

The four health systems of the United Kingdom: how do they compare?



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April 2014

Summary report

Since political devolution in 1999, there has been increasing policy divergence between the health systems of the four countries of the United Kingdom (UK). This raises questions as to whether health system performance is improving and at the same or different rates across the UK as a result. This report attempts to update earlier comparisons of the publicly financed health systems of England, Scotland, Wales and Northern Ireland in terms of funding, inputs and performance before and since devolution. It also includes comparisons with the North East of England, which has been chosen as a better comparator with the three devolved nations than England as a whole (although there is no perfect comparator).

The research is the only longitudinal analysis of its kind, building on a previous report published by the Nuffield Trust in 2010 and revised in 2011. That report presented three snapshots before and after devolution, with the most recent data being for 2006/07. This latest report gives trends over time for a wider range of performance indicators from the late 1990s to 2011/12, or 2012/13 where data were available. It inevitably looks back and therefore cannot take account of very recent policy changes; for example, efforts to improve stroke care in Wales, and increases in nurse staffing in England following the publication of the Francis Inquiry Report. Furthermore, as there is always a lag between changes in policy and their impact on services, there is little evidence of the effects of the reductions in the rates of growth of public spending on health care.

The research was commissioned by the Nuffield Trust and the Health Foundation as part of both organisations' role in providing independent analysis on the quality and productivity of UK health services. This summary report is accompanied by a more detailed source report (and appendices), which includes all the data and reference material. Further analysis of the history of the devolution settlement and the health policies of the four countries will be included in an analysis by Gwyn Bevan, which will be published later in 2014. All these materials are available at www.nuffieldtrust.org.uk/compare-uk-health and www.health.org.uk/compareUKhealth.

Key points

- There have been significant improvements in the performance of the four UK health systems over the past two decades. Each country has substantially increased investment in their health systems between 2000/01 and 2012/13. Each has invested in more hospital and community health services doctors and dentists, with reductions in inpatient admissions per doctor/dentist. But spending has slowed in response to austerity: over the three years from 2010/11 to 2012/13, the annual rates of growth were, in cash terms: Northern Ireland of 2 per cent; England and Scotland of 1 per cent; and in Wales, a reduction of 1 per cent.
- The previous comparative study of the four UK health systems, published in 2010 and revised in 2011, found that the NHS in England performed better than the devolved countries across a range of indicators. However, this latest study, which includes a wider range of performance measures, reveals that while there are few indicators on which a devolved country does better than England or its North East region, the performance gap between England and the rest of the UK has narrowed in recent years. There is little sign that one country is moving ahead of the others consistently across the available indicators of performance.
- For example, there have been improvements in all four countries in reducing long hospital waiting times, in shortening ambulance response times to immediately life-threatening emergency (category A) calls and in the quality of stroke care. There have been reductions in MRSA-related mortality. In addition, there are no material differences in performance for breast screening, immunisation and survival following renal replacement therapy between the four countries.
- England performs marginally better across a number of key indicators, including amenable mortality rates, life expectancy and ambulance response times. But Scotland has shown a marked upturn in performance on indicators associated with targets and performance management, such as hospital waiting times for planned treatment, which now broadly match England's, and for ambulance response times. Northern Ireland has improved performance on most indicators, but its MRSA rates remain higher than those in both England and Wales. Wales has improved performance on a number of indicators, but its waiting times have lengthened since 2010, with striking rises in waits for common procedures such as knee or hip replacements. For example, in 2012/13, patients in Wales waited, on average, about 170 days for a hip or knee replacement compared with about 70 days in England and Scotland.
- Over the 20-year period from the early 1990s, there have been improvements in all four countries in life expectancy (adding between three and five years to people's lives) and reductions in rates of mortality amenable to health care (this is a widely used indicator of health care performance that covers causes of death that are regarded as responsive to health care). In 1990, across the UK, rates of amenable mortality were highest in Scotland and lowest in England. During the 2000s, relative declines in amenable mortality were similar between the four countries so that by 2010 the relative gap between Scotland and England remained.

- The report also analyses the North East of England as a comparator to the devolved countries (because it shares many characteristics with them, although it is not a perfect comparator). Spending increased in the North East so that it now spends similar amounts to Scotland. The North East delivered marked improvements during the 2000s in hospital staffing, treatment rates, mortality rates and life expectancy. In the 1990s, amenable and other mortality rates were similar to Scotland's, but by 2010 these rates were higher in Scotland than in the North East. The region had similar life expectancy to Scotland in 1991, but by 2011 men and women lived a year longer than their Scottish neighbours.
- Overall, this research suggests that despite hotly contested policy differences between the UK health systems since devolution on structure, competition, patient choice and the use of non-NHS providers, there is no evidence linking these policy differences to a matching divergence of performance, at least on the measures available across the four UK countries.
- While there is much we can learn from the comparative analysis published in this report, there is an increasingly limited set of comparable data on the four health systems of the UK. This makes it difficult to make definitive assessments of absolute or relative performance trends. Therefore, this report recommends that a more comparable and wider range of comparative performance data be collected to both enable cross-border learning and for the impacts of divergent policies to be assessed. This would improve electoral and financial accountability of the governments of each country for the performance of their health systems.

Foreword

We stand on the verge of potentially fundamental constitutional changes in the UK, with the Referendum on Independence for Scotland in September 2014. Health has been a devolved matter since the late 1990s. Control over each country's health system has resided with each UK nation for 15 years. Against this backdrop, there is great interest in understanding how performance on quality and value for money compares across the UK.

Each country has a tax-funded service with universal coverage, similar values and similar operating principles, offering comprehensive benefits. Yet since devolution, there have been diverging policies for health care, with reorganisations taking place in each country at different times.

For example, in Scotland and Wales the division of purchasing from providing health care was abolished, in 2004 and 2009 respectively; competition between providers is discouraged; free prescription drugs are provided; purchase of NHS-funded care from private hospitals and clinics is discouraged; and, in Scotland only, there is free personal social care for the over-65s. The different countries have also made different choices about overall funding of the health service.

Central performance management occurs in all four countries but to varying strengths. In England there has also been a greater emphasis on developing patient choice, provider competition, and the use of private providers to deliver publicly funded health care; this has been underpinned by a system of regulated prices and a new set of regulatory bodies. The extensive reforms in England brought about by the contentious Health and Social Care Act 2012 were only implemented in April 2013, so it is too early to assess their impact. So too with the effects of any changes resulting from the Francis Reports into events at Mid Staffordshire NHS Foundation Trust.

In Northern Ireland, where the health service has been administratively integrated with social services since 1973, separation of purchasers and providers still exists, but without encouraging provider competition, patient choice or strong performance management.

Despite these differences, there have also been large similarities in goals across the four countries. For example, there has been growing attention given to patient safety, and involving patients and the public in decisions about care. All countries want to develop more coordinated care, and have made efforts to reduce waiting times.

Clearly there are many influences aside from devolution which can affect the overall performance of the UK's health services. These include levels of funding of other parts of the public sector, the quality of management inside key local organisations, wider determinants of health which affect the need for and use of care, and EU laws, for example on workforce matters.

However, it is clear that devolution has resulted in a set of policies for the health services of the four UK countries which are now quite different. A key question is: have these different approaches resulted in any demonstrable change in performance towards better quality and value for money in health care? If so, what might be the lessons?

This is the fourth in a series of reports since 1999 comparing aspects of performance of the health services across the four countries. Some of these were commissioned by the Nuffield Trust and the Health Foundation; the two health charities have commissioned this latest study, which is the only longitudinal analysis of its kind. Information is analysed from the 1990s up to at least 2010/11 (and in some cases to 2012/13). The latter half of this period saw significant growth

in public funding of health services, which only ceased after 2009/10. The full impact of recent austerity and other reforms will need to wait for a future study.

To aid the comparability of Scotland, Wales and Northern Ireland to England, the analysis also includes the North East region of England – an area which is more comparable to Scotland, Wales and Northern Ireland than England, on a number of important characteristics. There is no perfect comparator, but the North East region is better than England as a whole.

While it has become more difficult to compare performance, because of differences in data collection and definitions across the four countries, there is much we can learn from this analysis. The key findings are:

First, there have been improvements across all four countries in population health, with reductions in amenable mortality (deaths which could have been prevented through better health care), which halved over the study period, and increases in life expectancy (adding between three and five years to people's lives). There are no appreciable differences between the four countries in the performance with respect to coverage of the population of breast screening, immunisation levels, and survival following renal replacement.

Second, in broad terms, the resources available – funding and key staff – to the health services in all four countries increased significantly over the period, although Scotland, Wales and Northern Ireland have made explicit choices to spend some of the money available for health care (under the formula for allocating money to them) on other services, such as social care in Scotland. While funds spent in England per head of population remained the lowest, spending per head in the North East rose to a similar level to that of Scotland and Northern Ireland.

Third, crude productivity (based on inpatient admissions per hospital and community health services doctor or dentist) has fallen in the 2000s, in part due to the numbers of these staff rising. However, this is a very crude measure; more sophisticated analyses, which so far have only been done for England and take into account a range of quality measures, suggest that productivity may have increased.

Fourth, there are few conclusive differences in satisfaction levels with health services between the populations of each country.

Finally, there are four differences between the UK countries that stand out:

- Average (median) **waiting times** for common elective procedures fell significantly in Scotland and England until 2009/10, which are now similar to each other, and shorter than in Northern Ireland and Wales; this reflected different centrally set targets. (After 2009/10, there are no data for Northern Ireland.) Waiting times in Wales have been increasing recently. For example, in 2012/13, patients in Wales waited on average about 170 days for a hip or knee replacement compared with about 70 days in England and Scotland. The reasons are unclear, although the decision to cut rather than maintain NHS spending in real terms may have affected them.
- All countries more than halved **amenable mortality** between 1990 and 2010 (the latest date for which comparable data are available). By 2010, the gaps between countries had narrowed in absolute but not relative terms: for example, amenable deaths remained about 20 per cent higher in Scotland than in England.
- In North East England, significant progress in **life expectancy and mortality** has been made. In 1990, overall mortality rates (both amenable and other deaths) were similar in the North East and Scotland, but by 2010 these rates were 15 to 19 per cent higher in Scotland. In 1991, life expectancy in the North

East was similar to Scotland, but by 2011 people in the North East were expected to live a full year longer than people in Scotland.

- Despite definitional differences and problems with comparability, it is clear that, over the period studied, **nurse staffing levels** have been lower in England than in the other three countries.

So, the main conclusions from this latest analysis are that, so far, the different policies adopted by each country appear to have made little difference to long-term national trends on most of the indicators that the authors were able to compare. Individual countries can point to marginal differences in performance in one or more areas. This lack of clear-cut differences in performance may be surprising given the extent of debate about differences in structure, provider competition, patient choice and use of non-NHS providers across the four countries.

However, comparing England, Scotland and Wales, in the period of austerity, waiting times for common procedures appear to be lengthening disproportionately in Wales. There was also slightly faster improvement in mortality and life expectancy in the North East of England, in particular relative to its near neighbour Scotland.

The authors' previously published analysis (using data from 1997 to 2006/07, and published by the Nuffield Trust in 2010) reported that the performance of the NHS in England was better than in the other countries across a range of, mostly efficiency, indicators. In this latest analysis, while there are few indicators on which a devolved country does better than England or its North East region, the gap has narrowed, with Scotland in particular improving its performance on waiting times. The previous analysis also showed marked differences in crude productivity between the countries, but much of this proved to be due to definitional differences in the data on staffing that had been supplied by each country and published by the Office for National Statistics (ONS). Further work by ONS and each country on these definitions resulted in adjustments to the data, which led to a revised report in 2011. The current analysis shows some differences in productivity using the data supplied to us by each country, but the comparisons of productivity in the current report, despite being based on the best data available, differ from those produced by the National Audit Office (for 2008/09) and so there are doubts as to whether the information available is adequate for the purpose of cross-country comparisons.

This analysis mainly shows nationally aggregated data. What is clear from the earlier analyses is that, except in relation to those areas covered by national targets, variations in performance of the health service within England are greater across many metrics than variations between England and the other three UK countries. Again, this suggests that, other than target setting, which all countries have adopted to a greater or lesser extent, underlying 'macro' policy shaping the health services is to date less influential on performance than local conditions such as quality of staff, funding, availability of facilities, health needs and historical legacies of inequalities.

Finally, it is disappointing that it is becoming more difficult to compare the performance of the health service across the four countries because of differences in the way that data are collected. We commend the authors for their ongoing efforts to shed light on this issue. After all, having comparable data is crucial to assessing changes in quality and value for money in health care across the UK.

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Purpose of the report

Following devolution in 1999, the four countries of the UK are now on such different policy paths that it no longer makes sense to talk of the UK National Health Service (NHS) as a single system. Each government in the UK has made different choices about increases in health expenditure, and the structure and governance of their health systems. Although there have been changes in governments following elections, differences have consistently developed in the policy paths between England, where the emphasis is on developing pluralism in provision and competition between providers, and Scotland and Wales, where organisations are funded to run services for their populations and there is now no quasi-market in health care. In Northern Ireland, the government has retained a purchaser/provider split, but there is no policy of encouraging provider competition. There are also differences in benefits and entitlements, such as free general medical prescriptions in the devolved countries and free personal social care in Scotland, while charges remain for both in England.

This report examines this changing 'natural experiment' of devolution between England, Scotland, Wales and Northern Ireland as it affects the health system in each country to the most recent point at which comparable data are available (sometimes as late as 2012/13, but elsewhere in 2011/12 or 2010/11). The report compares life expectancy, funding and staffing of health care, outputs and various measures of quality of care, for the four countries before and after devolution, and for North East England (where data are available), which offers a better comparator with the devolved countries than England as a whole. There is no English region that offers a perfect benchmark, but the North East is similar to the three devolved countries socioeconomically, in terms of the level of health service spending and in the extent of reliance on non-publicly owned providers.

Policy context

Comparisons across the four countries have been the subject of three previous studies involving some of the same authors: Dixon and others in 1999; Alvarez-Roseté and others in 2005; and a Nuffield Trust-funded report by Connolly and others, first published in 2010 and revised in 2011. In addition, a cross-sectional report was published in 2009 on the quality of care in the four countries by Sutherland and Coyle, funded by the Health Foundation, and a comparative study by the National Audit Office published in 2012. The outcomes of this 'natural experiment' following devolution were reported by Alvarez-Roseté and colleagues and by Connolly and colleagues, taking the story to 2006/07. They found that, with the limited data available, the NHS in England performed better with lower funding per head than the health systems in the devolved countries in terms of waiting times, the numbers of people treated as inpatients and outpatients by hospital doctors and nurses, and the response time by ambulances to category A calls.

Since 2006, England has seen the most organisational upheaval. The policy emphasis in England has shifted back towards the development of provider-based competition and individual patient choice, but with a continuing emphasis on strong performance management, at least until 2010. Competition among diverse suppliers was further reinforced by the Health and Social Care Act 2012. In Scotland and Wales, the governments abolished the purchaser/provider split in 2004 and 2009, respectively, and each system has returned to an organisational model similar to that before the introduction of the first 'internal market'. Scotland, from 2005, introduced strong performance management in the system of HEAT (Health improvement, Efficiency, Access and Treatment)

targets. From 2010, Wales introduced a five-year strategy that included making chief executives accountable for delivery in a new system of performance management. In Northern Ireland, the complex and deep-seated structural, political and religious issues meant that devolution was suspended between 2002 and 2007. Its government was slowest to implement policies to end the idea of provider competition after 1997. The current policy seems to be one of retaining a purchaser/provider split, but without encouraging provider competition or emphasising strong performance management. Among the devolved countries, only Scotland, from 2005, adopted an explicit policy of strong performance management against government targets (see Longley and colleagues, 2012, O'Neil and colleagues, 2012 and Steel and Cylus, 2012).

Towards the end of the period covered in this report, all four countries experienced a marked reduction in the previous rate of growth of their health service budgets, starting in 2010/11. Over the 11 years from 2000/01 to 2010/11, the annual rates of growth ranged from 7 to 10 per cent. Over the three years from 2010/11 to 2012/13, the annual rates of change ranged from +2 per cent to -1 per cent.

At the very end of the period for which any comparative data are available (2012/13), there have also been similar public concerns over quality of care in England, Scotland and Wales. Each of the three governments has been focusing on how to maintain quality, fund innovation and provide care for an ageing population. The most high-profile cases of poor quality were in England, as documented in the report of the Francis Inquiry in 2013. Each government in the UK also has the objective of enabling the integration of health and social services to be better organised to care for an ageing population.

However, most of the data reported here inevitably relate to the period when each country's health service was still experiencing growth in funding in real terms and before the policy changes made after 2010 were likely to have had their effect; hence, there is as yet no systematic basis for comparing how the different countries are managing in the period of austerity, or how they are responding to perceived crises and subsequent inquiries into the quality of care. The full impact of austerity, and the different choices and policies adopted by each country in response to it, will need to wait for a later study.

So, there are three key questions to ask after the initial period of devolution:

1. Most generally, have the different policies pursued in each country made any differential impact on the performance of their health systems?
2. Comparing England and Scotland, has the new system of performance management in Scotland since 2005 resulted in improved performance in Scotland, and how does this compare with that of England?
3. Have Wales or Northern Ireland been able to improve their performance since 2006, and how does their performance compare with that of England and Scotland?

The next section outlines the available data and their comparability across the four countries.

Available data

Since the purpose of the analysis is to compare the performance of the health services in each country and in North East England over time, before and after devolution, and to update previous analyses, we face the continuing problem of having to rely on the limited and diminishing set of data that has been reported on a comparable basis for the four countries since the late 1990s. There are

many important indicators of performance that cannot be included because no consistent time series exists across all four countries.

The data used are generally the most up to date that were available in late 2013, and they were updated subsequently where new data became available. Thus it was possible to update staffing and activity data to include waiting times for selected procedures for 2012/13 and referral to treatment times similarly. However, amenable mortality data are not readily available and had to be calculated from routine mortality data. The amenable mortality data in this report reflect those available when these data were requested. Inevitably, there is a longer lag in the availability of comparable data across the four countries than within each country. In addition, the latest comparable data available for the four countries vary between indicators. Table 1 summarises where the most recent years of data for each country are directly comparable, available but not straightforwardly comparable, and not available for the indicators of interest. More detail on this is given in the source report, including on issues of comparability over the entire period since devolution.

Table 1: Comparability of indicators across the four countries in the most recent years for which data are available

Indicator	England	Scotland	Wales	Northern Ireland
Life expectancy at birth	Comparable	Comparable	Comparable	Comparable
Public expenditure on health	Comparable	Comparable	Comparable	Comparable
Hospital doctors (WTE)	Comparable	Comparable	Comparable	Comparable
GPs (WTE headcount)	Comparable	Comparable	Comparable	Comparable
Nurses (WTE)	Available	Available	Available	Available
Non-clinical staff (WTE)	Available	Available	Available	Available
Outpatients	Available	Available	Available	Available
Inpatients	Comparable	Comparable	Comparable	Comparable
Day-cases	Available	Available	Available	Available
Selected procedures per 10,000 population*	Comparable	Comparable	Comparable	Comparable
Waiting time (RTT)	Comparable	Comparable	Available	Available
Waiting time (median and 90th percentile, selected procedures)	Comparable	Comparable	Comparable	Comparable
Ambulance response times	Comparable	Comparable	Comparable	Comparable
A comparison of patient choices available	Comparable	Comparable	Comparable	Comparable
Satisfaction with various aspects of the NHS	Comparable	Comparable	Comparable	Not available
UK Renal Registry, survival	Comparable	Comparable	Comparable	Comparable
Stroke audit	Comparable	Available	Comparable	Comparable
Childhood immunisation 2011/12	Comparable	Comparable	Comparable	Comparable
Seasonal influenza vaccination uptake	Comparable	Comparable	Comparable	Comparable
Uptake of screening for breast cancer	Comparable	Comparable	Comparable	Comparable
Mortality rates for deaths with MRSA	Comparable	Available	Comparable	Comparable
Amenable mortality	Comparable	Comparable	Comparable	Comparable

■ Data comparable
 ■ Data available (but not comparable)
 ■ Data not available

Note: RTT = Referral to treatment; WTE = whole-time equivalent.

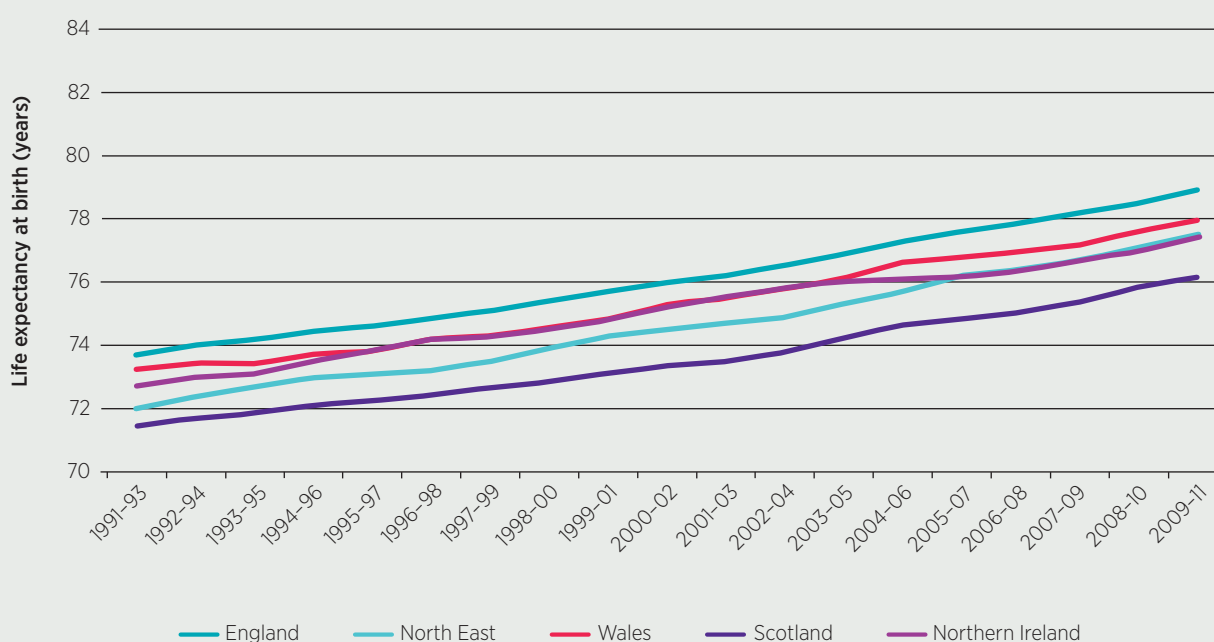
* Comparable Northern Ireland data only available to 2009/10.

Results

Life expectancy

Over the 20 years from 1991–93 to 2009–11 (the latest year for which mortality data were available across the four countries when the data for this study were obtained), life expectancy at birth increased by between about five and three years for men and women, respectively, in each country; so the gap between the life expectancy of women and men reduced from about six to four years over the period. Figure 1 gives the changes for men.

Figure 1: Male life expectancy in the UK countries and North East England, 1991–93 to 2009–11



The ranking of life expectancy across the four countries was consistently England the highest, Wales and Northern Ireland in the middle, and Scotland the lowest. Men and women in England would have been expected to live about two years longer than men and women in Scotland throughout the 20-year period.

At the start of that period, men and women in North East England had similar life expectancy to Scotland, but, by the end of the period, men and women in North East England would have been expected to live about one year longer than men and women in Scotland.

Inputs, outputs and crude productivity

Health spending per head

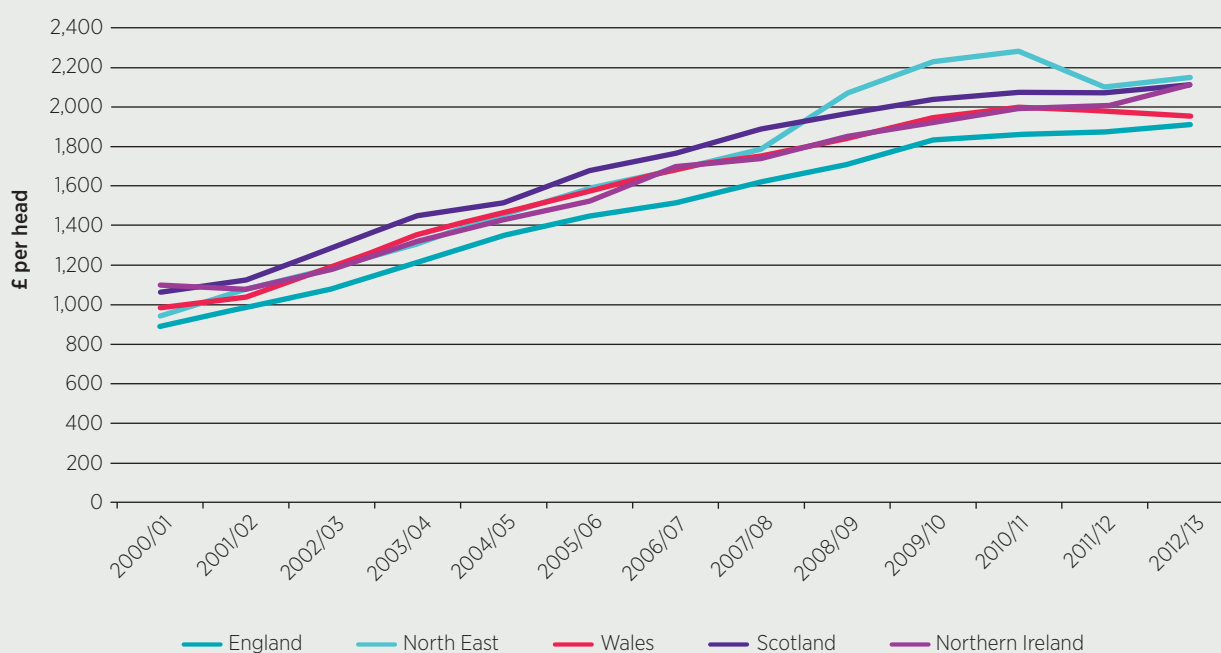
Figure 2 gives total health expenditure per head in cash terms over the 13 years from 2000/01 to 2012/13 for the devolved countries and North East England (of which, 93 per cent was NHS expenditure in England in 2013/14). In the interests of providing the latest information, these data are from the latest revision of these estimates published by HM Treasury in December 2013, not from the annual Public Expenditure Statistical Analysis (PESA) series. The latest data produce

an odd pattern for North East England of a sharp rise and fall from 2007/08 to 2011/12, that was not found in the previous PESA series. These estimates show that, in 2000/01, England and North East England had lower total health spending per head than any of the devolved countries, but, by 2012/13, North East England had similar per-head spending to that of Scotland and Northern Ireland (at about £2,100), which was 10 per cent higher than that of England and Wales (at about £1,900).

This was the outcome of two changes over that period:

- First, of the four countries, England increased spending on health most over the period. The increases across the four countries were: 115 per cent in England; 99 per cent in Scotland; 98 per cent in Wales; and 92 per cent in Northern Ireland.
- Second, England increased the funding in North East England more than the average for England so that it rose from being 6 per cent higher in 2000/01 to over 10 per cent higher in 2011/12.

Figure 2: Government expenditure on health, £ per head, UK countries and North East England, 2000/01 to 2012/13 (at current prices)



These differences result from a combination of the total funds available for public services in each country based on historical spend and the increases made available in each spending round and decisions made about relative priorities by each government. Increases in the total funds available in Scotland, Wales and Northern Ireland are largely determined by the Barnett Formula which gives each country a proportionate share according to population of the increase in planned spending in England on comparable services. Each devolved government then determines its spending priorities. For example, total public spending increased at broadly the same pace in Scotland as the rest of the UK between 2002/03 and 2011/12, and remained on average 14 to 19 per cent higher than in the UK as a

whole (Deaner and Phillips, 2013). However, as Figure 2 shows, spending per head in Scotland grew at a slower rate than in England. The same principles applied in Wales and Scotland. If the devolved governments had been able to match to match the growth rate in England, we estimate that the extra amount they would have spent on health care would have been about £900 million in Scotland, over £400 million in Wales and the same in Northern Ireland.

Figure 2 also shows the beginning of the period of public sector financial austerity that started in 2010/11. Over the 11 years from 2000/01 to 2010/11, the annual rates of growth were, in cash terms: England, 10 per cent; Scotland and Wales, 9 per cent; and Northern Ireland, 7 per cent. Over the three years from 2010/11 to 2012/13, the annual rates of change were: growth in Northern Ireland of 2 per cent; England and Scotland of 1 per cent; and a reduction in Wales of 1 per cent.

Staff

We do not have comparable data for all staff groups. Because of problems in comparability of infrastructure staff, we do not report these data here. We do report, and identify limitations of, the data on GPs; hospital and community health services (HCHS) medical and dental staff; and nursing, midwifery and health visiting staff (nurses).

General practitioners

For GPs we have comparable data for all four countries by headcount only, but whole-time equivalents (WTEs) are a better measure as many GPs work part time. Figure 3 shows that, in headcount per 1,000 population, the rate of supply of GPs was highest in Scotland (0.95 in 2010 – we do not have data for Scotland in 2011); and in 2011, the rates were 0.8 in North East England, 0.75 in England, 0.66 in Wales and 0.64 in Northern Ireland. There was no change in this rate for Wales and Northern Ireland from 1996 to 2011; but over that period there were increases in England and North East England (from 0.6) and in Scotland (from 0.8). Figure 4 (see page 12) shows a much lower rate in WTEs for Scotland, which was similar to North East England, with Wales having the lowest rate.

Figure 3: General practitioners (headcount) per 1,000 population, 1996–2011



Figure 4: General practitioners (whole-time equivalent) per 1,000 population, 1996–2011



HCHS medical and dental staff

Across the four countries, given the scale of the increases in HCHS medical and dental staff, it is likely that this staff group have had the highest rates of increase (in terms of WTEs per 1,000 population) in each country and North East England over the period 1996 to 2011, despite their various and changing definitions of the different sub-groups of staff.

Figure 5 shows that these increases amounted to about 70 per cent in England and 50 per cent in the devolved countries. In 2011, the rates of HCHS medical and

Figure 5: Hospital doctors (whole-time equivalent) per 1,000 population, 1996–2011



Note: 'hospital doctors' refers to hospital and community health services (HCHS) doctors and dentists.

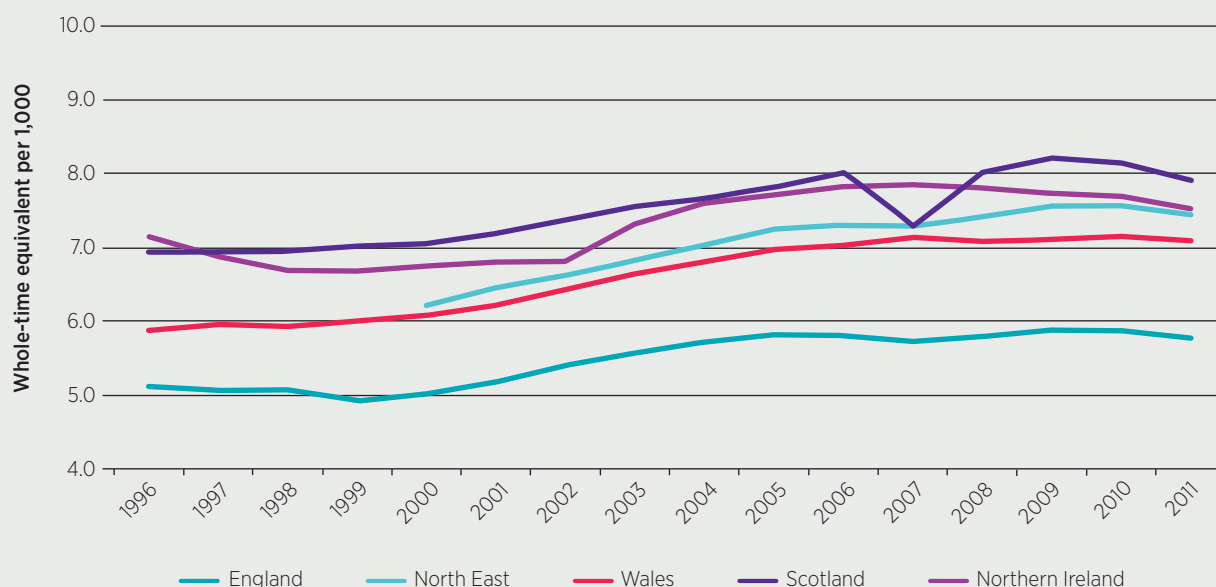
dental staff per 1,000 population were: England and Wales, 1.9; Northern Ireland, 2.0; North East England, 2.2; and Scotland, 2.3.

Nurses

Although comparisons of nurse staffing levels are of great interest, they need to be treated carefully. There are problems in making comparisons over time because of the implementation of the *Agenda for Change* reforms (which explains a sudden drop in Scotland in 2007, shown in Figure 6); and between countries because of differences in definitions of the grades and types of staff included. There are also particular problems comparing the data from Northern Ireland, which include nurses working in social services and health and social care trust-funded GP practice nurses.

Figure 6 gives the rate of nurses in WTEs per 1,000 population from 1996 to 2011. This shows England on average to be an outlier with much lower rates (5.8 in 2011) than the other countries (Wales, 7.1; Northern Ireland, 7.5; and Scotland, 7.9 in 2011); and North East England (7.4). The difference between the England average and North East England cannot be explained by definitional differences. The North East is much more like the three devolved countries in its nurse staffing level and relatively low use of agency staff; another reason why it is a reasonable comparator with them. The percentage increases in each country over the period 1996 to 2011 were: Wales, 21 per cent; Scotland, 14 per cent; England, 13 per cent; and Northern Ireland 5 per cent.

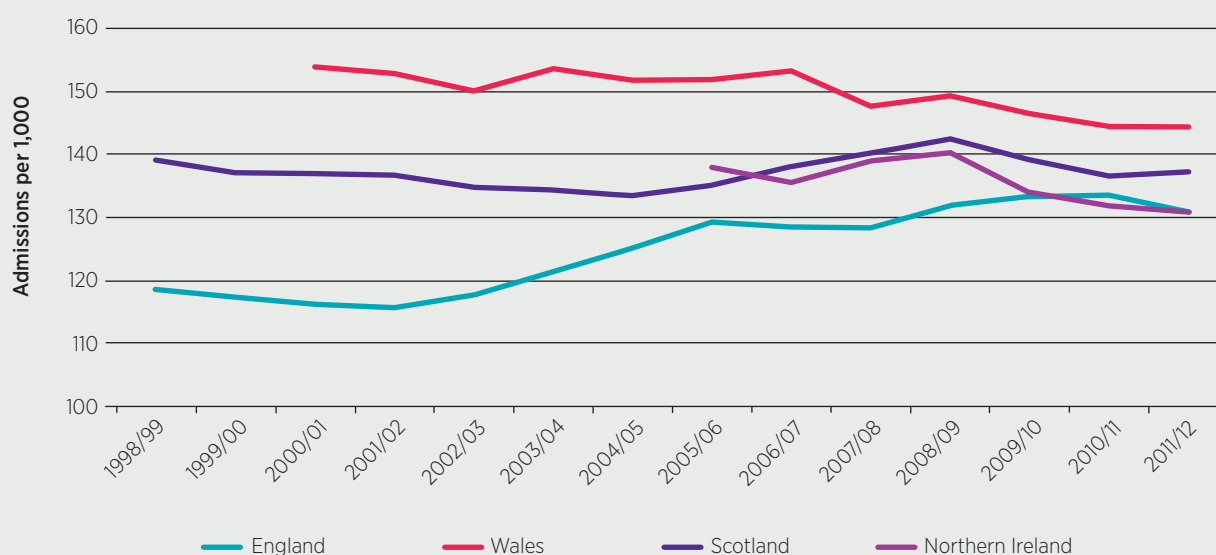
Figure 6: Nurses (whole-time equivalent) per 1,000 population, 1996–2011



Inpatient admissions

Due to changes in definitions of day-cases between the countries, it is not possible to compare day-case rates over time and even data on inpatient admissions are not complete for all the years of interest. Figure 7 shows the rates of inpatient admissions per 1,000 population to 2011/12 from 1998/99 for England and Scotland, from 2000/01 in Wales and from 2005/06 in Northern Ireland. It excludes the North East of England due to lack of the information on the different types of admission required to ensure comparability, and even the data we do report may not be fully comparable. It shows that admissions per 1,000 increased in England, from 119 in 1998/99 to 131 in 2011/12; were stable in Scotland at 139 in 1998/99 and 137 in 2011/12, with a peak of 143 in 2008/09; reduced slightly in Wales from 154 in 2000/01 to 144 in 2011/12; and also in Northern Ireland, from 138 in 2005/06 to 131 in 2011/12.

Figure 7: Inpatient admissions per 1,000 population, 1998/99 to 2011/12



We do, however, have comparable data on operation rates per 10,000 for the seven common procedures that were used to make cross-country comparisons in the earlier studies. Between 2005/06 and 2011/12 across the four countries, there were:

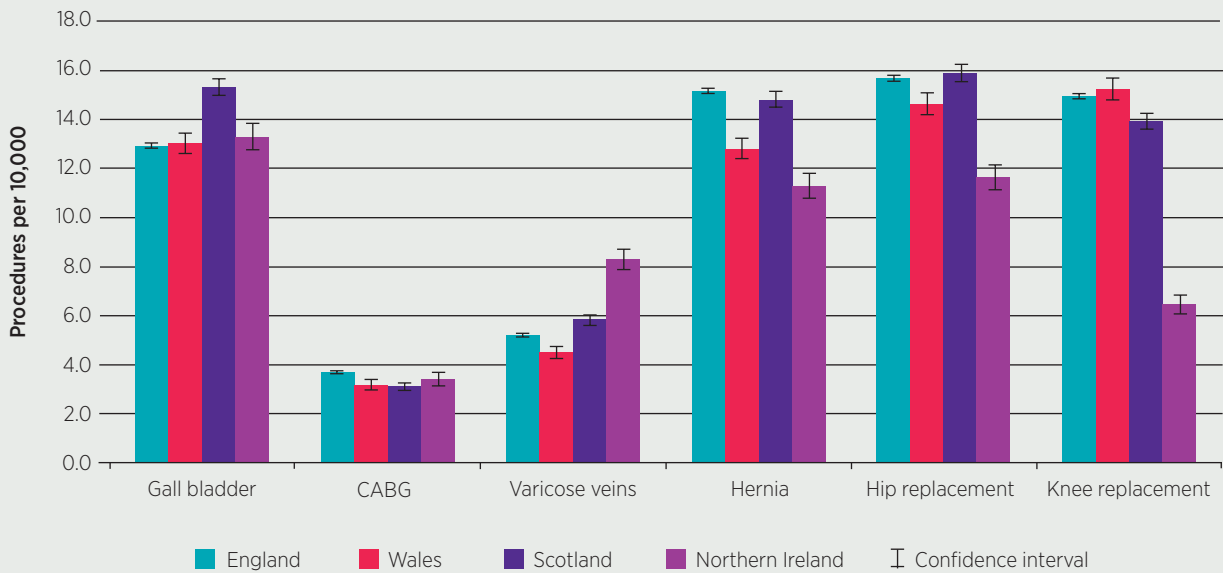
- increases in the rates for gall bladder excision, and hip and knee replacement
- decreases for coronary artery bypass grafts, varicose vein removals (except for an increase in Northern Ireland in 2011/12) and hernia repair
- diverging trends in cataract removal, as there was an increase in England and Scotland, but decreases in Wales and Northern Ireland.

In 2011/12 the highest rates for cataract removal, excision of the gall bladder and hip replacement were in Scotland; for coronary artery bypass grafts and hernia repair in England; for varicose vein removal in Northern Ireland; and for knee replacement in Wales.

In Wales, the rates of surgery for most of these procedures were lower in 2012/13 than in 2008/09.

To indicate whether there were statistically significant differences between the countries, Figure 8 gives rates, for 2011/12, with 95 per cent confidence intervals for all seven procedures with the exception of cataract removal (where all differences are significant due to the high volume of procedures performed and where rates for Scotland and England are considerably higher than those in Wales and Northern Ireland). In comparison with England, Wales had lower rates of varicose vein removal, hernia repair and hip replacement; Scotland had higher rates of excision of gall bladder and varicose vein removal and lower rates of coronary artery bypass grafts and knee replacement; and Northern Ireland had a significantly higher rate of varicose vein removal and lower rates of hernia repair, hip and knee replacements.

Figure 8: Differences in rates of selected procedures in UK countries (number of procedures per 10,000 population, with 95% confidence intervals), 2011/12



The impacts of increases in HCHS doctors and dentists on their crude productivity

Across the four countries, despite their various and changing definitions of admissions and staff, it is clear, as Figure 9 shows, that there have been reductions in total inpatient admissions per HCHS doctor and dentist over the different periods for which we have comparable data. This is the inevitable outcome of the rates of increase in the numbers of hospital doctors exceeding the rates of increase in the numbers of inpatient admissions. We have data to 2011/12, from 1998/99 for England and Scotland, from 2000/01 in Wales, and from 2005/06 in Northern Ireland. These rates decreased in England from 99 in 1998/99 to 70 in 2011/12; in Scotland from 89 in 1998/99 to 60 in 2011/12; in Wales from 115 in 2000/01 to 76 in 2011/12; and in Northern Ireland from 77 in 2005/06 to 65 in 2011/12. These differences in productivity are based on the data supplied to us by each country, but we found that our series did not match the comparisons of productivity produced by the National Audit Office (for 2008/09) and so are doubtful whether these analyses can give reliable information for the purpose of cross-country comparisons. Furthermore, a lower rate of crude productivity may not necessarily be a bad thing if quality of care has improved. The comparable data for North East England are not available.

Figure 9: Inpatient admissions per hospital doctor, 1999/00 to 2011/12



Note: 'hospital doctors' refers to hospital and community health services' (HCHS) medical and dental staff.

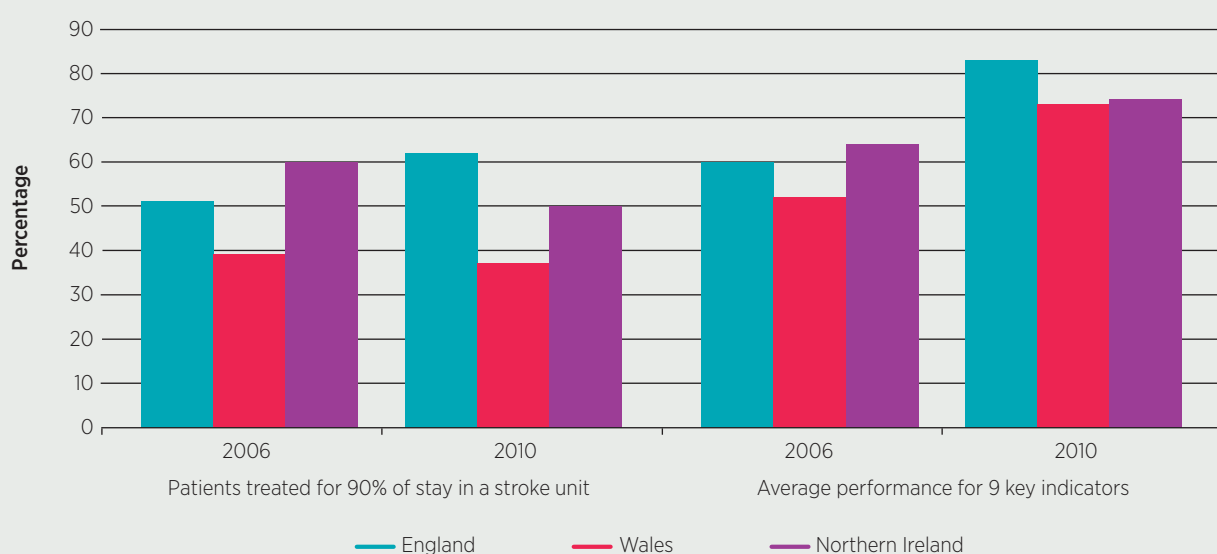
Quality: process

One of the aims of this report was to add more data to compare quality of care over time across the four countries and North East England. It is conventional to differentiate measures of health care quality into structure, process and outcomes. As we have only one measure of structure, which is care provided in a specialist stroke unit, we include that within this section on process measures of quality. The next section gives comparisons on outcomes.

Stroke care

Figure 10 shows that, in 2006, the percentage of patients who spent more than 90 per cent of their time in a stroke unit (the lower the proportion of patients treated in a stroke unit, the poorer the performance) was highest in Northern Ireland (60 per cent) and lowest in Wales (39 per cent), with England in the middle (51 per cent). By 2010, the percentage had risen in England to 62 per cent, with little change in Wales, and had fallen in Northern Ireland (to 50 per cent). There are no comparable data for Scotland.

Figure 10: Percentages treated in stroke units and average performance across nine key indicators of the quality of stroke care in England, Wales and Northern Ireland, 2006 and 2010

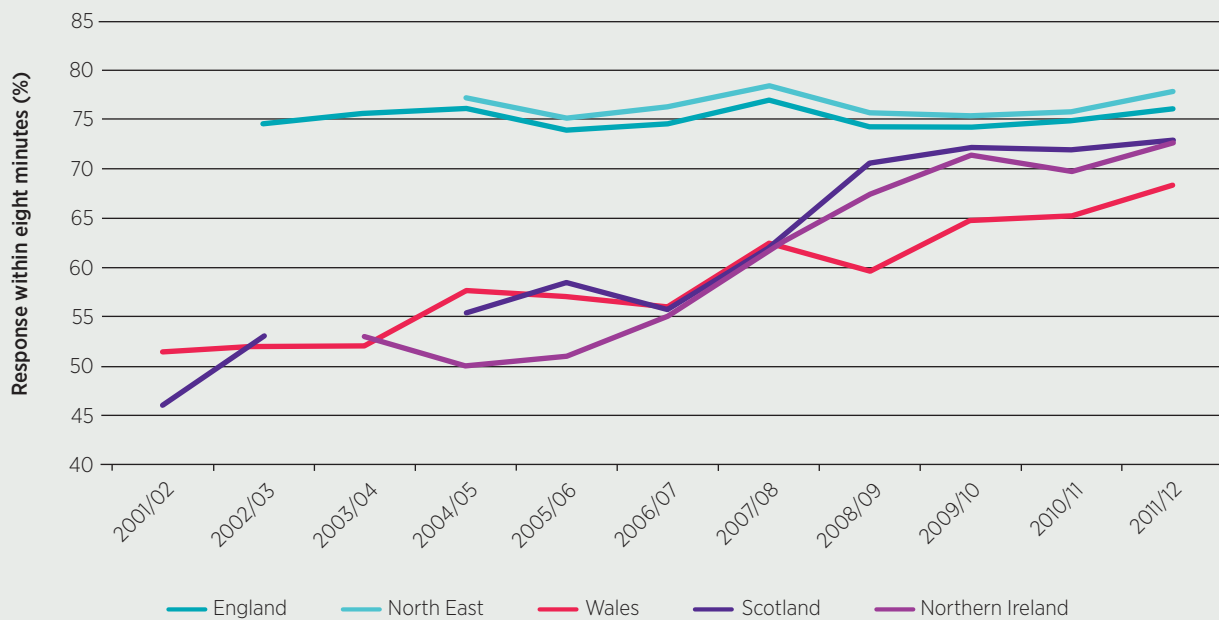


There were substantial improvements in the average performance across nine key indicators of the quality of stroke care in all three countries: from 60 per cent to 83 per cent in England; from 52 per cent to 73 per cent in Wales; and from 64 per cent to 74 per cent in Northern Ireland (Figure 10).

Ambulance response times

Governments in each country have set targets for the percentages of ambulance response times to immediately life-threatening emergency calls (category A calls) within eight minutes. Differences in definitions of category A calls also mean that performance across the four countries is not strictly comparable. These targets are currently set at 75 per cent in England and Scotland; 72.5 per cent in Northern Ireland; and 65 per cent in Wales. Figure 11 shows dramatic improvements in the percentages of category A calls met within eight minutes in the devolved countries between 2006/07 and 2011/12: in 2006/07, these were about 56 per cent, but by 2011/12 they were 73 per cent for Scotland and Northern Ireland, and 68 per cent for Wales. In England, the percentage was around 75 per cent throughout that period, and above 75 per cent in North East England.

Figure 11: Ambulance response times, % of category A calls within eight minutes



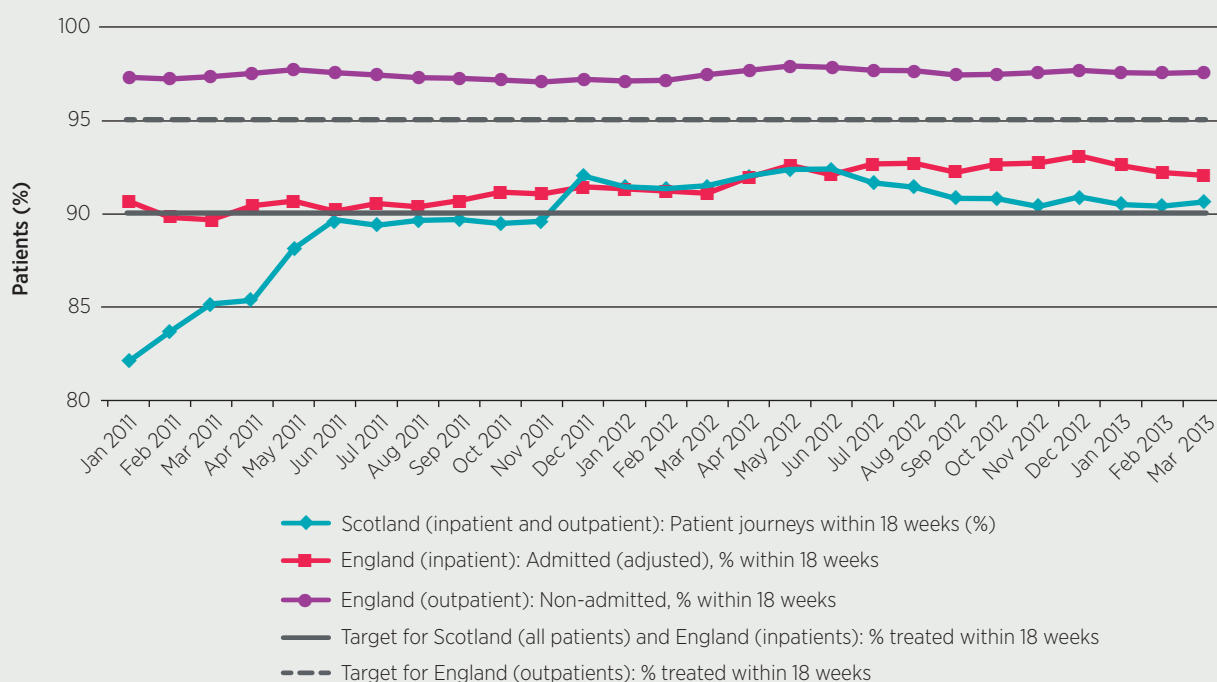
Hospital waiting times

For 2012/13, only England and Scotland had the same 18-week target, or standard, from referral to treatment (RTT). But these targets differ in the way they apply to inpatients and outpatients. In England, the targets were for 95 per cent of outpatients to be seen, and 90 per cent of inpatients (and day-cases) to be admitted, within 18 weeks. In Scotland, the standard was for 90 per cent of outpatients and inpatients to be seen or admitted within 18 weeks. In Wales, the RTT targets are for both inpatients and outpatients, such that 95 and 100 per cent should be started within 26 and 36 weeks, respectively. In Northern Ireland, there was no RTT target. The targets for the first outpatient appointment were 50 and 100 per cent to be seen within nine and 21 weeks, respectively; and for admission as an inpatient, 50 and 100 per cent to be admitted within 13 and 36 weeks, respectively.

In 2013, the government auditor in Scotland raised concerns over the inappropriate use by health boards of ‘unavailability’ codes to exclude patients from the waiting time calculations; and in 2014, the government auditor in England identified different problems of inconsistencies and errors in the way NHS trusts measure waiting times. Figure 12 compares England and Scotland. Performance against the different targets in each country was as follows in March 2013:

- In England, over 97 per cent of outpatients were seen and over 92 per cent of patients were admitted to hospital within 18 weeks (the targets were 95 and 90 per cent).
- In Scotland, over 90 per cent of patients were admitted to hospital or seen in outpatients within 18 weeks (the target was 90 per cent).
- In Wales, 91.5 and 98.6 per cent of patients were admitted to hospital or seen in outpatients within 26 and 36 weeks (the targets were 95 and 100 per cent).

Figure 12: Waiting time (referral to treatment, percentage of patients treated within 18 weeks), Scotland and England, January 2011 – March 2013



- In Northern Ireland, for the first outpatient appointment, 80 and 99 per cent were seen within nine and 21 weeks (the targets were 50 and 100 per cent); and for inpatients, 69 and 97 per cent were admitted within 13 and 36 weeks (the targets were 50 and 100 per cent).

Although each country now has a four-hour target for waiting in an accident and emergency (A&E) department, we do not include data on waiting times in A&E departments in this section since the data for each country are only available from the later 2000s, so it is not possible to look at trends over a sufficiently long period to be meaningful. This may be possible in future analyses.

We can, however, compare the distributions of waiting times for all four countries on six of the seven common procedures for which we reported activity above (there are no data on excision of the gall bladder). We have data for England, Scotland and Wales from 2005/06 to 2012/13; and for Northern Ireland from 2005/06 to 2009/10. The measures are for the 50th and 90th percentiles. The 50th percentile is also known as the median or mid-point in the distribution. In this case, it is the point where half the patients had waited less than the stated time and half had waited longer. The 90th percentile is the waiting time value at which 90 per cent of patients had waited less than the stated time and 10 per cent had waited longer. In England, for example, in 2012/13, 50 per cent of hip replacement patients had had surgery within 77 days and 50 per cent not, and 90 per cent within 163 days and 10 per cent not. There were substantial reductions in median waiting times for most procedures across all four countries between 2005/06 to 2009/10.

Figures 13 and 14 show the halving of the median wait for hip and knee replacement in England and Scotland. The 90th percentile decreased over the period from 2005/06 to 2012/13 for most of the procedures in England and Scotland (except for coronary artery bypass graft surgery in England). In Wales and Northern Ireland, there were dramatic reductions in the 90th percentile from 2005/06 to 2009/10 for all procedures (except for cataract surgery in Wales, which increased). In Wales, we mentioned above the reductions in surgical rates after 2008/09. Although there is no simple relationship between rates of treatment and waiting times, there have been waiting time increases in Wales in the 90th percentile for all procedures and in the 50th percentiles for cataracts, coronary artery bypass grafts, and hip and knee replacements. For cataracts and coronary artery bypass grafts, waiting times on the 50th and 90th percentiles were greater in 2012/13 than in 2005/06. Figures 13 and 14 show that in 2012/13, for example, patients in Wales waited on average about 170 days for a hip or knee replacement, compared with about 70 days in England and Scotland. The median waiting times in Wales for a hip replacement lengthened by 69 days between 2009/10 and 2012/13. The reasons for these differences are unclear, although the decision to cut rather than maintain health service spending in cash terms in Wales may have affected waiting times.

Figure 13: Median and 90th percentile of completed waiting time for hip replacement, 2005/06 to 2012/13

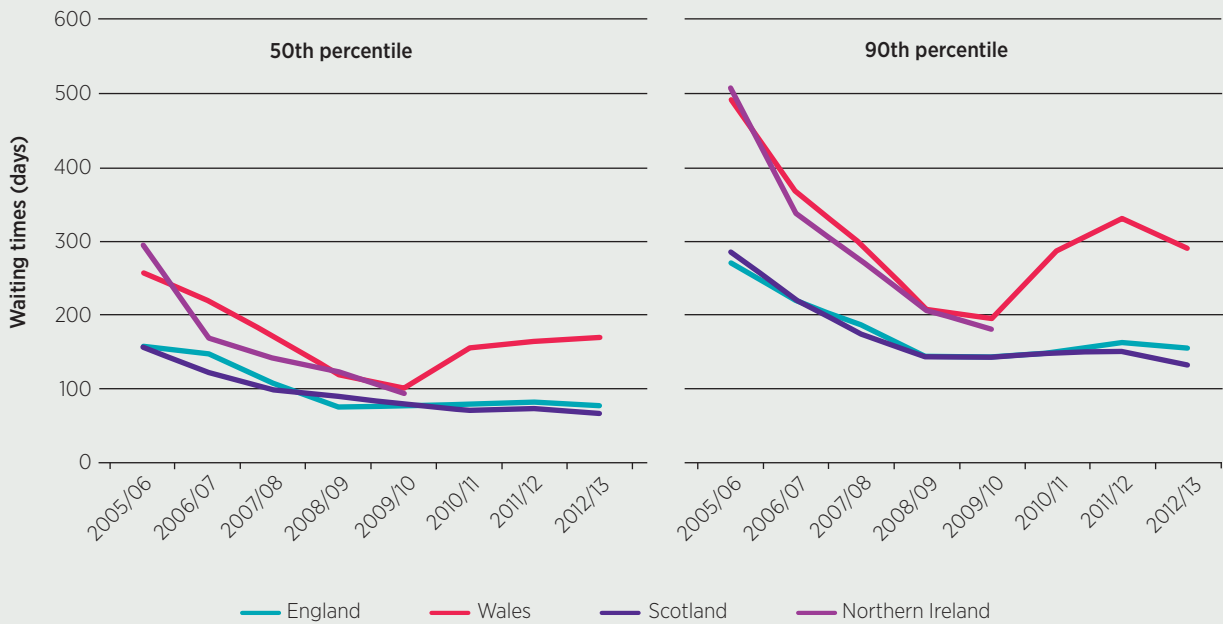
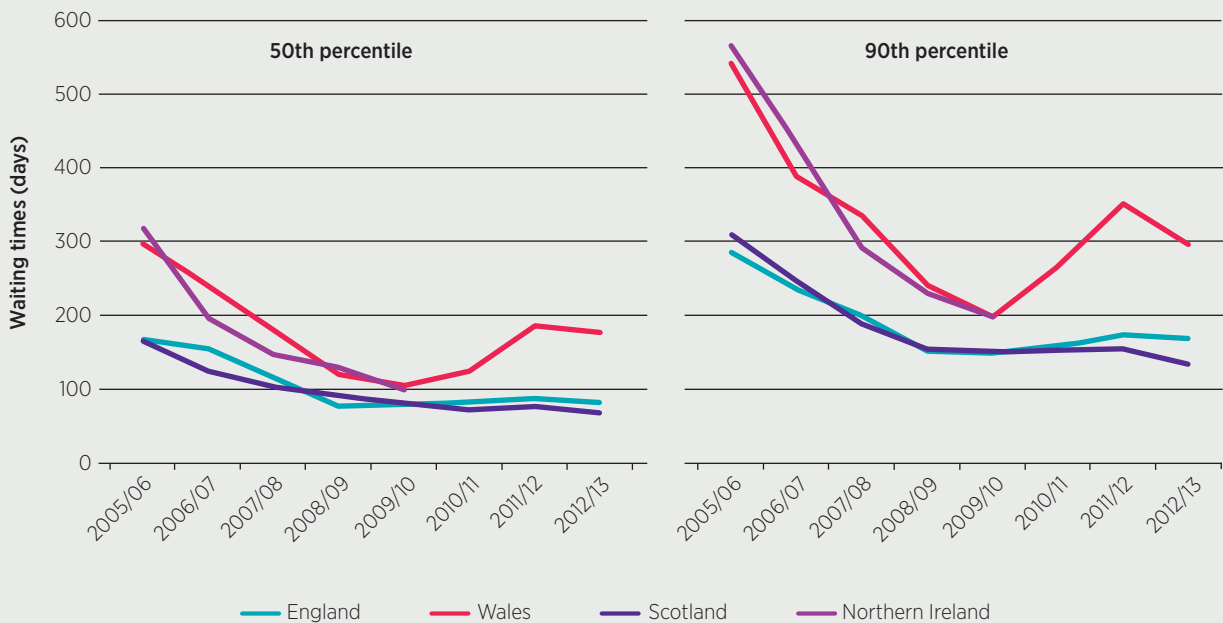


Figure 14: Median and 90th percentile of completed waiting time for knee replacement, 2005/06 to 2012/13



Screening, vaccination and immunisation

It appears that the data for screening, vaccination and immunisation are comparable across the four countries. The rates for the uptake of screening for breast cancer between the ages of 50 and 70 for 2010/11 were about 70 per cent in the four countries and North East England. Figure 15 shows that rates of childhood immunisation and vaccination at age two in 2011/12 were similar in the devolved countries and North East England, with England having lower rates. For the measles, mumps and rubella (MMR1) vaccine, the rates were over 90 per cent in all four countries and North East England (but below the 95 per cent recommended by the World Health Organization); and above 95 per cent in all devolved countries and North East England for the '5 in 1' vaccine (diphtheria, tetanus, whooping cough (pertussis), polio and Hib (Haemophilus influenzae type b)) and the Meningitis C vaccine, except for England where the rate was close to 95 per cent.

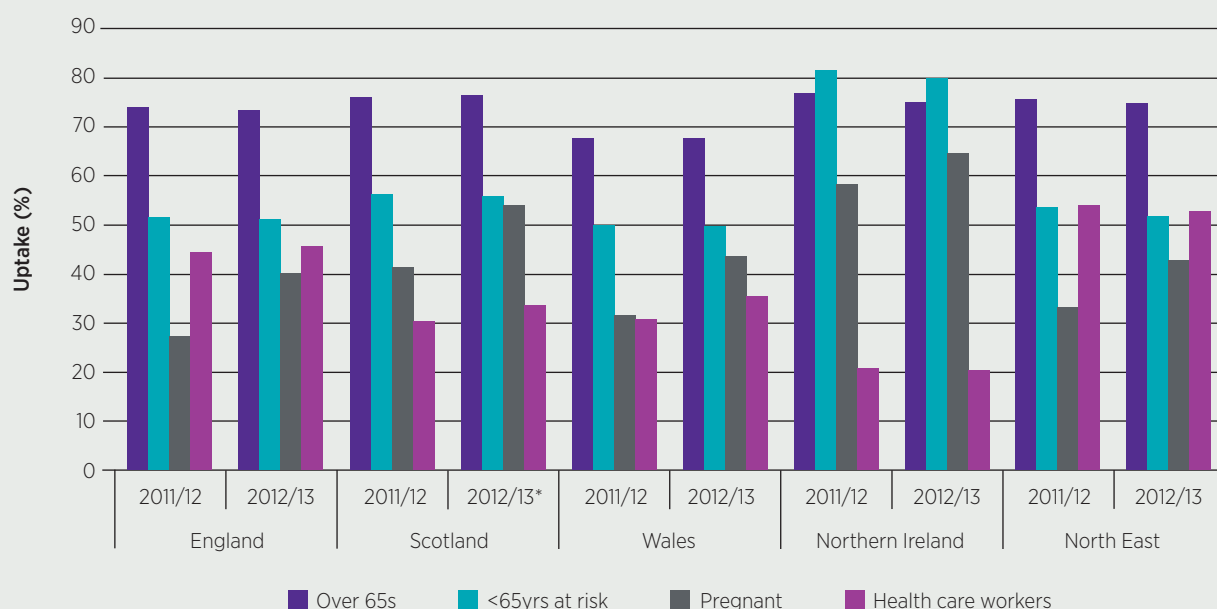
Figure 15: Childhood immunisation and vaccination rates at 24 months, 2011/12



Winter influenza vaccination

The groups who are targeted for influenza vaccination in the winter are the over-65s, the under-65s who are at particular risk, pregnant women and health care workers. Figure 16 shows that these rates have been stable in the recent past, except for increases in the coverage of pregnant women. There were, however, wide variations in the rates of vaccination between these priority groups over the two years 2011/12 and 2012/13. The largest differences between countries were in coverage of health care workers, where it was highest in North East England (about 53 per cent) and lowest in Northern Ireland (about 20 per cent). By contrast, Northern Ireland had relatively high rates of coverage of the over-65s and under-65s at risk.

Figure 16: Seasonal influenza vaccination uptake (%) by target group, 2011/12 and 2012/13 seasons



* Provisional data

Quality: outcomes

Amenable mortality

Amenable mortality is a frequently used indicator of health care performance that covers causes of death that are regarded as responsive to health care. When the data for this analysis were obtained, they were only available to 2010. Figures 17 and 18 show that, from 1990 to 2010, there were marked declines in amenable mortality and in mortality from other causes not considered amenable to health care in each country. In 1990, across the four countries, rates of amenable mortality, per 100,000 for both men and women under 75, were highest in Scotland (234 for men and 170 for women) and lowest in England (184 for men and 138 for women). Between 1990 and 2010, the relative gap between Scotland and England remained. The pace of relative decline in amenable mortality, in all four countries, was faster in the 2000s than the 1990s for all groups (except for women in Scotland, where it stayed the same) and exceeded the rate of decline for other mortality. This suggests that health care had a stronger impact on mortality in the 2000s than the 1990s. This might be an effect of the faster rate of increase in health care spending in the 2000s compared with the 1990s across the UK as a whole. During the 2000s, relative declines in amenable mortality were similar between the four countries. This is interesting in light of the high-level policy divergence that followed devolution, suggesting that differences in policies and funding (England increased its health spending more than the devolved countries in the 2000s) had little differential effect on amenable mortality.

In 1990, rates in North East England for amenable and other mortality were comparable to Scotland, which had the highest rates for both throughout both the 1990s and 2000s. The greatest decline in both mortality rates over the two decades was in North East England for both men and women, so that, by 2010, rates in North East England were similar to Northern Ireland and Wales.

Figure 17: Trends in amenable mortality in the four countries of the UK and North East England, men and women, aged 0-74, 1990-2010



Figure 18: Trends in other mortality in the four countries of the UK and North East England, men and women, aged 0-74, 1990-2010



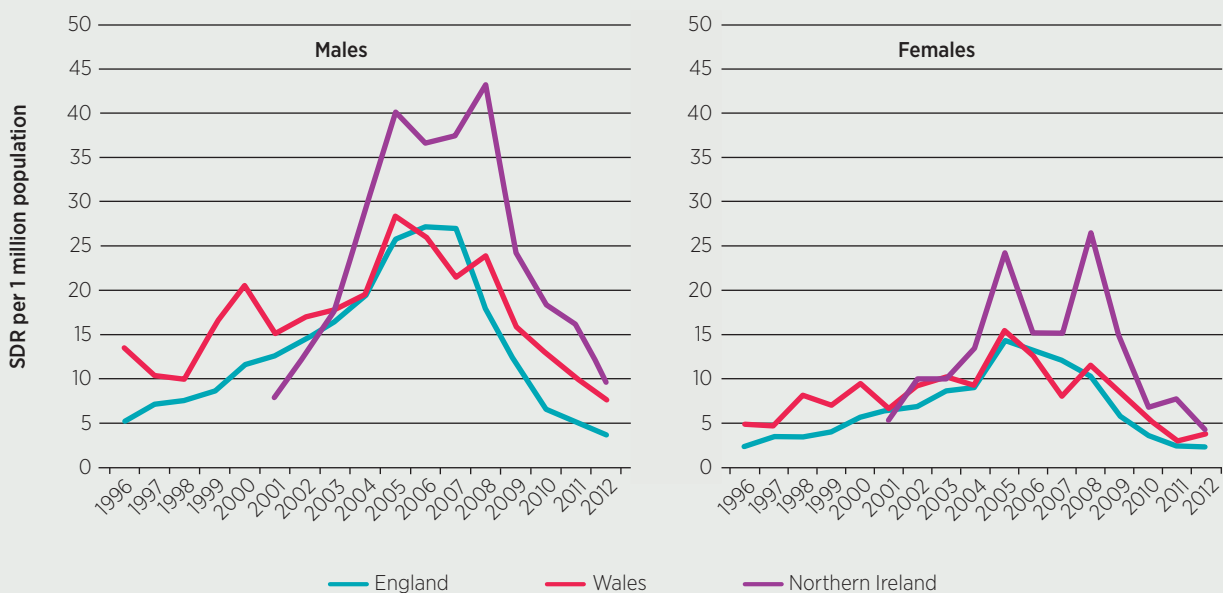
Renal replacement therapy

The UK Renal Registry reports one-year percentage rates of survival for patients on renal replacement therapy 90 days after starting treatment, by country, from 2002 to 2010, adjusted to age 60. This showed that these rates have improved in all countries. For 2009/10, the mean rates ranged from 87.5 per cent (in Scotland) to 90.7 per cent (in Northern Ireland), but these differences were not statistically significant.

MRSA mortality rates

MRSA mortality rates are derived from deaths where MRSA infection is mentioned on the death certificate. Figure 19 shows the levels of success achieved in reducing the rates of MRSA mortality in England, Wales and Northern Ireland for men and women between 1996 and 2012 (data by sex were not available for Scotland). England has been the most successful. The reduction in the rates for men (per million), which were about twice that for women, from their peak to 2012 were: in Wales, from 28 (in 2005) to 7.6; in England, from nearly 27 (in 2006) to 3.7; and in Northern Ireland, from 43 (in 2008) to 9.7. In 2011, in England and Wales, on average, there were about 170,000 hospital admissions per million population; and MRSA would have been mentioned on the death certificates of six men and women in England, and over 11 in Wales, which suggests MRSA mortality rates of about 0.4 and 0.6 per cent for hospital admissions in England and Wales, respectively.

Figure 19: Mortality rates for deaths with MRSA mentioned on the death certificate (per one million population), 1996–2012



Note: SDR = standardised death rate.

Satisfaction

The 2011 British Social Attitudes survey provides data for England, North East England, Scotland and Wales (but not Northern Ireland). Here we report satisfaction (percentages 'very satisfied' or 'quite satisfied') in response to four questions in that survey. Two of the questions in the survey were on 'the way in which the NHS runs' and on 'the way the NHS's local doctors or GPs run nowadays'. Answers to these questions may reflect people's perceptions, which are influenced by reporting in the media, rather than their own direct experience of health care. The rates of people being 'very satisfied' and 'quite satisfied' with the two aspects of the service were:

- North East England: 67 per cent and 80 per cent
- Wales: 62 per cent and 78 per cent
- England: 53 per cent and 76 per cent
- Scotland: 55 per cent and 68 per cent.

The other two questions ask directly about patient experience: satisfaction with 'attending hospital as an outpatient' and 'being in hospital as an inpatient'. Across the three countries, Scotland had the highest rates (70 and 68 per cent); and England (65 and 55 per cent) and Wales had similar rates (66 and 53 per cent). North East England (69 and 63 per cent) had rates that were closer to those of Scotland than England.

Conclusions

At the outset, we posed three key questions to ask after the initial period of devolution:

1. Have the different policies pursued in each country made any differential impact on the performance of their health systems?
2. Comparing England and Scotland, has the new system of performance management in Scotland since 2005 resulted in improved performance in Scotland and how does this compare with that of England?
3. Have Wales or Northern Ireland been able to improve their performance since 2006, and how does their performance compare with that of England and Scotland?

Given the limited comparable data on performance across the four countries over time before and after devolution in this and previous reports, it is not possible to give definitive assessments of performance across the UK on all the measures that one might want. However, we can compare performance on a number of key indicators and, as a result, highlight where there are differences and similarities across the four UK health systems. Over the initial period following devolution up to 2006, two earlier studies comparing hospital waiting times, ambulance response times and crude productivity found that the NHS in England performed best. This latest report updates these previous analyses as far as possible, as well as including additional data on quality of care. Most of the comparisons extend to 2011/12, with some indicators available for 2012/13.

The differences between the countries show a more complex pattern since 2006. Where there are comparable data over time, the principal findings are of large increases in health services funding between 2000/01 and 2010/11 in all four countries, followed by, from 2010/11 to 2012/13, limited rates of growth (in cash terms) for England, Scotland and Northern Ireland, and a reduction in funding (in cash terms) in Wales. There have been large increases in HCHS doctors and dentists, and reductions in inpatient admissions per doctor/dentist.

There have been improvements since the late 1990s in terms of: quicker ambulance response times to category A calls, the quality of stroke care and reductions in MRSA-related mortality rates. There were material differences before 2006 in the percentages of ambulance response times to immediately life-threatening emergencies, but these differences have narrowed since, so that these are now relatively small. Recent data show that England had better performance than Wales and Northern Ireland in terms of the structure and process indicators from the stroke audit and in reducing MRSA mortality rates. There were no material differences in performance for breast screening, immunisation and survival following renal replacement therapy between the four countries. Since the early 1990s, there have been increases in life expectancy and reductions in rates of amenable and other mortality. For amenable mortality, there has been little change in relative differences over time between the countries. While all four countries' performance has continued to improve, Scotland consistently had the highest amenable and other mortality rates.

Comparing performance on hospital waiting times is more complicated as each government measures these in different ways. We can compare waiting times across all four countries for a number of common surgical procedures from 2005/06 to 2009/10, which showed improvements in all four countries, with England and Scotland tending to have shorter waiting times than Wales and Northern Ireland. After 2009/10, we do not have data for Northern Ireland; but waiting times increased in Wales for the 90th percentile for all the procedures studied, and for cataract surgery and coronary artery bypass graft waiting times for both the 50th and 90th percentiles were greater than in 2005/06.

North East England, which is a better comparator for the four devolved countries than England as a whole, increased its health spending per head to the levels of Scotland and Northern Ireland as a result of the fact that health spending in England grew faster than in the other countries after 2006, and England allocated relatively more of its spending growth to the North East region. North East England stands out as having had a greater reduction in amenable and other mortality than the four countries between 1990 and 2010. The levels of spending and staffing in North East England have increased from the levels of England to those of Scotland, but its levels of life expectancy, and amenable and other mortality, have moved the other way.

It is impossible to be definitive as to what may have led to the greater improvement in the North East. The region received substantial increases in funding in the latter 2000s, but much of its decline in amenable mortality occurred in the 1990s before devolution and there was no obvious sign of an acceleration in the rate of improvement towards the end of the 20-year period after the boost in funding. It is also possible that the region benefited from the policies pursued in England over a 20-year period straddling devolution, although it is impossible to be definitive on this score. Hall and others showed in 2008 that the region is the best placed in England to recruit and retain experienced, well-trained clinical and managerial staff, since health service salaries are highly competitive in the North East compared with areas such as London and parts of South East England. This may have enabled the region to make more continuous improvements in services than areas of the country more reliant on temporary and agency staff.

Since devolution, the policy emphases have been, in England, on pluralism and competition in the supply of health services; in Scotland and Wales, on boards running publicly owned services in a planned way; and in Northern Ireland, on a purchaser/provider split but without provider competition. There is, however, no evidence linking these diverging high-level differences in policies to a matching divergence of performance. Indeed, there are signs of convergence in performance between countries in a number of areas (for example ambulance waiting times, where all set similar targets) and in aspects such as amenable mortality where all improved at a similar rate, but where relative differences that pre-date devolution were sustained. In terms of whether Scotland's greater emphasis since 2005 on targets and performance management (for example, in relation to hospital waiting times) has had an impact, it appears that Scotland's hospital waiting times now match England's, suggesting, but not proving, a positive effect.

Across a number of measures of performance, since 2006, the health systems of Wales and Northern Ireland have improved to a similar level as England, although England has achieved better performance on some measures such as the quality of stroke care and reductions in MRSA mortality rates. One exception, however, is in relation to waiting times where data since 2009/10 for common procedures in Wales indicate a lengthening of waiting times after a period of improvement, contrary to trends in England and Scotland. Unfortunately, there are no comparable waiting time data for Northern Ireland since 2009/10.

This report is published when each health system is under pressure from limited growth in funding in England, Scotland and Northern Ireland, and reductions in funding in Wales. However, the analysis presented in this report is based on data that mostly reflect a decade of sustained, substantial real growth in funding. How austerity impacts on the different health systems will need to wait for another study.

Recommendations

Turning to our recommendations, the first is that there should be better comparative data. This is not about curbing the freedoms of governments to pursue different policies. However, it is right to require that data be collected to enable the impacts of different policies to be compared, particularly when these policies appear to be increasingly divergent. Expenditure on collecting data has the obvious opportunity cost of not being available for the care of patients; and this opportunity cost is felt more intensely in periods of austerity. On the other hand, the benefits of collecting data are that, through benchmarking, each country can learn how to both make changes that lead to care of higher quality without increasing costs, and enable savings to be made without impairing quality, for example, by better service integration. Within the devolved countries, unlike in England, the samples may frequently not be large enough for robust benchmarking of specialised services, with questions over their value and opportunity costs. We are not, however, recommending stopping the collection of these data, but rather increasing their value through making them comparable across the four countries.

Second, we recommend extending existing systems of collecting data across the four countries. We appreciate that the collection of data on patient-reported outcomes (PROMS) and patient experience will entail extra costs in the devolved countries, but it seems increasingly untenable for modern health care systems to continue to run without routinely collecting such data. If these collections were available across the UK, they would provide much greater scope for benchmarking than other systems that otherwise only routinely collect data to assess quality in terms of whether patients have died or been re-admitted.

Third, as one of the important purposes of the governments in Westminster, Edinburgh, Cardiff and Belfast is the running of health services, electoral accountability would be improved in each jurisdiction if comparable data were routinely published on the comparative performance of the four health systems.

Fourth, for future research, while macro-level studies such as the current one are important and valuable, and have the potential to generate pressure to improve performance across the four countries, there is also a need for more granular and contextually relevant studies, for example, comparing similar areas with similar populations in the different countries (for example, comparing the same services on either side of the borders between England and Scotland, and Wales and England) and, in this way, identifying what the increasing differences in system policy mean for patients' and carers' experiences of the health service. It should also be possible to shed some light on why health has improved more quickly in North East England than in Scotland in the last decade, despite many population, funding and contextual similarities. But, such detailed micro studies ought also to be informed by a larger set of more consistent data. We understand from feedback on an earlier version of this report that there is now some enthusiasm within the different countries for such developments.

This suggests a substantial agenda for future comparative research, for example, of developments of integrated care in England and Scotland (at least), where policy objectives are the same, but the organisational forms and models of governance differ. This could include analyses of large, linked, individual-level datasets for local areas within each country for the purposes of benchmarking, and detailed local studies of areas with similar demographics and socioeconomic circumstances that would include studies of patient experience and costs of specific services in the two countries. To facilitate this analysis, and the substantial insights it may bring, we recommend purposeful work across the four UK countries on data definitions to allow the comparisons to be made. Comparative research within the UK could then add usefully to the well-established international comparisons between the far more disparate health care systems of the OECD (Organisation for Economic Co-operation and Development) countries.

References

The reference material for this summary report is taken from the source report *The Four Health Systems of the United Kingdom: How do they compare?* The source report contains a full bibliography.

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