

January 2015

# Historical trends in the UK

by Therese Lloyd

**SEE** **BRIEFING:**

NHS Finances – The challenge all political parties need to face  
[www.health.org.uk/fundingbriefing](http://www.health.org.uk/fundingbriefing)

*In real terms, between 1949/50 and 2013/14, public spending on health has risen each year by an average of*

# 3.7%

**Key points**

- 1. Since the NHS was established in 1948, public funding for health care has increased by more than both inflation and economic growth.** Health spending in the UK rose by an average of 3.7% a year in real terms between 1949/50 and 2013/14 (2014/15 prices). During this period, the proportion of UK public spending on health rose from 3.6% to 7.5% of gross domestic product (GDP).
- 2. Within this overall increasing trend, health spending in the UK has experienced periods of relatively high and low growth.** The highest rate of growth during any parliament was an average of 8.7% a year in real terms, when spending increased from £75.1bn in 2000/01 to £104.8bn in 2004/05 (2014/15 prices). The lowest average yearly change in UK health spending since 1955 was a 0.6% increase during the current parliament (up to the end of 2013/14).
- 3. Private spending on health care in the UK is relatively small.** Private health spending, which had grown on average by 5.1% a year in real terms between 1997 and 2008, fell by 2.8% a year between 2008 and 2012. The global economic crisis since 2008 has had an impact on both public and private spending but so far the impact has been greater on private spending. In 2012, private spending made up 16.0% of overall health care spending – the lowest proportion in more than 15 years (equal with 2010) (see figure 6).
- 4. Productivity in health care has grown more slowly than that of the economy as a whole.** Between 1979 and 2010, UK health care productivity grew by an average of 1.0% a year. By comparison, the productivity of the UK economy as a whole grew by 2.2% a year.

Public spending on health as a share of GDP has increased from 3.6% in 1949/50 to 7.5% in 2013/14

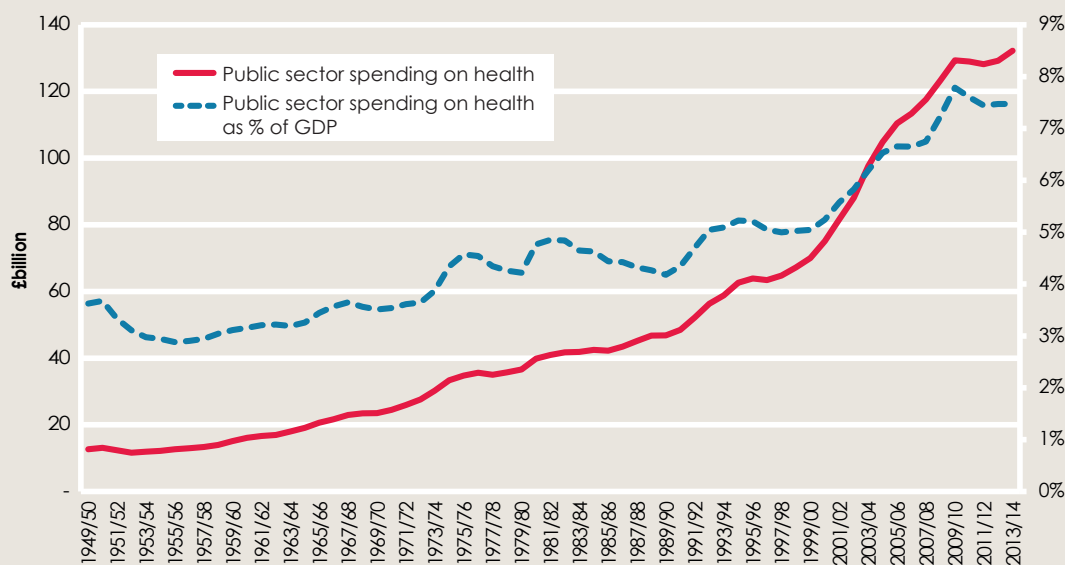
## Total public sector health spending in the UK

Public sector spending on health care can be defined in a number of ways. As a result there are many different measures. In this section, historical public health spending in the UK is calculated based on the expenditure on services framework, as supplied in chapters four and five of the Treasury's Public Expenditure Statistical Analyses 2014<sup>1</sup> and in accordance with the United Nations' Classification of the Functions of Government (UN COFOG).<sup>2</sup> Using this measure, public spending by health 'function' includes all spending on the NHS in the UK, but excludes administrative costs. It also includes medical research, devolved administrations and local government spending on health.<sup>1</sup> The advantage of using this definition is that there are long run series available for public sector spending on services by function.

Note that GDP deflators for the fiscal years 1949/50 to 1954/55 were not available. We have estimated them by taking the GDP deflators available for the calendar years 1949 to 1954, calculating the annual change in GDP deflator for these years and applying these to the fiscal years.

Public spending on health in the UK has risen by an average of 3.7% per year\* between 1949/50 and 2013/14 in real terms.\*\* Public spending on health outpaced economic growth over this period and, as a result, public spending on health as a share of UK GDP has increased from 3.6% in 1949/50 to 7.5%† in 2013/14. The period between 1999/2000 and 2009/10 shows a particularly marked rise in health spending, from 5.0% to 7.8% of GDP (see figure 1).

**Figure 1: Public spending on health in the UK, in real terms and as a percentage of gross domestic product (2014/15 prices)**



Source: Author's calculations, using data from: Public Sector Statistical Analyses 2014 (HM Treasury), Fiscal Facts: Spending by function (Institute of Fiscal Studies), OHE Guide to UK Health and Health Care Statistics 2013 (Office of Health Economics, Hawe E and Cockcroft L), UK National Accounts – The Blue Book (Office for National Statistics), GDP deflators at market prices, and money GDP (HM Treasury).

Note: GDP deflators for 1949/50 to 1954/55 are estimated.

\* This figure differs from the 4.0% given in Crawford and Emmerson's NHS and social care funding report ([www.nuffieldtrust.org.uk/publications/future-NHS-spending](http://www.nuffieldtrust.org.uk/publications/future-NHS-spending)). This is primarily due to our estimate including the years 2011/12 to 2013/14, and using the latest GDP deflators. In addition, the GDP deflators for years 1949/50 – 1954/55 are estimated.

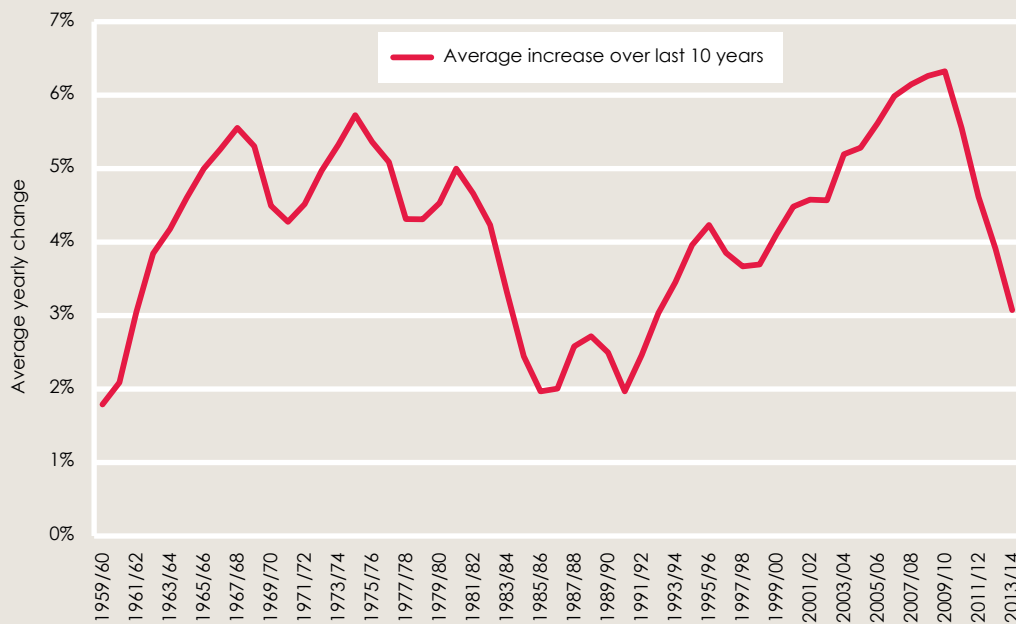
\*\* In this paper, all real terms calculations are based on 2014/15 prices unless otherwise stated.

† Note: This estimate will differ slightly from the proportion of GDP calculated by OECD and cited in the international comparisons section of this briefing (7.8% of GDP in 2012). This is due to several factors: a different definition of public health spending, a slightly different time period, the measure above being based on the financial year (rather than calendar year) and using more up-to-date GDP estimates.

The rate of change in health funding has varied substantially since the introduction of the NHS in 1948, with periods of high and low growth. In the past 50 years, the 10 years with the lowest rolling average growth was 1975/76 to 1985/86, when the average increase in funding was 2.0% a year in real terms (see figure 2).\*

The decade from 1999/2000 to 2009/10 showed the greatest rate of increase in health spending, averaging 6.3% a year in real terms (see figure 2). This was driven by the government's commitment to increase health funding, as set out in The NHS Plan, 2000, which stated that historic investment had been too low.<sup>3</sup>

**Figure 2: Rolling 10-year average yearly change in UK health spending (2014/15 prices)**



Sources: Author's calculations, using data from: Public Sector Statistical Analyses 2014 (HM Treasury), Fiscal Facts: Spending by function (Institute of Fiscal Studies), OHE Guide to UK Health and Health Care Statistics 2013 (Office of Health Economics, Hawe E and Cockcroft L), UK National Accounts – The Blue Book (Office for National Statistics), GDP deflators at market prices, and money GDP (HM Treasury).

Note: GDP deflators for 1949/50 to 1954/55 are estimated

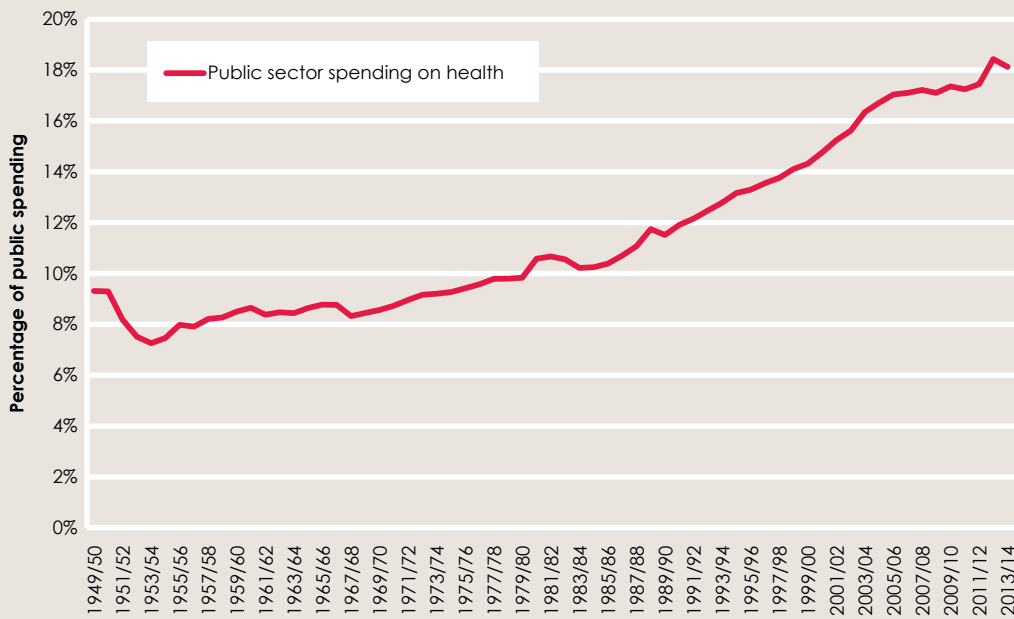
\* The estimate for the average increase in funding between 1949/50 and 1959/60 was lower, at 1.8% a year in real terms. However, this estimate is dependent on our estimated GDP deflators for 1949/50 to 1954/55 – as detailed at the beginning of this section.

In 2013/14 UK spending on publicly funded health care hit an all-time high of £132.2bn (2014/15 prices)

Real terms spending dropped slightly in 2010/11 and 2011/12, but started to rise again in 2012/13. In 2013/14, the latest year for which data are available, UK spending on publicly funded health care hit an all-time high of £132.2bn (2014/15 prices) (see figure 1).

The proportion of total UK government spending devoted to health has also risen, from 9.3% in 1949/50 to 18.1% in 2013/14 (see figure 3). This means that health care now accounts for almost £1 in every £5 of government spending.

Figure 3: Public spending on health in the UK, as a percentage of total public spending

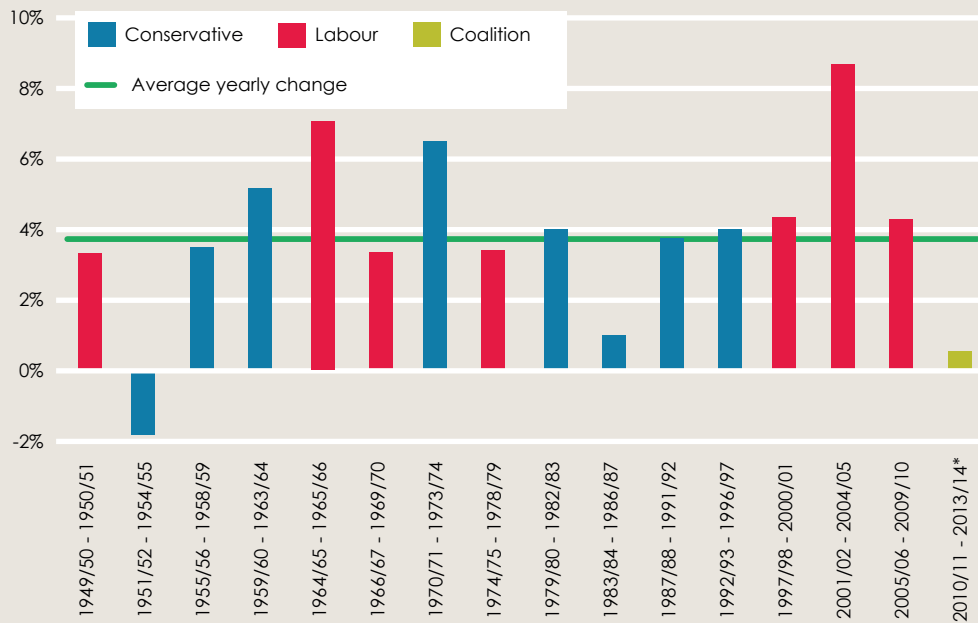


**Source:** Author's calculations, using data from: Public Sector Statistical Analyses 2014 (HM Treasury), Fiscal Facts: Spending by function (Institute of Fiscal Studies), OHE Guide to UK Health and Health Care Statistics 2013 (Office of Health Economics, Hawe E and Cockcroft L), UK National Accounts – The Blue Book (Office for National Statistics), GDP deflators at market prices, and money GDP (HM Treasury).

**Note:** GDP deflators for 1949/50 to 1954/55 are estimated

The highest rate of growth during any parliament\* was an average of 8.7% a year in real terms between 2000/01 and 2004/05,\*\* when spending on health increased from £75.1bn to £104.8bn in 2014/15 prices (see figure 4). The estimated lowest change during any parliament was a 1.8% yearly fall in real terms spending between 1950/51 and 1954/55 (see table 1). However, this estimate relies on our estimated GDP deflators for the period 1950/51 to 1954/55. Thus far in the current parliament (up to the end of 2013/14), UK health spending has increased by an average of 0.6% a year in real terms, the lowest yearly change of any parliament since 1955.

**Figure 4: Average yearly change in UK health spending over different parliaments (2014/15 prices)**



**Source:** Author's calculations, using data from: Public Sector Statistical Analyses 2014 (HM Treasury), Fiscal Facts: Spending by function (Institute of Fiscal Studies), OHE Guide to UK Health and Health Care Statistics 2013 (Office for Health Economics, Hawe E and Cockcroft L), UK National Accounts – The Blue Book (Office for National Statistics), GDP deflators at market prices, and money GDP (HM Treasury).

**Notes:**

- Date ranges shown are the years of each parliament. Average yearly change is calculated starting from the previous year.
- GDP deflators for 1949/50 to 1954/55 are estimated.
- Elections held between 1 January and 5 April of any year are counted as starting in the following fiscal year.
- Parliaments shorter than two years have been merged with a preceding or subsequent parliament with the same party in office.
- For the Labour government of 1945/46 to 1950/51, data on health spending are only available for the fiscal years 1949/50 and 1950/51.

\* UK health spending only includes outturn data (to the end of 2013/14), so does not cover the whole of the current parliament.

\* A parliament is the period in between two elections. A government is the uninterrupted period in which one party or coalition is in office.

\*\* The average yearly increase during a parliament is calculated by comparing its spending to the last year of the previous parliament (eg for the 2001/02-2004/05 parliament, the change is measured from 2000/01 to 2004/05).

**Table 1: UK public spending on health – comparison between different parliaments (2014/15 prices)**

| Period              | Years             | Average annual growth in UK NHS spending in real terms |
|---------------------|-------------------|--|
| Average over time   | 1949/50 – 2013/14 | 3.7%   |
| Current parliament* | 2010/11 – 2013/14 | 0.6%   |
| Highest parliament  | 2001/02 – 2004/05 | 8.7%   |
| Lowest parliament   | 1951/52 – 1954/55 | -1.8%  |

**Source:** *Public Sector Statistical Analyses 2014* (HM Treasury), *Fiscal Facts: Spending by function* (Institute of Fiscal Studies), *OHE Guide to UK Health and Health Care Statistics 2013* (Hawe E and Cockcroft L), *UK National Accounts – The Blue Book* (Office for National Statistics), *GDP deflators at market prices, and money GDP* (HM Treasury).

**Notes:**

- Date ranges shown are the years of each parliament. Average yearly change during a parliament is calculated starting from the previous year.
- The estimate for the parliament 1951/52 to 1954/55 relies on our estimate of the GDP deflator.

\* UK health spending only includes outturn data (to the end of 2013/14), so does not cover the whole current parliament.

Health care is relatively labour intensive, which makes it difficult for the NHS to keep pace with productivity growth in the rest of the economy.

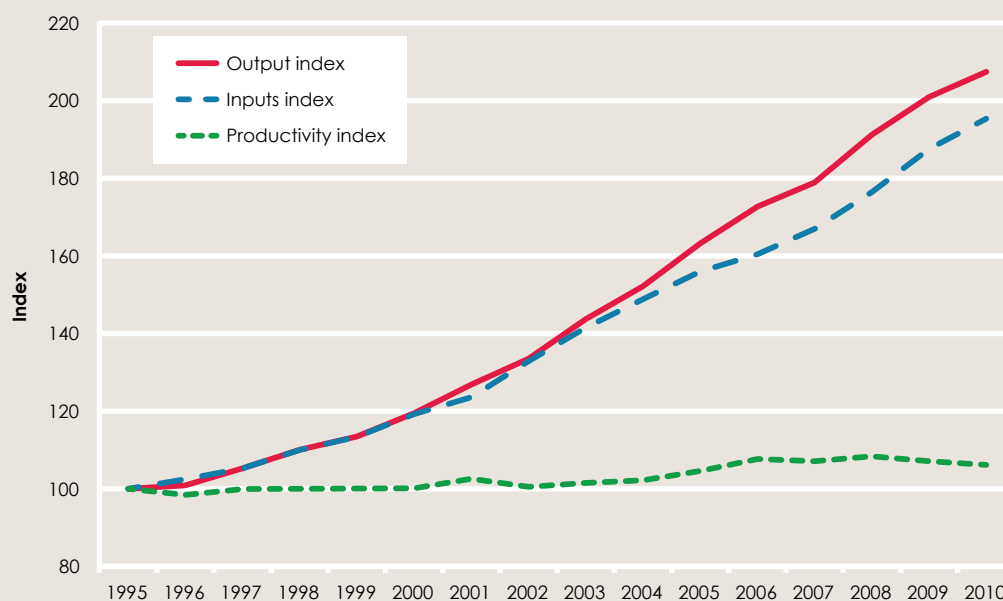
### Productivity

Productivity can be measured by comparing output to the volume of inputs. ‘Output’ includes all health care activities, such as hospital services and GP visits, adjusted for certain measures of quality. ‘Inputs’ incorporate all expenses, including labour, running costs and capital consumption.<sup>4</sup> As health care is relatively labour intensive, wages will account for a large portion of input costs. This can make it difficult for the NHS to keep pace with growth in productivity in the rest of the economy, where productivity improvements are often technology-driven. This is known as ‘Baumol’s cost disease’.<sup>5</sup>

The Office of National Statistics (ONS) has produced productivity estimates for the UK from 1995 onwards.\* Both output and inputs in health care have grown continuously during this period, but output increased more rapidly than inputs between 2004 and 2006 (see figure 5). The ONS estimates that between 1995 and 2010, in health care the output of the UK rose by 107% and the inputs by 95%. This resulted in an estimated productivity growth of 0.4% per year.<sup>4</sup>

\* A change in methodology in 2011 means that services provided by non-NHS organisations now count as both an input and an output, while previously these were only counted as an input. This means that estimates produced before 2011 using ONS data are inconsistent with later estimates.

Figure 5: Health care output, inputs and productivity estimates for the UK, 1995-2010 (index numbers 1995=100)



Source: Public Sector Productivity Estimates: Healthcare, 2010: Healthcare output and inputs have risen strongly over past 15 years (Office for National Statistics).

A separate England-only study using similar methodology estimates that recent productivity has been higher in England between 2004/05 and 2011/12. England's productivity grew at a rate of 1.5% a year during this period, with an overall total factor productivity growth of 10% to 11% (depending on the statistical model used).<sup>6</sup>

The only health care productivity data available prior to 1995 comes from the England-specific Cost Weighted Activity Index (CWAI).<sup>7</sup> However, this index provides relatively crude estimates that do not cover all hospital activities and are not adjusted for quality. Since quality has improved over time, CWAI figures are likely to underestimate productivity advances. The OBR has combined the CWAI figures with ONS productivity data from 1995 onwards and estimated that UK productivity in the health care sector rose by about 1.0% a year on average between 1979 and 2010. This can be compared to the average UK whole economy productivity growth of 2.2% a year between 1971 and 2008.<sup>\*8</sup>

\* Note that whole economy productivity and health service productivity are not measured in exactly comparable ways.

## Total UK spending on health – public and private

When comparing public and private health spending in the UK, we used data from the ONS,<sup>9</sup> which provides measures of public and private health care consistent with international definitions provided by the Organisation for Economic Co-operation and Development (OECD).<sup>10</sup> In this context public spending on health includes state, regional and local government bodies and social security schemes. It includes spending in prisons and defence but does not include education and training or research and development and is presented by calendar year.<sup>9,11</sup>

Private health care expenditure is defined as private household spend on medical goods and services, private health care insurance, expenditure by not-for-profit institutions serving households (includes charities and other non-profit organisations) and private sector capital. Private household spending on medical goods and services include goods such as over the counter pharmaceuticals and services such as dental services and private hospital services.<sup>9</sup>

From the start of the economic downturn in 2008 to 2012, each year private health spending fell on average by

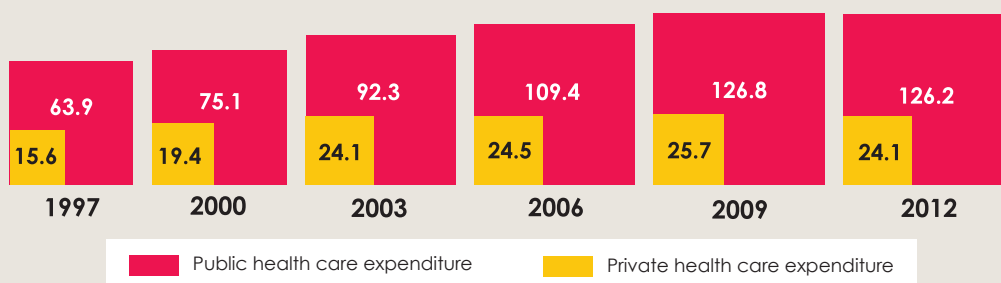
# 2.8%

Between 1997 and 2008, the period for which ONS provides the latest estimates,<sup>9</sup> private health spending grew on average by 5.1% a year, from £15.6bn to £27.0bn (2014/15 prices). However, as a proportion of total UK health spending, the same period saw an overall drop (from 19.6% in 1997 to 18.6% in 2008), as spending in the public sector increased at a faster rate.

From the start of the economic downturn in 2008 to 2012, private spending fell on average by 2.8% a year in real terms, to £24.1bn in 2012. Private spending as a proportion of total health care spending continued to fall, on average, during the period 2008-2012. In 2012, private spending made up 16.0% of overall health spend, the lowest proportion in over 15 years (equal with 2010).

Figure 6 shows how the global economic downturn since 2008 has had an impact on both public and private spending but so far the impact has been greater on private spending.

Figure 6: Public and private health care spending in the UK (£bn), 1997-2012 (2014/15 prices)



Sources: *Expenditure on healthcare in the UK: 2012* (Office for National Statistics), *GDP deflators at market prices, and money GDP* (HM Treasury).



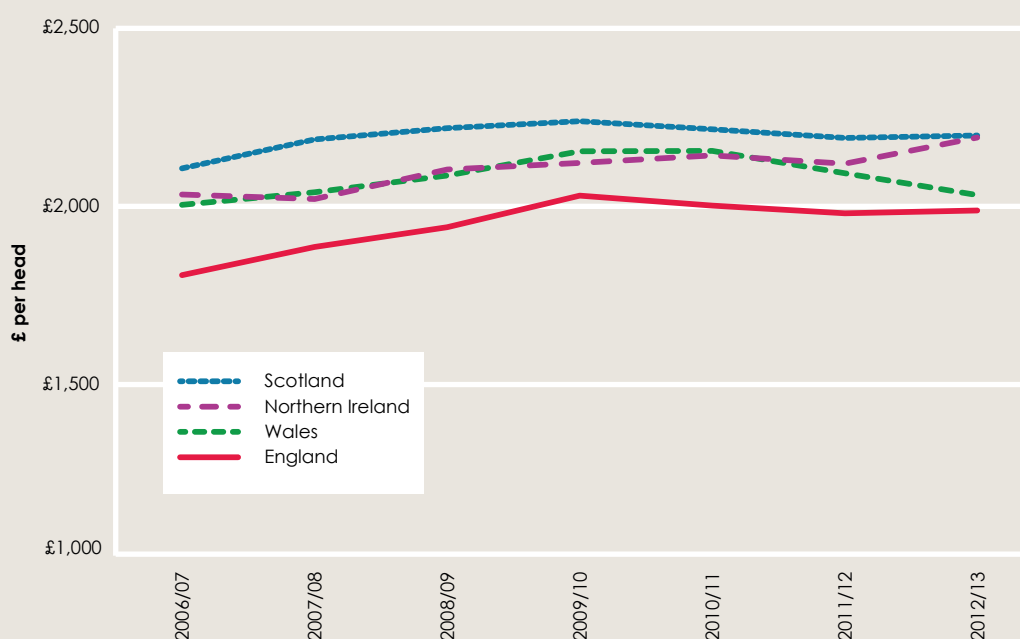
## The four countries of the United Kingdom

In 2012/13 England spent £1,988 per head, versus £2,032 in Wales, £2,193 in Northern Ireland and £2,199 in Scotland (2014/15 prices)

Public spending on health by country in the UK is measured in terms of the identifiable spending\* incurred within any of the four countries. This measure is provided by the Treasury and is defined as the overall cost of providing public sector services (total expenditure on services (TES)), including both capital and current spending. It excludes spending outside the UK and non-identifiable spending. The data are collected through a separate data collection exercise and at a different time point to the data behind other PESA tables; the figures for identifiable spending therefore do not fully match those in other PESA chapters.<sup>1</sup>

All four countries' health spending per head have followed a similar upward trend for the past 40 years, but spending per person on health in England has been consistently lower than in Scotland, Wales or Northern Ireland.<sup>12</sup> The spending per head has been relatively stable since 2006/07 (see figure 7), although in 2012/13 (the latest available data), spending per head in Wales dropped to a similar level to England while Northern Ireland's and Scotland's levels converged: England spent £1,988 per head, versus £2,032 in Wales, £2,193 in Northern Ireland and £2,199 in Scotland in 2012/13 (2014/15 prices).

Figure 7: Identifiable spending on health in the four countries of the UK, per head (2014/15 prices)



Source: Public Sector Statistical Analyses 2012, 2013 and 2014 (HM Treasury), GDP deflators at market prices, and money GDP (HM Treasury).

\* as defined in PESA, chapter 9

Between 2009/10 and 2013/14 spending on adult social services in England fell by an annual real terms average of

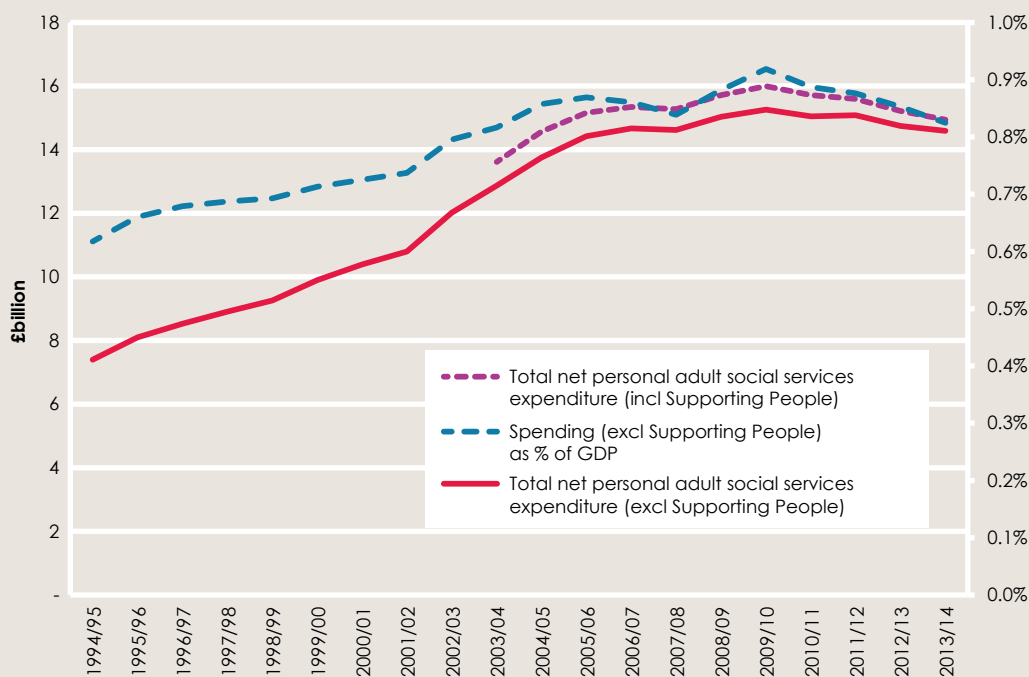
**1.7%**

## Social care funding

There are several differences in how social services are managed across the four countries of the UK<sup>13</sup> and there are no data available for the UK as a whole. In England, funding for social care is the responsibility of local authorities and is means tested, with a substantial amount of social care being self-funded. Unlike the NHS budget, the social care budget has not been protected in real terms during this parliament. However, social care is associated with health and health care, and there is evidence that there is some substitution between the two.<sup>14</sup>

Total net public spending on personal adult social services\* (including Supporting People\*\*) in England has dropped 6.5% in recent years, from a high of £16.0 billion in 2009/10 to £15.0 billion in 2013/14 (2014/15 prices), equivalent to an annual average fall in spending of 1.7% a year in real terms (see figure 8). This fall in spending is particularly noticeable in the decreased spending on Supporting People grants during this period.

Figure 8: Total net public spending on personal adult social services in England\* (2014/15 prices)



Sources: Personal Social Services: Expenditure and Unit Costs (The Health and Social Care Information Centre), GDP deflators at market prices, and money GDP (HM Treasury).

Note: Data on Supporting People costs are only available from 2003/04 onwards.

\* Spending on adult social services in England is net personal adult social services expenditure, as defined by the Health and Social Care Information Centre

\*\* This refers to the part of the Supporting People central government grant given to local authorities which has been classified as social services expenditure. The Supporting People grant provides housing-related support to help vulnerable people live as independently as possible in the community.

## References

- 1 HM Treasury. *Public Expenditure Statistical Analyses (PESA) 2014*. [www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/330717/PESA\\_2014\\_-\\_print.pdf](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/330717/PESA_2014_-_print.pdf) (accessed 5 November 2014)
- 2 United Nations. *Classification of the Functions of Government*. <http://unstats.un.org/unsd/cr/registry/regcs.asp?Cl=4&Lg=1&Co=07>
- 3 NHS England. *The NHS Plan*. London: The Stationery Office, 2000. <http://pns.dgs.pt/files/2010/03/pnsuk1.pdf> (accessed 12 December 2014).
- 4 Office for National Statistics. Healthcare output and inputs have risen strongly over past 15 years. [www.ons.gov.uk/ons/rel/psa/public-sector-productivity-estimates--healthcare/2010/sty-healthcare-outputs-and-inputs.html](http://www.ons.gov.uk/ons/rel/psa/public-sector-productivity-estimates--healthcare/2010/sty-healthcare-outputs-and-inputs.html) (accessed 23 November 2014).
- 5 Baumol J. *The Cost Disease*. Yale: Yale University Press, 2012.
- 6 Bojke and others, 2014. *Productivity of the English National Health Service From 2004/5: updated to 2011/12*. [www.york.ac.uk/media/che/documents/papers/researchpapers/CHERP%2094\\_NHS\\_productivity\\_update2011-12.pdf](http://www.york.ac.uk/media/che/documents/papers/researchpapers/CHERP%2094_NHS_productivity_update2011-12.pdf) (accessed 25 November 2014)
- 7 Oliver A. The English National Health Service: 1979-2005. *Health Economics* 2005;14:S75-S99.
- 8 Office for Budget Responsibility. *Fiscal Sustainability Report, July 2014*. <http://cdn.budgetresponsibility.org.uk/41298-OBR-accessible.pdf> (accessed 16 November 2014). See Annex B from the 2012 Fiscal Sustainability Report for more details of the methodology used: <http://budgetresponsibility.org.uk/wordpress/docs/FSR2012WEB.pdf>. (accessed 20 November 2014).
- 9 Office for National Statistics. *Expenditure on healthcare in the UK: 2012*. [www.ons.gov.uk/ons/rel/psa/expenditure-on-healthcare-in-the-uk/2012/art-expenditure-on-healthcare-in-the-uk--2012.html](http://www.ons.gov.uk/ons/rel/psa/expenditure-on-healthcare-in-the-uk/2012/art-expenditure-on-healthcare-in-the-uk--2012.html) (accessed 23 November 2014).
- 10 OECD/WHO/Eurostat. *A System of Health Accounts: 2011 Edition*. DOI: 10.1787/9789264116016-en (accessed 8 December 2014).
- 11 Organisation for Economic Cooperation and Development. Glossary of statistical terms. <http://stats.oecd.org/glossary/detail.asp?ID=2198> (accessed 15 November 2014).
- 12 Hawe E and Cockcroft L. *OHE Guide to UK Health and Health Care Statistics (2nd edition)*. [www.ohe.org/publications/ohe-guide-uk-health-and-health-care-statistics](http://www.ohe.org/publications/ohe-guide-uk-health-and-health-care-statistics) (data accessed 30 October 2014)
- 13 Bevan G, Karanikolos M, Exley J, Nolte E, Connolly S and Mays N. *The four health systems of the United Kingdom: how do they compare?* London: Health Foundation and Nuffield Trust, 2014. [www.health.org.uk/compareUKhealth](http://www.health.org.uk/compareUKhealth) (accessed 15 November 2014)
- 14 Crawford R and Emmerson. *NHS and social care funding: the Outlook to 2021/22*. London: Nuffield Trust, 2012 [www.nuffieldtrust.org.uk/publications/future-NHS-spending](http://www.nuffieldtrust.org.uk/publications/future-NHS-spending) (accessed 10 November 2014).

## About the author

Therese joined the Health Foundation in October 2014 as a Data and Economics Analyst.

Prior to joining the Health Foundation, Therese worked at Prostate Cancer UK, where she instigated and conducted analyses on the lifetime risk of prostate cancer in different ethnic groups. The results of these analyses were used by Public Health England in their Be Clear on Cancer pilot for prostate cancer.

Previous to this, she co-founded Zendegii, a company that creates healthy foods and beverages and provides information to other businesses around nutrition and product development.

Preceding this, Therese worked in clinical trials as a statistician for six years. She worked on a wide range of projects across various therapeutic areas, including oncology, cardiology and immunology. She has experience of phase II, III and IV randomised clinical trials.

Therese has a Master's degree in statistics from Lund University, Sweden.

The Health Foundation is an independent charity working to improve the quality of health care in the UK.

We are here to support people working in health care practice and policy to make lasting improvements to health services.

We carry out research and in-depth policy analysis, run improvement programmes to put ideas into practice in the NHS, support and develop leaders and share evidence to encourage wider change.

We want the UK to have a health care system of the highest possible quality – safe, effective, person-centred, timely, efficient and equitable.

**The Health Foundation**

90 Long Acre  
London WC2E 9RA

T 020 7257 8000  
E [info@health.org.uk](mailto:info@health.org.uk)

Registered charity number: 286967  
Registered company number: 1714937

For more information, visit: [www.health.org.uk](http://www.health.org.uk)

Follow us on Twitter: [www.twitter.com/HealthFdn](https://www.twitter.com/HealthFdn)

Sign up for our email newsletter:  
[www.health.org.uk/enewsletter](http://www.health.org.uk/enewsletter)