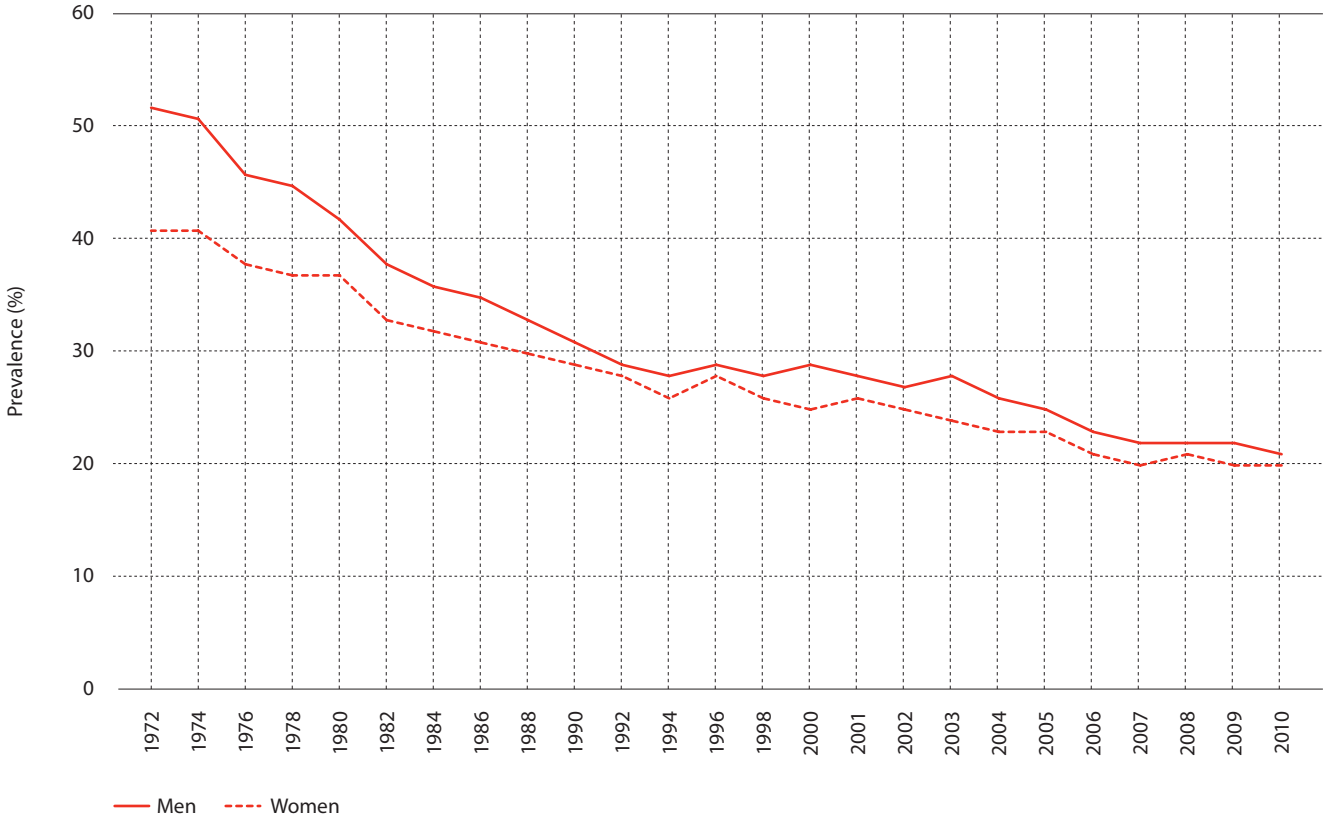


Table 4.2
Prevalence of cigarette smoking in adults, by sex and age, Northern Ireland 1983 to 2009-10

	1983	1990-91	1992-93	1994-95	1996-97	1998-99	2000-01	2002-03	2004-05	2006-07	2007-08	2008-09	2009-10
	%	%	%	%	%	%	%	%	%	%	%	%	%
Men													
16-19	31	24	24	20	23	15	23	33	19	13	18	17	[11]
20-24	46	39	40	37	39	36	26	32	32	37	20	52	36
25-34	42	40	34	34	39	37	30	32	37	38	33	38	38
35-49	45	38	34	32	34	30	33	26	33	29	32	27	26
50-59	41	34	32	30	33	29	26	27	29	28	25	25	24
60+	30	24	23	22	21	20	16	18	16	13	12	16	15
All ages	39	33	31	29	31	28	26	27	27	25	23	26	24
Base	*2,498*	*2,629*	*2,475*	*2,323*	*2,074*	*1,916*	*1,811*	*2,454*	*1,710*	*1,500*	*1,465*	*1,296*	*1,491*
Women													
16-19	19	27	24	27	23	24	27	28	19	31	[12]	13	27
20-24	39	31	32	35	30	39	34	35	38	33	35	34	41
25-34	41	40	33	35	37	37	34	33	34	30	29	28	31
35-49	33	37	36	32	32	35	32	29	30	30	28	27	28
50-59	32	31	27	25	24	28	26	28	25	27	24	26	24
60+	16	21	20	17	17	17	17	13	13	15	13	13	13
All ages	29	31	29	27	27	29	28	26	25	26	23	23	24
Base	*3,077*	*3,216*	*3,097*	*3,059*	*2,727*	*2,654*	*2,591*	*2,722*	*2,328*	*2,175*	*1,938*	*1,855*	*2,088*
Total													
16-19	25	26	24	24	23	20	26	31	19	24	15	15	21
20-24	42	34	35	36	34	38	31	33	35	35	29	40	39
25-34	42	40	33	35	37	37	33	32	35	33	31	32	34
35-49	39	37	35	32	33	33	32	27	31	30	30	27	27
50-59	36	32	30	27	28	28	26	27	27	28	24	26	24
60+	22	22	21	19	19	18	17	16	15	14	13	14	14
All ages	33	32	30	28	29	29	27	26	26	25	23	24	24
Base	*5,575*	*5,845*	*5,572*	*5,382*	*4,801*	*4,570*	*4,402*	*5,176*	*4,038*	*3,675*	*3,403*	*3,151*	*3,579*

Notes:
Where the base is >50 percentages are shown in square brackets.

Source:
Northern Ireland Statistics and Research Agency (2011). Continuous Household Survey 2009/10. NISRA: Belfast.

Table 4.3
Prevalence of cigarette smoking in adults, by sex and region, United Kingdom 2010

	Men	Women	Total
	%	%	%
England	**20**	**19**	**20**
North East	17	25	21
North West	23	22	22
Yorkshire and the Humber	24	22	23
East Midlands	15	17	16
West Midlands	21	21	21
East of England	20	17	19
London	19	16	17
South East	21	18	19
South West	18	17	17
Wales	**24**	**25**	**25**
Scotland	**25**	**24**	**25**
Northern Ireland	**24**	**24**	**24**
Base			
England	*5,130*	*6,140*	*11,270*
North East	*250*	*340*	*600*
North West	*750*	*870*	*1,620*
Yorkshire and the Humber	*610*	*740*	*1,350*
East Midlands	*470*	*570*	*1,040*
West Midlands	*570*	*680*	*1,260*
East of England	*650*	*740*	*1,380*
London	*510*	*600*	*1,110*
South East	*800*	*950*	*1,760*
South West	*510*	*650*	*1,170*
Wales	*390*	*390*	*740*
Scotland	*590*	*720*	*1,270*
Northern Ireland	*1,491*	*2,088*	*3,579*

Notes:
Data are for adults aged 16 and over.

Source:
Office for National Statistics (2011). General Lifestyle Survey 2010. Results published online at http://www.ons.gov.uk/ons/rel/ghs/general-lifestyle-survey/2010/index.html (Accessed May 2010). ¶ Northern Ireland Statistics and Research Agency (2011). Continuous Household Survey 2009/10. NISRA: Belfast,

Table 4.4
Prevalence of cigarette smoking in adults, by sex and socioeconomic status, Great Britain and Northern Ireland 2010

	Men	Women	Total
	%	%	%
Great Britain			
Managerial and professional	14	12	13
Intermediate	20	20	20
Routine and manual	29	28	28
Total	21	20	20
Northern Ireland			
Professional	9	4	7
Employer, manager	16	13	15
Intermediate non-manual	23	15	18
Junior non manual	16	24	23
Skilled manual	26	25	26
Semi-skilled manual	36	33	34
Unskilled manual	44	31	36
No SEG, ref etc,armed forces	20	23	22
Total	24	24	24
Bases			
Great Britain			
Managerial and professional	*2,670*	*2,940*	*5,600*
Intermediate	*1,040*	*1,340*	*3,870*
Routine and manual	*2,150*	*2,580*	*3,240*
Total	*6,060*	*7,160*	*13,220*
Northern Ireland			
Professional	*108*	*54*	*162*
Employer, manager	*192*	*121*	*313*
Intermediate non-manual	*214*	*419*	*633*
Junior non manual	*140*	*535*	*675*
Skilled manual	*499*	*166*	*665*
Semi-skilled manual	*163*	*473*	*636*
Unskilled manual	*82*	*128*	*210*
No SEG, ref etc,armed forces	*93*	*192*	*285*
Total	*1,491*	*2,088*	*3,579*

Notes:
Adults aged 16 and over. ¶ Great Britain: Respondents whose household reference person was a full time student, had an inadequately described occupation, had never worked or was long-term unemployed are not shown as separate categories but are included in the total. ¶ Socio-economic classification is based on the current or last job of the household reference person. ¶ Northern Ireland: SEG refers to socio-economic group.

Source:
Office for National Statistics (2011). General Lifestyle Survey 2010. Results published online at http://www.ons.gov.uk/ons/rel/ghs/general-lifestyle-survey/2010/index.html (Accessed May 2010). ¶ Northern Ireland Statistics and Research Agency (2011). Continuous Household Survey 2009/10. NISRA: Belfast.

Figure 4.4a
Smoking prevalence, by sex and socioeconomic group, Great Britain 2010

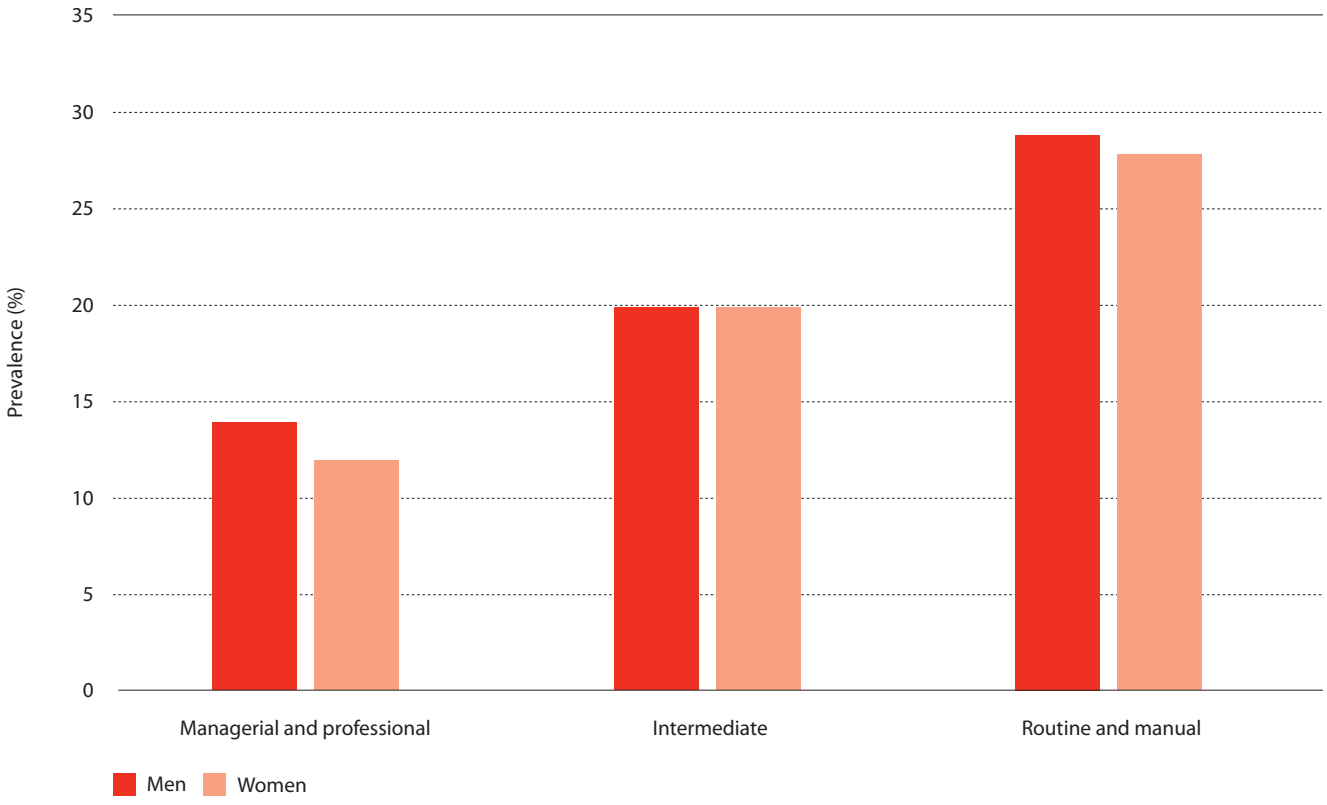
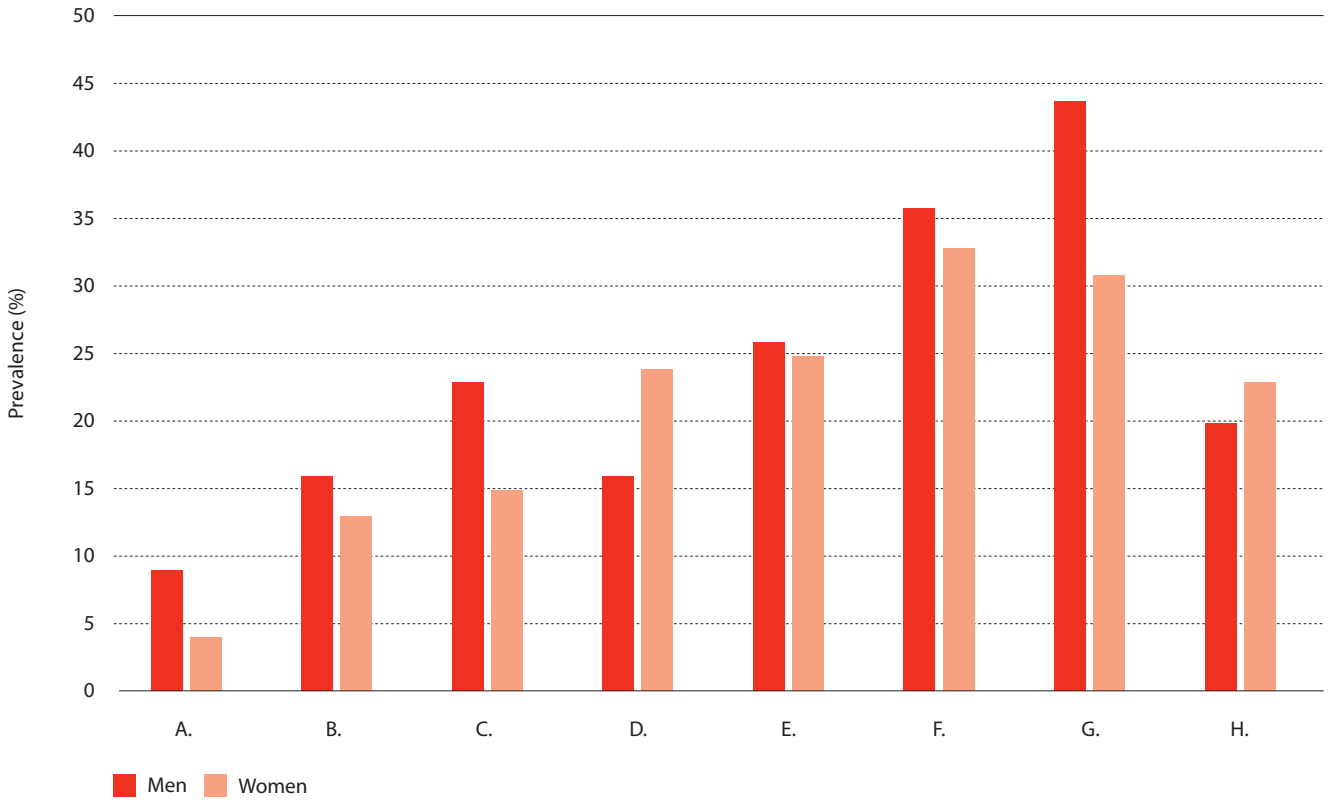


Figure 4.4b

Smoking prevalence, by sex and socioeconomic group, Northern Ireland 2010



A. Professional
B. Employer, manager
C. Intermediate non-manual
D. Junior non manual
E. Skilled manual
F. Semi-skilled manual
G. Unskilled manual
H. No SEG, ref etc, armed forces

Table 4.5
Cigarette smoking in adults, by sex, age and ethnic group, England 2004

	Men				Women			
	All ages	16-34	35-54	55+	All ages	16-34	35-54	55+
	%	%	%	%	%	%	%	%
Black Caribbean	25	27	34	12	24	44	21	5
Black African	21	21	20	25	10	15	6	2
Indian	20	18	22	19	5	8	4	3
Pakistani	29	28	34	18	5	5	7	
Bangladeshi	40	35	49	29	2	1	4	3
Chinese	21	25	21	9	8	12	5	4
Irish	30	46	26	25	26	35	26	21
General population	24	32	26	14	23	28	26	15
Bases								
Black Caribbean	*403*	*114*	*165*	*124*	*637*	*186*	*289*	*162*
Black African	*379*	*172*	*169*	*38*	*457*	*224*	*189*	*44*
Indian	*547*	*199*	*230*	*118*	*630*	*237*	*274*	*119*
Pakistani	*423*	*213*	*145*	*65*	*497*	*268*	*164*	*65*
Bangladeshi	*396*	*198*	*149*	*49*	*453*	*287*	*117*	*49*
Chinese	*345*	*170*	*117*	*58*	*372*	*145*	*176*	*51*
Irish	*496*	*114*	*194*	*188*	*653*	*147*	*275*	*231*
General population	*2,855*	*721*	*973*	*1,161*	*3,805*	*895*	*1,374*	*1,536*

Notes:
General population refers to the whole population of England, regardless of ethnicity. ¶ Blank cells indicate too few respondents for accurate estimate.

Source:
Joint Health Surveys Unit (2005) Health Survey for England 2004. The Health of Minority Ethnic Groups. ¶ The Information Centre: Leeds.
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Table 4.6

Regular cigarette smoking in young people aged 11 to 15, by sex, England, Scotland, Wales and Northern Ireland 1982 to 2010

	1982	1983	1984	1986	1988	1990	1992	1994	1996	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Boys																						
England	11		13	7	7	9	9	10	11	9	8	9	8	9	7	7	7	7	5	5	5	4
Wales				9	8	8	10	8	12	10		10		8		9						
Scotland	15		16	10		11	10	11	14	11		10		11		9		8		9		7
Northern Ireland		14		13		12						11			9				5			7
Girls																						
England	11		13	12	9	11	10	13	15	12	10	12	11	11	11	10	10	10	8	8	7	6
Wales				12	11	12	13	13	16	17		16		14		13						
Scotland	14		17	14		12	13	13	14	13		16		16		16		11		10		9
Northern Ireland		12		9		13						14			13				10			6

Notes:
In Scotland, rates are for children aged 12-15 up to 1999, and aged 13-15 from 2000. ¶ From 2000 onwards, Northern Ireland data is taken from the Young Persons Behaviour & Attitudes Survey (school based survey of pupils in Years 8 to 12). ¶ Regular smokers are those pupils that report smoking cigarettes everyday or at least once a week.

Sources:
Department of Health (2011) Smoking, drinking and drug use among young people in England in 2010. The Information Centre: Leeds. Copyright © 2010, Re-used with the permission of The Health and Social Care Information Centre. All rights reserved. ¶ National Assembly for Wales, Statistics for Wales: personal communication. ¶ National Centre for Social Research and the National Foundation for Educational Research (2001). ¶ Smoking, drinking & drug use among young people in Scotland in 2000. The Stationery Office: Edinburgh. Office for National Statistics (2011) Scottish schools adolescent lifestyle and substance use survey (SALSUS) national report. ¶ Smoking, drinking and drug use among 13 and 15 year olds in Scotland in 2010. NHS Scotland: Edinburgh. ¶ Department of Health and Social Security Northern Ireland (1991) Smoking and Drinking Amongst 11-15 year olds in Northern Ireland in 1990. ¶ DHSS NI: Belfast Northern Ireland Statistics and Research Agency (2002) Young Person's Behaviour and Attitudes Survey. Personal communication NISRA 2010.

Table 4.7
Current tobacco use, by sex, all available countries the World 2009

WHO member states	Men	Women
	%	%
African Region	**17**	**3**
Benin	15	1
Burkina Faso	18	8
Cameroon	14	2
Cape Verde	14	3
Chad	22	3
Comoros	24	9
Congo	10	<1
Côte d'Ivoire	17	4
DR of Congo	10	2
Eritrea	10	2
Ethiopia	8	<1
Gabon	19	3
Gambia	31	3
Ghana	11	3
Guinea	25	2
Kenya	26	1
Liberia	14	
Malawi	26	4
Mali	28	2
Mauritania	29	4
Mauritius	31	2
Mozambique	18	2
Namibia	30	9
Niger	9	<1
Nigeria	10	3
Sao Tome and Principe	9	2
Senegal	16	<1
Seychelles	24	5
Sierra Leone	39	8
South Africa	24	8
Swaziland	16	2
Uganda	16	3
Tanzania	21	3
Zambia	24	4
Zimbabwe	30	4
Region of the Americas	**26**	**16**
Argentina	32	22
Barbados	13	1
Belize	23	3

WHO member states	Men	Women
	%	%
Bolivia	42	18
Brazil	22	13
Canada	24	17
Chile	38	33
Costa Rica	24	8
Cuba	11	4
Dominican Republic	17	13
Guatemala	22	4
Guyana	27	6
Honduras		3
Mexico	24	8
Paraguay	30	14
Peru		9
Saint Kitts and Nevis	12	2
Saint Lucia	28	12
Saint Vincent and the Grenadines	18	6
Trinidad and Tobago	27	11
United States of America	33	25
Uruguay	31	22
South-East Asia Region	**33**	**4**
Bangladesh	46	2
India	26	4
Indonesia	61	5
Maldives	43	11
Myanmar	40	8
Nepal	36	29
Sri Lanka	27	<1
Thailand	45	3
Western Pacific Region	**51**	**4**
Australia	22	19
Brunei Darussalam	32	4
Cambodia	42	3
China	51	2
Cook Islands	43	31
Fiji	18	3
Japan	42	12
Kiribati	71	43
Laos	51	4
Malaysia	50	2
Marshall Islands	36	7
Micronesia	30	18
Mongolia	48	6

WHO member states	Men	Women
	%	%
Nauru	49	50
New Zealand	27	24
Palau	37	9
Papua New Guinea	58	31
Philippines	47	10
Republic of Korea	49	7
Samoa	58	23
Singapore	35	6
Solomon Islands	46	19
Tonga	44	13
Tuvalu	51	20
Vanuatu	43	8
Viet Nam	48	2
European Region	**41**	**22**
Albania	60	19
Andorra	38	32
Armenia	51	2
Austria	47	45
Azerbaijan	41	
Belarus	49	9
Belgium	30	22
Bosnia and Herzegovina	47	36
Czech Republic	43	31
Denmark	30	28
Estonia	46	23
Finland	28	22
France	36	27
Georgia	57	6
Germany	33	25
Greece	63	41
Hungary	43	33
Iceland	27	21
Israel	29	13
Italy	33	19
Kazakhstan	40	9
Kyrgyzstan	45	2
Latvia	50	22
Lithuania	50	22
Malta	30	21
Netherlands	31	26
Norway	31	28
Poland	36	25

WHO member states	Men	Women
	%	%
Portugal	32	16
Republic of Moldova	43	5
Romania	46	24
Russian Federation	59	24
Serbia	38	27
Slovakia	39	19
Slovenia	30	22
Spain	36	27
Switzerland	31	21
Turkey	47	15
Ukraine	50	13
United Kingdom	25	23
Uzbekistan	22	3
Eastern Mediterranean Region	**30**	**5**
Bahrain	34	8
Egypt	40	<1
Iran	26	2
Iraq	31	4
Jordan	47	6
Kuwait	35	4
Lebanon	46	31
Libya	47	<1
Morocco	33	2
Oman	12	<1
Pakistan	34	6
Saudi Arabia	24	1
Sudan	24	2
Syrian Arab Republic	42	
Tunisia	58	5
United Arab Emirates	19	2
Yemen	35	11
Global	**36**	**8**

Notes:
Tobacco smoking includes cigarettes, cigars, pipes or any other smoked tobacco products. ¶ Current smoking includes both daily and non-daily or occasional smoking. ¶ Smoking prevalence data are sourced from surveys conducted in countries in different years. ¶ To obtain smoking prevalence estimates for 2006, trend information is used either to project into the future for countries with data older than 2006 or to backtrack for countries with data later than 2006. ¶ This is achieved by incorporating trend information from all available surveys for each country. ¶ For countries without historical data, trend information from the respective sub-region in which they fall is used. ¶ Prevalence is age-standardised to the WHO standard population.

Source:
World Health Organization. Global Health Observatory http://apps.who.int/ghodata/# (Accessed August 2012). World Health Organization (2012) World Health Statistics 2012. Geneva: Switzerland.

Table 4.8
Consumption of total fat, saturated fat, salt, sugar, fibre and fruit and vegetables in adults aged 16 and over, Great Britain 1975 to 2010

	1975	1980	1985	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Consumption per person per day, total diet (i.e. including alcohol)																
Energy (kcal)	2,489	2,439	2,208	2,058	2,143	2,152	2,089	2,099	2,077	2,048	2,082	2,074	2,052	2,028	2,054	2,035
Energy (kJ)	10.4	10.3	9.3	8.6	9.0	9.0	8.8	8.8	8.7	8.6	8.8	8.7	8.6	8.5	8.6	8.5
Fat (g)	112	112	102	94	89	86	86	85	85	83	85	85	84	83	84	84
Fat (% total energy)	40.4	41.3	41.6	40.9	37.4	36.1	36.9	36.6	36.7	36.7	36.7	36.9	37.7	37.9	37.9	38.0
Saturated fat (g)	53.4	49.1	43.0	37.2	35.5	34.6	33.9	33.7	33.6	32.9	33.4	33.4	32.6	32.3	32.5	31.6
Saturated fat (% total energy)	19.3	18.1	17.5	16.3	14.9	14.5	14.6	14.4	14.6	14.5	14.4	14.5	14.7	14.7	14.6	14.3
Total sugars (g)	-	-	-	-	129	131	122	124	124	123	123	121	119	117	119	116
Non-milk extrinsic sugars (g)	-	-	-	-	87	88	81	82	82	80	79	77	76	76	77	76
Non-milk extrinsic sugars (% total energy)	-	-	-	-	15.2	15.3	14.5	14.7	14.7	14.7	14.2	13.9	14.2	14.4	14.5	14.3
Non-starch polysaccharide fibre (g)	-	-	-	-	12.8	13.9	13.3	13.5	13.1	13.2	13.8	13.8	13.4	13.3	13.5	13.5
Sodium (g)	-	-	2.8	2.7	2.8	2.9	2.9	2.8	2.7	2.7	2.7	2.6	2.5	2.5	2.5	2.5
Salt (g)	-	-	7.0	6.8	7.0	7.3	7.2	7.0	6.9	6.8	6.9	6.5	6.2	6.1	6.3	6.3
Purchase per person per week																
Fruit and vegetables (excluding potatoes) (g)	1,818	2,059	2,018	2,164	2,254	2,381	2,248	2,306	2,269	2,274	2,448	2,454	2,421	2,317	2,246	2,240

Notes:
Data pre-1996 are unadjusted National Food Survey data. ¶ 2001/02 data onwards are Expenditure and Food Survey data. ¶ 1996 to 2000 data are adjusted estimates from the National Food Survey. ¶ Because of the discontinuity between datasets, these trends need to be interpreted with caution. ¶ Consumption assumed from purchase data, and applies to food consumed in the household only.

Source:
Department for Environment, Food and Rural Affairs (2011). DEFRA: York and previous editions. ¶ Department for Environment, Food and Rural Affairs (2003). National Food Survey 2000. The Stationery Office: London and previous editions.

Table 4.9
Consumption of selected foods in adults aged 16 and over, United Kingdom 1942 to 2010

	1942	1950	1960	1970	1980	1990	2000	2005	2006	2007	2008	2009	2010
Litres per person per week													
Liquid wholemilk	1.98	2.72	2.75	2.63	2.37	1.24	0.68	0.48	0.49	0.43	0.42	0.42	0.35
Skimmed milks					0.02	0.73	1.16	1.17	1.14	1.15	1.15	1.16	1.16
Yoghurt					0.06	0.11	0.16	0.20	0.20	0.20	0.20	0.2	0.2
Total milk and cream	2.14	2.94	2.92	2.89	2.68	2.23	2.16	2.03	2.02	2.00	2.00	1.9	1.90
Number per person per week													
Eggs	1.4	3.5	4.6	4.7	3.4	2.0	1.6	1.6	2.0	2.0	2.0	2.0	2
Grams per person per week													
Natural cheese			75	92	103	105	97	104	103	106	99	105	107
Processed cheese			11	10	6	9	12	12	13	12	12	11	11
Total cheese	101	72	86	102	110	113	109	116	116	119	111	116	118
Oranges and other citrus fruits		93	124	142	153	136	137	151	145	148	131	123	119
Apples and pears		201	230	234	260	249	235	226	229	223	205	204	199
Bananas		37	96	85	91	130	214	225	226	230	219	205	204
Total fresh fruit	197	409	522	543	608	624	765	856	855	855	790	762	755
Fruit juice (ml)		7	14	17	97	225	332	350	366	340	325	302	296
Other fruit		97	162	163	152	113	92	86	92	86	84	79	82
Total fruit	197	513	698	723	857	962	1,189	1,292	1,313	1,281	1,199	1143	1133
Fresh green vegetables	438	392	430	372	366	287	246	235	221	224	203	201	192
Other fresh vegetables	450	433	427	394	466	475	506	567	566	566	557	552	565
Total fresh vegetables (excludes potatoes)	888	825	857	766	832	762	752	802	787	790	760	753	757
All processed vegetables (includes frozen & canned)	136	214	260	382	554	638	671	567	609	594	599	597	592
Fresh potatoes	1,877	1,759	1,588	1,470	1,176	1,008	727	587	565	537	535	514	501
Bread	1,718	1,637	1,289	1,080	949	859	782	701	692	677	659	656	634
Flour	181	206	192	161	169	95	69	60	54	54	63	58	58
Cakes, buns and pastries		190	179	161	153	146	187	168	165	159	153	158	153
Biscuits (includes crispbreads)	74	104	161	163	205	199	189	165	165	163	170	169	162
Breakfast cereals	23	40	51	78	94	121	135	135	135	130	130	133	133
Total cereals (excludes breads)	593	678	711	711	655	692	846	865	861	858	858	875	871
Bread and cereal products	2,310	2,315	2,000	1,791	1,604	1,551	1,628	1,566	1,553	1,535	1,517	1531	1,505
Sugar	238	287	503	480	392	211	130	94	92	92	93	90	90
Preserves	140	179	91	73	63	52	37	35	34	33	34	35	36
Tea		61	79	73	62	46	36	33	30	30	30	29	28
Coffee		6	11	16	20	19	16	17	16	17	17	18	20
Total beverages		77	101	102	99	84	70	57	55	56	55	54	56
Fresh white fish		89	67	50	32	24	15	19	20	17	16	15	15
Fresh fatty fish		16	9	6	7	8	11	18	18	18	15	16	16
Shell fish		3	3	1	3	5	6	12	13	14	13	14	13
Takeaway fish		29	24	29	20	15	7	10	10	10	9	9	8
Total fish and fish products	187	188	166	152	137	147	144	167	170	165	161	158	151
Salt			26	28	32	15	9	11	8	9	9	9	11
Butter	56	129	161	170	106	42	37	38	40	41	40	39	40
Margarine	118	112	104	81	115	96	22	20	18	19	22	24	23
Low fat spreads						27	22	16	13	12	11	12	11
Reduced fat spreads						20	50	39	43	41	40	36	39
Lard	50	56	58	63	57	25	7	4	4	3	3	3	3
Total fats	245	329	339	339	324	265	193	183	184	181	184	181	183
Beef and veal	230	228	248	221	208	134	113	120	128	126	111	112	114
Mutton and lamb	150	154	188	149	128	82	54	53	54	55	45	46	44
Pork	11	9	57	80	118	84	68	52	55	54	55	54	53
Bacon and ham	112	128	175	177	145	115	109	112	111	109	108	111	113
Poultry		10	50	143	170	204	235	260	255	251	250	246	242
Sausages	113	114	103	106	100	74	66	64	65	65	62	65	66
Total meat and meat products	746	846	1,017	1,121	1,160	999	1,014	1,046	1,042	1,029	998	999	1,016
Soft drinks, low calorie (ml)							516	442	534	508	490	469	579
Soft drinks, not low calorie (ml)							1,184	1,276	1,273	1,178	1,192	1209	1,139
Total soft drinks (ml)							1,699	1,718	1,807	1,686	1,682	1,678	1,718
Chocolate bars							113	84	84	88	88	90	89
Confectionery							151	123	123	129	131	134	131

Notes:

Figures differ from actual food and drink consumption for a number of reasons e.g. food may be discarded during food preparation (e.g. vegetable peelings), food may be left on the plate at the end of a meal or food may become inedible before it can be consumed and is therefore thrown away. ¶ Data for 1942 to 1970 from non-adjusted National Food Survey (GB only). ¶ Data for 1975 to 1995 from adjusted National Food Survey (GB only). ¶ Data for 1996 to 2000 from adjusted National Food Survey (UK). ¶ Data for 2005 onwards from Expenditure and Food Survey (UK). ¶ Because of the discontinuity between datasets, these trends need to be interpreted with caution.

Source:

Department for Environment, Food and Rural Affairs (2011) Family Food in 2010. DEFRA: York and previous editions. ¶ Department for Environment, Food and Rural Affairs (2003). National Food Survey 2000. The Stationery Office: London and previous editions.

Figure 4.9a
Consumption of fats in adults aged 16 and over, United Kingdom 1942 to 2010

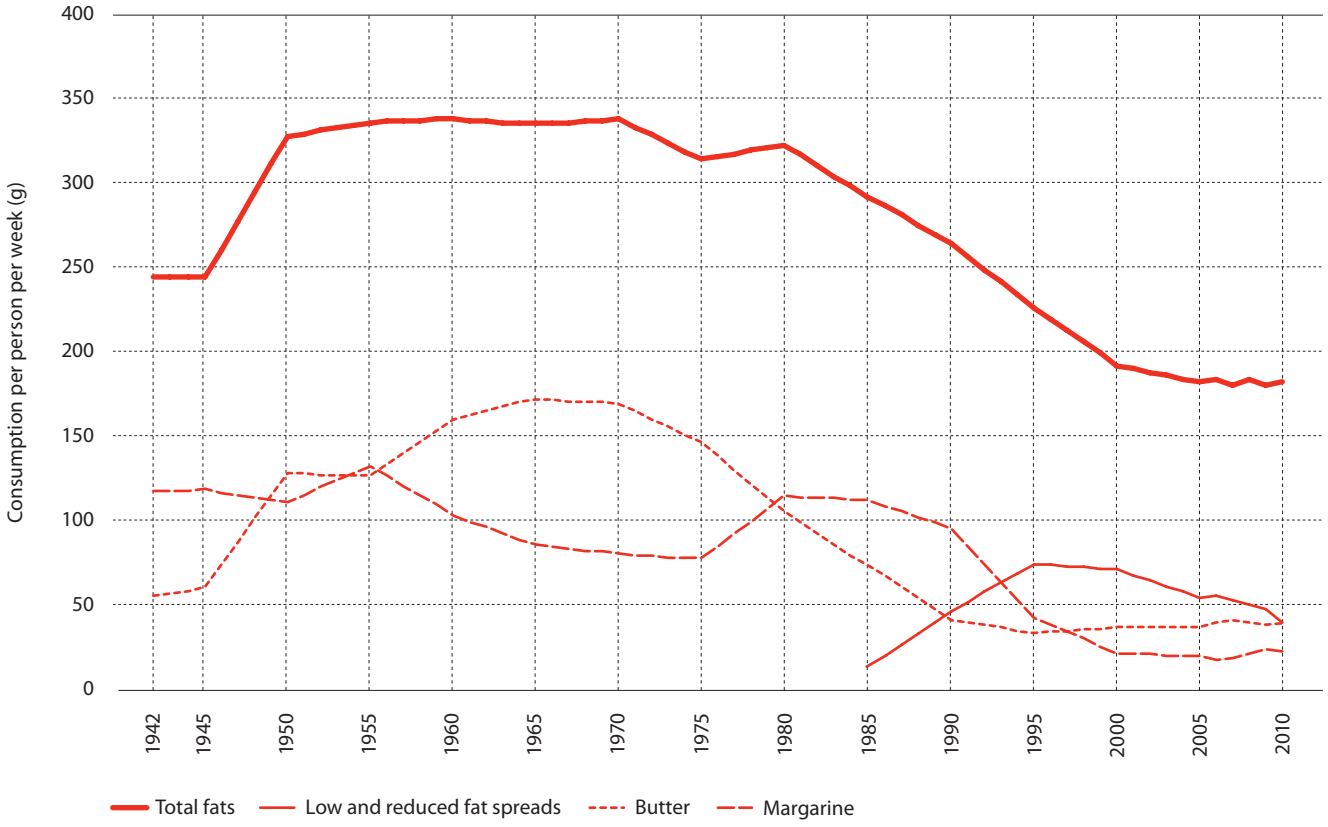


Figure 4.9b
Consumption of milk and milk products in adults aged 16 and over, United Kingdom 1942 to 2010

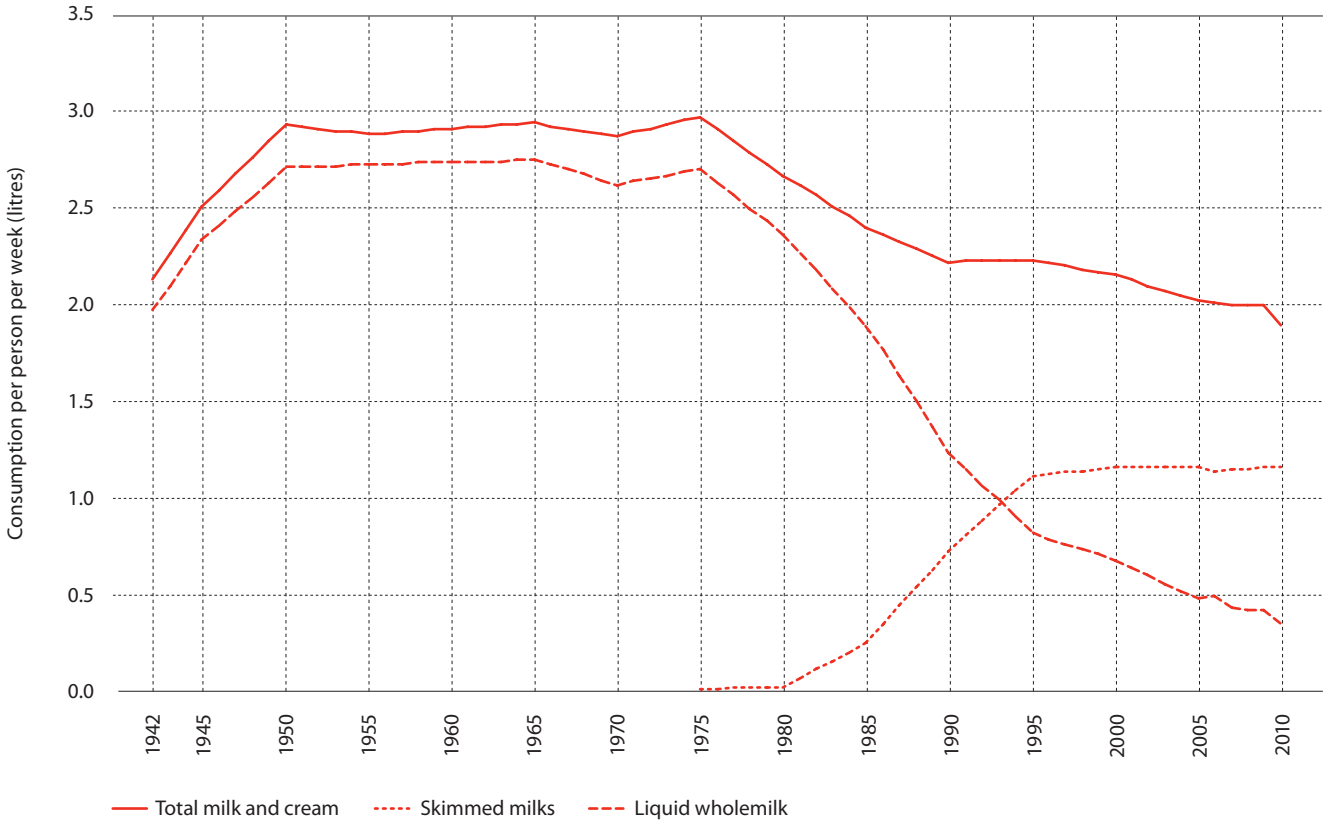


Figure 4.9c

Consumption of fresh fruit and vegetables in adults aged 16 and over, United Kingdom 1942 to 2010

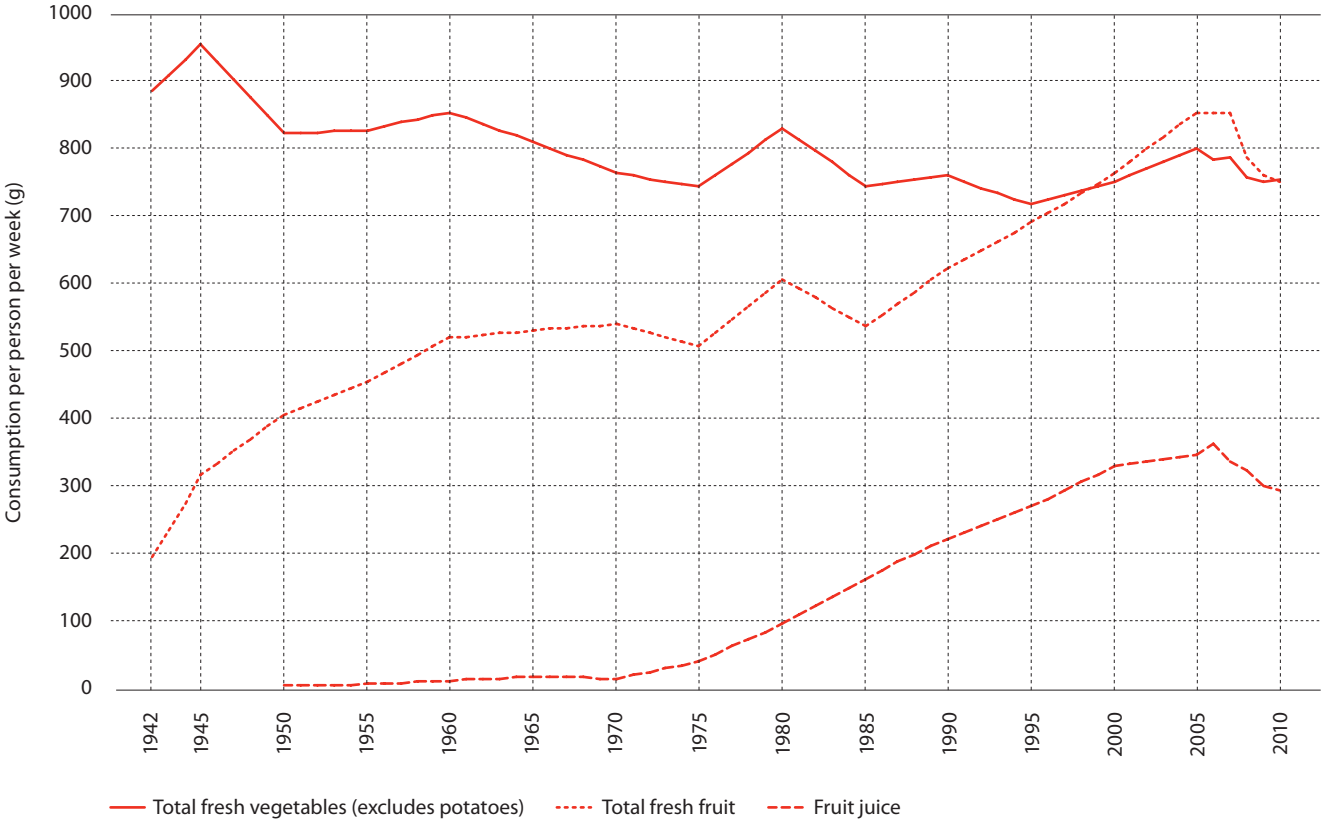


Table 4.10
Quality of diet, by sex, United Kingdom 2008-2010

	Men	Women	Total	Target
Percentage of food energy, total fat	35.2	34.4	34.8	<35%
Percentage of food energy, saturated fat	12.9	12.6	12.8	<11%
Percentage of food energy, trans fatty acids	0.8	0.8	0.8	<2%
Percentage of food energy, non-milk extrinsic sugars	12.9	12.2	12.6	<11%
Mean grams per day of non-starch polysaccharide (fibre)	14.9	12.8	13.9	>18.0g
Mean daily number of portions of fruit and vegetables consumed	4.2	4.1	4.2	> 5 portions
% eating recommended 5 or more portions a day	32	29	30	
Base	*346*	*461*	*807*	

Notes:
Adults aged 19 to 64. ¶ Data are weighted for non-response. ¶ Target refers to the dietary reference values set by the Department of Health, which are the current recommendations for consumption levels in the UK.

Source:
Bates B, Lennox A, Bates C, Swan G. The National Diet and Nutrition Survey: Headline results from year 1 and 2 (combined) of the rolling programme (2008/09 - 2009/10). Department of Health and Food Standards Agency: London.

Table 4.11
Consumption of salt in adults aged 16 and over, United Kingdon 2008, Wales 2006, Scotland 2009 and England 2011

	Men					Women				
	19-24	25-34	35-49	50-64	All ages	19-24	25-34	35-49	50-64	All ages
UK, 2008										
Mean salt consumption (g/day)	10.7	10.2	9.5	9.3	9.7	10.0	8.1	7.4	7.0	7.7
% exceeding recommended daily consumption	86	87	81	80	82	79	72	62	61	65
Base	*9*	*37*	*111*	*137*	*294*	*7*	*54*	*157*	*180*	*398*
Wales, 2006										
Mean salt consumption (g/day)	12.4	9.4	9.0	8.6	9.4	6.3	7.8	6.8	6.4	6.8
% exceeding recommended daily consumption	89	83	80	81	82	56	64	60	48	57
Base	*6*	*19*	*64*	*66*	*155*	*6*	*38*	*89*	*119*	*252*
Scotland, 2009										
Mean salt consumption (g/day)	9.3	10.1	9.7	10.6	10.0	9.0	7.2	7.9	7.4	7.8
% exceeding recommended daily consumption	88	93	88	86	89	95	64	71	69	72
Base	*46*	*70*	*123*	*104*	*342*	*44*	*71*	*126*	*121*	*361*

	Men				Women			
	19-34	35-49	50-63	All ages	19-34	35-49	50-63	All ages
England, 2011								
Mean salt consumption (g/day)	9.5	10.0	8.2	9.3	7.1	6.8	6.6	6.8
% exceeding recommended daily consumption	79	89	72	80	68	52	54	58
Base	*43*	*84*	*123*	*250*	*43*	*101*	*153*	*297*

Notes:
The recommended daily consumption of salt for both men and women is 6g per day or less. ¶ The 2006 estimates should be viewed with caution due to poor survey response rates. ¶ Salt consumption based on 24 hour urine collection.

Source;
National Centre for Social Research (2008) An assessment of dietary sodium levels among adults (aged 19-64) in the general population, based on analysis of dietary sodium samples. Food Standards Agency: London. ¶ National Centre for Social Research (2007) An assessment of dietary sodium levels among adults (aged 19-64) in the general population in Wales, based on analysis of dietary sodium in 24-hour urine samples. NatCen: London. ¶ Scottish Centre for Social Research (2011) A survey of 24 hour urinary sodium excretion in a representative sample of the Scottish population as a measure of salt intake. ScotCen: Edinburgh. ¶ National Centre for Social Research (2012) National Diet and Nutrition Survey - Assessment of dietary sodium in adults (aged 19 to 64 years) in England, 2011. NatCen: London.

Table 4.12
Consumption of total fat, saturated fat, salt, sugar, fibre and fruit and vegetables, by Government Office Region 2008/10

	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	England	Wales	Scotland	Northern Ireland
Consumption per person per day, total diet (i.e. including alcohol)													
Energy (kcal)	1,978	1,988	1,990	2,094	2,052	2,086	1,877	2,037	2,165	2,012	2,121	2,098	2,049
Fat (g)	80	82	82	85	84	86	78	85	90	83	87	85	82
Fat (% total energy)	37.3	38.1	38.0	37.7	37.7	37.9	38.2	38.3	38.3	38.0	37.9	37.3	36.9
Saturated fat (g)	31.0	31.4	31.7	32.9	31.7	33.2	27.9	32.8	35.1	31.8	33.9	33.3	32.4
Saturated fat (% total energy)	14.7	14.6	14.7	14.5	14.2	14.7	13.7	14.9	15.0	14.6	14.7	14.7	14.5
Total sugars (g)	113	113	115	123	117	123	103	120	127	117.0	128	124	115
Non-milk extrinsic sugars (g)	74	73	74	80	78	80	64	77	82	75	84	82	74
Non-milk extrinsic sugars (% total energy)	14.3	14.2	14.4	14.7	14.5	14.7	13.1	14.6	14.6	14.4	15.1	15.0	13.9
Non-starch polysaccharide fibre (g)	12.6	12.6	13.1	14.0	13.5	13.9	12.9	13.6	14.5	13.3	14.0	13.3	13.3
Sodium (g)	2.48	2.47	2.48	2.55	2.48	2.55	2.04	2.52	2.65	2.44	2.63	2.65	2.60
Salt (g)	6.2	6.2	6.2	6.4	6.2	6.4	5.1	6.3	6.6	6.1	6.6	6.6	6.5
Purchase per person per week													
Fruit and vegetables (excluding potatoes) (g)	1,950	1,977	2,100	2,364	2,068	2,443	2,526	2,429	2,525	2,287	2,382	2,141	1,877
Base	*730*	*1,771*	*1,460*	*1,211*	*1,467*	*1,546*	*1,413*	*2,186*	*1,516*	*13,300*	*798*	*1,512*	*1,323*

Notes:
Adults aged 16 and over. ¶ Consumption is assumed from purchase data, and applies to food consumed in the household only. ¶ Data are weighted for non-response. ¶ Base is number of households.

Source:
Department for Environment, Food and Rural Affairs (2011) Family Food in 2010. DEFRA: York and previous editions.

Table 4.13
Consumption of total fat, saturated fat, salt, sugar, fibre and fruit and vegetables, by income quintile, United Kingdom 2007/09

	Quintile 1 (lowest income)	Quintile 2	Quintile 3	Quintile 4	Quintile 5 (highest income)
Consumption per person per day, total diet (i.e. including alcohol)					
Energy (kcal)	2,174	2,124	2,066	2,027	1,934
Fat (g)	91	88	85	82	78
Fat (% total energy)	38.2	38.2	38.1	37.6	37.5
Saturated fat (g)	35.3	34.2	32.7	31.9	30.4
Saturated fat (% total energy)	14.9	14.8	14.6	14.5	14.6
Total sugars (g)	129	126	120	116	110
Non-milk extrinsic sugars (g)	84	83	78	75	69
Non-milk extrinsic sugars (% total energy)	14.7	14.9	14.5	14.3	13.8
Non-starch polysaccharide fibre (g)	13.8	13.4	13.3	13.4	13.4
Sodium (g)	2.62	2.48	2.52	2.49	2.40
Salt (g)	6.6	6.2	6.3	6.2	6.0
Purchase per person per week					
Fruit and vegetables (excluding potatoes) (g)	2,167	2,237	2,240	2,296	2,556

Notes:
Adults aged 16 and over. ¶ Consumption is assumed from purchase data, and applies to food consumed in the household only.

Source:
Department for Environment, Food and Rural Affairs (2011) Family Food in 2010. DEFRA: York and previous editions.

Figure 4.13
Consumption of fruit and vegetables in adults, by income quintile, UK 2007/09

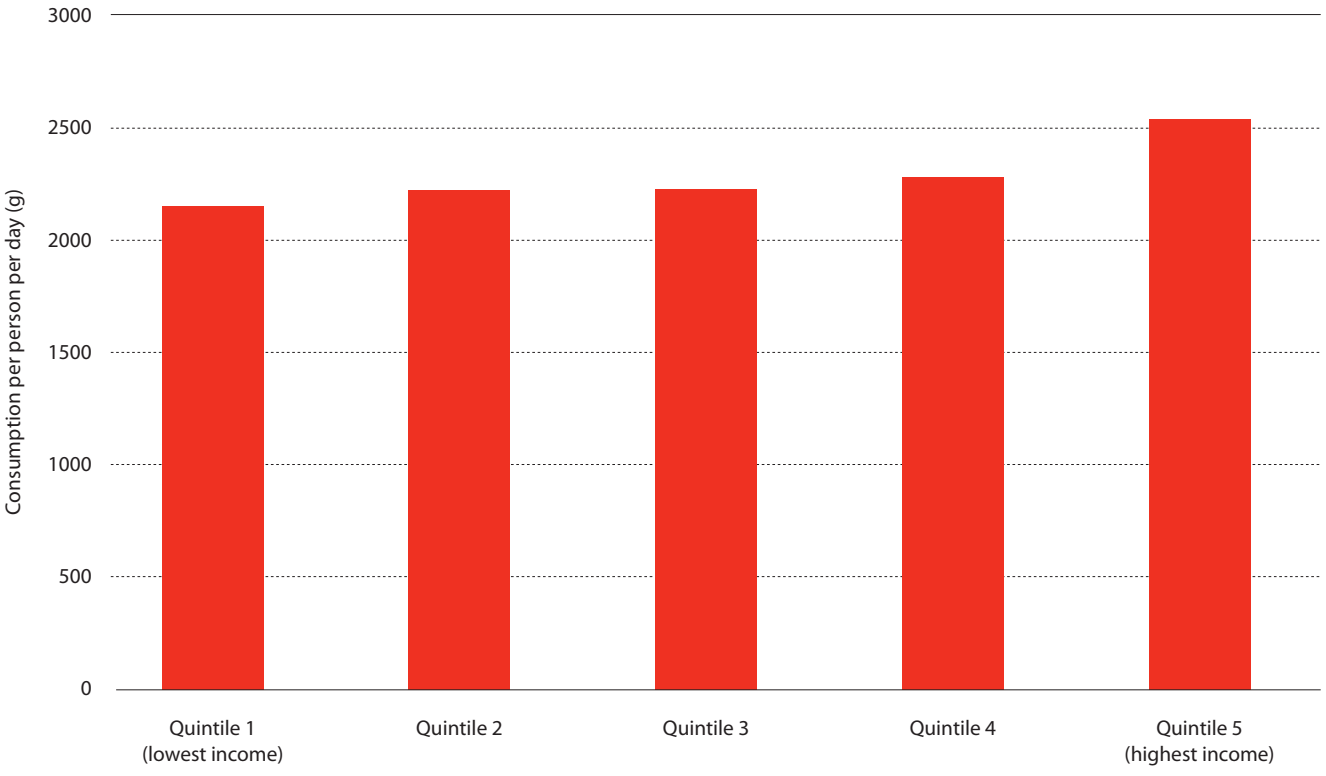


Table 4.14
Consumption of total fat, saturated fat, salt, sugar, fibre and fruit and vegetables in adults, by ethnic group, United Kingdom 2006/08

	Asian & Asian British	Black & Black British	Chinese & Other	Mixed	White
Consumption per person per day, total diet (i.e. including alcohol)					
Energy (kcal)	1,975	1,641	1,676	1,524	2,075
Fat (g)	78	64	70	62	85
Fat (% total energy)	36.0	35.6	37.8	36.9	38.0
Saturated fat (g)	25.7	19.9	23.6	22.8	33.6
Saturated fat (% total energy)	11.8	11.0	12.8	13.7	15.0
Total sugars (g)	99	97	91	91	121
Non-milk extrinsic sugars (g)	60	65	55	60	78
Non-milk extrinsic sugars (% total energy)	11.4	15.1	12.5	14.9	14.5
Non-starch polysaccharide fibre (g)	13.2	10.4	11.4	10.2	13.6
Sodium (g)	1.41	1.51	1.60	1.75	2.61
Salt (g)	3.5	3.8	4.0	4.4	6.5
Purchase per person per week					
Fruit and vegetables (excluding potatoes) (g)	2,348	2,143	2,535	1,987	2,462

Notes:
Adults aged 16 and over. ¶ Consumption is assumed from purchase data, and applies to food consumed in the household only.

Source:
Department for Environment, Food and Rural Affairs (2011) Family Food in 2010. DEFRA: York and previous editions.

Table 4.15
Consumption of fruit and vegetables in children aged 5 to 15, by sex and age, England 2001 to 2010

	Age (Years)											
	5	6	7	8	9	10	11	12	13	14	15	Total
Boys												
% consuming 5 or more portions per day												
2001	9.2	11.3	8.6	8.4	10.9	12.7	11.6	7.0	13.3	14.5	18.1	11.4
2002	11.7	9.5	9.8	9.7	9.3	10.1	12.1	14.7	11.6	14.5	14.3	11.5
2003	9.3	4.2	10.8	5.7	10.8	14.4	9.9	10.2	8.8	10.8	11.2	9.6
2004	8.9	9.6	7.9	7.1	14.4	10.2	13.0	19.7	18.5	7.6	22.8	12.7
2005	17.7	18.4	18.3	13.6	22.6	21.2	6.7	20.3	21.9	16.3	13.5	17.4
2006	23.0	20.0	20.0	17.0	18.0	18.0	15.0	20.0	21.0	16.0	19.0	19.0
2007	21.0	25.1	17.1	21.7	26.0	18.3	18.9	19.4	23.3	18.2	19.2	20.7
2008	18.0	19.5	17.7	18.7	18.4	18.1	21.7	17.3	18.9	21.2	15.4	18.7
2009	22.1	22.7	21.5	24.1	14.8	20.5	15.7	18.8	21.7	25.0	24.0	20.9
2010	21.0	21.3	20.1	15.3	15.4	25.7	18.5	17.6	16.0	16.2	26.0	19.3
Base												
2001	*139*	*137*	*128*	*138*	*143*	*127*	*143*	*144*	*144*	*124*	*131*	*1,498*
2002	*287*	*304*	*336*	*317*	*296*	*331*	*322*	*299*	*290*	*309*	*275*	*3,367*
2003	*105*	*130*	*122*	*119*	*110*	*128*	*110*	*128*	*117*	*116*	*116*	*1,301*
2004	*56*	*63*	*52*	*61*	*63*	*61*	*43*	*61*	*59*	*52*	*50*	*621*
2005	*89*	*83*	*89*	*102*	*115*	*84*	*97*	*96*	*87*	*86*	*80*	*1,010*
2006	*253*	*208*	*247*	*182*	*265*	*244*	*222*	*231*	*231*	*239*	*214*	*2,536*
2007	*222*	*235*	*221*	*257*	*222*	*244*	*240*	*235*	*266*	*281*	*246*	*2,670*
2008	*224*	*233*	*215*	*235*	*235*	*248*	*239*	*237*	*258*	*275*	*242*	*2,640*
2009	*118*	*128*	*105*	*111*	*131*	*125*	*128*	*139*	*116*	*144*	*122*	*1,367*
2010	*176*	*190*	*161*	*168*	*165*	*166*	*180*	*171*	*191*	*194*	*172*	*1,934*
Girls												
% consuming 5 or more portions per day												
2001	8.3	7.9	7.1	12.2	9.0	11.6	14.2	12.8	11.8	9.1	13.4	10.7
2002	11.4	8.6	13.0	10.6	9.5	11.1	13.1	12.9	11.4	15.3	14.4	11.9
2003	13.1	11.4	5.8	13.7	5.5	5.6	12.3	15.7	11.6	18.9	15.0	11.7
2004	10.0	9.0	2.0	17.9	9.0	18.9	6.0	18.8	19.0	6.3	11.7	12.2
2005	23.6	16.4	10.3	20.8	17.1	12.4	17.3	23.2	14.8	9.8	18.8	16.8
2006	19.0	19.0	20.0	19.0	24.0	20.0	21.0	23.0	20.0	25.0	27.0	22.0
2007	18.7	20.1	24.9	20.8	19.2	23.4	24.5	20.6	21.1	21.3	20.7	21.4
2008	13.7	12.4	18.8	22.6	25.1	22.0	16.0	23.6	25.3	20.8	21.1	20.3
2009	28.2	20.1	11.9	22.0	19.2	29.2	24.6	25.2	20.3	19.3	19.5	21.8
2010	23.9	15.0	18.3	20.8	19.4	18.7	20.7	18.1	25.3	21.8	19.4	20.2
Base												
2001	*147*	*125*	*146*	*154*	*146*	*160*	*149*	*128*	*132*	*131*	*142*	*1,560*
2002	*301*	*296*	*298*	*300*	*300*	*281*	*310*	*304*	*296*	*280*	*270*	*3,236*
2003	*123*	*112*	*118*	*118*	*126*	*128*	*122*	*128*	*128*	*127*	*112*	*1,342*
2004	*39*	*48*	*44*	*66*	*35*	*52*	*45*	*57*	*53*	*56*	*56*	*552*
2005	*95*	*102*	*93*	*75*	*89*	*97*	*108*	*99*	*81*	*94*	*95*	*1,027*
2006	*217*	*229*	*263*	*241*	*233*	*224*	*247*	*221*	*234*	*210*	*217*	*2,536*
2007	*214*	*218*	*219*	*226*	*232*	*236*	*226*	*225*	*249*	*255*	*241*	*2,541*
2008	*212*	*203*	*227*	*223*	*227*	*239*	*226*	*224*	*245*	*260*	*228*	*2,514*
2009	*120*	*114*	*110*	*117*	*114*	*116*	*126*	*120*	*123*	*132*	*119*	*1,312*
2010	*164*	*169*	*166*	*163*	*158*	*155*	*176*	*166*	*179*	*181*	*167*	*1,844*

Notes:
Data are weighted for child selection, but not for non-response. ¶ Comparisons over time should be made with caution, due to the relatively low sample size in 2004.

Source:
Joint Health Surveys Unit (2012) Health Survey for England 2010. ¶ Updating of trend tables. The Information Centre: Leeds. Copyright © 2010, Re-used with the permission of The Health and Social Care Information Centre. All rights reserved.

Table 4.16
Total energy available from fat and availability of fruit and vegetables, by country, Europe 2007

	% energy from fat	fruit and veg per person per year (kg)
Albania	28.8	299
Armenia	24.9	394
Austria	39.4	251
Azerbaijan	15.5	222
Belarus	33.5	205
Belgium	40.0	201
Bosnia and Herzegovina	20.5	289
Bulgaria	30.9	132
Croatia	33.1	193
Cyprus	39.0	269
Czech Republic	35.9	144
Denmark	35.8	209
Estonia	25.4	174
Finland	36.0	172
France	41.8	214
Georgia	20.8	102
Germany	36.5	182
Greece	36.7	404
Hungary	39.2	195
Iceland	39.1	222
Ireland	34.6	219
Israel	37.0	317
Italy	39.0	295
Kazakhstan	27.6	190
Kyrgyzstan	20.1	178
Latvia	35.9	168
Lithuania	27.2	187
Luxembourg	38.9	276
FYR Macedonia	36.2	256
Malta	28.9	318
Netherlands	37.3	239
Norway	35.3	220
Poland	29.7	180
Portugal	35.4	287
Republic of Moldova	21.1	108
Romania	27.9	209
Russia	25.1	184
Serbia	39.5	211
Slovakia	34.2	154
Slovenia	33.8	197
Spain	42.1	243
Sweden	35.6	205
Switzerland	40.3	169
Tajikistan	26.4	127
Turkey	27.1	333
Turkmenistan	22.7	173
Ukraine	26.2	153
United Kingdom	**37.7**	**218**
Uzbekistan	24.1	226
Europe average	35.9	240
EU average	37.3	225

Notes:
Data for these countries are for 2007. ¶ Fruit and vegetables do not include potatoes. ¶ Amount available refers to fruit and vegetables produced nationally, plus imports, minus exports.

Source:
World Health Organization (2012). European Health for All statistical database. http://data.euro.who.int/hfadb/

Table 4.17

Percentage of adults meeting physical activity recommendations in adults, by sex and country, England, Scotland, Wales and Northern Ireland 1997 to 2010

	1997	1998	2001	2003	2004	2005	2006	2007	2008	2009	2010
Meeting government recommendations	%	%	%	%	%	%	%	%	%	%	%
Men											
England	32	34		36	37		40		42		
Wales				36	36		38	36	38	36	37
Scotland		40		42					45	43	45
Northern Ireland			30			33					44
Women											
England	21	21		24	25		28		31		
Wales				22	23		25	23	22	23	24
Scotland		29		32					33	32	33
Northern Ireland			26			28					35
Bases											
Men											
England	*3,882*	*7,182*		*7,177*	*3,256*		*6,845*		*7,314*		
Wales				*7,486*	*7,437*		*6,691*	*6,418*	*6,119*	*7,412*	*7,420*
Scotland		*3,934*		*3,269*			*7,614*		*2,837*	*3,278*	*3,112*
Northern Ireland			*1,968*			*1,747*					
Women											
England	*4,671*	*8,705*		*7,611*	*3,436*		*7,300*		*7,678*		
Wales				*8,812*	*8,598*			*7,499*	*7,194*	*8,606*	*8,579*
Scotland		*888*		*4,034*					*3,615*	*4,238*	*4,122*
Northern Ireland			*2,722*			*2,498*					

Notes:
Data are for adults aged 16 and over in England, Wales and Scotland.

Source:
Joint Health Surveys Unit (2010). Health Survey for England 2008: Physical activity and fitness. The Information Centre: Leeds. Copyright © 2010, Re-used with the permission of The Health and Social Care Information Centre. All rights reserved. ¶ Scottish Health Executive (2011). The Scottish Health Survey 2010: Results. The Scottish Executive: Edinburgh. ¶ Welsh Government(2011). Welsh Health Survey 2010. Welsh Assembly: Cardiff. ¶ Northern Ireland Statistics and Research Agency (2007). Northern Ireland Health and Social Wellbeing Survey 2005/06. Includes data from previous years. The Department of Health, Social Services and Public Safety (2011). First results from the 2010/11 Health Survey Northern Ireland. Public Health Information & Research Branch: Belfast.

Table 4.18
Self-reported physical activity levels in adults, by sex and age, England 2008, Scotland 2010, Wales 2010 and Northern Ireland 2010/11

	All adults	16–24	25–34	35–44	45–54	55–64	65–74	75+
Summary physical activity level	%	%	%	%	%	%	%	%
England								
Men								
Meeting recommendations	39	53	49	44	41	32	20	9
Some activity	31	30	32	33	34	31	33	23
Low activity	30	16	19	23	25	37	47	68
Base	*7,305*	*1,133*	*1,210*	*1,411*	*1,204*	*1,084*	*724*	*538*
Women								
Meeting recommendations	29	35	36	34	32	28	17	6
Some activity	34	33	39	39	35	34	30	16
Low activity	38	32	25	28	33	37	53	78
Base	*7,660*	*1,088*	*1,212*	*1,428*	*1,230*	*1,119*	*798*	*785*
Scotland								
Men								
Meeting recommendations	45	66	61	51	48	34	22	10
Some activity	26	22	24	29	25	29	29	20
Low activity	29	12	15	20	27	36	50	70
Base	*3,112*	*274*	*420*	*478*	*566*	*555*	*488*	*331*
Women								
Meeting recommendations	33	37	42	45	40	30	17	7
Some activity	33	39	36	35	36	33	31	17
Low activity	33	25	22	19	24	36	52	76
Base	*4,122*	*373*	*564*	*682*	*761*	*699*	*573*	*470*
Wales								
Men								
Meeting recommendations	37	48	43	42	41	31	26	14
Some activity	26	26	29	29	24	26	24	17
Low activity	31	17	19	24	28	37	45	65
Base	*7,420*	*882*	*831*	*1,082*	*1,333*	*1,361*	*1,109*	*822*
Women								
Meeting recommendations	24	28	27	28	28	25	19	7
Some activity	33	40	41	38	34	34	27	15
Low activity	36	23	24	25	32	35	48	76
Base	*8,579*	*919*	*1,073*	*1,330*	*1,472*	*1,520*	*1,247*	*1,018*
Northern Ireland								
Men								
Meeting recommendations	44	53	46	49	44	38	33	27
Below recommendations	56	47	54	51	56	62	67	73
Base	*1,675*	*133*	*228*	*246*	*303*	*293*	*293*	*179*
Women								
Meeting recommendations	35	36	44	41	36	33	28	15
Below recommendations	65	64	56	59	64	67	72	85
Base	*2,395*	*218*	*391*	*449*	*443*	*353*	*305*	*236*

Notes:
Meets recommendations: 30 minutes or more of moderate or vigorous activity on at least 5 days a week; Some activity: 30 minutes or more of moderate or vigorous activity on 1 to 4 days a week; Low activity: lower levels of activity. ¶ All data are self-reported.

Source:
Joint Health Surveys Unit (2010). Health Survey for England 2008: Physical activity and fitness. The Information Centre: Leeds. Copyright © 2010, Re-used with the permission of The Health and Social Care Information Centre. All rights reserved. ¶ Scottish Health Executive (2011). The Scottish Health Survey 2010: Results. The Scottish Executive: Edinburgh. ¶ Welsh Government(2011). Welsh Health Survey 2010. Welsh Assembly: Cardiff. ¶ Northern Ireland Statistics and Research Agency (2007). Northern Ireland Health and Social Wellbeing Survey 2005/06. Includes data from previous years. The Department of Health, Social Services and Public Safety (2011). First results from the 2010/11 Health Survey Northern Ireland. Public Health Information & Research Branch: Belfast.

Table 4.19
Self-reported age-standardised physical activity levels in adults, by sex and strategic health authority, England 2008

	Strategic Health Authority									
	North East	North West	Yorkshire & the Humber	East Midlands	West Midlands	East of England	London	South East Coast	South Central	South West
	%	%	%	%	%	%	%	%	%	%
Men										
Meets recommendations	33	39	40	38	38	38	38	38	41	44
Some activity	33	30	29	35	33	31	29	35	33	30
Low activity	34	31	31	27	29	30	33	27	26	26
Women										
Meets recommendations	26	29	26	27	25	27	29	34	30	32
Some activity	32	34	34	33	32	37	31	35	32	33
Low activity	41	37	40	39	43	35	40	31	38	35
Base										
Men	*429*	*965*	*714*	*637*	*676*	*820*	*755*	*532*	*527*	*682*
Women	*523*	*1,193*	*906*	*795*	*877*	*939*	*927*	*674*	*620*	*863*

Notes:
Meets recommendations: 30 minutes or more of moderate or vigorous activity on at least 5 days a week; Some activity: 30 minutes or more of moderate or vigorous activity on 1 to 4 days a week; Low activity: lower levels of activity. ¶ Episodes of activity less than 30 minutes have been excluded. ¶ Data are age-standardised to the mid-year 2007 population estimates for England; see source for details of method. ¶ All data are self-reported.

Source:
Joint Health Surveys Unit (2010). Health Survey for England 2008: Physical activity and fitness. The Information Centre: Leeds. Copyright © 2010, Re-used with the permission of The Health and Social Care Information Centre. All rights reserved.

Table 4.20
Self-reported age-standardised physical activity levels in adults, by sex and quintile of equivalised household income, England 2008

	Highest	Second	Third	Fourth	Lowest
	%	%	%	%	%
Men					
Meets recommendations	42	41	42	39	31
Some activity	35	37	29	28	23
Low activity	23	23	29	33	46
Women					
Meets recommendations	34	28	28	27	26
Some activity	37	38	34	32	29
Low activity	28	35	38	41	45
Base					
Men	*1,329*	*1,180*	*1,041*	*1,046*	*854*
Women	*1,313*	*1,285*	*1,310*	*1,397*	*1,274*

Notes:
Meets recommendations: 30 minutes or more of moderate or vigorous activity on at least 5 days a week; Some activity: 30 minutes or more of moderate or vigorous activity on 1 to 4 days a week; Low activity: lower levels of activity. ¶ Episodes of activity less than 30 minutes have been excluded. ¶ All data are self-reported.

Source:
Joint Health Surveys Unit (2010). Health Survey for England 2008: Physical activity and fitness. The Information Centre: Leeds. Copyright © 2010, Re-used with the permission of The Health and Social Care Information Centre. All rights reserved.

Figure 4.20
Self-reported age-standardised physical activity levels in adults, by sex and quintile of equivalised household income, England 2008

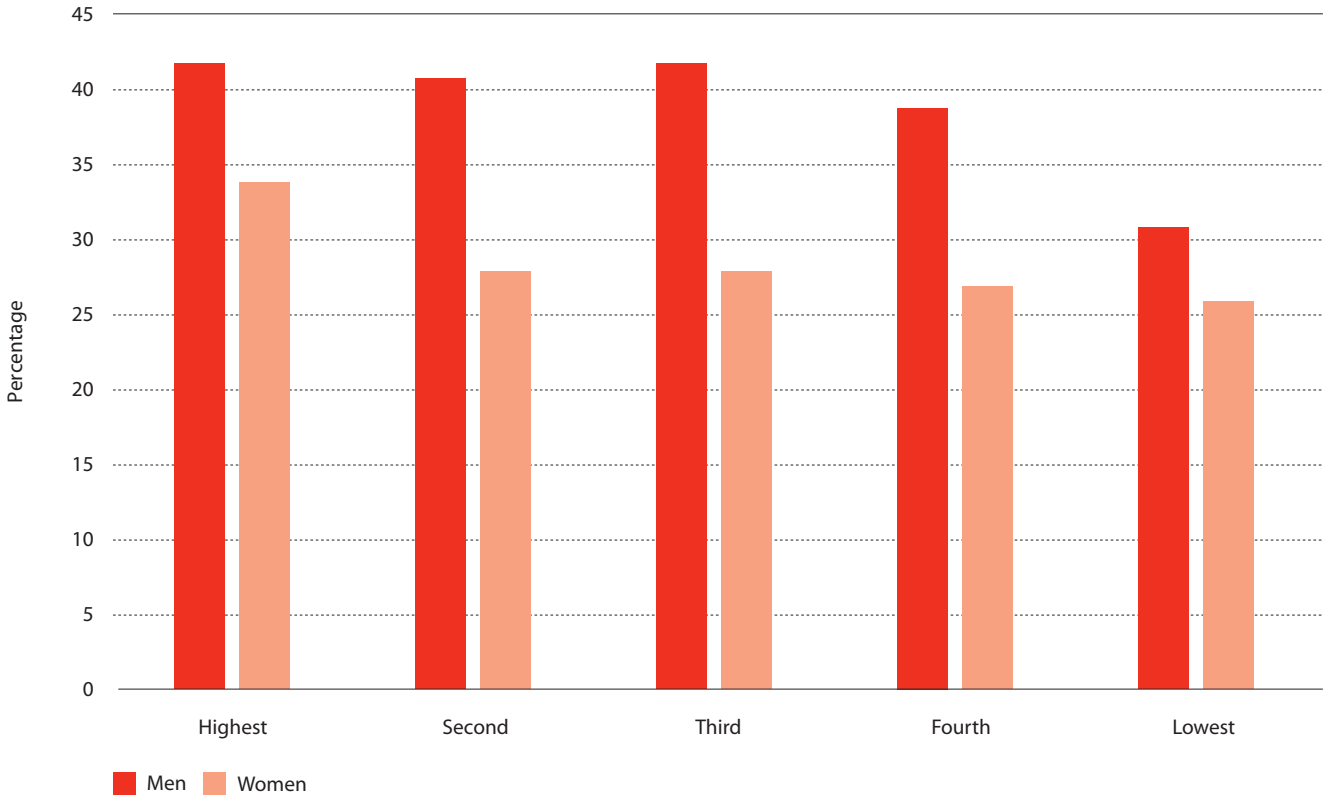


Table 4.21
Self-reported physical activity in adults, by sex and ethnic group, England 2004

	General population	Black Caribbean	Black African	Indian	Pakistani	Bangladeshi	Chinese	Irish
	%	%	%	%	%	%	%	%
Men								
High	37	37	35	30	28	26	30	39
Medium	31	29	30	26	21	23	32	28
Low	32	34	35	44	51	51	38	33
Base	*2,873*	*409*	*386*	*549*	*429*	*408*	*348*	*497*
Women								
High	25	31	29	23	14	11	17	29
Medium	36	30	28	32	34	21	36	38
Low	39	39	43	45	52	68	47	33
Base	*3,818*	*648*	*467*	*634*	*508*	*477*	*375*	*656*

Notes:
High = 30 minutes or more physical activity on at least 5 days a week (recommended level). ¶ Medium = 30 minutes or more on 1 to 4 days a week. ¶ Low = lower level of activity. ¶ Adults aged 16 and over. ¶ Data are weighted for-non-response. ¶ General population refers to the whole population of England, regardless of ethnicity.

Source:
Joint Health Surveys Unit (2005). Health Survey for England 2004: The Information Centre: Leeds. Copyright © 2005, Re-used with the permission of The Health and Social Care Information Centre. All rights reserved.

Table 4.22
Self-reported physical activity levels in children, by sex and age, England 2008 and Scotland 2010

	All children	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
England															
Boys															
Meeting recommendations	32	43	32	28	32	34	36	32	33	31	29	29	27	32	32
Some activity	44	30	39	41	43	41	47	45	46	49	50	46	52	43	42
Low activity	24	27	25	30	25	25	18	23	22	20	21	25	21	24	26
Base	*3,493*	*253*	*240*	*247*	*239*	*249*	*235*	*236*	*243*	*255*	*254*	*260*	*286*	*267*	*229*
Girls															
Meeting recommendations	24	35	33	28	31	28	28	23	25	27	16	19	20	12	15
Some activity	47	38	42	49	43	44	50	55	49	44	55	50	46	47	40
Low activity	29	27	24	23	26	27	22	23	26	29	29	31	34	41	45
Base	*3,545*	*246*	*268*	*229*	*225*	*236*	*254*	*231*	*248*	*296*	*291*	*240*	*259*	*278*	*244*

	All children	2-4	5-7	8-10	11-12	13-15
	%	%	%	%	%	%
Scotland						
Boys						
Meeting recommendations	75	70	75	85	69	75
Base	*811*	*188*	*190*	*170*	*104*	*159*
Girls						
Meeting recommendations	72	70	73	84	74	62
Base	*694*	*174*	*143*	*132*	*100*	*145*

Notes:
Meets recommendations: 60 minutes or more on all 7 days of the week; Some activity: 30 to 59 minutes on all 7 days of the week; Low activity: lower levels of activity. ¶ All data are self-reported. ¶ Results between countries are not directly comparable due to the differences in data collection.

Source:
Joint Health Surveys Unit (2010). Health Survey for England 2008: Physical activity and fitness. The Information Centre: Leeds. Copyright © 2010, Re-used with the permission of The Health and Social Care Information Centre. All rights reserved. ¶ Scottish Health Executive (2011). The Scottish Health Survey 2010: Results. The Scottish Executive: Edinburgh.

Table 4.23
Self-reported frequency of exercising or playing sport in adults, EU countries 2009

	Never	Seldom	With some regularity	Regularly	Don't know
	%	%	%	%	%
Austria	59	33	33	5	0
Belgium	28	22	34	16	0
Bulgaria	58	28	10	3	1
Cyprus	46	13	25	16	0
Czech Republic	37	35	23	5	0
Denmark	18	18	49	15	0
Estonia	41	25	27	7	0
Finland	7	21	55	17	0
France	34	18	35	13	0
Germany	31	20	40	9	0
Greece	67	15	15	3	0
Hungary	53	24	18	5	0
Ireland	26	15	35	23	1
Italy	55	16	26	3	0
Latvia	44	29	19	8	0
Lithuania	44	20	22	14	0
Luxembourg	32	17	39	12	0
Malta	38	14	31	17	0
Netherlands	28	16	51	5	0
Poland	49	24	19	6	2
Portugal	55	11	24	9	1
Romania	49	28	13	8	2
Slovakia	35	35	25	5	0
Slovenia	22	26	39	13	0
Spain	42	19	27	12	0
Sweden	6	22	50	22	0
United Kingdom	**32**	**22**	**32**	**14**	**0**
EU	39	21	31	9	0

Notes:
All adults aged 15 and above. ¶ "Regularly" means the respondent exercises at least 5 times a week. ¶ "With some regularity" means 3 to 4 or 1 to 2 times a week. ¶ "Seldom" means 1 to 3 times a month or less often. ¶ Adults aged 15 and over.

Source:
European Commission (2010). Sport and Physical Activity: Special Eurobarometer 334 / Wave 72.3 – TNS Opinion & Social. http://ec.europa.eu/sport/news/eu-physical-activity-guidelines_en.htm (Accessed December 2011).

Figure 4.23
Self-reported frequency of regularly exercising or playing sport in adults, EU countries 2009

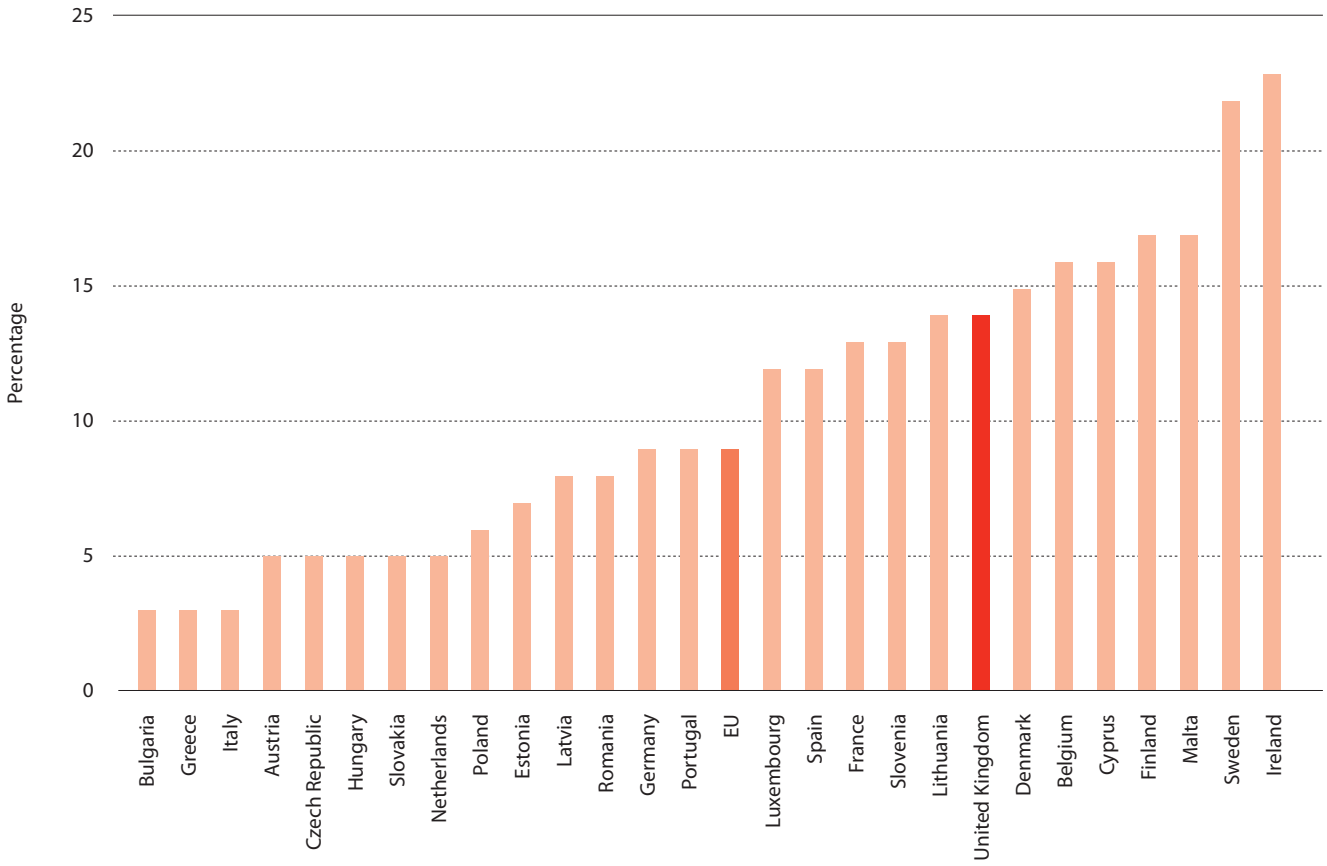


Table 4.24
Self-reported frequency of engaging in physical activity outside sport in adults, EU countries 2009

	Never	Seldom	With some regularity	Regularly	Don't know
	%	%	%	%	%
Austria	5	26	54	15	0
Belgium	19	24	36	21	0
Bulgaria	3	27	40	25	5
Cyprus	32	17	31	20	0
Czech Republic	13	35	35	17	0
Denmark	4	11	42	43	0
Estonia	8	15	37	40	0
Finland	4	18	49	29	0
France	10	15	42	33	0
Germany	6	16	50	28	0
Greece	27	25	33	15	0
Hungary	10	18	31	41	0
Ireland	12	13	41	33	1
Italy	33	30	30	7	0
Latvia	9	14	32	44	1
Lithuania	14	19	26	39	0
Luxembourg	7	16	40	37	0
Malta	24	13	30	32	1
Netherlands	5	11	41	43	0
Poland	17	19	34	26	4
Portugal	36	15	31	17	1
Romania	27	26	24	19	4
Slovakia	8	25	40	27	0
Slovenia	5	15	41	39	0
Spain	10	19	38	33	0
Sweden	2	14	44	40	0
United Kingdom	**12**	**15**	**36**	**37**	**0**
EU	14	20	38	27	1

Notes:
All adults aged 15 and above. ¶ Regularly means the respondent exercises at least 5 times a week. ¶ "With some regularity" means 3 to 4 or 1 to 2 times a week. ¶ Seldom means 1 to 3 times a month or less often. ¶ Adults aged 15 and over.

Source:
European Commission (2010). Sport and Physical Activity: Special Eurobarometer 334 / Wave 72.3 – TNS Opinion & Social. http://ec.europa.eu/public_opinion/archives/ebs/ebs_334_en.pdf (Accessed December 2011).

Figure 4.24
Self-reported frequency of engaging in physical activity outside sport in adults, EU countries 2009

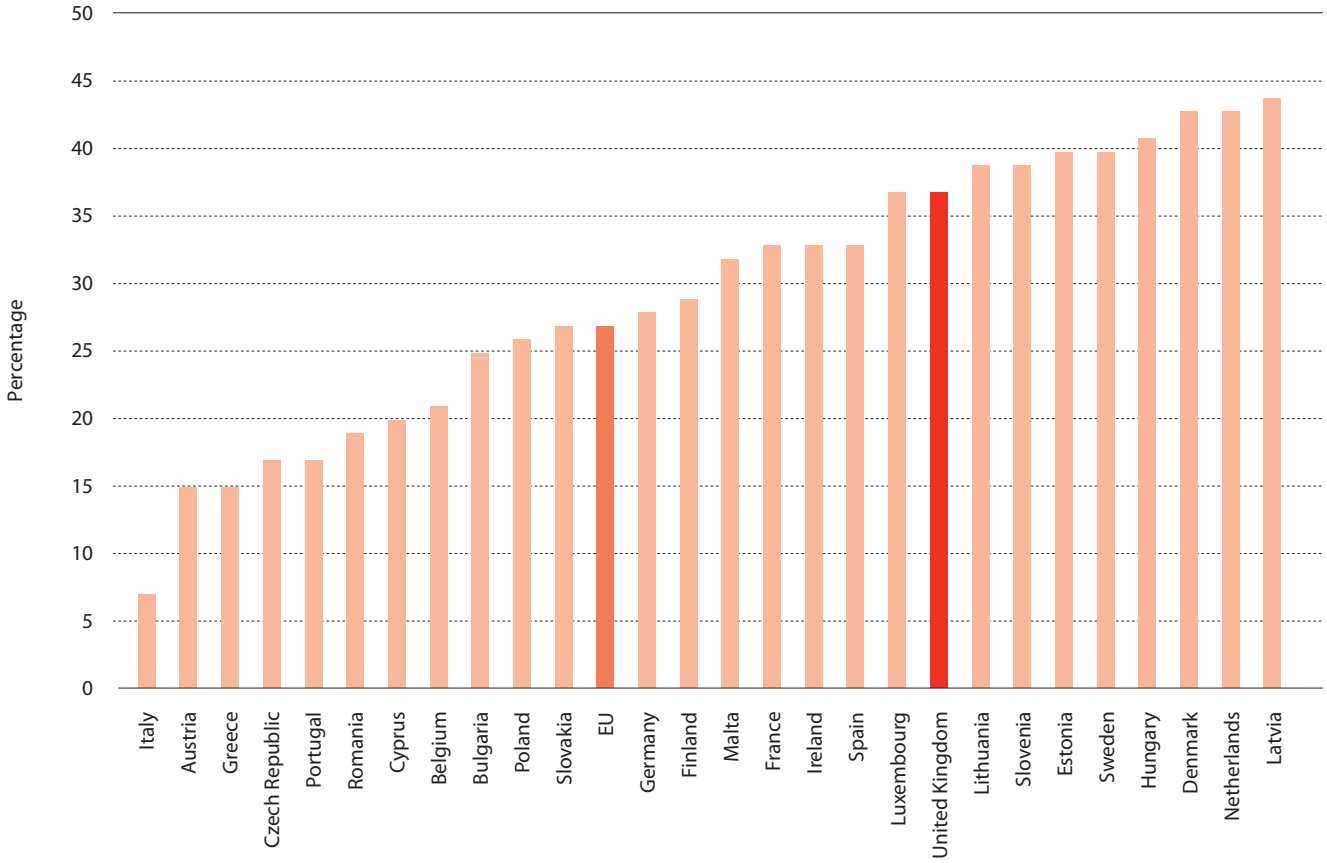


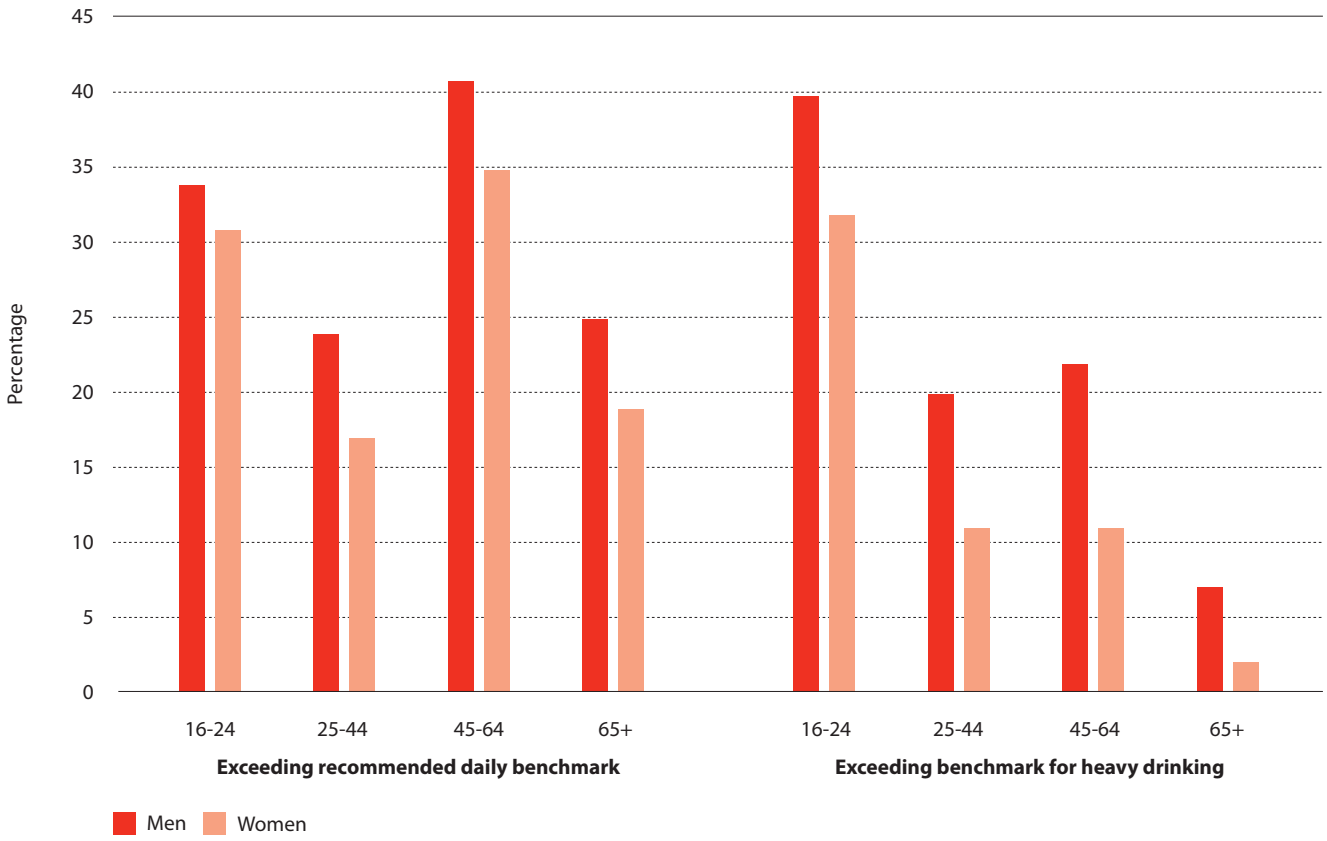
Table 4.25
Alcohol consumption in adults, by sex and age, Great Britain 2010

	All ages	16-24	25-44	45-64	65+
	%	%	%	%	%
Men					
Number of days of drinking last week					
None	33	51	31	27	35
5 or more	17	5	12	20	26
Maximum daily amount					
Exceeded recommended amount (4 units +)	36	34	41	40	22
Heavy drinking (8 units +)	19	24	25	20	7
Unweighted base	*6,070*	*560*	*1,620*	*2,170*	*1,710*
Women					
Number of days of drinking last week					
None	47	54	44	40	57
5 or more	10	2	7	13	14
Maximum daily amount					
Exceeded recommended amount (3 units +)	28	31	35	32	11
Heavy drinking (6 units +)	13	17	19	11	2
Base	*7,200*	*630*	*2,090*	*2,510*	*1,970*

Notes:
Alcohol consumption levels are based on the number of units of alcohol consumed on the heaviest day during the previous week, the "maximum daily amount".

Source:
Office for National Statistics (2011). General Lifestyle Survey 2010. Results published online at http://www.ons.gov.uk/ons/rel/ghs/general-lifestyle-survey/2010/index.html (Accessed May 2010).

Figure 4.25
Percentage of adults exceeding daily benchmarks for alcohol consumption, by sex and age, Great Britain 2010



Note:
Recommended daily benchmark is 4 units for men and 3 units for women. ¶ Benchmark for heavy drinking is 8 units for men and 6 units for women.

Table 4.26
Heavy drinking and drinking over recommended levels in adults, by sex and age, Great Britain 1998 to 2010

	1998	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Maximum daily alcohol consumption	%	%	%	%	%	%	%	%	%	%	%	%
Men												
Exceeded recommended amount (4 units +)												
16-24	52	50	50	49	51	47	46	42	44	42	36	34
25-44	48	45	49	46	47	48	48	48	48	42	44	41
45-64	37	38	37	38	41	37	42	42	44	41	41	40
65+	16	16	18	16	19	20	21	21	23	21	20	22
All ages	39	39	40	38	40	39	40	40	41	37	37	36
Heavy drinking (8 units +)												
16-24	39	37	37	35	37	32	32	30	32	30	24	24
25-44	29	27	30	28	30	31	30	31	31	27	27	25
45-64	17	17	17	18	20	18	22	21	24	21	21	20
65+	4	5	5	5	6	7	6	7	8	7	5	7
All ages	22	21	22	21	23	22	19	23	24	21	20	19
Unweighted base	*6,561*	*6,598*	*7,054*	*6,828*	*8,087*	*6,862*	*10,028*	*7,674*	*7,230*	*6,720*	*6,160*	*6,070*
Women												
Exceeded recommended amount (3 units +)												
16-24	42	42	40	42	40	39	41	39	40	36	37	31
25-44	28	31	31	31	30	28	42	40	43	37	36	35
45-64	17	19	19	19	20	20	37	35	36	32	32	32
65+	4	4	5	5	4	5	12	14	14	10	11	11
All ages	21	23	23	23	23	22	34	33	34	29	29	28
Heavy drinking (6 units +)												
16-24	24	27	27	28	26	24	27	25	24	24	24	17
25-44	11	13	14	13	13	13	20	21	22	20	19	19
45-64	5	5	5	5	5	6	12	12	13	13	11	11
65+	1	1	1	1	1	1	2	2	3	2	2	2
All ages	8	10	10	10	9	9	15	15	15	14	13	13
Unweighted base	*7,821*	*7,491*	*8,299*	*7,942*	*9,304*	*8,012*	*11,617*	*9,013*	*8,380*	*7,950*	*7,290*	*7,200*

Notes:
Alcohol consumption levels are based on the number of units of alcohol consumed on the heaviest day during the previous week. ¶ Methods for estimating the number of units of alcohol consumed were updated in 2006. ¶ Estimates since 2006 are not directly comparable with estimates from before 2006.

Source:
Office for National Statistics (2011). General Lifestyle Survey 2010. Results published online at http://www.ons.gov.uk/ons/rel/ghs/general-lifestyle-survey/2010/index.html (Accessed May 2010).

Figure 4.26
Heavy drinking and drinking over recommended levels in young adults aged 16-24, Great Britain 1998 to 2010

Note:
Estimates in 2006 to 2010 are not directly comparable with pre-2006 estimates due to changes in the methods used to estimate the number of units consumed.

Table 4.27
Alcohol consumption in children, by sex and age, England 1988 to 2010

	1988	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010
	%	%	%	%	%	%	%	%	%	%	%	%
Boys												
11 Years	7	8	8	8	7	4	5	7	5	5	3	2
12 Years	12	9	13	10	12	14	11	12	11	8	6	3
13 Years	20	17	15	22	27	16	18	20	17	16	15	9
14 Years	25	32	32	34	37	28	34	34	32	29	24	15
15 Years	45	42	49	52	50	48	51	49	44	40	38	29
All ages	24	22	24	26	27	23	25	25	23	21	18	13
Girls												
11 Years	4	4	5	4	6	2	5	4	3	2	2	1
12 Years	7	6	7	9	9	6	9	9	9	7	4	3
13 Years	11	19	11	16	22	14	19	21	19	15	13	9
14 Years	19	32	25	26	35	29	31	34	33	30	25	16
15 Years	36	39	40	48	55	40	45	45	46	41	37	30
All ages	17	20	17	22	26	18	23	23	23	20	17	13
Bases												
Boys												
11 Years	*227*	*309*	*284*	*266*	*269*	*285*	*612*	*866*	*861*	*600*	*621*	*537*
12 Years	*279*	*340*	*335*	*307*	*296*	*336*	*740*	*1,003*	*1,024*	*818*	*769*	*725*
13 Years	*312*	*312*	*351*	*304*	*275*	*293*	*737*	*1,035*	*1,007*	*765*	*756*	*702*
14 Years	*306*	*300*	*310*	*306*	*297*	*597*	*750*	*950*	*977*	*805*	*756*	*691*
15 Years	*348*	*358*	*366*	*326*	*295*	*745*	*796*	*1,107*	*1,078*	*869*	*896*	*886*
All ages	*1,473*	*1,623*	*1,652*	*1,509*	*1,432*	*2,256*	*3,635*	*4,961*	*4,947*	*3,857*	*3,798*	*3,541*
Girls												
11 Years	*225*	*289*	*304*	*231*	*266*	*291*	*564*	*798*	*820*	*636*	*612*	*534*
12 Years	*312*	*277*	*354*	*304*	*272*	*365*	*681*	*978*	*923*	*829*	*759*	*696*
13 Years	*296*	*290*	*333*	*326*	*277*	*383*	*696*	*935*	*941*	*826*	*718*	*673*
14 Years	*311*	*298*	*298*	*309*	*285*	*657*	*691*	*946*	*917*	*767*	*746*	*705*
15 Years	*374*	*302*	*317*	*341*	*291*	*666*	*764*	*1,012*	*1,024*	*978*	*845*	*859*
All ages	*1,518*	*1,459*	*1,614*	*1,511*	*1,391*	*2,362*	*3,396*	*4,669*	*4,625*	*4,036*	*3,680*	*3,468*

Notes:
Sample is drawn from children in years 7-11 in secondary schools in England. ¶ For 2008, the sample was drawn from 268 secondary schools including schools from both the maintained and non-maintained education sectors. ¶ Percentages refer to individuals who reported drinking alcohol at some point in the previous week.

Source:
National Centre for Social Research (2011) Smoking, drinking and drug use among young people in England in 2010. The Information Centre: Leeds, and previous editions. Copyright © 2011, Re-used with the permission of The Health and Social Care Information Centre. All rights reserved.

Table 4.28
Alcohol consumption in children, by sex and age, Scotland 1990 to 2010

	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010
	%	%	%	%	%	%	%	%	%	%	%
Boys											
13 Years	10	14	18	21	19	19	23	20	13	11	15
15 Years	30	35	37	48	39	42	47	40	35	31	35
Girls											
13 Years	10	12	13	18	15	20	23	20	15	12	14
15 Years	25	28	35	46	35	37	46	46	37	31	34
Bases											
Boys											
13 Years	*301*	*380*	*358*	*303*	*369*	*621*	*1,429*	*1,787*	*5,790*	*2,604*	*9,715*
15 Years	*251*	*218*	*250*	*220*	*424*	*424*	*2,489*	*1,668*	*5,622*	*2,269*	*9,469*
Girls											
13 Years	*324*	*343*	*348*	*309*	*389*	*555*	*1,481*	*1,730*	*5,805*	*2,665*	*9,085*
15 Years	*219*	*216*	*252*	*175*	*402*	*391*	*2,424*	*1,745*	*5,439*	*2,320*	*8,718*

Notes:
Sample is drawn from children in years S2 and S4 in secondary schools in Scotland. ¶ For 2008, the sample was drawn from 377 secondary schools including schools from both the maintained and non-maintained education sectors. ¶ Percentages refer to individuals who reported drinking alcohol at some point in the previous week.

Source:
Office for National Statistics (2011) Scottish schools adolescent lifestyle and substance use survey (SALSUS) national report. Smoking, drinking and drug use among 13 and 15 year olds in Scotland in 2010. NHS Scotland: Edinburgh.

Table 4.29
Heavy drinking and drinking over recommended levels in adults, by sex and country or region, Great Britain 2010

	Exceeded recommended amount (4 units +)	Heavy drinking (8 units +)	*Base*
Maximum daily amount	%	%	
Men			
North East	38	21	*250*
North West	41	24	*750*
Yorkshire and the Humber	38	22	*610*
East Midlands	33	15	*470*
West Midlands	27	15	*570*
East of England	33	16	*650*
London	33	19	*510*
South East	39	19	*800*
South West	34	18	*510*
England	35	19	*5,120*
Wales	36	19	*350*
Scotland	40	23	*590*
Great Britain	36	19	*6,070*
	Exceeded recommended amount (3 units +)	Heavy drinking (6 units +)	*Base*
Maximum daily amount	%	%	
Women			
North East	30	12	*340*
North West	35	18	*870*
Yorkshire and the Humber	30	14	*740*
East Midlands	25	10	*570*
West Midlands	21	8	*680*
East of England	28	13	*730*
London	23	11	*600*
South East	31	13	*950*
South West	28	11	*650*
England	28	12	*6,130*
Wales	28	12	*390*
Scotland	31	14	*680*
Great Britain	28	13	*7,200*

Notes:
Alcohol consumption levels are based on the number of units of alcohol consumed on the heaviest day during the previous week, the "maximum daily amount". ¶ Data are weighted for non-response. ¶ Estimates are for adults aged 16 and over.

Source:
Office for National Statistics (2011). General Lifestyle Survey 2010. Results published online at http://www.ons.gov.uk/ons/rel/ghs/general-lifestyle-survey/2010/index.html (Accessed May 2010).

Figure 4.29a
Heavy drinking by country or region, men, 2010, Great Britain

Heavy drinking (8 units +) on heaviest drinking day in previous week.

- 22% or more
- 19% to 21%
- 16% to 18%
- 15% or less

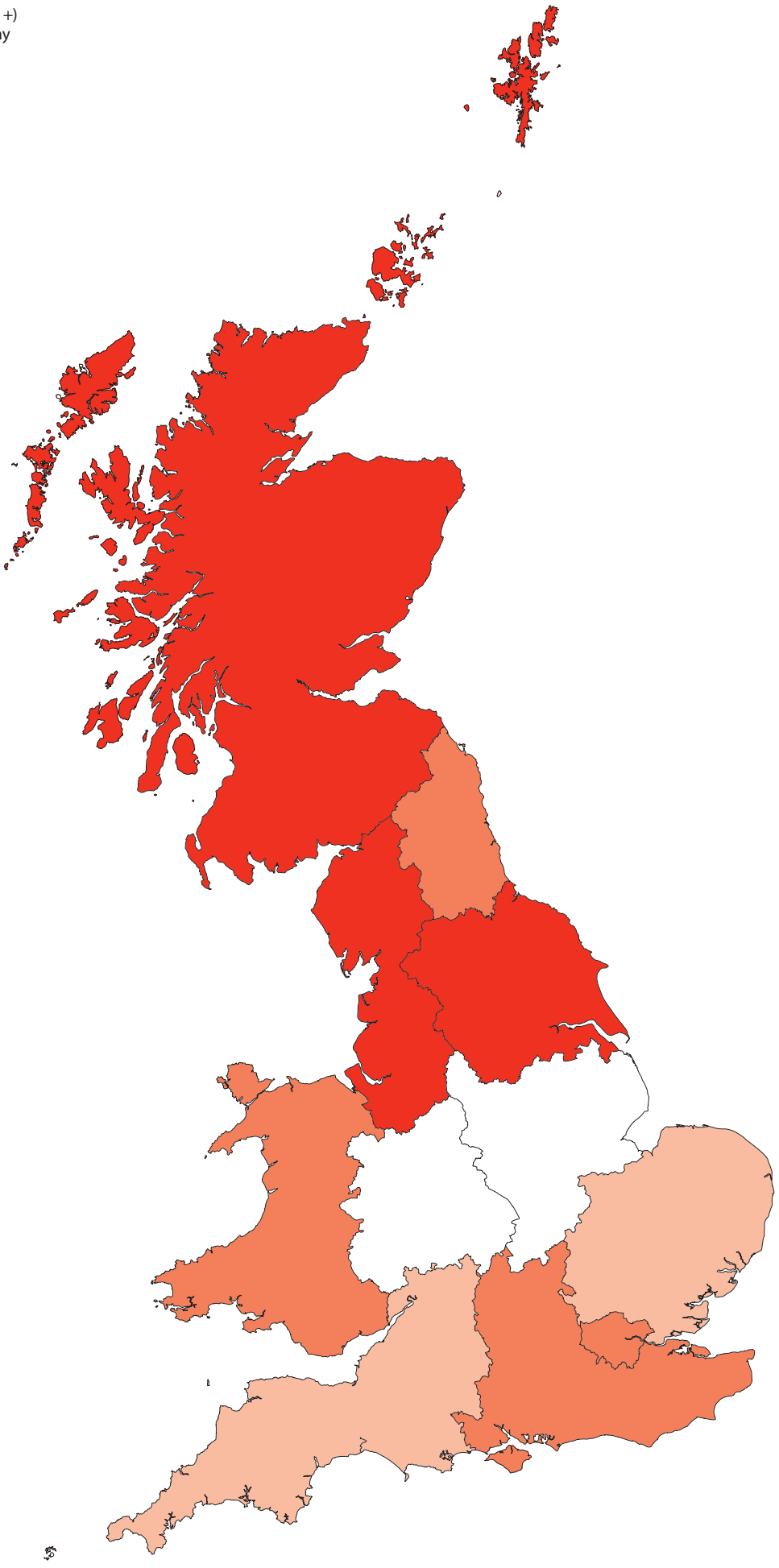


Figure 4.29b
Heavy drinking by country or region, women, 2010, Great Britain

Heavy drinking (6 units +) on heaviest drinking day in previous week.

- 17% or more
- 14% to 16%
- 11% to 13%
- 10% or less

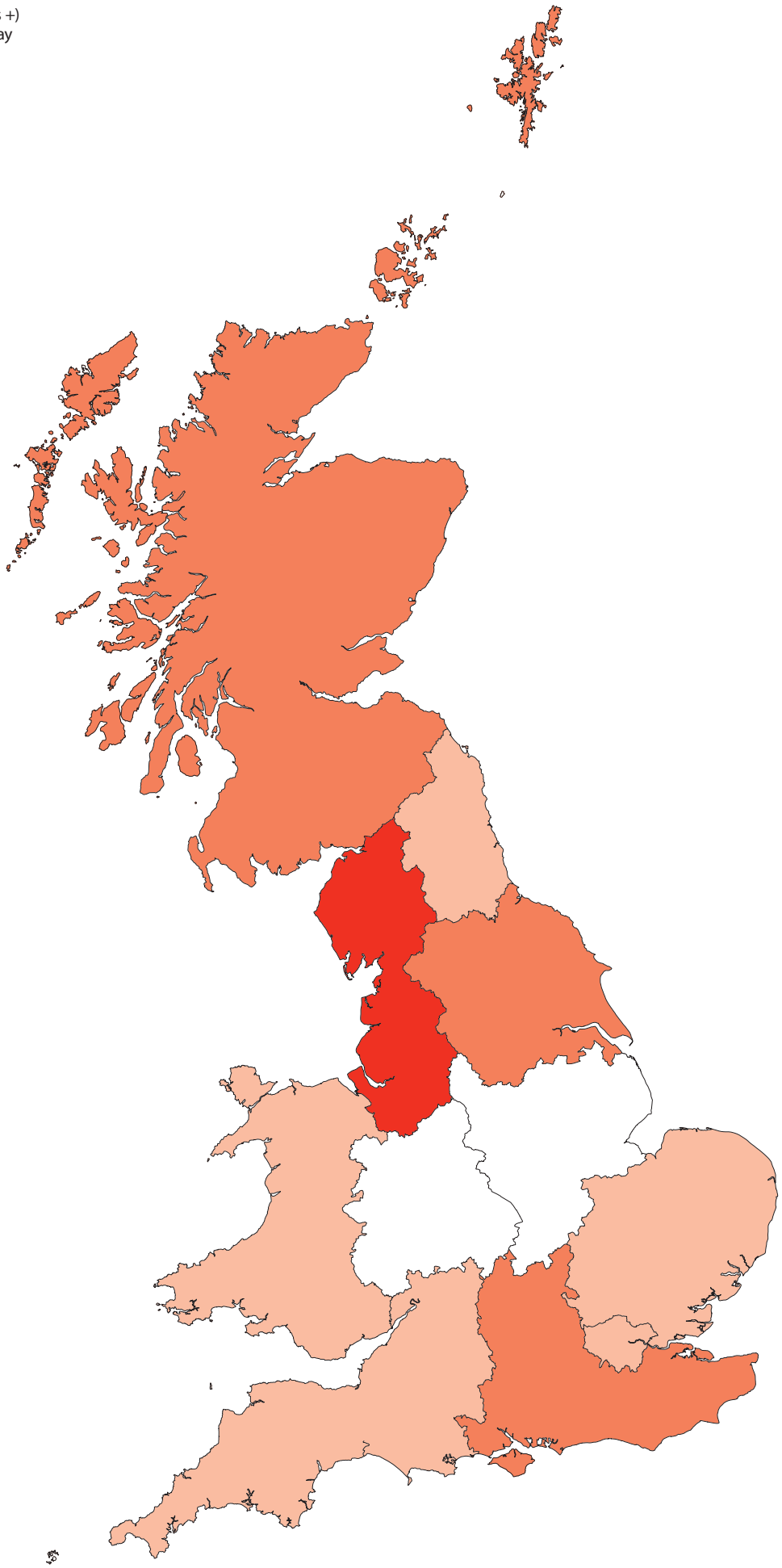


Table 4.30
Alcohol consumption in adults, by sex and socioeconomic classification, Great Britain 2010

	Exceeded recommended amount (4 units +)	Heavy drinking (8 units +)	*Base*
Maximum daily amount	%	%	
Men			
Managerial and professional	**40**	**21**	***2,670***
Large employers and higher managerial	48	26	*440*
Higher professional	39	19	*600*
Lower managerial and professional	38	20	*1,630*
Intermediate	**36**	**20**	***1,030***
Intermediate	36	19	*420*
Small employers and own account	37	21	*610*
Routine and manual	**32**	**18**	***2,140***
Lower supervisory and technical	34	19	*760*
Semi routine	31	19	*690*
Routine	30	15	*690*
Total	36	19	*5,940*
	Exceeded recommended amount (3 units +)	Heavy drinking (6 units +)	*Base*
Maximum daily amount	%	%	
Women			
Managerial and professional	**35**	**16**	***2,940***
Large employers and higher managerial	42	19	*460*
Higher professional	39	18	*560*
Lower managerial and professional	33	14	*1,920*
Intermediate	**28**	**13**	***1,340***
Intermediate	25	12	*720*
Small employers and own account	32	14	*620*
Routine and manual	**22**	**10**	***2,580***
Lower supervisory and technical	27	13	*730*
Semi routine	21	9	*1,080*
Routine	18	8	*770*
Total	28	13	*7,020*

Notes:
Alcohol consumption levels are based on the number of units of alcohol consumed on the heaviest drinking day during the previous week, the "maximum daily amount". ¶ Data are weighted for non-response. ¶ Estimates are for adults aged 16 and over.

Source:
Office for National Statistics (2011). General Lifestyle Survey 2010. Results published online at http://www.ons.gov.uk/ons/rel/ghs/general-lifestyle-survey/2010/index.html (Accessed May 2010).

Figure 4.30

Heavy drinking and drinking over recommended levels in adults, by sex and socioeconomic classification, Great Britain 2010

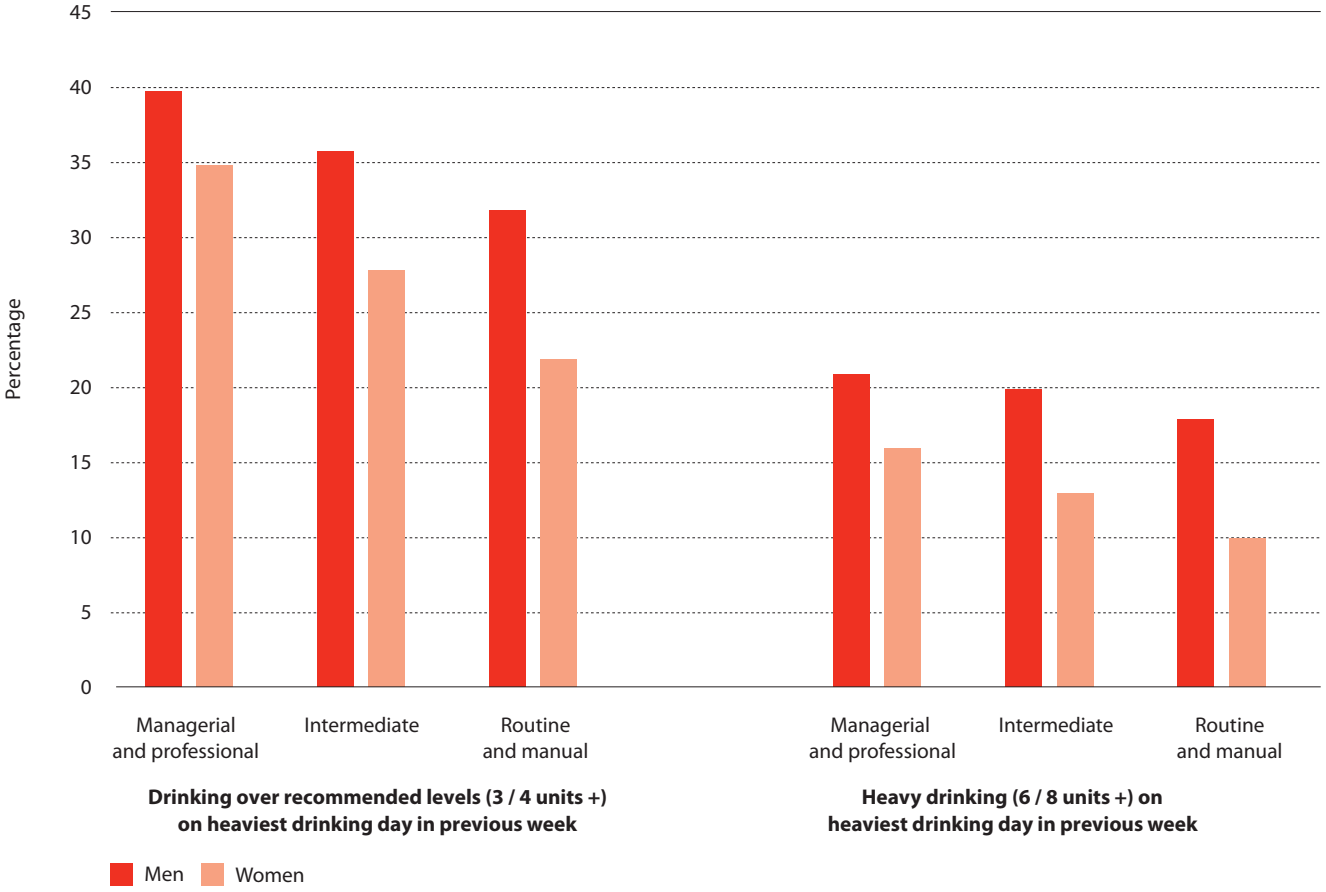


Table 4.31
Alcohol consumption, by sex and ethnic group, England 2004

	General population	Black Caribbean	Black African	Indian	Pakistani	Bangladeshi	Chinese	Irish
Alcohol consumed on the heaviest drinking day	%	%	%	%	%	%	%	%
Men								
None	24	40	62	53	93	99	52	20
Under 2 units	13	12	8	11	1	0	14	10
Up to 4 units	55	72	83	77	96	99	81	44
More than 4, up to 8 units	20	16	10	13	1	0	9	25
More than 8 units	25	12	7	9	3	0	10	32
% Exceeding 4 units	**45**	**28**	**17**	**22**	**4**	**1**	**19**	**56**
Base	*2,829*	*397*	*369*	*531*	*416*	*395*	*337*	*490*
Women								
None	39	53	74	79	97	99	68	33
Under 2 units	18	17	11	8	1	0	15	18
Up to 3 units	70	81	92	92	98	99	88	64
More than 3, up to 6 units	16	12	5	4	0	0	8	20
More than 6 units	14	6	2	4	1	0	4	16
% Exceeding 3 units	**30**	**18**	**7**	**8**	**1**	**1**	**12**	**36**
Base	*3,745*	*618*	*446*	*618*	*495*	*448*	*364*	*642*

Notes:
Data are weighted for non-response. ¶ Estimates are for adults aged 16 and over. ¶ General population refers to the whole population of England, regardless of minority ethnic group.

Source:
Joint Health Surveys Unit (2005) Health Survey for England 2004. The Information Centre: Leeds. Copyright © 2005, Re-used with the permission of The Health and Social Care Information Centre. All rights reserved.

Table 4.32
Frequency of heavy drinking in adults, by country, European Union 2009

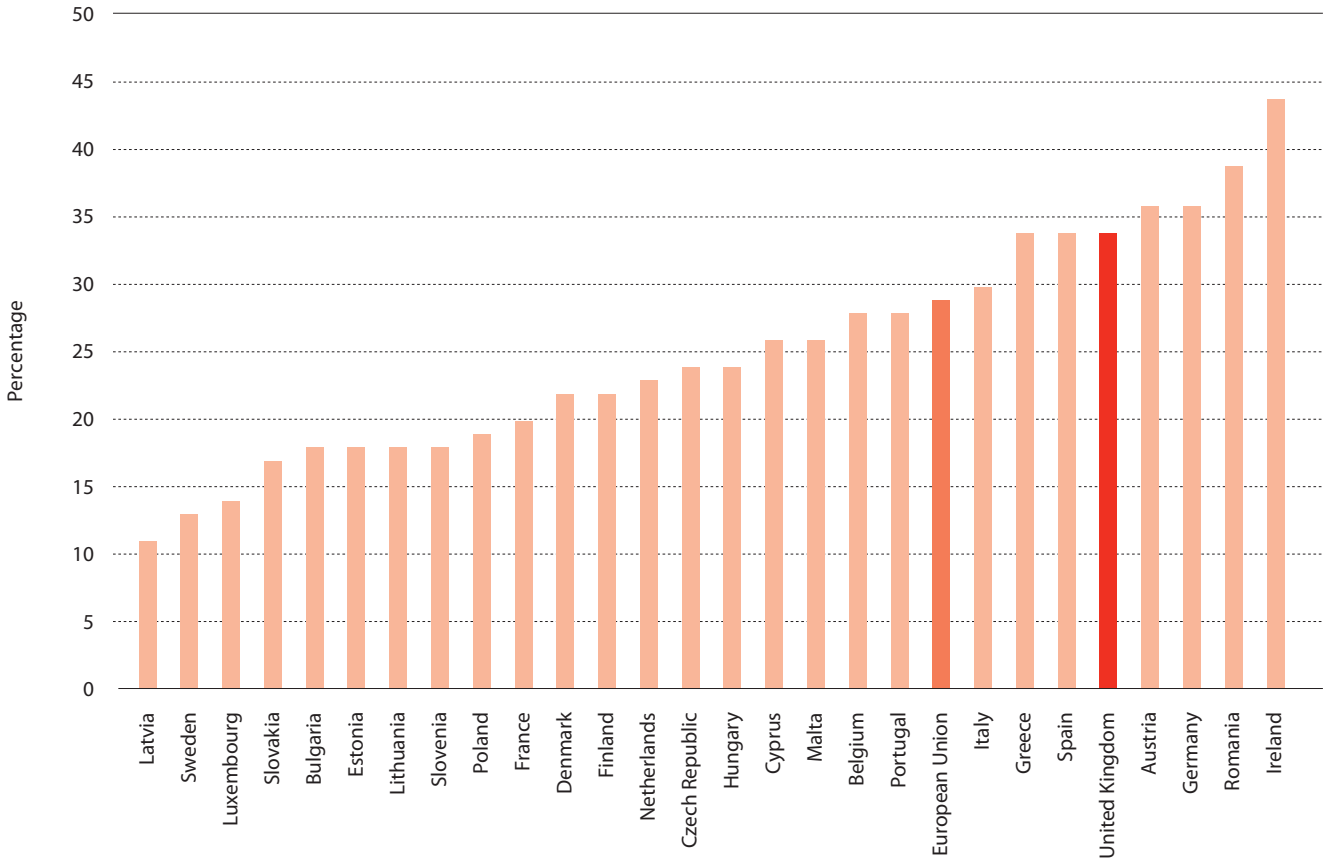
	%
Austria	36
Belgium	28
Bulgaria	18
Cyprus	26
Czech Republic	24
Denmark	22
Estonia	18
Finland	22
France	20
Germany	36
Greece	34
Hungary	24
Ireland	44
Italy	30
Latvia	11
Lithuania	18
Luxembourg	14
Malta	26
Netherlands	23
Poland	19
Portugal	28
Romania	39
Slovakia	17
Slovenia	18
Spain	34
Sweden	13
United Kingdom	**34**
EU	29

Notes:
Survey conducted in October 2009. ¶ Individuals were interviewed in their home using their native language. ¶ Approximately 1,000 interviews were conducted in each member state, with the exception of Germany (2,000), United Kingdom (1,300) and Luxembourg (600). ¶ Percentage refer to individuals who reported drinking 5 or more drinks on one occasion at least once a week in the last 12 months.

Source:
TNS Opinion & Social (2010) Eurobarometer 72.3 EU citizens' attitudes towards alcohol. European Commission: Brussels.

Figure 4.32

Percentage of individuals reporting heavy drinking at least once a week in the last 12 months in adults, by country, European Union 2009



5. Medical risk factors

5. Medical risk factors

This chapter reports on the prevalence of medical risk factors for coronary heart disease (CHD), including sections on blood pressure, blood cholesterol, overweight and obesity, and diabetes. Patterns in the prevalence of each of these risk factors by age, sex, socioeconomic status, geographic region and ethnicity are explored. Prevalence rates in the UK are compared against rates found in other countries. Where possible, temporal trends in the prevalence of these risk factors are reported.

Blood Pressure

Risk of CHD is directly related to higher levels of both systolic and diastolic blood pressure. Meta-analysis of prospective data on over one million adults has shown that for adults aged 40 to 69 years, each 20mmHg increase in usual systolic blood pressure, or 10mmHg increase in usual diastolic blood pressure, doubles the risk of death from CHD [1]. At older ages the increase in risk of death from CHD is smaller, around 50% increase for every 20mmHg increase in usual systolic or 10mmHg increase in diastolic blood pressure in adults aged 80 to 89 years. Both drug treatment and lifestyle changes – particularly weight loss, increase in physical activity, and a reduction in salt and alcohol intake – can effectively lower blood pressure.

The World Health Report 2002 estimates that around 11% of all disease burden in developed countries is caused by raised blood pressure, and that over 50% of CHD and almost 75% of stroke in developed countries is due to systolic blood pressure levels in excess of 115mmHg [2].

In 2004, the INTERHEART study estimated that 22% of heart attacks in Western Europe and 25% of heart attacks in Central and Eastern Europe were due to a history of high blood pressure, and that those with a history of hypertension were at just under twice the risk of a heart attack compared to those with no history of hypertension [3].

The 2006 National Institute of Health and Clinical Excellence (NICE) guidelines recommended persistent high blood pressure of 160/100 mmHg (or 140/90 mmHg with higher CVD risk) as the threshold for offering drug treatments, and that optimal blood pressure treatment targets are 140/90 mmHg [4] (Table 5.1).

Rates of hypertension have dropped slightly in England since 1998, for both men and women at all ages. The largest decreases have occurred at older ages. For example, 73% of women aged 65 to 74 had hypertension in 1998 compared to 63% in 2010 (Table 5.2 and Figure 5.2).

In the 2010 Health Survey for England, 31% of men and 29% of women had hypertension (defined here as a systolic blood pressure of 140mmHg or over, or a diastolic blood pressure of 90mmHg or over) or were being treated for hypertension. Of those who were treated, 41% of men and 42% of women remained hypertensive (Table 5.3).

The prevalence of hypertension increases with age in both sexes. For example, only 3% of women aged 16 to 24 are hypertensive, compared to 47% aged 55 to 64 and 63% aged 65 to 74 (Table 5.3 and Figure 5.3).

Data from the Scottish Health Survey suggest that the prevalence of high blood pressure is similar in England and Scotland. In 2010, 32% of English men and 29% of English women were hypertensive compared to 35% of Scottish men and 30% of Scottish women [5] (Table 5.4).

Data from Wales and Northern Ireland are not comparable with those for England and Scotland, as they are not based on direct blood pressure measurements. The Welsh Health Survey 2010 showed that 20% of men and women reported being treated for raised blood pressure (Table 5.5).

For men in England, the lowest levels of hypertension are found in the West Midlands (27%), and the highest levels are found in the East Midlands and Yorkshire and the Humber (36%). For women, the lowest levels are found in London, South East, South Central and South West (25%) and the highest levels are found in the North East (33%) (Table 5.6).

The prevalence of hypertension in men does not seem to vary by income quintile. In 2006, the prevalence was around 30% for each quintile. This is not the case for women where the prevalence of high blood pressure in the lowest income quintile is about 50% higher than in the highest income quintile (Table 5.7).

Data from the Health Survey for England show that in 2004 the proportion of Bangladeshi men with high blood pressure was half that of the general population; in Pakistani and Chinese men the proportion was two thirds that of the general population. Pakistani and Chinese women were half as likely to have high blood pressure compared to women in the general population. The prevalence of untreated hypertension was lower among Pakistani, Bangladeshi and Chinese men and Indian, Pakistani, Bangladeshi and Chinese women than in the general population [6] (Table 5.8).

In 2008, the WHO Global Health Observatory published that in the WHO-Europe region the prevalence of hypertension ranged from 33% in Israel to 48% in Armenia. The prevalence in the UK was 37% (Table 5.9).

Blood Cholesterol

Risk of CHD is directly related to blood cholesterol levels. Blood cholesterol levels can be reduced by drugs, physical activity and by dietary changes, in particular a reduction in the consumption of saturated fat.

Research from the World Health Organization highlights the importance of raised blood cholesterol as a risk factor for CHD. The World Health Report 2002 estimates that around 8% of all disease burden in developed countries is caused by raised blood cholesterol, and that over 60% of CHD and around 40% of ischaemic stroke in developed countries is due to total blood cholesterol levels in excess of 3.8mmol/l [2].

More recently the INTERHEART case-control study estimated that 45% of heart attacks in Western Europe and 35% of heart attacks in Central and Eastern Europe are due to abnormal blood lipids, and that those with abnormal lipids are at over three times the risk of a heart attack compared to those with normal lipids [3].

Different guidelines give slightly different advice for managing high levels of blood cholesterol (hyperlipidaemia) [7,8]. A joint publication by a series of UK cardiovascular societies in 2005 suggests that a threshold of 4.0mmol/l should be used to monitor treatment in individuals with CVD or at high risk of CVD. However, the National Institute of Health and Clinical Excellence recommends retaining the threshold of 5.0mmol/l for tracking levels of raised cholesterol, since many individuals will be unable to sustain a cholesterol level lower than 4.0mmol/l (Table 5.10).

High-density lipoprotein cholesterol (HDL-cholesterol) is 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 CHD and a worse prognosis after a heart attack. Guidelines on HDL-cholesterol generally recommend treatment for those with concentrations below 1.0mmol/l (Table 5.10).

The mean blood cholesterol level for men aged 16 and over in England in 2008 was 5.2mmol/l and for women 5.4mmol/l. Around 58% of men and 61% women had blood cholesterol levels of 5.0mmol/l and above [9]. In Scotland, the mean blood cholesterol level in 2008 was 5.2mmol/l for men and 5.3mmol/l for women, and the proportion of people with levels of 5.0mmol/l and above continues to reduce with 57% of men and 58% of women aged 16 to 64 [10] (Table 5.11 and Figure 5.11).

The prevalence of raised cholesterol increases with age in both men and women until the mid 50s. In 2008, the proportion of men with cholesterol levels of 5.0mmol/l or above was 25% in those aged 16 to 24 compared to around 76% in those aged 45 to 54. The proportion of women aged 16 to 24 with cholesterol levels of 5.0mmol/l or above was 36% compared to 83% in those aged 55 to 64, and slightly lower in those over 65 years (Table 5.11 and Figure 5.11).

The mean HDL-cholesterol level for those aged 16 and over in England in 2008 for women was 1.6mmol/l, and 1.3mmol/l for men [9]. Overall, about 7% of men and 2% of women had HDL-cholesterol levels of less than 1.0mmol/l in England. In 2008, about 18% of men and 6% of women had HDL-cholesterol levels of less than 1.0mmol/l in Scotland [11] (Table 5.12).

The prevalence of low HDL-cholesterol showed less age-related variation, with no clear pattern. Rates of low HDL-cholesterol are much higher in men than women – over five times higher overall. The greatest difference being in the 65-74 group in which the rate of low HDL-cholesterol was 1.1% for women and 8.8% for men (Table 5.12).

In both England and Scotland, the prevalence of raised total cholesterol fell between 1994 and 2008 for both men and women. In England, the prevalence of raised total cholesterol in men decreased in all age groups between 2003 and 2008 with the largest decrease in the 75 and over group which experienced a 24% drop. Similarly for women, the over 75 group also experienced the biggest reduction (16%). The prevalence of raised total cholesterol in women deceased for all age groups except for the 16 to 24 group which was slightly higher than in 2003. In older age groups (55 and older in men and 65 and older in women) the prevalence of raised total cholesterol has fallen steadily over the past decade (Table 5.11) [10].

In 2008, the proportion of people with total cholesterol levels of 5mmol/l and over ranged between 52% and 64% for different regions of England for men, and between 56% and 68% for women. London had the lowest prevalence of raised cholesterol for men (52%) and North East had the lowest for women (56%). South Central had the highest prevalence in men (64%) but the East Midlands had the highest prevalence for women (68%) (Table 5.13).

Total blood cholesterol levels show little socioeconomic variation in either sex. However, low HDL-cholesterol levels vary with income; those with higher incomes are less likely to have levels of HDL-cholesterol below 1.0mmol/l (Tables 5.14).

In 2004, the prevalence of blood cholesterol levels of 5.0mmol/l and above, was lower in all ethnic minority groups than the general population, with the exception of the Irish ethnic group. The highest rates of HDL-cholesterol below 1.0mmol/l for both sexes were found in the Indian, Pakistani and Bangladeshi communities. One fifth of Bangladeshi and Pakistani men had HDL-cholesterol levels of less than 1.0mmol/l compared to 6% of men in the general population. In contrast, Black African men and Black Caribbean women and Chinese women had a relatively low prevalence of low HDL-cholesterol (Table 5.15).

Overweight and Obesity

Overweight and obesity increase the risk of CHD. As well as being an independent risk factor, obesity is also a major risk factor for high blood pressure, raised blood cholesterol, diabetes and impaired glucose tolerance [12]. The adverse effects of excess weight are more pronounced when fat is concentrated in the abdomen. This is known as central or abdominal obesity and is assessed using the waist to hip ratio or waist circumference [13].

The World Health Report 2002 estimated that over 7% of all disease burden in developed countries was caused by raised body mass index (BMI), and that around a third of CHD and ischaemic stroke and almost 60% of hypertensive disease in developed countries was due to overweight [2].

The INTERHEART case-control study estimated that 63% of heart attacks in Western Europe and 28% of heart attacks in Central and Eastern Europe were due to abdominal obesity (a high waist to hip ratio), and those with abdominal obesity were at over twice the risk of a heart attack compared to those without [3]. This study also found that abdominal obesity was a much more significant risk factor for heart attack than BMI.

In 2004, an obesity target for children in England was introduced by the Department of Health to halt the year-on-year rise in obesity in children under 11 by 2010. A more general aim to address the increasing rates of obesity in the population was also put forward. In Scotland a target was set to reduce the rate of increase in the proportion of children with their Body Mass Index outside a healthy range by 2018 and in Northern Ireland a target was to halt the rise in obesity in the general population by March 2010. There are currently no targets for overweight and obesity in Wales (Table 5.16).

In England in 2010, around 42% of men and 32% of women were overweight (a BMI of 25-30 kg/m2), and an additional 27% of men and 26% of women were obese (a BMI of more than 30 kg/m2). Central obesity was also common among adults in England. In 2008, data show that around 34% of men and 46% of women had central obesity (Tables 5.17 and 5.18).

Generally overweight and obesity increases with age. In 2010, about 35% of men and 32% of women aged 16 to 24 were overweight or obese compared to 81% of men and 74% of women aged 65 to 74 (Table 5.17 and Figure 5.17). The prevalence of central obesity also generally increased with age, especially in men. About 13% of men and 18% of women aged 16 to 24 had central obesity compared to 49% of men and 64% of women aged 65 to 74 (Table 5.18).

The classification of overweight and obesity in children and adolescents is more problematic than in adults. Constant changes in body composition during growth mean that the relationship between BMI and adiposity during childhood is age-dependent, and further complicated by race and gender. There is no clear agreement on the best way to define overweight and obesity in children. The International Obesity Taskforce (IOTF) has developed an international classification based on age and sex-specific BMI cut-off points. UK data is sometimes reported using the National BMI percentile classification where children are classified as overweight or obese using the 85th and 95th percentiles as cut points. These two methods of classification result in different estimates of childhood overweight and obesity [14].

The National BMI classification has been used in the 2010 Health Survey for England. This survey found just less than a third of boys (31%) and girls (29%) in England aged 2 to 15 years were either overweight or obese [15] (Table 5.19). The National Child Measurement Programme found that 22% of reception class (ages 4 to 5 years) and 33% of year 6 (ages 10 to 11 years) children were either overweight or obese (Tables 5.20).

Overweight and obesity has been increasing rapidly. In England, the percentage of men aged 16 and over who are obese rose from 14% in 1994 to 26% in 2010, and for women who are obese, from 17% in 1994 to 26% in 2010. The increase in obesity was particularly marked among men aged 45 to 74, approximately doubling between 1994 and 2008 (Table 5.21 and Figure 5.21).

The high levels of overweight and obesity among children are likely to exacerbate the trend towards overweight and obesity in the adult population, since compared to non-obese children, obese children have a high risk of becoming overweight adults [16]. Between 1995 and 2010 the prevalence of obesity among English boys increased from 11% to 17% and from 12% to 15% among English girls, and overweight (including obesity) increased from 24% to 31% in boys and 25% to 29% in girls over the same time period. Less data are available for trends in overweight (including obesity) in Scotland, but estimates suggest a similar increase in the prevalence of overweight in boys – from 28% in 1998 to 36% in 2008 and decreased to 31% in 2010 . Over the same time period the prevalence of overweight in girls in both England and Scotland has remained reasonably stable (Table 5.22 and Figure 5.22).

In England in 2010, about two thirds of men were overweight or obese with very little variation by Government Office Region. The highest prevalence was found in the West Midlands (72%) and the lowest in London (64%). For women, the prevalence of overweight and obesity was lower than for men, with the highest prevalence in East and East Midlands (63%) and the lowest in South East (50%). Recent evidence suggests that rates of obesity among women are rising faster in the North than the South of England. This pattern is not observed in men, where rates appear to be rising uniformly across England [17] (Table 5.23).

Among women, obesity rates vary considerably by household income. In 2010, 34% of women from the lowest quintile of household income were obese compared to 17% in the highest quintile. Much less variation was found in men (Table 5.24). In both men and women, the prevalence of central obesity was higher among households with lower income. In 2010, 36% of men and 53% of women from the lowest quintile of household income had a raised waist circumference compared to 33% of men and 36% of women in the highest quintile. Much less variation was found in men (Table 5.25).

Levels of general and abdominal obesity vary with ethnicity in both men and women in England. Because individuals from different ethnic groups tend to store fat in different places of the body and therefore have different body shapes, it is useful to compare measurements generated by the different techniques when considering ethnic differences in obesity. Using the Body Mass Index (BMI) method, in 2004 the prevalence of obesity in men was substantially lower in the South Asian community, and also in Chinese men than in the general population. Using this definition as few as 6% of Chinese and Bangladeshi men were defined as obese, compared to 23% of men in the general population aged 16 and over. Similarly, the prevalence of obesity in Bangladeshi and Chinese women was lower than the general population when measured by BMI, although the difference was not as substantial. However, this difference is entirely removed when the Waist-to-Hip Ratio (WHR) method is used – using this technique the prevalence of obesity in Bangladeshi men is similar to that of men in the general population (around one in three men), and the prevalence of obesity in Bangladeshi women is higher than that of women in the general population. Ethnic differences in obesity measured using Waist Circumference (WC) are similar to those found using the WHR method, with a few exceptions. For example, using WHR the prevalence of obesity in Indian men (38%) is more than double the prevalence in Black African men (16%) – however, the prevalence of obesity in these ethnic groups using the WC method is very similar (around one in five men in both ethnic groups) (Table 5.26 and Figures 5.26a and 5.26b).

Data from the WHO Global Infobase [18] suggest that the prevalence of adult overweight and obesity in the UK is among the highest in Europe. In 2006, the International Obesity Taskforce collated data on overweight and obesity in children worldwide. Caution should be used in interpreting these data as the studies used different age groups and different definitions of overweight and obesity. For boys, the countries with overweight (including obesity) levels of 30% or more were Cyprus (30.2%), Malta (31%), Spain (32.9%) and Italy (35.9%). For girls, Italy reported more than 35% as overweight or obese (Table 5.27).

Diabetes

There are two categories of diabetes: type 1 and type 2 [19]. Diabetes substantially increases the risk of CHD. Men with non-insulin dependent (Type 2) diabetes have a two to fourfold greater annual risk of CHD, with an even higher (three to fivefold) risk in women with Type 2 diabetes [20]. The INTERHEART case-control study estimated that 15% of heart attacks in Western Europe are due to diagnosed diabetes, and that people with diagnosed diabetes are at three times the risk of a heart attack compared to those without [21].

The prevalence of diabetes increases with age and is higher in men than in women. The prevalence of diabetes in men is around 6% and in women is around 5%, although these rates vary around the UK. The prevalence of diabetes is highest in Wales, where 7% of men and 6% of women have been diagnosed with the disease. Most diagnosed cases of diabetes are type 2 diabetes – around 90% of diagnosed diabetes in England were type 2 in 2006 (Tables 5.28, 5.29, 5.30 and 5.31).

Not all diabetes is diagnosed. The Health Survey for England in 2003 measured blood glucose levels of all respondents aged over 35 and found that 3.1% of men and 1.5% of women had undiagnosed diabetes [21].

The prevalence of diabetes has been measured sporadically since the early 1990s in a number of national health surveys in England, Wales, Scotland and Northern Ireland. Comparing the results of these surveys suggests that prevalence of diabetes has been increasing since the early 1990s and is still on the increase. In England, male and female prevalence rates have more than doubled since 1991. In Scotland prevalence of diabetes increased between 2003 and 2008 by 40% for men and just under 20% for women (Table 5.32, Figure 5.32).

There is substantial geographic variation in the prevalence of diabetes in the UK. As mentioned earlier, prevalence in Wales is higher than in Scotland, England and Northern Ireland. Within England, both male and female prevalence rates are generally lower in the South of England, with the exception of London. Female prevalence rates in Yorkshire and the Humber (5.4%) are more than double rates in the South West (2.6%) (Table 5.33).

For women, the prevalence of diabetes appears to be socially patterned. In 2009 the Health Survey for England showed that the prevalence of diabetes in women in the lowest quintile of income (6.3%) was far higher than for women in the highest quintile of income (1.2%). The pattern was not as clear for men (Table 5.34).

The prevalence of diabetes varies dramatically by ethnic group within the UK. In 2004, the prevalence of diabetes among some ethnic minority groups in England was much higher than in the general population. In Black Caribbean and Indian men, the prevalence of diagnosed diabetes was more than twice that found in the general population, in contrast the prevalence in Chinese and Irish men were lower than the general population. The prevalence for Black Caribbean and Pakistani women was two and a half times that of the general population. In contrast, the prevalence of diabetes in Black African and Irish women was substantially lower than in the general population (Table 5.35, Figure 5.35).

There is some variation in the prevalence of diabetes by country in Europe. In 2009, European Health for All Database found that national diabetes prevalence rates range from less than 1% to 4.8%. There does not appear to be a consistent geographic pattern to these prevalence rates (Table 5.36).

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4. National Institute for Health and Clinical Excellence (2006) Hypertension: Management of hypertension in adults in primary care. NICE: London.
5. The Scottish Health Survey (SHS) uses the same methods as the Health Survey for England.
6. See Table 7.3, page 32 in The Health of Minority Ethnic Groups – headline tables (2005) Health Survey for England 2004. NHS Health and Social Care Information Centre.
7. Institute for Health and Clinical Excellence (2008) Lipid modification. NICE: London.
8. Department of Health (2000) National Service Framework for Coronary Heart Disease. DH: London.
9. Joint Health Surveys Unit (2009) Health Survey for England 2008. Physical activity and fitness. The Information Centre: Leeds.
10. The reporting trends in raised cholesterol levels in England are complicated due to different weighting of results in the 2003 and later surveys.
11. Scottish Executive (2010) The Scottish Health Survey 2008. Personal communication.
12. World Health Organization (2000) Obesity – preventing and managing the global epidemic. Report of a WHO Consultation on Obesity. World Health Organization: Geneva.
13. Central obesity is commonly defined as a waist-hip ratio of 0.95 and over in men and 0.85 and over in women. Raised waist circumference is defined as a waist measurement greater than 102cm for men and greater than 88cm for women.
14. For details of the International classification system see Department of Health (2003) Health Survey for England 2002. The Stationery Office: London. Because of differences in definition and measurement, direct comparison of adult (Table 11.2) and childhood (Table 11.6) tables in this chapter is inappropriate.
15. Overweight and obesity estimates derived using the alternative National BMI percentiles classification showed no marked sex differences whereas the International classification may under-estimate obesity prevalence among boys.
16. Serdula M, Ivery D, Coates R, Freedman D, Williamson D and Byers T (1993) Do obese children become obese adults? A review of the literature. Prev Med 22:167-177.
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19. See glossary for definition.
20. Garcia MJ, McNamara PM, Gordon T, Kannell WB (1974). Morbidity and mortality in the Framingham population. Sixteen year follow up. Diabetes; 23: 105-111.
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Table 5.1
Blood pressure recommendations and hypertension definition for the United Kingdom

Recommendations	
Systolic blood pressure – general population	No greater than 140mmHg
Systolic blood pressure – diabetes or chronic renal failure sufferers	No greater than 130mmHg
Diastolic blood pressure – general population	No greater than 85mmHg
Diastolic blood pressure – diabetes or chronic renal failure sufferers	No greater than 80mmHg
Hypertension	
Definition	Systolic blood pressure greater than or equal to 140mmHg, and / or diastolic blood pressure greater than or equal to 90mmHg
Threshold for drug treatment	Sustained levels of systolic blood pressure greater than or equal to 160mmHg, and / or diastolic blood pressure greater than or equal to 100mmHg

Sources:
Williams B, Poulter NR, Brown MJ et al (2004). Guidelines for management of hypertension: report of the fourth working party of the British Hypertension Society 2004-BHS IV. Journal of Human Hypertension. 18; 139-185. ¶ National Institute for Health and Clinical Excellence (2006). Hypertension: Management of hypertension in adults in primary care. NICE: London.

Table 5.2
Prevalence of high blood pressure, by sex and age, England 1998 to 2010

	1998	2000	2001	2002	2003	2005	2006	2007	2008	2009	2010
	%	%	%	%	%	%	%	%	%	%	%
Men											
All ages	41	40	41	37	38	39	39	31	32	32	31
16-24	16	12	20	14	11	9	10	8	7	6	5
25-34	21	21	18	17	13	17	18	13	13	15	6
35-44	26	27	23	24	21	26	18	15	18	17	25
45-54	42	41	41	36	37	33	35	33	33	33	37
55-64	60	54	58	53	53	53	51	50	52	53	51
65-74	70	70	68	62	65	64	63	63	62	58	65
75 and over	73	65	70	71	67	69	68	62	68	73	79
Base											
All ages	*5,401*	*2,552*	*4,840*	*2,161*	*4,108*	*1,916*	*3,924*	*2,021*	*4,350*	*1,365*	*2,139*
16-24	*594*	*260*	*516*	*947*	*370*	*185*	*335*	*285*	*657*	*208*	*341*
25-34	*984*	*424*	*711*	*308*	*557*	*243*	*473*	*329*	*697*	*209*	*369*
35-44	*981*	*510*	*917*	*445*	*806*	*312*	*715*	*380*	*827*	*255*	*404*
45-54	*981*	*429*	*877*	*348*	*699*	*351*	*663*	*340*	*697*	*230*	*380*
55-64	*766*	*378*	*786*	*335*	*736*	*367*	*739*	*316*	*672*	*204*	*296*
65-74	*665*	*323*	*660*	*287*	*577*	*264*	*592*	*218*	*462*	*149*	*214*
75 and over	*430*	*228*	*373*	*184*	*363*	*194*	*407*	*154*	*338*	*110*	*135*
Women											
All ages	33	33	35	34	32	29	31	29	29	27	29
16-24	4	4	5	4	2	1	1	1	2	1	3
25-34	7	6	7	6	5	4	3	6	5	5	4
35-44	13	10	12	12	10	10	10	12	13	12	10
45-54	31	31	34	33	24	23	26	26	25	25	26
55-64	52	52	54	52	47	42	42	43	41	41	47
65-74	73	75	74	70	68	62	66	61	62	60	63
75 and over	78	81	79	79	77	73	73	74	73	64	79
Base											
All ages	*6,483*	*3,046*	*5,813*	*2,668*	*5,075*	*2,392*	*4,838*	*2,090*	*4,507*	*1,454*	*2,200*
16-24	*692*	*268*	*582*	*1,145*	*479*	*216*	*411*	*262*	*604*	*194*	*286*
25-34	*1,142*	*516*	*896*	*380*	*715*	*325*	*602*	*326*	*661*	*219*	*328*
35-44	*1,190*	*621*	*1,144*	*554*	*994*	*429*	*965*	*387*	*827*	*272*	*412*
45-54	*1,164*	*562*	*1,056*	*440*	*837*	*453*	*810*	*330*	*742*	*230*	*391*
55-64	*896*	*419*	*866*	*408*	*889*	*431*	*870*	*318*	*689*	*220*	*323*
65-74	*751*	*366*	*716*	*324*	*617*	*298*	*638*	*235*	*496*	*161*	*245*
75 and over	*648*	*294*	*553*	*274*	*544*	*240*	*542*	*230*	*488*	*159*	*215*

Notes:
Informants were classified as having high blood pressure if their systolic blood pressure was 140mmHg or over or their diastolic blood pressure was 90mmHg or over, or they were taking medicine prescribed for blood pressure. ¶ All data are presented unweighted for analysis of trends. ¶ The measurement of blood pressure in the Health Survey for England series changed in 2003.

Source:
Joint Health Surveys Unit (2011) Health Survey for England 2010. Adult trend tables. www.ic.nhs.uk (accessed June 2012). Copyright © 2011, Re-used with the permission of The Health and Social Care Information Centre. All rights reserved

Figure 5.2a

Prevalence of high blood pressure in men, by age, England 1998 to 2010

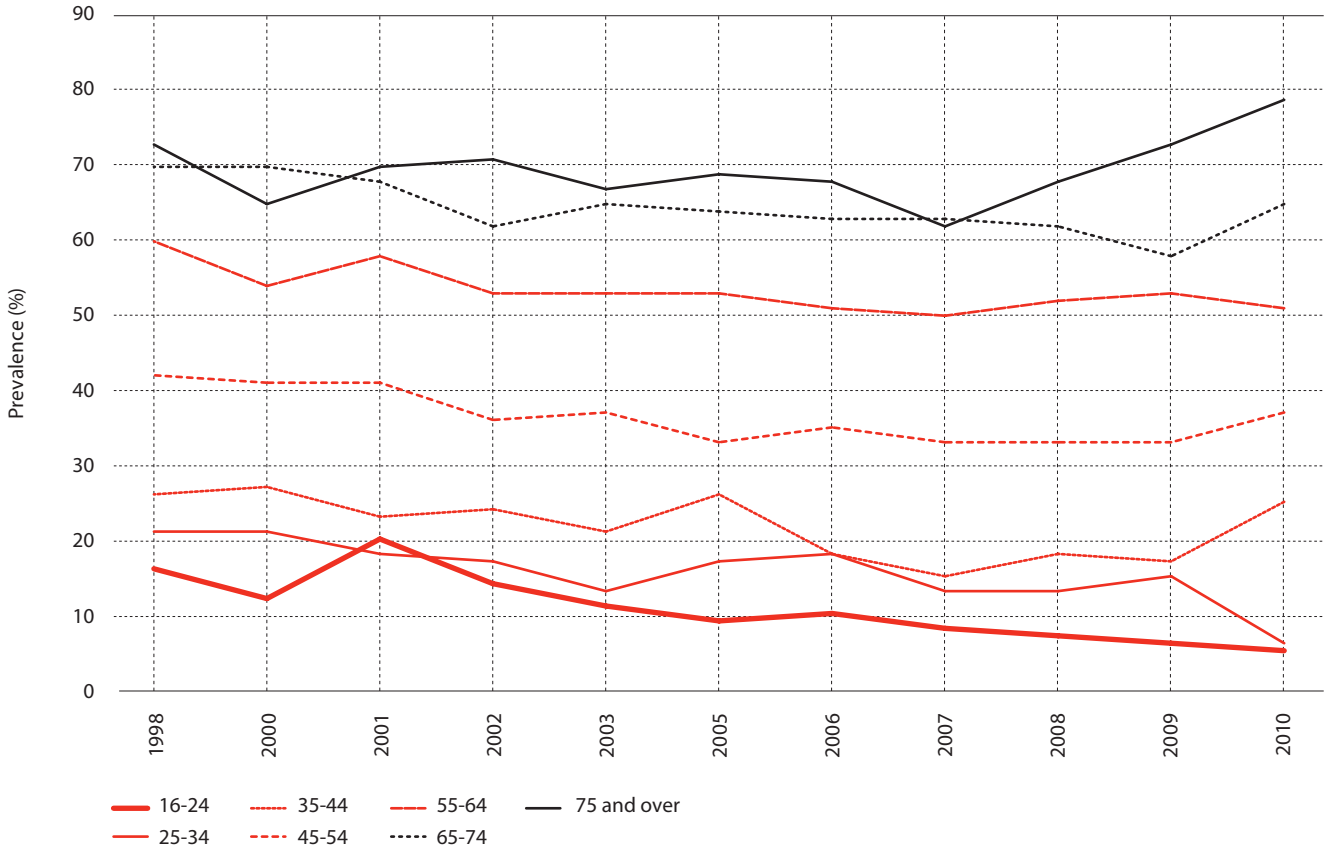

Figure 5.2b

Prevalence of high blood pressure in women, by age, England 1998 to 2010

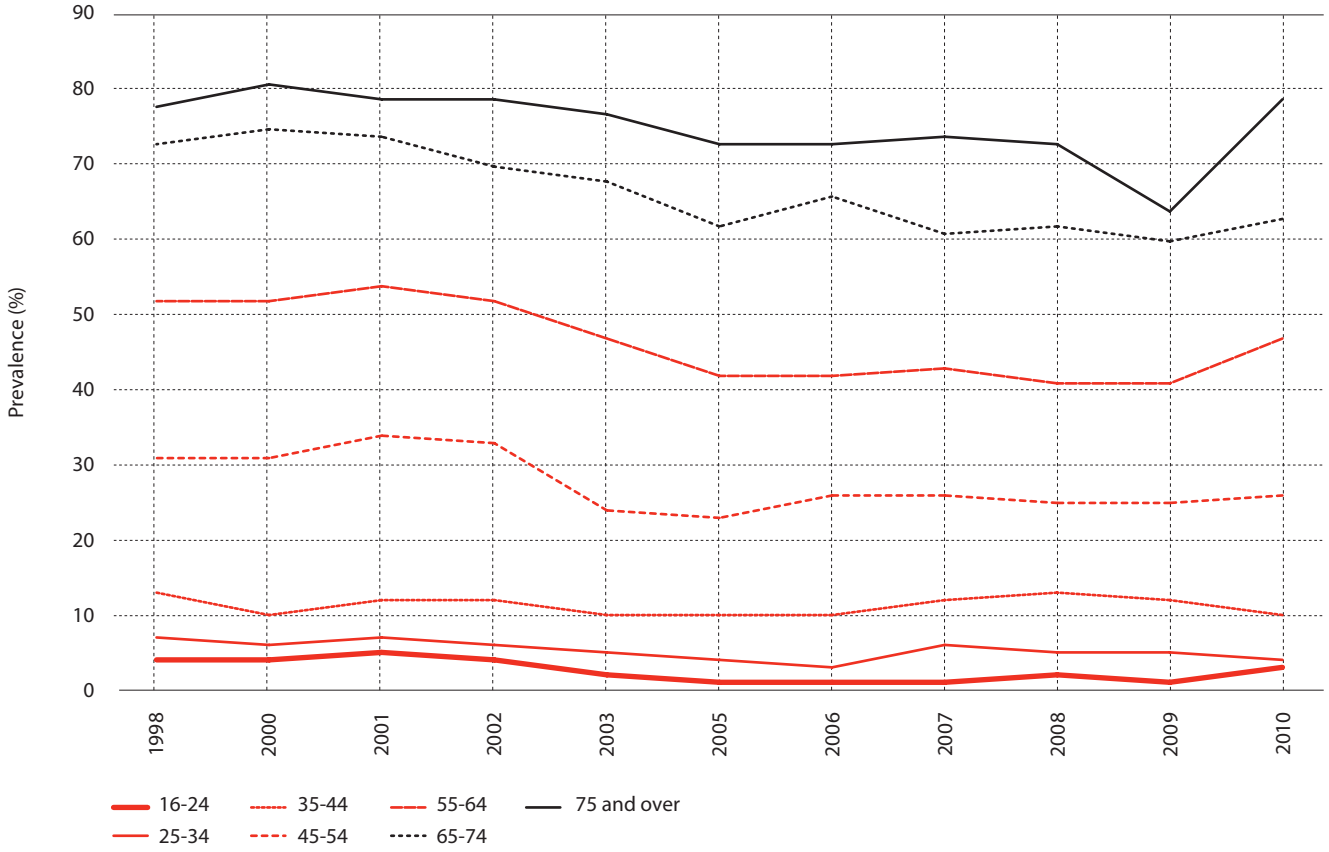

Table 5.3
Blood pressure levels, by sex and age, England 2010

	All ages	16–24	25–34	35–44	45–54	55–64	65–74	75+
Blood pressure level	%	%	%	%	%	%	%	%
Men								
Normotensive untreated	69	95	94	75	63	49	35	21
Normotensive treated	10			4	10	18	27	42
Hypertensive treated	7		0	1	5	12	21	25
Hypertensive untreated	15	5	6	20	22	20	18	12
All with high blood pressure	32	5	6	25	37	51	65	79
Base	*2,139*	*341*	*369*	*404*	*380*	*296*	*214*	*135*
Women								
Normotensive untreated	71	97	96	90	74	54	37	21
Normotensive treated	11	1	1	2	8	19	24	35
Hypertensive treated	8	0	0	1	4	11	19	31
Hypertensive untreated	10	2	3	6	14	17	20	14
All with high blood pressure	29	3	4	10	26	47	63	79
Base	*2,200*	*286*	*328*	*412*	*391*	*323*	*245*	*215*

Notes:
Informants were classified as having high blood pressure if their systolic blood pressure was 140mmHg or over or their diastolic blood pressure was 90mmHg or over, or they were taking medicine affecting blood pressure. ¶ "Treated" means taking medication prescribed for high blood pressure. ¶ Data are weighted for non response.

Source:
Joint Health Surveys Unit (2011) Health Survey for England 2010. The Information Centre: Leeds. Copyright © 2011, Re-used with the permission of The Health and Social Care Information Centre. All rights reserved.

Figure 5.3
Prevalence of high blood pressure, by sex and age, England 2010

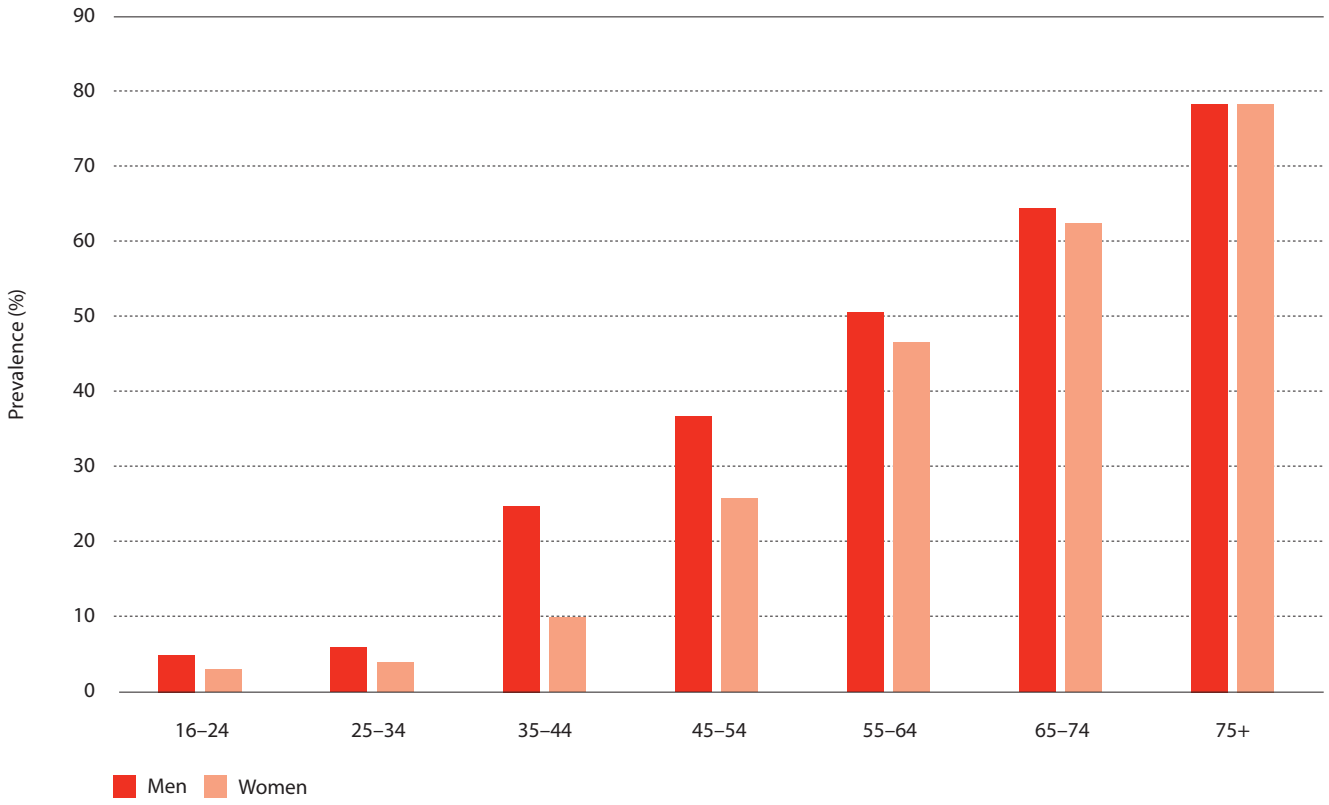

Table 5.4
Blood pressure levels, by sex and age, Scotland 2008/09

	All ages	16–24	25–34	35–44	45–54	55–64	65–74	75+
Blood pressure level	%	%	%	%	%	%	%	%
Men								
Normotensive untreated	65	86	85	76	68	48	29	33
Normotensive treated	8	0	0	2	7	19	23	19
Hypertensive treated	6	0	0	3	7	6	22	19
Hypertensive untreated	20	15	12	19	19	28	26	30
All with high blood pressure	35	15	12	24	32	52	71	68
Base	*953*	*63*	*100*	*162*	*169*	*193*	*168*	*98*
Women								
Normotensive untreated	70	99	94	89	70	52	33	30
Normotensive treated	8	0	0	3	8	12	20	21
Hypertensive treated	8	0	0	0	6	11	20	29
Hypertensive untreated	14	2	6	9	16	25	27	20
All with high blood pressure	30	2	6	11	30	48	67	70
Base	*1,213*	*99*	*140*	*230*	*208*	*237*	*180*	*119*

Notes:
Aged 16 and over and with a valid blood pressure reading.

Source:
Scottish Executive (2010). Scottish Health Survey. http://www.scotland.gov.uk/Publications (accessed June 2012).

Figure 5.4
Prevalence of high blood pressure, by sex and age, Scotland 2008/09

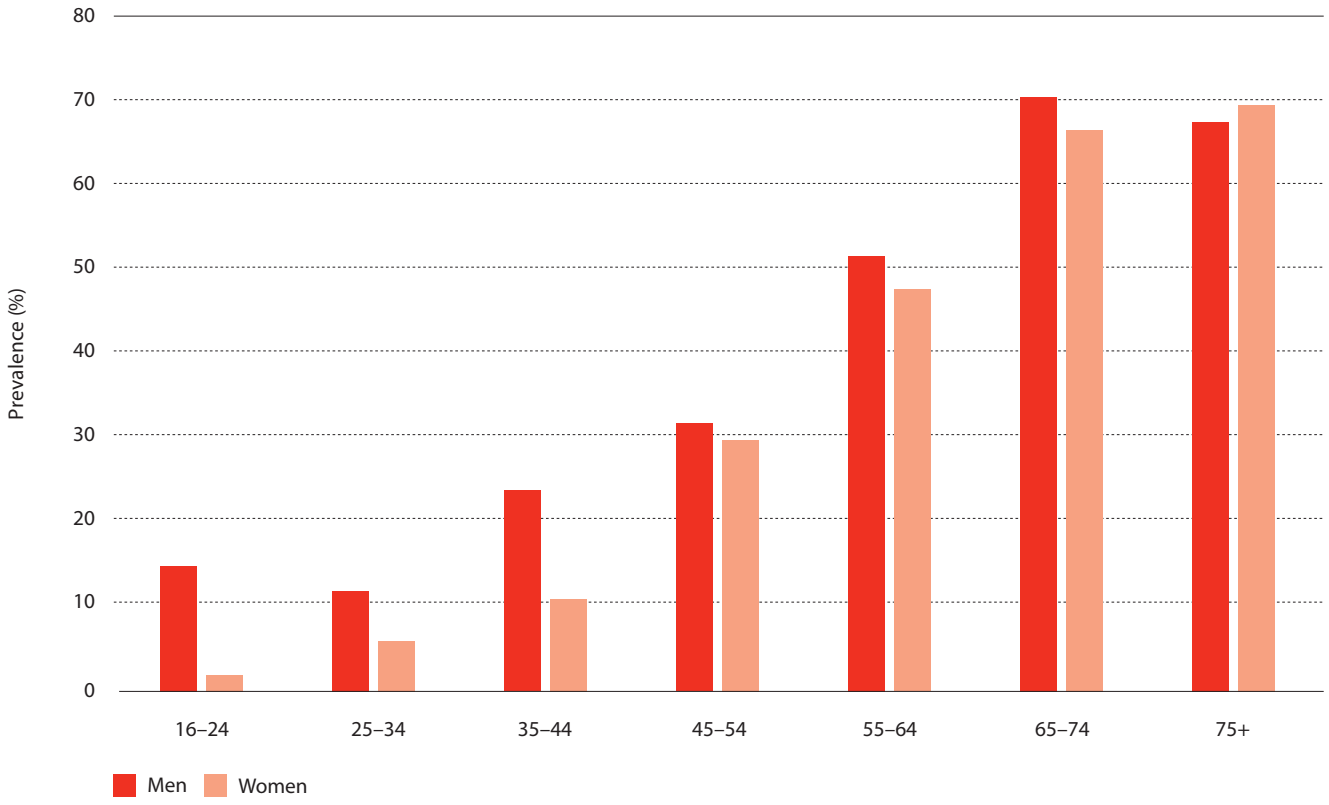

Table 5.5
Prevalence of high blood pressure, by sex and age, Wales 2010

	All ages	16-24	25-34	35-44	45-54	55-64	65-74	75+
	%	%	%	%	%	%	%	%
Men	20	0	1	7	19	35	46	50
Base	*7,420*	*882*	*831*	*1,082*	*1,333*	*1,361*	*1,109*	*822*
Women	20	1	1	7	13	30	45	59
Base	*8,579*	*919*	*1,073*	*1,330*	*1,472*	*1,520*	*1,247*	*1,018*

Notes:
Data refer to adults over 16 years of age who are currently being treated for high blood pressure, and are not based upon blood pressure measurements. ¶ Because of differences in data collection techniques, these results are incomparable with prevalence estimates for England and Scotland collected by the Health Survey series.

Source:
Welsh Assembly Government (2011) Welsh Health Survey 2010. Welsh Assembly: Cardiff.

Table 5.6
Blood pressure levels, by sex and Strategic Health Authority, England 2008

	North East	North West	Yorkshire and the Humber	East Midlands	West Midlands	East of England	London	South East Coast	South Central	South West
	%	%	%	%	%	%	%	%	%	%
Men										
Normotensive untreated	70	71	64	64	73	68	72	69	70	69
Normotensive treated	7	6	7	7	9	8	11	9	8	7
Hypertensive treated	7	5	8	8	5	6	5	7	7	5
Hypertensive untreated	16	18	20	21	13	19	12	15	15	19
All with high blood pressure	30	29	36	36	27	32	28	31	30	31
Base	*294*	*530*	*428*	*425*	*396*	*468*	*417*	*338*	*323*	*422*
Women										
Normotensive untreated	67	70	71	69	70	70	75	75	75	75
Normotensive treated	11	7	9	9	11	10	11	8	8	7
Hypertensive treated	7	7	8	8	6	8	7	4	7	7
Hypertensive untreated	14	16	12	14	13	12	7	12	10	12
All with high blood pressure	33	30	29	31	30	30	25	25	25	25
Base	*340*	*681*	*542*	*508*	*479*	*536*	*511*	*437*	*397*	*505*

Notes:
Data are weighted for non response. ¶ Informants were classified as having high blood pressure if their systolic blood pressure was 140mmHg or over or their diastolic blood pressure was 90mmHg or over, or they were taking medicine affecting blood pressure. ¶ "Treated" means taking medication prescribed for high blood pressure. ¶ Adults aged 16 and over.

Source:
Joint Health Surveys Unit (2010). Health Survey for England 2008: Physical activity and fitness. The Information Centre: Leeds. Copyright © 2010, Re-used with the permission of The Health and Social Care Information Centre. All rights reserved

Table 5.7
Blood pressure levels, by sex and equivalised household income, England 2009

	Highest	2nd	3rd	4th	Lowest
	%	%	%	%	%
Men					
Normotensive untreated	71	71	70	67	71
Normotensive treated	6	7	8	10	9
Hypertensive treated	4	7	4	5	5
Hypertensive untreated	18	15	17	18	14
All with high blood pressure	29	29	30	33	29
Base	*269*	*253*	*185*	*205*	*149*
Women					
Normotensive untreated	77	76	77	74	66
Normotensive treated	7	7	4	8	8
Hypertensive treated	4	3	7	9	8
Hypertensive untreated	11	14	12	8	18
All with high blood pressure	23	24	23	26	34
Base	*272*	*275*	*246*	*280*	*224*

Notes:
Equivalised household income is a measure that takes account of all individuals within a household that are dependent upon the income. ¶ Data are weighted for non response. ¶ Adults aged 16 and over.

Source:
Joint Health Surveys Unit (2010) Health Survey for England 2009. The Information Centre: Leeds. Copyright © 2010, Re-used with the permission of The Health and Social Care Information Centre. All rights reserved

Table 5.8
Prevalence of high blood pressure, by sex and ethnic group, England 2004

	General population	Bangladeshi	Black African	Black Caribbean	Chinese	Indian	Irish	Pakistani
High blood pressure	%	%	%	%	%	%	%	%
Men	32	16	25	38	20	33	36	20
Base	*4,108*	*99*	*123*	*155*	*153*	*265*	*240*	*162*
Women	29	19	19	32	16	18	29	15
Base	*5,075*	*144*	*154*	*243*	*166*	*320*	*328*	*207*

Notes:
Adults aged 16 and over with a valid blood pressure reading and data on medication. ¶ Informants were classified as having high blood pressure if their systolic blood pressure was 140mmHg or over or their diastolic blood pressure was 90mmHg or over, or they were taking medication for high blood pressure. ¶ General population refers to the whole population of England, regardless of ethnicity.

Source:
Department of Health (2005) Health Survey for England 2004. The Health of Minority Ethnic Groups. The Stationery Office: London. Copyright © 2005, Re-used with the permission of The Health and Social Care Information Centre. All rights reserved.

Table 5.9
Prevalence of high blood pressure, by sex, Europe 2008

	Men	Women	Total
	%	%	%
Albania	48.0	42.0	44.9
Andorra	42.6	30.9	36.7
Armenia	49.8	46.0	47.8
Austria	42.6	33.4	38.0
Azerbaijan	46.0	41.1	43.4
Belarus	51.2	42.3	46.6
Belgium	39.3	30.4	34.8
Bosnia and Herzegovina	47.2	46.6	47.1
Bulgaria	48.1	40.9	44.5
Croatia	49.8	43.4	46.7
Cyprus	42.4	32.0	37.0
Czech Republic	47.6	37.6	42.7
Denmark	40.6	28.4	34.5
Estonia	52.9	42.2	47.3
Finland	47.4	36.3	41.9
France	42.3	29.3	35.7
Georgia	49.9	43.5	46.5
Germany	44.8	34.3	39.7
Greece	39.4	32.7	36.1
Hungary	50.0	41.0	45.5
Iceland	40.2	27.3	33.8
Ireland	47.0	34.2	40.6
Israel	37.4	29.9	33.6
Italy	42.2	33.6	37.9
Kazakhstan	48.5	41.4	44.8
Kyrgyzstan	47.1	42.8	45.0
Latvia	51.2	42.2	46.6
Lithuania	52.1	43.4	47.7
Luxembourg	42.1	31.3	36.7
Malta	43.3	33.8	38.6
Montenegro	49.6	42.0	45.6
Netherlands	42.4	30.8	36.6
Norway	46.3	35.2	40.9
Poland	49.3	42.4	46.0
Portugal	46.5	37.4	41.9
Republic of Moldova	48.4	43.3	45.9
Romania	47.1	41.7	44.5
Russian Federation	46.2	41.3	43.8
Serbia	50.1	43.0	46.6
Slovakia	49.6	42.0	45.8
Slovenia	50.4	42.3	46.4
Spain	41.5	31.7	36.7
Sweden	43.1	32.5	37.9
Switzerland	41.6	28.2	34.8
Tajikistan	46.4	43.3	44.8
TFYR Macedonia	48.0	42.6	45.4
Turkey	36.2	35.8	36.1
Turkmenistan	47.0	42.2	44.6
Ukraine	52.2	44.6	48.3
United Kingdom	**42.2**	**32.8**	**37.5**
Uzbekistan	41.5	36.5	39.1

Notes:
Adults aged 25 years and over. ¶ Age-standardized estimate of prevalence of raised blood pressure (SBP≥140 OR DBP≥90 OR on medication).

Source:
WHO Global Health Observatory. http://www.who.int/gho/ncd/risk_factors/blood_pressure_prevalence/en/index.html (Accessed June 2012).

Figure 5.9
Prevalence of high blood pressure, by country, Europe 2008

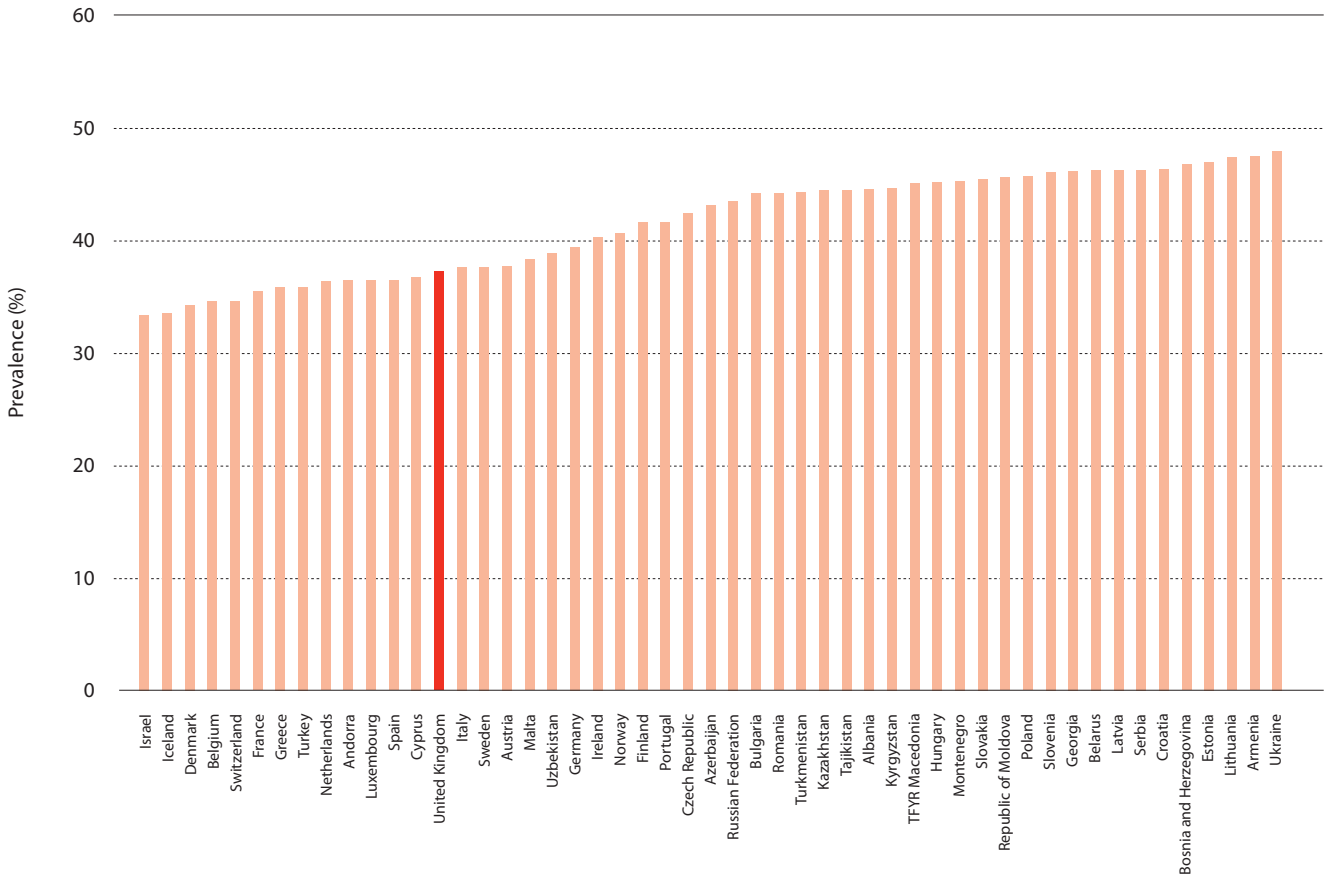

Table 5.10
Cholesterol recommendations for the United Kingdom

United Kingdom	
Total cholesterol [1]	<4.0mmol/l in individuals with established cardiovascular disease, diabetes, or at high risk of developing cardiovascular disease.
HDL cholesterol [2]	≥ 1mmol/l in individuals with established cardiovascular disease, and those at high risk of the disease.
Target [3]	An 'audit' level of total cholesterol of 5 mmol/l should be used to assess progress in people with CVD, in recognition that more than a half of patients will not achieve a total cholesterol of less than 4 mmol/l or an LDL cholesterol of less than 2 mmol/l.

Notes:
The original recommendation for total cholesterol levels of less than 5mmol/l for individuals with cardiovascular disease, diabetes, or at high risk of developing cardiovascular disease, originally set in 1998 by the Joint British Societies is retained for audit purposes.

Source:
1. British Cardiac Society, British Hypertension Society, Diabetes UK, HEART UK, Primary Care Cardiovascular Society, The Stroke Association (2005). JBS2: Joint British Societies' guidelines on prevention of cardiovascular diseases in clinical practices. Heart. 91 (suppl V): v1-v52. ¶ 2. Sacks FM, for the expert group on HDL-cholesterol (2002). The role of high density lipoprotein (HDL) cholesterol on the prevention of coronary heart disease; Expert group recommendations. American Journal of Cardiology. 90: 139-143. ¶ 3. National Institute for Health and Clinical Excellence (2008) Lipid modification. NICE: London.

Table 5.11
Prevalence of high cholesterol levels, by sex and age, England 1994 to 2008

	All ages	16–24	25–34	35–44	45–54	55–64	65–74	75+
	%	%	%	%	%	%	%	%
Men								
1994	75	32	61	82	88	90	87	79
1998	66	23	50	70	78	81	76	72
2003 unweighted	70	28	60	77	82	81	69	63
2003 weighted	66	26	60	77	81	80	67	64
2006	57	20	53	68	74	73	54	47
2008	58	25	52	74	76	70	53	39
Women								
1994	77	44	57	70	82	95	97	93
1998	67	27	44	59	74	88	91	89
2003 unweighted	71	34	50	62	78	88	87	82
2003 weighted	66	31	55	69	79	84	77	75
2006	61	31	42	58	78	84	76	67
2008	61	36	42	56	76	83	75	66
Unweighted base (2008):								
Men	*3,349*	*295*	*418*	*613*	*597*	*675*	*440*	*311*
Women	*3,925*	*276*	*501*	*741*	*730*	*781*	*489*	*407*

Notes:
Data from 1994 to 1998 are unweighted data, for 2003 weighted and unweighted data is shown, for 2006 only weighted data are presented. ¶ High cholesterol levels >5.0 mmol/l total cholesterol.

Source:
Joint Health Surveys Unit (2009) Health Survey for England 2008. The Information Centre: Leeds, and previous editions. Copyright © 2009, Re-used with the permission of The Health and Social Care Information Centre. All rights reserved.

Figure 5.11
Prevalence of high cholesterol levels, of 5.0mmol/l and over, England 2008

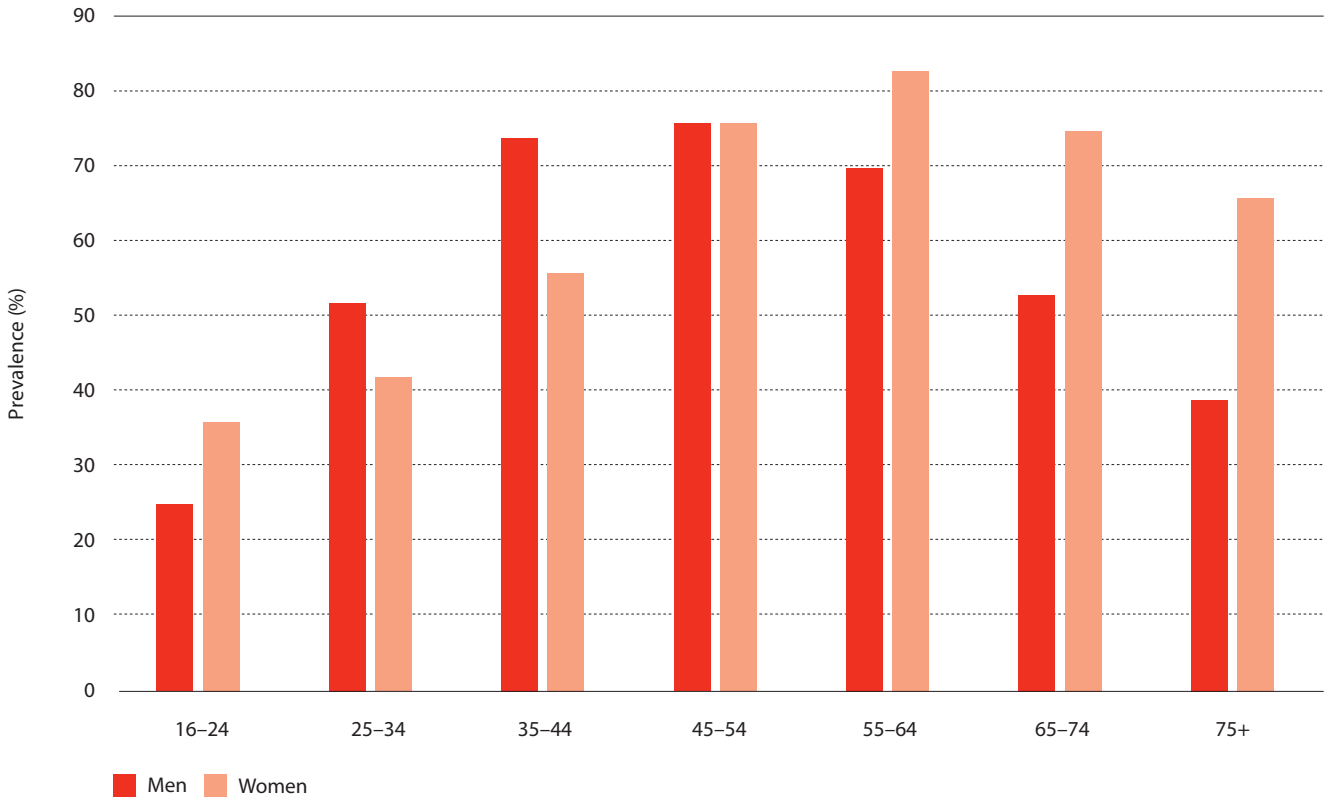

Table 5.12
Low HDL cholesterol by sex and age, England 2008

	All ages	16–24	25–34	35–44	45–54	55–64	65–74	75+
	%	%	%	%	%	%	%	%
Men	7.2	4.8	7.4	7.5	7.6	7.6	8.8	6.9
Women	1.7	3.4	2.1	1.1	1.6	1.0	1.1	1.4
Base								
Men	*3,349*	*295*	*418*	*613*	*597*	*675*	*440*	*311*
Women	*3,924*	*276*	*501*	*741*	*730*	*780*	*489*	*407*

Notes:
Data are weighted for non response. ¶ Low HDL cholesterol levels diagnosed by ≤1.0mmol/l total HDL cholesterol.

Source:
Joint Health Surveys Unit (2009) Health Survey for England 2008. Physical activity and fitness. The Information Centre: Leeds. Copyright © 2009, Re-used with the permission of The Health and Social Care Information Centre. All rights reserved.

Table 5.13
Prevalence of high total cholesterol levels and low HDL cholesterol levels, by sex, English Strategic Health Authority and Scotland 2008

	Scotland	North East	North West	Yorkshire and the Humber	East Midlands	West Midlands	East England	London	South East Coast	South Central	South West
	%	%	%	%	%	%	%	%	%	%	%
Men											
≥ 5.0mmol/l total cholesterol	57	57	57	58	58	58	54	52	62	64	59
≤ 1.0mmol/l HDL cholesterol	18.3	7.9	7.3	4.6	7.8	7.3	8.5	7.6	9.0	4.7	7.4
Women											
≥ 5.0mmol/l total cholesterol	58	56	60	61	68	61	61	57	65	61	64
≤ 1.0mmol/l HDL cholesterol	5.5	3.1	2.0	1.6	1.2	1.5	1.6	2.5	0.7	1.5	0.4
Base											
Men	*341*	*242*	*476*	*375*	*307*	*318*	*366*	*368*	*299*	*249*	*349*
Women	*344*	*260*	*558*	*448*	*353*	*402*	*374*	*409*	*380*	*299*	*441*

Notes:
Data are weighted for non-response, and estimates are age-standardised to account for differing age structures. ¶ Adults aged 16 and over.

Source:
Joint Health Surveys Unit (2009) Health Survey for England 2008. Physical activity and fitness. The Information Centre: Leeds. Copyright © 2009, Re-used with the permission of The Health and Social Care Information Centre. All rights reserved. ¶ Scottish Executive (2010). Scottish Health Survey 2008. Personal communication.

Table 5.14
Prevalence of high total cholesterol levels and low HDL cholesterol levels, by sex and equivalised household income, England 2006

	Equivalised household income quintile				
	Highest	2nd	3rd	4th	Lowest
Men					
Mean HDL cholesterol	1.4	1.4	1.3	1.3	1.3
% < 1.0 mmol/l HDL cholesterol	7.6	5.6	10.6	11.0	14.4
Mean total cholesterol	5.3	5.4	5.2	5.3	5.2
% ≥ 5.0 mmol/l total cholesterol	59	60	57	58	53
Women					
Mean HDL cholesterol	1.7	1.6	1.6	1.5	1.5
% < 1.0 mmol/l HDL cholesterol	0.5	1.1	1.6	2.3	4.2
Mean total cholesterol	5.5	5.4	5.5	5.3	5.4
% ≥ 5.0 mmol/l total cholesterol	64	60	64	58	64
Base					
Men	*720*	*697*	*605*	*488*	*376*
Women	*708*	*724*	*732*	*731*	*515*

Notes:
Data are weighted for non response and age-standardised. ¶ Adults aged 16 and over. ¶ For method of age-standardisation see source.

Source:
Joint Health Surveys Unit (2008) Health Survey for England 2006. Cardiovascular disease and risk factors. The Information Centre: Leeds. Copyright © 2008, Re-used with the permission of The Health and Social Care Information Centre. All rights reserved

Table 5.15
Prevalence of high total cholesterol levels and low HDL cholesterol levels, by sex and ethnic group, England 2004

	General population (2003)	Bangladeshi	Black African	Black Caribbean	Chinese	Indian	Irish	Pakistani
	%	%	%	%	%	%	%	%
Men								
≥ 5.0mmol/l total cholesterol	66	60	55	51	60	60	67	55
≤ 1.0mmol/l HDL cholesterol	6	20	2	4	8	11	5	20
Women								
≥ 5.0mmol/l total cholesterol	67	55	44	56	52	53	67	53
≤ 1.0mmol/l HDL cholesterol	2	8	3	1	1	4	2	6
Base								
Men	*3,814*	*87*	*103*	*137*	*101*	*234*	*244*	*137*
Women	*4,460*	*98*	*118*	*195*	*108*	*256*	*300*	*143*

Notes:
Data are weighted for non-response and age-standardised. ¶ General population refers to the whole population of England, regardless of ethnicity. ¶ For method of age-standardisation see source. ¶ Adults aged 16 and over.

Source:
Department of Health (2006) Health Survey for England 2004. The Health of Minority Ethnic Groups. The Stationery Office: London. Copyright © 2006, Re-used with the permission of The Health and Social Care Information Centre. All rights reserved

Table 5.16
Obesity targets for the United Kingdom

England[1] Children	To halt the year-on-year rise in obesity among children under 11 by 2010 in the context of a broader strategy to tackle obesity in the population as a whole.
Scotland[2] Children	Reduce the rate of increase in the proportion of children with their Body Mass Index outside a healthy range by 2018.
Wales	No target set.
Northern Ireland[3]	To halt the rise in obesity by March 2010.

Source:
1. Department of Health (2004) National Standards, Local Action: Health and Social Care Standards and Planning Framework 2005/06 and 2007/08. DH: London. PSA Target 3. ¶ 2. The Scottish Government (2007). National Indicators. The Scottish Government: Edinburgh ¶ 3. Northern Ireland Audit Office (2009). Obesity and Type 2 Diabetes in Northern Ireland. NIAO: Belfast.

Table 5.17
Body mass index (BMI) by sex and age, England 2010

	All ages	16–24	25–34	35–44	45–54	55–64	65–74	75+
	%	%	%	%	%	%	%	%
Men								
Body Mass Index (kg/m2)								
Less than 18.5	1	5	2	0	0	0	0	0
18.5 to less than 25	31	61	41	24	21	19	18	24
25 to less than 30	42	22	37	49	44	44	53	50
30 to less than 40	25	12	17	26	33	34	27	25
40 or more	2	0	2	2	2	2	1	1
Prevalence of obese (≥30 kg/m2)	26	13	19	28	35	37	28	26
Base	*3,144*	*334*	*431*	*553*	*533*	*552*	*446*	*295*
Women								
Body Mass Index (kg/m2)								
Less than 18.5	2	6	2	2	0	1	0	2
18.5 to less than 25	40	62	49	42	36	29	26	33
25 to less than 30	32	21	28	30	34	39	37	32
30 to less than 40	22	9	18	22	26	28	32	25
40 or more	4	2	3	4	5	4	5	2
Prevalence of obese (≥30 kg/m2)	26	11	21	26	30	32	37	27
Base	*3,843*	*387*	*559*	*693*	*750*	*613*	*460*	*381*

Notes:
Adults with a valid height and weight measurement. ¶ Data are weighted for non-response. ¶ BMI Categories- Under weight: Less than 18.5, Normal weight: 18.5 to less than 25, Over weight: 25 to less than 30, Obese: more than 30

Source:
Joint Health Surveys Unit (2011) Health Survey for England 2010. The Information Centre: Leeds. Copyright © 2011, Re-used with the permission of The Health and Social Care Information Centre. All rights reserved.

Figure 5.17
Prevalence of overweight and obesity, by sex and age, England 2010

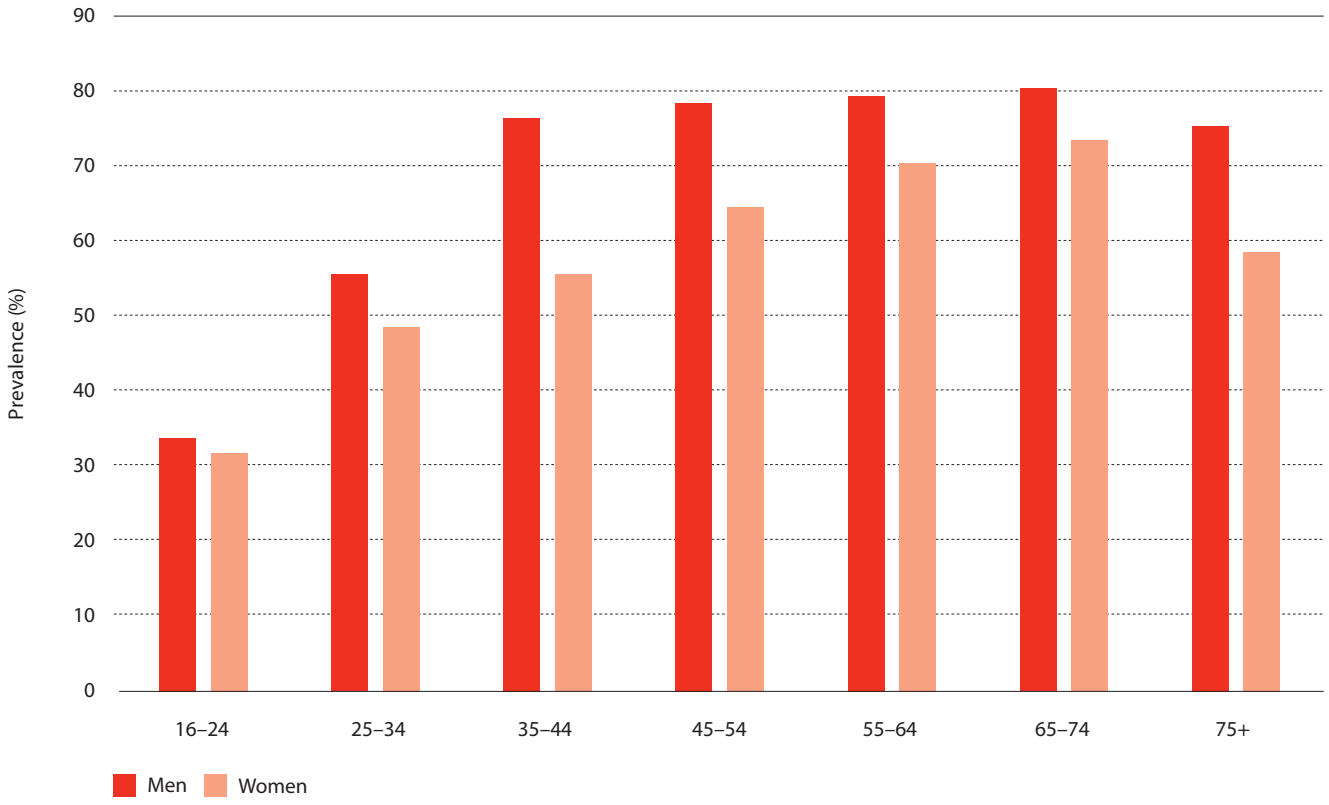

Table 5.18
Mean waist circumference and percentage with raised waist circumference, by sex and age, England 2010

	All ages	16-24	25-34	35-44	45-54	55-64	65-74	75+
	%	%	%	%	%	%	%	%
Men								
Mean waist circumference (cm)	98	86	93	99	101	103	103	102
% raised waist circumference	34	13	17	35	42	50	49	47
Base	*2,364*	*207*	*291*	*415*	*410*	*427*	*355*	*259*
Women								
Mean waist circumference (cm)	88.3	80	84	88	90	93	93	91
% raised waist circumference	46	18	34	45	50	62	64	59
Base	*3,037*	*266*	*381*	*548*	*608*	*514*	*377*	*343*

Notes:
Raised waist circumference: greater than 102 cm in men and greater than 88 cm in women.

Source:
Joint Health Surveys Unit (2011) Health Survey for England 2010. The Information Centre: Leeds. Copyright © 2011, Re-used with the permission of The Health and Social Care Information Centre. All rights reserved.

Table 5.19
Prevalence of overweight and obesity in children, by sex and age, England 2010

	Age (years)		
	2 – 10	11 – 15	Total
Boys			
Overweight	14	14	14
Obese	15	20	17
Total overweight and obese	30	34	31
Base	*1,466*	*837*	*2,303*
Girls			
Overweight	13	17	14
Obese	14	17	15
Total overweight and obese	27	33	29
Base	*1,453*	*766*	*2,219*

Notes:
Overweight is defined as ≥ 85th UK National BMI percentile; obese is defined as ≥95th UK National BMI percentile.

Source:
Joint Health Surveys Unit (2011) Health Survey for England 2010. The Information Centre: Leeds. Copyright © 2011, Re-used with the permission of The Health and Social Care Information Centre. All rights reserved.

Table 5.20
Prevalence of body mass index (BMI) status categories in children, by sex and school year, England 2010/11

	Underweight	Healthy Weight	Overweight	Obese	*Base*
	%	%	%	%	
Reception					
Boys	1.2	75.0	13.8	10.1	*276,750*
Girls	0.8	77.9	12.6	8.8	*264,505*
Both	1.0	76.4	13.2	9.4	*541,255*
Year 6					
Boys	1.1	64.0	14.3	20.6	*254,006*
Girls	1.5	66.6	14.4	17.4	*241,347*
Both	1.3	65.3	14.4	19.0	*495,353*

Notes:
Definitions based on UK national BMI reference charts.

Source:
Department of Health Cross-Government Obesity Unit (2011). Lifestyle Statistics / National Child Measurement Programme 2010/11. The Information Centre: Leeds.

Table 5.21
Prevalence of obesity, by sex and age, England 1994 to 2010

	All ages	16–24	25–34	35–44	45–54	55–64	65–74	75+
	%	%	%	%	%	%	%	%
Men								
1994	14	6	10	16	18	18	18	16
1998	17	5	17	18	22	24	22	16
2003	22	9	19	26	29	28	30	21
2006	24	10	22	27	30	36	32	18
2008	24	8	19	28	32	36	35	23
2010	26	13	19	28	35	37	28	26
Women								
1994	17	9	14	19	19	28	27	17
1998	21	12	18	24	26	31	31	22
2003	23	15	21	26	31	31	33	27
2006	24	13	20	27	30	33	39	29
2008	25	15	22	29	32	34	37	27
2010	26	11	21	26	30	32	37	27
Base (2010)								
Men	*3,144*	*334*	*431*	*553*	*533*	*552*	*446*	*295*
Women	*3,843*	*387*	*559*	*693*	*750*	*613*	*460*	*381*

Notes:
Data from 1994 to 1998 are unweighted data, from 2003 onwards weighted data are presented. ¶ Obesity defined as BMI ≥ 30kg/m2

Source:
Joint Health Surveys Unit (2011) Health Survey for England 2010. The Information Centre: Leeds, and previous editions. Copyright © 2011, Re-used with the permission of The Health and Social Care Information Centre. All rights reserved.

Figure 5.21
Prevalence of obesity, by sex , England 1994 to 2010

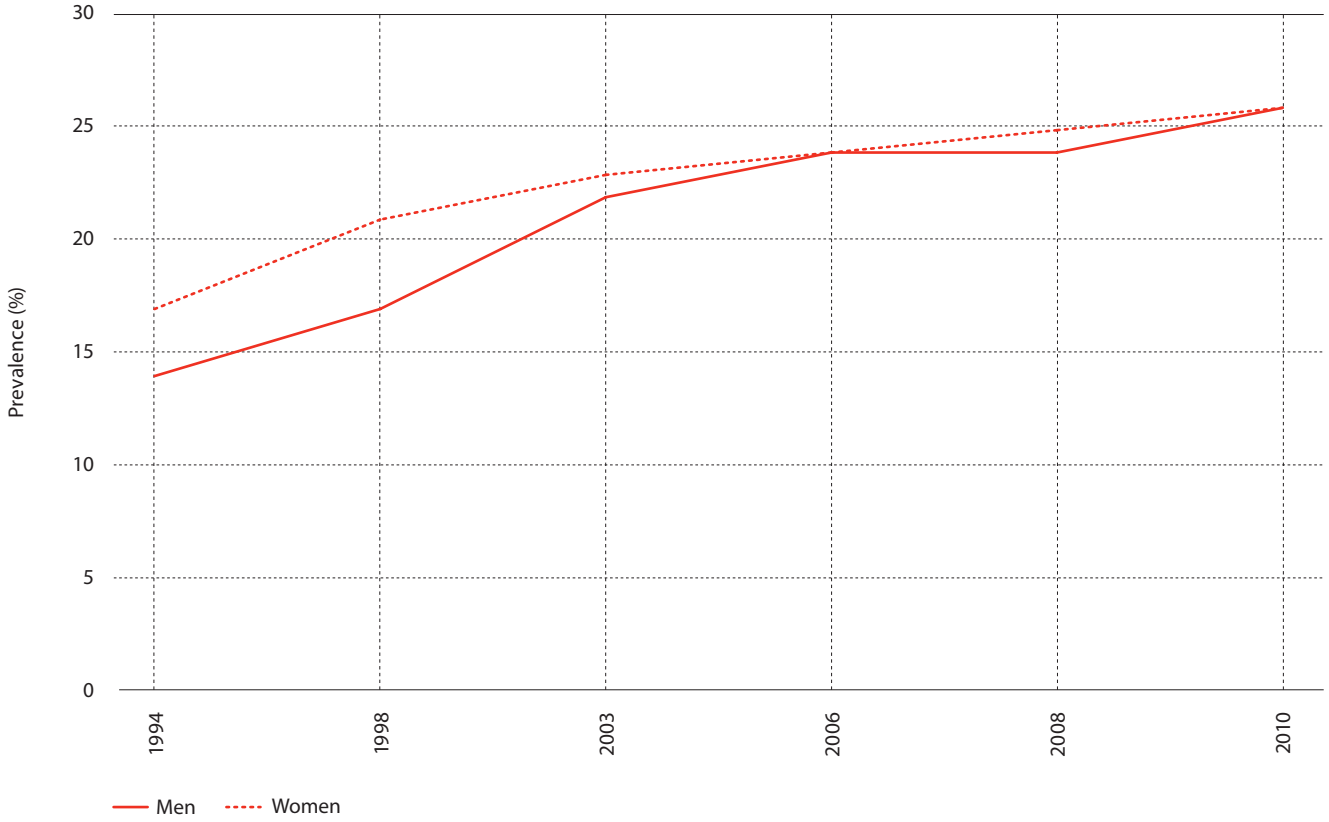

Table 5.22
Prevalence of overweight and obesity in children, by sex, England, Scotland, Wales, Northern Ireland

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2010
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
England															
Boys															
Overweight	13	14	13	15	14	12	15	14	15	14	16	13	14	15	14
Obese	11	12	13	13	16	14	15	17	17	19	18	17	17	17	17
Overweight including obese	24	26	26	28	31	27	31	31	32	33	34	31	31	31	31
Base	*1,918*	*2,132*	*3,063*	*1,981*	*977*	*877*	*1,653*	*3,745*	*1,452*	*624*	*1,102*	*2,822*	*2,885*	*2,880*	*2,303*
Girls															
Overweight	13	12	13	14	14	13	15	14	15	17	13	14	14	14	14
Obese	12	12	12	14	14	14	14	17	16	18	18	15	16	15	15
Overweight including obese	25	24	26	27	27	27	30	31	31	35	31	29	31	29	29
Base	*1,901*	*2,014*	*3,069*	*1,872*	*950*	*841*	*1,699*	*3,636*	*1,393*	*8,228*	*1,091*	*2,670*	*2,792*	*2,740*	*2,219*
Scotland															
Boys															
Overweight including obese				28					32					36	31
Base				*1,742*					*1,172*					*637*	*641*
Girls															
Overweight including obese				28					29					27	28
Base				*1,675*					*1,191*					*630*	*558*
Wales															
Boys															
Overweight including obese															38
Base															*1,351*
Girls															
Overweight including obese															34
Base															*1,326*
Northern Ireland															
Boys															
Overweight including obese															25
Base															*252*
Girls															
Overweight including obese															30
Base															*252*

Notes:
Children were defined as overweight or obese using the 85th and 95th percentiles of the UK reference curves (known as the National BMI percentile classification). ¶ For English data, 2003 - 2010 estimates have been weighted for non-response. ¶ All of the Scottish and Northern Ireland estimates are weighted for non-response.

Source:
Joint Health Surveys Unit (2011). Health Survey for England 2010. The Information Centre: Leeds. Copyright © 2011, Re-used with the permission of The Health and Social Care Information Centre. All rights reserved. ¶ Scottish Centre for Social Research (2011). Scottish Health Survey 2010. The Scottish Government: Edinburgh. ¶ Welsh Assembly Government (2011). Welsh Health Survey 2010. Welsh Assembly: Cardiff. ¶ Public Health Information & Research Branch (2012). Health Survey Northern Ireland. Department of Health, Social Services & Public Safety: Belfast. Personal communication.

Figure 5.22
Prevalence of obese children, by sex, England 1995 to 2010

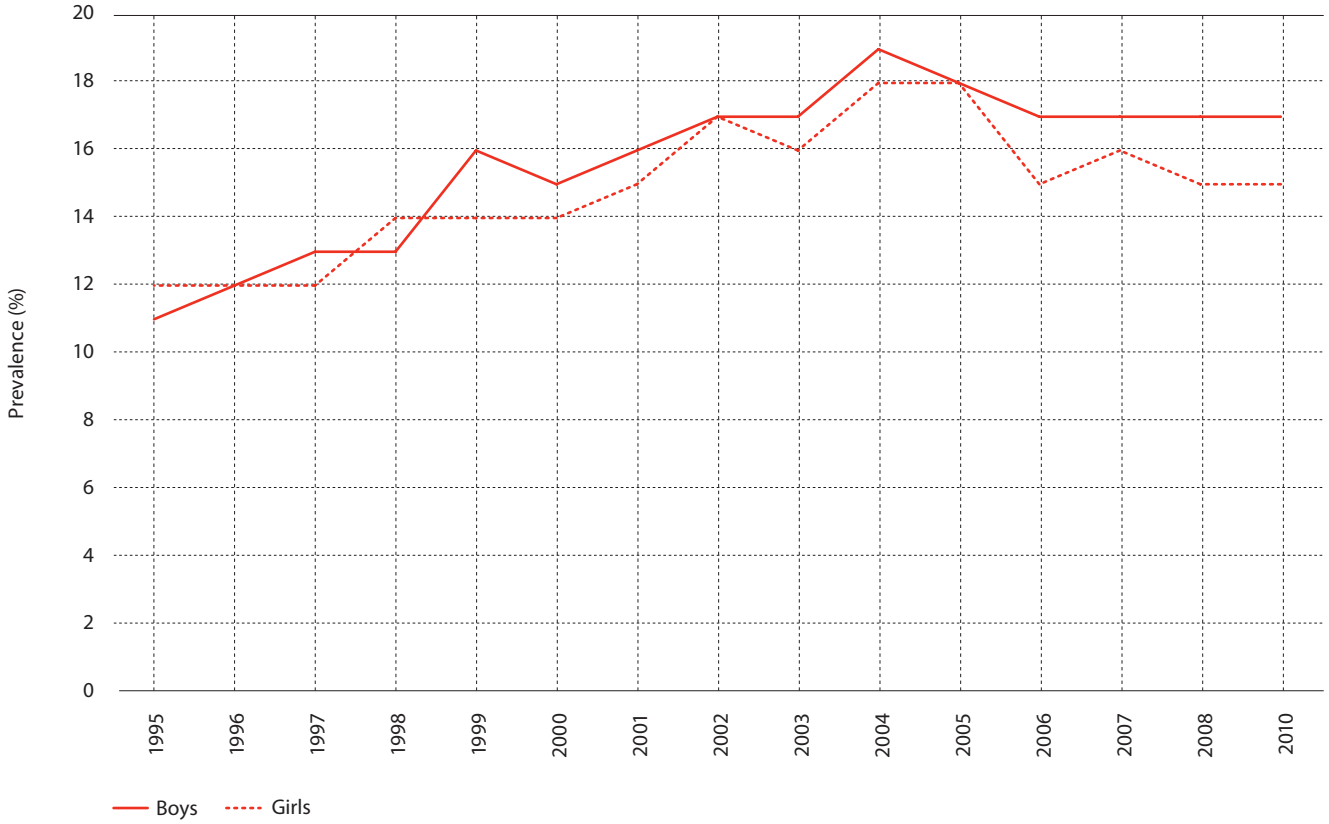

Table 5.23
Prevalence of Body mass index (BMI) status categories, by sex and Strategic Health Authority, England 2010

	BMI <25	BMI ≥25 < 30	BMI ≥30	BMI ≥25	
	Normal	Overweight	Obese	Overweight including obese	*Unweighted bases*
	%	%	%	%	
Strategic Health Authority (SHA)					
Men					
North East	28	43	27	69	*249*
North West	30	41	26	67	*425*
Yorkshire and the Humber	30	42	26	68	*296*
East Midlands	28	40	30	69	*309*
West Midlands	27	45	28	72	*317*
East of England	33	40	27	67	*363*
London	35	40	25	64	*302*
South East Coast	29	46	23	69	*270*
South Central	33	40	28	67	*279*
South West	34	41	29	66	*334*
Women					
North East	40	31	30	60	*341*
North West	42	33	25	58	*497*
Yorkshire and the Humber	37	32	30	61	*363*
East Midlands	35	33	30	63	*374*
West Midlands	39	35	25	60	*374*
East of England	46	28	25	53	*418*
London	39	32	24	56	*381*
South East Coast	48	28	22	50	*362*
South Central	37	36	26	61	*338*
South West	42	31	26	56	*395*

Notes:
Adults aged 16 and over. ¶ Data are weighted for non-response.

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Table 5.24
Body mass index, by sex and equivalised household income quintile, England 2010

	Equivalised household income quintile				
	Highest	2nd	3rd	4th	Lowest
	%	%	%	%	%
Body mass index (kg/m2)					
Men					
BMI < 25: Normal	28	26	31	34	34
BMI ≥ 25 < 30: Overweight	47	26	38	37	35
BMI ≥ 30: Obese	24	27	29	28	28
BMI ≥ 25: Overweight including obese	71	73	67	65	63
Unweighted bases	*617*	*587*	*543*	*482*	*353*
Women					
BMI < 25: Normal	48	42	38	36	36
BMI ≥ 25 < 30: Overweight	32	34	34	29	28
BMI ≥ 30: Obese	17	23	26	33	34
BMI ≥ 25: Overweight including obese	49	57	60	63	62
Unweighted bases	*643*	*674*	*651*	*644*	*548*

Notes:
Adults aged 16 and over. ¶ Data are weighted for non-response.

Source:
Joint Health Surveys Unit (2011) Health Survey for England 2010. The Information Centre: Leeds. Copyright © 2011, Re-used with the permission of The Health and Social Care Information Centre. All rights reserved.

Table 5.25
Raised waist circumference, by sex and equivalised household income quintile, England 2010

	Equivalised household income quintile				
	Highest	2nd	3rd	4th	Lowest
	%	%	%	%	%
Raised waist circumference					
Men	33	34	32	41	36
Unweighted bases	*474*	*459*	*427*	*372*	*283*
Women	36	42	50	52	53
Unweighted bases	*514*	*535*	*546*	*490*	*438*

Notes:
Adults aged 16 and over. ¶ Data are weighted for non-response.

Source:
Joint Health Surveys Unit (2011) Health Survey for England 2010. The Information Centre: Leeds. Copyright © 2011, Re-used with the permission of The Health and Social Care Information Centre. All rights reserved.

Table 5.26
Body mass index (BMI), waist-hip ratio and waist circumference, by sex and ethnic group, England 2004

	General population	Bangladeshi	Black African	Black Caribbean	Chinese	Indian	Irish	Pakistani
Men								
Mean Body Mass Index (BMI)	27.1	24.7	26.4	27.1	24.1	25.8	27.2	25.9
Percentage with BMI of 30 kg/m2 and over	23	6	17	25	6	14	25	15
Mean waist-hip ratio	0.92	0.91	0.87	0.90	0.87	0.92	0.93	0.92
Percentage with waist-hip ratio 0.95 and over	33	32	16	25	17	38	36	36
Mean waist circumference	96.5	88.7	90.6	92.5	86.8	93.0	97.3	95.0
Percentage with waist circumference 102cm and over	31	12	19	22	8	20	33	30
Women								
Mean Body Mass Index (BMI)	26.8	25.7	28.8	28.0	23.2	26.2	26.7	27.1
Percentage with BMI of 30 kg/m2 and over	23	17	38	32	8	20	21	28
Mean waist-hip ratio	0.82	0.85	0.81	0.83	0.81	0.82	0.83	0.84
Percentage with waist-hip ratio 0.85 and over	30	50	32	37	22	30	37	39
Mean waist circumference	86.4	85.7	90.2	88.4	77.6	83.9	87.4	87.7
Percentage with waist circumference 88cm and over	41	43	53	47	16	38	43	48
Bases (unweighted)								
Men	*5,397*	*138*	*156*	*209*	*182*	*310*	*311*	*197*
Women	*5,554*	*171*	*200*	*314*	*185*	*345*	*405*	*224*

Notes:
Adults aged 16 and over. ¶ Data are weighted for non-response. ¶ 'General population' refers to the whole population of England, regardless of minority ethnic groups.

Source:
Joint Health Surveys Unit (2005) Health Survey for England 2004. The Health of Minority Ethnic Groups. Department of Health: London. Copyright © 2005, Re-used with the permission of The Health and Social Care Information Centre. All rights reserved.

Figure 5.26a

Body mass index, waist-hip ratio and waist circumference in men, by ethnic group, England 2004

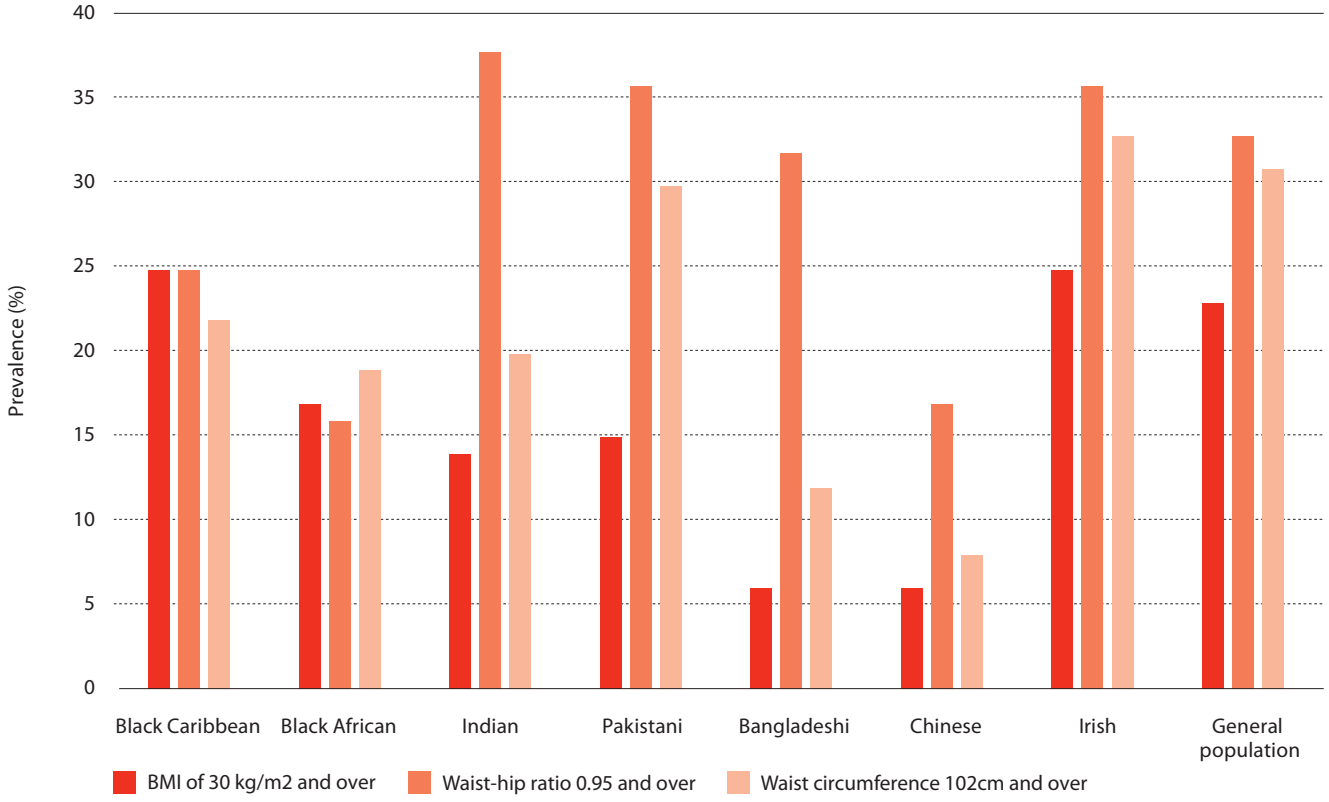

Figure 5.26b

Body mass index, waist-hip ratio and waist circumference in women, by ethnic group, England 2004

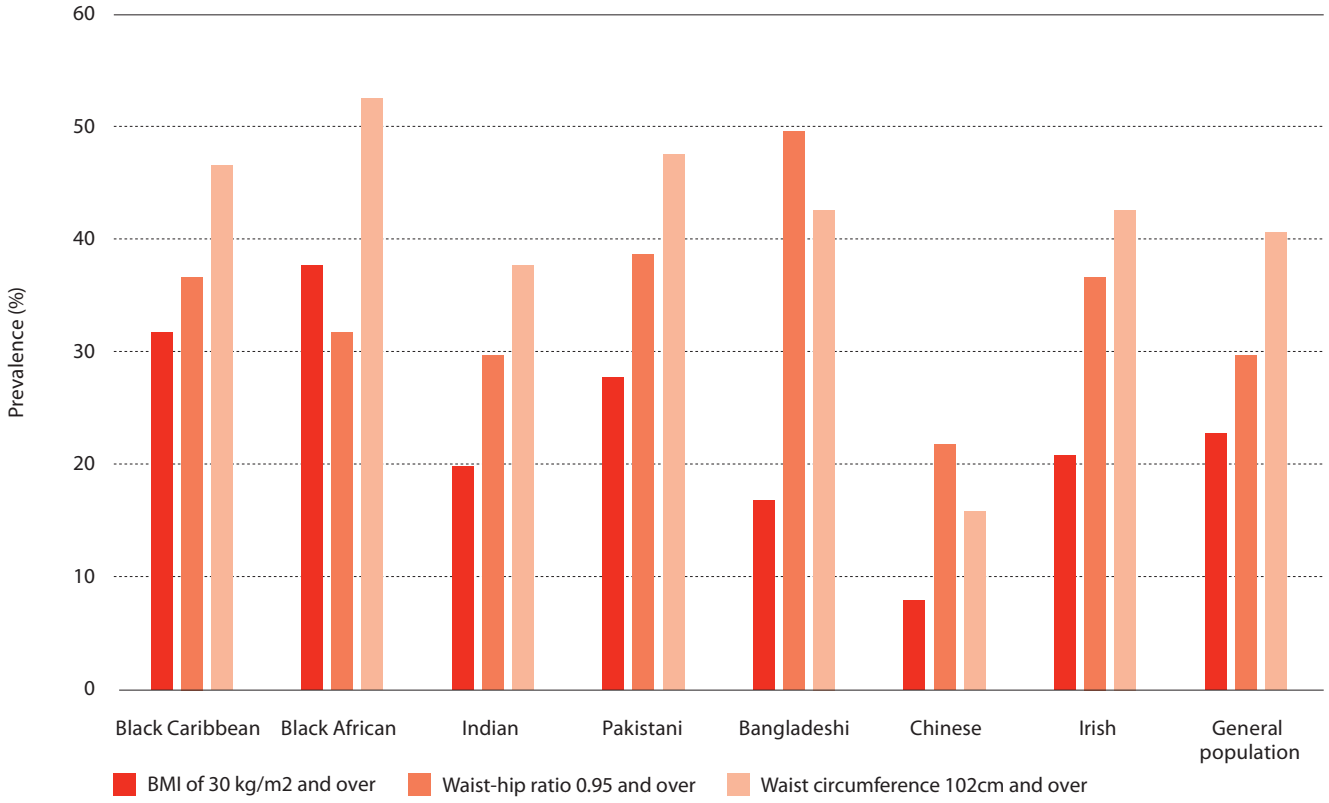

Table 5.27
Prevalence of childhood overweight, by sex, Europe latest available year

	Year	Age group (years)	Boys	Girls
			%	%
Austria	2003	8 to 12	22.5	16.7
Belgium	1998-2009	5 to 15	27.3	26.7
Bulgaria	2004	5 to 17	22.0	17.9
Crete	2005-06	10 to 12	45.0	37.0
Cyprus	2003	11	30.2	28.8
Czech Republic	2005	6 to 17	24.6	16.8
Denmark	1996-2007	5 to 16	14.1	15.3
England	2009	5 to 17	21.8	26.1
Estonia*	2005-06	11, 13 & 15	12.7	7.0
Finland	2005-06	11, 13 & 15	18.7	13.0
France	2006-07	3 to 17	13.1	14.9
Germany	2008	4 to 16	22.6	17.7
Greece	2003	13 to 17	27.8	16.0
Hungary	2005	7 to 14	25.5	25.9
Iceland	1998	9	22.0	25.5
Italy	2008	8 to 9	35.9†	35.9†
Latvia*	2005-06	11, 13 & 15	10.0	5.7
Luxembourg*	2005-07	11, 13 & 15	15.0	10.0
Malta*	2005-06	11, 13 & 15	31.0	28.0
Netherlands	2003	5 to 16	14.7	17.9
Northern Ireland	2005	2 to 15	27.0	25.0
Norway	2003-06	5 to 15	12.9	14.7
Poland	2000	7 to 17	16.3	12.4
Portugal	2008	10 to 18	23.5	21.6
Poland	2000	7 to 17	16.3	12.4
Romania*	2005-06	11, 13 & 15	14.7	8.7
Russian Federation	2005	7 to 11	17.3	16.9
Slovakia	2001	7 to 17	17.5	16.2
Slovenia	2007	6 to 17	28.7	24.4
Spain	1999-2000	5 to 17	32.9	22.9
Sweden	2000	10	17.0	19.5
Switzerland	2007	6 to 13	16.7	13.1
Turkey	2001	12 to 17	11.3	10.3

Notes:
All studies used IOTF definitions for childhood overweight and obesity, except Austria and Belgium, which used 90th and 85th percentiles of reference populations. ¶ *indicates self-reported data. ¶ † Italy: study did not provide results by gender, therefore results for all children combined are presented.

Source:
International obesity taskforce (2012) Global Childhood Overweight. IOTF. http://www.iaso.org/iotf/obesity/. (Accessed June 2012)

Table 5.28
Prevalence of diagnosed diabetes, by sex and age, England 2010

	All ages	16-24	25-34	35-44	45-54	55-64	65-74	75+
	%	%	%	%	%	%	%	%
Men	6.3	0.5	1.3	2.5	6.9	11.1	15.2	15.9
Base	*4,179*	*646*	*701*	*755*	*721*	*607*	*429*	*318*
Women	5.3	0.4	1.7	2.5	4.1	8	12.2	13.2
Base	*4,329*	*610*	*686*	*760*	*730*	*631*	*470*	*442*

Notes:
Prevalence rates are weighted for non-response.

Source:
Joint Health Surveys Unit (2011) Health Survey for England 2010. The Information Centre: Leeds. Copyright © 2011, Re-used with the permission of The Health and Social Care Information Centre. All rights reserved

Table 5.29
Prevalence of diagnosed diabetes, by sex and age, Scotland 2008/09

	All ages	16-24	25-34	35-44	45-54	55-64	65-74	75+
	%	%	%	%	%	%	%	%
Men	5.8	0.3	1.1	1.3	5.7	11.9	13.2	14.2
Base	*6,130*	*518*	*723*	*1,013*	*1,139*	*1,100*	*970*	*667*
Women	4.3	0.9	1.5	2.2	3.2	6.4	9	9.9
Base	*7,866*	*719*	*1,031*	*1,428*	*1,365*	*1,367*	*1,066*	*890*

Notes:
Prevalence rates are weighted for non-response. ¶ Respondents were prompted to recall whether they had ever been diagnosed with diabetes by a doctor.

Source:
Scottish Centre for Social Research (2011) Scottish Health Survey 2009 revisions. The Scottish Government: Edinburgh.

Table 5.30
Prevalence of diagnosed diabetes, by sex and age, Wales 2010

	All ages	16-24	25-34	35-44	45-54	55-64	65-74	75+
	%	%	%	%	%	%	%	%
Men	7	0	1	4	7	12	15	16
Base	*7,420*	*882*	*831*	*1,082*	*1,333*	*1,361*	*1,109*	*822*
Women	6	1	1	2	5	7	12	14
Base	*5,879*	*919*	*1,073*	*1,330*	*1,472*	*1,520*	*1,247*	*1,018*

Notes:
Prevalence rates are weighted for non-response. ¶ Respondents were prompted to recall whether they had ever been diagnosed with diabetes by a doctor.

Source:
Welsh Assembly Government (2011) Welsh Health Survey 2010. Welsh Assembly: Cardiff.

Table 5.31
Prevalence of diagnosed diabetes, by sex and age, Northern Ireland 2005/06 and 2010/11

	2005/06								2010/11
	All ages	16-24	25-34	35-44	45-54	55-64	65-74	75+	All ages
	%	%	%	%	%	%	%	%	%
Men	4	0	0	1	5	8	8	14	5
Base	*1,743*	*153*	*278*	*344*	*305*	*275*	*236*	*152*	
Women	4	0	1	1	2	5	11	10	5
Base	*2,497*	*254*	*428*	*501*	*417*	*334*	*312*	*251*	

Notes:
Respondents were prompted to recall whether they had ever been diagnosed with diabetes by a doctor.

Source:
Central Survey Unit (2007) Northern Ireland Health and Wellbeing Survey 2005/06. Northern Ireland Statistics and Research Agency: Belfast. ¶ Public Health Information & Research Branch (2012). Health Survey Northern Ireland. Department of Health, Social Services & Public Safety: Belfast

Table 5.32
Prevalence of diagnosed diabetes, by sex and country, United Kingdom 1991 to 2010

	1991	1993	1994	1998	2001	2003	2004	2005	2006	2007	2008	2009	2010	*Unweighted base (latest year)*
	%	%	%	%	%	%	%	%	%	%	%	%	%	
Men														
England	2	3	2.9	3.3		4.3			5.6			6.5	6.3	*6,854*
Scotland						3.8						5.8		*2,841*
Wales						5	6	7		6	7	7	7	*7,412*
Northern Ireland					4			4						*1,743*
Women														
England	2	2	1.9	2.5		3.4			4.2			4.5	5.3	*7,307*
Scotland						3.7						4.3		*3,622*
Wales						5	4	5		6	6	6	6	*8,606*
Northern Ireland					2			4						*2,497*

Notes:
Estimates are reported to the appropriate level of accuracy – one decimal place where possible, no decimal places when not. ¶ Estimates are based on self-report of being diagnosed for diabetes by a doctor. ¶ Methods are broadly comparable across studies, but small differences may affect comparability. ¶ For example, some, but not all, of the estimates are weighted for non-response. ¶ All estimates are for adults aged 16 and over. ¶ See source for details.

Source:
Joint Health Surveys Unit (2011) Health Survey for England 2010. The Information Centre: Leeds, and previous editions. Copyright © 2011, Re-used with the permission of The Health and Social Care Information Centre. All rights reserved. ¶ Scottish Centre for Social Research (2011) Scottish Health Survey 2009 revisions. The Scottish Government: Edinburgh, and previous editions. ¶ Welsh Assembly Government (2011) Welsh Health Survey 2010. Welsh Assembly: Cardiff, and previous editions. ¶ Central Survey Unit (2007) Northern Ireland Health and Wellbeing Survey 2005/06. Northern Ireland Statistics and Research Agency: Belfast, and previous editions.

Figure 5.32a
Prevalence of diagnosed diabetes in men, by country, United Kingdom 1991 to 2010

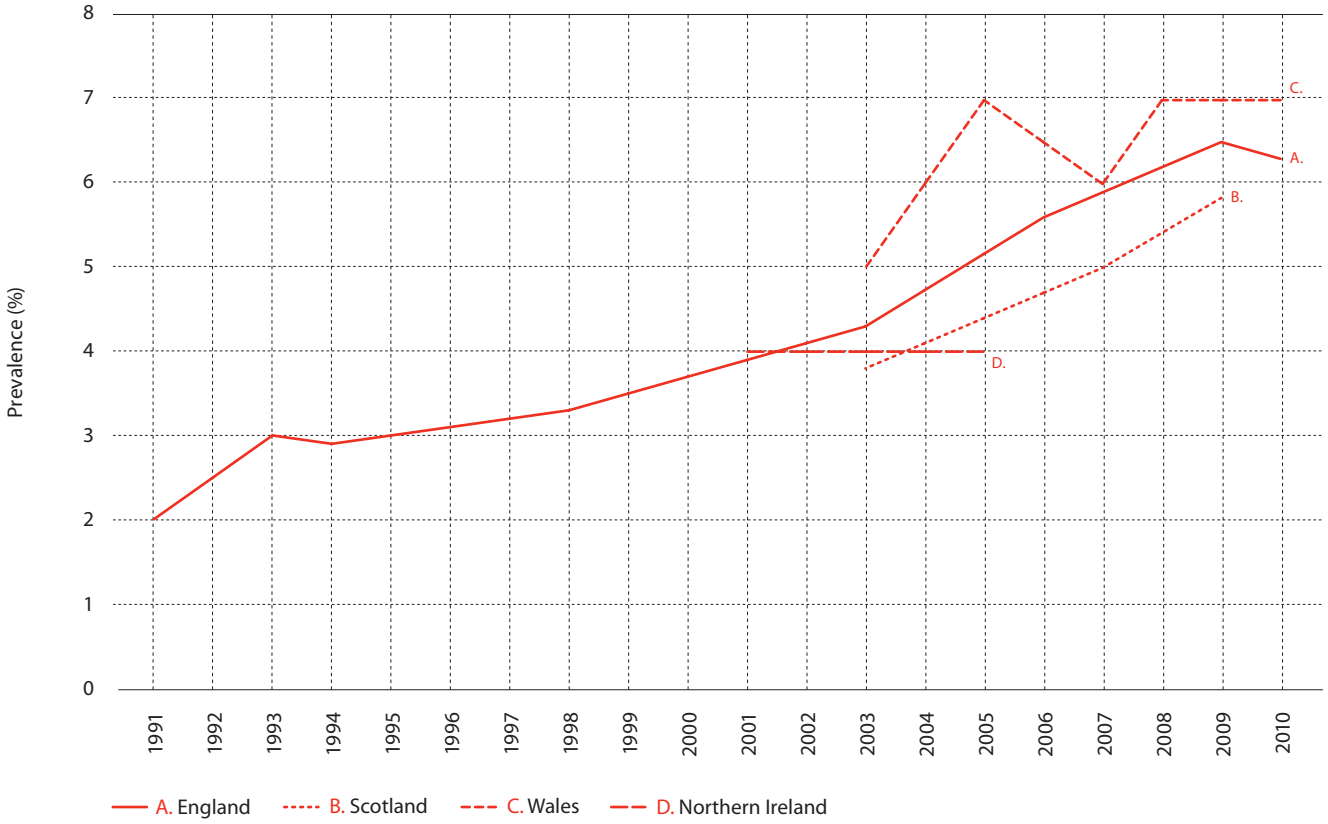

Figure 5.32b
Prevalence of diagnosed diabetes in women, by country, United Kingdom 1991 to 2010

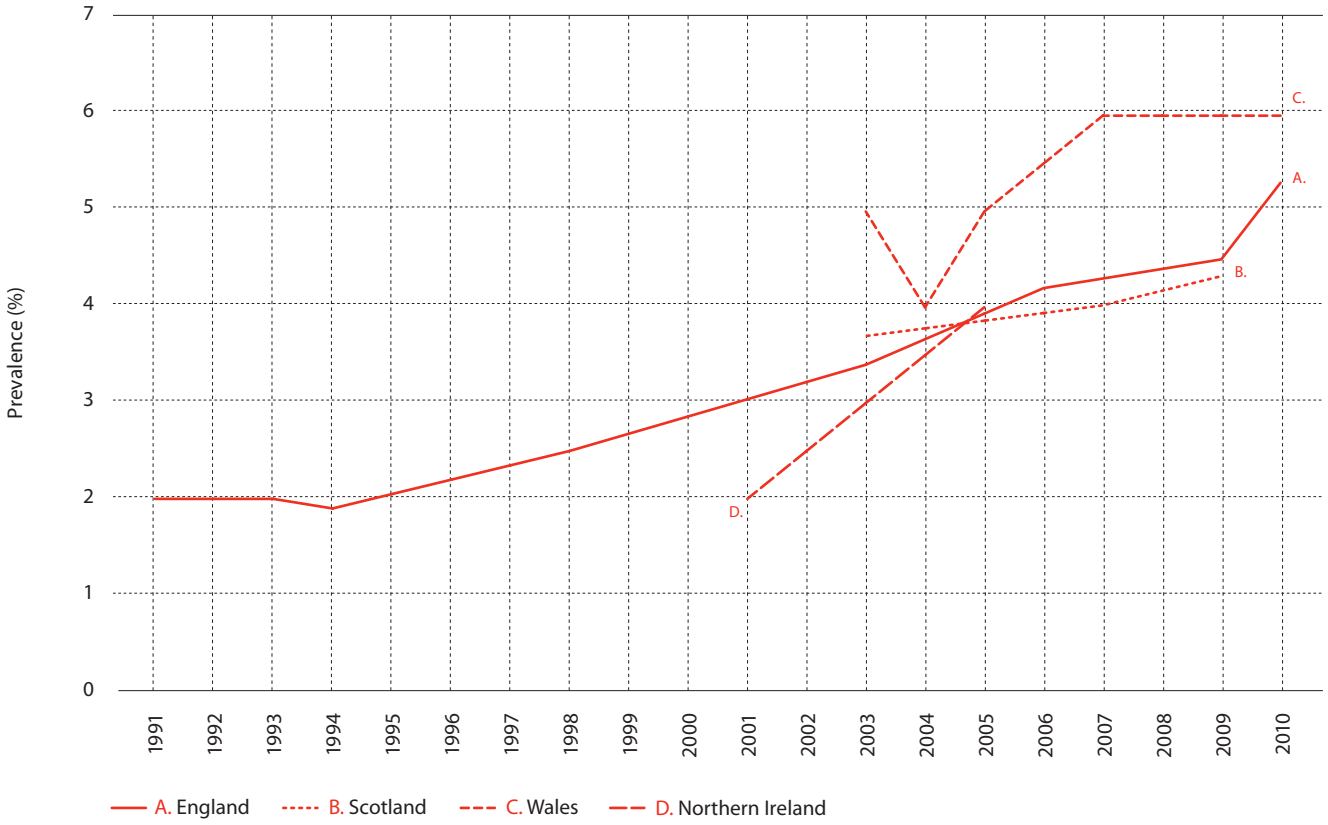

Table 5.33
Prevalence of diagnosed diabetes, by sex and Government Office Region, England 2006

	North East	North West	Yorkshire and the Humber	East Midlands	West Midlands	East of England	London	South East	South West
	%	%	%	%	%	%	%	%	%
Men	5.2	6.5	6.3	4.6	5.8	5.4	6.0	4.7	4.9
Unweighted base	*298*	*847*	*570*	*548*	*576*	*651*	*678*	*929*	*528*
Women	4.8	4.3	5.4	4.1	5.4	4.2	4.3	3.9	2.6
Unweighted base	*389*	*1,030*	*732*	*692*	*748*	*740*	*763*	*1,135*	*696*

Notes:
Estimates are based on self-report of being diagnosed with diabetes by a doctor. ¶ Adults aged 16 and over. ¶ Estimates are age-standardised and have been weighted for non-response.

Source:
Joint Health Surveys Unit (2008) Health Survey for England 2006. Cardiovascular disease and risk factors. The Information Centre: Leeds. Copyright © 2008, Re-used with the permission of The Health and Social Care Information Centre. All rights reserved

Table 5.34
Prevalence of diagnosed diabetes, by sex and household income, England 2009

	Equivalised household income tertile		
	Highest	Middle	Lowest
	%	%	%
Men	4.8	8.3	6.0
Base	*681*	*557*	*483*
Women	1.2	4.9	6.3
Base	*703*	*699*	*642*

Notes:
Estimates are based on self-report of being diagnosed with diabetes by a doctor. ¶ Adults aged 16 and over. ¶ Estimates are age-standardised and have been weighted for non-response.

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Joint Health Surveys Unit (2010) Health Survey for England 2009. The Information Centre: Leeds. Copyright © 2010, Re-used with the permission of The Health and Social Care Information Centre. All rights reserved

Table 5.35
Prevalence of diagnosed diabetes, by sex and ethnic group, England 2004

	General population	Bangladeshi	Black African	Black Caribbean	Chinese	Indian	Irish	Pakistani
	%	%	%	%	%	%	%	%
Men								
Type 1	0.6	0.2	0.7	0.5	0.3	0.9		
Type 2	3.8	8.0	4.3	9.5	3.4	9.2	3.6	7.3
Types 1 and 2 combined	4.3	8.2	5.0	10.0	3.8	10.1	3.6	7.3
Unweighted base	*6,602*	*411*	*390*	*414*	*348*	*550*	*497*	*433*
Women								
Type 1	0.3	0.6	0.1	0.8			0.3	0.2
Type 2	3.1	4.5	2.0	7.6	3.3	5.9	2.0	8.4
Types 1 and 2 combined	3.4	5.2	2.1	8.4	3.3	5.9	2.3	8.6
Unweighted base	*8,234*	*478*	*469*	*653*	*375*	*634*	*656*	*508*

Notes:
Numbers may not add exactly due to rounding. ¶ Estimates are based on self-report of being diagnosed with diabetes by a doctor. ¶ Adults aged 16 and over. ¶ Estimates are age-standardised and have been weighted for non-response. ¶ General population refers to the whole population of England, regardless of ethnicity. ¶ Blank cells indicate non existence of data.

Source:
Joint Health Surveys Unit (2005) Health Survey for England 2004. The Information Centre: Leeds. Copyright © 2005, Re-used with the permission of The Health and Social Care Information Centre. All rights reserved

Figure 5.35
Prevalence of diagnosed diabetes, by ethnic group, England 2004

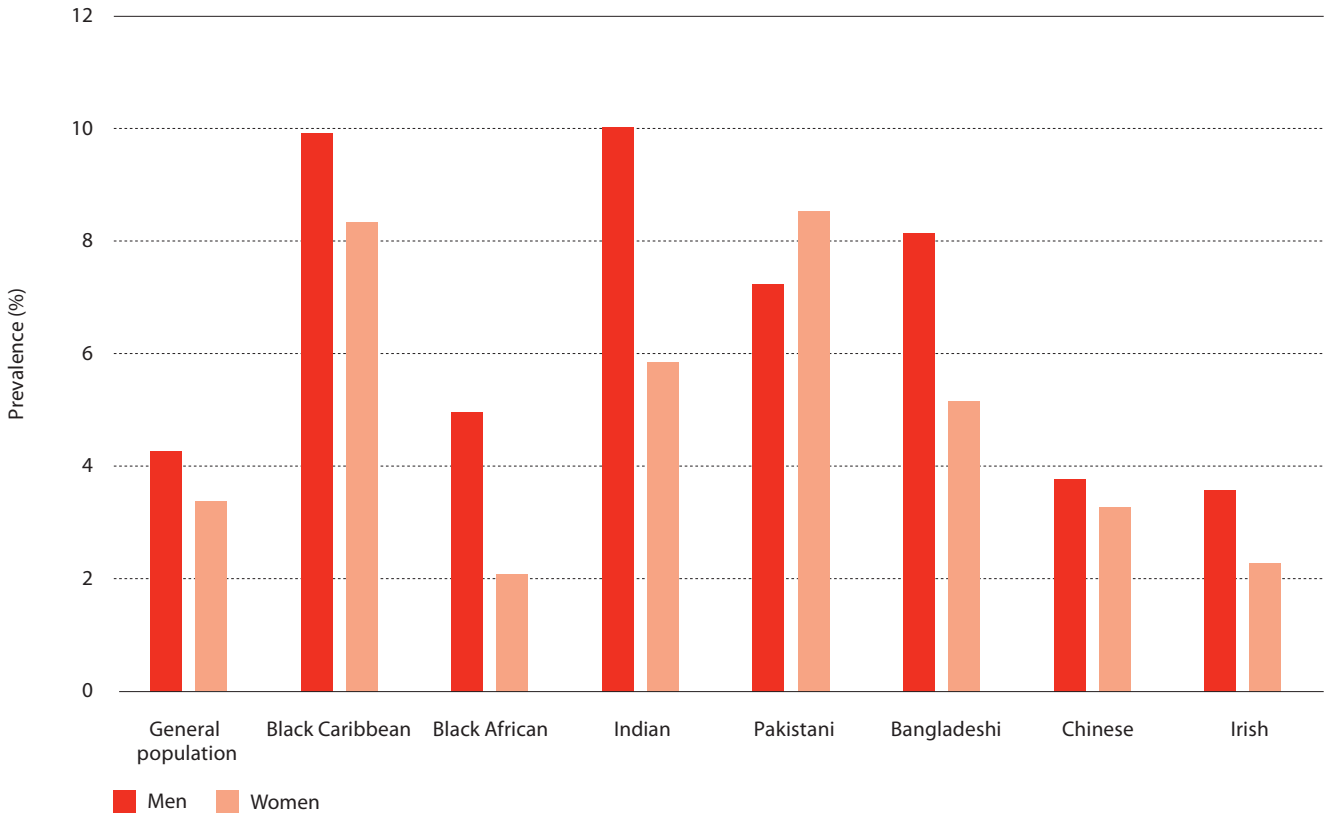

Table 5.36
Prevalence of diabetes in adults, Europe 1980 to 2009

	1980-84	1985-89	1990-94	1995-99	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Albania												0.1	0.1	0.1
Armenia	0.6	0.8	1.1	1.1	1.1	1.1	1.1	1.0	1.1	1.1	1.2	1.3	1.4	1.5
Austria											4.7			
Azerbaijan			0.6	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.8	0.9	1.1	1.2
Belarus			1.2	1.2	1.3	1.4	1.5	1.5	1.6	1.7	1.8	1.9	1.9	2.1
Belgium				2.9	3.2	2.8			3.5				3.6	
Bosnia and Herzegovina	0.5	0.6	0.7	1.3	1.2	1.1	1.1	1.2	1.3	1.7	1.6	1.5		1.3
Bulgaria	1.0	1.2	1.2	1.6	1.7									
Czech Republic	3.4	4.1	4.8	5.8	6.4	6.4	6.5	6.7	7.0	7.2	7.3	7.3	7.4	7.5
Denmark			2.4	2.4	2.8	3.0	3.2	3.5	3.8	4.0	4.2	4.4	4.7	
Estonia											2.9			
Finland	1.8	1.9	2.1	2.3	2.6	2.7	2.8	2.9	3.1	3.3	3.4	3.5	3.7	4.0
France			0.6	2.8	3.0									
Georgia			1.0	1.1	1.0	1.1	1.1	1.1	1.2	1.3	1.3	1.4	1.5	1.6
Germany														
Greece	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2			
Hungary		4.4												
Iceland	0.1	0.1		0.2		0.2								
Israel			2.6	3.0	3.2					3.7	3.9	4.1		4.7
Italy				3.7						4.2	4.5	4.6	4.8	4.8
Kazakhstan			0.7	0.6	0.7	0.6	0.8	0.9	0.8	0.9	0.9	1.0	1.2	1.1
Kyrgyzstan	0.2	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.6	
Latvia		1.1	1.1	1.1	1.5	1.5	1.5	1.7	1.7	2.1	2.3	2.6	2.8	3.0
Lithuania	0.8	0.9	1.0	1.2	1.5	1.5	1.7	2.0	2.1	2.2	1.7	1.8	2.0	2.2
Malta			5.2		6.5	6.6	6.8	7.1	7.6				6.4	
Netherlands		2.0	1.9	2.0				3.8						
Norway		2.9		2.0										
Portugal		6.1		4.8							6.5			
Republic of Moldova	0.6	0.9	1.0	0.9	0.9	0.7	0.8	1.0	1.1	1.2	1.3	1.4	1.5	1.5
Romania		0.6	0.7	1.1	1.4	1.6	1.8	1.9	2.1	2.2	2.0	2.7	3.0	2.7
Russian Federation		1.0	1.3	1.3	1.4	1.5	1.5	1.6	1.7	1.8	1.9			
Slovakia	2.8	3.3	3.8	4.2	4.7	4.9	5.1	5.2	5.3	5.3	5.5	5.7	5.6	6.2
Slovenia	2.5	2.8	3.4											
Spain								5.0			5.1			
Sweden		3.0		2.9										
Tajikistan			0.3	0.2	0.3	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3
TFYR Macedonia			1.1	0.8	1.0	1.0	1.1	1.1	1.3	1.3	1.4			
Turkey				1.9										
Turkmenistan			0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Ukraine	1.0	1.3	1.7	1.8	1.9	1.9	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6
United Kingdom										**3.5**	**3.7**	**3.9**	**4.1**	**4.3**
Uzbekistan			0.4	0.4	0.5	0.4	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.6

Notes:
Where years are given as 5-year ranges, values are the averages of available data for the 5 years. ¶ Empty cells indicate no data were available.

Source:
WHO (2012) European Health for All Database. http://www.euro.who.int/en/what-we-do/data-and-evidence/databases/european-health-for-all-database-hfa-db2 (accessed July 2012).

6. Economic costs

6. Economic costs

As well as human costs, both cardiovascular disease (CVD) and coronary heart disease (CHD) have major economic consequences for the United Kingdom. The economic costs provided here are the most up to date available, but are not comparable to previous estimates published in the Coronary Heart Disease Statistics series. While the methods used are similar between the 2006 and 2009 studies, the data which underlies the estimates for the two years differs. Consequently, data that may have previously been based on assumptions may now be based on actual data, and vice-versa.

Health care costs

CVD cost the health care system in the UK around £8.6 billion in 2009 [1,2]. This represents a cost per capita of £141. The cost of hospital care for people who have CVD accounts for 50% of these costs, whereas 23% of the cost is due to drugs (Table 6.1 and Figure 6.1a).

CHD and stroke each cost the health care system in the UK around £1.8 billion in 2009 [1,2]. This represents a cost per capita of £29 each for the two conditions. The cost of hospital care for people who have CHD accounts for about 56% of these costs. The hospital costs for stroke account for 82% of the total health care costs (Table 6.1, Figures 6.1a to 6.1c).

Non-health care costs

Looking only at the health care costs of CVD grossly underestimates the total cost of CVD in the UK. Production losses from death and illness in those of working age and from the informal care of people with the disease contribute greatly to the overall financial burden.

In 2009, production losses due to mortality and morbidity associated with CVD cost the UK over £6 billion, with around 21% of this cost due to death and 13% due to illness in those of working age. The cost of informal care for people with CVD in the UK was around £3.8 billion [3] in 2009 (Table 6.2).

In 2009, production losses due to mortality and morbidity associated with CHD cost the UK over £3 billion, with around 33% of this cost due to death and 14% due to illness in those of working age. The cost of informal care for people with CHD in the UK was around £1.7 billion [3] in 2009.

Production losses due to mortality and morbidity associated with stroke cost the UK almost £1 billion. The cost of informal care for people with stroke was £1 billion in 2009 (Table 6.2).

Total costs

Overall CVD is estimated to cost the UK economy £19 billion a year. Of the total cost of CVD to the UK, around 46% is due to direct health care costs, 34% to productivity losses, and 20% to the informal care of people with CVD (Table 6.2).

Overall CHD is estimated to cost the UK economy over £6.7 billion a year. Of the total cost of CHD to the UK, around 27% is due to direct health care costs, 47% to productivity losses, and 26% to the informal care of people with CHD (Table 6.2).

International differences

Table 6.3 shows the relative costs of cardiovascular related diseases for the 27 member states of the European Union for 2009. The cost per capita of CVD is highest in Germany (€374) and lowest in Romania (€37). The cost in the UK (€156) is lower than the average for the European Union (€212) (Table 6.3).

1. The estimates for this chapter are from a cost of illness study by researchers at the Health Economics Research Centre, Department of Public Health, University of Oxford.
2. This estimate does not include the money spent on non-clinical activities concerned with the primary prevention of CVD and CHD, for example, public anti-smoking campaigns, nutrition education etc. However, the cost of drugs prescribed in primary care for both primary and secondary prevention is included.
3. The cost of informal care is equivalent to the opportunity costs of unpaid care. It is a measure of the amount of money that carers forgo to provide unpaid care for their spouse, friend or relative living with CVD.

Table 6.1
Health care costs of CVD, CHD and stroke (£ thousands), United Kingdom, 2009

	CVD		CHD		Stroke	
	€	£	€	£	€	£
Primary care	1,247,279	1,123,675	120,364	108,436	44,438	40,034
Outpatient care	1,140,361	1,027,352	399,865	360,239	180,121	162,271
A&E	171,810	154,784	58,518	52,718	35,278	31,782
Inpatient care	4,843,730	4,363,721	1,122,043	1,010,850	1,623,543	1,462,651
Medications	2,232,610	2,011,360	296,609	267,216	95,651	86,172
Total health care costs	*9,635,790*	*8,680,892*	*1,997,400*	*1,799,459*	*1,979,031*	*1,782,910*
Cost per capita	156	141	32	29	32	29
Percentage of total health care expenditure	6%	6%	1%	1%	1%	1%

Notes:
Estimates originally calculated in Euros. ¶ They have been converted using £1 = €1.11, the approximate exchange rate in 2009. ¶ For details of methods and sources used, see http://www.ehnheart.org/cvd-statistics.html

Source:
Nichols M, Townsend N, Luengo-Fernandez R, Leal J, Grey A, Scarborough P, Rayner M (2012). European Cardiovascular Disease Statistics 2012. European Heart Network, Brussels, European Society of Cardiology, Sophia Antipolis.

Figure 6.1a
Health care costs of cardiovascular disease (CVD), United Kingdom 2009

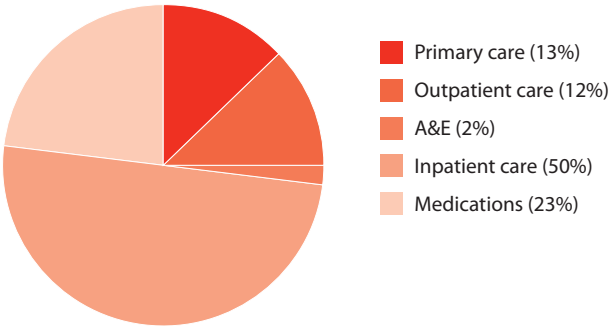

Figure 6.1b
Health care costs of coronary heart disease (CHD), United Kingdom 2009

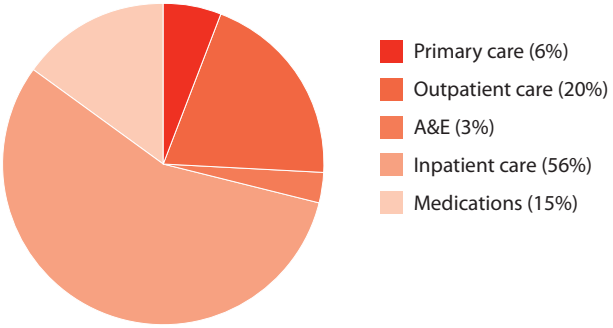

Figure 6.1c
Health care costs of stroke, United Kingdom 2009

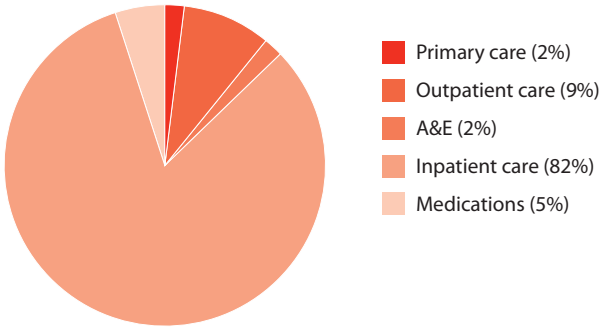

Table 6.2
Totals costs of CVD, CHD and stroke (£ thousands), United Kingdom 2009

	CVD			CHD			Stroke		
	€	£	% of total	€	£	% of total	€	£	% of total
Direct health care costs	9,635,790	8,680,892	46%	1,997,400	1,799,459	27%	1,979,031	1,782,910	48%
Productivity loss due to mortality	4,466,456	4,023,834	21%	2,473,550	2,228,423	33%	702,379	632,774	17%
Productivity loss due to morbidity	2,715,698	2,446,575	13%	1,021,775	920,518	14%	353,501	318,469	9%
Informal care costs	4,215,296	3,797,564	20%	1,915,000	1,725,225	26%	1,118,357	1,007,529	27%
Total	21,033,240	18,948,865		7,407,725	6,673,626		4,153,267	3,741,682	

Notes:
Estimates originally calculated in Euros. ¶ They have been converted using £1 = €1.11, the approximate exchange rate in 2009. ¶ For details of methods and sources used, see http://www.ehnheart.org/cvd-statistics.html

Source:

Nichols M, Townsend N, Luengo-Fernandez R, Leal J, Grey A, Scarborough P, Rayner M (2012). European Cardiovascular Disease Statistics 2012. European Heart Network, Brussels, European Society of Cardiology, Sophia Antipolis.

Table 6.3
Health care costs of CVD, CHD and stroke (€ thousands), European Union 2009

	CVD		CHD		Stroke	
	Cost per capita	Percentage of total health care expenditure	Cost per capita	Percentage of total health care expenditure	Cost per capita	Percentage of total health care expenditure
Austria	€ 280	8%	€ 59	2%	€ 53	1%
Belgium	€ 221	6%	€ 46	1%	€ 24	1%
Bulgaria	€ 46	13%	€ 7	2%	€ 6	2%
Cyprus	€ 84	7%	€ 17	1%	€ 9	1%
Czech Rep.	€ 150	14%	€ 26	2%	€ 34	3%
Denmark	€ 226	5%	€ 49	1%	€ 43	1%
Estonia	€ 124	17%	€ 30	4%	€ 28	4%
Finland	€ 368	12%	€ 76	3%	€ 139	5%
France	€ 198	6%	€ 26	1%	€ 24	1%
Germany	€ 374	11%	€ 66	2%	€ 73	2%
Greece	€ 249	11%	€ 52	2%	€ 50	2%
Hungary	€ 100	14%	€ 16	2%	€ 13	2%
Ireland	€ 208	6%	€ 44	1%	€ 14	0%
Italy	€ 241	10%	€ 43	2%	€ 45	2%
Latvia	€ 90	17%	€ 27	5%	€ 19	4%
Lithuania	€ 75	12%	€ 17	3%	€ 11	2%
Luxembourg	€ 270	4%	€ 51	1%	€ 26	0%
Malta	€ 117	11%	€ 22	2%	€ 9	1%
Netherlands	€ 352	8%	€ 96	2%	€ 83	2%
Poland	€ 109	17%	€ 24	4%	€ 14	2%
Portugal	€ 114	6%	€ 18	1%	€ 15	1%
Romania	€ 37	12%	€ 5	2%	€ 6	2%
Slovakia	€ 110	10%	€ 27	3%	€ 17	2%
Slovenia	€ 130	8%	€ 21	1%	€ 18	1%
Spain	€ 173	8%	€ 32	1%	€ 23	1%
Sweden	€ 263	8%	€ 65	2%	€ 61	2%
UK	**€ 156**	**6%**	**€ 32**	**1%**	**€ 32**	**1%**
Total EU	€ 212	9%	€ 40	2%	€ 38	2%

Notes:
For details of methods and sources used, see http://www.ehnheart.org/cvd-statistics.html

Source:
Nichols M, Townsend N, Luengo-Fernandez R, Leal J, Grey A, Scarborough P, Rayner M (2012). European Cardiovascular Disease Statistics 2012. European Heart Network, Brussels, European Society of Cardiology, Sophia Antipolis.

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