



# **Quality in Healthcare in England, Wales, Scotland, Northern Ireland: an intra-UK chartbook**

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## Foreword

It is almost ten years since the constitutional devolution of governance to the separate UK countries took effect. There is now considerable interest in reviewing whether the emerging differences in policy and structural arrangements have had an impact on the quality of healthcare provided to the different UK populations.

This chartbook is an important illustration of how currently available data can be used to create a coherent picture of the various facets of quality of healthcare – such as access, safety, effectiveness, patient-centred care, equity and capacity for improvement – in each of the UK countries.

In the final report of his review of the NHS, High quality care for all, published in June 2008, Lord Ara Darzi advocated the importance of clinically relevant measures to enable improvements in care and initiated a programme to develop and use these measures. Work is now underway within the English Department of Health to shape the programme.

However, healthcare is a large and complex sector. Despite the rapid rate at which information about healthcare changes and the speed of introduction of new policies, many of the indicators that are used to assess quality of care internationally (and which show the real effects on the health of populations) only show changes over much longer time periods. The chartbook does not aim to explain why differences emerge across the UK countries.

Working with others, The Health Foundation aims to improve health and the quality of healthcare in the UK. To do this we need data about the quality and performance of the healthcare sector in order to determine where and how we can act to best effect. Since 2005, the Foundation has supported a programme titled the Quest for Quality and Improved Performance (QQUIP), which draws together the current data on quality and performance through a regularly updated and publicly available database. The QQUIP programme also synthesises the international evidence about interventions to improve healthcare and provides analyses of value for money.

- QQUIP is designed to answer the following questions:
- What do we know about the state of quality and performance of the healthcare sector?
- What do we know about how to improve care most effectively?
- Where are the greatest gains?
- How much will it cost to achieve these improvements?

The QQUIP database shows that when comparing the UK as a whole against other countries there is still significant room for improvement on clinical performance, despite impressive gains.

This chartbook is intended to be a valuable resource for those who are improving the quality of care in the UK – either at the local or national level – through academic reflection, decision-making or the direct provision of

services. Its greatest contribution is to create an important opportunity to seek out and learn from the best performance within the UK and to help identify where improvements may be needed most. We hope that, working together, you will use it to accelerate efforts to improve the quality of healthcare for the people of the UK.

**Vin McLoughlin**  
**Director of Quality and Performance Analysis**  
**The Health Foundation**  
**January 2009**

## Executive summary

In 1948, the National Health Service (NHS) was established, assuming responsibility for the provision of a comprehensive preventive and curative service for the people of the UK. Since its inception, the NHS has seen huge transformations in the political and social landscape. One of the most significant changes has been the wide-ranging constitutional reform embarked on by the Labour Government elected in 1997 which, in a process referred to as 'devolution', saw significant decentralisation of power to elected bodies in Scotland, Wales and Northern Ireland. Prior to devolution there were minor health policy differences across the four countries. However, after 1998 each of the new political bodies gained significant freedom to shape NHS policy in their jurisdiction, and the last decade has seen increased diversity in the organisation and delivery of healthcare services.

This chartbook synthesises, analyses and presents available data on the quality of healthcare provided in the four devolved countries of the UK. The data should be interpreted with care. The constituent countries of the UK differ significantly in population, geographical size and population density. These are important contextual features that must be taken into account when reviewing quality of healthcare – in particular, the difference in population size affects confidence intervals for data. England has a population that is 10 times that of Scotland, 17 times that of Wales and 29 times that of Northern Ireland, which results in much wider confidence intervals for the smaller countries. Interpretation of the data in this chartbook should be grounded in an awareness that a number of indicators

(in particular outcome indicators such as mortality and survival rates) are affected by a wide range of factors, many of which are outside the control of governments, health departments, managers and professionals. The goal in charting differences in performance is not to rank countries but to catalyse further analysis about the underlying reasons for variation, note achievements and successes, identify potential areas for improvement and calibrate future goals on the basis of comparative benchmarks.

## Defining quality in healthcare

Quality in healthcare is a multifaceted concept and is not amenable to a single performance measure or simple metric. In the past decade there has been a concerted international effort to improve measurement and reporting, and a growing consensus about the key domains of quality in healthcare and relevant measures and indicators to populate these domains. The key domains are:

- Effectiveness
- Access and timeliness
- Capacity
- Safety
- Patient centredness
- Equity.

## Findings from the charts

Key messages from the charts are summarised below.

### Effectiveness

- All countries of the UK have in recent years seen significant falls in mortality rates from the 'major killers': cancer, coronary heart disease (CHD) and stroke.
- England has the longest life expectancy for both males and females.
- Of the four UK countries, Scotland continues to report the highest mortality rates in most major disease groups, although in recent years it has recorded the steepest decreases in mortality rates.
- The Quality and Outcomes Framework (QOF) provides a valuable new data source (albeit one which should be used with care as data are provided on a voluntary basis and findings depend highly on accurate diagnosis and recording in general practices). The data indicate that the majority of patients across the UK are provided with care that is consistent with evidence-based practice, with practices from Scotland and Northern Ireland generally recording the highest achievement scores.
- Among QOF indicators that measure achievement of recommended levels for physiologic markers, the data indicate that about one-fifth of registered patients have results outside the recommended range. These indicators are:
  - cholesterol control for CHD and transient ischaemic attack (TIA)/stroke patients
  - blood pressure control in hypertension and diabetic patients
  - beta-blocker prescriptions for CHD patients
  - glycaemic control in diabetic patients.

- There are indicators that show a marked difference in performance across UK countries and would benefit from further analysis and investigation about the factors underlying these variations. These are:
  - timely reperfusion in heart attack patients – reported performance in Wales is considerably lower than that recorded in England
  - vaccination – England has the lowest vaccination rates for 2-year olds and Wales has the lowest flu vaccination rates for people who are over 65 years old.
- The trend of generalised improvements in most indicators over time is not replicated in the data on sexually transmitted chlamydia infections and alcohol-related deaths – both are areas where patient behaviour (and cultural norms) influence outcomes.

### Access

- Differences in methodology and conventions in recording and reporting waiting times make it difficult to compare performance across the UK.
- In general, the latest available comparative data show that England and Scotland had lower median waiting times than Wales and Northern Ireland for a range of inpatient procedures.
- Data from 2007 on waits for radiotherapy show that a minority of cancer patients are seen in accordance with The Joint Council for Clinical Oncology guidelines. The guidelines recommend that the time from first oncology consultation to start of urgent radiotherapy should be  $\leq 48$  hours and compliance ranged from 5 per cent in Scotland to 27 per cent in Wales.

## **Capacity**

- Against a historical backdrop of relatively low health spending, all countries of the UK have increased the health spend considerably in recent years.
- On a per capita basis, in 2007/08 Scotland spent the most on health (£1,919) and England the least (£1,676)
- Scotland has the highest number of GPs and dentists per capita.
- In terms of information technology capacity, comparative data from a survey of GPs in 2006 indicated that Northern Ireland surgeries were best equipped.

## **Safety**

- All the countries of the UK face problems with healthcare associated infections, notably MRSA and Clostridium difficile. MRSA infection rates in England have reduced substantially in the past year or so.
- Safety data that are defined, collected and reported on in a consistent way across UK countries is limited.

## **Patient centredness**

- Most recent data, collected on a consistent basis from 2005 and 2006, indicate that respondents in Scotland were most positive about their quality of care.
- Overall, patient ratings of quality across the UK are high.
- Data indicate that around one-fifth of patients across the UK are not as involved in decisions about their care as they would like to be.
- There is evidence that communication between clinicians and patients could be improved.

## **Equity**

- Across all countries of the UK, there are significant inequalities in life expectancy and mortality from major diseases between the least and most deprived groups.
- Compared to wider international data, there is evidence that patients in the countries of the UK are not discouraged from seeking needed medical care because of cost concerns.
- There is little data available on inequities of care on the basis of age, gender and race.

## Moving forward

There is widespread acknowledgement that there are significant potential benefits in comparing performance across the countries of the UK. In terms of policy analysis, devolution of power and divergence of health policy means that the UK provides a valuable opportunity to compare and contrast the impact of different approaches to improving healthcare. For managers and professionals, comparisons to near neighbours who have a shared history and language can be the basis for transferring knowledge and experience.

In order to fully realise the potential benefits of intra-UK comparisons, there needs to be more emphasis on developing routine, comparable datasets within the UK. In particular, there is a need for:

- more robust safety data along the lines of the established Agency for Healthcare Research and Quality (AHRQ) patient safety indicators in the US<sup>1</sup>
- robust datasets on inequities that are grounded in characteristics such as age, gender and race
- investment in intra-UK patient surveys, similar to the Commonwealth Fund surveys in 2004–06, which would allow patient views about quality of care to be gauged across the UK
- continuing efforts to maintain the work started by the UK Comparative Waiting Times Group to compare access to care
- reports of effectiveness and capacity indicators to be maintained by the statistical organisations and information centres based in each country, using standardised collection and reporting conventions.

Such developments would contribute to a robust set of comparative data that would depict performance across the six key domains of quality. These data have the potential to deliver great insight and significant potential for learning as devolution, and health system development, proceeds across the UK.

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1 See: [www.qualityindicators.ahrq.gov/psi\\_overview.htm](http://www.qualityindicators.ahrq.gov/psi_overview.htm)

## Introduction

### Quality of care in the devolved countries of the UK

The National Health Service (NHS) was established in 1948, assuming responsibility for the provision of a comprehensive preventive and curative service for the people of the UK. The fundamental principle underlying the NHS remains largely intact today: services are funded predominantly from general taxation and are primarily free at the point of use, comprehensive and available to all, regardless of ability to pay.

Since its inception, the NHS has seen huge transformations in the political and social landscape, and undergone remarkable change (for example, see Rivett 2008). One of the most significant changes to affect the NHS was the wide-ranging constitutional reform embarked on by the Labour Government elected in 1997. This led to a significant decentralisation of power – in a process referred to as ‘devolution’ – to elected bodies in Scotland, Wales and Northern Ireland. Following a series of referendums on the devolution process, in 1998 the UK government created an elected parliament in Scotland, an elected assembly in Wales and an elected assembly in Northern Ireland (although this was suspended in 2002 and restored again in May 2007). The devolution arrangements became fully operational on 1 July 1999 (Department for Constitutional Affairs, online). Prior to devolution, there were minor health policy differences across the four countries. However, after 1998 each of the new political bodies gained significant freedom to shape NHS policy in their jurisdiction, and the last decade has seen increased diversity in the organisation and delivery of healthcare services.

This chartbook examines quality of healthcare provided in the four devolved countries of the UK.

### The NHS in four countries – a brief description

Since 1 April 2002 primary care trusts in England (currently 152) have been responsible for planning services, with performance and standards monitored by 10 strategic health authorities. In Wales, the arrangements under which 22 local health boards and local authorities are required to formulate and implement a health, social care and well-being strategy for their local area, governed by National Assembly regulations and guidance, are currently under review. Health planning in Scotland is carried out by 14 NHS boards; in Northern Ireland it is undertaken by 4 health and social services boards.

Studies into the devolution process have explored the emerging differences in approach across the four countries. A number of commentators point to greater inclusiveness in policy-making (and shorter lines of accountability) in Scotland, Wales and Northern Ireland compared with England (Jervis and Plowden 2003; Chaney and Drakeford 2004).

Greer and Rowland (2007) highlight different values, describing commitments to:

- market and technical policy approaches in England
- collaboration and collectivism in Scotland
- communication and collectivism in Wales
- democratic participation, neutrality and public health in Northern Ireland (characterised as ‘having a say rather than having a choice’).

The constituent countries of the UK differ significantly in population, geographical size, and population density – these are important contextual features that must be taken into account when reviewing healthcare (see table below). In particular, the difference in population size affects confidence intervals for data. England has a population that is 10 times greater than Scotland, 17 times greater than Wales and 29 times greater than Northern Ireland. This results in much wider confidence intervals for the smaller countries.

#### Population estimates, geographical area and population density of the constituent countries of the UK

Country	Population estimate mid-2007 (thousands)	Geographical size (square kilometres)	Population per square kilometre
UK	60,975	244,110	249.8
England	51,092	130,410	391.8
Scotland	5,144	78,790	65.3
Wales	2,980	20,760	143.5
Northern Ireland	1,759	14,160	124.2

Source: [www.statistics.gov.uk/statbase/Product.asp?vlnk=15106](http://www.statistics.gov.uk/statbase/Product.asp?vlnk=15106)

## About this report

In 2005, a study of the effects of diverging health policy highlighted the great difficulty of obtaining valid comparable basic statistics on the NHS in the four countries (Alvarez-Rosete et al 2005). The chartbook seeks to address this problem: it draws together data from disparate sources in order to develop a comprehensive picture of quality and highlights differences in performance across the countries of the UK. It does not attempt to correlate differences in performance with different approaches to health policy and management.

## Defining quality in healthcare

Quality in healthcare is a multifaceted concept that is not amenable to a single performance measure or simple metric. In the past decade there has been a concerted international effort to improve measuring and reporting. A growing consensus about the key domains of quality in healthcare, and relevant measures and indicators to populate those domains, has emerged (Institute of Medicine 2001; OECD 2002; AHRQ 2003). The table below outlines the six key domains used by the authors to evaluate and monitor quality of care generally (Leatherman and Sutherland 2003, 2005).

**Quality domains to evaluate and monitor quality of care**

Quality domain	Principle	Examples of measures
Effectiveness	Healthcare services should be based, as far as possible, on relevant rigorous science and research evidence.	<ul style="list-style-type: none"> <li>• Mortality rates</li> <li>• Compliance rates with evidence-based guidelines</li> </ul>
Access and timeliness	Healthcare services should be provided at the time they are needed within the appropriate setting.	<ul style="list-style-type: none"> <li>• Provision of emergency care</li> <li>• Availability of specialist care or rehabilitation</li> </ul>
Capacity	Healthcare systems should be sufficiently well resourced to enable delivery of appropriate services.	<ul style="list-style-type: none"> <li>• Staffing levels</li> <li>• Number of scanners</li> <li>• Information technology</li> </ul>
Safety	Patients should not be harmed by the care that they receive or exposed to unnecessary risk.	<ul style="list-style-type: none"> <li>• Nosocomial infections</li> <li>• Medication errors</li> <li>• Falls</li> </ul>
Patient centredness	Healthcare should be: <ol style="list-style-type: none"> <li>1 based on a partnership between practitioners and patients (and where appropriate, their families)</li> <li>2 delivered with compassion, empathy and responsiveness to the needs, values and preferences of the individual patient.</li> </ol>	<ul style="list-style-type: none"> <li>• Survey data on: <ul style="list-style-type: none"> <li>• patient evaluations of care</li> <li>• shared decision-making</li> <li>• patient experiences and interactions with staff</li> </ul> </li> </ul>
Equity	Healthcare should be provided: <ol style="list-style-type: none"> <li>1 on the basis of clinical need, regardless of personal characteristics such as age, gender, race, ethnicity, language, socioeconomic status or geographical location</li> <li>2 in such a way as to reduce differences in health status and outcomes across various subgroups.</li> </ol>	<ul style="list-style-type: none"> <li>• Comparisons of care provided across different sub-populations (for example, older people versus entire population)</li> <li>• Mortality rates by socioeconomic status</li> </ul>

The criteria used to determine which indicators to include in the chartbook are:

- **relevance:** indicators are clinically meaningful or important to patient experience
- **methodological rigour:** the data have credence and validity and the indicators are based on a sound evidence base
- **balance:** the data contribute to a multifaceted picture of quality in care
- **timeliness:** the data provide an up-to-date assessment of quality.

## Putting performance in an international context

The focus of this report is the variation in quality across the countries of the UK. Previous studies have compiled international data that compare the UK as a whole or England individually with other healthcare systems in developed countries. It would be short-sighted to view quality and performance in the NHS solely in a UK context without reference to external benchmarks. The report contains a selection of key indicators to place the performance of the countries of the UK in an international context. In general, the differences between the UK and other countries are greater than those seen across the health systems within the UK.

The data in this report reveal significant differences in processes and outcomes, and provide insights into the relative strengths of history, cultural mores and traditions that influence performance in the NHS. These insights are instructive for managers and policy-makers seeking to deliver predictable improvements in quality of care.

## Effectiveness

Effectiveness refers to the extent to which an intervention produces its intended result.

Effectiveness in the context of the quality of healthcare also encompasses the concept of appropriateness, that is, the extent to which interventions or services are provided to those who would benefit and withheld from those who would not. Effectiveness indicators can measure:

- outcomes, such as mortality or survival rates which reflect the impact of prevention, diagnosis and treatment of disease or ill-health
- processes, such as prescribing rates and compliance with evidence-based guidelines which have been proven to affect outcomes and provide a more immediate measure of quality.

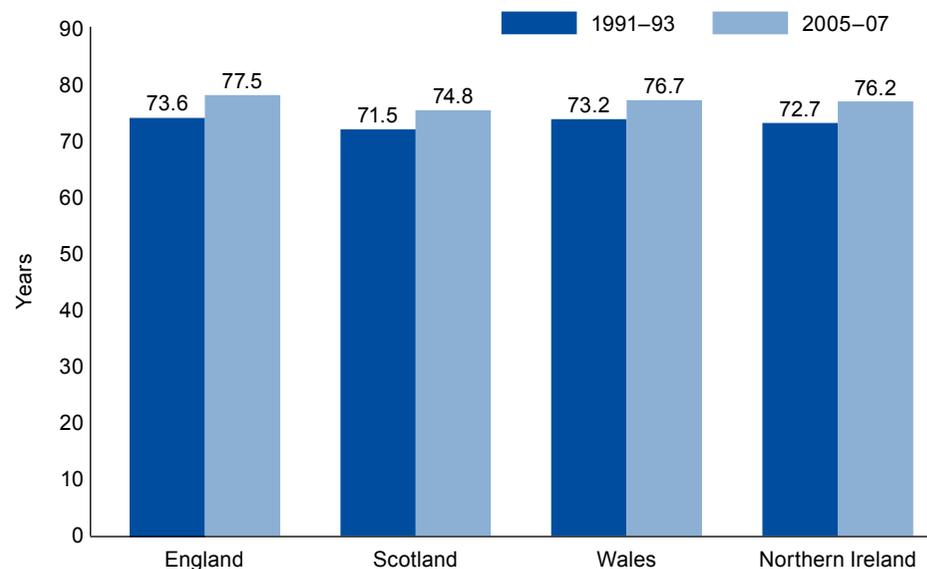
This section begins with broad indicators of effectiveness: life expectancy and mortality rates from major diseases. The bulk of the data are then organised into five sections:

- cancer
- circulatory disease
- infant and child health
- diabetes
- miscellaneous.

## Life expectancy at birth – males

Life expectancy is the number of years a person is expected to live if current age-specific mortality rates continue. In 2005–07, life expectancy at birth for the UK as a whole was 77.2 years for males and 81.5 years for females. The chart illustrates life expectancy data for males at birth in 1991–93 and in 2005–07 for the constituent countries of the UK (using rolling 3-year averages). Scotland had the lowest life expectancy and England the highest in both time periods. In 2005–07 life expectancy was 74.8 years in Scotland and 77.5 years in England. The largest increases in life expectancy since 1991–93 were observed in England where the increase was 3.9 years (5.3 per cent).

Life expectancy at birth, males, 1991–93 – 2005–07



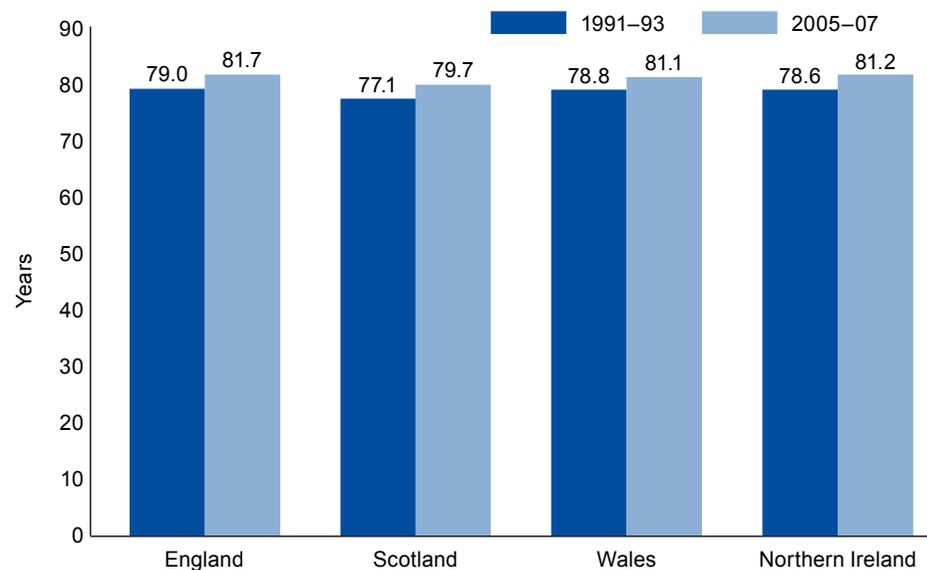
Source: Office for National Statistics (ONS)

	Change 1991–93 to 2005–07 (%) Males
England	5.3
Scotland	4.6
Wales	4.8
Northern Ireland	4.8

## Life expectancy at birth – females

Life expectancy (the number of years a person is expected to live if current age-specific mortality rates continue) increased significantly over the last century (ONS, online a). This chart illustrates life expectancy data for females at birth in 1991–93 and in 2005–07. Scotland had the lowest life expectancy and England the highest in both time periods. In 2005–07 life expectancy was 79.7 years in Scotland and 81.7 years in England. The largest increases in life expectancy since 1991–93 were observed in England where the increase was 2.7 years (3.4 per cent).

Life expectancy at birth, females, 1991–93 – 2005–07



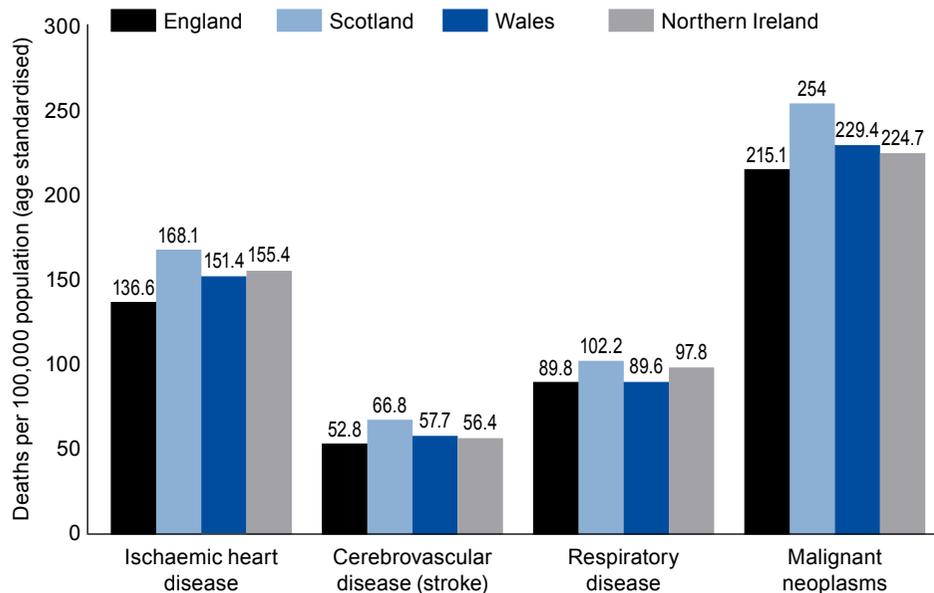
Source: ONS

	Change 1991–93 to 2005–07 (%) Females
England	3.4
Scotland	3.4
Wales	2.9
Northern Ireland	3.3

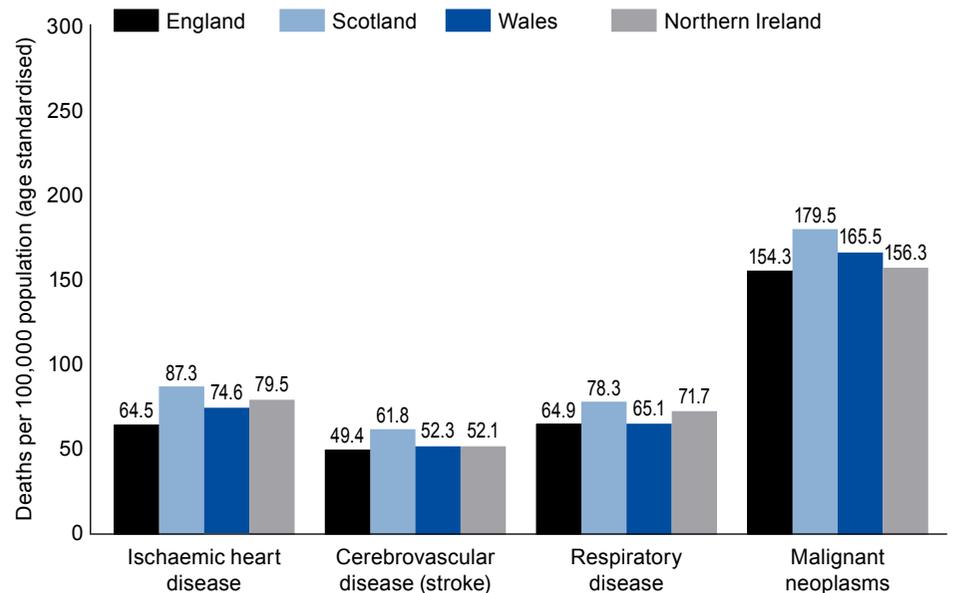
## Mortality rates – major diseases

Across the UK, circulatory disease (which includes ischaemic heart disease, stroke and other conditions), cancer (malignant neoplasms) and respiratory disease are the most common causes of death. Circulatory disease as a whole has been the most common cause of death for almost a century. The charts illustrate European age standardised death rates per 100,000 population from common causes across the constituent countries of the UK in 2006, highlighting that in general Scotland has higher mortality rates for both males and females.

**Mortality rates (underlying cause), males all ages, 2006**



**Mortality rates (underlying cause), females all ages, 2006**



Source: ONS, GROS, NISRA, [www.statistics.gov.uk/downloads/theme\\_health/UKHS3/UKHS2008web.pdf](http://www.statistics.gov.uk/downloads/theme_health/UKHS3/UKHS2008web.pdf)

## Cancer

Cancer arises from abnormal and uncontrolled cell division. The proliferating cells that result invade and destroy surrounding tissue. Spread of cancer (or metastasis) can occur via the lymphatic system or the blood stream or across body cavities such as the pleural and peritoneal spaces, resulting in secondary tumours.

There are more than 200 types of cancer, each with different causes, symptoms and treatments. Each year there are around 290,000 new cases diagnosed across the UK. More than one in three people will develop some form of cancer during their life. Cancer is predominantly a disease of older people, with around three-quarters of cases occurring in people aged 60 and over. Breast, lung, bowel and prostate cancers are the most common types of cancer in the UK. Together they account for over half of all new cancers each year. Overall cancer incidence rates have increased by one quarter since 1975, but the rate of increase has declined over the past decade.

One quarter of all deaths in the UK, or around 154,000 deaths each year, are attributed to cancer. The overall cancer death rate has fallen by almost 15 per cent over the past decade.

Cancer has been the focus for a number of performance targets and standards across the UK, including:

### England

- reduce the death rate from cancer by 20 per cent in people aged under 75 by 2010, from a 1995–97 baseline
- reduce cancer deaths in people aged under 75 by 100,000 by 2010, from the 1999 baseline
- reduce the inequalities gap in cancer mortality by at least 6 per cent between the fifth of areas with the worst health and deprivation indicators and the population as a whole by 2010

### Scotland

- reduce the under-75 cancer mortality rate (per 100,000) by 20 per cent from 167.3 in 1995 to 133.8 in 2010 (standardised to the European population)

### Wales

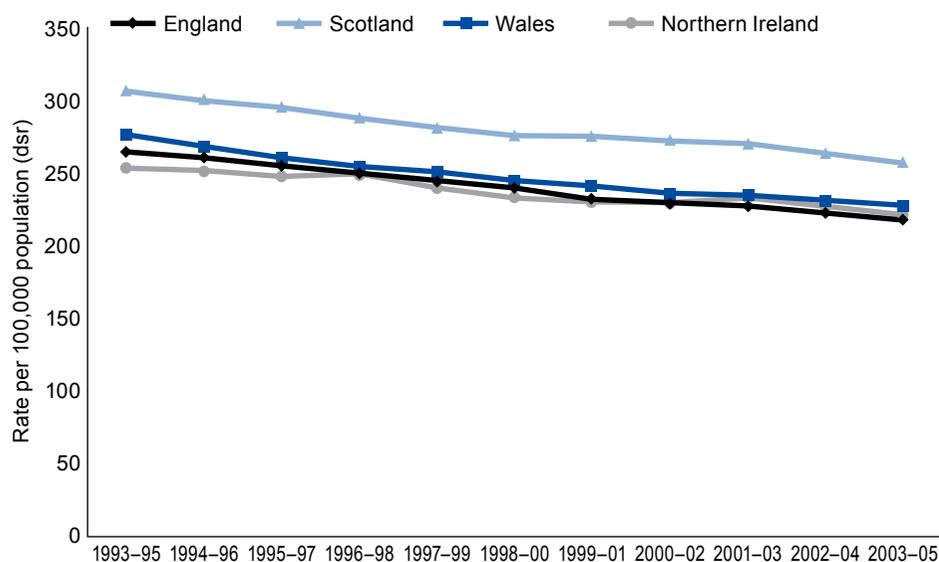
- have comparable cancer incidence rates with the lowest European quartile by 2015
- reduce cancer mortality in people aged under 75 by 20 per cent by 2012 from a 2002 baseline (excluding non-melanoma skin cancer)
- improve cancer mortality in all groups and at the same time aim for a more rapid improvement in the most deprived groups.

### Cancer mortality time series

Cancer is a major cause of morbidity and mortality in the UK. In the three-year period 2003–05, an average of 288,000 new cases of cancer (excluding non-melanoma skin cancer) were diagnosed each year in the UK. In the same time period, there were on average 153,959 deaths from cancer across the UK, with 126,642 deaths in England, 15,099 deaths in Scotland, 8,449 deaths in Wales and 3,768 deaths in Northern Ireland (Westlake 2008). Around one-half of all cancer deaths are a result of breast,

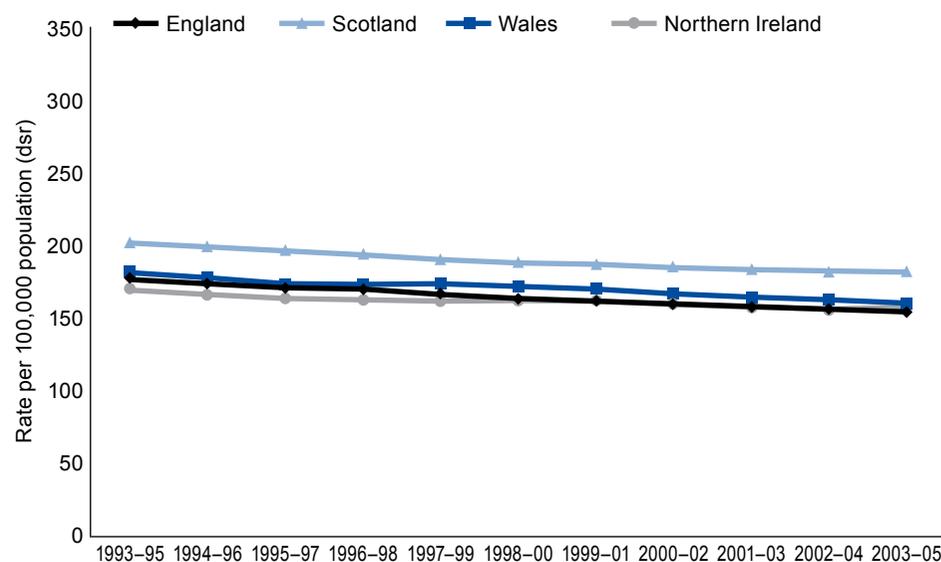
lung, colorectal and prostate cancer. These charts illustrate trends in cancer mortality between 1993–95 and 2003–05 (rolling 3-year averages). All of the constituent countries of the UK showed a significant decrease in death rates. For males, the greatest percentage decrease was recorded in Wales and in England (-18 per cent); for females, the most marked decrease was in England (-13 per cent).

#### Cancer mortality, males, 1993 – 2005



	Change 1993–95 to 2003–05 (%)
England	-18
Scotland	-16
Wales	-18
Northern Ireland	-13

#### Cancer mortality, females, 1993 – 2005



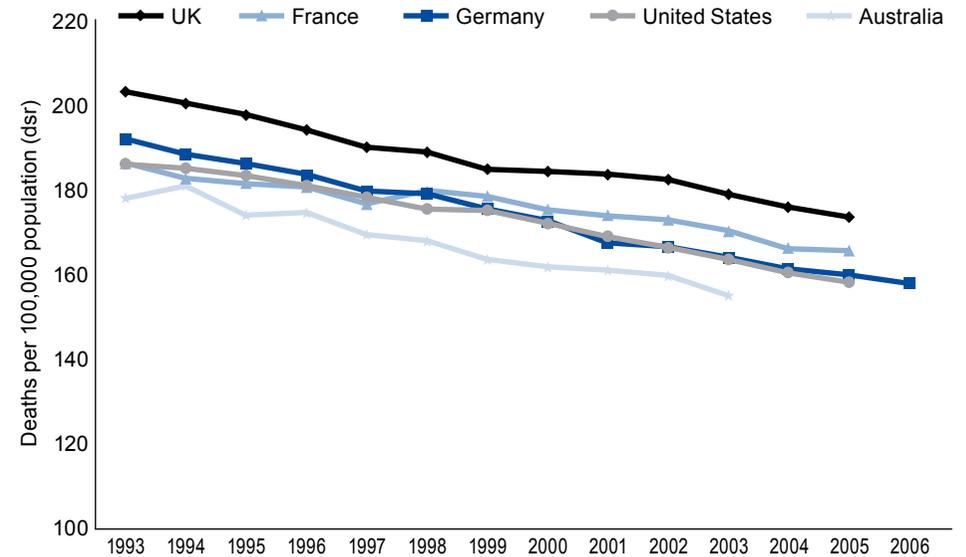
	Change 1993–95 to 2003–05 (%)
England	-13
Scotland	-10
Wales	-12
Northern Ireland	-7

Source: ONS, GROS, NISRA, [www.statistics.gov.uk/cci/article.asp?id=2007](http://www.statistics.gov.uk/cci/article.asp?id=2007)

### Cancer mortality – international time series

To place the preceding chart in context, this graph presents Organisation for Economic Cooperation and Development (OECD) data on cancer mortality, which compares the UK as a whole with other developed healthcare systems. This chart shows that, despite the considerable decreases in cancer mortality in recent years, the UK continues to lag behind other countries.

**Cancer mortality rates, international comparison, 1993 – 2006**



Source: OECD

	Change 1993–2005 (%)
Australia*	-12.9
France	-11.4
Germany	-16.5
UK	-14.5
USA	-15.1

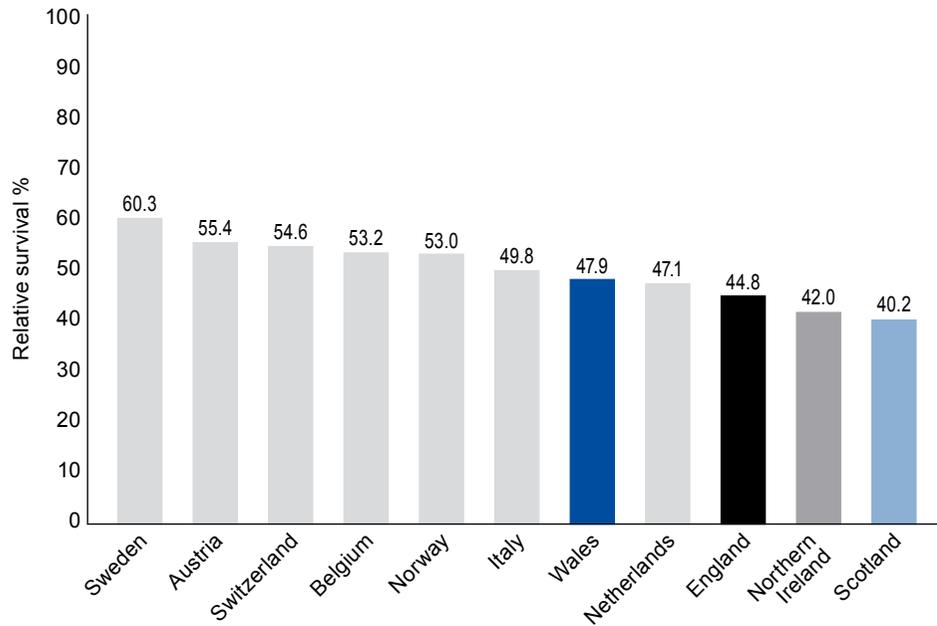
\*Australia's figures span 1993–2003

### Cancer survival

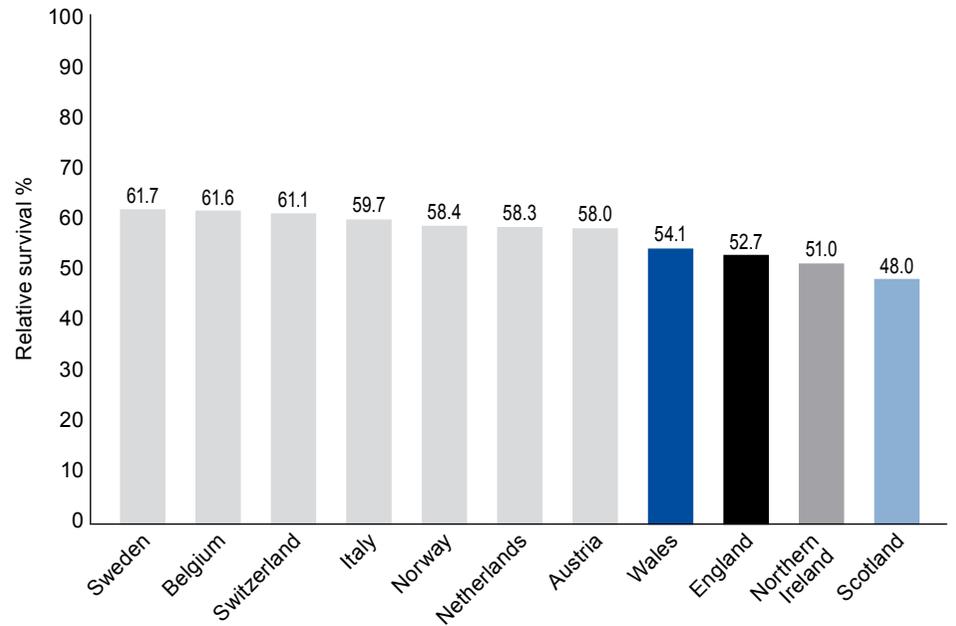
In 1989, the EUROCARE project was established with the aim of measuring and explaining international differences in cancer survival in Europe. In September 2007, the latest data comparing five-year relative survival ratios (that is, the ratio of observed survival in cancer patients to the expected survival for non-cancer patients) were published. The charts illustrate data

for five-year survival ratios for those patients diagnosed between 2000 and 2002 (see the Technical appendix for confidence intervals). For both males and females the UK countries have lower survival ratios than most other European countries. Within the UK, Scotland recorded the lowest survival ratios and Wales recorded the highest.

**Age adjusted 5-year relative survival – all malignancies, males diagnosed 2000–02**



**Age adjusted 5-year relative survival – all malignancies, females diagnosed 2000–02**

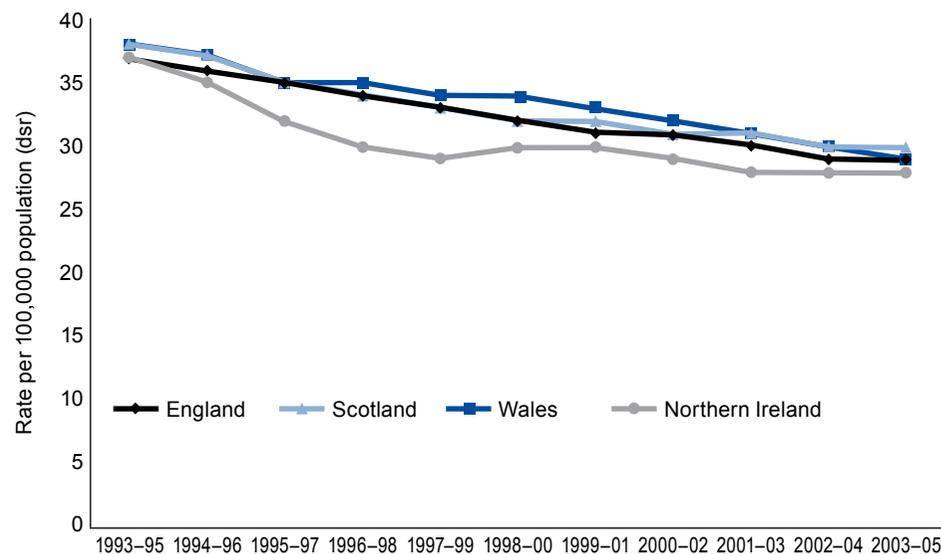


Source: EUROCARE-4, see Verdecchia et al (2007)

### Breast cancer mortality

Breast cancer is the most common cancer in the UK (excluding non-melanoma skin cancer). One in nine women will develop breast cancer during their lifetime. More than 45,000 people (predominantly women) are diagnosed with breast cancer in the UK each year. Breast cancer mostly occurs in women over the age of 50, but almost 8,000 diagnosed each year are under 50 years old (Cancer Research UK online). The chart shows that there was a generalised decrease in mortality rates from breast cancer across the countries of the UK between 1993–95 and 2003–05 (rolling 3-year averages), with Wales and Northern Ireland recording the greatest fall (24 per cent decrease).

**Breast cancer mortality, females, 1993–95 – 2003–05**



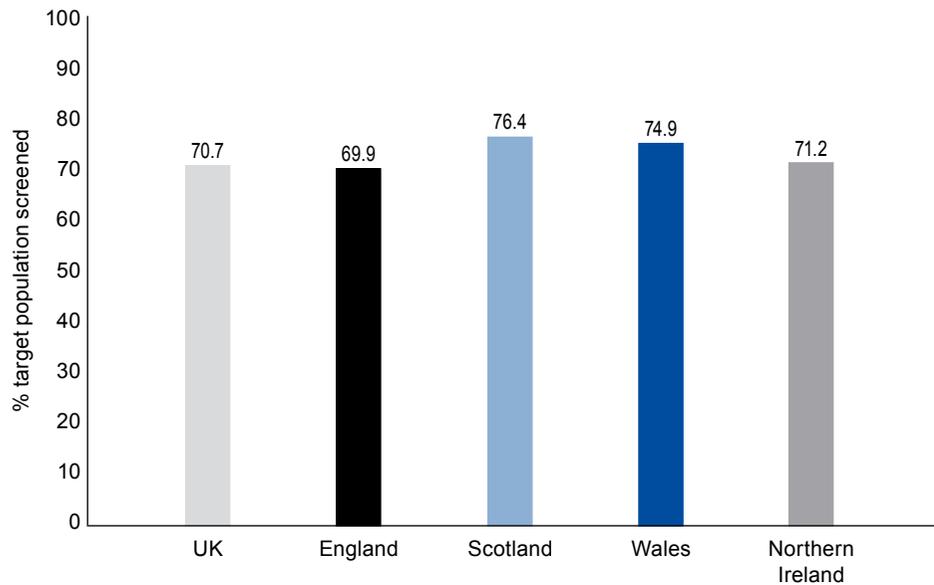
Source: ONS, GROS, NISRA

	Change 1993–95 to 2003–05 (%)
England	-22
Scotland	-21
Wales	-24
Northern Ireland	-24

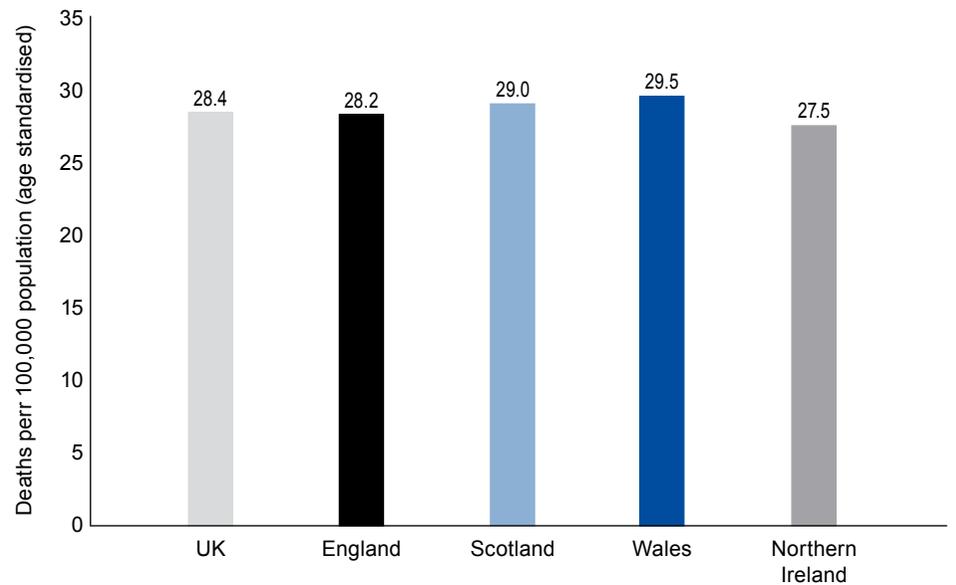
### Breast cancer – screening coverage and death rates

The World Health Organization’s International Agency for Research on Cancer (IARC) evaluated the available evidence on breast cancer screening and found a 35 per cent reduction in mortality from breast cancer among screened women aged 50–69 years. According to England’s Department of Health (DH) (online), for every 500 women screened, one life will be saved. These charts juxtapose 2006 data for screening uptake and breast cancer mortality rates. No consistent relationship between the two indicators is apparent.

**Breast screening uptake, 2006**



**Breast cancer, mortality rates, 2006**

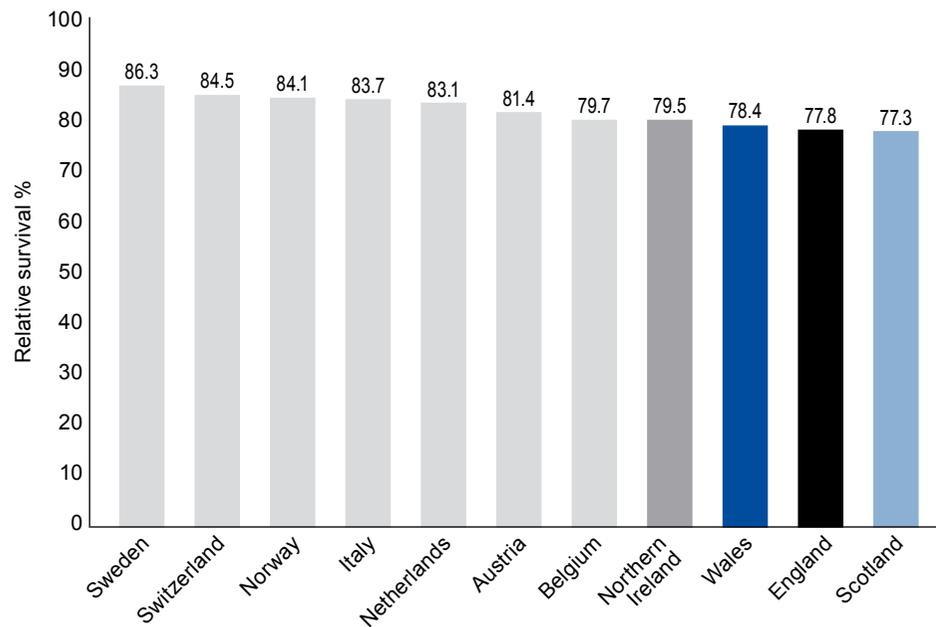


Source: ONS, Welsh Assembly Government, GROS, NISRA

### Breast cancer survival

The EUROCARE project analysed data from 47 European cancer registries, calculating 5-year survival ratios for patients diagnosed between 2000 and 2002. This chart illustrates the data for breast cancer and shows that the countries of the UK are at the lower end of the range of survival ratios. Differences between UK countries were not statistically significant (at 95 per cent confidence interval (CI), see Technical appendix for details).

#### Age adjusted 5-year relative survival from breast cancer, diagnosed 2000–02

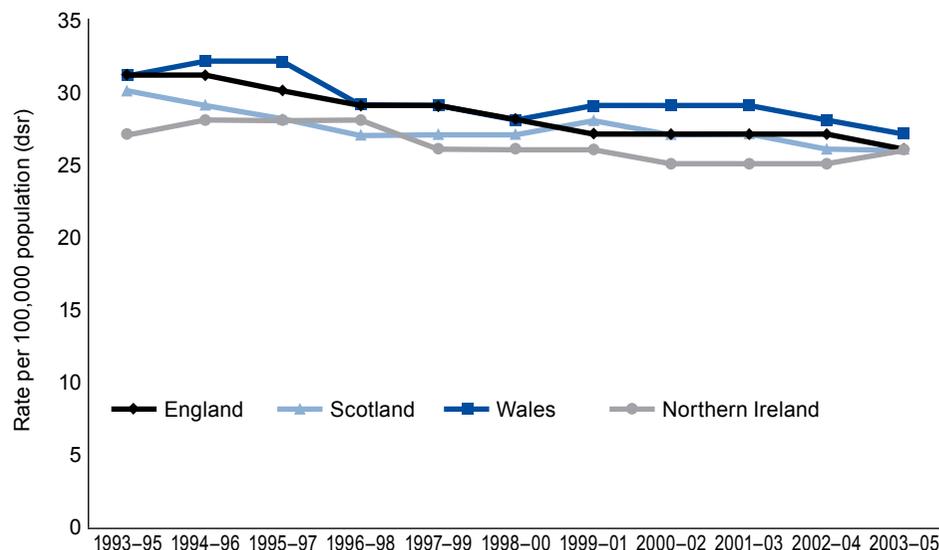


Source: EUROCARE-4, see Verdecchia et al (2007)

### Prostate cancer mortality

The number of men diagnosed with prostate cancer in the UK is increasing and it is now the most common cancer in men (excluding non-melanoma skin cancer). Almost 35,000 men are diagnosed in the UK each year. Out of every 100 cancers diagnosed in men, 24 are prostate cancers. Prostate cancer incidence rates in the UK increased by 45 per cent, from 67 to 97 per 100,000 males, over the period 1993–95 to 2003–05 (Westlake 2008; Westlake and Cooper 2008). The chart shows that, despite this increase in incidence, prostate cancer mortality is decreasing (chart shows rolling 3-year averages). The most marked decrease in mortality rates among the UK countries was recorded in England (-16 per cent).

Prostate cancer mortality, males, 1993–95 – 2003–05



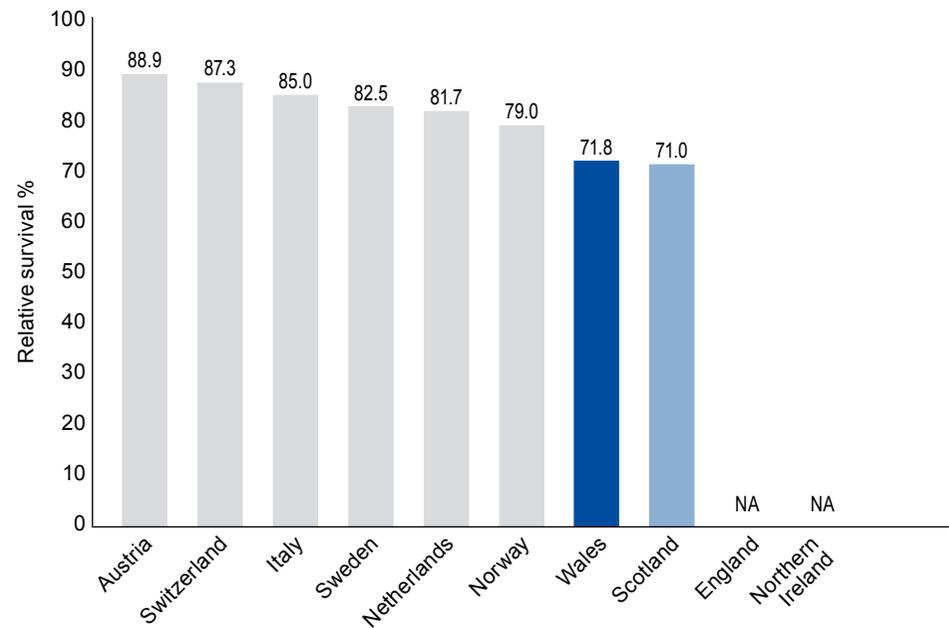
Source: ONS, GROS, NISRA

	Change 1993–95 to 2003–05 (%)
England	-16
Scotland	-13
Wales	-10
Northern Ireland	-4

### Prostate cancer survival

Data from 47 European cancer registries on 5-year survival ratios for patients diagnosed between 2000 and 2002 were published by EURO CARE in 2007. This chart illustrates the data for prostate cancer and shows that both Wales (71.8 per cent) and Scotland (71.0 per cent) had low relative survival ratios compared with other European countries (although they are not significantly different from each other, see Technical appendix for details). Data were not available for England and Northern Ireland. Prostate cancer survival ratios should be interpreted with care. Extensive use of Prostate Specific Antigen (PSA) testing to diagnose prostate cancer may identify 'indolent' cancers that would otherwise go undetected and which have a high survival rate.

**Age adjusted 5-year relative survival from prostate cancer, diagnosed 2000–02**



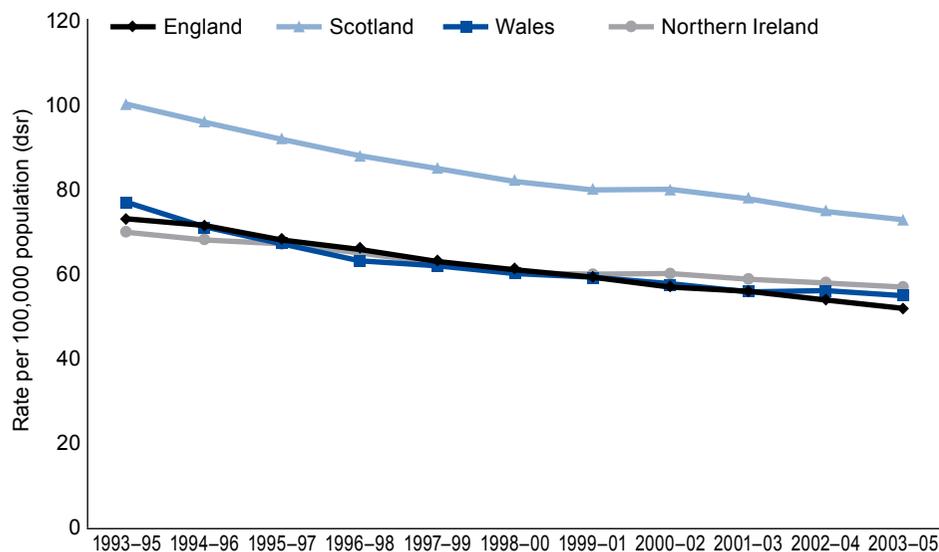
Source: EURO CARE-4, see Verdecchia et al (2007)

## Lung cancer mortality

Lung cancer is the second most common cancer in the UK (excluding non-melanoma skin cancer). Around 38,300 people are diagnosed with lung cancer in the UK each year. With the decline in the popularity of smoking, lung cancer rates in men have fallen. Lung cancer rates in women increased until the late 1980s and have since levelled off. Of the UK countries, Scotland

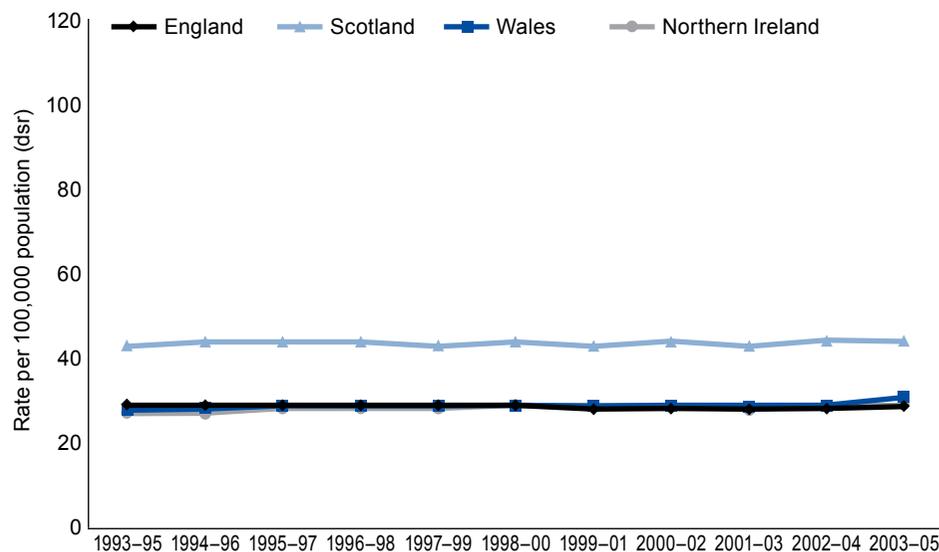
has the highest mortality rate from lung cancer in both males and females. Between 1993–95 and 2003–05 (3-year rolling averages), Wales and England recorded the sharpest declines in mortality rates among males (-29%); for females over the same time period rates did not change in England and increased in Wales, Scotland and Northern Ireland.

### Lung cancer mortality, males, 1993–95 – 2003–05



	Change 1993–95 to 2003–05 (%)
England	-29
Scotland	-27
Wales	-29
Northern Ireland	-19

### Lung cancer mortality, females, 1993–95 – 2003–05



	Change 1993–95 to 2003–05 (%)
England	0
Scotland	2
Wales	11
Northern Ireland	7

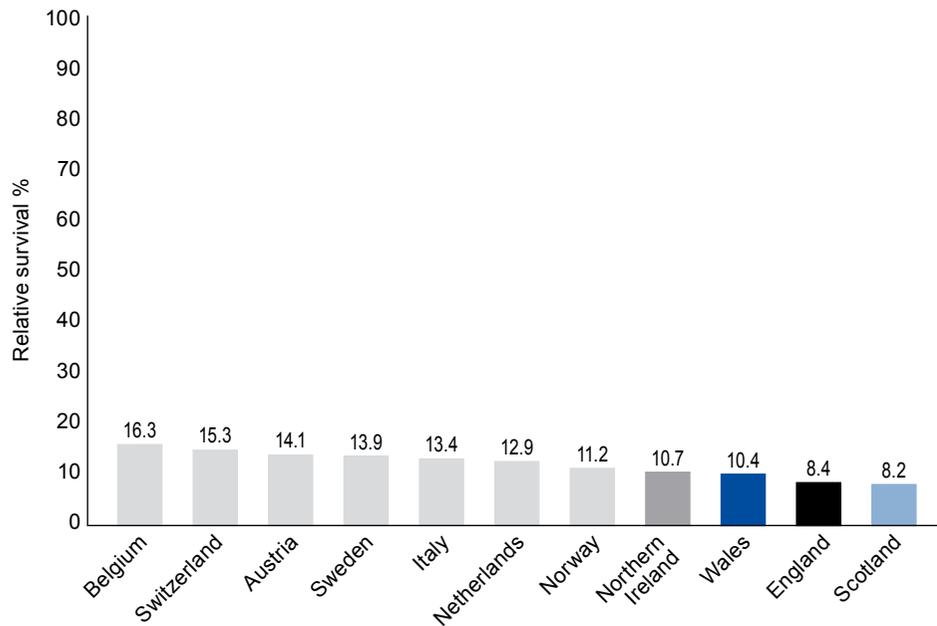
(none significant at 95% CI)

Source: ONS

### Lung cancer survival

EUROCARE analysed data from 47 European cancer registries, calculating 5-year survival rates for patients diagnosed between 2000 and 2002. This chart illustrates the data for lung cancer and shows that the countries of the UK are at the lower end of the range of survival rates. Northern Ireland has the highest survival rate (10.7 per cent) and Scotland has the lowest (8.2 per cent) – a statistically significant difference at 95 per cent CI (see Technical appendix for details).

#### Age adjusted 5-year relative survival from breast cancer, diagnosed 2000–02



Source: EUROCARE-4, see Verdecchia et al (2007)

## Circulatory disease

The circulatory system moves blood and lymph around the body and consists of the heart and blood vessels. According to the Office for National Statistics (ONS), diseases of the circulatory system have been the most common causes of death in the UK for almost all of the last century (ONS online b). More than one in three deaths (35 per cent) are from circulatory disease each year. About half (48 per cent) of deaths from circulatory disease are from coronary heart disease (CHD) and more than a quarter (28 per cent) are from stroke (Allender et al 2008).

Circulatory diseases are a major cause of premature death (that is, death before the age of 75). In 2006, circulatory disease caused just over 53,000 premature deaths. This represents 30 per cent of premature deaths in males and 22 per cent of premature deaths in females (Allender et al 2008).

Circulatory disease has been the focus for a number of performance targets and standards across the UK, including:

### England

- reduce the death rate from CHD, stroke and related diseases in people under 75 years by at least two-fifths by 2010 (DH 1999, 2004)

### Scotland

- reduce mortality rates from CHD among people under 75 years by 60 per cent between 1995 and 2010, from the baseline of 124.6 to 49.8 per 100,000 population
- reduce mortality rates from stroke among people under 75 years by 50 per cent between 1995 and 2010, from the baseline of 37.5 to 18.8 per 100,000 population

(Scottish Executive 2008)

### Wales

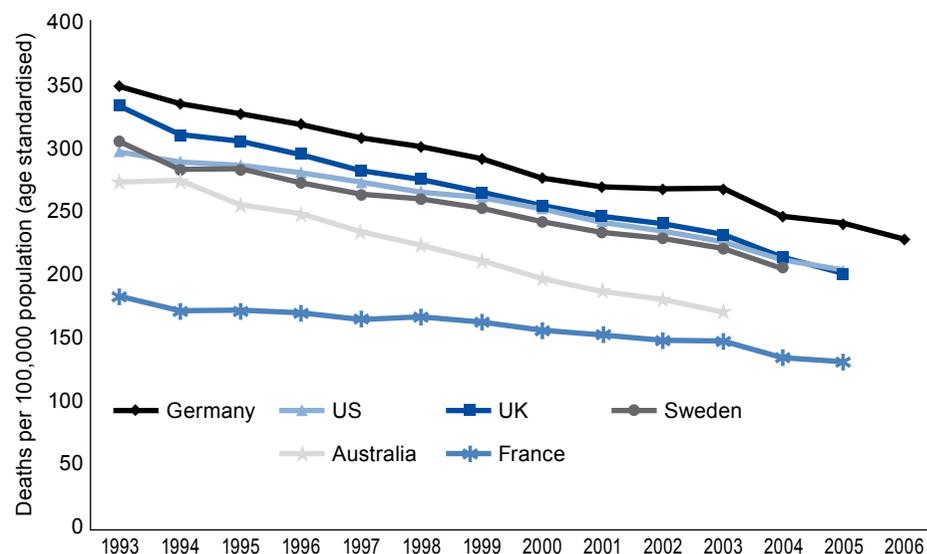
- reduce CHD mortality in 65–74 year olds from 600 per 100,000 in 2002 to 400 per 100,000 in 2012
- reduce stroke mortality in 65–74 year olds by 20 per cent by 2012

(Welsh Assembly Government 2008).

### Mortality from circulatory diseases – international comparison

Deaths from circulatory disease, which includes stroke and heart disease, have been falling in developed countries in recent years. This chart provides some international context for the intra-UK charts which follow. The chart illustrates that the UK as a whole recorded a 40 per cent decrease in mortality rates from circulatory diseases between 1993 and 2005 – the steepest fall among the countries shown here.

**Mortality rates from circulatory disease, international comparison, 1993 – 2006**



Source: OECD

	Change 1993–2005 (%)
Australia*	-37
France	-28
Germany	-31
Sweden	-33
UK	-40
USA	-31

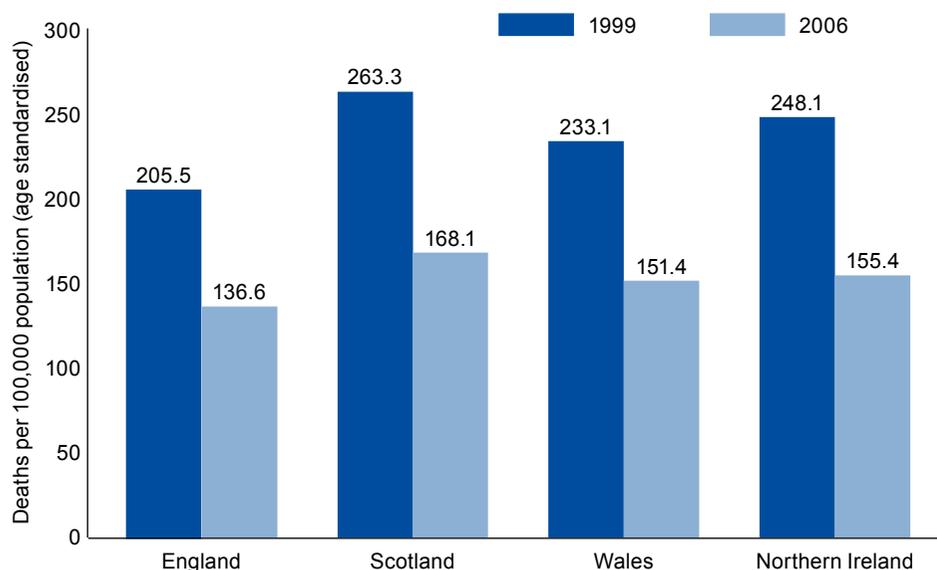
\* Australia's figures span 1993–2003

### Mortality from ischaemic heart disease

Ischaemic heart disease (IHD) is characterised by the accumulation of fatty deposits (atheroma) in the wall of the coronary arteries. A build-up of these deposits in a process known as atherosclerosis leads to narrowing or hardening of the coronary arteries resulting in poor blood supply to the heart muscle. Complete blockage or occlusion leads to a heart attack

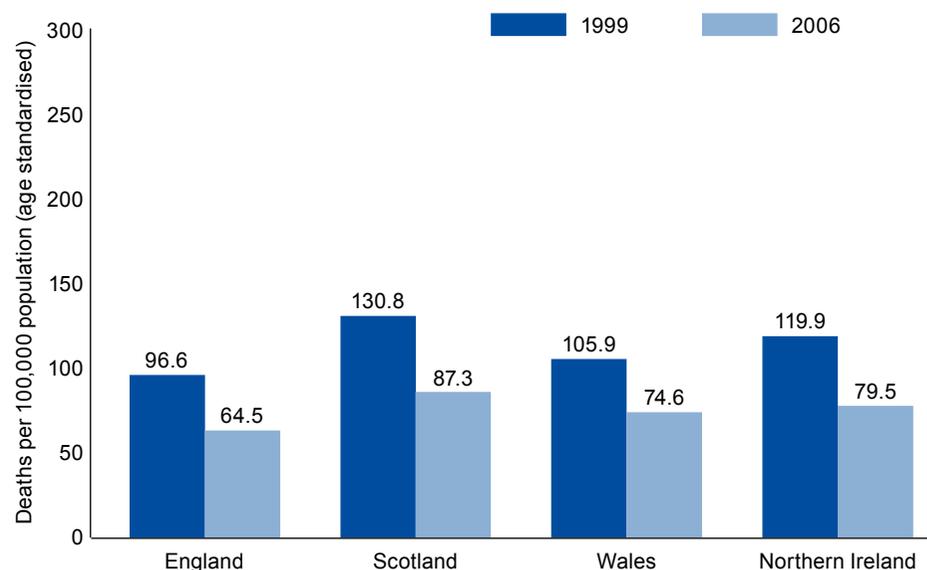
(myocardial infarction). The charts illustrate mortality rates from 1999 and 2006. Northern Ireland recorded the steepest fall in rates for both males (from 248.1 to 155.4 deaths per 100,000 – a 37.4 per cent drop) and for females (from 119.9 to 79.5 deaths per 100,000 – a 33.7 per cent drop).

**Mortality from ischaemic heart disease, males all ages, 1999 and 2006**



	Change 1999–2006 (%)
England	-33.5
Scotland	-36.2
Wales	-35.0
Northern Ireland	-37.4

**Mortality from ischaemic heart disease, females all ages, 1999 and 2006**



	Change 1999–2006 (%)
England	-33.2
Scotland	-33.3
Wales	-29.6
Northern Ireland	-33.7

Source: ONS, GROS, NISRA

### CHD in primary care – blood pressure and cholesterol QOF indicators

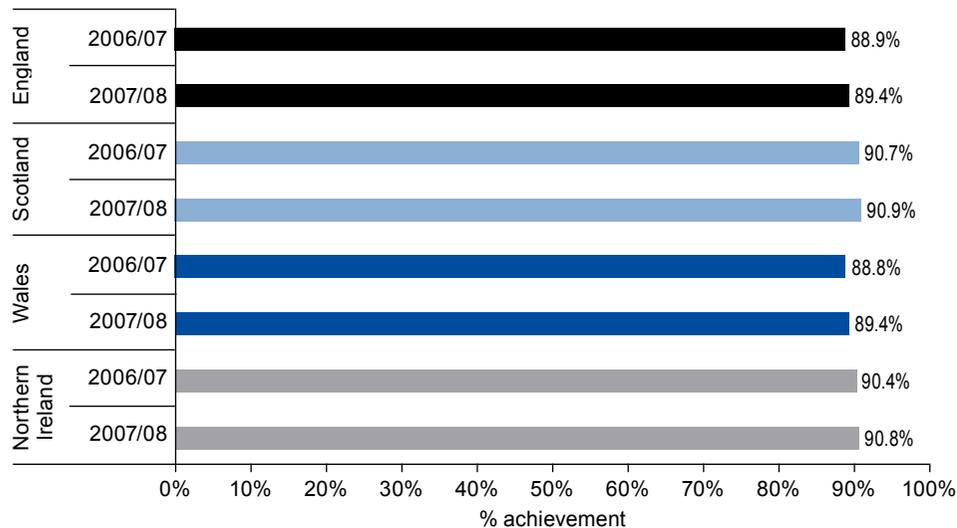
The Quality and Outcomes Framework (QOF) was introduced as part of the GP contract in 2004. It is a voluntary incentive scheme where general practices gain achievement points and payment on the basis of disease management, organisation, patient experience and extra services they offer. This chart illustrates QOF achievement data for two coronary heart disease (CHD) indicators for 2006/07 and 2007/08:

- the percentage of patients with coronary heart disease in whom the last blood pressure reading (measured in the previous 15 months) is 150/90 or less (CHD06)

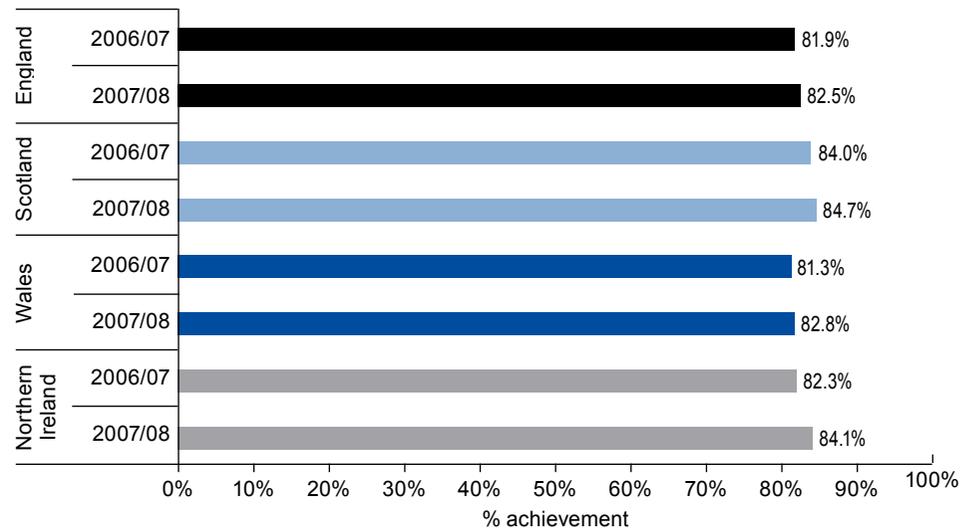
- the percentage of patients with coronary heart disease whose last measured total cholesterol (measured in the previous 15 months) is 5 mmol/l or less (CHD08).

Overall, achievement scores are high and these have improved slightly over the two time periods. It is important to note that QOF data are highly dependent on diagnosis and recording within general practices.

**CHD patients: QOF indicator achievement scores, blood pressure control, 2006/07 and 2007/08**



**CHD patients: QOF indicator achievement scores, cholesterol control, 2006/07 and 2007/08**

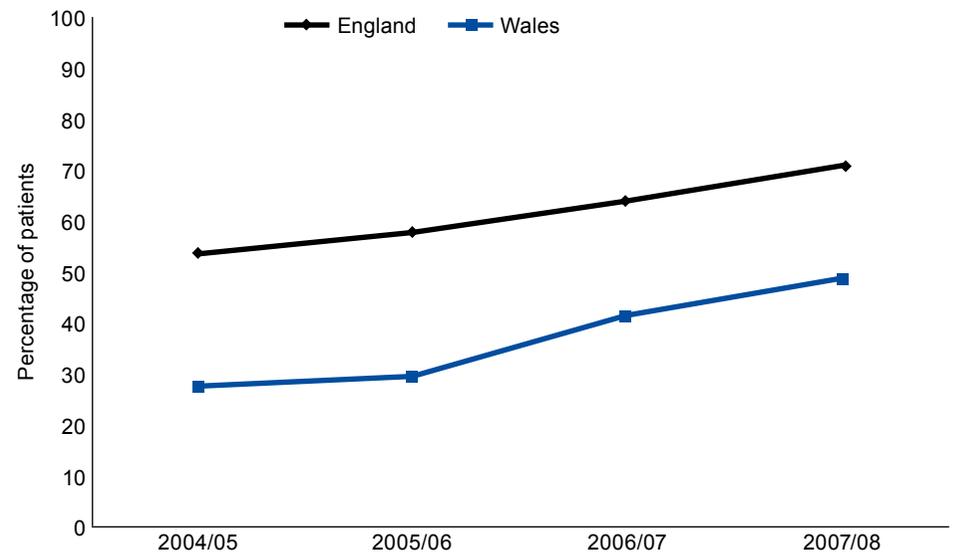


Sources: NHS Information Centre, ISD Scotland, StatsWales, DHSSPSNI

### Managing heart attacks – reperfusion

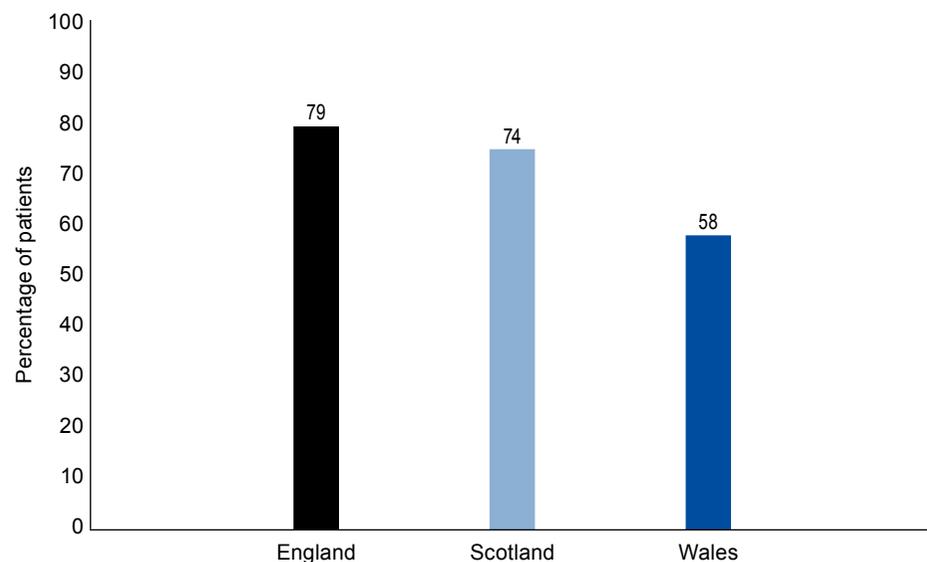
Reperfusion refers to treatment that re-opens the blocked coronary artery responsible for a heart attack, seeking to limit damage to the heart. Two forms of treatment exist: thrombolytic treatment, where the clot is dissolved by a drug, and primary angioplasty, where the artery is reopened using a balloon catheter inserted into the blocked artery. The chart illustrates data from the Myocardial Ischaemia National Audit Project (MINAP) for thrombolytic treatment – specifically the percentage of patients receiving thrombolysis within 60 minutes of calling for help. This indicator is regarded as the most relevant overall indicator of care of heart attack patients. It reflects the combined performance of the ambulance service, GPs and hospitals (RCP 2008). It shows that English hospitals are providing thrombolysis in a more timely fashion than Welsh hospitals, but both countries have seen a steady improvement in performance over time.

**Percentage of patients receiving thrombolytic treatment within 60 minutes of calling for help, 2004/05 – 2007/08**



There is, however, a clinical case for moving from thrombolysis to a primary angioplasty service for treatment of heart attack (DH, 2006a). Primary angioplasty has advantages over thrombolytic treatment, especially in patients who delay calling for help when they experience symptoms of heart attack (RCP 2008). In 2007/08, out of the 227 hospitals in the MINAP audit, 54 hospitals in England and two in Wales used primary angioplasty for immediate treatment of heart attack. More than 20 per cent of patients in England and Wales eligible for reperfusion treatment now have primary angioplasty compared with about 8 per cent in 2005/06. This chart presents data on time to angioplasty from MINAP for England and Wales, alongside data from Scotland drawn from the Scottish Care Information – Acute Coronary Syndrome (SCI-ACS) initiative (see Technical appendix for details and data caveats). MINAP data indicate that for patients undergoing primary angioplasty, the median length of time of interventional centre door to balloon time was 56 minutes in England (interquartile range 24–84) and 82 minutes in Wales (interquartile range 59–117).

### Percentage of primary angioplasty patients receiving angioplasty within 90 minutes of arrival at interventional centre door, 2007/08



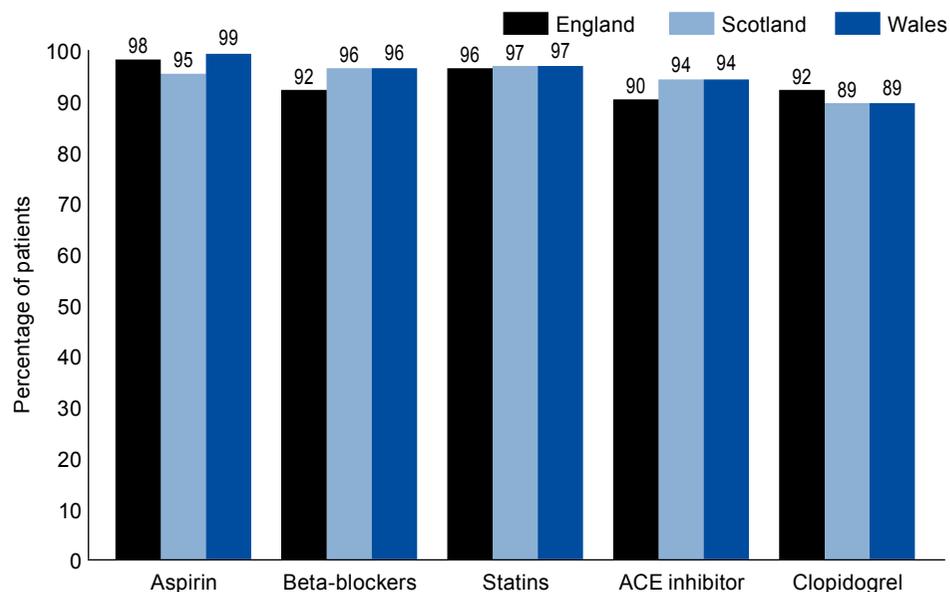
Sources: RCP, GROS

Note: Scottish data based on different methodology; comparisons to England and Wales should be made with care (see Technical appendix for details)

### Managing heart attacks – secondary prevention

Secondary prevention after a myocardial infarction refers to interventions that reduce the likelihood of future heart attacks and encompasses lifestyle changes, such as smoking cessation, promotion of healthy eating and regular physical activity, as well as drug treatments. The most recent national guidelines recommend that all patients who have had an acute heart attack should be offered treatment with a combination of the following drugs (unless contraindicated): ACE (or angiotensin-converting enzyme) inhibitor (or for those patients who are intolerant of an ACE inhibitor an angiotensin receptor blocker), aspirin, beta blockers and statins (NICE 2007). Additionally, patients who were prescribed clopidogrel (an oral antiplatelet agent used to prevent blood clots) in combination with low dose aspirin during the acute phase of their heart attack should continue to take the combination (aspirin/clopidogrel) for four weeks in those presenting with ST-segment (of on electrocardiogram – ECG) elevation during the acute event and 12 months in the rest. Patients undergoing primary angioplasty should have clopidogrel for 12 months (NICE 2004). The chart illustrates data from MINAP which monitors performance in England and Wales. It also includes Scottish data from SCI-ACS and shows a generalised high level of compliance with the guidelines for secondary prevention.

Secondary prevention medication, 2007/08



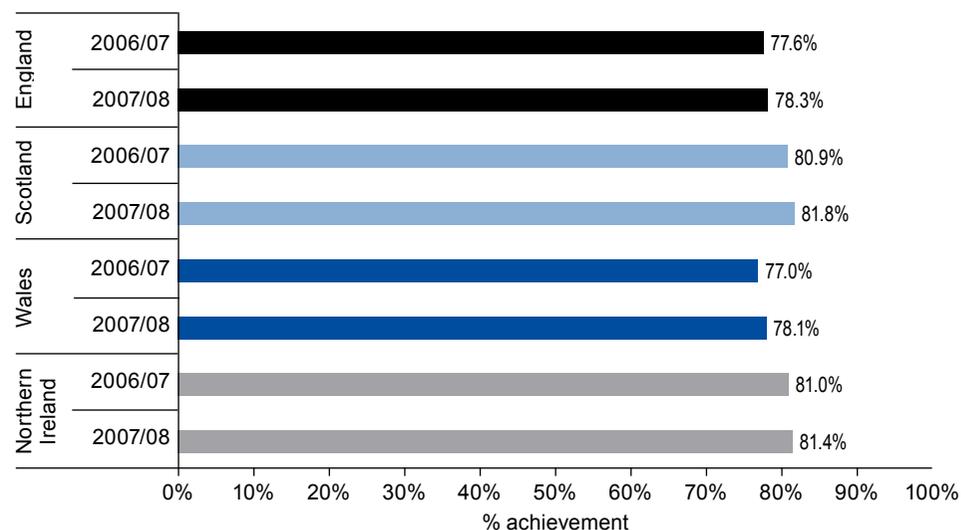
Source: MINAP, SCI-ACS

Note: Scottish data is based on different methodology; comparisons to England and Wales should be made with care (see Technical appendix for details)

### Hypertension in primary care – QOF indicators

Hypertension is defined by the National Institute for Health and Clinical Excellence (NICE) as persistent raised blood pressure above 140/90 mmHg and is a risk factor for the development of coronary heart disease, stroke and kidney disease. In the UK, about 16 million people (more than one in four) have high blood pressure. NICE guidance states that patients should be given an annual review of care to monitor blood pressure, provide patients with support and discuss their lifestyle, symptoms and medication (NICE 2006). This chart illustrates QOF data from 2006/07 and 2007/08 on blood pressure monitoring in patients diagnosed as hypertensive. It shows that there have been slight improvements in achievement levels in all countries. In 2007/08, Scotland recorded the highest achievement level (81.8 per cent) and Wales the lowest (78.1 per cent). Across the UK, around 20 per cent of patients do not have their hypertension under control. In both time periods, more than 92 per cent of hypertensive patients were recorded as having had their blood pressure measured in the preceding 9 months in all UK countries (data not shown).

**Percentage of patients with hypertension in whom the last blood pressure (measured in previous 9 months) is 150/90 or less, 2006/07 and 2007/08**

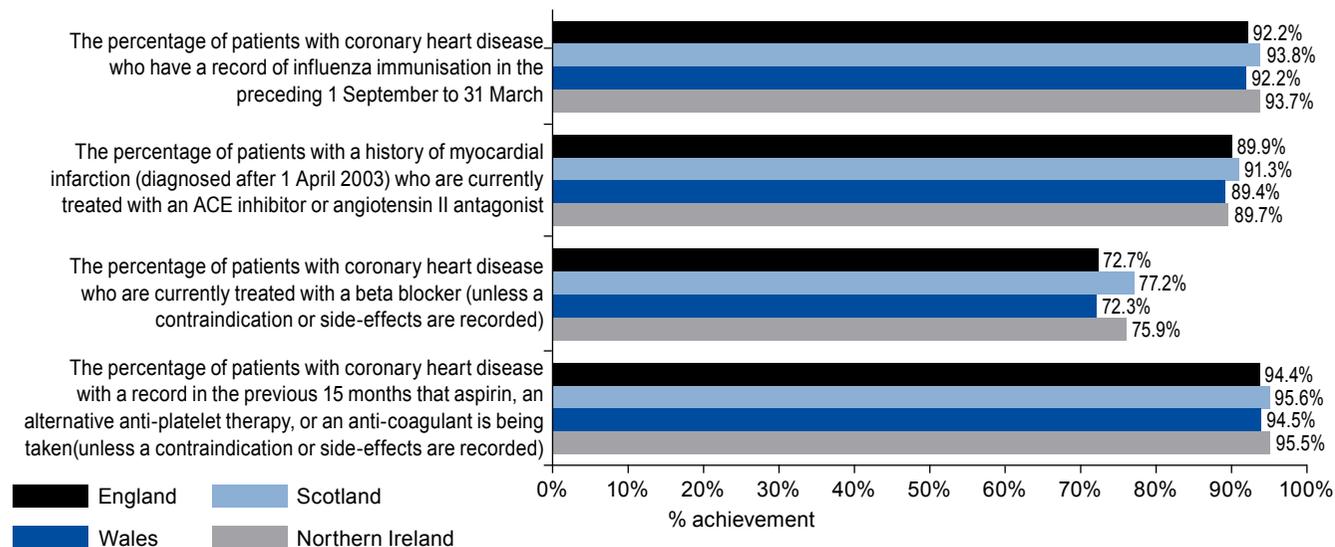


Sources: NHS Information Centre, ISD Scotland, StatsWales, DHSSPSNI

### CHD in primary care – QOF medication indicators

The QOF rewards primary care doctors for providing evidence-based care to their patients. For CHD, this care includes a number of medications that have been shown to be beneficial. The graph illustrates the achievement data for these medication indicators in 2007/08. Most notable is the relatively low compliance with recommendations for beta-blockers. Long-term beta blockade is an effective and well-tolerated treatment that reduces mortality and morbidity in patients with angina and in patients after myocardial infarction (SIGN 2007a, 2007b).

#### CHD, medication indicators – QOF, 2007/08



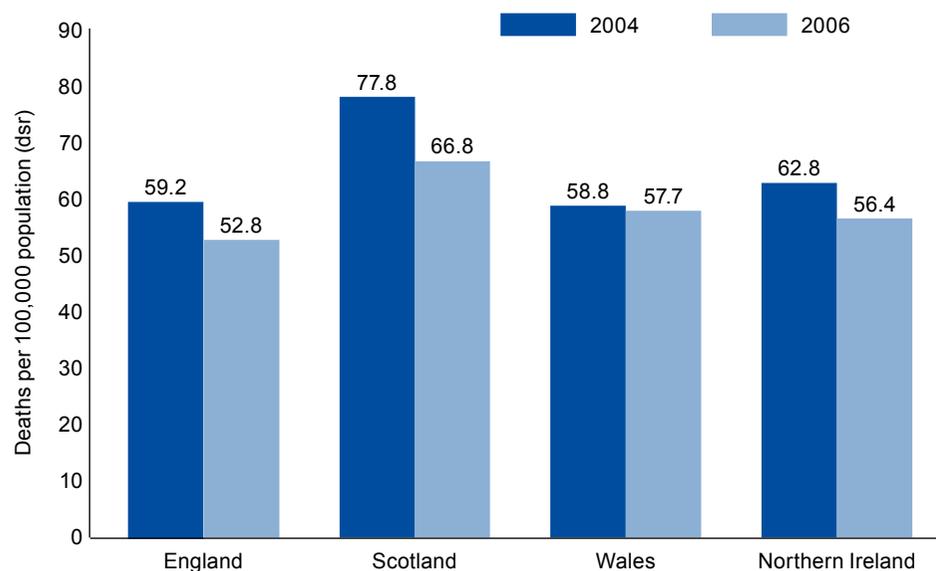
Sources: NHS Information Centre, ISD Scotland, StatsWales, DHSSPSNI

## Stroke mortality

Stroke is the third biggest cause of death in the UK and the largest single cause of severe disability. Stroke accounts for the vast majority of cerebrovascular diseases. These charts show mortality data for 2004 and 2006. For males, for all countries except Wales, rates decreased by

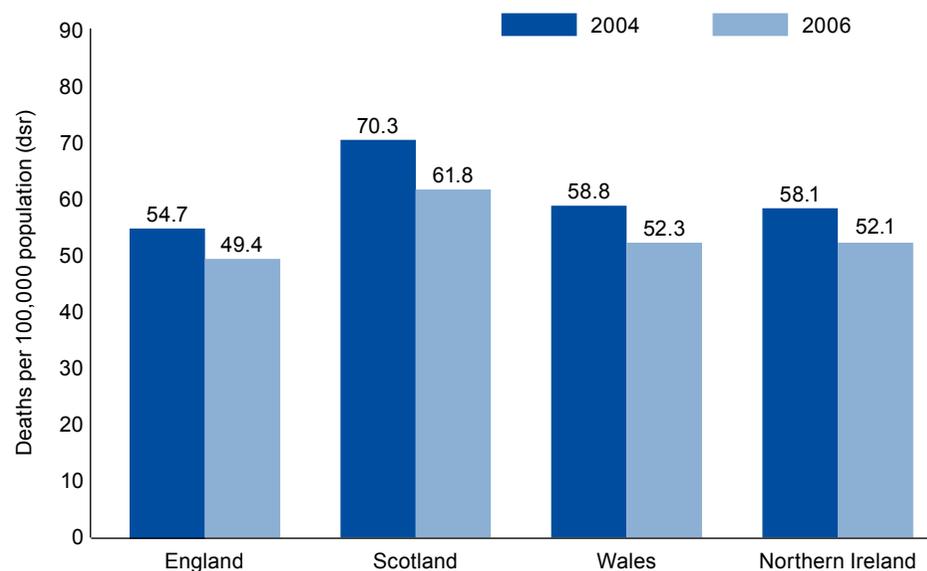
more than 10 per cent over the two-year period (Scotland recorded a 14.1 per cent decrease). For females, all countries saw a substantial decrease ranging from 9.7 per cent in England to 12.1 per cent in Scotland.

**Mortality from cerebrovascular disease, males, 2004 and 2006**



	Change 2004–06 (%)
England	-10.8
Scotland	-14.1
Wales	-1.9
Northern Ireland	-10.2

**Mortality from cerebrovascular disease, females, 2004 and 2006**



	Change 2004–06 (%)
England	-9.7
Scotland	-12.1
Wales	-11.1
Northern Ireland	-10.3

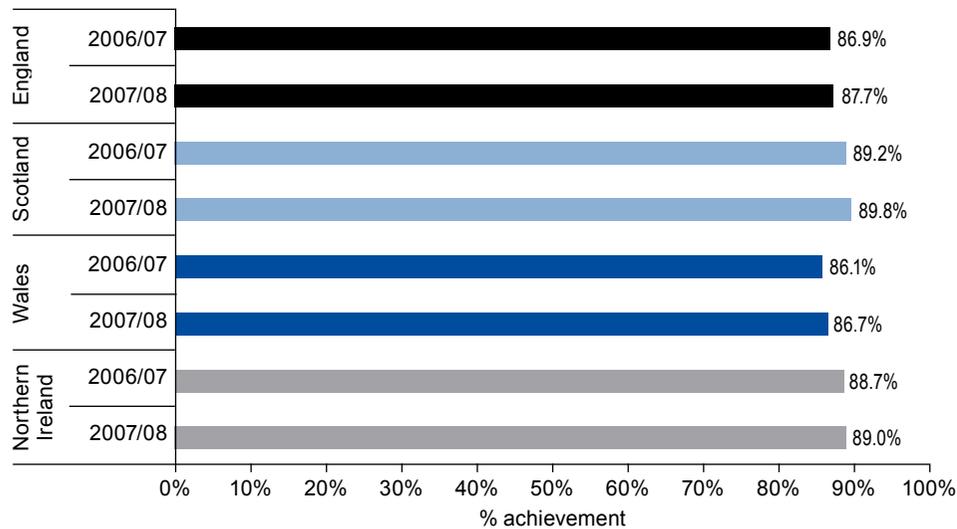
Source: ONS, GROS, NISRA

### Stroke in primary care – blood pressure and cholesterol QOF indicators

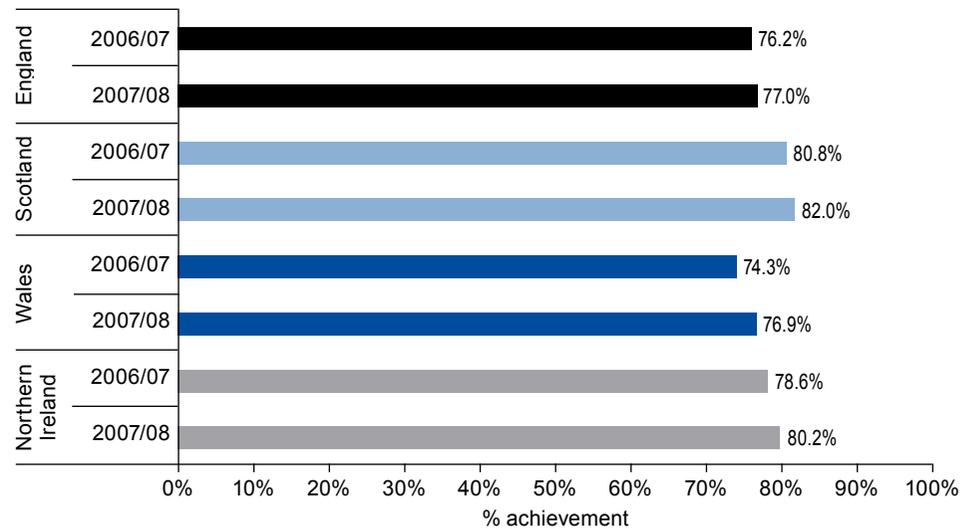
The QOF includes 12 indicators specifically focused on stroke and TIA (transient ischaemic attack) patients. Overall there has been a consistently high compliance with monitoring of blood pressure and cholesterol levels reported (between 92 and 94 per cent across UK countries in 2007/08 – data not shown). The chart illustrates that achievement rates for good

control of blood pressure and cholesterol ranged in 2007/08 from 86.7 per cent for Wales to 89.8 per cent for Scotland (the proportion of patients with blood pressure readings of 150/90mmHg or less), and from 76.9 per cent for Wales to 82.0 per cent for Scotland (the proportion of patients with cholesterol levels of <5mmol/L).

**Percentage of patients with TIA or stroke in whom the last blood pressure reading was 150/90, 2006/07 and 2007/08**



**Percentage of patients with TIA or stroke whose last measured total cholesterol (measured in the previous 15 months) is 5mmol/L or less, 2006/07 and 2007/08**

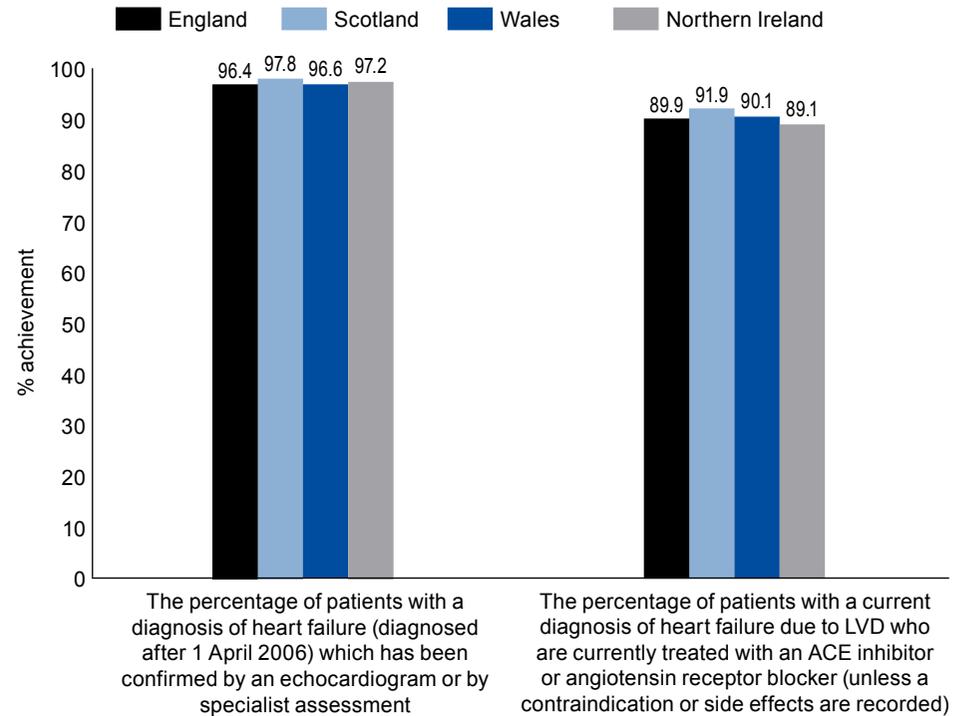


Sources: NHS Information Centre, ISD Scotland, StatsWales, DHSSPSNI

### Heart failure in primary care – QOF indicator achievement

Heart failure affects 900,000 people in the UK (Healthcare Commission 2007). It is caused by a reduction in the heart's ability to pump blood around the body. The condition can be extremely debilitating and comes with a high risk of sudden death – up to 40 per cent of patients die within a year of diagnosis. The chart illustrates results from QOF in 2006/07 for two heart failure indicators. Current guidance recommends echocardiography or specialist assessment for all patients with suspected heart failure, regardless of presumed aetiology (Remme et al 2001; NICE 2003); patients with left ventricular dysfunction (LVD) heart failure should receive either ACE inhibitors or angiotensin receptor blockers (Pfeffer et al 2003). The chart shows that, while compliance levels are high in diagnosis and assessment, around 10 per cent of heart failure patients are not receiving the recommended treatment.

Heart failure QOF indicators, 2007/08



Sources: NHS Information Centre, ISD Scotland, StatsWales, DHSSPSNI

## Infant and child health

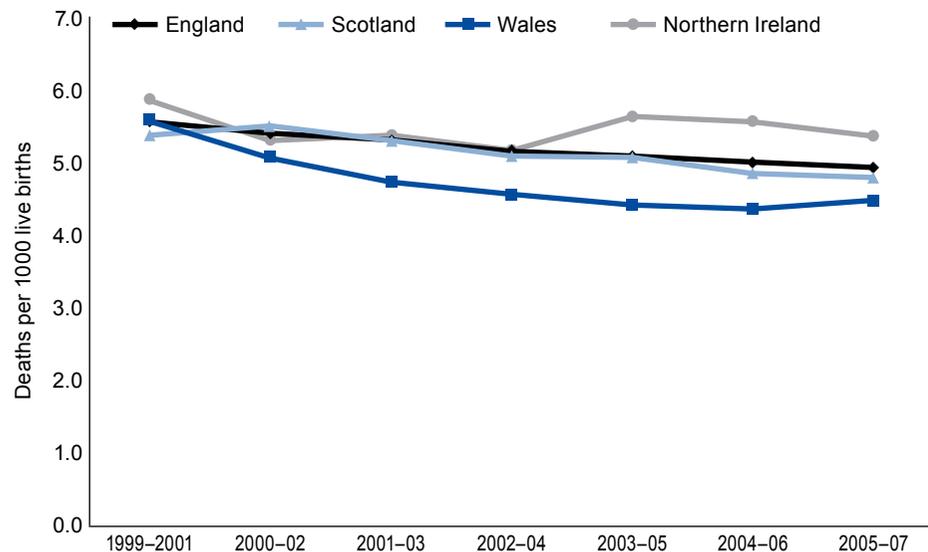
In 2007 there were 11.5 million children aged under 16 in the UK: 5.9 million boys and 5.6 million girls (ONS online c); in 2005/06 there were some 734,000 births (2005/06 birth data ONS 2008). Policy-makers throughout the UK recognise that ensuring the health of children is fundamental both to improving the health of the population as a whole and to helping combat inequality (ISD online).

Research conducted in the US found serious deficiencies in the quality of healthcare provided to children (Leatherman and McCarthy 2004; Perrin and Homer 2007; Mangione-Smith et al 2007). Because of constraints of time and space only broad measures of quality are presented in this chartbook.

### Infant mortality

Infant mortality refers to deaths in children under one year of age. It is a sensitive measure of the overall health of a population as the causes of infant mortality are likely to influence the health status of whole populations, such as their economic development, general living conditions, social well-being, rates of illness and the quality of the environment (Reidpath and Allotey 2003). The UK in 2006 had an infant mortality rate of 5.0 per 1,000 live births. Rates are lower in many European countries – for example, Sweden (2.8), Norway (3.2), Czech Republic (3.3), France (3.8), Germany (3.8), Ireland (3.7) and Spain (3.8) (OECD 2008). The chart shows infant mortality rates for UK countries as three-year rolling averages. Most recent data indicate that Wales had the lowest infant mortality rates.

#### Infant mortality rates, 1999–01 – 2005–07



Source: ONS, GROS, NISRA

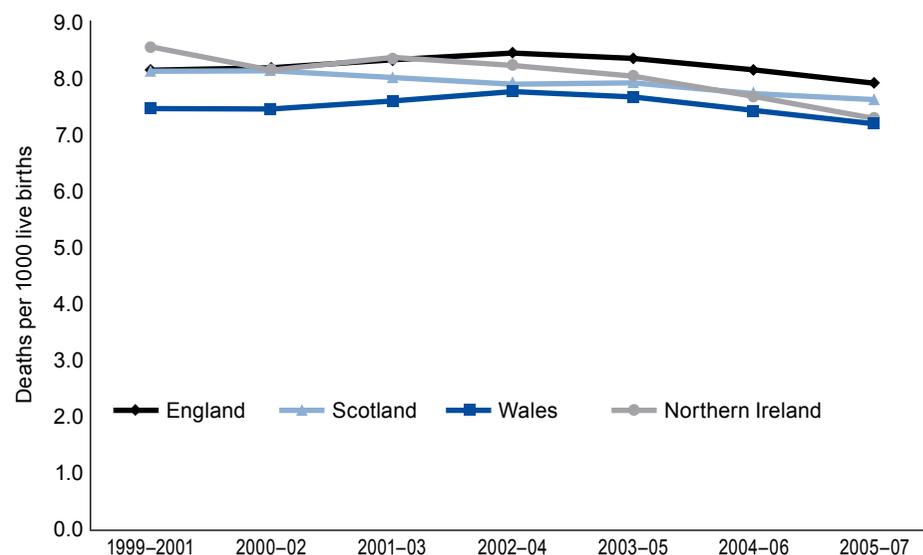
## Perinatal mortality

Perinatal mortality refers to stillbirths and deaths under one week per 1,000 births. Risk factors for perinatal mortality include:

- low birthweight: stillbirth rates for the low birthweight (<2,500 g) group are 300 times higher than the normal birthweight group
- age of mother: stillbirth rates for women aged below 20 years or over 35 years have higher risk
- multiplicity of pregnancy: risk of stillbirth is approximately three times higher for multiple deliveries compared to single deliveries
- region of maternal residence
- social class: reflected in regional differences – rates are higher among lower classes
- maternal country of birth: rates are 30 per cent higher among ethnic minority mothers born outside the UK compared with UK-born mothers
- gestation/prematurity: risks increase with lower gestation
- sex: trends show that stillbirth rates are predominantly higher among males compared with females
- method of delivery: forceps and breech deliveries show highest rates – high-risk babies have improved outcomes with improved obstetric and paediatric care (including staffing, departmental organisation, interpartum intervention, neonatal intensive care units and special care baby units).

In 2005–07 (three-year rolling average), Wales had the lowest perinatal mortality rate, with 7.2 per 1,000 births (live and stillbirths). Overall, the UK in 2007 had a perinatal mortality rate of 7.7 deaths per 1000 births.

## Perinatal mortality, 1999–01 – 2005–07

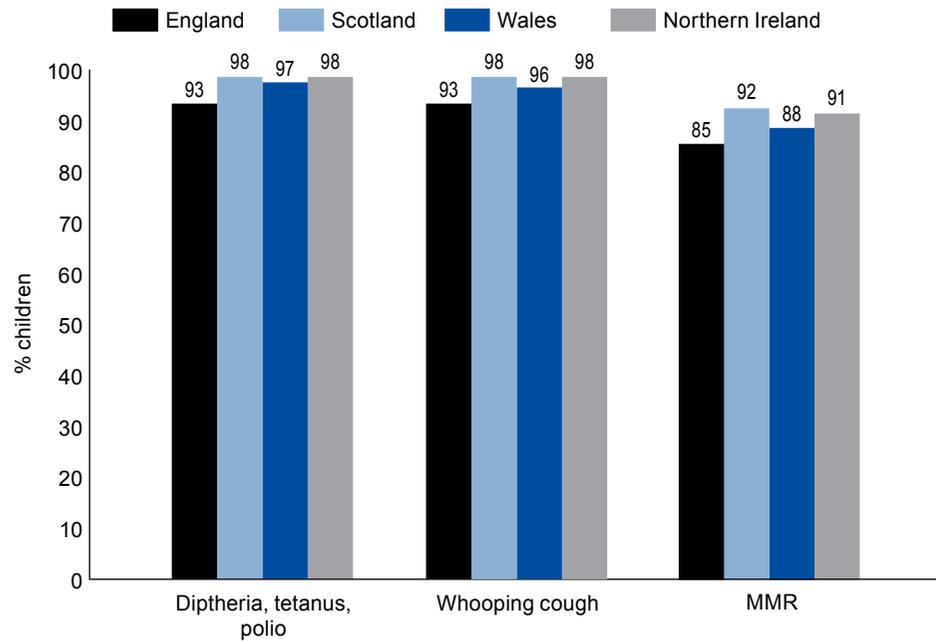


Source: ONS, GROS, NISRA

### Childhood immunisation

Vaccination is one of the most cost-effective disease prevention strategies in public health (HPA 2008). This chart illustrates childhood immunisation data for 2006/07 and shows that Scotland and Northern Ireland had the highest coverage; England had the lowest.

#### Percentage of children immunised by 2nd birthday, 2006/07



Source: DH, Welsh Assembly Government, ISD Scotland, NISRA

## Diabetes

Diabetes mellitus is a disease in which the body either does not produce, or properly use, insulin. A hormone produced by the pancreas, insulin is needed to convert sugar, starches and other food into energy. The result of insulin deficiency is the high blood sugar levels characteristic of the disease. There are two main forms of diabetes: type 1 diabetes results from the body's failure to produce insulin, and type 2 diabetes results from insulin resistance (suboptimal use of insulin). Obesity is closely linked with type 2 diabetes. Diabetes is associated with serious chronic ill health, disability and premature mortality. Long-term complications include heart disease, stroke, blindness, kidney disease and amputations (Diabetes UK 2008). Many of the long-term effects of diabetes can be avoided with effective control of blood pressure and blood sugar levels.

There are around 2.5 million people diagnosed with diabetes in the UK (see table below). Of these, 2 million have type 2 diabetes. In addition to these figures there are an estimated 500,000 cases of undiagnosed type 2 diabetes.

### Prevalence of diabetes in the UK (QOF data)

	People diagnosed with diabetes (000s)	Prevalence (%)
England	2,088	3.9
Scotland	201	3.7
Wales	139	4.4
Northern Ireland	61	3.3

Sources: NHS Information Centre, ISD Scotland, StatsWales, DHSSPSNI

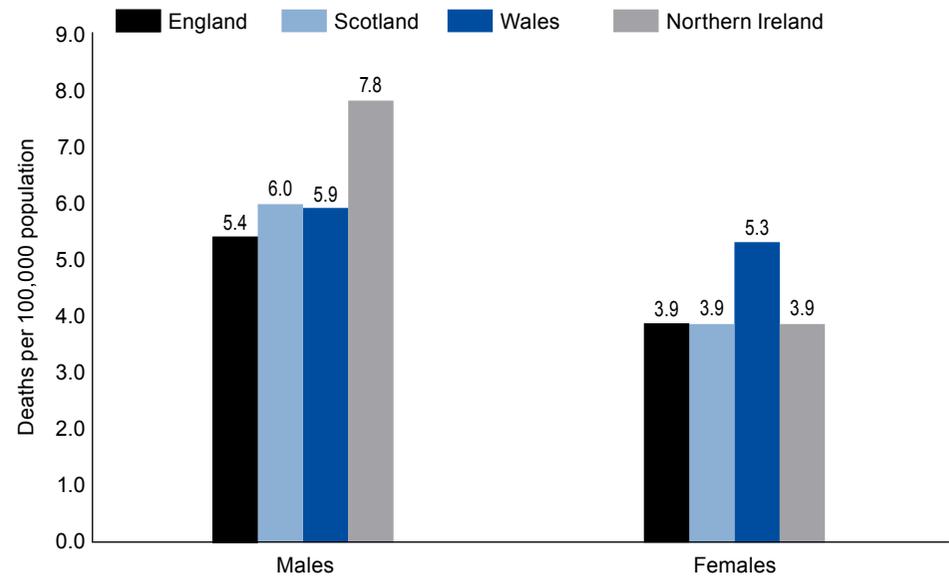
It is anticipated that by 2025 there will be over four million people with diabetes in the UK (YHPHO 2008a).

The economic costs of diabetes are substantial. An estimated 10 per cent of NHS spending (£9 billion) is spent on treating diabetes and its complications (DH 2006b).

### Diabetes mortality

Mortality rates from diabetes are much lower than those from cancer or heart disease, despite high levels of incidence and prevalence. In international comparisons, the UK has a relatively low mortality rate from diabetes. It is known that there is significant under-recording of diabetes as an underlying cause of death, because deaths in diabetic people are often coded to the secondary complications associated with the disease. The extent of under-reporting may vary geographically and over time and so mortality data should be interpreted with care. It has been estimated that in 2005 there were 26,300 excess deaths (higher mortality rates than would be expected in a non-diabetic population) among people with diabetes between the ages of 20 and 79 years in England alone. This equates to 11.6 per cent of all deaths in this age group (YPHO 2008b). Mortality data for 2006 (that is, cases where diabetes was recorded as the underlying cause of death) are shown in the chart and indicate that, relative to other UK countries, Northern Ireland had a high mortality rate for males and Wales had a high mortality rate for females.

Mortality from diabetes mellitus, 2006

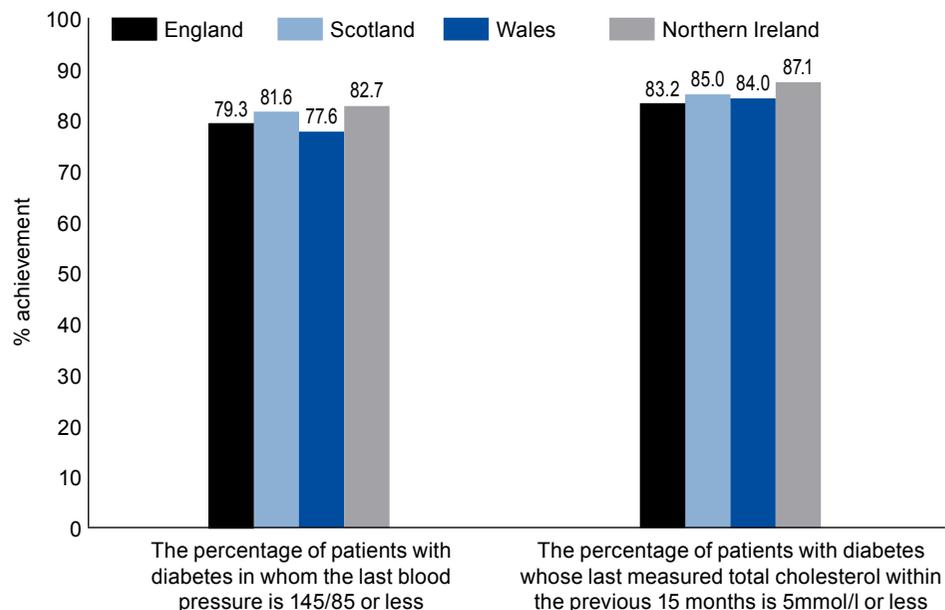


Source: ONS, GROS, NISRA

### Diabetes in primary care – QOF indicators for blood pressure and cholesterol

Blood pressure control has been estimated to reduce by at least one-third the risk of death from long-term complications, and the risk of strokes and serious deterioration of vision (Clarke et al 2005). Data from 2007/08 QOF indicate that in all UK countries over 98 per cent of diabetes patients had their blood pressure recorded in the preceding 15 months. The chart shows that the percentage of patients with a blood pressure reading of 145/85 mmHg or less ranged from 77.6 per cent in Wales to 82.7 per cent in Northern Ireland. Adults with diabetes have heart disease death rates about two to four times higher than adults without diabetes (Folsom et al 1997). Control of serum cholesterol is associated with a reduction in vascular risk generally. Across all four countries, over 96 per cent of diabetes patients had a recorded cholesterol level in the previous 15 months. Achievement of cholesterol levels below 5mmol/L ranged from 83.2 per cent in England to 87.1 per cent in Northern Ireland.

**Diabetes QOF indicators, blood pressure and cholesterol levels, 2007/08**

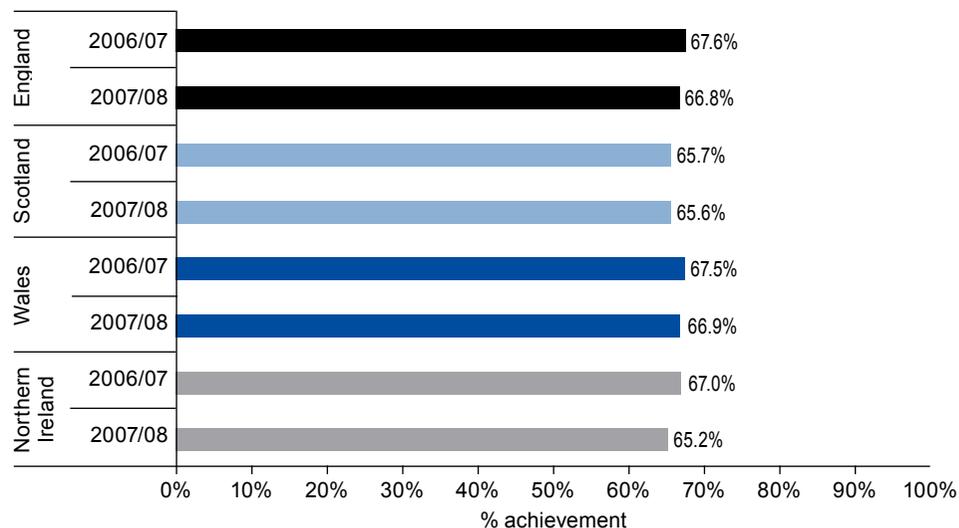


Sources: NHS Information Centre, ISD Scotland, StatsWales, DHSSPSNI

### Diabetes in primary care – QOF indicator achievement for glycaemic control

Glycaemic (blood glucose) control has been estimated to reduce the risk of major diabetic eye disease by a quarter and early kidney damage by a third (Clarke et al 2005). Glycated haemoglobin (HbA1c) provides a measure of average blood glucose over the 60–90 days preceding the test and so is an indicator of glycaemic control. NICE guidelines for type 1 diabetes recommend that HbA1c levels should be below 7.5 per cent. Across all four countries, over 97 per cent of diabetic patients had a record of HbA1c test (or equivalent) in the preceding 15 months. A comparison of data from 2006/07 and 2007/08 indicates that, in all countries, there was a small decrease in the percentage of patients whose last recorded HbA1c level was 7.5 per cent or less in the previous 15 months.

**Diabetes, glycaemic control (HbA1c ≤7.5) QOF indicator, 2006/07 – 2007/08**

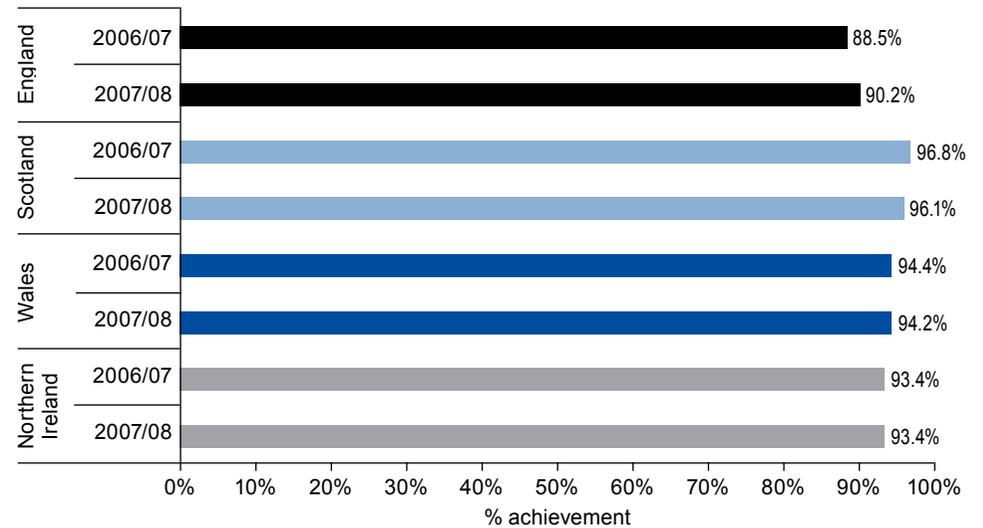


Sources: NHS Information Centre, ISD Scotland, StatsWales, DHSSPSNI

### Retinal screening in diabetics – QOF indicator

Diabetic retinopathy occurs when the small blood vessels in the retina become swollen; they often leak fluid, haemorrhage and become blocked. This process can cause an overgrowth of new tiny blood vessels that can be associated with scar tissue and retinal detachment. Diabetic retinopathy is a leading cause of blindness and visual disability. Within 20 years of diagnosis nearly all patients with type 1 diabetes, and approximately 60 per cent of those with type 2 diabetes, have a degree of retinopathy (Fong et al 2003). Eye screening and treatment can reduce the risk of severe visual loss or blindness among people with diabetes to less than a half (NHS Centre for Reviews and Dissemination 1999). The chart illustrates QOF achievement data for both 2006/07 and 2007/08. Scotland had the highest scores in both time periods and England the lowest; however, England saw the largest increase in percentage points over the two-year time period.

Percentage of patients with diabetes who have a record of retinal screening in the previous 15 months, QOF indicator, 2006/07 – 2007/08



Source: QMAS, NHS Information Centre, ISD Scotland, StatsWales, DHSSPSNI

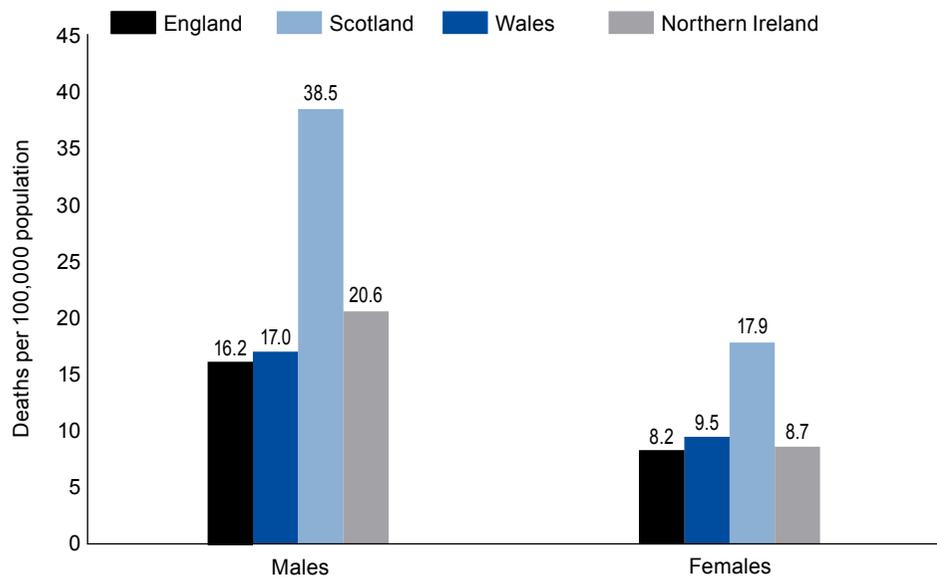
## Miscellaneous

The preceding topics cover significant disease groups that are encountered in the NHS, either in terms of mortality, morbidity or cost to the health service. There is, however, a number of other important areas of healthcare effectiveness which time and space constraints prevent this chartbook from exploring fully. This section presents key indicators from some of these areas for which comparable data is available.

### Alcohol-related deaths

The number of alcohol-related deaths (see Technical appendix for definition of alcohol-related deaths) in the UK has increased dramatically in recent years, doubling from 4,144 in 1991 to 8,758 in 2006. The UK death rate in 2006 was 13.4 deaths per 100,000 population, up from 12.9 deaths per 100,000 in 2005 and from 6.9 per 100,000 in 1991. In 2006 the male death rate (18.3 deaths per 100,000) was more than twice the rate for females (8.8 deaths per 100,000), and males accounted for two-thirds of the total number of deaths (ONS online d). The chart illustrates the differences in alcohol-related death rates across the countries of the UK. Scotland has the highest death rates: 138 per cent higher than England (which has the lowest rate) for males and 118 per cent higher for females.

#### Alcohol related deaths, all ages, 2006

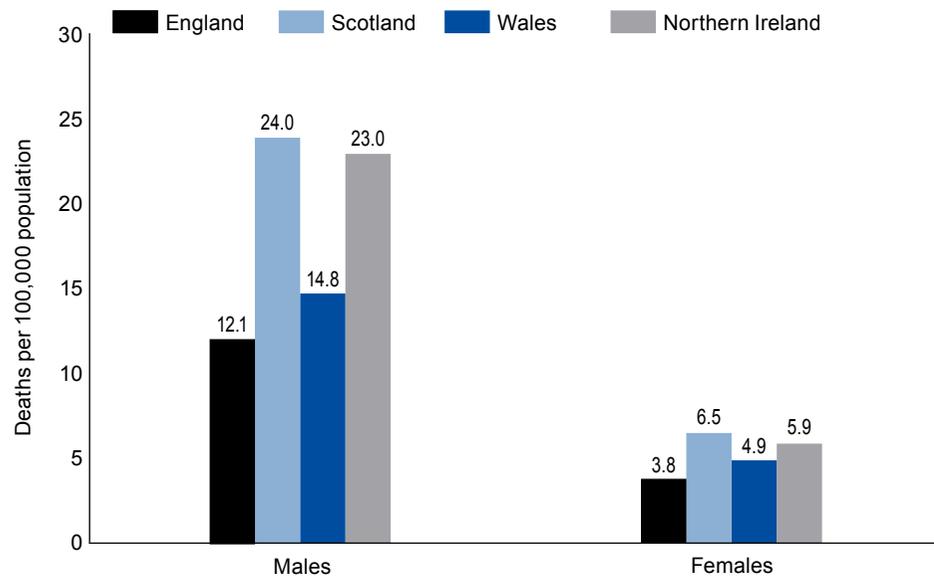


Source: ONS, GROS, NISRA

## Suicide

Suicide can represent a failure of the health system, and society, to help an individual in need of medical and psychosocial care and community support. This chart depicts deaths attributed to 'intentional self-harm, and injury/poisoning of undetermined intent'. Scotland has the highest suicide rate among the countries of the UK for both males and females. In an international context, the UK's suicide rate is low compared with many other developed nations.

### Suicide rates, 2006



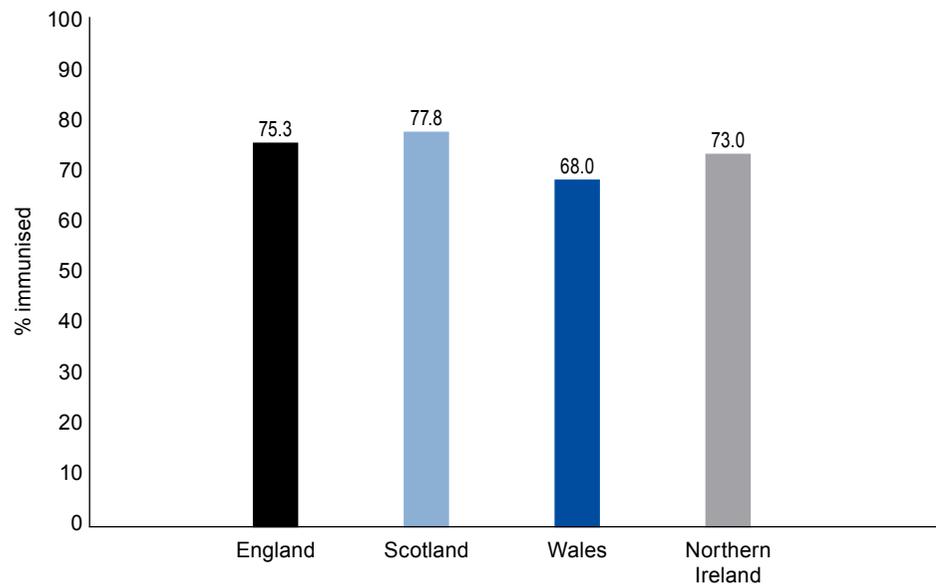
Source: ONS, GROS, NISRA

Note: Figures include all deaths coded to 'intentional self-harm and injury/poisoning of undetermined intent' (ICD10 code Y10–Y34) in Scotland and Northern Ireland but only those with inquest verdict 'open' for deaths in England and Wales.

### ***Influenza vaccination for people aged over 65***

Up to 15 per cent of the population may develop influenza in any one year. For the majority of people, it is an unpleasant but self-limiting illness. However, for those in high risk groups (aged 65 or over, or with underlying respiratory or heart disease, diabetes or impaired immunity), influenza is much more serious. Influenza vaccines are highly effective at preventing illness and reducing hospitalisations among high-risk groups. The chart illustrates 2005/06 data on the proportion of people aged 65 or over who were immunised against influenza in the preceding 12 months. Scotland achieved the highest coverage (77.8 per cent) and Wales the lowest (68.0 per cent).

#### **Influenza vaccination, over 65s, 2005/06**



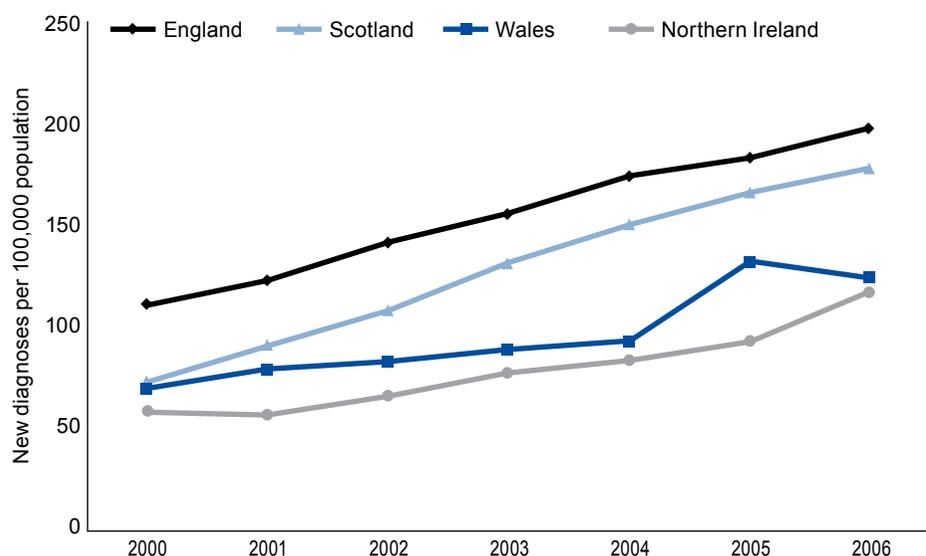
Sources: HPA, National Public Health Service Wales, Health Protection Scotland, CDSC Northern Ireland

## Sexually transmitted diseases

In recent years there has been a marked increase in the incidence of sexually transmitted diseases across the UK. The greatest increase has been in chlamydia infections; the charts depict data on new diagnoses of that infection. Chlamydia is caused by the bacteria *Chlamydia trachomatis* and infection can sometimes be asymptomatic so diagnosis rates may represent an under-reporting of infection rates. England has the highest

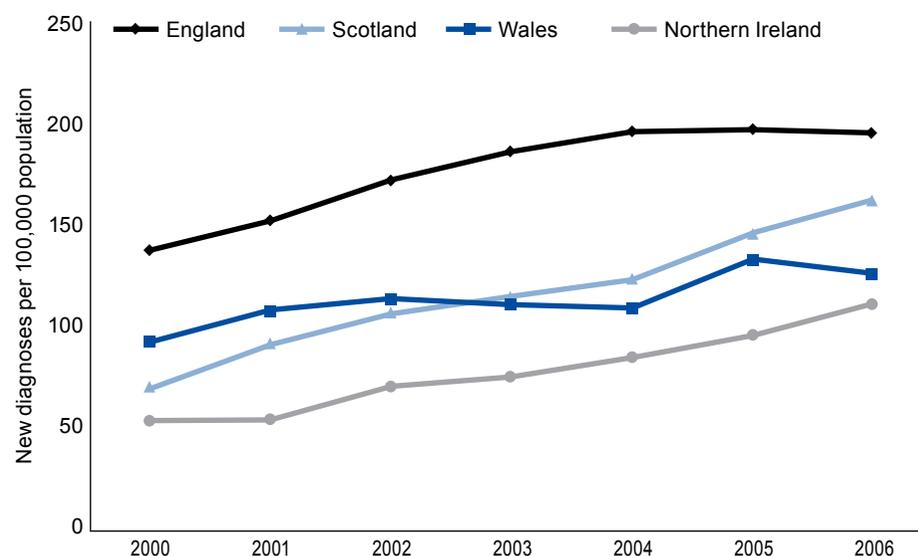
rate of chlamydia diagnosis for both males and females. The most rapid increase in diagnosis rates since 2000 was reported in Scotland for both males (143 per cent increase) and females (132.5 per cent increase). To set this in an international context, in the US the rate of reported chlamydial infection increased from 251.4 cases per 100,000 population in 2000 to 347.8 cases per 100,000 population in 2006 (CDC online).

### New diagnoses of chlamydia, males, 2000 – 2006



	Change 2000–06 (%)
England	78.6
Scotland	143.3
Wales	77.8
Northern Ireland	101.0

### New diagnoses of chlamydia, females, 2000 – 2006



	Change 2000–06 (%)
England	42.1
Scotland	132.5
Wales	36.0
Northern Ireland	100.0

Sources: HPA, Information Services Division (NHS in Scotland), Communicable Disease Surveillance Centre Wales, Communicable Disease Surveillance Centre Northern Ireland, Department of Health, Social Services and Public Safety (Northern Ireland)

## Access and timeliness

The issue of access to healthcare is a significant health policy concern across all countries of the UK and internationally (GroI et al 1999; Davis et al 2007).

Problems of access have long plagued the NHS. In 2000, The NHS plan asserted that 'the public's top concern about the NHS is waiting for treatment' (DH 2000). Since then, there has been a significant decrease in waiting times for elective care in all countries of the UK.

Problem areas remain, however, in particular access to specialist services such as radiotherapy and timely scanning after stroke. The charts in this section focus on these areas.

### *Reconciling waiting data across the UK*

The way in which waiting list data are collected, analysed and reported differs significantly across the constituent countries of the UK. It is therefore not possible to make meaningful comparisons across the various countries' official waiting statistics releases. In order to get a picture of access and timeliness issues the chartbook draws on analyses from the UK Comparative Waiting Times Group (UKCWTG) (see further information below) on waiting for specific treatments or procedures, data from the Commonwealth Fund international surveys of patients and audit data where available.

### *The UKCWTG*

In 2004 the Statistics Commission released a report, called Enhancing the value of health statistics: user perspectives (Report number 21), which recommended that inconsistent definitions of waiting times for treatment should be addressed. The UKCWTG was established and in 2005 undertook a review of waiting time criteria across the UK and recommended in a 2006 report that 'harmonised data for completed waits' should be published in an 'agreed common format'. The UKCWTG identified the following 11 inpatient procedures, selected on the basis of both volume and data quality within each country, for analysis:

- cataract surgery
- angiography
- bypass surgery
- endoscope of upper gastrointestinal tract
- hernia repair
- hip replacement
- knee replacement
- endoscope of bladder
- angioplasty
- tonsillectomy
- varicose surgery.

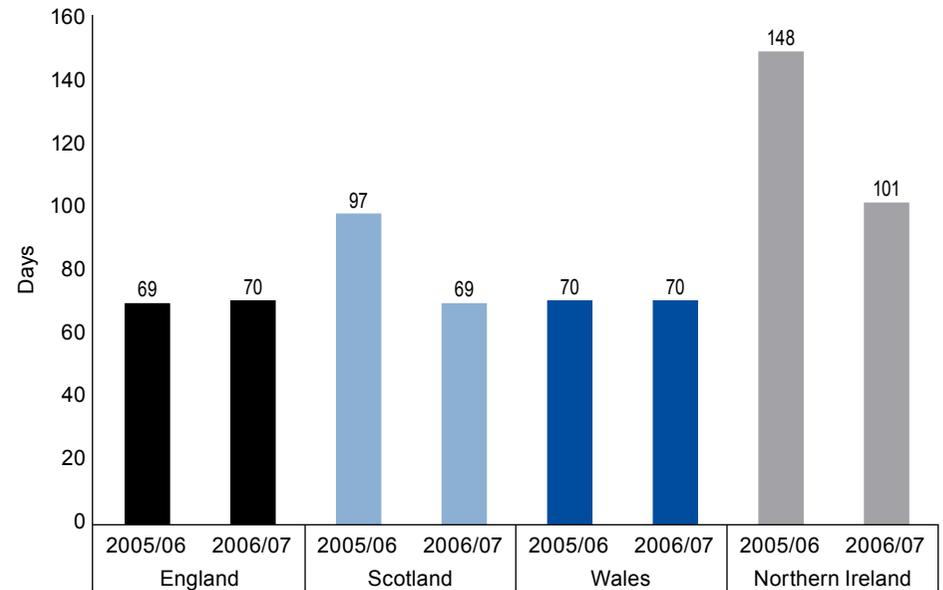
The analysis focuses on the length of time a patient had waited, from the initial decision to admit to the date of admission for the procedure, including periods of suspension for medical and social reasons. Data have been released on the median completed waiting time in days, together with an estimate of the value of the 90th percentile completed wait (that is, the time in which 90 per cent of patients were admitted), for the 11 procedures listed above. It should be noted that the measurement of a completed wait, including periods of suspension, is not comparable with the monitoring of waiting times targets as the latter typically excludes suspension periods from a patient's 'statistical' waiting time (Collins et al 2008).

In the following six charts, we present a subset of the data from the analyses published in the 2006 report (see Collins et al 2008, DHSSPSNI 2006).

## Waits for procedures – cataract surgery

A cataract is a clouding that develops in the lens of the eye or in its envelope, obstructing the passage of light and vision. About one-third of people aged over 65 have cataracts in one or both eyes (NHS Direct online). Cataracts are treated by surgically replacing the natural cloudy lens with an artificial clear plastic lens (intraocular implant). Most cataract operations in the UK are done as keyhole surgery under local anaesthetic. In 2006/07, there were over 285,000 elective admissions to NHS hospitals for cataract surgery in the UK. The chart illustrates the median wait for cataract surgery in the countries of the UK. The latest data show that median waits in England, Scotland and Wales are almost identical. Northern Ireland has longer median waits but saw rapid improvement in the preceding year. Data are also available on 90th percentile (the time within which 90 per cent of patients are treated). In 2006/07 the 90th percentile waits were 116 days for England, 146 days for Scotland, 125 days for Wales and 172 days for Northern Ireland.

Median waits for elective cataract surgery, 2005/06 – 2006/07

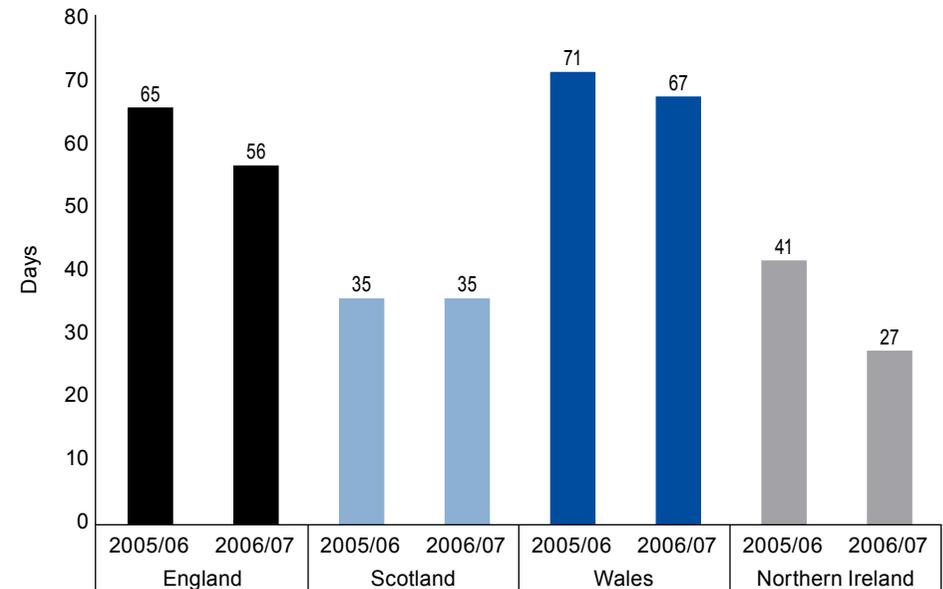


Sources: DHSSPSI, Health Solutions Wales, NHS Information Centre, Scottish Government

## Waits for procedures – angiography

Coronary angiography is a specialised x-ray test that assesses coronary arteries. It is mainly used in angina patients to assess the extent and severity of disease. In 2006/07 there were over 113,000 elective admissions across the UK in NHS hospitals for this procedure. The chart illustrates median waits for angiography and shows that across both time periods Wales had the longest median waits. As well as information on median waits, there are also data available on the time within which 90 per cent of patients are treated (90th percentile). In 2006/07 the 90th percentile waits were 132 days for England, 56 days for Scotland, 119 days for Wales and 176 days for Northern Ireland.

Median waits for angiography, 2005/06 – 2006/07

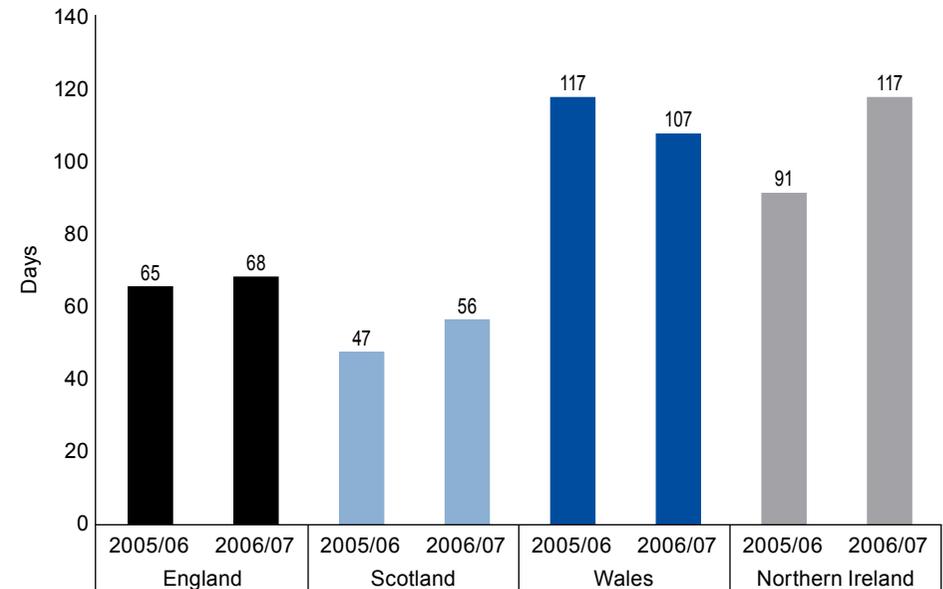


Sources: DHSSPSI, Health Solutions Wales, NHS Information Centre, Scottish Government

## Waits for procedures – bypass surgery

Coronary artery bypass graft (CABG) is surgery to treat coronary artery disease. CABG surgery uses a blood vessel (called a graft) taken from the chest, leg or arm to bypass a narrowed or blocked coronary artery. This can improve blood flow to the heart and reduce the chance of a heart attack. Across the UK in 2006/07, NHS hospitals performed 15,527 CABGs. Median waits for bypass surgery were lowest in Scotland for both time periods. Wales was the only country to see a decrease in median waits between 2005/06 and 2006/07. In 2006/07 the 90th percentile waits were 112 days for England, 122 days for Scotland, 203 days for Wales and 191 days for Northern Ireland.

Median waits for bypass surgery, 2005/06 – 2006/07

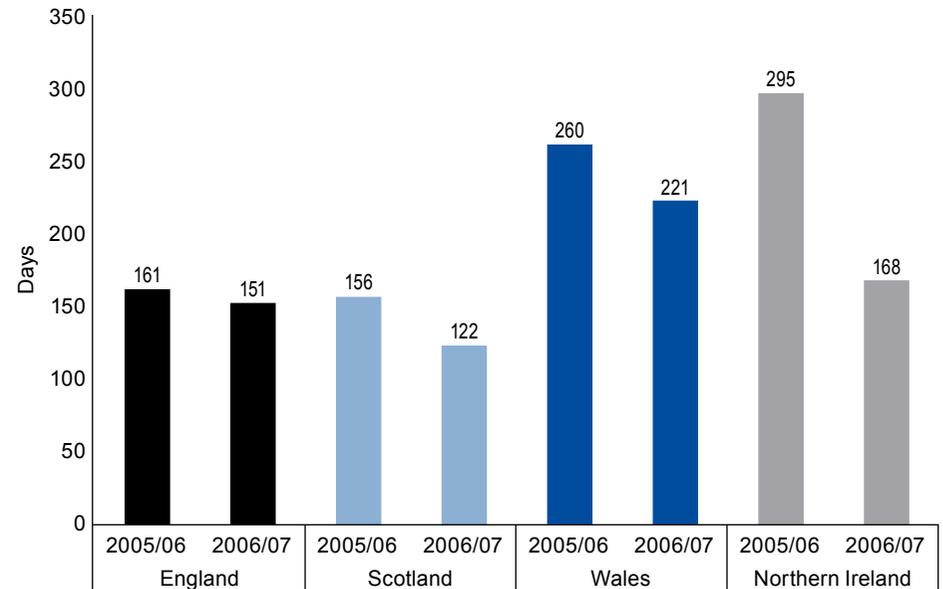


Sources: DHSSPSI, Health Solutions Wales, NHS Information Centre, Scottish Government

## Waits for procedures – hip replacement

Hip replacement surgery provides a long-term solution for worn or damaged hip joints, which can cause severe pain and loss of mobility. Around 59,000 hip replacements are carried out in NHS hospitals each year. The operation replaces both the natural socket (the acetabulum) and the rounded ball at the head of the thigh bone (the femoral head) with artificial parts (prosthetics). These parts replicate the natural motion of the hip joint. The chart shows that Scotland had the shortest median waits in both time periods. Between 2005/06 and 2006/07, Northern Ireland reduced the median waits by 127 days. Data are also available on 90th percentile (the time within which 90 per cent of patients are treated). In 2006/07 the 90th percentile waits were 223 days for England, 221 days for Scotland, 367 days for Wales and 337 days for Northern Ireland.

Median waits for hip replacements, 2005/06 – 2006/07

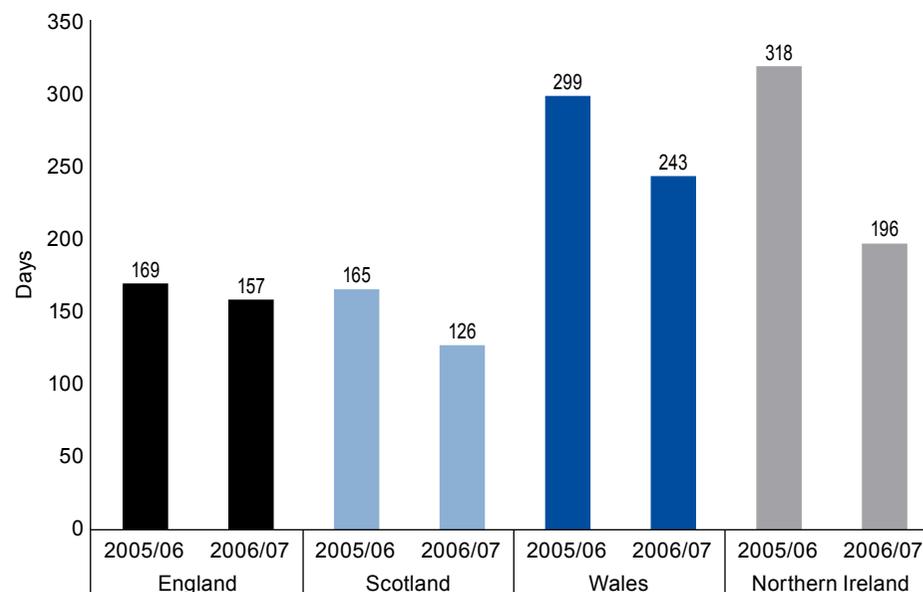


Sources: DHSSPSI, Health Solutions Wales, NHS Information Centre, Scottish Government

## Waits for procedures – knee replacement

Knee replacement surgery involves the replacement of damaged or worn knee joint with an artificial joint, with the aim of relieving pain and increasing the range of movement. Across the UK in 2006/07, there were 66,155 knee replacements performed in NHS hospitals. The chart illustrates median waits and shows that waits were shortest in Scotland in both time periods. The biggest improvement between 2005/06 and 2006/07 was in Northern Ireland with a reduction of 122 days. Data for the 90th percentile (the time within which 90 per cent of patients are treated) in 2006/07 showed waits of 238 days for England, 247 days for Scotland, 388 days for Wales and 432 days for Northern Ireland.

Median waits for knee replacement surgery, 2005/06 – 2006/07

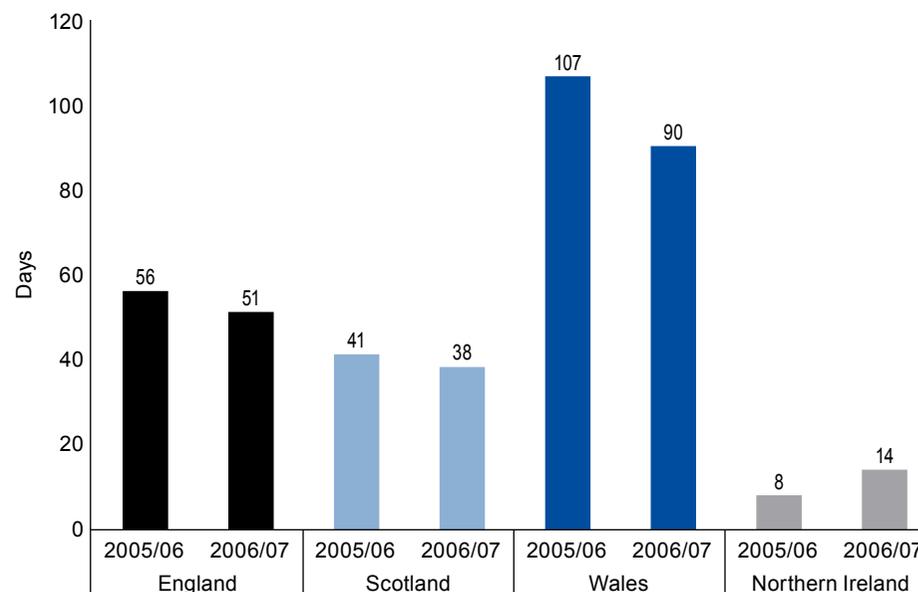


Sources: DHSSPSI, Health Solutions Wales, NHS Information Centre, Scottish Government

## Waits for procedures – angioplasty

Angioplasty is the technique of mechanically widening a narrowed or totally obstructed blood vessel, used typically as a result of atherosclerosis. Tightly folded balloons are passed into the narrowed locations and then inflated to a fixed size. In 2006/07 there were 30,400 angioplasties performed in NHS hospitals in the UK. The chart shows median waits for the procedure, with Wales having the longest waits by a significant margin. In contrast, Northern Ireland’s median waits were extremely short – less than 2 weeks. In 2006/07 the 90th percentile waits were 88 days for England, 85 days for Scotland, 182 days for Wales and 153 days for Northern Ireland.

Median waits for angioplasty, 2005/06 – 2006/07



Sources: DHSSPSI, Health Solutions Wales, NHS Information Centre, Scottish Government

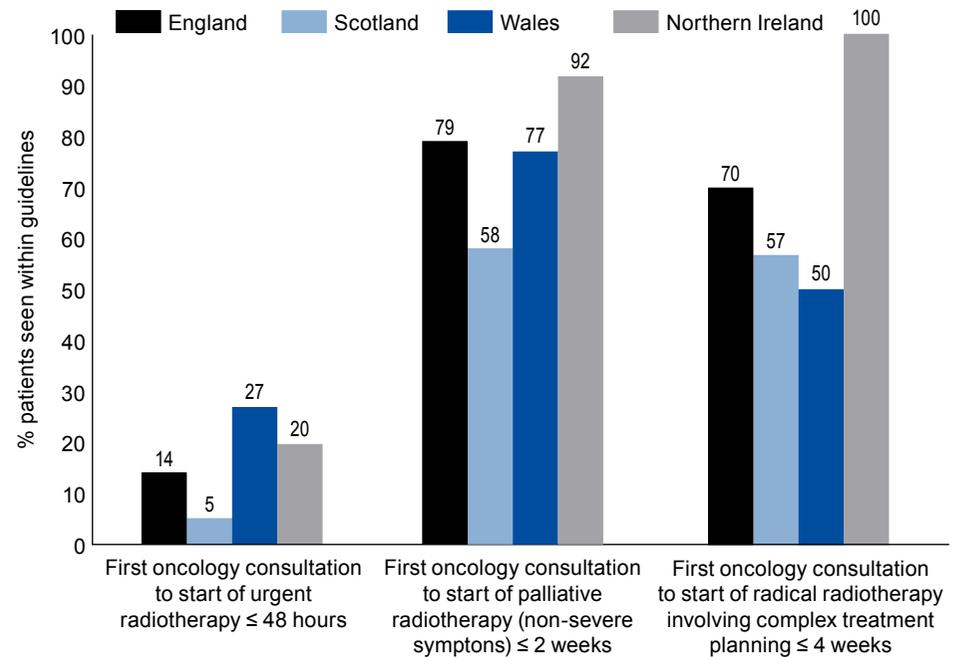
## Waits for radiotherapy

The Royal College of Radiologists undertakes regular audits of radiotherapy waiting times in the UK. The audits aim to determine how long patients wait for treatment following agreement with their doctor (Drinkwater and Williams 2008). Waits are measured against guidelines released by the Joint Council for Clinical Oncology:

- from first oncology consultation to start of urgent radiotherapy  $\leq$  48 hours
- from first oncology consultation to start of palliative radiotherapy (non-severe symptoms)  $\leq$  2 weeks
- from first oncology consultation to start of radical radiotherapy involving complex treatment planning  $\leq$  4 weeks.

Achievement levels vary widely across the countries of the UK. A minority of patients who require urgent radiotherapy receive it within 48 hours of their first oncology consultation.

**Percentage patients treated within JCCO radiotherapy guidelines for waits, audit 2007**



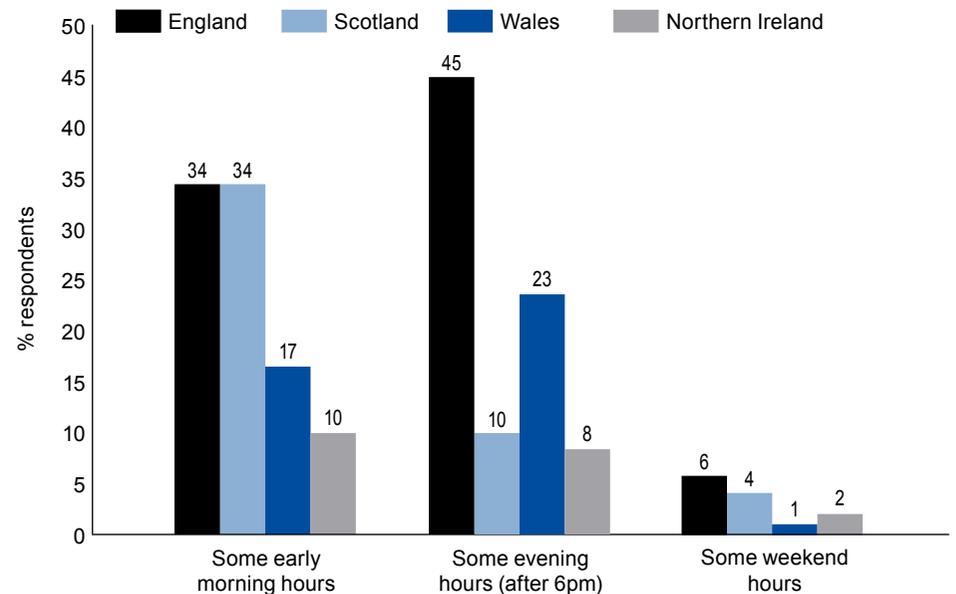
Source: RCR

## Provision of out of hours primary care

In its 2006 International Health Policy Survey the Commonwealth Fund asked primary care doctors whether their practices see patients early in the morning, in the evening and on weekends. This graph records their responses. English practices in 2006 provided the most access out of standard working hours. Weekend access was very low across all the UK countries with fewer than 10 per cent of respondents available for patients outside the working week.

This data provide a snapshot of the situation in 2006. Since then, there has been a concerted effort, particularly in England, to increase out of hours access to primary care. The 2008 Commonwealth Fund survey of 'sicker adults' reported that, across the UK, 52 per cent of respondents who needed medical care in the evening, on a weekend, or on a holiday were able to access care fairly easily without going to the hospital A&E department (data in 2008 were not stratified by UK country).

Practice provides access to primary care outside working hours, 2006



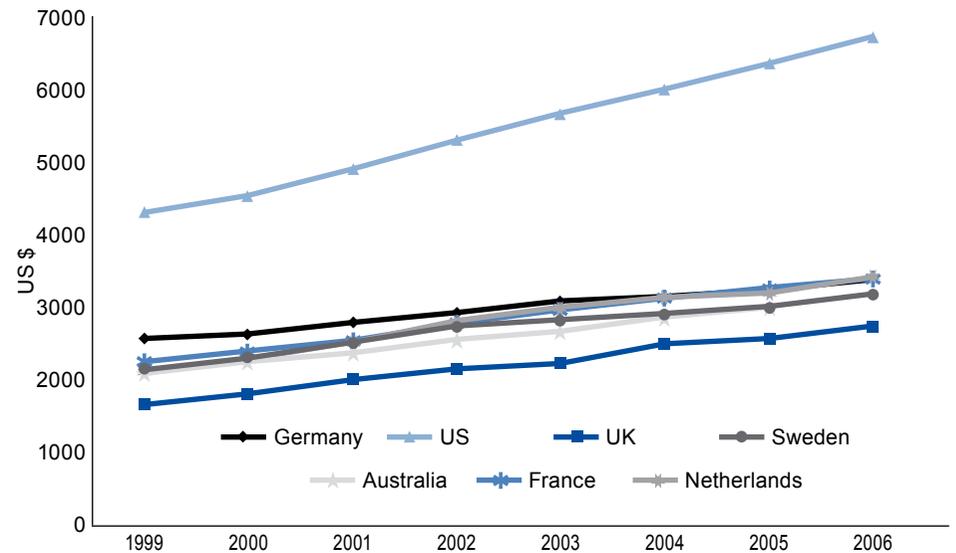
Source: Commonwealth Fund

## Capacity

In 1999, before devolution, health spending per capita in the UK was lower than in almost all comparator countries. Australia, Sweden and the Netherlands spent 20–30 per cent more than the UK, France and Germany spent 35 per cent and 53 per cent more respectively, and the US spent 155 per cent more (OECD 2008). In response there was a national increase in investment in health across the UK.

As this figure illustrates, the UK continues to lag behind international comparators for healthcare spend. As well as charts depicting spending levels, staffing and bed numbers, this section also includes charts that depict indicators of coordination, such as availability of medical records.

**Total health expenditure, \$US purchase price parity, 1999 – 2006**



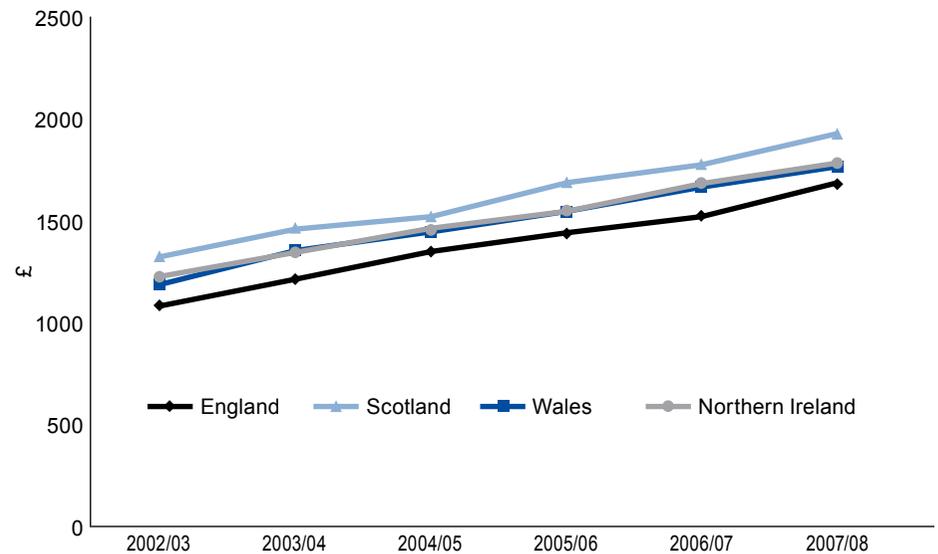
Source: OECD

Note: \$US purchase price parity data compares spending in a common currency (\$US), adjusted for differences in the cost of living between countries.

## Public expenditure on health

Across the UK, public investment in healthcare has been increasing steadily in recent years. This chart illustrates HM Treasury data on per capita expenditure in each of the UK countries. England continues to have the lowest spend per head although it saw the sharpest increase (55 per cent) between 2002/03 and 2007/08.

Public expenditure on healthcare, per head, 2002/03 – 2007/08



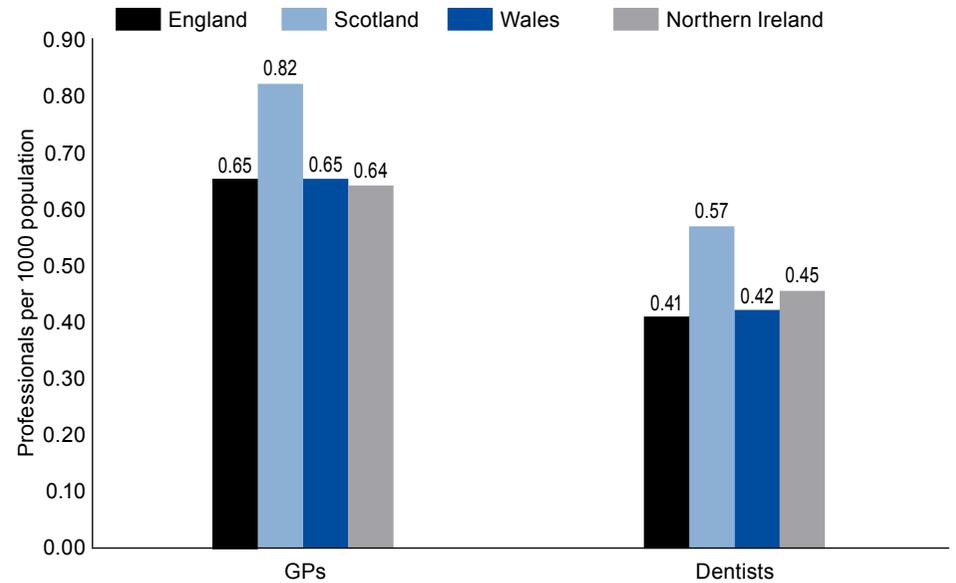
Source: HM Treasury, Public Expenditure Statistical Analyses

	Change 2002/03 to 2007/08 (%)
England	55
Scotland	45
Wales	48
Northern Ireland	45

## Staffing – general practitioners and dentists

In 2006 GP practices in England, Scotland and Wales had an average of four GPs working in them, while Northern Ireland had approximately three GPs per practice. The country with the largest list size (that is, the average number of patients per GP) was Wales with 1,650 patients registered per GP. Scotland had the smallest list size of 1,310 patients per GP. Approximately half the population are registered with an NHS Dentist, ranging from 48 per cent in Wales to 56 per cent in Scotland. Wales had the largest number of people registered per dentist (1,369) and Scotland had the lowest (1,124) (Note: these figures do not capture the proportion of patients who are registered privately with a dentist). The chart illustrates that Scotland has the highest number of GPs and NHS dentists per 1,000 population.

GPs and dentists per 1000 population, 2007

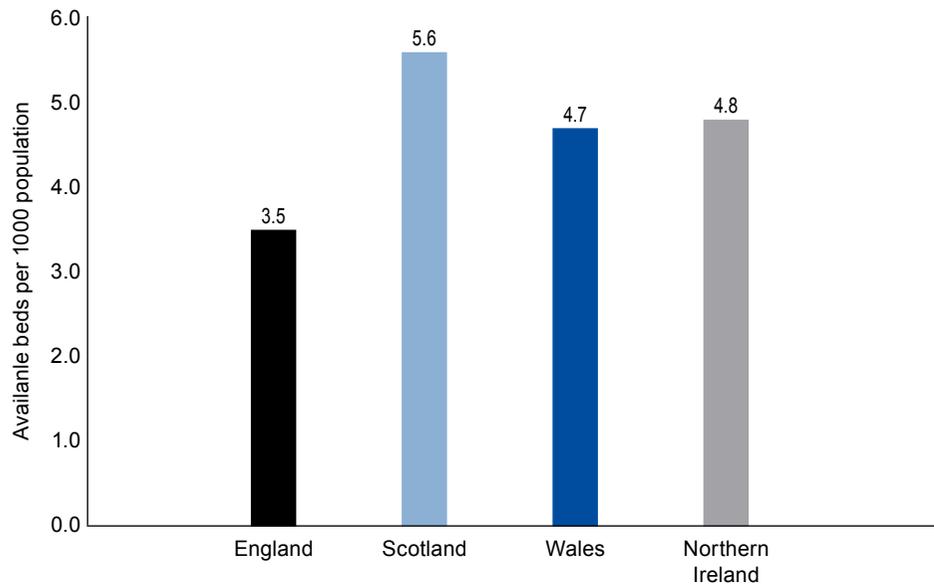


Source: NHS Information Centre, Welsh Assembly Government, ISD Scotland, Central Service Agency, NI

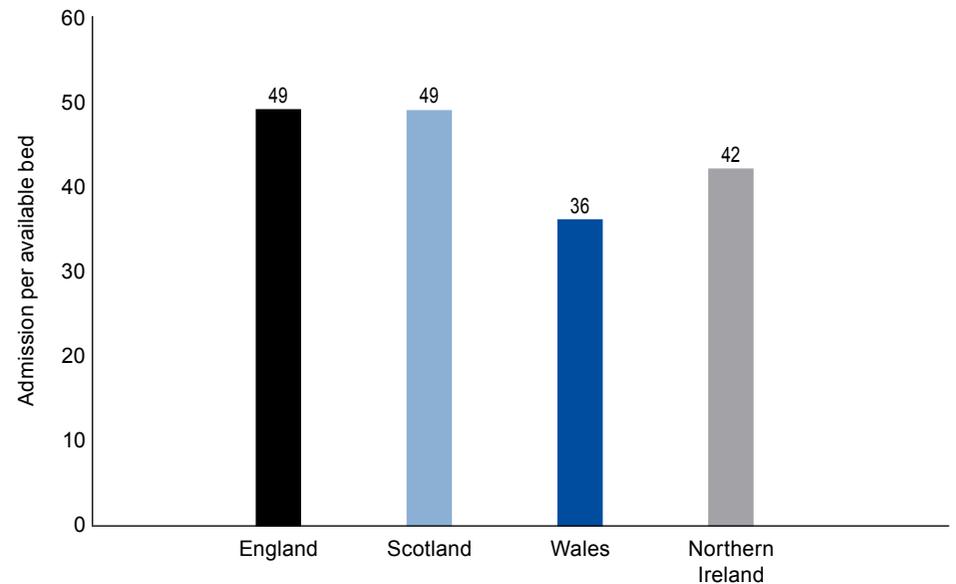
## Available beds and ‘throughput’

The number of hospital beds has been declining since the 1960s largely as a result of advances in technology, shorter hospital stays, the development of day surgery and the growth of community care for older people and those with mental illness. In 2005/06 there were 226,000 available beds in the UK, or 3.8 beds per 1,000 population. The charts below illustrate the average available beds and the admissions treated per bed across UK countries in 2005/06.

**Average daily available beds per 1000 population, 2005/06**



**Admissions treated per available bed, 2005/06**

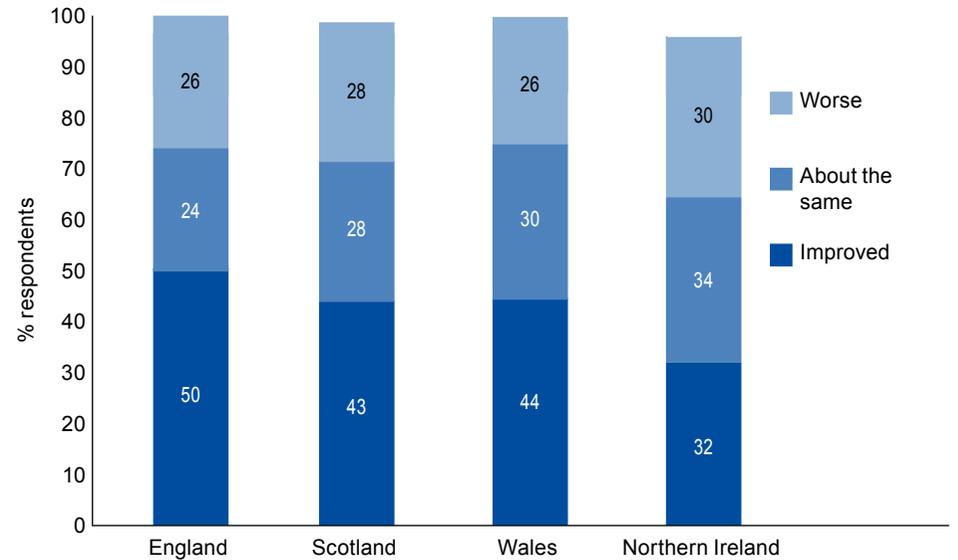


Source: Information Centre for Health and Social Care, Welsh Assembly Government, DH, ISD Scotland, Regional Information Branch (DHSSPSNI)

## Changes in perceived ability to provide high quality care – primary care

The Commonwealth Fund 2006 survey focused on primary care doctors and asked, ‘In general, do you think your ability to provide quality medical care to your patients has improved, has become worse or is it about the same as it was five years ago?’ The chart shows that England had the highest proportion of respondents who indicated that their ability to provide high quality care had improved. Almost one-third of respondents from Northern Ireland indicated that they thought they were less able to provide quality healthcare compared with five years earlier.

**Changes in ability to provide quality medical care, primary care doctors, 2006**



Source: Commonwealth Fund

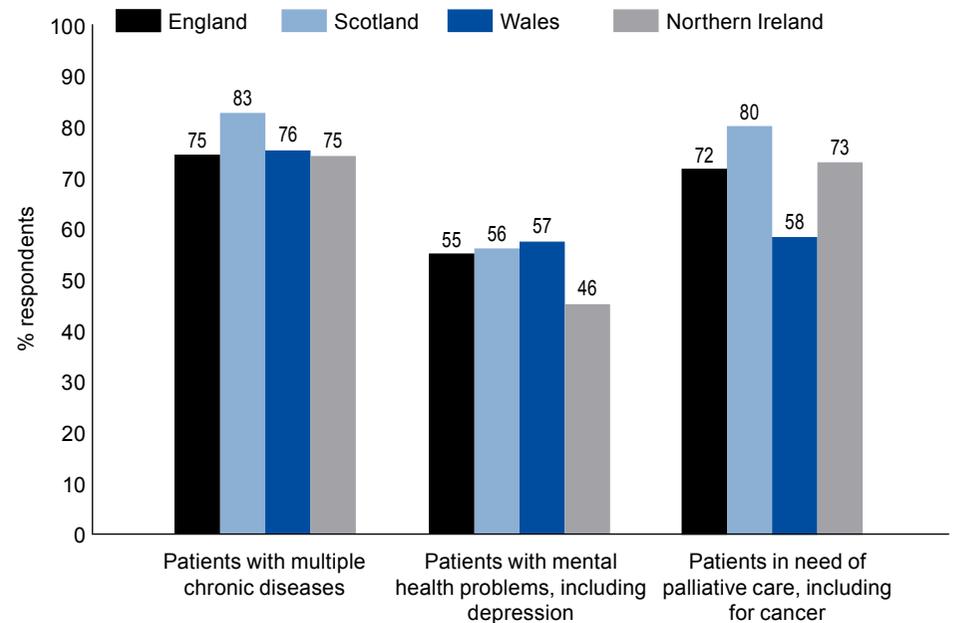
## General practice capacity to provide optimal care

The Commonwealth Fund Survey in 2006 asked primary care doctors how prepared their practice is to provide optimal care for:

- patients with multiple chronic diseases
- patients with mental health problems, including depression
- patients in need of palliative care, including cancer.

Respondents had three options: well prepared, somewhat prepared or not prepared. The chart illustrates the proportion of respondents who answered 'well prepared'. Overall, Scottish respondents were most likely to indicate their practice was well prepared. The level of perceived preparedness to treat mental health problems was generally low.

Practice is well prepared to provide optimal care, 2006



Source: Commonwealth Fund

## Use of information technology in primary care

The 2006 Commonwealth Fund survey asked primary care doctors about the availability of various technologies in their practices. The vast majority of respondents indicated that they use electronic patient medical records (England 90 per cent, Scotland 82 per cent, Wales 98 per cent, Northern Ireland 95 per cent). The table below summarises the proportion of respondents indicating that a range of other electronic technologies were available. Overall, respondents in Northern Ireland indicated that their practices were best equipped with these information technologies.

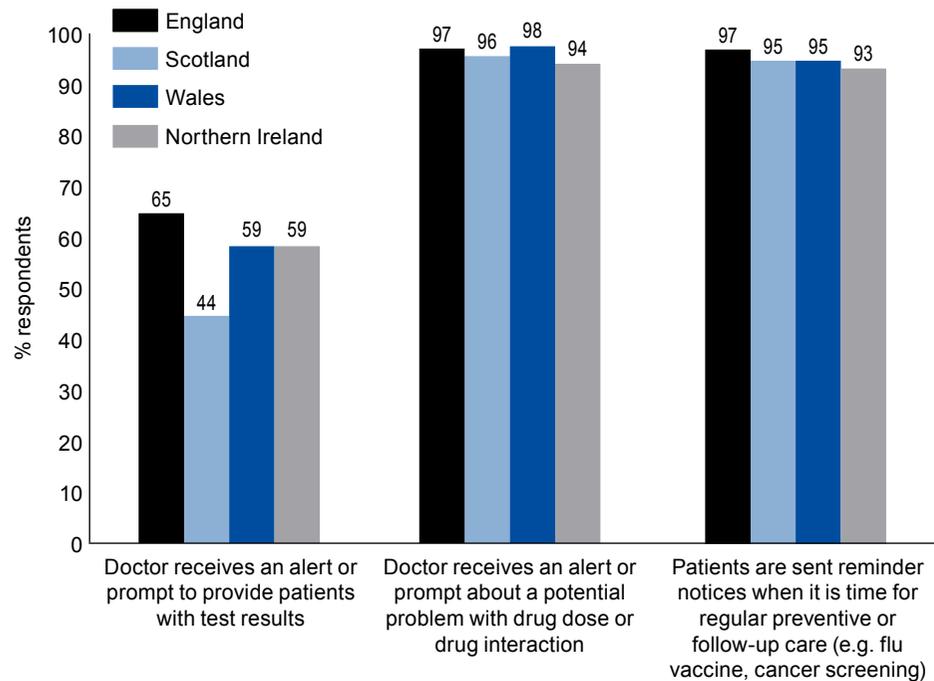
	England	Scotland	Wales	Northern Ireland
Electronic ordering of tests	21	11	17	35
Electronic prescribing of medication	53	71	56	71
Electronic access to patients' test results	86	65	81	87
Electronic access to patient hospital records	20	13	15	28
Access to all	4	3	3	16

Source: Commonwealth Fund

## Coordination of care – routine prompts in primary care

Systems for routine prompts can help coordination of care. The 2006 Commonwealth Fund survey asked primary care doctors whether their practice had various systems in place to deliver such prompts.

### Routine prompts in primary care, 2006

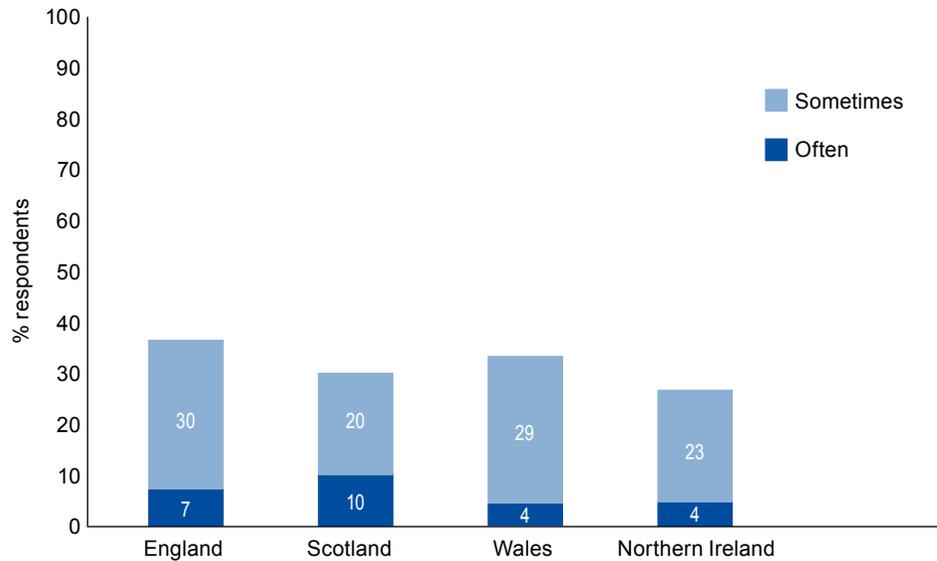


Source: Commonwealth Fund

## Coordination of care – medical record availability

The 2006 Commonwealth Fund Survey was given to primary care doctors and asked, ‘During the previous 12 months, has a patient’s medical records or other relevant clinical information NOT been available at the time of the patient’s scheduled visit?’ The chart shows that this is a relatively common coordination problem, with England recording the highest proportion (37 per cent) of doctor-reported unavailability of medical records.

### Medical record unavailable at time of patient’s primary care visit, 2006

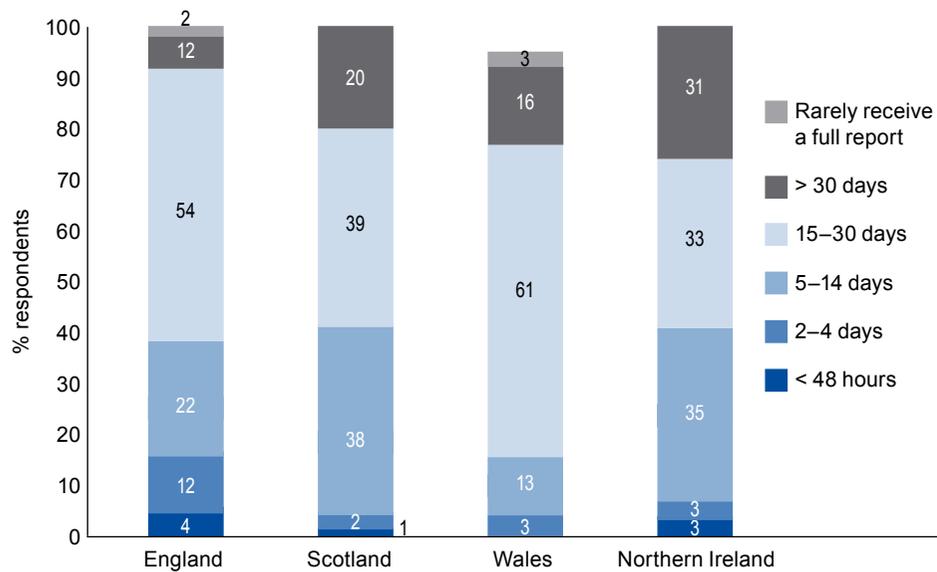


Source: Commonwealth Fund

## Coordination – receiving full discharge reports for primary care patients

In 2006, primary care doctors were asked, ‘After your patient has been discharged from hospital, on average, how long does it take before you receive a full discharge report from the hospital?’ Their responses are charted below.

### Average waiting time for full discharge report, 2006



Source: Commonwealth Fund

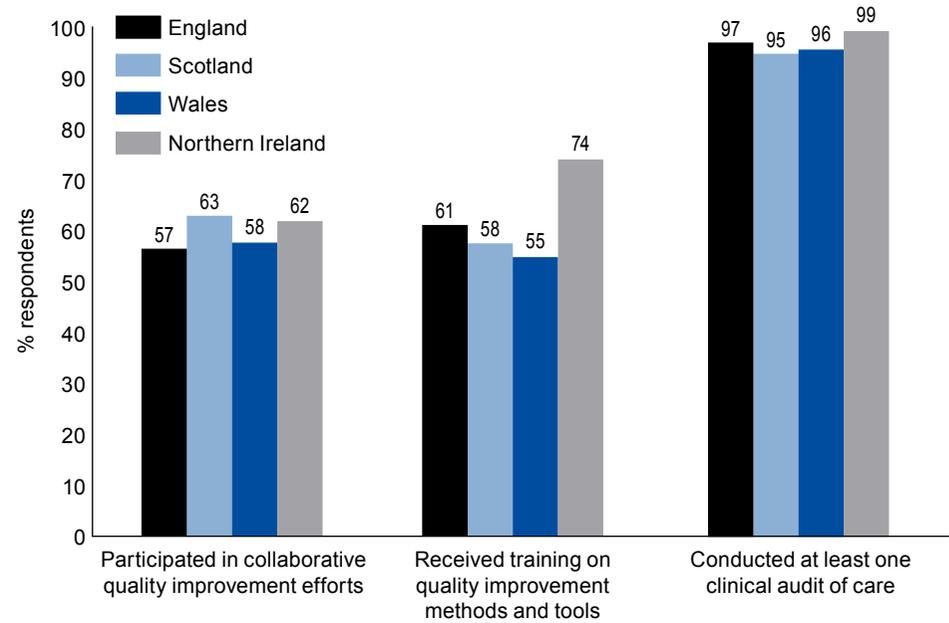
## Participation in quality improvement activities

The Commonwealth Fund 2006 survey asked primary care doctors, 'In the past two years, have you participated in any of the following activities to improve the quality of care for your patients:

- collaborative quality improvement efforts with other practices, hospitals, government agencies or professional associations?
- received training on quality improvement methods and tools?
- conducted at least one clinical audit of care that your patients receive?'

Overall, respondents from Northern Ireland reported the highest participation rates.

**Participation in quality improvement activities, primary care doctors, 2006**



Source: Commonwealth Fund

## Safety

Safety, which is the elimination of unnecessary risk of harm to patients, is a fundamental attribute of quality in healthcare. In recent years, safety has come to the fore as a pressing concern of health policy-makers, patients, managers and healthcare professionals (for example, see DH 2006c).

Efforts in the UK countries include, but are not limited to, the following:

- the Scottish Patient Safety Alliance: a partnership that includes Scottish Government Health Directorates, NHS Scotland, Royal Colleges and professional bodies, world experts on securing sustainable improvements in patient safety and the Scottish Consumer Council – the Alliance also includes a key role for NHS Quality Improvement Scotland
- England's National Patient Safety Forum: brings together senior representatives of key organisations in health to influence the development of the patient safety agenda and to facilitate its delivery
- the National Patient Safety Agency: an 'arm's length body' of the DH with three divisions which cover the UK health service:
  - the National Reporting and Learning Service aims to reduce risks to patients receiving NHS care and improve safety
  - the National Clinical Assessment Service supports the resolution of concerns about the performance of individual clinical practitioners to help ensure their practice is safe and valued
  - the National Research Ethics Service protects the rights, safety, dignity and well-being of research participants that are part of clinical trials and other research within the NHS.

Healthcare acquired infection (HAI) is probably the most high-profile safety issue and the most pressing as far as patients are concerned. International data suggest that the UK has a high rate of HAIs compared with other developed healthcare systems (see EARSS 2007).

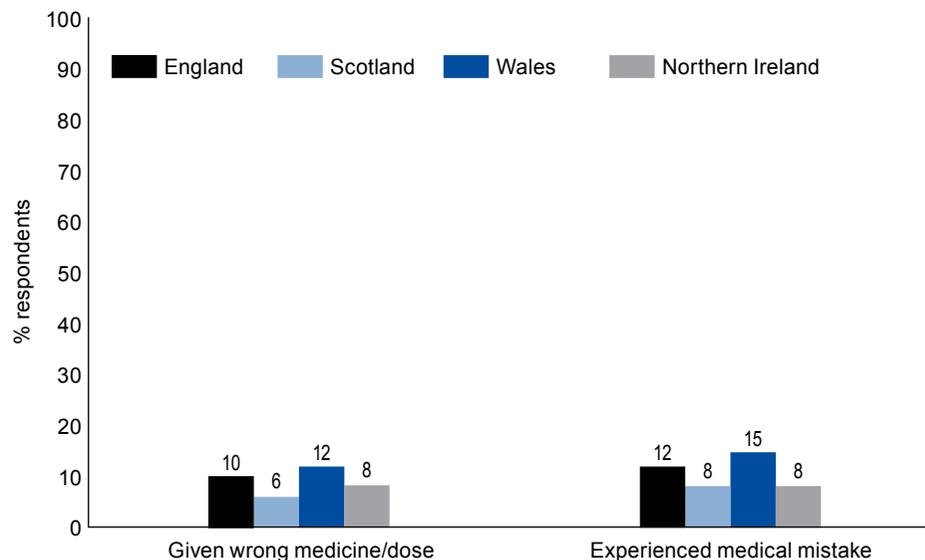
## Patient reported error

In 2005, the Commonwealth Fund surveyed adults with health problems and asked:

- 'Have you ever been given the wrong medication or wrong dose by a doctor, nurse, hospital or pharmacist when collecting a prescription at a pharmacy or while hospitalised in the past 2 years?'
- Do you believe a medical mistake was made in your treatment or care in the past 2 years?'

The graph below illustrates the proportion of respondents answering 'yes' to these questions. In a follow-up question, those respondents who answered 'yes' were asked whether the health professional involved told them about the mistake. In England, 24 per cent of those affected by error were told about it by the health professional involved, compared with 25 per cent in Wales, 13 per cent in Scotland and 8 per cent in Northern Ireland. In the 2008 Commonwealth Fund survey, 8 per cent of UK respondents indicated that they were given the wrong medication or wrong dose; and 10% indicated that they believed a medical mistake had been made in their treatment or care in the preceding 2 years (2008 data were not stratified by UK country).

### Medication or medical errors: patient perspective, 2005

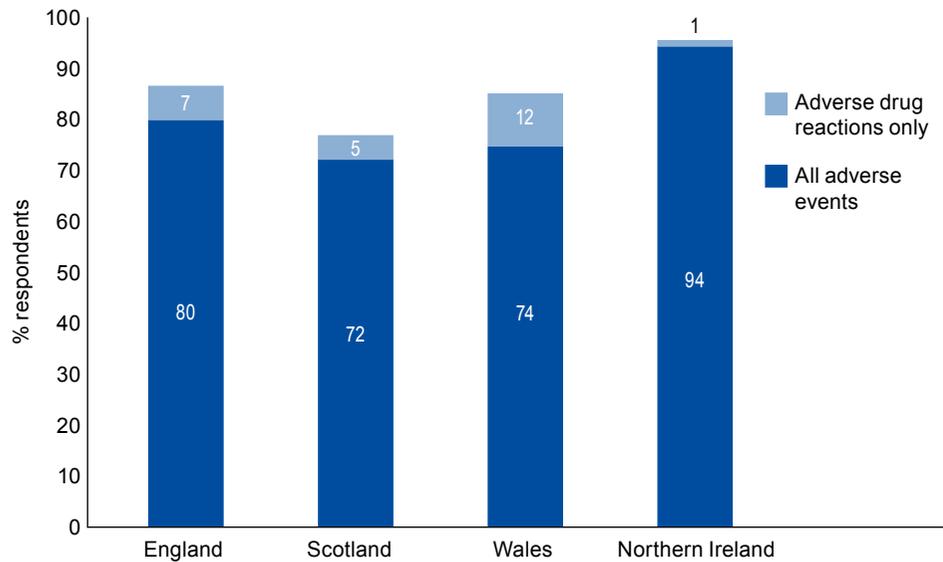


Source: Commonwealth Fund

## Follow-up of adverse events in primary care

In 2006, the Commonwealth Fund surveyed primary care doctors and asked, 'Does your practice have a documented (written) process for follow-up and analysis of adverse events?' The chart below illustrates their responses and indicates that the majority of practices do have formal processes for investigating adverse events.

### Follow up and analysis of adverse events in primary care, 2006



Source: Commonwealth Fund

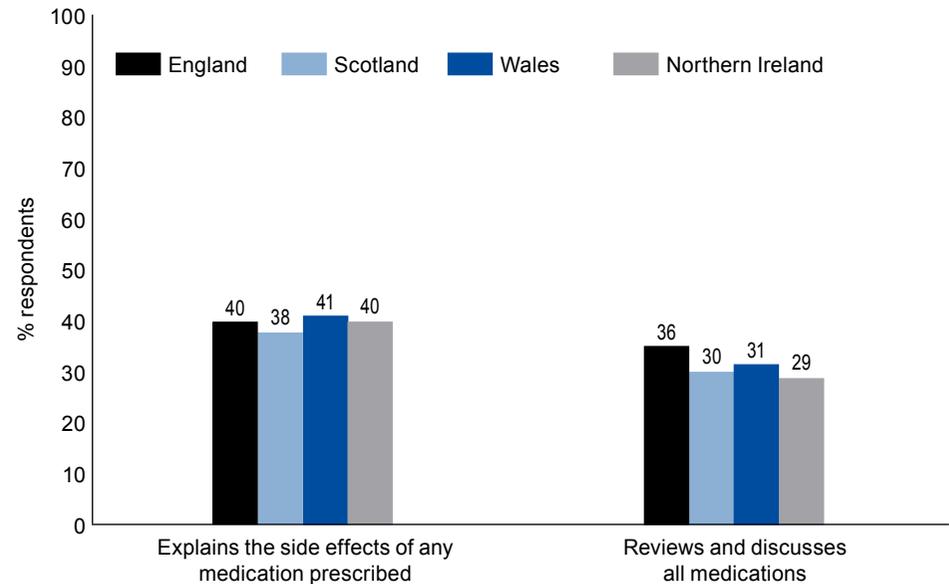
## Safety and prescribed medications

In 2005, the Commonwealth Fund International Health Policy Survey asked adults with health problems whether their doctor:

- explains the side effects of any medication prescribed
- reviews and discusses all their different medications.

The chart illustrates the proportion of patients who reported that their doctors 'always' provided these safety checks. About 40 per cent of respondents across all the countries of the UK reported that medication side effects were always discussed. Reviews of medications – necessary to limit the consequences of inappropriate polypharmacy and adverse drug interactions – were only reported by around one-third of respondents. More recent data are available for the UK as a whole only. In the 2008 Commonwealth Fund survey, 26% of UK respondents indicated that their doctors/pharmacists always reviewed their medications.

**Safety and prescription medication, 2005**

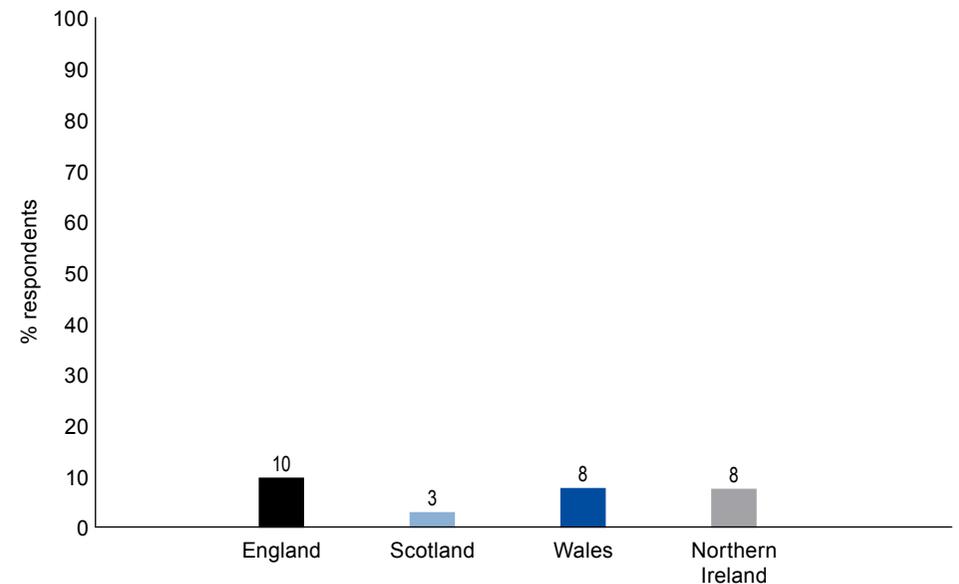


Source: Commonwealth Fund

## Patients receiving incorrect results

The Commonwealth Fund Survey in 2006 asked primary care doctors whether, in the preceding 12 months, patients had received incorrect results for a diagnostic or laboratory test. Three per cent of respondents from Scotland indicated that this type of error had occurred, compared to 10 per cent of respondents from England (note that results are combination of 'often' and 'sometimes' responses). These responses should be interpreted with care results will be affected by patient mix, workload and other confounders. The 2008 Commonwealth Fund survey which focused on adults with health problems found that 4% of UK respondents indicated that they had been given incorrect results in the preceding 2 years (these data were not stratified by UK country).

Patients received incorrect results for a diagnostic or lab test, 2006

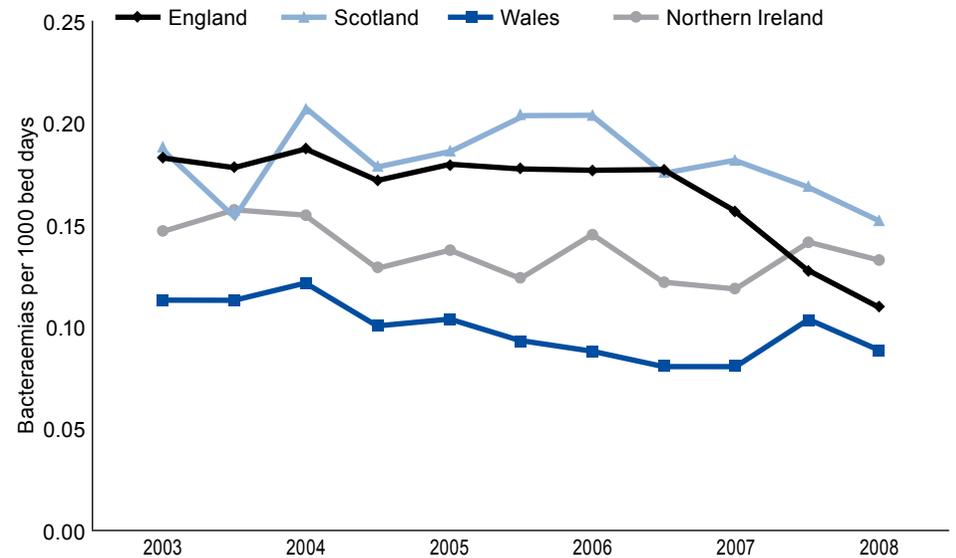


Source: Commonwealth Fund

## MRSA rates

Methicillin-resistant *Staphylococcus aureus* (MRSA) is a strain of bacterium that is resistant to a wide range of antibiotics. It was first discovered in 1961 and is now widespread, particularly in hospitals where it is called a 'superbug'. The chart illustrates MRSA bacteraemias (or blood infections) per 1,000 occupied bed days. Wales has had low MRSA rates historically relative to other UK countries, although numbers have increased recently. Rates in England have reduced substantially in the past year or so. Note that the Scottish data refer to the rate per 'acute' occupied bed days (that is, any beds other than care of the elderly, long stay or psychiatric bed) and are not strictly comparable to data from the other countries.

MRSA bacteraemias per 1000 bed days, 2003 – 2008



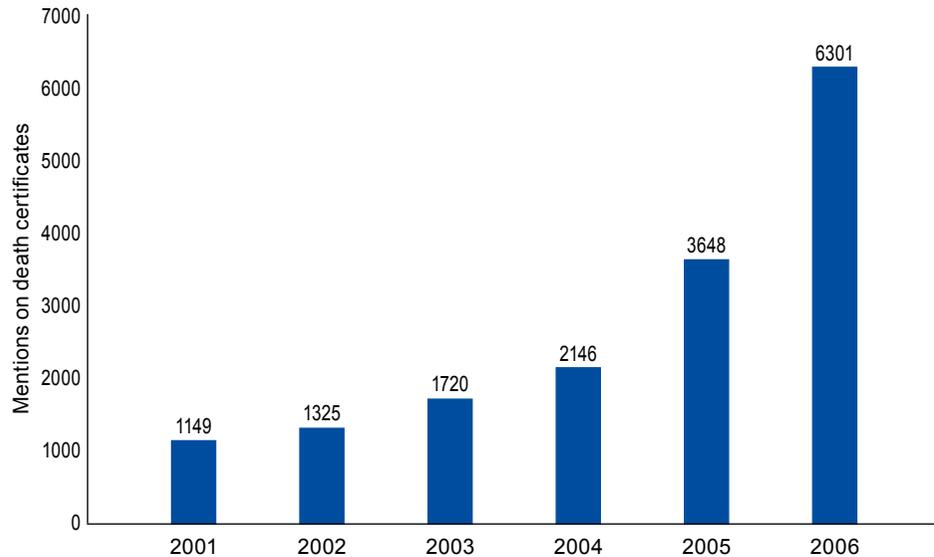
Source: HPA, England; HPS, Scotland, NHS Wales, CDSC Northern Ireland,

## Clostridium difficile deaths

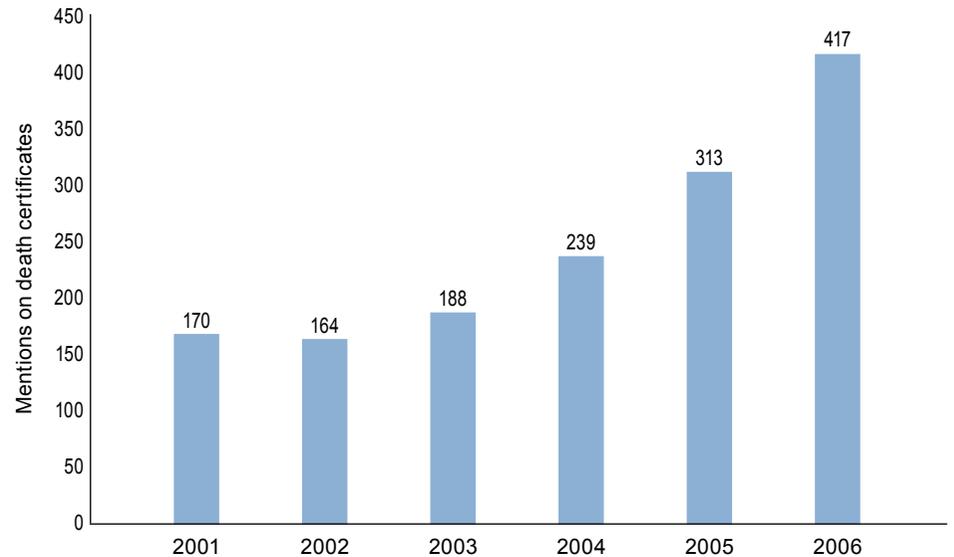
*Clostridium difficile* (*C. difficile*) is a bacterium that causes diarrhoea and can lead to serious illness and death. People aged 65 years and older and patients with a serious underlying condition are particularly susceptible to infection. Under certain conditions, *C. difficile*, which is found in faeces, can produce spores which are resistant to heat, alcohol and to the acids in the stomach. The spores can survive in patients and the surrounding environment for long periods of time. Hospitals wards can

become contaminated with *C. difficile* spores – placing other patients at risk of catching the infection. The chart illustrates data derived from death certificates and highlights the dramatic increases across the countries of the UK. Over the period 2001–06, the sharpest increase was in England with almost 450 per cent increase in death certificate mentions of *C. difficile*.

**Clostridium difficile, death certificate mentions, England, 2001 – 2006**



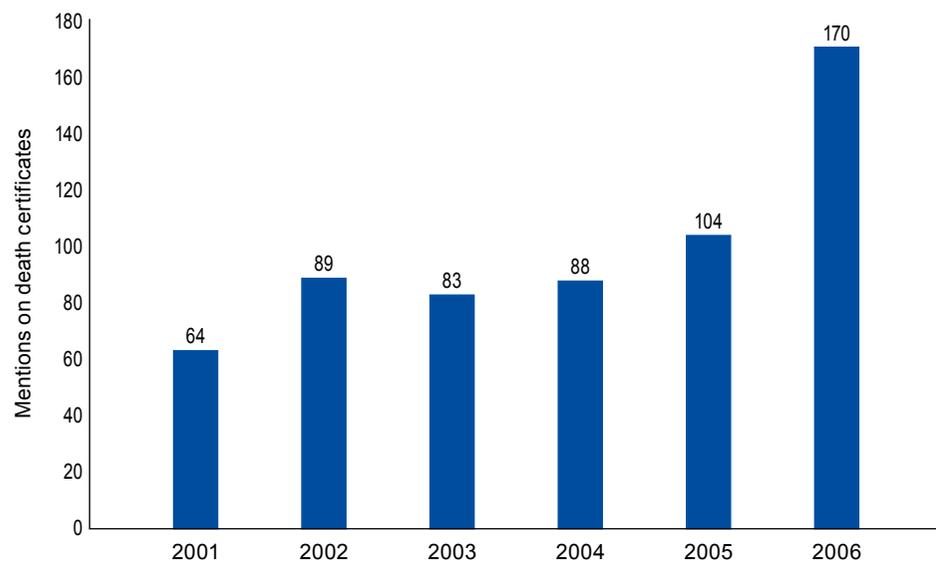
**Clostridium difficile, death certificate mentions, Scotland, 2001 – 2006**



Note: the scales on these charts are not the same

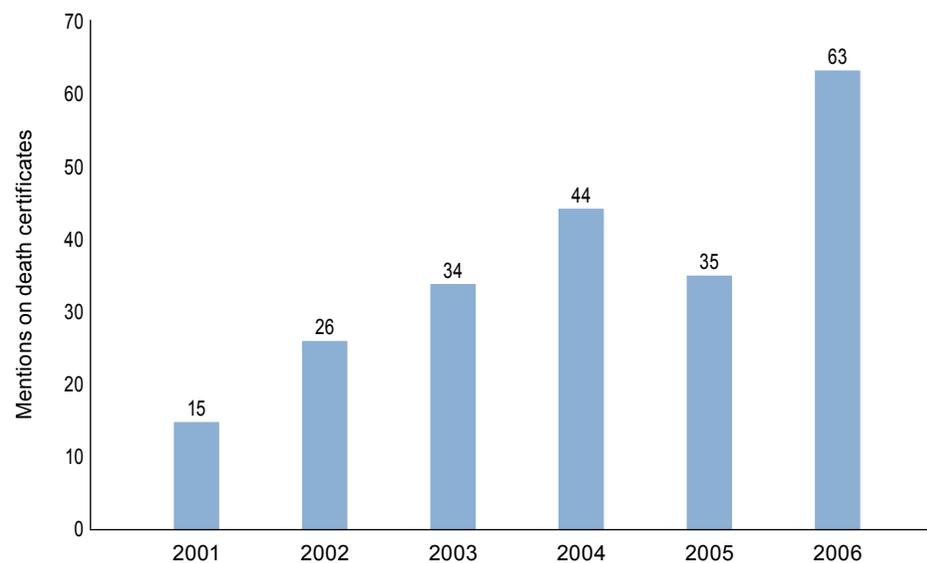
Sources: HPA, England; Scottish Parliament, NHS Wales, CDSC Northern Ireland

### Clostridium difficile, death certificate mentions, Wales, 2001 – 2006



Note: the scales on these charts are not the same

### Clostridium difficile, death certificate mentions, Northern Ireland, 2001 – 2006



Sources: HPA, England; Scottish Parliament, NHS Wales, CDSC Northern Ireland

	Change 2001–06 (%)
England	448.39
Wales	165.63
Scotland	145.29
Northern Ireland	320.00

## Patient centredness

Quality in healthcare encompasses the use of best available scientific evidence, diagnostic acumen and technical efficiency, applied in safe and managerially efficient environments. Quality also depends on patient centredness, that is, a concern for and responsiveness to patient preferences, attitudes and experiences.

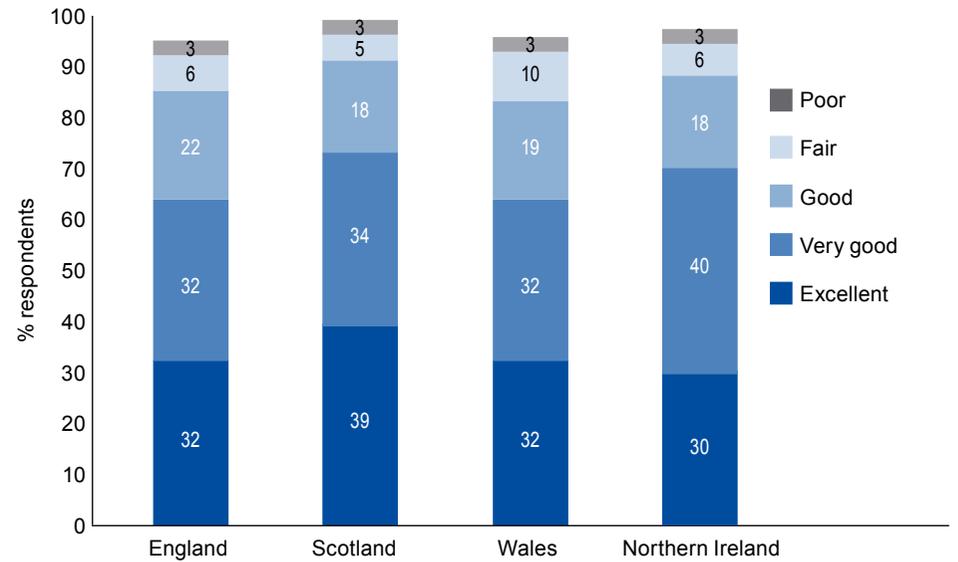
Prior to devolution, the new Labour government identified patient centredness as critically important to the NHS: 'The needs of patients not the needs of institutions will be at the heart of the NHS' (DH 1997).

The charts in this section draw on survey data from the Commonwealth Fund to illustrate the extent to which patients in the UK consider the NHS is patient-centred.

## Overall ratings of quality of care

In 2005, the Commonwealth Fund International Health Policy Survey focused on adults with health problems and asked, 'Overall, how do you rate the quality of medical care that you have received in the past 12 months from your regular doctor?'. The chart illustrates the responses within the countries of the UK. Scotland had the highest proportion of respondents who felt that the care they had received was 'excellent' or 'very good'. In 2008 the Commonwealth Fund again surveyed sicker adults and the proportion of UK respondents rating care as excellent was 29 per cent, very good 33 per cent, good 24 per cent, fair 8 per cent and poor 4 per cent (data in 2008 were not stratified by UK country).

**Patient perceptions: quality of medical care, 2005**



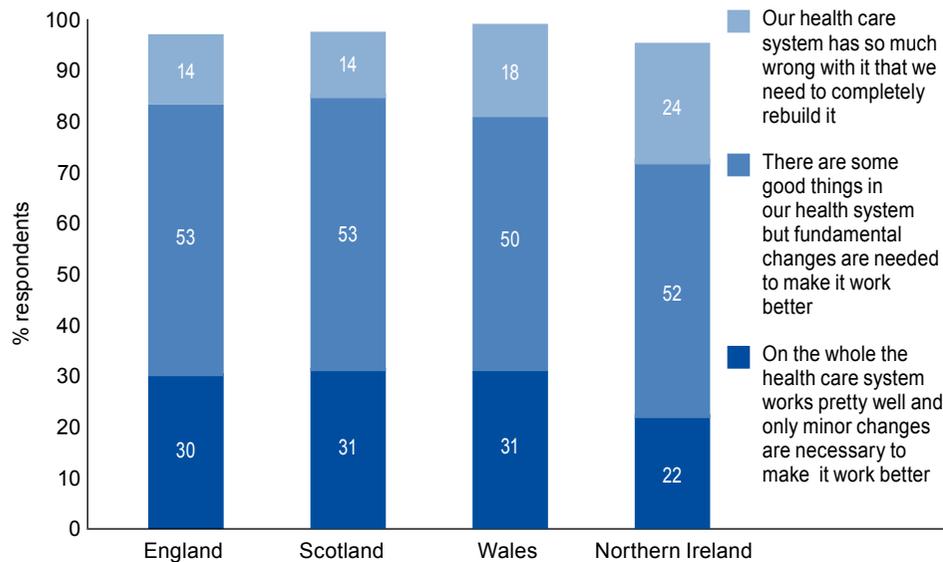
Source: Commonwealth Fund

## Overall view of healthcare system – sicker adults and primary care doctors

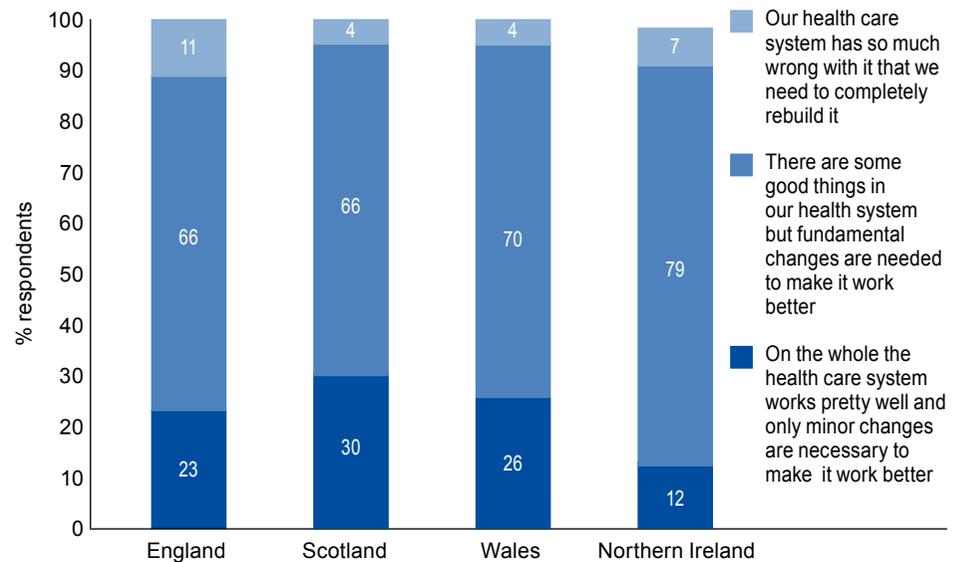
The Commonwealth Fund undertakes an international health policy survey annually. In 2005 the survey focused on sicker adults and in 2006 it focused on primary care doctors. The charts below illustrate responses to the question, ‘Which of these statements comes closest to expressing your overall view of the healthcare system in this country?’ In the 2005 patient survey, respondents from Northern Ireland were more critical of the healthcare system than those from other UK countries. Comparing

across the two surveys, patient respondents in all four countries indicated more polarised views. They were more likely than primary care doctor respondents to indicate that the system works ‘pretty well’, however, a greater proportion of patient respondents (as compared to primary care doctors) also indicated that a ‘total rebuild’ is required. In 2008, the Commonwealth Fund again surveyed adults with health problems and the results for the UK as a whole are shown on the following page.

**Overall view of healthcare system, sicker adults, 2005**



**Overall view of healthcare system, primary care doctors, 2006**

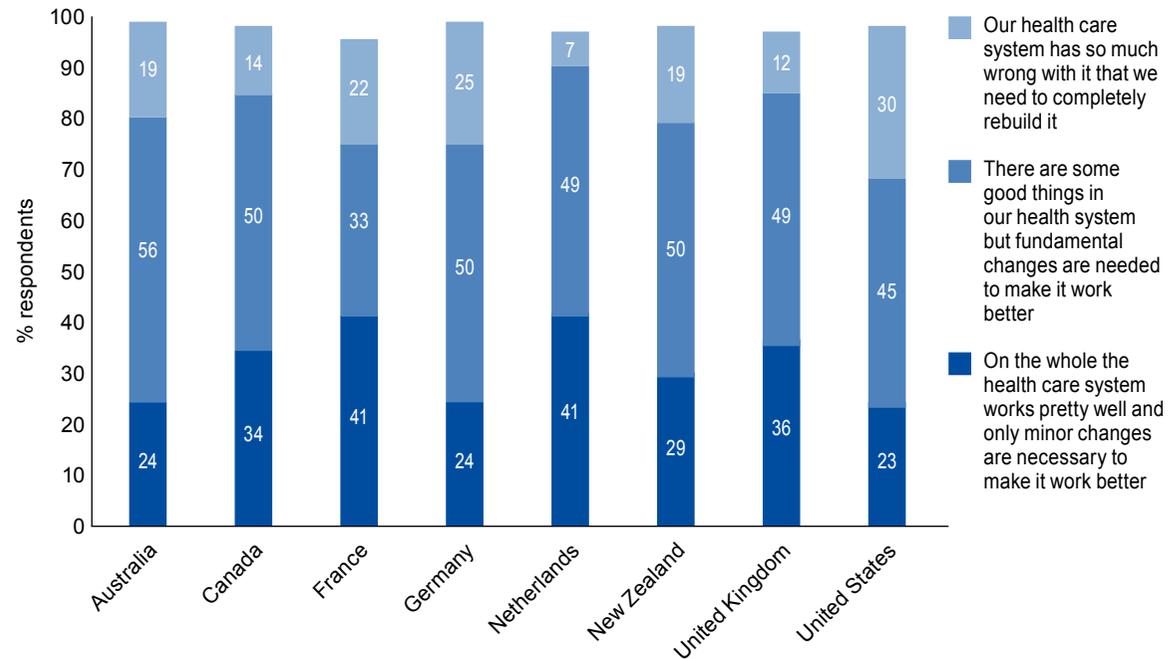


Source: Commonwealth Fund

## Overall view of healthcare system – international comparison

The 2008 Commonwealth Fund International Health Policy Survey focused on sicker adults and asked respondents in eight countries, ‘Which of these statements comes closest to expressing your overall view of the healthcare system in this country?’ The chart below illustrates the results. Compared with results in 2005, respondents had a more positive view of the healthcare systems across the UK. The 2008 survey did not seek to compare views across the countries of the UK.

**Overall view of healthcare system, sicker adults, international comparison, 2008**

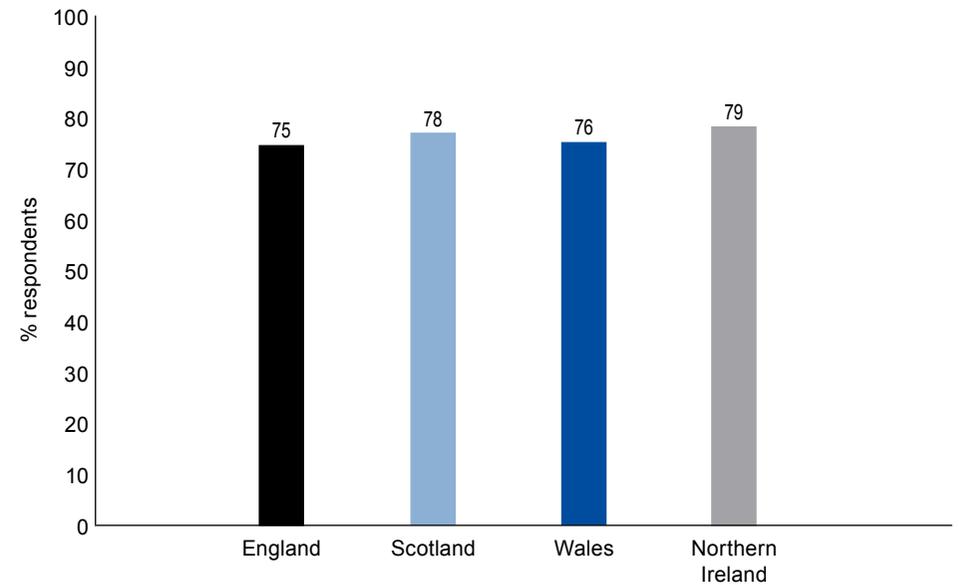


Source: Commonwealth Fund

## Level of involvement in decisions about care

The 2005 Commonwealth Fund Survey asked patients who had been hospitalised in the preceding two years, 'Did the doctors or nurses involve you as much as you wanted to be in deciding about your care treatment or test?'. The responses across UK countries were very similar. Notably, in all countries more than one-fifth of respondents indicated that they were not as involved as they would like to be in decision-making about their care. In 2008, the Commonwealth Fund survey asked respondents whether their 'regular' doctor always discusses treatment options and involves them in decisions about treatment. Overall, 48 per cent of UK respondents answered 'yes' (data were not stratified by UK country) compared with 58 per cent in Australia, 56 per cent in Canada, 42 per cent in France, 56 per cent in Germany, 61 per cent in the Netherlands, 60 per cent in New Zealand and 51 per cent in the US [data not shown].

### Involvement in decisions, hospitalised patients, 2005



Source: Commonwealth Fund

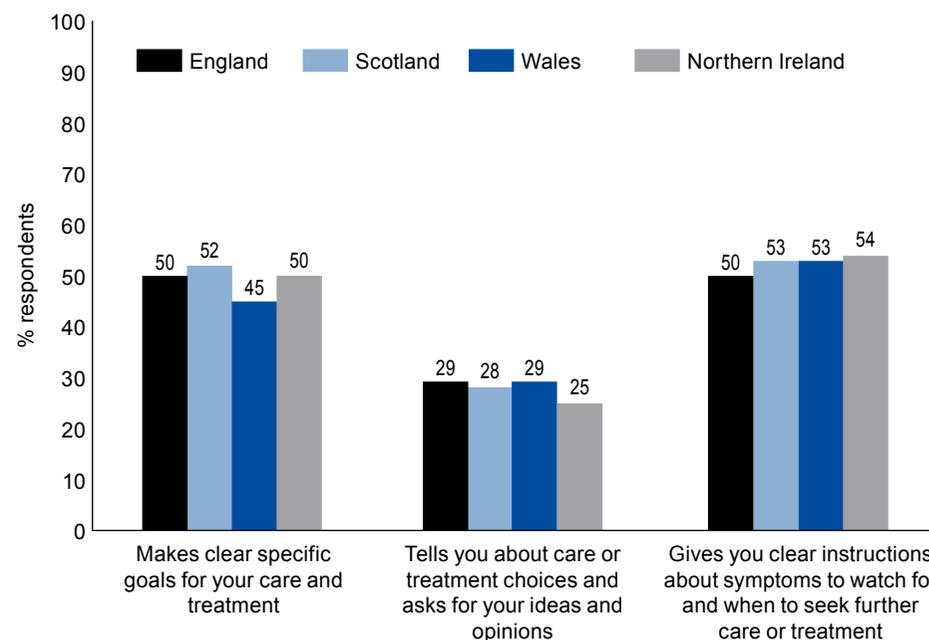
## Patient–doctor communication

In 2005, the Commonwealth Fund surveyed adults with health problems and asked respondents, ‘Does your doctor:

- make clear specific goals for your care and treatment?
- tell you about care or treatment choices and asks for your ideas and opinions?
- give you clear instructions about symptoms to watch for and when to seek further care or treatment?’

The chart illustrates the proportion of respondents that indicated that their doctor ‘always’ communicated in this way. In 2008, respondents were asked similar questions about their interactions with health care professionals and results are shown in the table (results stratified by UK country are not available).

Doctor-patient communication, sicker adults, 2005



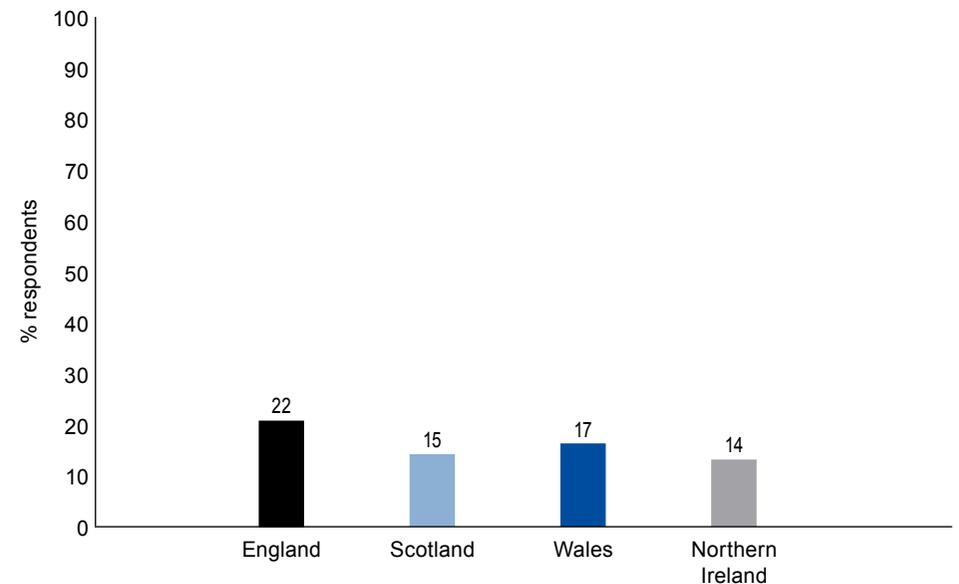
Source: Commonwealth Fund

2008 Data	Australia	Canada	France	Germany	Netherlands	New Zealand	United Kingdom	United States
Patient given a written plan or instructions to help manage own care at home	42	47	34	31	35	43	35	66
Patient discussed with professional main goals or priorities in caring for condition	60	65	51	64	51	58	50	74

## Written instructions for patients with chronic disease

The 2006 International Health Policy Survey conducted by the Commonwealth Fund asked primary care doctors, 'Do you give patients with chronic diseases written instructions about how to manage their own care at home?' The chart illustrates the proportion of respondents that indicated that they routinely do so. English respondents were the most likely to routinely provide this type of patient support. Across each of the four UK countries, fewer than a quarter of respondents were routinely giving written instructions of self-care to patients with chronic disease. In 2008, sicker adults were surveyed and, while data are not available for the individual UK countries, 35 per cent of UK respondents with a chronic disease indicated that they were given a written plan or instructions to help manage their own care [data not shown].

### Primary care doctors routinely give patients with chronic diseases written instructions on self care, 2006

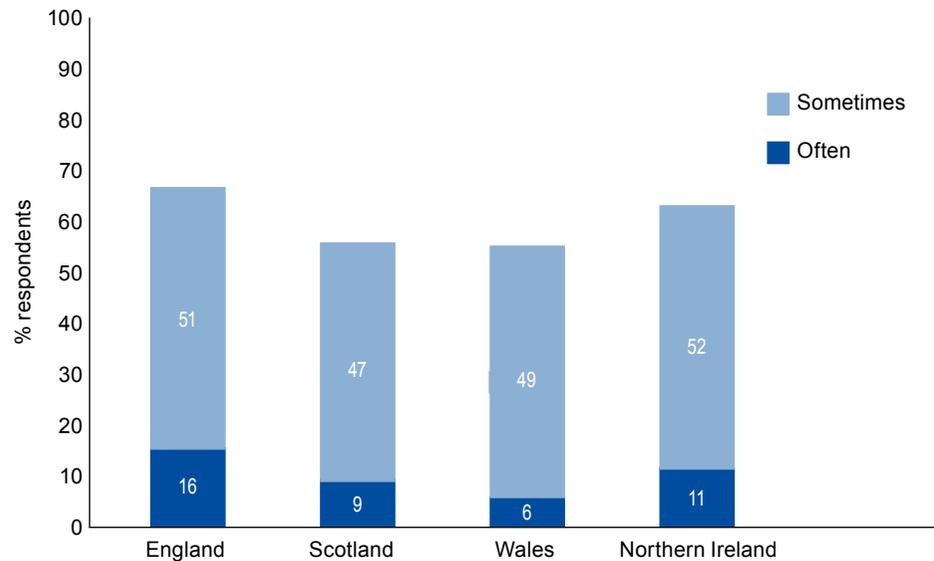


Source: Commonwealth Fund

## Patient problems due to poor coordination of care

Surveying primary care doctors in 2006, the Commonwealth Fund asked whether during the preceding 12 months their patients had experienced problems because care was not well coordinated across multiple sites or providers. The proportion of respondents answering either 'often' or 'sometimes' is illustrated in the chart. England had the highest level of reports of poor coordination across providers of care; Wales had the lowest.

### Patient experienced problems due to poor coordination of care, 2006



Source: Commonwealth Fund

## Equity

Equity, one of the founding principles of the NHS, remains a powerful and much cherished tenet across the UK today. Quantifying and monitoring equity is generally done in two main ways:

1. Measures of disparities (that is, inequity) in health status and outcomes. These measures document variation in 'healthiness' of different groups or sub-populations – variations that are often attributed to socioeconomic status and influenced by a wide range of contributory factors such as education, employment and housing. The social and economic differences are often compounded by differences in health-seeking behaviours. Often referred to as health inequalities, these measures include indicators of differences in life expectancy between different groups or incidence of disease, stratified by deprivation.
2. Measures of disparities in delivery of services. These measures document variation in the provision of healthcare services either due to physical constraints such as geographical location or to inconsistent and inequitable clinical decision-making, for example, on the basis of age, gender, social class or race.

The charts in this section focus on disparities on the basis of socioeconomic status. They refer to deprivation quintiles which separate a population into five bands, according to the level of deprivation, ranging from quintile 1 or least deprived ('richest') to quintile 5 or most deprived ('poorest'). The stratification into quintiles is done on a geographic rather than an individual basis. It is not possible to directly compare quintiles from different countries. The population characteristics of each quintile may not be the same for each individual country. For example, the population of the most deprived quintile in England may be more comparable with that of the third or fourth quintile in Scotland rather than the most deprived Scottish quintile (see the Technical appendix for full details of how these data were calculated).

## Life expectancy by deprivation – males

Life expectancy in general has increased in recent decades. However, since the publication of the Black Report in 1980 there has been a growing concern about inequalities in health between socioeconomic groups. The table below shows 2004–06 data for male life expectancy at birth, stratified by deprivation.

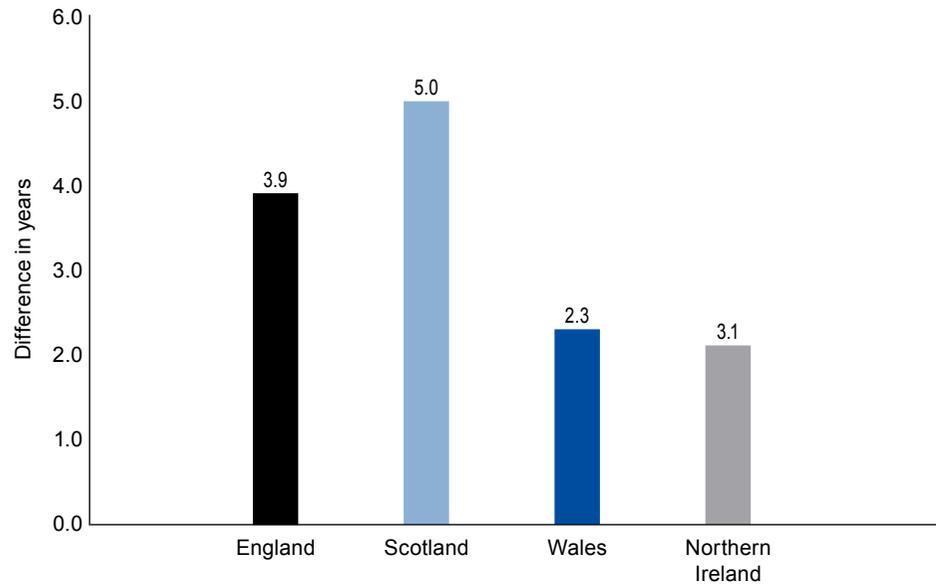
### Male life expectancy 2004–06 by deprivation quintile

	Quintile 1 (least deprived)	Quintile 2	Quintile 3	Quintile 4	Quintile 5 (most deprived)
England	79.3	78.4	77.7	77.1	75.4
Scotland	76.9	75.8	75.4	74.2	72.0
Wales	77.9	76.8	76.7	76.1	75.6
Northern Ireland	77.6	77.1	76.5	76.1	74.6

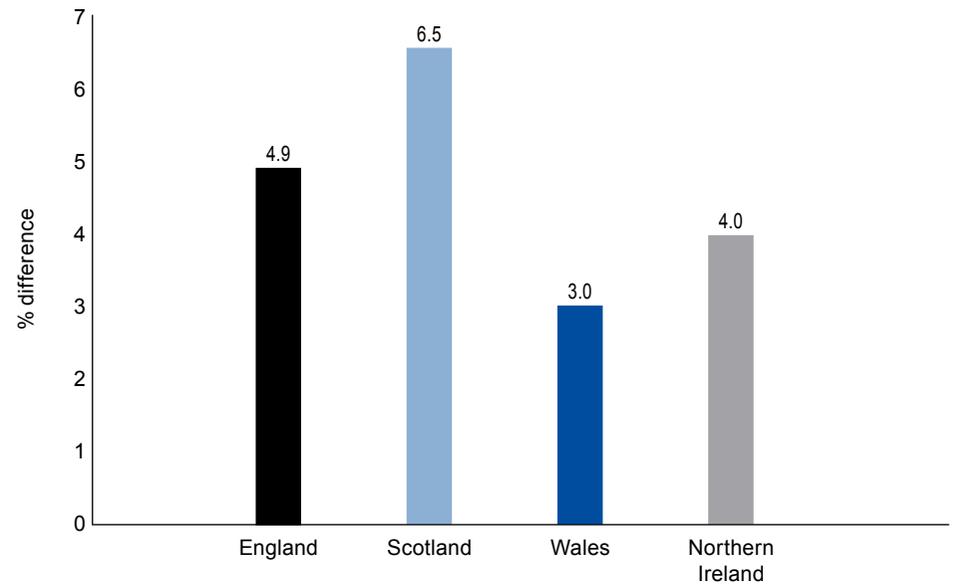
Sources: ONS, GRO, NISRA, analysis by the London Health Observatory

It is not possible to compare directly the quintiles between countries. For example, the most deprived quintile in Scotland may be markedly different to the most deprived quintile in England. However, it is possible to compare the 'absolute gap' – that is, the difference in years between the most affluent and the most deprived in terms of years of life expectancy – and the 'relative gap', which is the percentage difference in years of life expectancy between the richest and poorest quintiles (a relative gap closer to zero indicates less inequality). The charts below illustrate absolute and relative gaps. They show the greatest differences in Scotland where males living in areas with greatest deprivation have a life expectancy that is 6.5 per cent lower (that is, 5 years less) than those living in areas with least deprivation.

**Absolute difference in life expectancy between the least deprived quintile of local authorities and most deprived quintile, males, 2004 – 2006**



**Relative difference in life expectancy between the least deprived quintile of local authorities and most deprived quintile, males, 2004 – 2006**



Sources: ONS, GRO, NISRA; analysis by London Health Observatory

## Life expectancy by deprivation – females

The table below shows data for female life expectancy at birth, stratified by deprivation.

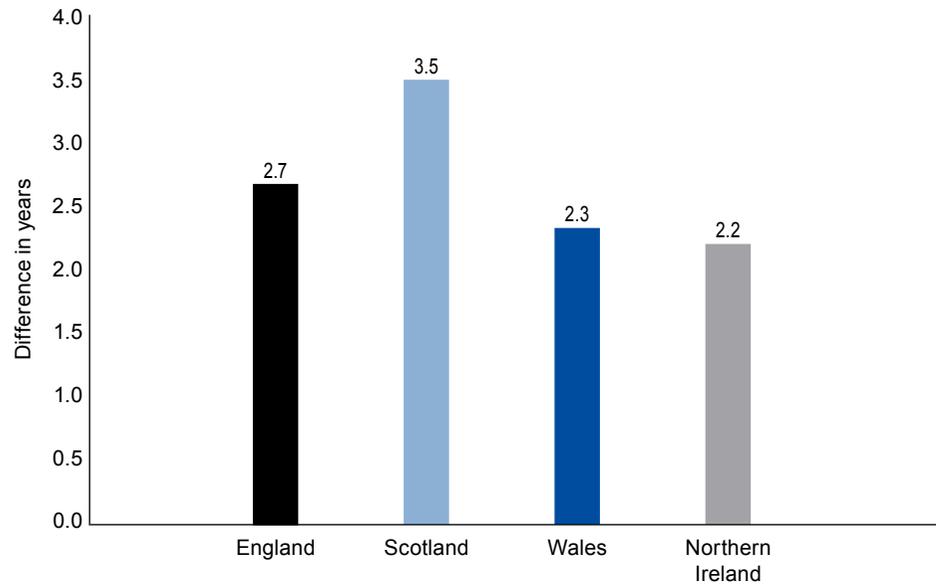
### Female life expectancy 2004–06 by deprivation quintile

	Quintile 1 (least deprived)	Quintile 2	Quintile 3	Quintile 4	Quintile 5 (most deprived)
England	82.9	82.4	81.8	81.5	80.2
Scotland	81.2	80.5	80.1	79.3	77.0
Wales	82.1	81.2	81.2	80.7	79.8
Northern Ireland	81.9	81.7	81.1	81.4	79.8

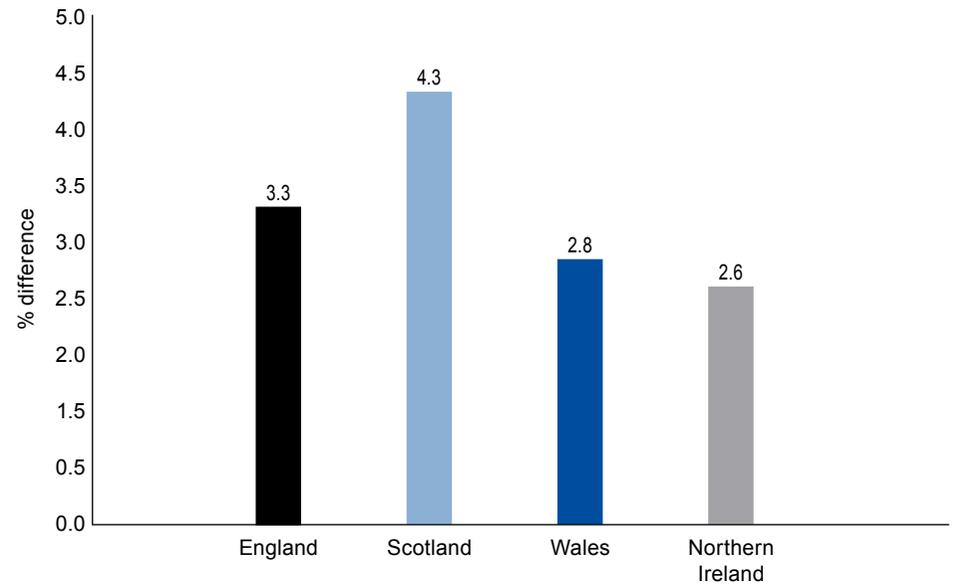
Sources: ONS, GRO, NISRA; analysis by the London Health Observatory

It is not possible to compare directly the quintiles between countries. For example, quintile 5 in Scotland may be markedly different to quintile 5 in England. However, it is possible to compare the ‘absolute gap’ – that is, the difference in years between the most affluent and the most deprived in terms of years of life expectancy – and the ‘relative gap’, which is the percentage difference in years of life expectancy between the richest and poorest quintiles (a relative gap closer to zero indicates less inequality). The absolute and relative gaps are illustrated below. This shows that the greatest differences are in Scotland where females living in local authorities with greatest deprivation have a life expectancy that is 4.3 per cent lower (that is, 3.5 years less) than those living in areas with least deprivation.

**Absolute difference in life expectancy between the least deprived quintile of local authorities and most deprived quintile, females, 2004 – 2006**



**Relative difference in life expectancy between the least deprived quintile of local authorities and most deprived quintile, females, 2004 – 2006**



Source: ONS, GRO, NISRA; analysis by London Health Observatory

## Cancer mortality by deprivation

Health remains linked to social circumstances, as illustrated by differences in cancer mortality rates across deprivation quintiles shown in the table below.

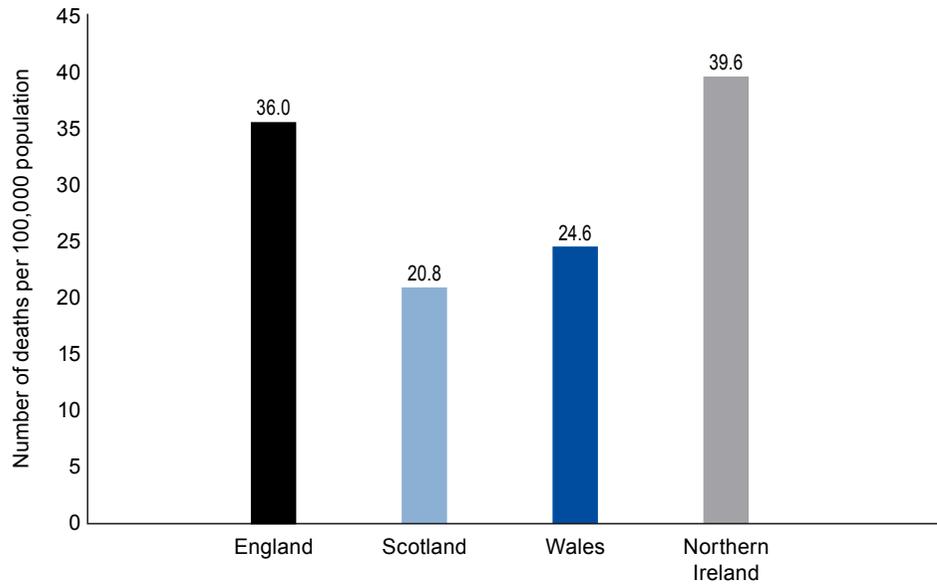
### Cancer mortality rates (age standardised) per 100,000 population

	Quintile 1 (least deprived)	Quintile 2	Quintile 3	Quintile 4	Quintile 5 (most deprived)
England	161.3	164.6	174.0	178.4	197.3
Scotland	215.7	207.3	206.7	225.6	236.5
Wales	172.1	186.4	192.5	190.7	196.7
Northern Ireland	169.0	173.6	177.1	166.8	208.6

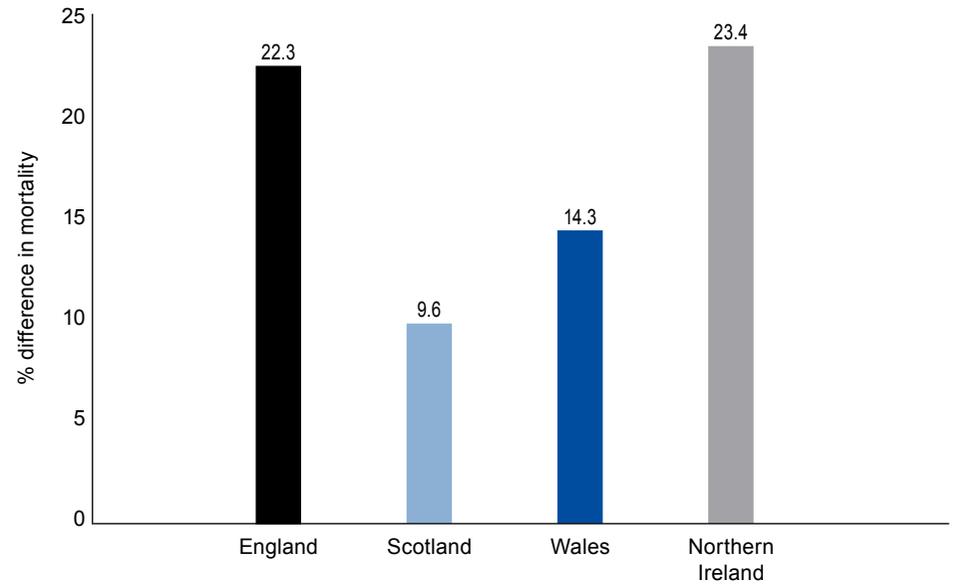
Sources: ONS, GRO, NISRA; analysis by London Health Observatory

The charts below illustrate absolute and relative differences between the most and least deprived quintiles within each country. In relative terms, the rate of death from cancer is 22.3 per cent higher in the most deprived quintile in England compared with the least deprived quintile – this is an excess mortality rate of around 36 deaths per 100,000 population. The relative difference is 21.9 per cent in Northern Ireland, 14.2 per cent in Wales and 10 per cent in Scotland.

**Absolute difference in directly standardised mortality rate per 100,000 population from all cancers between most deprived quintile of local authorities and least deprived quintile**



**Relative difference in directly standardised mortality rate per 100,000 population from all cancers between most deprived quintile of local authorities and least deprived quintile**



Sources: ONS, GRO, NISRA; analysis by London Health Observatory

## Coronary heart disease (CHD) mortality by deprivation

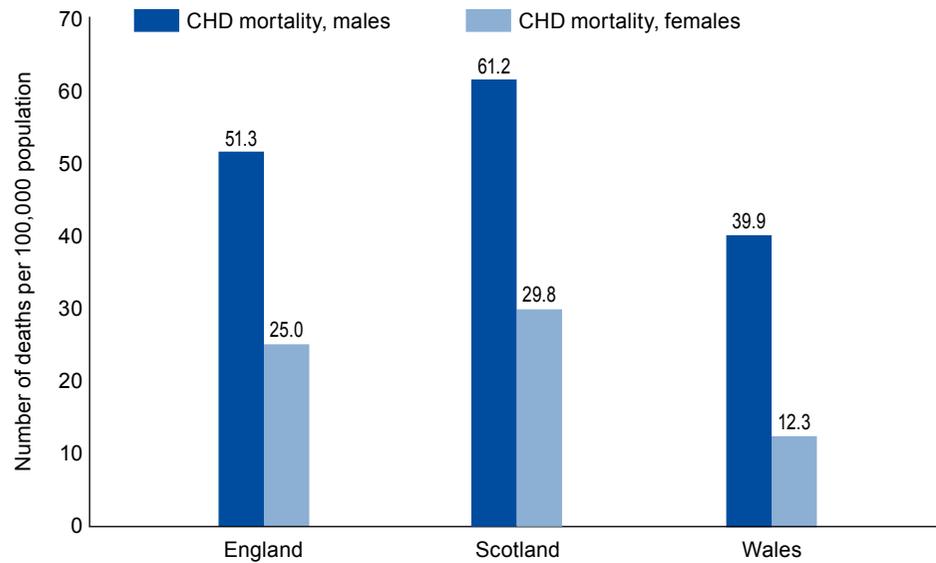
The table below shows differences in CHD mortality rates across deprivation quintiles.

### CHD mortality by deprivation quintile, males and females

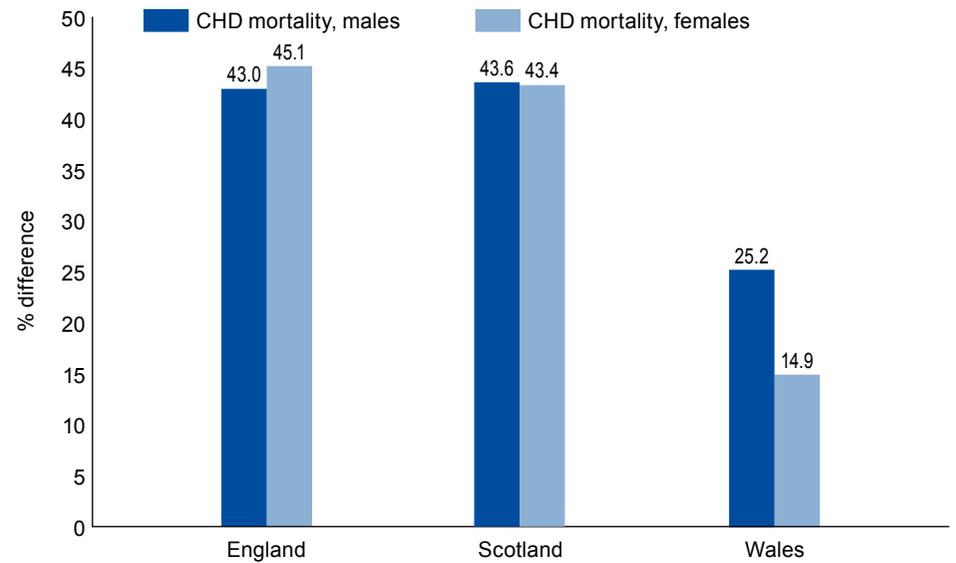
	1 (least deprived)	2	3	4	5 (most deprived)
<b>Males</b>					
England	119.5	128.4	143.1	146.3	170.9
Scotland	140.4	147.7	162.9	167.2	201.5
Wales	158.4	164.0	169.8	184.6	198.3
<b>Females</b>					
England	55.3	59.5	66.5	68.3	80.3
Scotland	68.6	75.7	83.1	93.5	98.4
Wales	82.8	76.5	82.0	91.6	95.1

The charts illustrate absolute and relative differences between the most and least deprived quintiles within each country. In both England and Scotland, the rate of mortality from CHD in the most deprived quintile is more than 40 per cent higher for both males and females than that of the least deprived quintile. In Wales this gap is less, but it is still 25 per cent for males and 15 per cent for females respectively.

**Absolute difference in directly standardised mortality rate from CHD between the most deprived quintile of local authorities and the least deprived quintile**



**Relative difference in directly standardised mortality rate from CHD between the most deprived quintile of local authorities and the least deprived quintile**



Sources: ONS, GRO, NISRA; analysis by London Health Observatory

## Stroke mortality by deprivation

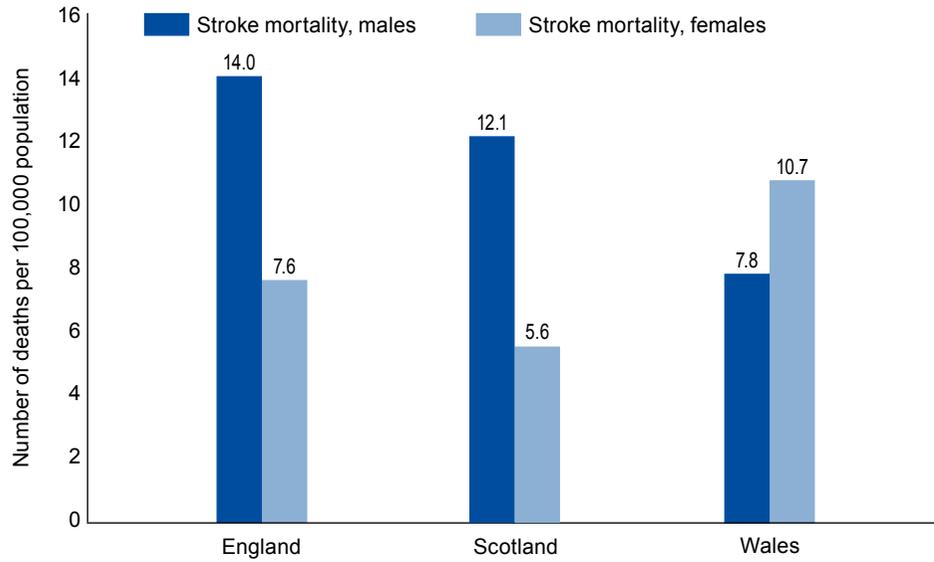
The table below shows differences in stroke mortality rates across deprivation quintiles.

### Stroke mortality by deprivation quintile, males and females

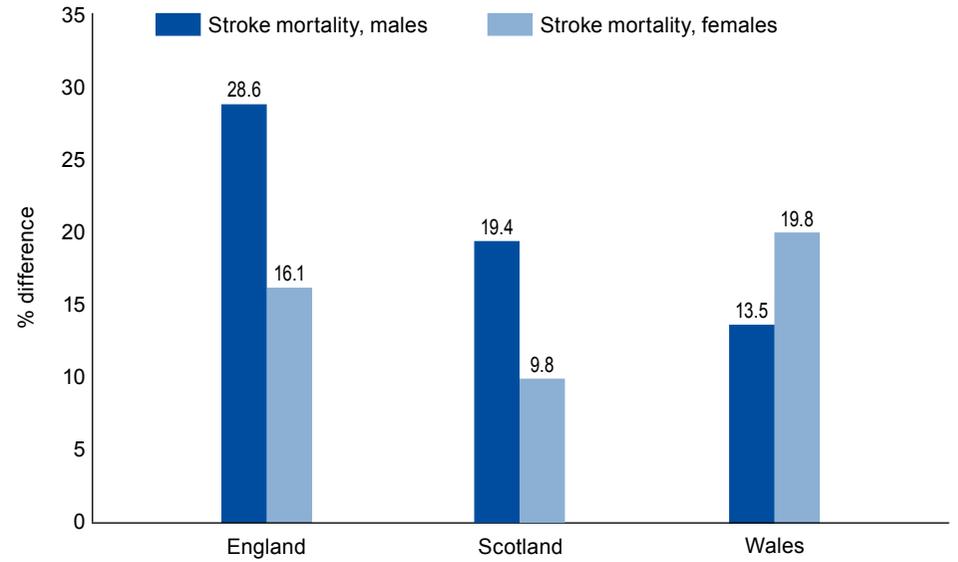
	1 (least deprived)	2	3	4	5 (most deprived)
<b>Males</b>					
England	48.8	52.2	53.3	55.4	62.8
Scotland	62.3	61.2	57.1	74.6	74.4
Wales	57.7	65.0	63.7	63.5	65.5
<b>Females</b>					
England	47.4	49.6	50.7	50.4	55.0
Scotland	56.6	51.6	61.2	68.1	62.2
Wales	54.3	61.1	62.9	55.9	65.1

The charts illustrate absolute and relative differences between the most and least deprived quintiles within each country. Relative difference between the most deprived quintile in England and the least deprived is just under 29 per cent for males, and around 16 per cent for females. This compares with 19 per cent and 10 per cent for males and females respectively in Scotland, and 14 per cent and 20 per cent respectively in Wales.

**Absolute difference in directly standardised mortality rate from stroke between the least deprived quintile of local authorities and the most deprived quintile**



**Relative difference in directly standardised mortality rate from stroke between the least deprived quintile of local authorities and the most deprived quintile**



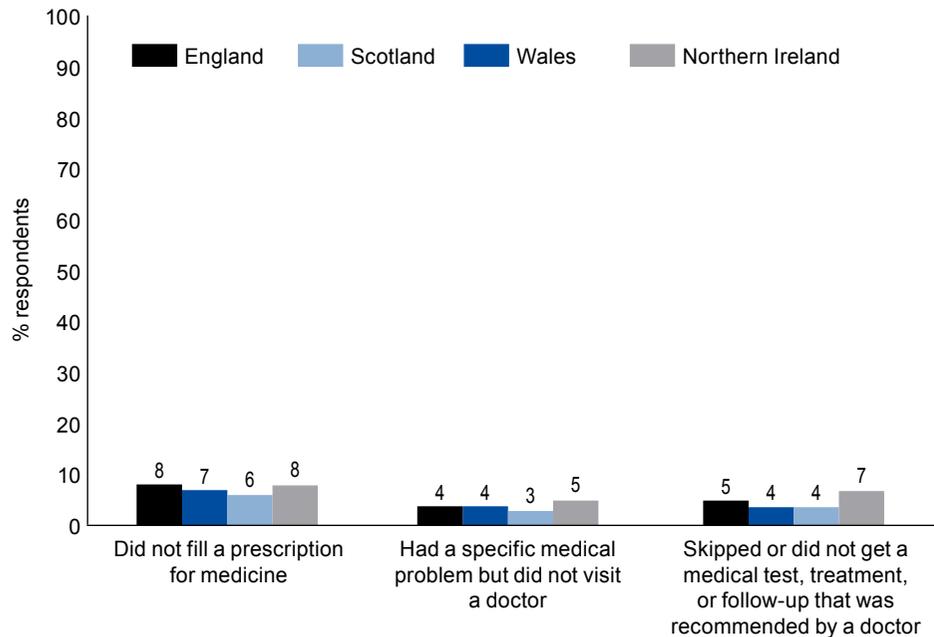
Sources: ONS, GRO, NISRA; analysis by London Health Observatory

## Cost barriers to care

The 2005 Commonwealth Fund International Health Policy Survey focused on sicker adults and asked respondents whether in the preceding two years, there had been occasions when they:

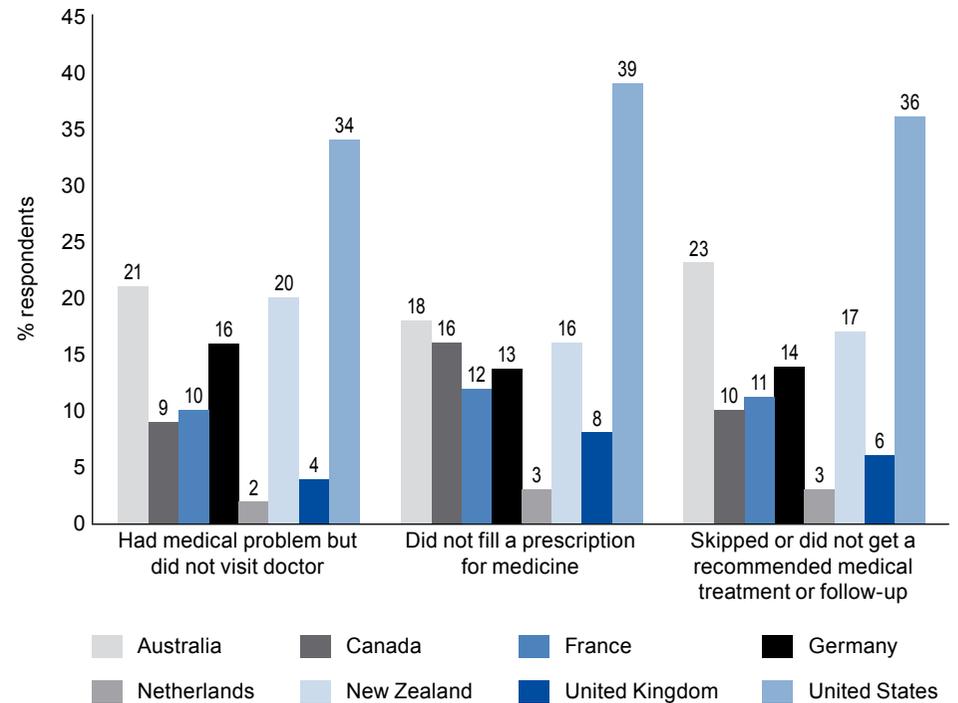
- did not fill a prescription for medicine
- had a specific medical problem but did not visit a doctor
- skipped or did not get a medical test, treatment, or follow-up that was recommended by a doctor.

### Did not get medical care because of cost, 2005



All of the UK countries had low responses. To place this data in context, the 2008 Commonwealth Fund survey asked the same question and, although results were not stratified by UK country, the results do illustrate the scale of the differences internationally.

### Did not get medical care because of cost, international comparison, 2008



Sources: Commonwealth Fund

## Technical appendix

### Effectiveness

#### *Life expectancy at birth, males*

#### *Life expectancy at birth, females*

This uses data from the Office for National Statistics (ONS), with the exception of the figures for Scotland, which since 2002–04 have been produced by the General Register Office for Scotland (GROS). The method for calculating these data uses abridged (grouped years) life tables and deaths registered each year. Note that the figures may differ slightly from those published in the Interim Life Tables which use complete (single year of age) life tables.

Life expectancy at birth for an area in a given time period is an estimate of the average number of years a new-born baby would survive if he or she experienced the particular area's age-specific mortality rates for that time period throughout his or her life. It is not therefore the number of years a baby born in the area in that time period could actually expect to live, both because the death rates of the area are likely to change in the future and because many of those born in the area will live elsewhere for at least some part of their lives. Data from Interim Life Tables use complete (single year of age) life tables.

[www.statistics.gov.uk/StatBase/Product.asp?vlnk=14459](http://www.statistics.gov.uk/StatBase/Product.asp?vlnk=14459)

### *Mortality rates – major diseases*

Cause of death is defined using International Classification of Diseases, Tenth revision (ICD-10). Rates are based on the European Standard Population and include the 'under ones'. Data are based on year of registration (rather than year of occurrence). 'England' and 'Wales' categories cover residents only; Scotland and Northern Ireland data cover both residents and non-residents.

#### *Cancer mortality time series*

#### *Breast cancer mortality*

#### *Prostate cancer mortality*

#### *Lung cancer mortality*

Cause of death is defined using International Classification of Diseases, Tenth revision (ICD-10). Mid-year population estimates were used with the newly diagnosed cases of cancer and deaths data to calculate age-standardised incidence and mortality rates for males and females separately (rates were age-standardised using the European Standard Population). Analyses used three-year moving averages in order to smooth out large year-on-year variation over time. Rates of change in mortality between 1993–95 and 2003–05 were significant at the 95 per cent confidence interval unless otherwise stated. [Note: for small countries, modelling rate changes using log linear trends may be a more robust method and this work has been undertaken in Northern Ireland by NICR. Its analysis calculated that rates of decrease in mortality were around 1 per cent greater using the modelling method when compared with simple percentage rates of change. This approach was not utilised in other UK countries and so no comparative data were available.]

### *Cancer mortality – international time series*

Data were extracted from the World Health Organization Mortality Database, compiled by OECD Health Data 2008. Age standardised death rates per 100,000 population uses the OECD population for 1980 as the reference population. ICD-10 code C00–C97: Malignant neoplasms.

### *Cancer survival ratios*

#### *Breast cancer survival*

#### *Prostate cancer survival*

#### *Lung cancer survival*

Data were sourced from cancer registries in the UK and analysed by EURO CARE-4. EURO CARE-4 database includes incidence data and follow-up information on patients with cancer diagnosed between 1 January 1978 and 31 December 2002 collected by 83 cancer registries throughout Europe (including 47 registries in the recent period 1996–2002). Relative survival was calculated as the ratio of absolute survival of patients with cancer to the expected survival of a group of people of the corresponding sex and age in the population. All relative survival estimates were age-adjusted with the European standard cancer populations. Coverage of national data was 100 per cent for UK countries, Sweden, Norway and Austria; 58 per cent for Belgium; 34 per cent for the Netherlands; 24 per cent for Switzerland and Italy. Countries with low data coverage, such as France and Germany (1 per cent) and Spain (3 per cent), are not shown here. For those data and further details, see Verdecchia et al 2007.

For cancer survival ratios overall, 95 per cent confidence intervals are:

	95% CI males	95% CI females
England	44.6–45.0	52.5–52.9
Scotland	39.6–40.9	47.4–48.6
Wales	N/A	53.3 – 55.0
Northern Ireland	40.8–43.3	49.8–52.2

### *Breast cancer mortality (see Cancer mortality time series)*

#### *Breast cancer – screening coverage and death rates*

Screening data represent the percentage of the target population – women aged 50–64 years – screened in the previous three years. Medically ineligible women (women who, for example, as a result of surgery, do not require screening) in the target population are excluded from the figures, except in Scotland.

[www.statistics.gov.uk/downloads/theme\\_compendia/Regional\\_Trends\\_40/RT40\\_Chapters\\_3\\_to\\_13.pdf](http://www.statistics.gov.uk/downloads/theme_compendia/Regional_Trends_40/RT40_Chapters_3_to_13.pdf)

Mortality data represent underlying cause for the four countries in the UK in 2006. The underlying cause of death is: (i) the disease which initiated the train of events leading directly to death or (ii) the circumstances of the accident or violence which produced the fatal injury. Cause of death was defined using the Tenth revision of the International Classification of Diseases (ICD-10). Data are based on year of registration. Rates are based on the European Standard Population and include the under ones. Scotland and Northern Ireland data cover both residents and non-residents; England and Wales categories cover residents only.

[www.statistics.gov.uk/downloads/theme\\_health/UKHS3/UKHS2008web.pdf](http://www.statistics.gov.uk/downloads/theme_health/UKHS3/UKHS2008web.pdf)

*Breast cancer survival (see Cancer survival ratios)*

	95% CI
England	77.4–78.2
Scotland	76.0–78.6
Wales	76.7–80.1
Northern Ireland	77.0–82.1

*Prostate cancer mortality (see Cancer mortality time series)**Prostate cancer survival (see Cancer survival ratios)*

	95% CI
England	NA
Scotland	68.8–73.3
Wales	69.1–74.5
Northern Ireland	NA

*Lung cancer mortality (see Cancer mortality time series)**Lung cancer survival (see Cancer survival ratios)*

	95% CI
England	8.1–8.6
Scotland	7.5–8.9
Wales	9.1–11.8
Northern Ireland	NA

*Mortality from circulatory disease – international comparison*

Data were extracted from the World Health Organization Mortality Database, compiled by OECD Health Data 2008. Age standardised death rates per 100,000 population uses the OECD population for 1980 as the reference population. ICD-10 code: I00–I99, Diseases of the Circulatory System.

*Mortality from ischaemic heart disease*

Data are for underlying cause for the four countries in the UK in 2006. The underlying cause of death is: (i) the disease which initiated the train of events leading directly to death or (ii) the circumstances of the accident or violence which produced the fatal injury. Cause of death was defined using the Tenth revision of the International Classification of Diseases (ICD-10) code: I20–I25, Ischaemic Heart Disease. Data based on year of registration. Rates are based on the European Standard Population and include the under ones. Scotland and Northern Ireland data cover both residents and non-residents; England and Wales categories cover residents only.

[www.statistics.gov.uk/downloads/theme\\_health/UKHS3/UKHS2008web.pdf](http://www.statistics.gov.uk/downloads/theme_health/UKHS3/UKHS2008web.pdf)

*CHD in primary care – blood pressure and cholesterol QOF indicators**Hypertension in primary care – QOF indicators**CHD in primary care – QOF medication indicators**Stroke in primary care – blood pressure and cholesterol QOF indicators**Heart failure in primary care – QOF indicator achievement**Diabetes in primary care – QOF indicators for blood pressure and cholesterol**Diabetes in primary care – QOF indicator achievement for glycaemic control**Retinal screening in diabetics – QOF indicator*

Quality and Outcomes Framework (QOF) data are measured by the Quality Management Analysis System (QMAS), a national IT system developed

by NHS Connecting for Health (CfH). QMAS ensures consistency in the calculation of quality achievement and disease prevalence, and is linked to payment systems. It should be noted that QMAS is not a comprehensive source of data on quality of care in general practice, but is regarded to be potentially a rich and valuable source of such information, providing the limitations of the data are acknowledged. Number of participating GMS practices from which data are drawn is:

England		Scotland		Wales		Northern Ireland	
2006/07	2007/08	2006/07	2007/08	2006/07	2007/08	2006/07	2007/08
8372	8294	901	896	497	490	363	361

#### *Managing heart attacks – reperfusion*

MINAP is coordinated by the Clinical Effectiveness and Evaluation Unit of the Royal College of Physicians and presents data provided by hospitals and ambulance services in England and Wales that provided care for patients with suspected heart attack. Data are collected from 227 hospitals. Comparable data for CTN60 are not available for Scotland or Northern Ireland. However, Scotland is in the process of implementing a web-based software system to capture information on patients admitted to hospital with Acute Coronary Syndrome (SCI-ACS). Data collected to date suggest that in calendar year 2007, 70.3 per cent of patients received thrombolysis within 60 minutes of arriving at hospital. This compares to MINAP data for England which found in 2008 85 per cent patients were thrombolysed within 30 minutes of arrival at hospital.

Angioplasty data for Scotland are drawn from hospitals that are ‘SCI-ACS enabled’. Implementation of SCI-ACS is described by GRO as variable: ‘some hospitals use it routinely, others use it infrequently and some large teaching hospitals such as Glasgow Royal Infirmary, are excluded from the figures as they don’t as yet use SCI-ACS.’

#### *Managing heart attacks – secondary prevention*

For England and Wales, MINAP is coordinated by the Clinical Effectiveness and Evaluation Unit of the Royal College of Physicians; data are provided by 227 hospitals and ambulance services. Data from Scotland taken from SCI-ACS which has incomplete coverage across the country (see above). Scottish data for clopidogrel is for July to December 2007; all other medications for January to December 2007.

[www.rcplondon.ac.uk/clinical-standards/organisation/partnership/Documents/Minap%202008.pdf](http://www.rcplondon.ac.uk/clinical-standards/organisation/partnership/Documents/Minap%202008.pdf)

*Hypertension in primary care – QOF indicators* (see CHD in primary care – blood pressure and cholesterol QOF indicators)

*CHD in primary care – QOF medication indicators* (see CHD in primary care – blood pressure and cholesterol QOF indicators)

#### *Stroke mortality*

Data are for underlying cause for the four countries in the UK in 2006. The underlying cause of death is: (i) the disease which initiated the train of events leading directly to death or (ii) the circumstances of the accident or violence which produced the fatal injury. Cause of death was defined using the Tenth revision of the International Classification of Diseases (ICD-10) code: I60–I69 Cerebrovascular disease. Data are based on year of registration. Rates are based on the European Standard Population and include the under ones. Scotland and Northern Ireland data covers both residents and non-residents; England and Wales categories cover residents only.

[www.statistics.gov.uk/downloads/theme\\_health/UKHS3/UKHS2008web.pdf](http://www.statistics.gov.uk/downloads/theme_health/UKHS3/UKHS2008web.pdf)

*Stroke in primary care – blood pressure and cholesterol QOF indicators*  
(see CHD in primary care: blood pressure and cholesterol QOF indicators)

Heart failure in primary care – QOF indicator achievement (see CHD in primary care: blood pressure and cholesterol QOF indicators)

*Infant mortality*

This uses deaths under 1 year of age per 1,000 live births. Rolling three-year averages are presented to smooth out fluctuations. Data for 2007 are provisional.

[www.statistics.gov.uk/StatBase/Expodata/Spreadsheets/D9533.xls](http://www.statistics.gov.uk/StatBase/Expodata/Spreadsheets/D9533.xls)

*Perinatal mortality*

This uses deaths per 1,000 live births and still births. Rolling three-year averages are presented to smooth out fluctuations. Data for 2007 are provisional.

*Childhood immunisation*

Data for England, Wales and Scotland are for the year ending 31 March. Data for Northern Ireland are per calendar year (January to December).

*Diabetes mortality*

Data are for underlying cause for the four countries in the UK in 2006. The underlying cause of death is: (i) the disease which initiated the train of events leading directly to death or (ii) the circumstances of the accident or violence which produced the fatal injury. Cause of death was defined using the Tenth revision of the International Classification of Diseases (ICD-10) code: E14, Diabetes. Data are based on year of registration. Rates are based on the European Standard Population and include the under ones.

Scotland and Northern Ireland data cover both residents and non-residents; England and Wales categories cover residents only.

[www.statistics.gov.uk/downloads/theme\\_health/UKHS3/UKHS2008web.pdf](http://www.statistics.gov.uk/downloads/theme_health/UKHS3/UKHS2008web.pdf)

*Diabetes in primary care – blood pressure and cholesterol* (see CHD in primary care: blood pressure and cholesterol QOF indicators)

*Diabetes in primary care – glycaemic control* (see CHD in primary care: blood pressure and cholesterol QOF indicators)

*Retinal screening in diabetics – QOF indicator* (see CHD in primary care: blood pressure and cholesterol QOF indicators)

*Alcohol-related deaths*

The ONS definition of alcohol-related deaths (which includes causes regarded as most directly due to alcohol consumption) was revised in 2006. It encompasses the following ICD-10 codes:

F10 Mental and behavioural disorders due to use of alcohol

I42.6 Alcoholic cardiomyopathy

K70 Alcoholic liver disease

K73 Chronic hepatitis, not elsewhere classified

K74 Fibrosis and cirrhosis of liver

X45 Accidental poisoning by and exposure to alcohol

For further information see [www.statistics.gov.uk/downloads/theme\\_health/Defining\\_alcohol-related\\_deaths.pdf](http://www.statistics.gov.uk/downloads/theme_health/Defining_alcohol-related_deaths.pdf)

[www.statistics.gov.uk/downloads/theme\\_health/UKHS3/UKHS2008web.pdf](http://www.statistics.gov.uk/downloads/theme_health/UKHS3/UKHS2008web.pdf)

### *Suicide*

Data are for underlying cause for the four countries in the UK in 2006. The underlying cause of death is: (i) the disease which initiated the train of events leading directly to death or (ii) the circumstances of the accident or violence which produced the fatal injury. Data are based on year of registration. Rates are based on the European Standard Population and include the under ones. Scotland and Northern Ireland data covers both residents and non-residents; England and Wales categories cover residents only. Figures for intentional self harm only include Y10–Y34 with inquest verdict 'open' for deaths in England and Wales; figures for Scotland and Northern Ireland include all deaths coded to Y10–Y34.

### *Influenza vaccination for the over-65s*

Data for England, Wales and Scotland are for the year ending 31 March. Data for Northern Ireland are per calendar year (January to December).

### *Sexually transmitted diseases – chlamydia*

Data derived from cases seen at genito-urinary medicine (GUM) clinics. Rates are calculated using resident population.

## **Access and timeliness**

### ***Waits for procedures – cataract surgery***

### ***Waits for procedures – angiography***

### ***Waits for procedures – bypass surgery***

### ***Waits for procedures – hip replacement***

### ***Waits for procedures – knee replacement***

### ***Waits for procedures – angioplasty***

Time waited is calculated as the difference between admission date and the date the decision to admit was made. This is not adjusted for self-deferrals or periods of medical/social suspension. Includes waits for all selected patients, including those whose reported wait was zero days. Data relate solely to NHS activity in NHS hospitals and are based on country of treatment rather than country of residence. Data include only patients who have been treated electively and were classified as either waiting list or booked. England data are based on finished in-year admissions and so only include cases where the patient has been admitted and a finished consultant episode had been recorded within each financial year. For most of the listed procedures, over 99.5 per cent of cases are admitted and have a FCE recorded in the same financial year. For hip, knees and CABGs this is in over 97 per cent of cases. Data for Scotland, Wales and Northern Ireland relate to those patients admitted during the financial year irrespective of the year in which they were discharged. For suspension policies for the four UK nations see p 82 of UK Health Statistics [www.statistics.gov.uk/downloads/theme\\_health/UKHS3/UKHS2008web.pdf](http://www.statistics.gov.uk/downloads/theme_health/UKHS3/UKHS2008web.pdf)

### ***Waits for radiotherapy***

Data are taken from the Royal College of Radiologists' audit on radiotherapy waiting times conducted in 1998, 2003, 2005 and 2007. Results are presented on 2,528 patients (2,669 treatments) who commenced a course of radiotherapy in the week commencing Monday 24 September 2007. Data were obtained from 57 (100 per cent) of NHS centres and 2/3 private centres.

### ***Provision of out of hours primary care***

The evidence is taken from the 2006 Commonwealth Fund Survey of primary care physicians. Sample size was as follows:

England 595

Scotland 262

Wales 101

Northern Ireland 105.

The survey was conducted between February and July 2006 by telephone. The analysis weighted final samples to the distribution of physicians by region of the country, and sex. In general, country samples closely matched initial characteristics available from lists of physicians.

## **Capacity**

### ***Public expenditure on health***

This is based on Total Expenditure on Services (TES) aggregates which are essentially a consolidated view of all spending by the public sector consistent with the National Accounts. TES is divided into 'identifiable' and 'non-identifiable' depending on whether it is possible to determine the country/region that has benefited from the spending. These data illustrate identifiable spending within TES for each country.

[www.hm-treasury.gov.uk/media/A/7/pesa0809\\_chap09.pdf](http://www.hm-treasury.gov.uk/media/A/7/pesa0809_chap09.pdf) table 9.11

### ***Staffing – general practitioners and dentists***

Head counts are as at March 2008 for England, Scotland and Wales, and December 2007 for Northern Ireland.

Figures for GPs excludes GP registrars and retainers in England and Wales.

Figures for dentists are based on a new definition which counts the number of dental performers who have any NHS activity recorded against them via FP17 claim forms at any time in the year that met the criteria for inclusion within the annual reconciliation process.

Mid-2007 population estimates are from the ONS.

[www.ic.nhs.uk/webfiles/publications/dental0708/NHS%20Dental%20Statistics%20for%20England%202007-08v2.pdf](http://www.ic.nhs.uk/webfiles/publications/dental0708/NHS%20Dental%20Statistics%20for%20England%202007-08v2.pdf)

[http://isd.scot.nhs.uk/isd/servlet/FileBuffer?namedFile=Dent\\_table\\_1\\_REG\\_Mar08.xls&pContentDispositionType=inline](http://isd.scot.nhs.uk/isd/servlet/FileBuffer?namedFile=Dent_table_1_REG_Mar08.xls&pContentDispositionType=inline)

[www.isdscotland.org/isd/information-and-statistics.jsp?pContentID=4608&p\\_applic=CCC&p\\_service=Content.show&](http://www.isdscotland.org/isd/information-and-statistics.jsp?pContentID=4608&p_applic=CCC&p_service=Content.show&)

[www.statswales.wales.gov.uk/TableViewer/tableView.aspx?ReportId=3272](http://www.statswales.wales.gov.uk/TableViewer/tableView.aspx?ReportId=3272)

[www.centraleservicesagency.com/files/annual\\_statistical\\_reports/file/NISatReport0607\\_upd.pdf](http://www.centraleservicesagency.com/files/annual_statistical_reports/file/NISatReport0607_upd.pdf)

### ***Available beds and 'throughput'***

These are based on the average daily available beds during the year in which wards are open overnight. Hospitals may also have a number of beds in wards which are only open during the day.

### ***Mean number of patients seen – primary care doctors***

### ***Changes in perceived ability to provide high quality care – primary care***

### ***General practice capacity to provide optimal care***

### ***Use of information technology in primary care***

### ***Coordination of care – routine prompts in primary care***

### ***Coordination problems – patient perspective***

### ***Coordination of care – medical record availability***

### ***Coordination – receiving full discharge reports for primary care patients***

### ***Participation in quality improvement activities***

This draws on the 2006 Commonwealth Fund Survey of primary care physicians. Sample size was the following:

England 595

Scotland 262

Wales 101

Northern Ireland 105.

The survey was conducted between February and July 2006 by telephone. The analysis weighted final samples to the distribution of physicians by region of the country, and sex. In general, country samples closely matched initial characteristics available from lists of physicians. For sample sizes of 1,000 and 500, the margin of sample error ranges from  $\pm 3$  per cent to  $\pm 5$  per cent, respectively, at the 95 per cent confidence level. The data should be interpreted with care: although samples were drawn at random from the 2004 Medical Directory, the final sample cannot be considered to be a random sample of the GP population. For the final sample of 1,063 respondents, the number of GPs who were contacted was 5,400 (a 20 per cent response rate).

## **Safety**

### ***Patient reported error***

### ***Follow up of adverse events in primary care***

### ***Safety and prescribed medications***

### ***Patients receiving incorrect results***

### ***Hospital acquired infections***

This draws on the 2006 Commonwealth Fund Survey of primary care physicians. Sample size was as follows:

England 595

Scotland 262

Wales 101

Northern Ireland 105.

The survey was conducted between February and July 2006 by telephone. The analysis weighted final samples to the distribution of physicians by

region of the country, and sex. In general, country samples closely matched initial characteristics available from lists of physicians. For sample sizes of 1,000 and 500, the margin of sample error ranges from  $\pm 3$  per cent to  $\pm 5$  per cent, respectively, at the 95 per cent confidence level.

### ***MRSA rates***

Data are from January to June and July to December for Scotland, Wales and Northern Ireland, and from October to March and April to September for England within each calendar year. Scotland reports on infections per 'acute' occupied bed days. Northern Ireland, Wales and England data are for infections per occupied bed days.

### ***Clostridium difficile deaths***

Data for England and Wales exclude deaths of non-residents. All deaths in England, Wales and Northern Ireland are coded according to the International Classification of Diseases (ICD-10): 'enterocolitis due to clostridium difficile' (A04.7). Scottish data supplied by GRO, using reference to Scottish Parliament questions.

[www.scottish.parliament.uk/Apps2/Business/PQA/Default.aspx](http://www.scottish.parliament.uk/Apps2/Business/PQA/Default.aspx)

## **Patient centredness**

### ***Overall ratings of quality of care***

#### ***Overall view of healthcare system – sicker adults and primary care doctors***

#### ***Involved in decisions about care***

#### ***Patient–doctor communication***

#### ***Communication – written instructions for patients with chronic disease***

#### ***Patient problems due to poor coordination of care***

The 2005 Commonwealth Fund International Health Policy survey focused on adults that met at least one of the following criteria: self-reported health status as 'good' or 'fair', serious illness in the past two years, hospitalised or had major surgery in the past two years. Final sample sizes were:

England 870

Scotland 300

Wales 300

Northern Ireland 300.

Results were weighted to correct for population size differences. Telephone interviews were conducted between March and June 2005.

## Overall view of healthcare system – international comparison

The 2008 Commonwealth Fund Survey focused on sicker adults, that is, those that reported being in ‘poor’ or ‘fair’ health, having a serious illness, disability, hospitalisation or major surgery in the previous two years. Fieldwork was conducted from March–May 2008. Sample sizes were:

Australia 750

Canada 2635

France 1202

Germany 1201

Netherlands 1000

New Zealand 751

UK 1200

US 1205.

## Equity

### Deprivation

Charts are presented split into deprivation quintiles. The data for these came from the English Index of Multiple Deprivation 2007 ([www.communities.gov.uk/documents/communities/xls/576504.xls](http://www.communities.gov.uk/documents/communities/xls/576504.xls)), the Scottish Index of Multiple Deprivation 2006 ([www.scotland.gov.uk/Resource/Doc/933/0041675.xls](http://www.scotland.gov.uk/Resource/Doc/933/0041675.xls)), the Welsh Index of Multiple Deprivation 2005 ([www.statswales.wales.gov.uk/ReportFolders/reportfolders.aspx?IF\\_ActivePath=P,2449,2450](http://www.statswales.wales.gov.uk/ReportFolders/reportfolders.aspx?IF_ActivePath=P,2449,2450)) and the Northern Ireland Index of Multiple Deprivation 2005 ([www.nisra.gov.uk/archive/deprivation/NIMDM2005\\_LGD\\_summaries.xls](http://www.nisra.gov.uk/archive/deprivation/NIMDM2005_LGD_summaries.xls)).

Each of these indices has been calculated in a different way, so they are not directly comparable. Each of the indices is calculated at a Lower Super Output Area (LSOA) level. For the English and Northern Irish indices, deprivation scores for local authority areas were already published. For the Scottish and Welsh indices, scores for local authority areas were estimated by the London Health Observatory (LHO), using a weighted average of the LSOA deprivation scores making up the local authority area. The weighting was based on population numbers in each LSOA. Local authorities in each country were allocated to quintiles on the basis of the deprivation score for that local authority. For example, the most deprived 20 per cent of local authorities are allocated to the ‘most deprived’ quintile. The next most deprived 20 per cent of local authorities are allocated to ‘quintile 4’. When attempting to relate geographic variations to socioeconomic deprivation using such area-based indices, it must be borne in mind that not everyone living in a deprived ward is themselves socioeconomically disadvantaged, nor do all those who are so disadvantaged live in deprived wards. These factors tend to dilute the real relationships at the individual level between the measure of interest and deprivation or any risk factor(s), such as smoking, for which deprivation is a marker. Note also that, for practical

reasons, all data in this section are presented at local authority level. While there are relatively more deprived and less deprived local authorities, there is a degree of variation within each. Were the data in this section to be calculated at LSOA level it is likely a greater disparity between the most deprived and the least deprived would be present.

### ***Life expectancy by deprivation – males***

### ***Life expectancy by deprivation – females***

Life expectancy figures have been calculated for each local authority area in England, Scotland, Wales and Northern Ireland for both males and females. The life expectancy figures are presented as the average for the period 2004–06. For each of the deprivation quintiles, the data are presented as a weighted average of the life expectancy for the local authorities that make up that quintile (based on population).

### ***Cancer mortality by deprivation***

This uses directly standardised rates (DSR) for mortality from cancer for all ages. The rates are age-standardised using the European standard population. Age-standardisation allows for the comparison of mortality rates between areas while allowing for differences in the age structure of the population. All rates have been standardised per 100,000 European Standard population. For England, the data are based on underlying cause of death using ICD-10 codes C00–C97 for the years 2004–06. For Scotland, data are for the year 2006 only, using ICD-10 codes C00–C97 (although excluding C44). For Scotland, the data were only available by Health Authority Board, so the rate for the Health Authority Board has been assigned to each of the individual Local Authorities that make it up. For Wales, the data were again based on ICD-10 code C00–C97 (excluding C44), but for the years 2003–05. For Northern Ireland, there is no information as to the ICD-10 codes used in calculating the rates. The data for Northern Ireland relates to the years 2002–06 and ICD-10 codes C00–C99. Note that data for Scotland are only available split into male and

female. Also data for Northern Ireland are not directly age standardised to the European standard population.

When attempting to relate geographic variations in cancer to socio-economic deprivation using such area-based indices, it must be borne in mind that not everyone living in a deprived ward is themselves socio-economically disadvantaged, nor do all those who are so disadvantaged live in deprived wards. These factors tend to dilute the real relationships at the individual level between the disease of interest and deprivation or any risk factor(s), such as smoking, for which deprivation is a marker.

### ***CHD mortality by deprivation***

This uses directly standardised rates for mortality from coronary heart disease (CHD) for all ages. All rates have been standardised per 100,000 European Standard population. Age-standardisation allows for the comparison of mortality rates between areas while allowing for differences in the age structure of the population. For England, the data are based on underlying cause of death using ICD-10 codes I20–I25 for the years 2004–06. For Scotland, data are for the year 2006 only, using ICD-10 codes I20–I25. For Wales, the data were again based on ICD-10 code I20–I25, but presented for the years 2003–05. For Northern Ireland, there is data available for coronary heart disease. Data are produced for all circulatory diseases only. These data are presented at the end of this section. The data are presented as a weighted average of the rates (based on population) of the local authorities that make up the deprivation quintile.

### ***Stroke mortality by deprivation***

This uses directly standardised rates for mortality from cerebrovascular disease (stroke) for all ages. All rates have been standardised per 100,000 European Standard population. Age-standardisation allows for the comparison of mortality rates between areas while allowing for differences in the age structure of the population. For England, the data are based

on underlying cause of death using ICD-10 codes I60–I69 for the years 2004–06. For Scotland, data are for the year 2006 only, using ICD-10 codes I60–I69. For Wales, the data are again based on ICD-10 code I60–I69, but for the years 2003–05. For Northern Ireland, there are no data available for coronary heart disease. Data were produced for all circulatory diseases only. The data are presented as a weighted average of the rates (based on population) of the local authorities that make up the deprivation quintile.

### ***Cost barriers to care***

The 2005 Commonwealth Fund International Health Policy survey focused on adults that met at least one of the following criteria: self reported health status as ‘good’ or ‘fair’, serious illness in the past two years, hospitalised or had major surgery in the past two years. Final sample sizes were:

England 870

Scotland 300

Wales 300

Northern Ireland 300.

Results were weighted to correct for population size differences. Telephone interviews were conducted between March and June 2005.

The 2008 Commonwealth Fund International Health Policy Survey focused on ‘sicker adults’, that is, those who reported poor health or having a serious illness, disability, hospitalisation or major surgery in the previous two years.

Sample sizes were:

Australia 750

Canada 2635

Germany 1201

France 1202

Netherlands 1000

New Zealand 751

UK 1200

US 1205.

The survey was conducted by telephone between March and May 2008.

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