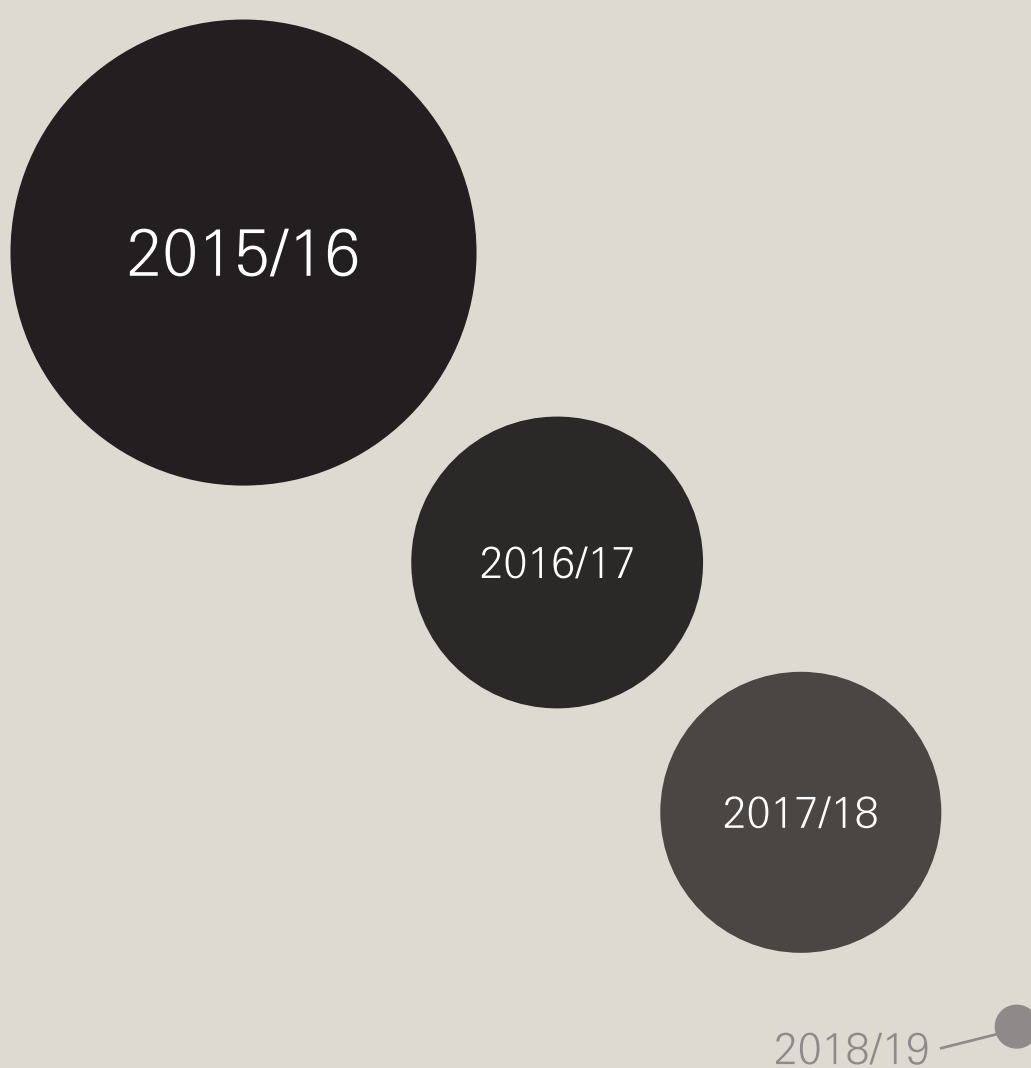


A year of plenty?

An analysis of NHS finances
and consultant productivity

Sarah Lafond, Anita Charlesworth, Adam Roberts



Annual change in spending, %

Acknowledgements

A number of people contributed to the development of this report and we would like to thank them for their comments and advice.

Errors or omissions remain the responsibility of the authors alone.

About this report

Two and a half years after the publication of the *Five year forward view*, the NHS in England is working in overdrive to meet the productivity challenge of 2–3% a year that the report set out. It is also seeking to transform services so they are better able to meet the needs of a changing population and are sustainable in the longer term. Once again, we have taken an in-depth look at the financial accounts of NHS commissioners and providers to help set out some of the key issues to be addressed if services are to be transformed while quality of care is protected during this difficult period.

- This report focuses on the finances of NHS providers and the consultant productivity of acute NHS hospitals, drawing on their annual accounts from 2009/10 to 2015/16 and linking this to wider NHS data.
- It builds upon previous Health Foundation reports *Hospital finances and productivity: in a critical condition?* and *A perfect storm: an impossible climate for NHS providers' finances?*
- All financial data in this report have been adjusted to 2016/17 prices using HM Treasury gross domestic product (GDP) deflators – a whole economy measure of inflation as of January 2017.
- In this report, when we refer to the total health budget we mean the total Department Expenditure Limit (TDEL) for the Department of Health. When we refer to the total NHS commissioning budget we mean NHS England's spending on the provision of health care from both NHS and non-NHS providers, which accounts for around 85% of the total health budget. The difference between these two is mainly capital spending, public health, and the budget for education and training for doctors, nurses and allied health professionals.

A year of plenty?

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Executive summary

Additional funding for health care was announced in the 2015 Autumn Statement. It has been front-loaded in 2015/16 and 2016/17. For this investment, primary care and mental health were stated as priorities.

- 2015/16 and 2016/17 are the years of comparative plenty for the NHS in the midst of the NHS's most austere decade. Compared to an average of 1.2% for the decade, the total health budget* rose by 3.0% in 2015/16 – the highest increase since 2009/10. In 2016/17 the total health budget is planned to rise by a further 1.2%, but funding growth will be much lower over subsequent years. This spike in funding reflects a response to growing pressures in the system, as well as the policy in the 2015 spending review to front-load money to enable the NHS to bring providers back to financial balance, and invest in service transformation.
- The additional funding over this parliament will largely cover population growth alone, with the real-terms total health budget per head set to be the same in 2020/21 as it was in 2015/16. Additional pressures (such as the ageing population and growing prevalence of chronic conditions), together with new treatments and services, must be met through improving efficiency.
- In 2016/17, additional funding for the NHS is targeted at the front line. The allocation to NHS England increased by £4bn (4.0%), much more than the increase to the overall Department of Health (DH) budget of just £1.4bn (1.2%). The increase for NHS England in 2016/17 is twice that for 2015/16, when funds available to NHS commissioners increased by £2bn (2.0%) above inflation.
- The NHS has committed to invest in primary care through the *Five year forward view* (FYFV). Spending on primary care increased by 1.5% in 2015/16. Despite this, the number of GPs appears to still be falling. The number of full-time equivalent (FTE) GPs working in the NHS in England (excluding locums) fell by 3% between September 2014 and September 2016.
- There is also a commitment to increase spending on mental health care to achieve parity of esteem.[†] However, based on planned spend in 2016/17, 46 clinical commissioning groups (CCGs) are not expecting to meet the commitment. Adult mental health funding was missing £20.8m from planned spending for it to have met the parity of esteem requirements for 2016/17.

* We define total health spending as the total Department Expenditure Limit (TDEL) – the budget allocated to and spent by government departments – excluding depreciation by Department of Health. All financial data in this report have been adjusted to 2016/17 prices using HM Treasury gross domestic product (GDP) deflators – a whole economy measure of inflation as of January 2017.

† The principle of valuing mental health equally with physical health by giving equitable distribution of resources between physical and mental health.

- Almost half of the total additional commissioning funding in 2015/16 was spent on care provided by non-NHS organisations, and supporting the underfunded social care system; NHS provider income grew slowly.
- The biggest growth in spending by commissioners over this period has been on care provided free at the point of use to NHS patients by non-NHS providers, including independent providers, and support to the social care system. In 2015/16 commissioners spent an extra £901m on care provided by non-NHS organisations, increasing it to a total of £12.7bn.
- Of the additional £2bn of funding for the NHS commissioning budget in England, 45% was spent on care provided by non-NHS providers. £1 in every £8 of local commissioners' budgets is now spent on care provided by non-NHS organisations.
- As a result of these commissioning decisions, the funding received by all NHS providers (acute, mental health and community trusts) grew modestly. NHS providers' budgets grew by £800m in 2015/16 – less than the additional spending on the non-NHS sector. This was an increase of just 1.1% in real terms.
- NHS trusts sometimes have to send patients to non-NHS providers if they lack capacity to provide timely care. In 2015/16, NHS trusts spent an additional £147m on care provided by non-NHS providers – an 18% increase. This means almost one-fifth of the additional funding NHS trusts received was passed on to non-NHS providers.

Rising costs outstripped growth in funding for NHS providers, whose financial position continued to worsen.

- NHS providers' costs rose by much more than their income and so most providers ended 2015/16 in deficit. Total costs rose by 3.2% while income rose by 1.1%. Overall, they had a combined deficit of £2.5bn.
- Drug and staff costs are the two main areas of spending for NHS hospitals and both rose sharply in 2015/16. Both of these costs rose by more than income, at 12% and 2.5% respectively. Costs continued to increase into 2016/17; by the end of Q3, agency spending exceeded plan by £359m while drug costs exceeded plan by £116m.
- 2016/17 was the year to turn around NHS provider finances, with the support of £1.8bn of earmarked sustainability and transformation funding. Nine months into the financial year, it is clear that the task of stabilising hospital budgets is much tougher than anticipated. Providers are expecting to end 2016/17 with a deficit of £873m – compared to a target of £580m. However, this is an improvement on 2015/16 when providers reported an end of year deficit of £2.5bn. In 2016/17, almost 60% of providers are currently overspending – with 70% of acute hospitals projecting a budget overspend.

Demand for care is rising faster than NHS provider income, with emergency admissions crowding out elective admissions.

- Demand pressures facing the NHS are increasing, with more patients treated than ever before. But this has been true in pretty much every year of the NHS's history – the population grows and ages, chronic disease rates rise, the availability of new treatments and services increases, and expectations grow.
- Activity growth outpaced income for NHS providers in 2015/16. Emergency admissions rose by 2.7%, elective admissions by 2.3%, outpatients by 4.4% and A&E attendances by 2.5%. Yet income for NHS acute trusts rose by just 1.2% in real terms.
- Emergency admissions are rising faster than elective admissions, which creates further financial pressure for NHS acute trusts. Under current tariff arrangements, emergency care generally has a lower financial margin for providers than elective care.
- In addition, with NHS hospitals operating at or near capacity, more patients have been treated by independent sector providers (ISPs) to meet demand. Inpatient and outpatient services provided by non NHS providers rose by 7% last year. While ISPs are treating a greater share of non-emergency demand, the NHS must face the full impact of rising emergency care, which has a lower relative financial return. NHS providers are therefore now becoming more of an emergency service.
- In 2016/17, demand grew faster than planned. NHS providers had planned for cost-weighted activity* to be 2.0% more by the end of Q3 in 2016/17 than at the same point in 2015/16, but NHS Improvement calculated that actual growth was higher, at 2.2%.
- Within this, the trend for emergency admissions outpacing elective admissions continued in 2016/17. There were 1.7% more emergency admissions in the first nine months of 2016/17 than during the same period in the previous year – this was above planned growth of 1.4%. For the same period, elective admissions also rose, by 1.4%, which was less than half the planned growth of 2.9%. So hospitals did not receive the expected payments under the national tariff payment system, which is more likely to cover costs compared to the emergency care tariff.

Efficiency gains are becoming increasingly difficult and are below target.

- Pressures on the NHS have had a major impact on the drive to improve efficiency. NHS providers were expected to increase efficiency by 3.5% in 2015/16 and are being asked to deliver a further 2% increase in efficiency in 2016/17.
- The overall level of efficiency improvement has been much lower. NHS Improvement estimates efficiency has increased by an annual average of 1% a year in acute hospitals between 2008/09 and 2014/15.
- Agency spending fell in 2016/17 and was 24% lower at the end of Q3 2016/17 (£2.2bn) than at the same point in 2015/16. However, it was still £359m above planned spending.

* The cost-weighted activity measure adjusts for changes in case mix (type of activity), and is used to account for the fact that increases in more intensive activity (such as severe emergency admissions) will have a higher impact on resources than less intensive activity (such as routine follow-up outpatient appointments).

The number of consultants has increased, but productivity has fallen.

- As staff costs account for more than two-thirds of hospitals' budgets, we have examined trends in NHS staffing and how effectively staff are deployed, measuring consultant productivity.
- Overall, the NHS employed 1.03 million FTE staff in March 2016 – an increase of 11,500 since March 2010 (1.0%). Over the same period the population in England grew by 2 million (5%).
- The pattern of staff growth has not been even. The number of consultants increased by 22% between 2010 and 2016, but the number of nurses grew by just 1% and the number of GPs fell.
- We have explored the impact of the changing demand on hospitals and the number and mix of staff, on the labour productivity of 150 acute hospitals across England.
- We found that labour productivity in acute hospitals fell by 0.7% a year between 2009/10 and 2015/16.
- Our measure of productivity is crude (it compares cost-weighted activity and FTE staff without adjusting for quality). This underestimates improvements in productivity; research from the University of York finds that quality adjusted output has been improving at a faster rate than activity alone. However, with the magnitude of our results, this is unlikely to affect the overall conclusions.
- Hospital consultant productivity fell by an average of 2.3% a year between 2009/10 and 2015/16. This fall in productivity is the result of rapidly rising consultant numbers (inputs) but more modest rises in their output. Cost-weighted consultant-led activity rose by 1.8% a year through this period, while the number of FTE consultants increased by just over 4%.
- Consultant productivity rates varied across the NHS – output per FTE consultant was 29% higher at the most productive hospital compared with the least.
- We undertook a multivariate regression analysis to explore the factors associated with higher consultant productivity. Our analysis explains 56% of the variation in productivity at the hospital level. Our model shows that higher consultant productivity is associated with:
 - a higher proportion of nurses within the hospital workforce
 - a higher proportion of clinical support staff within the hospital workforce
 - the hospital is not a teaching hospital
 - the hospital is more specialised
 - the hospital is in a more urban location
 - the average NHS wage at the hospital is high compared to general wages in the region
 - fewer delayed transfers of care
 - higher value of private finance initiative as a percentage of total costs.

- Low staff productivity does not mean that NHS clinicians are not hard working and hugely dedicated – they are. But to deliver care in an efficient way the skills of staff need to be used effectively. The NHS workforce has changed dramatically over recent years, as has the nature of the care it needs to provide. Poor productivity is partly about the way the NHS uses its staff, but it also reflects national policy decisions – for example, the decision to cut nurse training places while consultant numbers were rapidly increasing, and three years of raids on capital budgets to bail out deficits.
- It remains the case that, despite important initiatives such as Lord Carter’s review of operational productivity, there is still a mismatch between the focus and attention given to variations in productivity and how to organise care to ensure that skilled staff can operate as effectively as possible, and other areas of health care policy. In the 44 Sustainability and Transformation Plans (STPs) the focus on workforce issues is limited. It is almost impossible to imagine how the NHS can be stabilised and transformed if workforce issues are not at the forefront of policy and operational delivery at all levels of the system.
- The experience of recent years also raises questions about the way providers are reimbursed for the cost of their care. Emergency care is subject to a marginal rate tariff but elective care is paid at the full rate – even if levels of activity are above those expected at the beginning of the year. This creates an imbalance and is a problem if capacity constraints mean that NHS hospitals are increasingly limiting elective care to manage emergency pressures. Moreover, as non-NHS providers deliver care in greater volumes, they are able to make greater efficiency savings, but the payment system does not reflect this. NHS Improvement and NHS England should urgently re-examine the application of the marginal rate tariff for emergency care and the lack of a similar system for elective care.

The NHS does not operate in isolation; system change is needed to tackle its financial problems and their root causes.

- It is clear that the NHS’s efficiency and productivity depends on services beyond the acute hospital and even the system itself. The rise in A&E and emergency admissions coupled with the rapid increase in delayed discharges is impacting on the efficiency of the NHS.
- The NHS is a health system that routinely operates at the limit of capacity. This leaves little flexibility and means there is an absolute imperative to use resources well. The enormously challenging outlook for the next few years makes that more important than ever.
- To do this the NHS needs help – a properly funded social care system, more effective, integrated workforce planning and investment in transformative change would all make a big difference. And yet, sustained underfunding means that 400,000 fewer older people are receiving social care than they did in 2010/11.

1. Introduction

The NHS is facing unprecedented financial pressures. Although the budget for the NHS in England has been protected in recent years – and has increased by around 1% per year when adjusted for inflation – cost pressures on the service are estimated to have risen by around 4% each year.[†] This has made it increasingly difficult for health organisations (both providers and commissioners of health care services) to maintain a balanced budget. Between 2009/10 and 2015/16, the total health budget^{*} in England rose from £109.3bn to £119.2bn,[†] representing an average increase of 1.2% per year. Funding is planned to increase at a similar rate until 2020/21, reaching £123.8bn that year at 2016/17 prices.

Following the publication of the NHS's *Five year forward view* (FYFV) in October 2014, the government agreed to give the NHS extra funding, and that this would be 'front-loaded' in order to ease the pressures on the NHS – this makes 2015/16 a year of particular interest. As Table 1.1 shows, the total health budget increased by £3.5bn (3.0%) in 2015/16. The 2015 spending review announced that the budget for NHS England – the body that leads the NHS by setting the priorities and direction of the system – would be prioritised over other areas of health spending. As a result, NHS England spending in 2016/17 would also rise at a higher rate than the annual average, from £102.4bn in 2015/16 to £106.5bn – a 4.0% increase. Over the current parliament, NHS England spending is planned to rise at an average annual rate of 1.7%, reaching £111.2bn in 2020/21.

Cost pressures facing the NHS include a growing and ageing population, the increasing prevalence of chronic conditions across all age groups, and the rising cost of delivering care. Table 1.1 shows that, once adjusted for population growth, the total health budget per head grew by 2.1% in 2015/16 and by just 0.4% in 2016/17.

Table 1.1: Annual change in total health and commissioning budget, 2015/16–2016/17 (%)

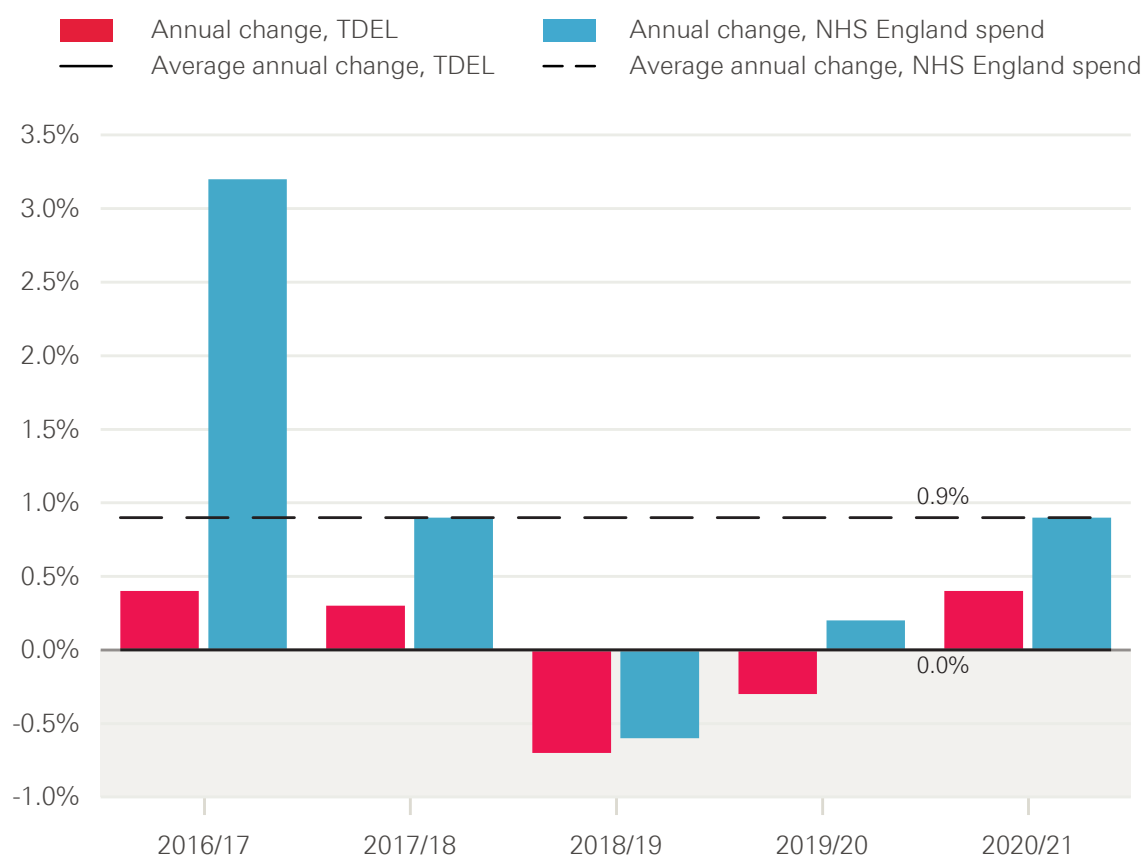
Annual change in:	2015/16	2016/17
Total health budget (TDEL)	3.0%	1.2%
Total commissioning budget (NHS England budget)	2.0%	4.0%
Total health budget (TDEL), per head	2.1%	0.4%
Total commissioning budget (NHS England budget), per head	1.1%	3.2%

^{*} We define total health spending as the total Department Expenditure Limit (TDEL) – the budget allocated to and spent by government departments – excluding depreciation by Department of Health. All financial data in this report have been adjusted to 2016/17 prices using HM Treasury gross domestic product (GDP) deflators – a whole economy measure of inflation as of January 2017.

[†] All value figures in this report are in 2016/17 prices unless otherwise stated; all percentage change figures are in real terms (adjusted to account for inflation) unless otherwise stated.

Figure 1.1 shows that the planned total health spend per head is to remain flat under the current parliament (0.0% growth), while NHS England spend per head is planned to rise at an annual average of 0.9%. The sharpest increase in spend per head is expected between 2015/16 and 2016/17 (3.2%), followed by annual rises of less than 1% up to 2020/21. The most challenging year looks to be 2018/19, with spend per head set to fall by 0.6% in real terms. Between 2014 and 2020, the number of older people in the population – those aged 65 or over, who on average have relatively higher health needs – is projected to rise much faster (1.8%) than the population aged between 25 and 35 (0.8%).²

Figure 1.1: Annual change in planned total health budget per head by NHS England and the Department of Health, 2015/16–2020/21 (% , 2016/17 prices)^{2,3,4}

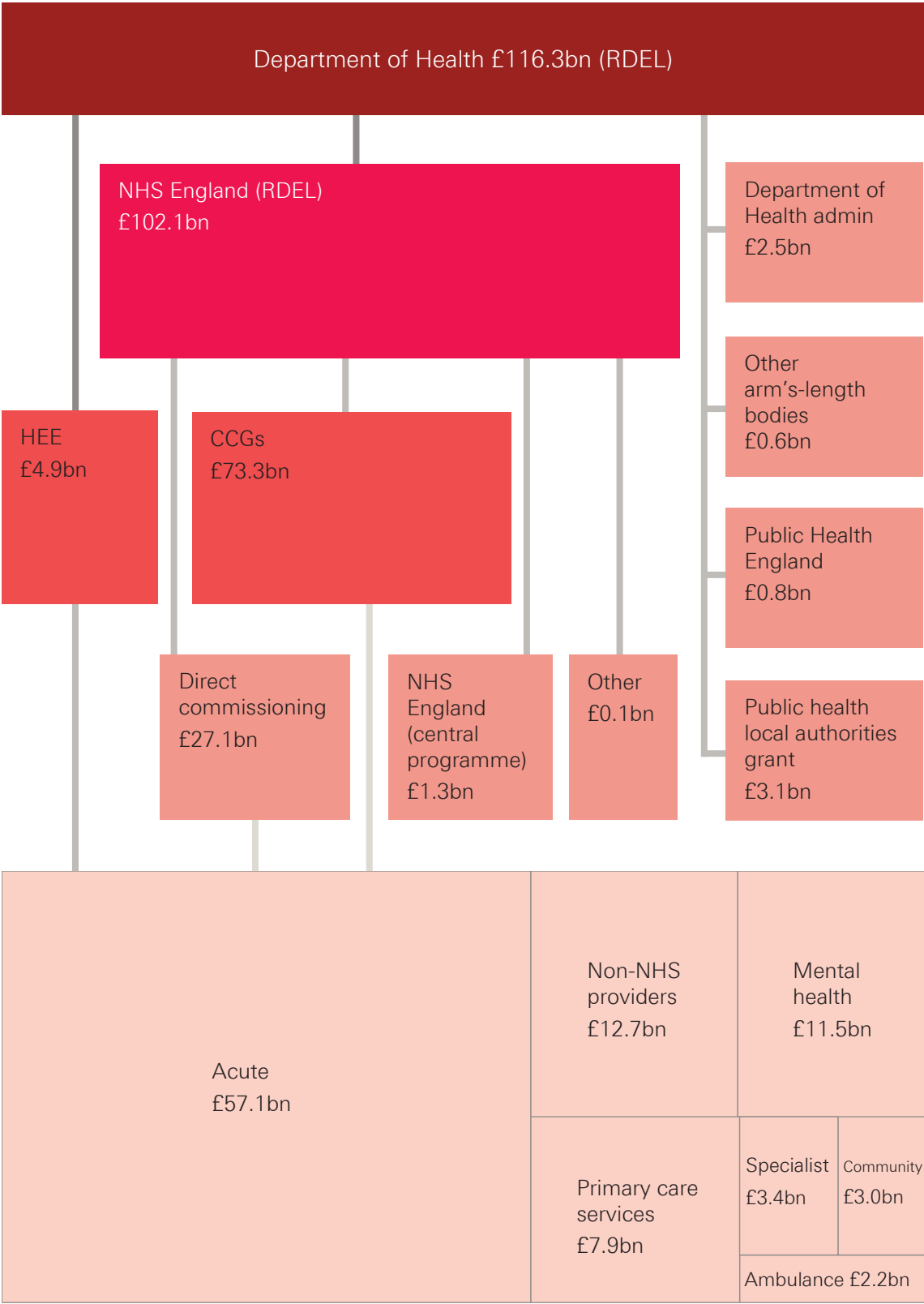


Source: Department of Health Annual report and accounts 2015/16, Office for National Statistics population estimates, NHS England Annual accounts 2015/16.

In 2015/16, the Department of Health (DH) budget for the provision of health care services in England was set at £116.1bn, with an additional £3.7bn budgeted for capital investment such as new hospitals and equipment. However, DH overspent this budget by £210m, spending a total of £116.3bn on the provision of health care services. This reflects the extent of the current pressures on the total health budget.

Figure 1.2 gives an overview of DH resource spending in 2015/16.

Figure 1.2: Department of Health resource spend in real terms in England, 2015/16 (£bn, 2016/17 prices)



Note: Direct commissioning includes specialised commissioning and commissioning of primary care. Figures may not sum due to rounding and the use of different data sources to compile figures.

Source: Department of Health Annual report and accounts 2015/16, Office for National Statistics population estimates, NHS England Annual accounts 2015/16.

As outlined in Figure 1.2, of its total budget, DH allocated £102.1bn to NHS England. In turn, NHS England allocated £73.3bn to CCGs, which are responsible for commissioning care in their local areas through NHS providers and other non-NHS bodies.⁵ NHS England also allocated £27.1bn for direct commissioning of specialised services and some primary care services, such as contracts for GPs, pharmacists and dentists. Health Education England (HEE), which is responsible for the education, training and development of the NHS workforce, received £4.9bn. Public Health England (PHE), which works closely with local authorities to provide locally led health initiatives and respond to health protection emergencies, was allocated £0.8bn. Local authorities received a grant of £3.1bn to provide public health services to the population, including vaccination and sexual health services.

In this report, we look at some of the key issues that faced commissioners (Chapter 2) and NHS providers (Chapter 3) in 2015/16, and how these challenges have affected the financial state of NHS providers (Chapter 4). We then look in detail at the recent trends in consultant productivity, as the NHS as a whole aims to achieve historic levels of productivity growth (Chapter 5). Finally, we discuss how well the NHS is meeting the challenges that it faces from ever increasing costs and activity, with funding increases that lag behind both (Chapter 6).

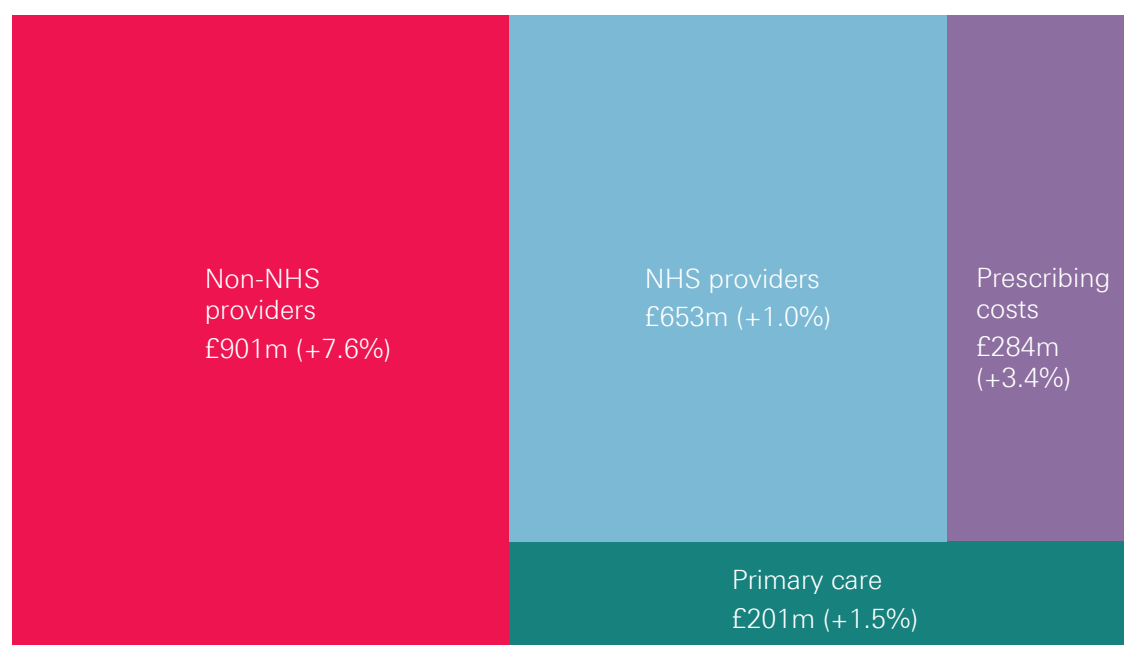
2. Commissioning budget and finances

Commissioning budget

The commissioning budget^{*} accounts for the majority of NHS spending in England (87% in 2015/16). NHS England funds CCGs, which purchase non-specialist services for their local populations and directly commission some primary care and specialised services.[†] Between 2014/15 and 2015/16, NHS England spending[‡] rose by £2.0bn (2.0%), from £100.1bn to £102.1bn, and CCG spending rose by £5.0bn (7.3%), from £68.3bn to £73.3bn. Most of the increase in spending by CCGs was driven by increased spending on primary care services, resulting from a transfer of responsibilities from NHS England to CCGs for the provision of these services. A direct comparison can be made between CCG spending in 2014/15 and 2015/16 by excluding spending on primary care services and specialised services – in this scenario, spending by CCGs rose by 2.7%.

Between 2014/15 and 2015/16, the purchase of care for NHS patients (free at the point of use) from non-NHS providers, saw the largest increase in spending – 7.6%. This includes additional investment to support adult social care through the Better Care Fund, and additional services provided by independent health care providers.

Figure 2.1: Share of annual increase in NHS England spend by sector, 2014/15–2015/16 (%; 2016/17 prices)⁴



Source: NHS England Annual accounts 2015/16.

^{*} When we refer to the total NHS commissioning budget we mean NHS England's spending on the provision of health care from both NHS and non-NHS providers.

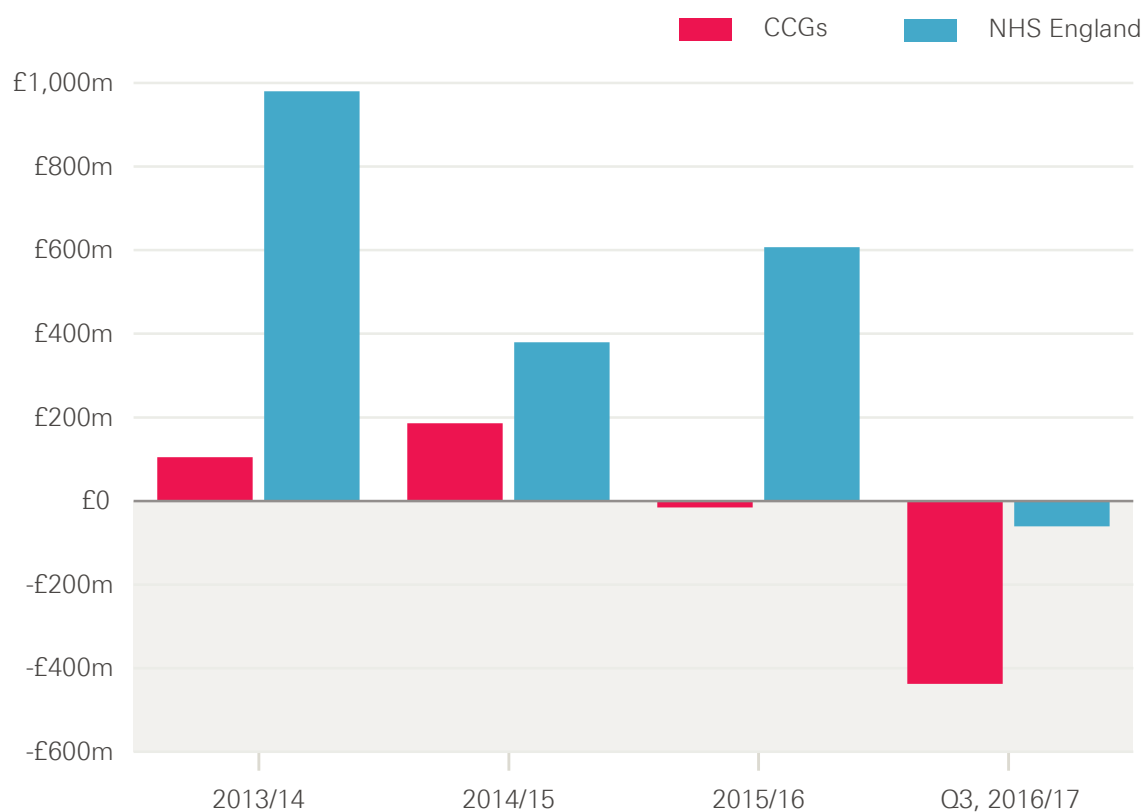
[†] Specialised services are those provided in relatively few, usually specialised, hospitals, and accessed by small numbers of patients (eg renal dialysis, rare cancers treatment and life-threatening genetic disorders).

[‡] Based on NHS England total operating expenses.

Of the £2.0bn increase in the commissioning budget for England, almost half (45%, £901m) was spent on non-NHS providers. This was more than the increase in spending on care provided by NHS providers. Spending on services from NHS providers and supplies and services rose by 1.0% (£653m). This accounted for 33% of the £2.0bn increase in NHS England budget. Primary care services rose by 1.5%, from £13.7bn to £13.9bn.*

At the end of 2015/16, NHS England underspent its budget by £607m, which represented 0.6% of its planned expenditure. Most of this underspend was non-recurrent. Thirty-one CCGs ended the year in deficit and across all CCGs there was an overspend of £15.2m. This compares to a combined underspend of £185.9m in 2014/15, which saw 19 CCGs in deficit at the end of the year. The overall financial position of CCGs in 2015/16 included a £13.2m underspend in the quality premium, a scheme designed to reward CCGs for improvements in the quality of services.⁴ At Q3 2016/17, CCGs had overspent by £437.2m, and were forecasting an end-of-year overspend of £370.4m. Thirty-nine CCGs were expected to be in deficit by the end of the year. This overspend includes a requirement for CCGs to hold 1% of their allocation to help cover deficits from NHS providers, effectively increasing the savings required by CCGs this year from an average of 2.2% of their allocations to 3.0%. This 1% is worth around £800m, which is greater than the current CCG deficit. Similarly, NHS England reported a deficit of £61.1m at Q3 2016/17 and forecast an underspend of £5.4m for the end of the year (Figure 2.2).⁶

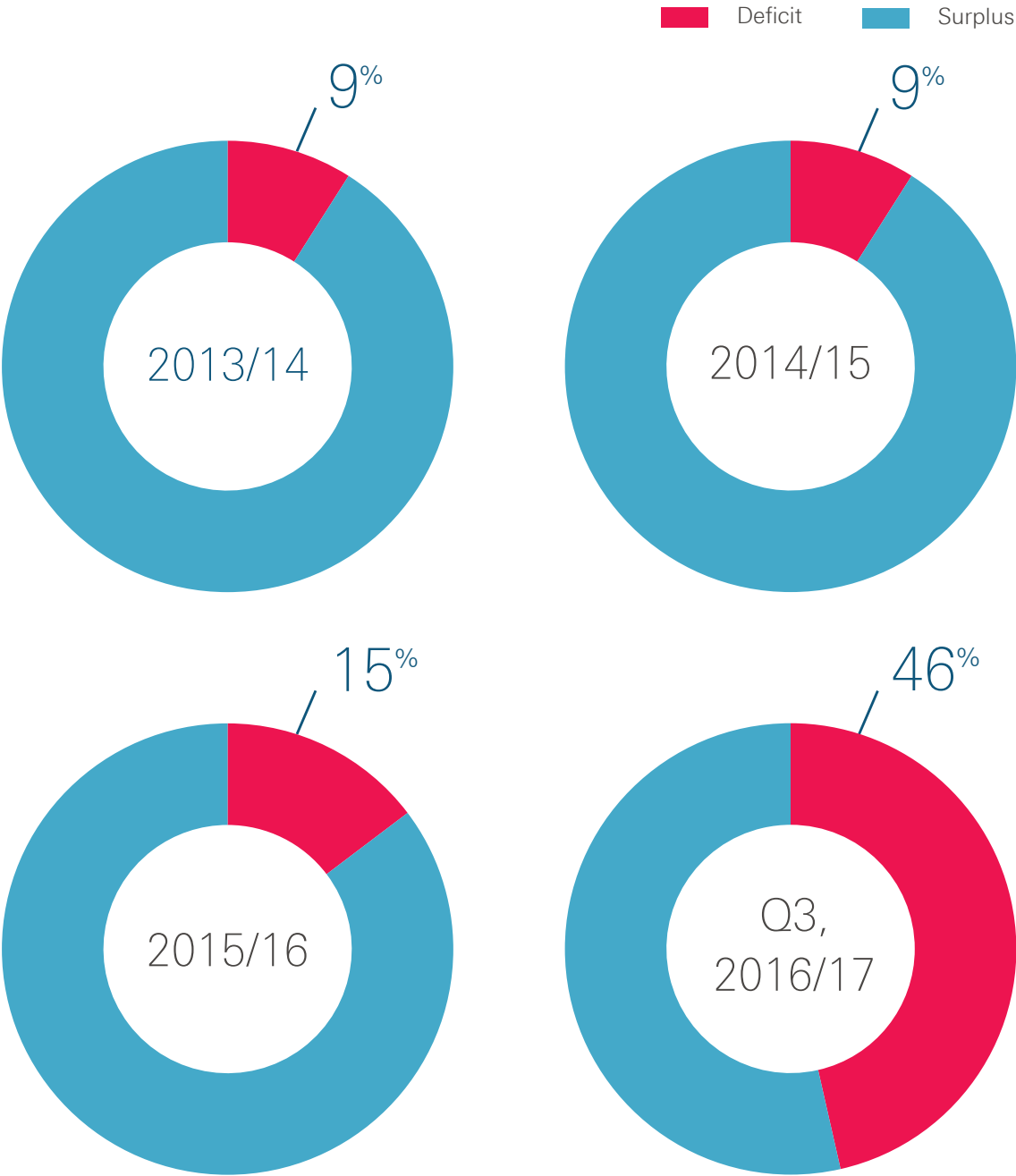
Figure 2.2: Surplus/deficit of CCGs and NHS England, 2013/14–Q3 2016/17 (£m, 2016/17 prices)⁷



Source: NHS England, Financial performance reports.

* Primary care services include GP, pharmaceutical, dental and ophthalmic services.

Figure 2.3: Proportion of CCGs in surplus/deficit, 2013/14–Q3 2016/17 (%)⁷

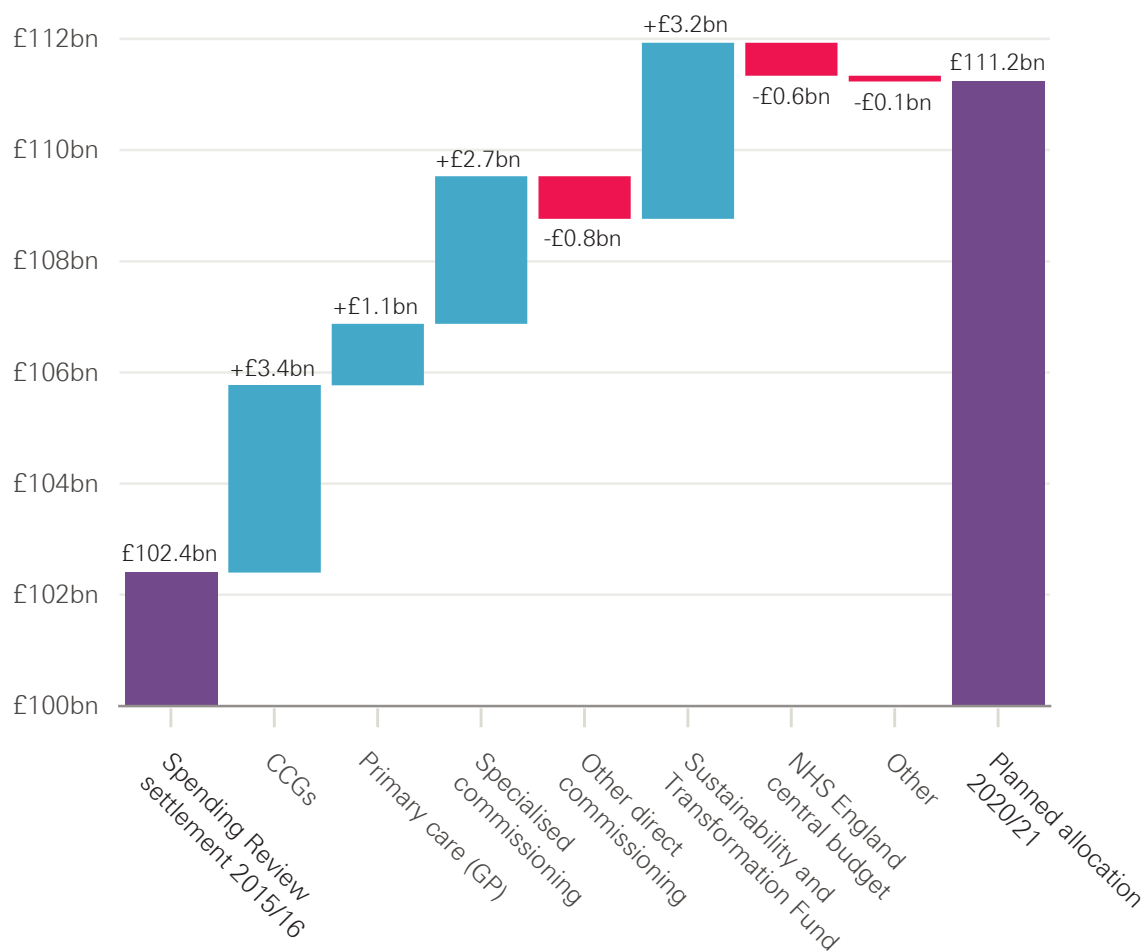


Source: NHS England, Financial performance reports.

Outlook for NHS England's budget

Based on the 2015 spending review, NHS England's budget will grow by £8.8bn from £102.4bn in 2015/16 to £111.2bn in 2020/21. Figure 2.4 shows that most of this increase will be allocated to CCGs, specialised commissioning and via the Sustainability and Transformation Fund (STF). A smaller proportion will go to primary care. The STF has been created to give hospitals additional money if they meet strict conditions on financial controls and three targets on quality of care: the four-hour emergency target, the 62-day target for cancer treatment and the 18-week target for routine operations.⁸ Spending on other direct commissioning – which includes dentistry, community pharmacy, public health, and health and justice care – will fall by £770m, while the NHS England central budget will be reduced by £590m.

Figure 2.4: Changes in NHS England budget, 2015/16–2020/21 (£bn, 2016/17 prices)⁹



Source: NHS England, 2015.

While funding for CCGs is planned to rise by an average rate of 1.2% per year between 2015/16 and 2020/21, spending pressures are expected to continue to outpace the growth in funding resulting in challenging efficiency requirements. Cost pressures are highest in 2016/17, with a sharp rise driven by an increase of 2.4% in the level of pay drift.* Of this 2.4% increase, 1.8% is accounted for by the growth rate of pension costs, including contracted-out employer National Insurance contribution rates.¹⁰ CCGs are expected to make efficiency savings of between 2% and 3% each year up to 2018/19.

Table 2.1: Growth in expected pressures on CCGs, 2015/16–2018/19
(%, cash terms)¹¹

	2015/16	2016/17	2017/18	2018/19
Assumed CCG acute expenditure growth	1.3%	3.1%	1.6%	1.6%
Made up of:				
Cost growth	4.3%	5.5%	4.6%	4.6%
– of which activity	2.4%	2.4%	2.5%	2.5%
– of which price	1.9%	3.1%	2.1%	2.1%
Less efficiency	-3.0%	-2.3%	-2.9%	-2.9%
<i>Note: totals may not sum due to rounding.</i>				
<i>Source: NHS England.</i>				

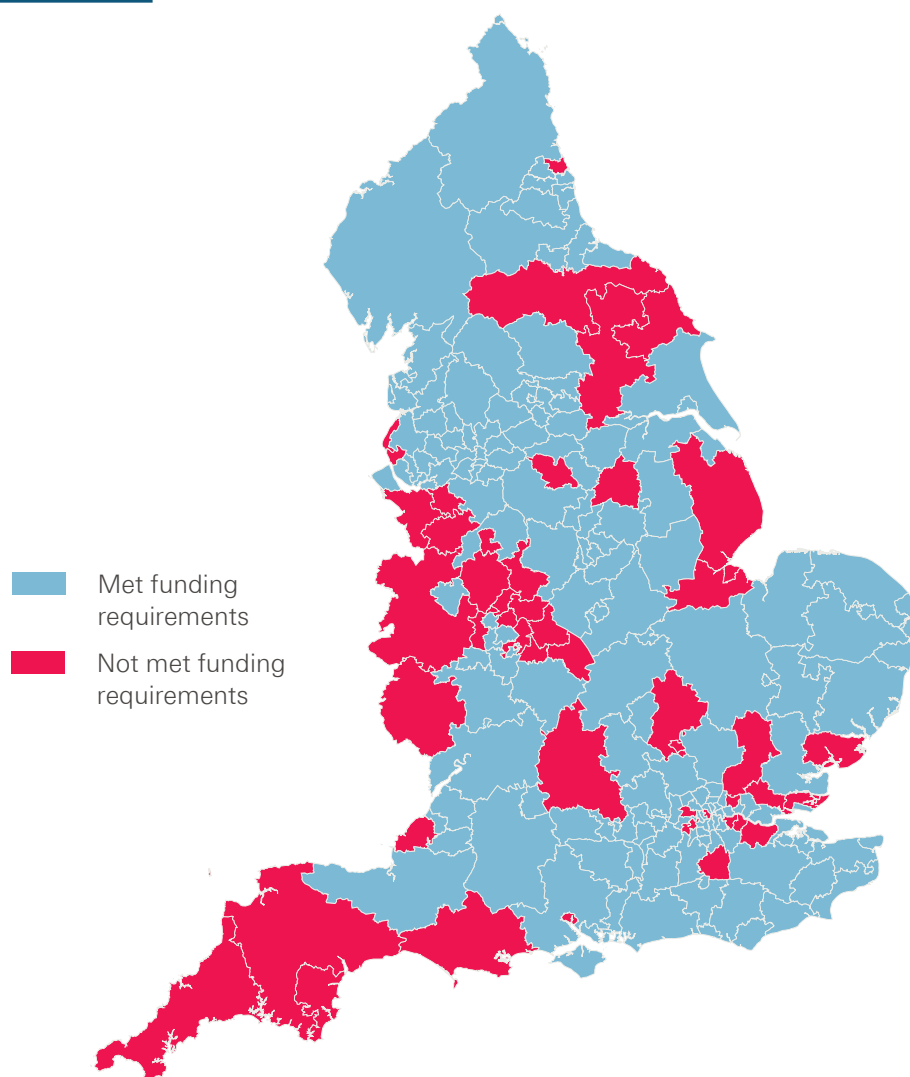
* Pay drift is the difference in a worker's basic locally negotiated wage when it exceeds the level stated by nationally negotiated wage agreements.

Mental health funding

One of the government's policy objectives is to achieve parity of esteem (PoE*) between mental and physical health. In 2013/14, NHS England developed a programme with a set of commitments to promote PoE. One of the commitments was that CCGs should invest in mental health services each year in line with the growth in their overall funding allocation. In February 2016, NHS England published the *Five year forward view for mental health*,¹² which recommended that NHS England and the DH should continue to require CCGs to meet this funding commitment.

Between 2015/16 and 2016/17, funding for all mental health services is planned to increase by 2.3%, from £9.3bn to £9.5bn. This proportionately matches the increase in the overall funding allocation to CCGs of 2.3% in real terms. However, 22% of CCGs' (46) spending plans do not meet the PoE requirement to increase planned mental health funding at the same rate as their overall funding allocation.

Figure 2.5: CCGs and the PoE funding requirement, 2016/17¹⁴

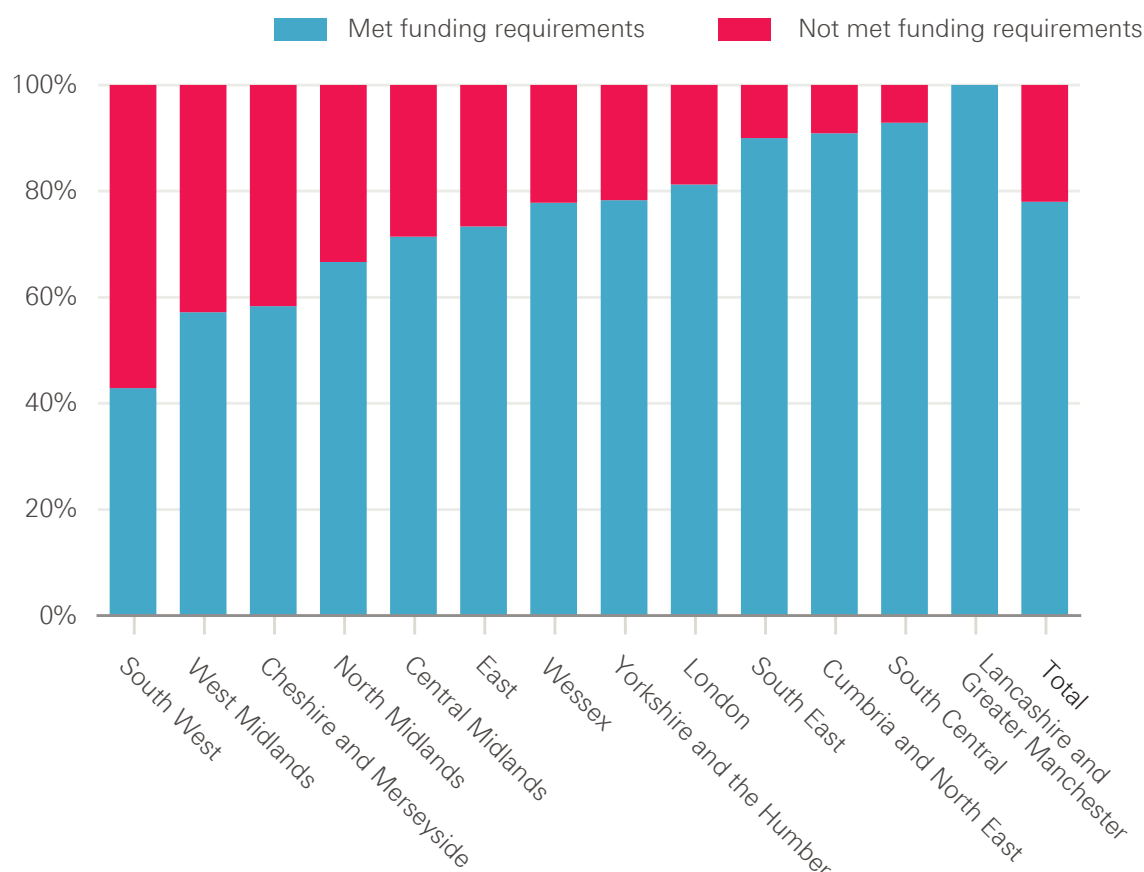


Source: NHS England, Mental health five year forward view dashboard – January 2017.

* The principle of valuing mental health as equal to physical health, by ensuring the equitable distribution of resources between physical and mental health care services.

In 2016/17, there was wide regional variation in the proportion of CCGs meeting the PoE funding requirement. Only 43% of CCGs in the South West met the requirement, compared with all CCGs in Lancashire and Greater Manchester (Figure 2.6).

Figure 2.6: Proportion of CCGs that met the PoE funding requirement by region, 2016/17 (%)¹⁵



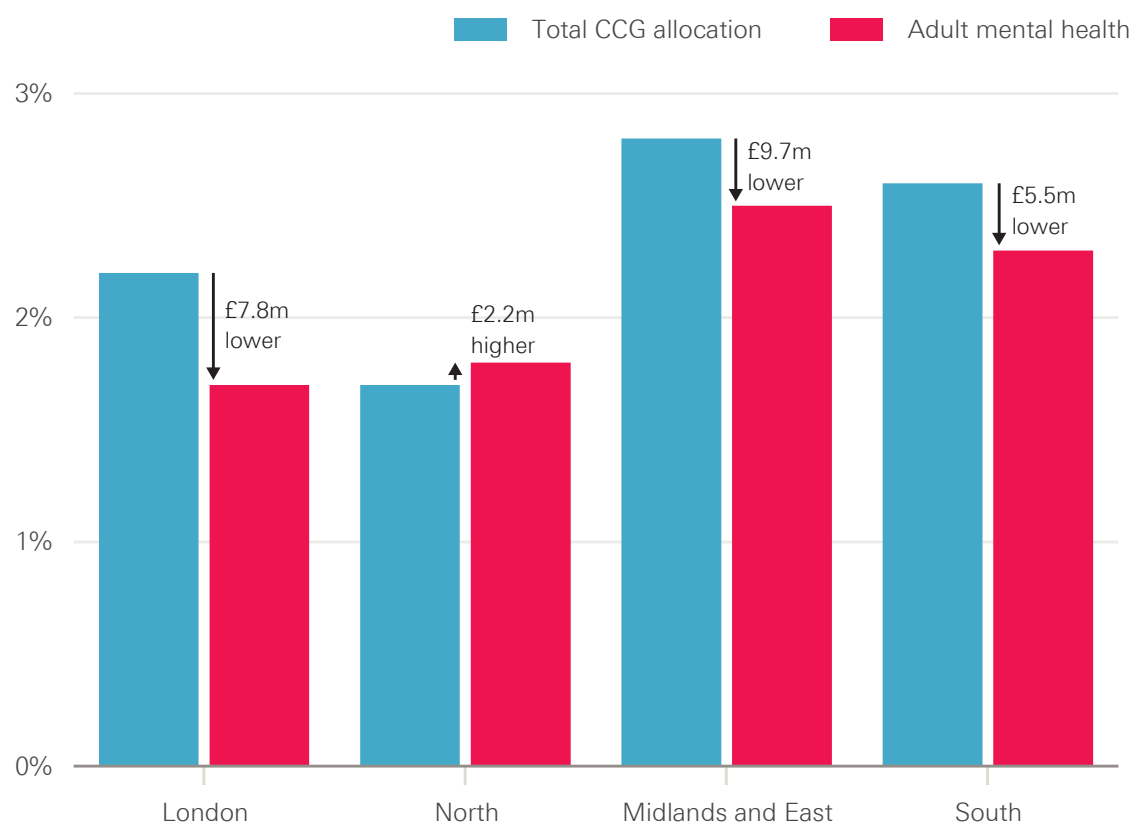
Source: NHS England, 2017.

Planned spending by CCGs specifically on adult mental health services* increased by 2.1% (£124m) between 2015/16 and 2016/17, therefore rising by less than the overall increase in CCG budgets. Figure 2.7 (overleaf) shows that, in England, only the North planned to increase adult mental health spending in line with total funding allocation – the former rose by 1.8% while total allocation rose by 1.7%. This region therefore exceeded the minimum funding requirement by £2.1m.¹⁵

In order to raise adult mental health spending in line with total allocations in 2016/17, CCGs in the Midlands and East should have allocated an extra £9.7m to their combined £2.7bn budget for adult mental health care. CCGs in London should have allocated an extra £7.7m to their £1.5bn budget, while CCGs in the South needed to add an extra £5.5m to their planned spend of £2.2bn. This means that, although funding for all mental health services met PoE requirements, a total of £20.8m was missing from planned adult mental health funding for it to have met PoE requirements for 2016/17.

* Excludes funding for child and adolescent mental health services of £142m in 2015/16 and £169m in 2016/17, as data at CCG level are not available.

Figure 2.7: Annual change in planned adult mental health spend and total CCG allocation, 2015/16–2016/17 (% , 2016/17 prices)



Note: 2016/17 figures based on planned expenditure.

Source: Health Foundation analysis based on NHS England 2016 data.

Primary care funding

One of the objectives for both the current and previous governments has been to improve primary care services.¹⁶ Shifting services from hospital to community settings is a fundamental part of the *Five year forward view* (FYFV). Despite this, spending on primary care as a whole* is planned to increase at an average rate of just 1.0% over the next five years (see Figure 2.8). This compares to an average annual increase in the total commissioning budget of 1.7%.

GP funding

GP services are a fundamental part of the primary care system. During the coalition government, funding for general practices fell in real terms at an average rate of 0.1% per year. Under the current parliament, NHS England is planning to reverse that trend and increase funding – at an average rate of 2.8% per year – which will see it rise from £9.7bn in 2015/16 to £11.2bn in 2020/21 (Figure 2.9).

* Primary care includes GP services, general dental services and personal dental services, pharmaceuticals services and general ophthalmic services.

Figure 2.8: Annual change in NHS England's planned spending on primary care, 2015/16–2020/21 (% , 2016/17 prices)¹⁰

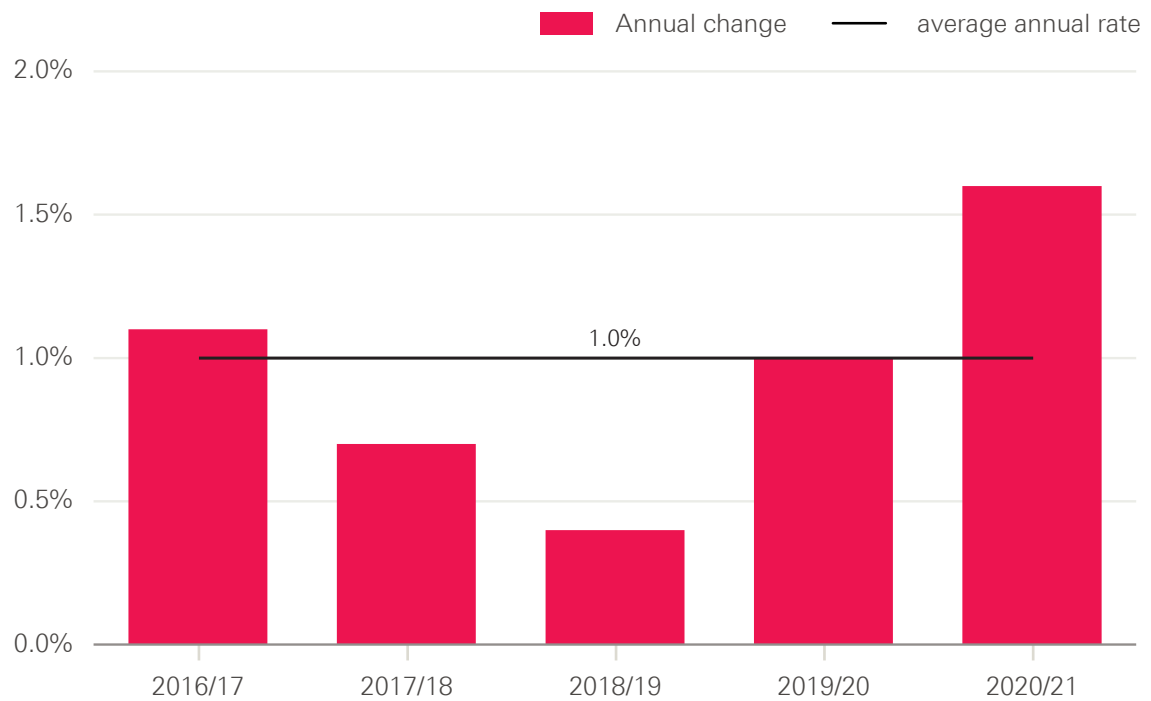
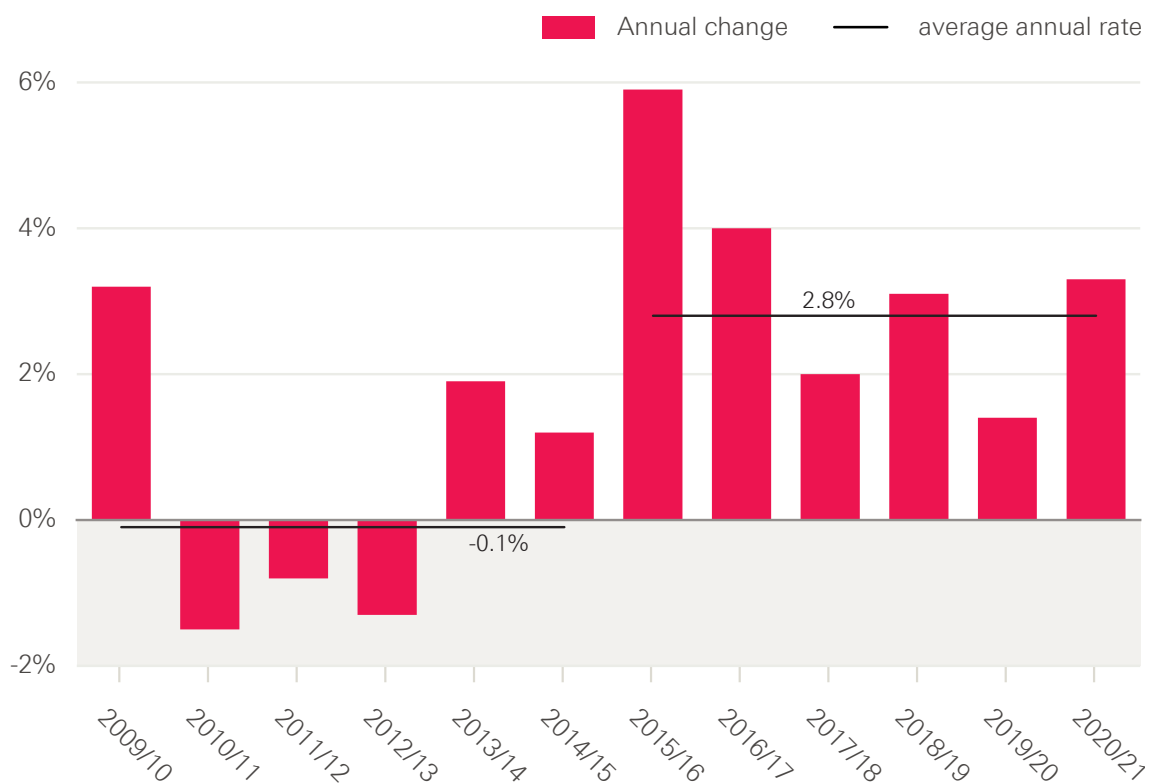


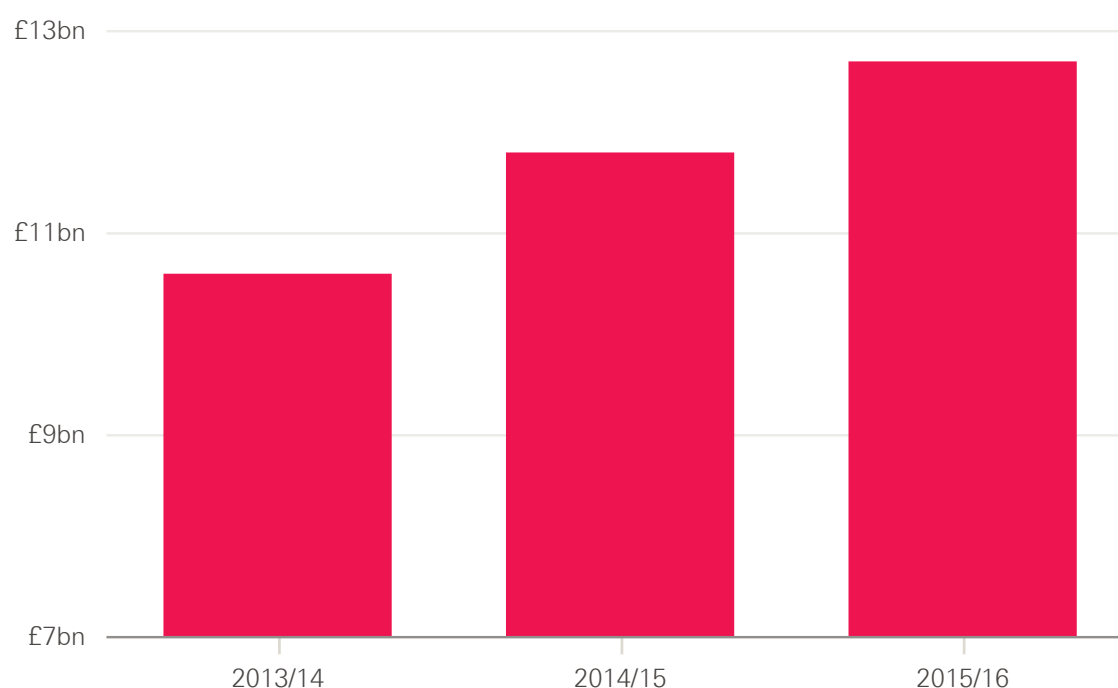
Figure 2.9: Annual change in total NHS spending on general practice in England, 2008/09–2020/21 (% , 2016/17 prices)¹⁰



Purchase of health care from non-NHS providers

The purchase of health care from non-NHS providers accounts for an increasing share of the total commissioning budget. Between 2014/15 and 2015/16, NHS-funded services purchased from non-NHS bodies increased by £901m (7.6%), from £11.8bn to £12.7bn (Figure 2.10). This includes a rise in NHS services provided by independent sector providers (ISPs), as well as financial support for adult social care through the Better Care Fund. Spending on non-NHS providers accounted for 12.5% of commissioners' total spend in 2015/16, up from 11.8% in 2014/15.

Figure 2.10: Total NHS commissioner spending on non-NHS providers, 2013/14–2015/16 (£bn, 2016/17 prices)¹⁷



Note: Figures refer to spending by CCGs and NHS England.

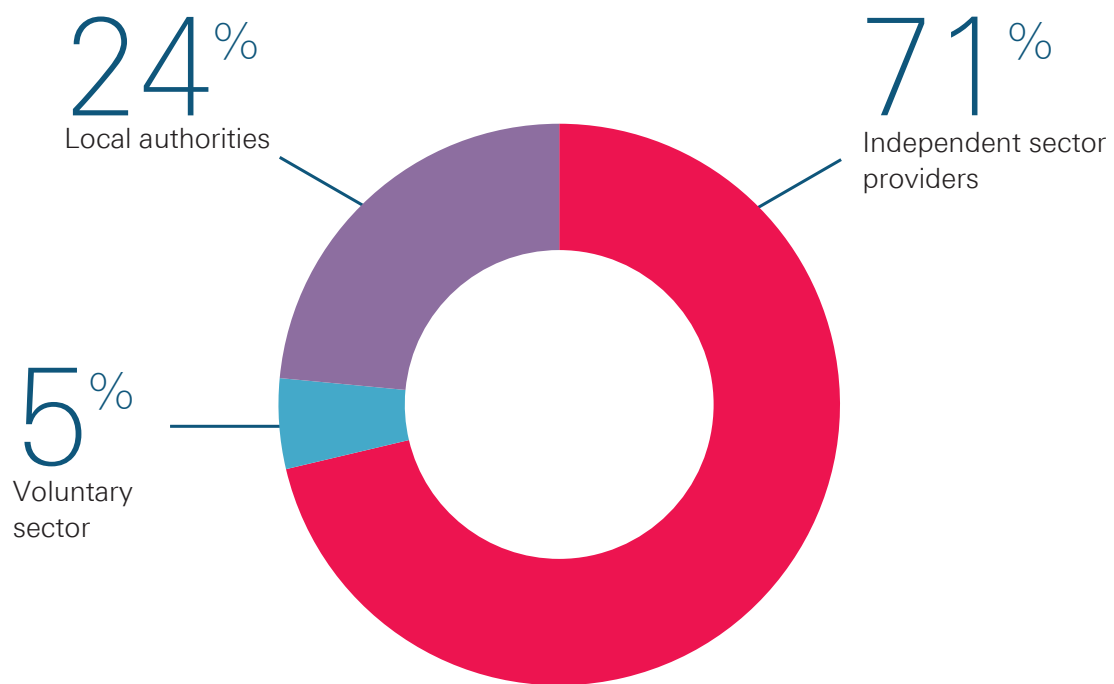
Source: NHS England annual accounts 2014/15 and 2015/16.

Non-NHS bodies providing care include ISPs, local authorities and the voluntary sector. In 2015/16, the majority of spending by commissioners on non-NHS providers went to ISPs (71.3% – see Figure 2.11). This sector also saw the fastest growth in funding between 2013/14 and 2015/16, at an average of 15.0% a year. This compares with an average of 11.0% and 6.7% for the voluntary sector and local authorities respectively.

Around 70% of commissioner spending on non-NHS providers is made by CCGs – the rest is NHS England-commissioned specialised services. In 2015/16, an average of 13% of all CCG spending on health care went on purchasing health care services from non-NHS providers. However, this varied from 6% up to as much as 29%.* When grouped by region, CCGs in London spent the least on health care services from non-NHS providers (10.5%), while those in the South spent the most – 15.6% (see Figure 2.12).

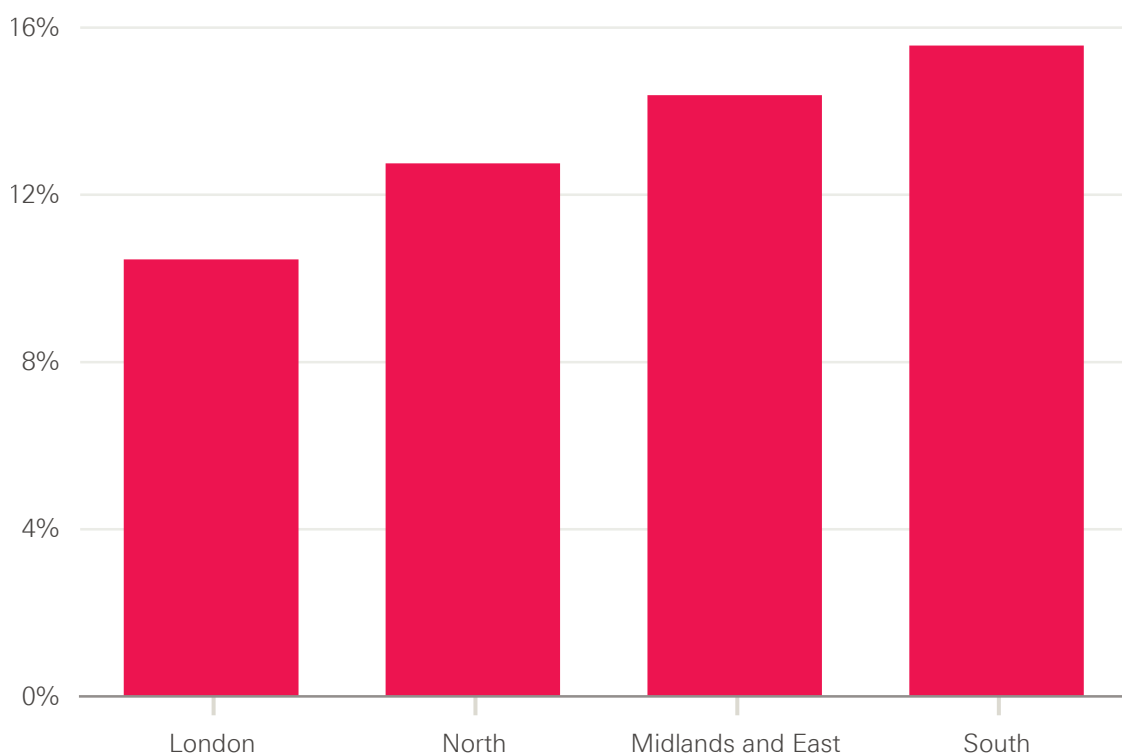
* These figures exclude two outliers, for which spending on non-NHS providers exceeded 40% of total purchases of health care.

Figure 2.11: Total commissioner spending on non-NHS providers by sector, 2015/16 (%)³



Source: Department of Health annual accounts 2015/16.

Figure 2.12: Change in CCGs' spending on non-NHS providers by region, 2015/16 (%; 2016/17 prices)



Source: Health Foundation analysis based on CCGs' annual accounts 2015/16.

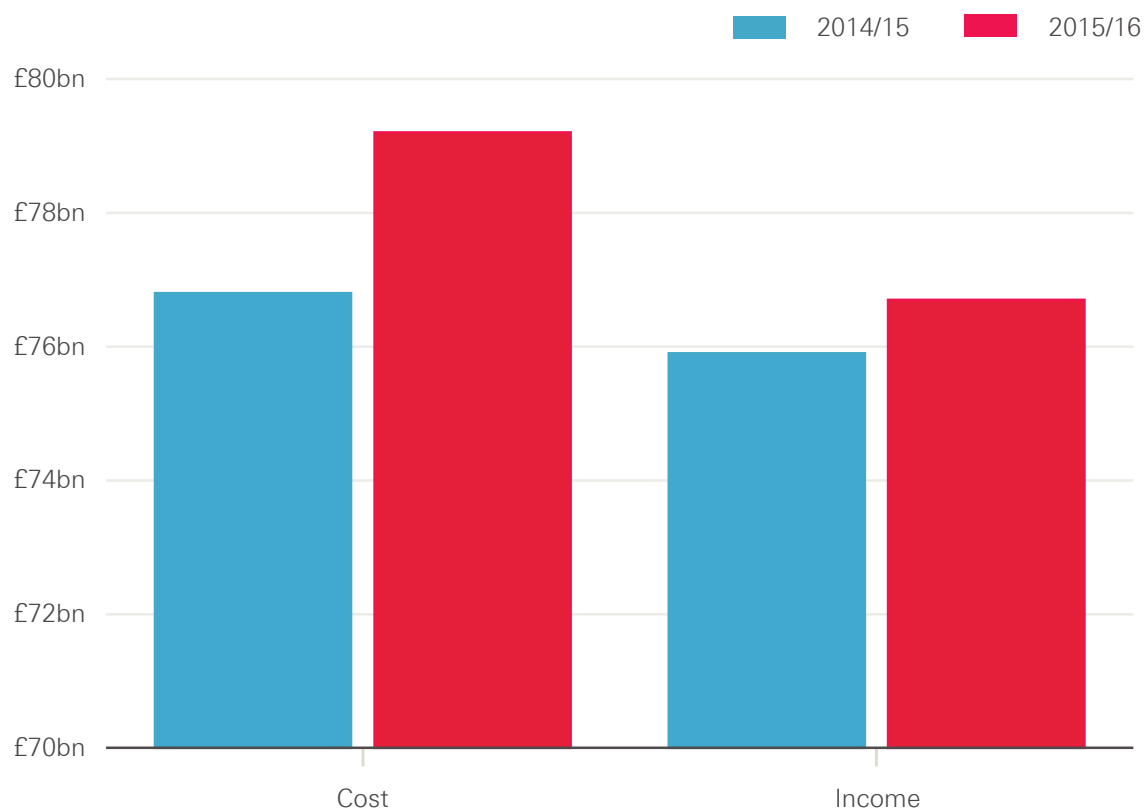
3. NHS providers' costs and income

Most of the care provided by the NHS is delivered by NHS providers (acute and specialist hospitals, mental health and community trusts). This section gives an overview of NHS providers' finances in more detail.

Operating costs and income

Between 2014/15 and 2015/16, the total costs of NHS providers in England increased by £2.4bn (3.2%), from £76.8bn to £79.2bn.* However, their income rose by just £0.8bn (1.1%), from £75.9bn to £76.8bn.¹⁸ In contrast, NHS England's total revenue expenditure rose by 2.0% (£2.0bn) in 2015/16. NHS providers therefore received less than half of the additional funding provided to NHS commissioners for patients in England.

Figure 3.1: English NHS providers' total costs and income, 2014/15 and 2015/16 (£bn, 2016/17 prices)¹⁹

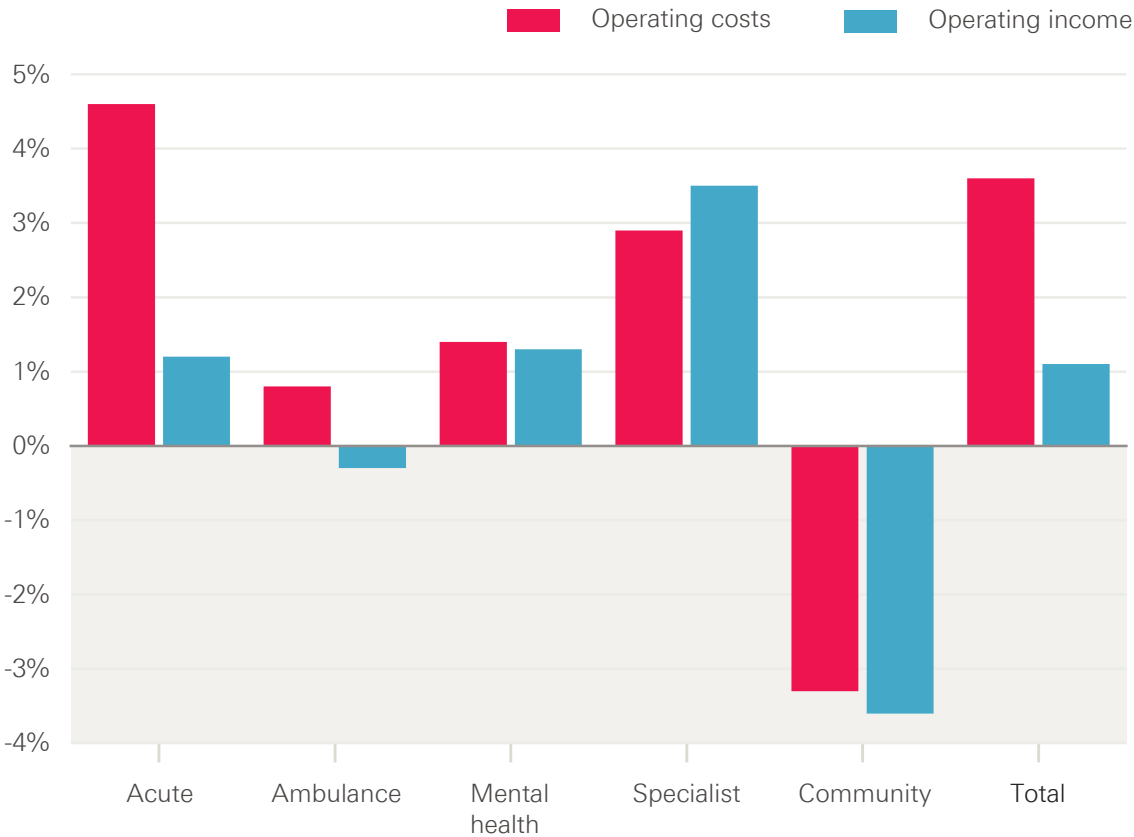


Source: NHS Improvement, 2016.

* Total costs include the pay and other operating costs (£75.5bn in 2015/16) used to calculate earnings before interest, tax, depreciation and amortisation (EBITDA), and the additional costs for depreciation, finance, public dividend capital, other non-operating items and restructuring (£3.7bn in 2015/16).

Figure 3.2 shows that the gap between income and costs is particularly large for acute providers, for which costs rose by 4.6% and income by just 1.2%. The growth rate for acute providers' income is slower than in previous years. Costs have increased sharply for every provider type, except in community providers, for which they fell by 3.3%. Costs grew faster than income for all provider types except specialist providers, for which income grew by 3.5% and costs rose by 2.9%.

Figure 3.2: Change in operating costs and income by NHS provider type in England, 2014/15–2015/16 (% , 2016/17 prices)

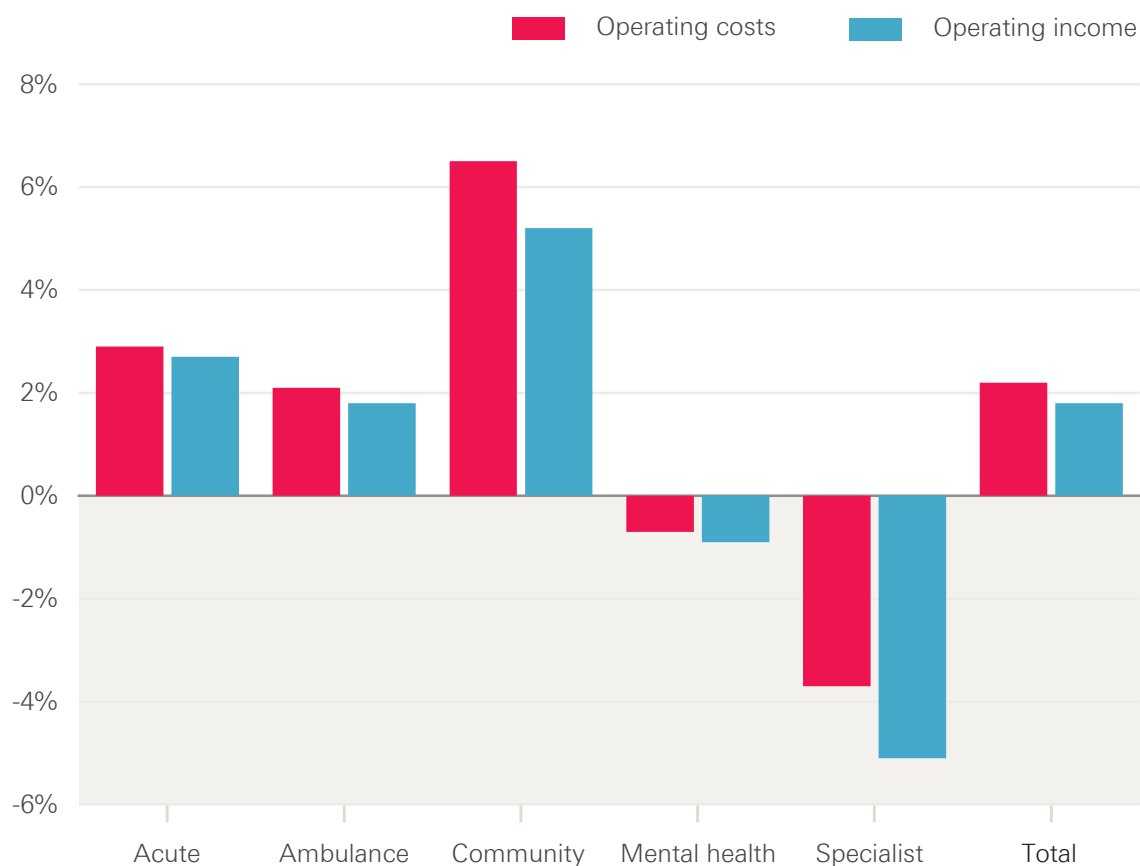


Source: Health Foundation analysis.

Operating cost growth outstripping income is not new. Figure 3.3 (overleaf) shows the average annual change in costs and income of providers by type between 2011/12 and 2014/15.* Over this period, total costs grew at a faster rate (2.2%) than income (1.8%). Community providers saw the largest rise in both income (6.5%) and costs (5.2%), followed by acute providers, where costs rose by 2.9% and income by 2.7%. Both mental health and specialist services saw their income fall faster than their costs (see Figure 3.3 overleaf).

* These years were selected for comparison because they had comparable data across all sectors.

Figure 3.3: Average annual change in English NHS providers' operating costs and income by NHS provider type, 2011/12–2014/15 (% , 2016/17 prices)



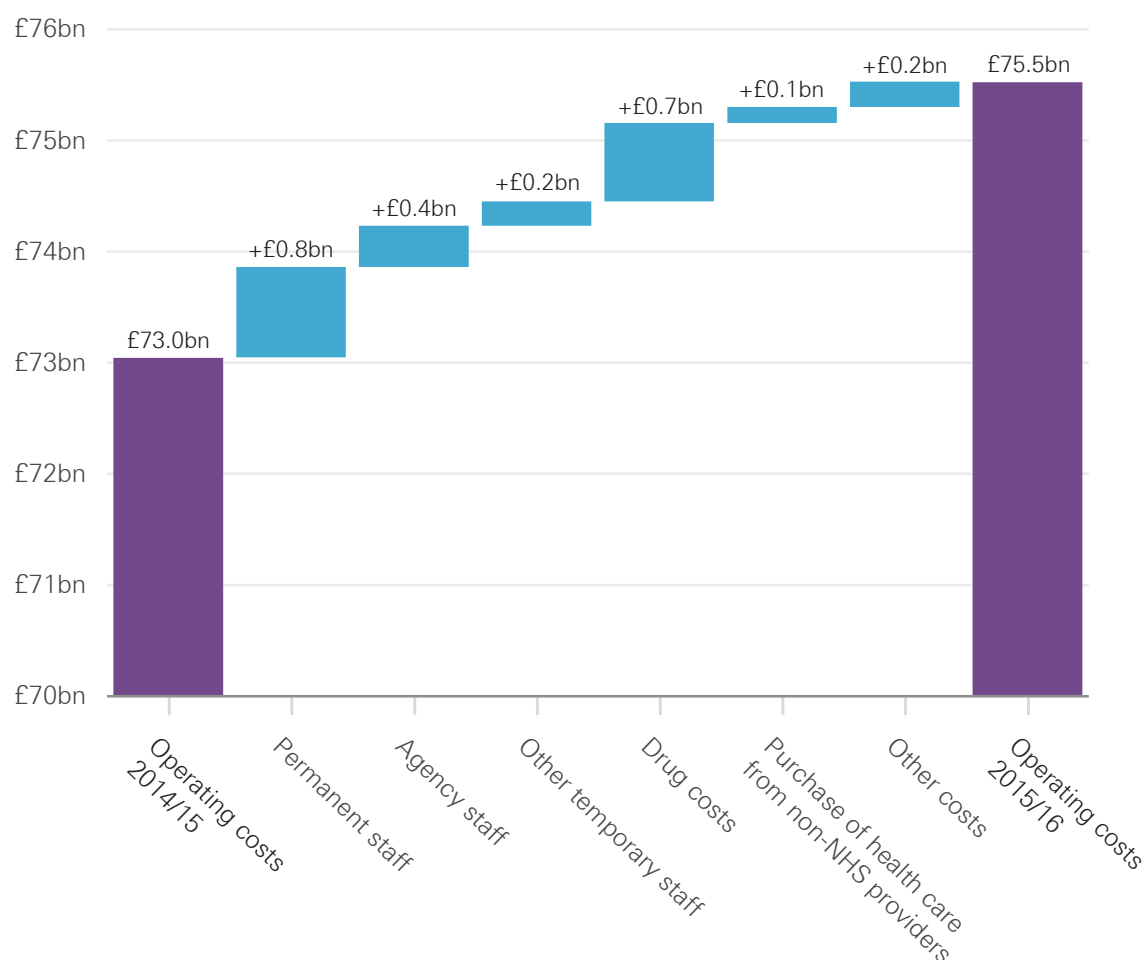
Source: Health Foundation analysis.

NHS providers' cost pressures

The operating costs of NHS providers rose by £2.5bn between 2014/15 and 2015/16 (Figure 3.4). Most of this increase came from a rise in the cost of permanent staff (33%) and drugs (29%). In a similar trend to that seen among commissioners, NHS providers are increasingly reliant on non-NHS bodies for the provision of health care. Between 2014/15 and 2015/16, spending by NHS trusts on non-NHS providers increased by 18.0% from £810m to £960m.*

* This relates to spending by NHS providers on non-NHS providers, as opposed to figures referred to earlier relating to commissioner spend on non-NHS providers.

Figure 3.4: Change in operating costs of NHS providers, 2014/15–2015/16 (£bn, 2016/17 prices)¹⁹



Source: NHS Improvement, 2016.

Staff costs

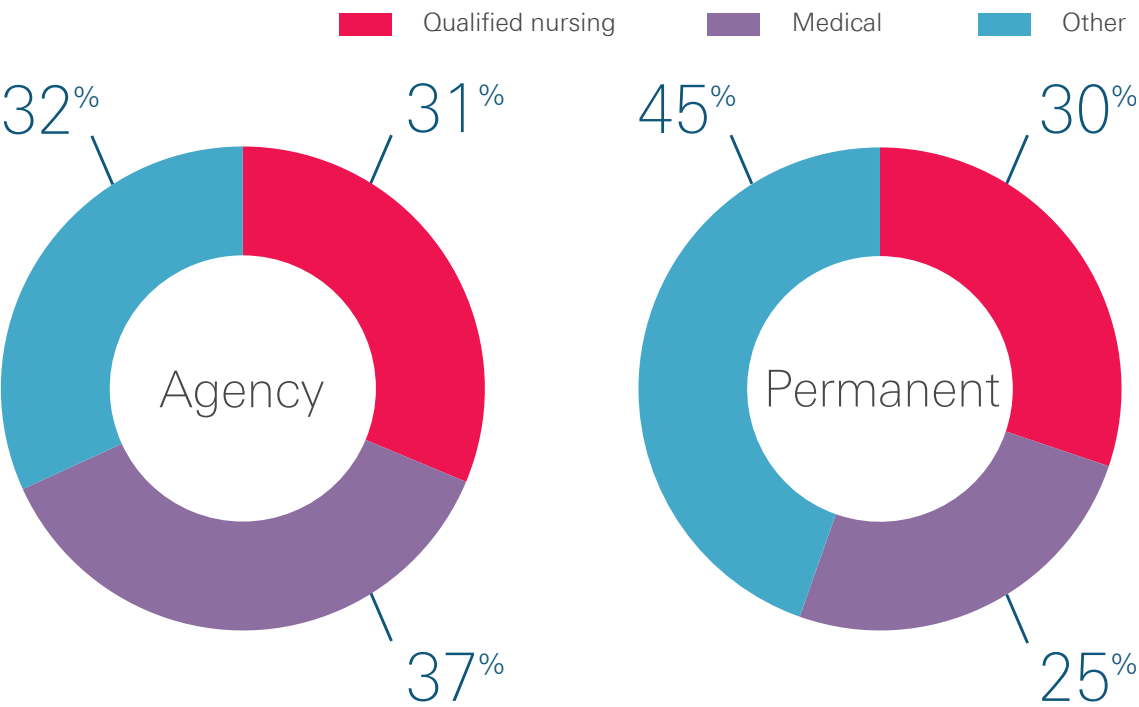
Staff costs are NHS providers' biggest expense, accounting for about two-thirds of all operating costs. They increased by 2.5% in real terms between 2014/15 and 2015/16, from £48.1bn to £49.4bn.³ This was much faster than the growth rate in provider income (1.1%). This rise in staff costs was in part driven by the rapid increase in the agency staff bill, which rose by 14.4% in real terms, from £3.2bn in 2014/15 to £3.7bn in 2015/16.¹⁸ Most of the agency spend (see Figure 3.5) relates to the cost of medical staff* (37%) and nurses (31%). In 2015/16, £1.4bn was spent on medical staff from agencies, with £1.2bn spent on nurses from agencies.¹⁹

Agency staff accounted for 7.5% of total staff costs in 2015/16. However, trusts that are under special measures† appear to be more reliant on agency staff. In 2015/16, agency staff accounted for 10.4% of total staff costs for providers under special measures, compared with 7.4% for other providers (see Figure 3.6 overleaf).

* The term medical staff includes consultants, specialty doctors and doctors in training, and GPs.

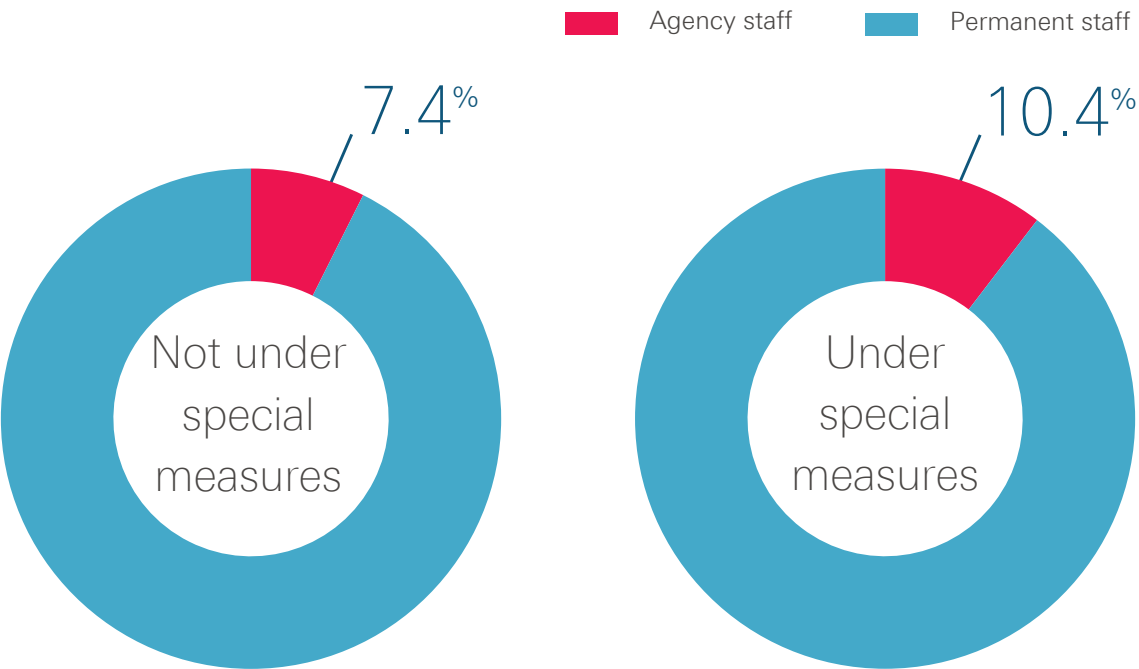
† Where there is concern about the quality of care, providers can be put under special measures by NHS Improvement. These measures are designed to offer trusts support and give the public the ability to hold them to account. See: www.nhs.uk/NHSEngland/specialmeasures/Pages/about-special-measures.aspx

Figure 3.5: Permanent and agency staff costs in English NHS providers by staff group, 2015/16 (%)¹⁹



Note: The term medical staff includes consultants, specialty doctors and doctors in training, and GPs.
Source: NHS Improvement, 2016.

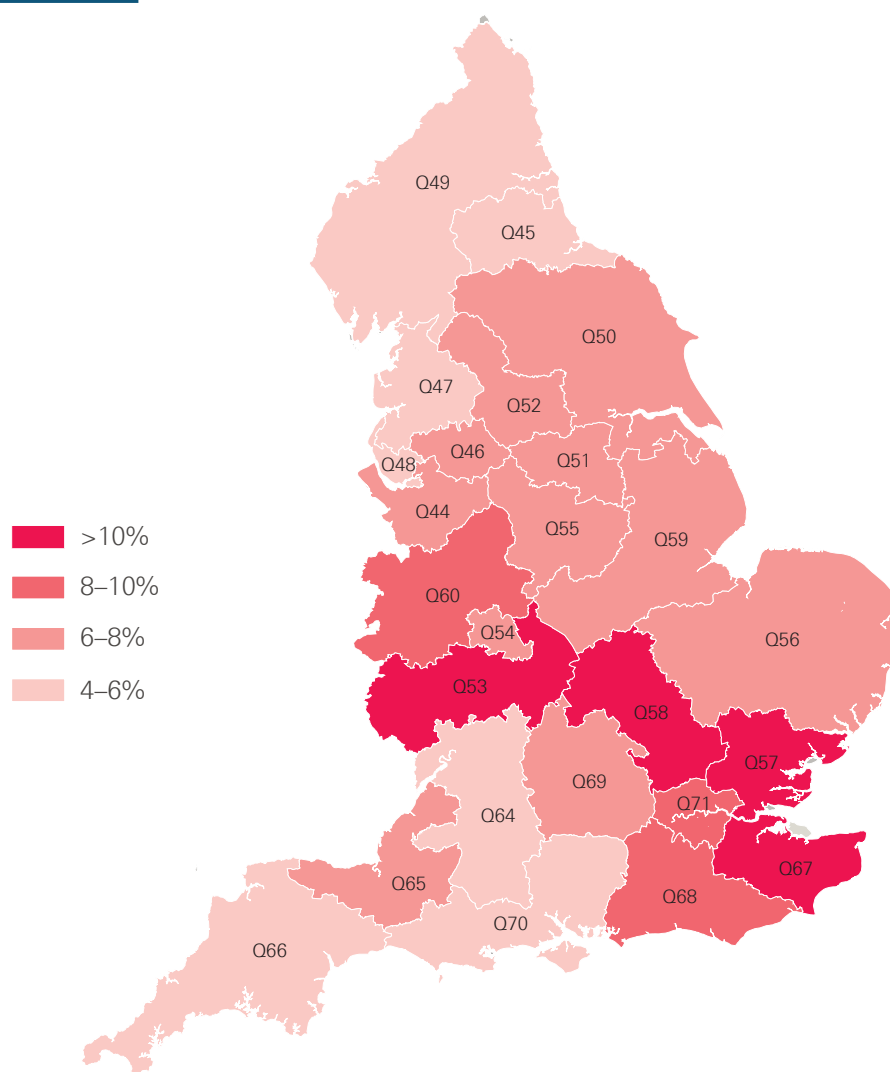
Figure 3.6: Total staff costs in English NHS providers accounted for by agency staff, 2015/16 (%)¹⁹



Source: Health Foundation analysis.

The use of agency staff varies across England. Figure 3.7 shows that four areas (Arden, Herefordshire and Worcestershire; Herefordshire and South Midlands; Essex; and Kent and Medway) spent more than 10% of their total staff budgets on agency staff in 2015/16.

Figure 3.7: Agency costs as a percentage of total staff costs in English NHS providers by area team, 2015/16¹⁹

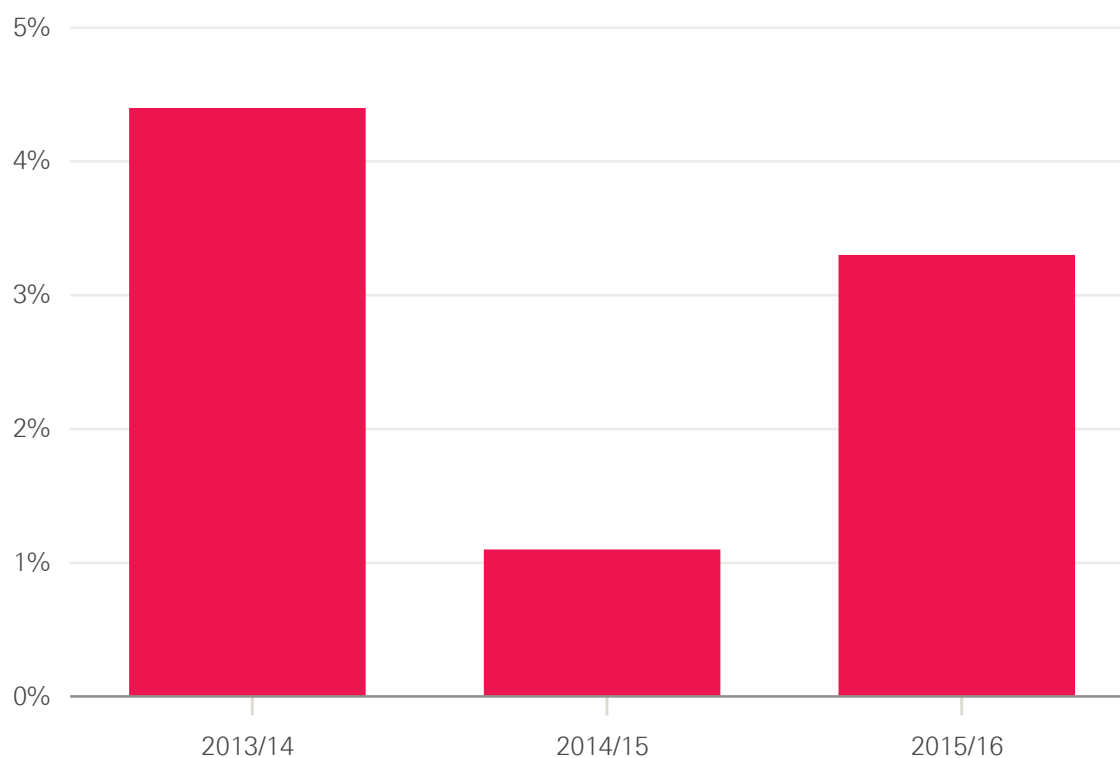


Q44 – Cheshire, Warrington and Wirral	Q52 – West Yorkshire	Q60 – Staffordshire and Shropshire
Q45 – Durham, Darlington and Tees	Q53 – Arden, Herefordshire and Worcestershire	Q64 – Bath, Gloucestershire, Swindon and Wiltshire
Q46 – Greater Manchester	Q54 – Birmingham, Solihull and the Black Country	Q65 – Bristol, North Somerset, Somerset and South Gloucestershire
Q47 – Lancashire	Q55 – Derbyshire and Nottinghamshire	Q66 – Devon, Cornwall and Isles of Scilly
Q48 – Merseyside	Q56 – East Anglia	Q67 – Kent and Medway
Q49 – Cumbria, Northumberland and Tyne & Wear	Q57 – Essex	Q68 – Surrey and Sussex
Q50 – North Yorkshire and Humber	Q58 – Hertfordshire and South Midlands	Q69 – Thames Valley
Q51 – South Yorkshire and Bassetlaw	Q59 – Leicestershire and Lincolnshire	

Pension costs

Another factor that has contributed to the increase in staff costs in recent years is the increase in pension costs. Between 2012/13 and 2015/16, pension costs increased at an average annual rate of 3.0% in real terms, from £4.12bn to £4.93bn. During that period, the biggest increase was seen between 2012/13 and 2013/14 (Figure 3.8). The rate of increase was slower in 2014/15, but rose again in 2015/16 in light of the the 2012 NHS pension scheme valuation recommendation for an increase of 0.4% in the employer contribution rate.²⁰ By 2015/16, pension costs accounted for around 9% of the total staff bill.

Figure 3.8: Annual change in pension costs, 2012/13–2015/16 (% , 2016/17 prices)



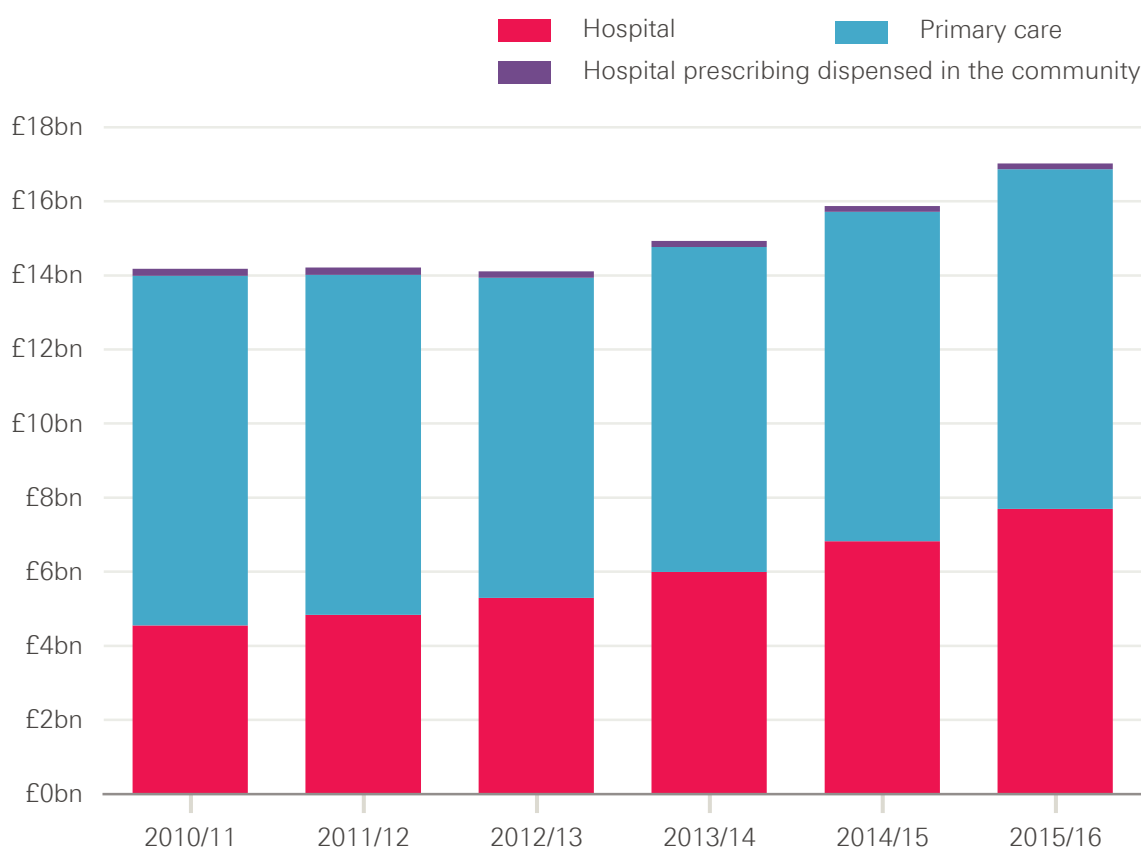
Source: Health Foundation analysis.

Drug costs

Drug costs were another key pressure for NHS providers, accounting for 8.4% of their total operating costs in 2015/16. Between 2010/11 and 2015/16, the estimated cost of medicines* to the whole NHS† rose by 20%, from £14.2bn to £17.0bn. This was driven by a rapid increase in hospital drug costs due to a combination of a rise in the average cost of each drug given to an NHS patient and an increase in the volume of drugs used for patients. For example, between 2013/14 and 2015/16, the number of medicines prescribed to treat stroke, multiple sclerosis and acute coronary syndrome rose by 69%.²¹

Figure 3.9 shows that drug costs remained relatively flat between 2010/11 and 2012/13 and then rose rapidly up to 2015/16. Drug costs rose the fastest in hospitals, at an average rate of 11.1% per year, while they fell at an average rate of 0.6% per year for primary care, from £9.4bn to £9.2bn. Primary care accounts for the largest share of total spending on medicines, at 54% in 2015/16. Prescriptions written in hospital but dispensed in the community account for a much smaller share (less than 1%).

Figure 3.9: Estimated net ingredient cost of drugs for the NHS in England by sector, 2010/11–2015/16 (£bn, 2016/17 prices)



Note: Figures refer to net ingredient costs of drugs excluding VAT. Hospital prescribing dispensed in the community refers to drugs prescriptions written in hospital but dispensed in the community.

Source: NHS Digital, 2016.

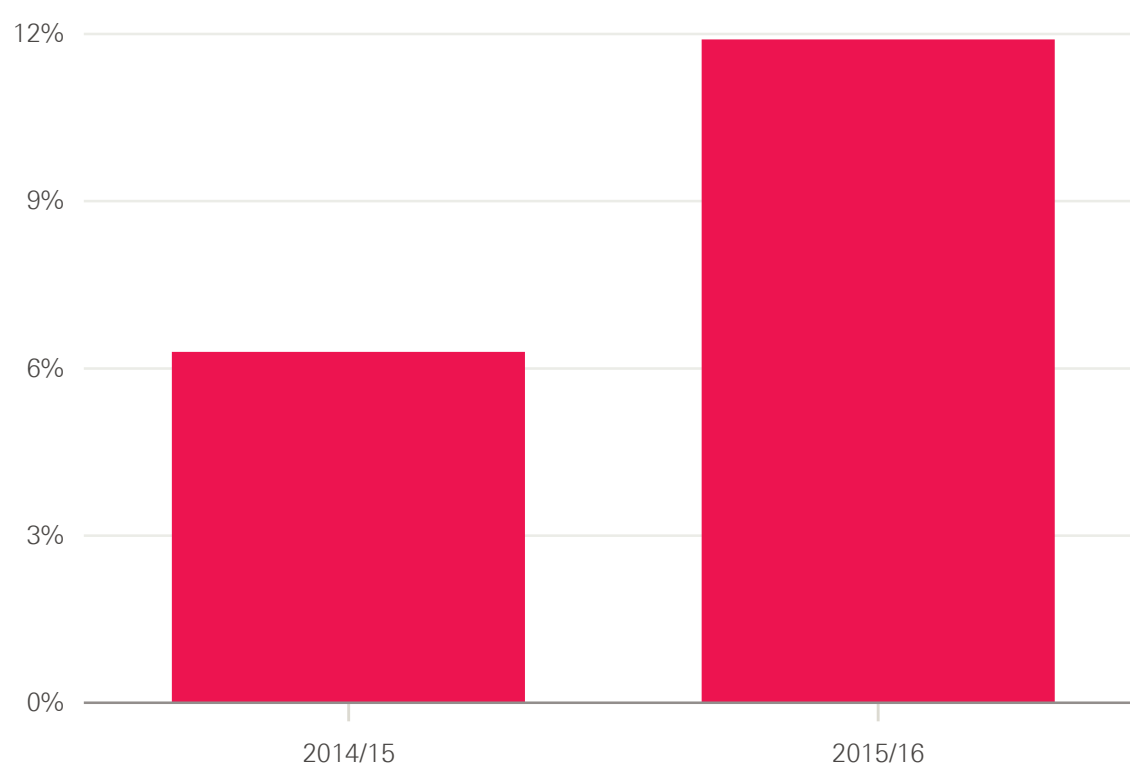
* Figures refer to the net ingredient costs of drugs excluding VAT, and include high cost drugs and drugs in the drug tariff. For hospitals, it is not necessarily what was actually paid by the hospitals, as NHS contracts provide discounts on many products.

† Includes hospitals, the primary care sector and care in the community.

NHS providers' spending on drugs mirrors the overall picture for spending on medicines and has risen rapidly in recent years. Between 2013/14 and 2015/16, hospital drug costs rose by 18.9% (an average of 9.1% per year), from £5.58bn to £6.63bn (Figure 10).*

The cost of drugs remained relatively low during the early years of this decade, as many high volume drugs reached the end of their patent life and cheaper generic alternatives became available. Drug pressures for the NHS are supposed to be moderated as a result of the Pharmaceutical Price Regulation Scheme (PPRS) agreed in 2014, which froze total NHS spending on drugs for two years.²³ Under this scheme, pharmaceutical companies make payments to the UK government to reimburse additional spending. However, the system through which those payments filter to hospitals that incurred additional drug costs is opaque.

Figure 3.10: Annual change in NHS providers' spending on prescription drugs, 2013/14–2015/16 (% , 2016/17 prices)



Source: Health Foundation analysis.

New drugs can be very costly.²⁴ The greatest cost for a single drug for hospitals in England in 2015/16 was £391m for Adalimumab – also known by the trade name Humira – a drug used to treat rheumatoid arthritis, among other conditions.²² As new drugs come to market, drug costs are likely to rise even faster. NHS Improvement estimated that the pressures on NHS providers from drug costs will rise from 4.5% in 2016/17 to 4.6% in 2017/18. They will then drop to 3.6% for 2018/19 before settling at 4.1% for 2019/20 and 2020/21.²⁵ All of these increases are much higher than commissioner funding growth.

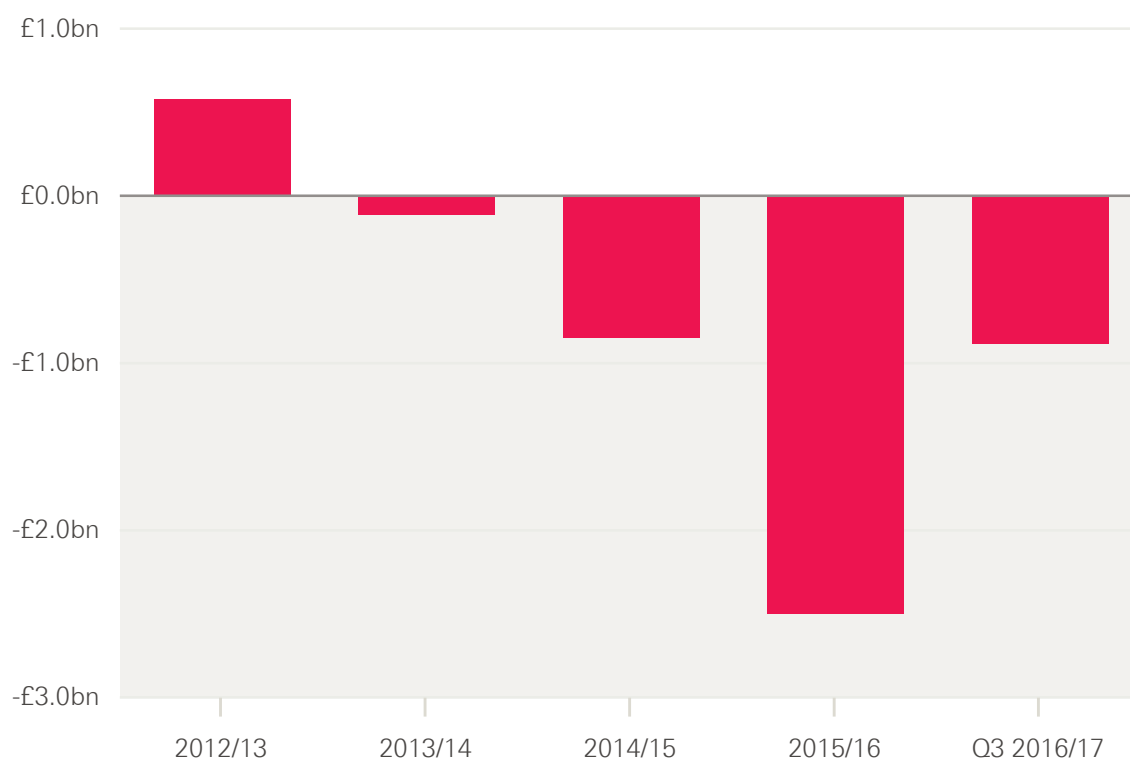
* Please note: these figures represent an underestimate, as not all providers' financial accounts include figures for high cost drugs.

4. NHS providers' financial performance

As discussed in the previous chapter, NHS providers' operating costs rose by 3.4% in real terms between 2014/15 and 2015/16, while funding only rose by 1.1%. It has therefore become increasingly difficult for providers to maintain a balanced budget. At the end of 2015/16, NHS providers reported a net deficit of £2.5bn, with 160 providers in deficit – 101 Foundation trusts (67%) and 59 NHS trusts (66%).

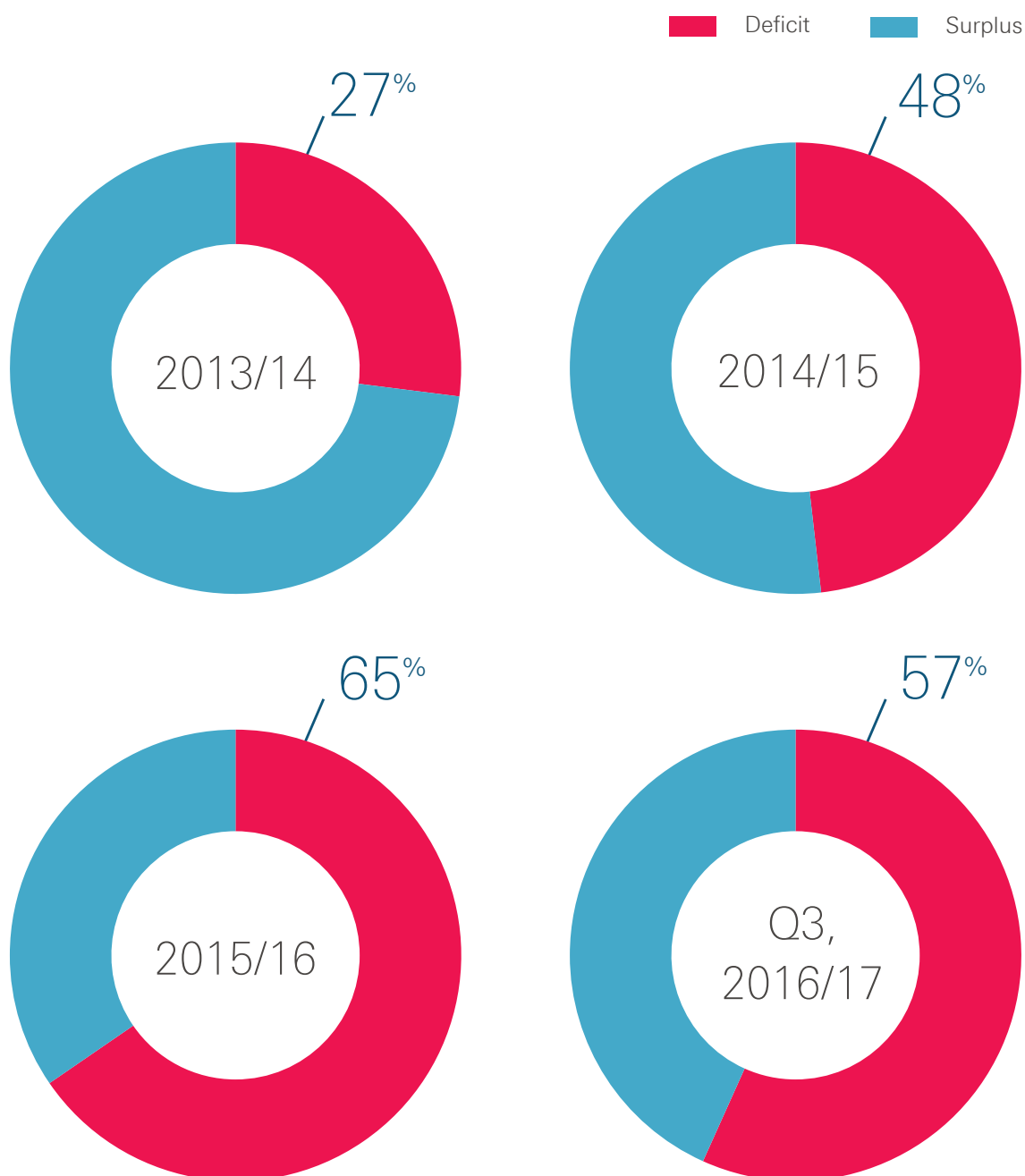
Figure 4.1 shows that the financial performance of NHS providers has declined rapidly since 2013/14, when they reported a net surplus. At the end of the third quarter of 2016/17, however, NHS providers reported a net deficit of £886m and forecast a reduced end-of-year deficit of £873m – although this is still £293m higher than planned.

Figure 4.1: Surplus/deficit of NHS providers, 2012/13–Q3 2016/17 (£bn, 2016/17 prices)²⁶



Source: Health Foundation analysis of NHS Improvement data.

Figure 4.2: NHS providers reporting a surplus/deficit, 2013/14–Q3 2016/17 (%)²⁶



Source: Health Foundation analysis of NHS Improvement data.

The net deficit at the end of 2015/16 was concentrated among acute care providers, with 88% of hospitals reporting a deficit. The deficit has also spread to the ambulance sector, which reported a net deficit of £12m; four out of 10 ambulance providers reported a deficit.

The ambulance sector also struggled to meet target times for responses as demand rose very rapidly. In the last quarter of 2015/16, time-critical calls increased by 8.1% and calls for patients in life-threatening situations rose by 18.5%.²⁷ The ambulance sector also faces a

shortage of paramedics. The Migration Advisory Committee (MAC^{*}) recommended adding paramedics to the UK's shortage occupation list in 2015, as the vacancy rate was estimated at 12%.²⁸ Although the proportion of providers reporting a deficit increased across all sectors, mental health, community services and specialist providers maintained a balanced budget despite the rising cost pressures.

Table 4.1: Net adjusted surplus/deficit[†] by sector, 2012/13–2015/16 (2016/17 prices)

Net adjusted surplus/deficit £m (proportion of trusts in deficit)	2012/13	2013/14	2014/15	2015/16
Acute	£193m (17%)	-£441m (76%)	-£1,038m (65%)	-£2,605m (88%)
Ambulance	£19m (9%)	£15m (50%)	£13m (20%)	-£12m (40%)
Mental health	£264m (18%)	£186m (21%)	£99m (28%)	£55m (39%)
Community	£31m (0%)	£41m (16%)	£15m (16%)	£18m (26%)
Specialist	£124m (0%)	£115m (28%)	£64m (32%)	£69m (50%)
Total	£579m	-£110m	-£847m	-£2.5bn

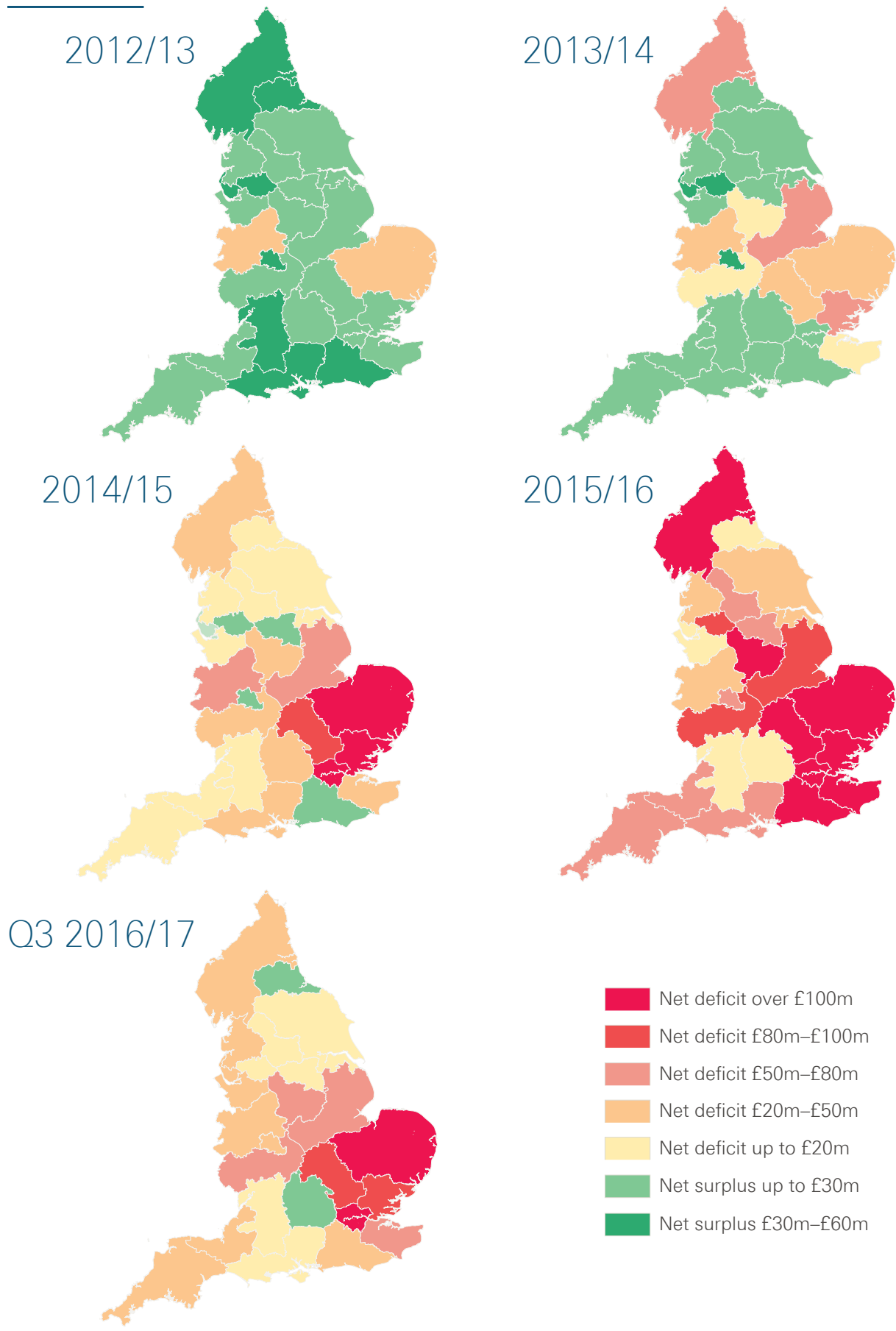
Figure 4.3 (overleaf) shows that the net deficit has spread rapidly in England since 2012/13. The deficit was concentrated in east, south and central England, as well as London, in 2015/16. At Q3 of 2016/17, the financial performance of providers had improved in many regions, but poor performance was still concentrated in London and East Anglia.

Nine months into 2016/17, NHS providers had reduced their spend on agency staff by 24% in comparison with the same point the previous year. However, they still spent £2.2bn, £359m above planned agency spend. Spending on drugs continued to rise rapidly, reaching £5.2bn at the end of Q3 2016/17 and exceeding planned spending by £116m. These issues limited providers' ability to deliver planned cost savings.²⁹

* The MAC is an independent public body that advises the government on migration issues.

† Net adjusted surplus/deficit refers to the trusts' net surplus or deficit excluding impairments, gains or losses from transfers by absorption, and immaterial adjustments made by Monitor/NHS Improvement on consolidation.

Figure 4.3: English NHS providers' net surplus/deficit, 2012/13–Q3 2016/17 (2016/17 prices)



Source: Health Foundation analysis.

Efficiency

NHS providers receive payments for delivering acute care in two ways:

- payment by results (PbR) tariff income – nationally set prices for case-mix adjusted* episodes of care
- non-tariff income (pricing that is set locally).

In 2014/15, 60% of NHS providers' total income was received via PbR tariff payments. It accounts for as much as 67% of acute providers' income.³⁰

The national tariff is produced by NHS Improvement and NHS England and is adjusted each year, taking into account expected cost increases from pay, drugs and procurement. The tariff also includes an efficiency factor, which is the assumed level of efficiency saving that providers will make in a year. The efficiency factor excludes expected savings through initiatives, such as the Quality Innovation Productivity Programme (QIPP), that are focused on reducing growth in activity rather than unit cost.

Between 2011/12 and 2014/15, the efficiency factor was set at 4%. It was reduced slightly to 3.5% in 2015/16. As a result, payments to hospitals per unit of activity fell for four consecutive years in cash terms. For 2016/17 and 2017/18, NHS Improvement estimated that the provider sector would be 1% more efficient each year and there would be catch-up opportunities for another 1% by reducing variations between trusts, giving a combined efficiency factor of 2%. The reduced efficiency factor will lead to a rise in the tariff for two consecutive years for the first time since 2011. This means that the price paid per activity will rise in cash terms relative to the previous year in both 2016/17 and 2017/18.

Table 4.2: Price adjustment inflation and efficiency factors, 2014/15–2017/18 (% , cash terms)

Adjustment type	2014/15	2015/16	2016/17	2017/18	Total uplift to 2016/17 price levels
Expected cost inflation	2.50%	1.93%	3.10%	2.10%	5.08%
Efficiency factor	-4.00%	-3.50%	-2.00%	-2.00%	-5.43%
Total adjustment (inflation and efficiency)	-1.50%	-1.64%	1.04%	0.06%	-0.62%

* Adjusted for change in type of activity.

5. Consultant productivity

The *Five year forward view* (FYFV) set out that the NHS would be able to maintain the range and quality of services it provides through a combination of increased funding and annual efficiency savings in the range of 2–3%. In a labour-intensive sector such as health care, rising funding pressures mean that finding ways to stimulate labour productivity becomes increasingly important to ensure long-term sustainability.

We estimated the labour productivity of consultants at provider level for 150 acute hospitals* from 2009/10 to 2015/16.† We chose to focus our analysis on consultants because the number of full-time equivalent (FTE) consultants has risen rapidly in recent years (by 22% between March 2010 and 2016) and consultants are a key decision-making group. We used an output–input ratio to assess the annual change in consultant productivity in the acute sector and to compare it with all hospital staff productivity.

Outputs consisted of hospital activity at the provider level. Activity was case-mix adjusted using reference cost-weights. Activity included:

- elective inpatient admissions
- emergency inpatient admissions
- A&E attendances
- day case procedures
- consultant-led outpatient attendances
- outpatient procedures
- cancer multidisciplinary team meetings.

Inputs consisted of the number of FTE consultants employed by NHS providers. These data were obtained from NHS Digital at provider level and adjusted for the use of agency staff. Since we did not have accurate data on the number of FTE agency staff at provider level for consultants, we used the proportion of medical staff that were non-permanent in each hospital, as reported in hospital annual accounts, to estimate total FTE consultant staff numbers at provider level.

We used this breakdown to cost-weight activity‡ across years. When analysing productivity between trusts, we cost-weighted the activity at health care resource group level and adjusted the cost for regional disparities using the market forces factor.§ We also produced estimates of all hospital staff activity, which included non-consultant-led activity.

* 2015/16 reference cost data include 149 trusts, after West Middlesex University Hospital merged with Chelsea and Westminster Hospital NHS Foundation Trust.

† We had consistent data for this period from NHS Digital and reference cost data.

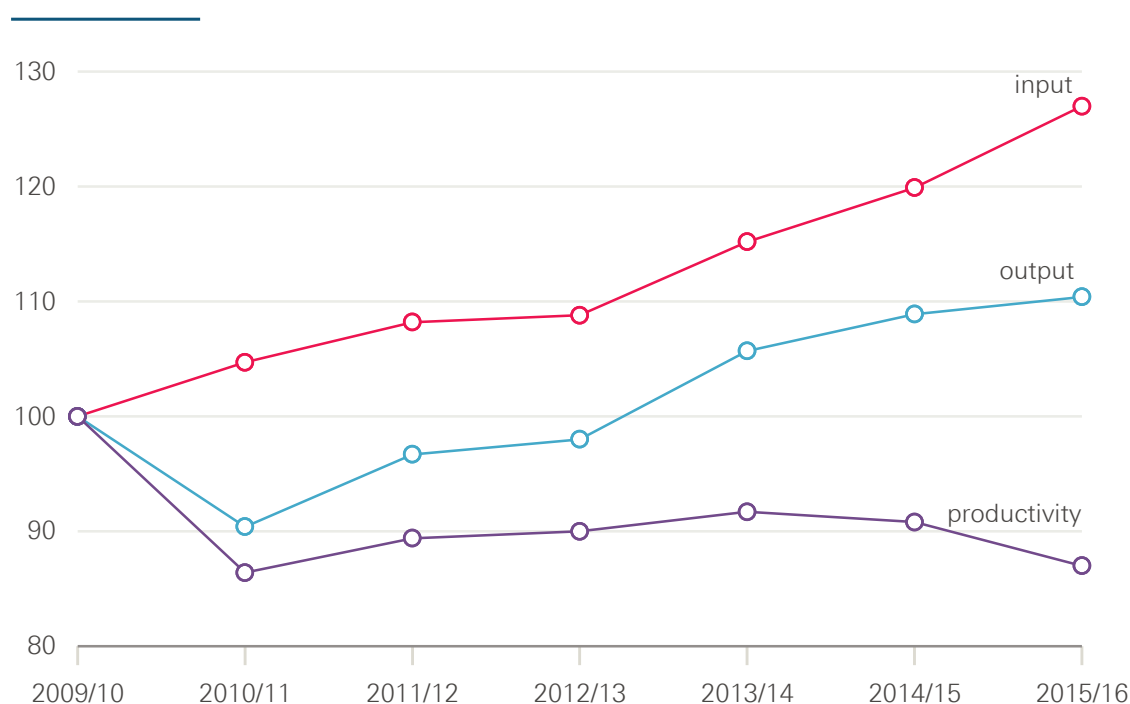
‡ The cost-weighted activity measure adjusts for change in case mix, and is used to account for the fact that increases in more intensive activity (such as severe emergency admissions) will have a higher impact on resources than less intensive activity (such as routine follow-up outpatient appointments).

§ The market forces factor accounts for adjustments made to the national tariff based on variation in the provision of health care costs relating to the local area (eg staff, buildings, land and equipment).

We found that the labour productivity of hospital consultants fell at an average rate of 2.3% per year between 2009/10 and 2015/16. The fall in consultant productivity resulted, in part, from a sharp rise in the number of consultants employed in hospitals. This number, adjusted for the use of agency staff, increased by 4.1% per year on average between 2009/10 and 2015/16 – a total rise of 27%.^{*} Over the same period there was a relatively modest rise – 1.7% per year on average – in case-mix adjusted activity, with a total rise of 10.4% (Figure 5.1). The increase in consultant numbers follows a longer-term trend. In 1997, the third report by the Medical Workforce Standing Advisory Committee recommended a substantial increase in the number of people studying medicine in the UK, in order to meet future NHS requirements.³¹ The government agreed with this recommendation and rapidly increased the number of available medical training places in the early 2000s.³² As a result of this, the number of medical staff in the NHS increased rapidly.

As well as increased numbers of consultants, we observed a change in the composition of the activity provided by consultants in the 150 hospitals examined. During the period studied, A&E and day cases rose rapidly (by an average of 2.5% and 2.7% per year respectively) and there was a shift from emergency long-stay admissions (which fell by 0.8%) to more emergency short-stay care (which rose by 4.0%). As a result, lower cost activity rose faster than higher cost activity. Cost-weighted activity rose by an average of 1.7% per year compared to an increase of 2.8% in unadjusted activity.

Figure 5.1: Relative change in input, output and productivity of hospital consultants, 2009/10–2015/16 (index 2009/10=100)



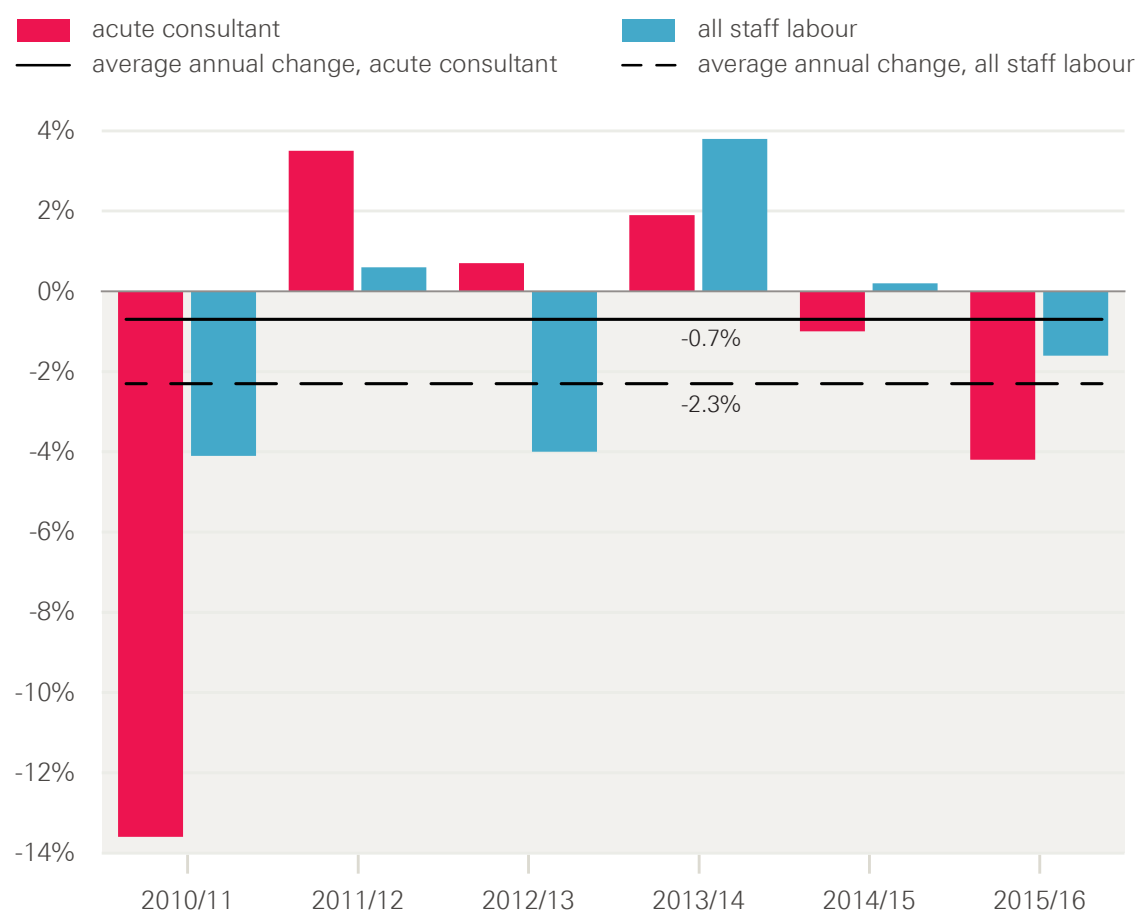
Source: Health Foundation analysis.

^{*} This figure is adjusted for the use of agency staff. The number of directly employed consultants rose by 26% during this period.

It is important to note that activity in our analysis is not quality adjusted and may overstate the fall in productivity. Research by the University of York shows that quality adjusted output has risen faster than non-adjusted output in recent years. It found that quality adjusted output for the whole NHS increased by 47.5%, compared to 41.6% for output not adjusted for quality.³³ This suggests that the estimated drop in consultant productivity may be lower after adjusting for quality.

The labour productivity of consultants fell in 2010/11, then improved between 2011/12 and 2013/14 before falling again in 2014/15 and 2015/16 as a result of a decrease in consultant-led outpatient activity. The improvement in labour productivity in 2013/14 was the result of a rapid increase in outpatient activity (10%), which is less labour-intensive than inpatient activity. Over the whole period studied, consultant productivity fell at an average rate of 2.3%. This is lower than the labour productivity of the hospital workforce as a whole, which fell at an annual average rate of 0.7% in the 150 acute providers included in this analysis.

Figure 5.2: Annual change in consultant and all staff labour productivity in 150 NHS hospitals, 2009/10–2015/16 (%)

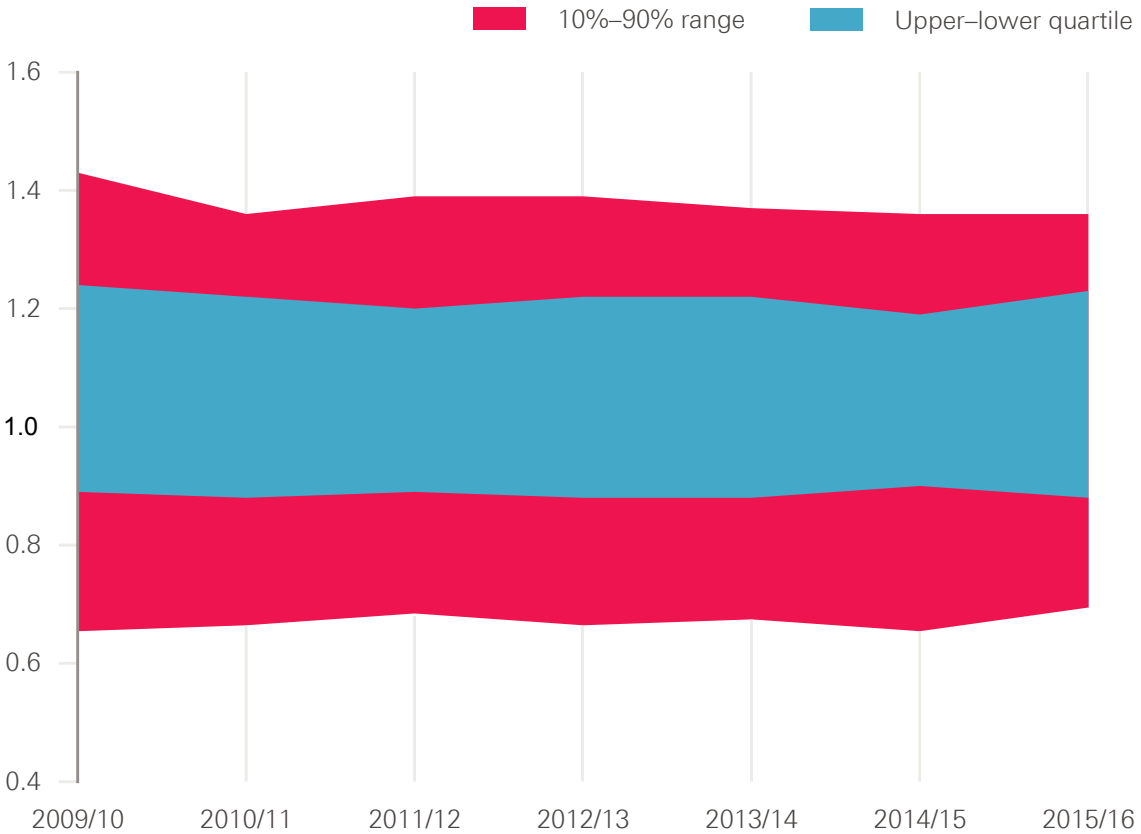


Source: Health Foundation analysis.

There are wide variations in the labour productivity of consultants at hospital level in England, with those in the most productive hospital around 29%* more productive than those in the least. The wide variation in productivity between trusts is consistent with findings from Lord Carter of Coles’ review of hospitals’ operational productivity. Lord Carter’s report estimated that unwarranted variation between hospitals is worth £5bn in terms of efficiency opportunity. The Carter report found the cost of inpatient treatment varied by 20% between the most and least efficient hospital.³⁴ In our analysis, hospital-level variation changed little between 2009/10 and 2015/16. The upper quartile of the consultant labour productivity index fell from 1.24 to 1.23 during that period, while the lower quartile rose from 0.89 to 0.88 (Figure 5.3). This suggests little reduction in the range of labour productivity among hospitals.

We also found little variability in productivity among providers. Over the period 2009/10 to 2015/16, 39% of the hospitals remained in the same quartile throughout and only 18% moved more than one quartile.

Figure 5.3: Variation in labour productivity index of consultants in hospitals, 2009/10–2015/16



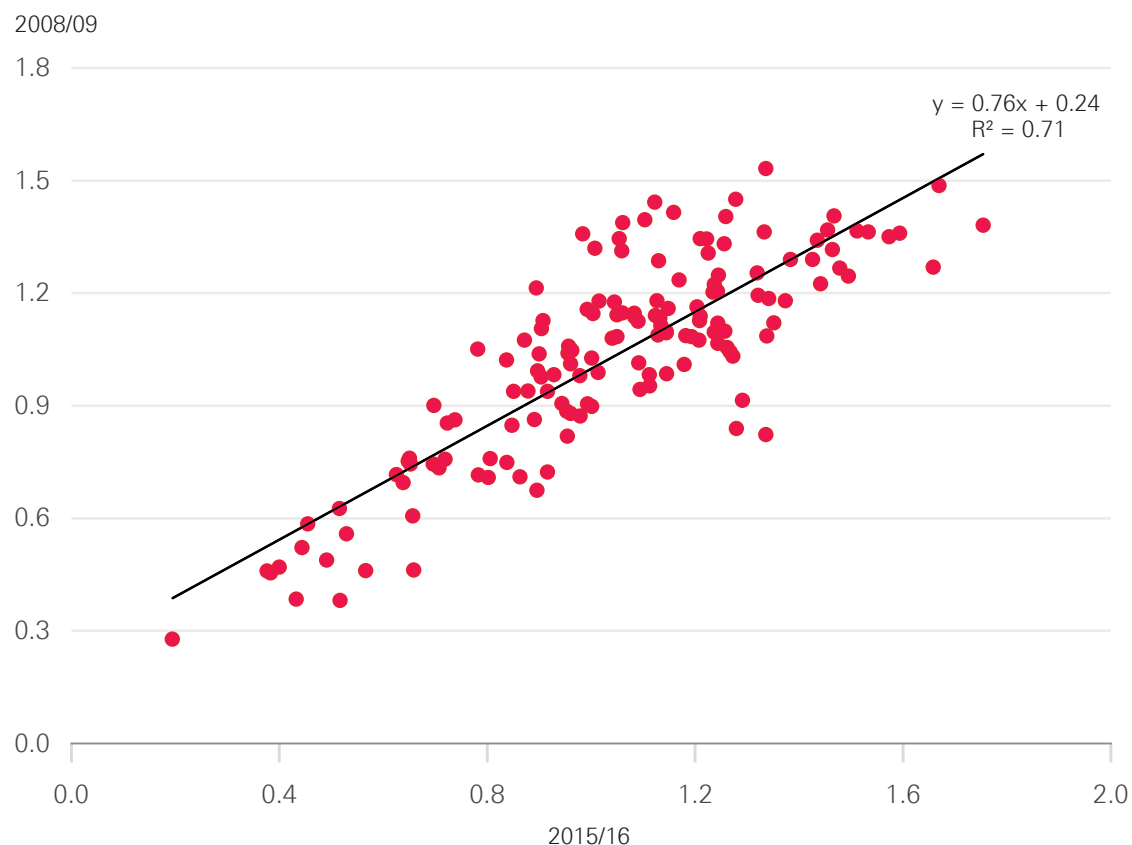
Note: Merger between West Middlesex University Hospital and Chelsea and Westminster Hospital NHS Foundation Trust was excluded from this analysis because the data cannot be analysed at provider level across year

Source: Health Foundation analysis.

* Specialist trusts were not included in this analysis.

Figure 5.4 shows that there was also little change in relative consultant productivity among hospitals between 2009/10 and 2015/16. Most providers are clustered around the line of best fit. The relationship has an R^2 value of 0.71,^{*} which means that 71% of the variation in labour productivity in 2015/16 is explained by the provider's position in 2009/10. Although this finding is consistent with those from Deloitte (2014)³⁵ and Monitor (2016),³⁶ the University of York found a large level of variability in productivity between years.³⁷ More research is therefore needed to fully understand the variation in productivity among trusts.

Figure 5.4: Variation in productivity among acute trusts between 2009/10 and 2015/16



Note: Three mergers were excluded from this analysis because their data cannot be analysed at a provider level across years. One outlier was also excluded from this analysis.

Source: Health Foundation analysis.

^{*} r^2 is a statistical measure of how close the data are to the fitted regression line. r^2 of 1 would mean that the data exactly matched the line of best fit.

Predictors of consultant productivity

To identify the factors associated with consultant labour productivity, we conducted a multiple regression analysis.^{*} In the model, we included 15 variables at provider level covering the period from 2009/10 to 2014/15. The dependent variable was consultant's input-output ratio (cost-weighted activity per consultant) for 150 acute trusts (including teaching and specialist). The equation below shows the model specification:

$$Y = \alpha + \sum \beta_1 H + \sum \beta_2 R + \sum \beta_3 S$$

Where:

Y = log of activity per consultant

R = regional characteristics

H = hospital characteristics

S = staff characteristics

This type of model allows us to examine the statistical relationships between consultant productivity and a number of variables that we expected to be drivers of labour productivity. Details of variables included in the model are available in the technical appendix. Not all the variables were shown to be statistically significant. The following section discusses the variables that were statistically significant at a 95% confidence level.[†]

Results

Skill mix

Our results show hospitals with a higher proportion of nurses and support staff within their total workforce had higher consultant productivity. The proportion of nurses had one of the largest impacts on consultant productivity: increasing the share of nurses by 4% increased consultant productivity by 1%.

Hospital characteristics

Consultant productivity was negatively associated with the specialisation index.[‡] This confirms previous findings from the University of York that showed specialisation may be associated with greater efficiency.³⁸ Similar to their findings, our index of specialisation is large and negative, meaning that the most specialised hospitals are the most productive.

Consultant productivity was negatively associated with teaching hospitals.[§] Activity per consultant was higher in non-teaching hospitals. This reinforces previous studies which found teaching hospitals' labour productivity was lower than that of non-teaching hospitals due to time spent away from patients to teach.^{39,40,41,42} The education of medical students is not an output that is captured in our analysis. Teaching hospitals may also have more complex cases that are not fully adjusted for when cost-weighting the activity.

^{*} For more details about the method, see the technical appendix, available from: www.health.org.uk/yearofplenty

[†] A 95% confidence interval can be loosely interpreted as indicating a range within which we can be 95% certain that the true effect lies.

[‡] The specialisation index measures the degree to which the proportions of different case types in a hospital differ from the national average proportions of case types. A negative index means greater efficiency with more specialisation and a positive index means greater efficiency with less specialisation.

[§] A hospital affiliated to a medical school.

Consultant productivity was positively associated with hospitals that have a higher proportion of their total cost accounted for by PFI. The proportion of total cost accounted for by PFI was a proxy to measure level of capital investment. This suggests that greater capital investment may be associated with greater efficiency. It was also negatively associated with the number of (delayed transfers of care) DTOC days. This means that consultants working in hospitals with a higher number of delayed discharges are less productive.

Regional variation

Hospitals in more urban areas were associated with higher levels of consultant productivity. Our model also showed that hospitals in areas where the NHS wage is higher than the regional average are associated with higher levels of consultant productivity. This supports previous research by Hall and colleagues that found that where government-regulated wages, such as in the NHS, were lower than other wages in an area, this resulted in lower levels of productivity in English hospitals.⁴³

Table 5.1 contains the results of our model. It shows that the greatest impact on consultant productivity was from percentage of nurses – whether the hospital is a teaching hospital or not – and level of specialisation of the hospital. DTOCs had the least effect, although were significant.

Table 5.1: Results of the multivariate regression model*

Variable	Parameter estimate	Standard error
Intercept	40.096	8.567
Year	-0.016	0.004
Percentage of nurses	0.246	0.067
Teaching	-0.294	0.019
Specialisation index	-0.347	0.014
Percentage of support staff	0.067	0.018
Urban area	0.073	0.017
Percentage of PFI	0.007	0.003
NHS income/regional wage	0.107	0.027
Delayed transfers of care	-2.8E-05	0.00001397
<i>Source: NHS Digital, Hospital episode statistics.</i>		

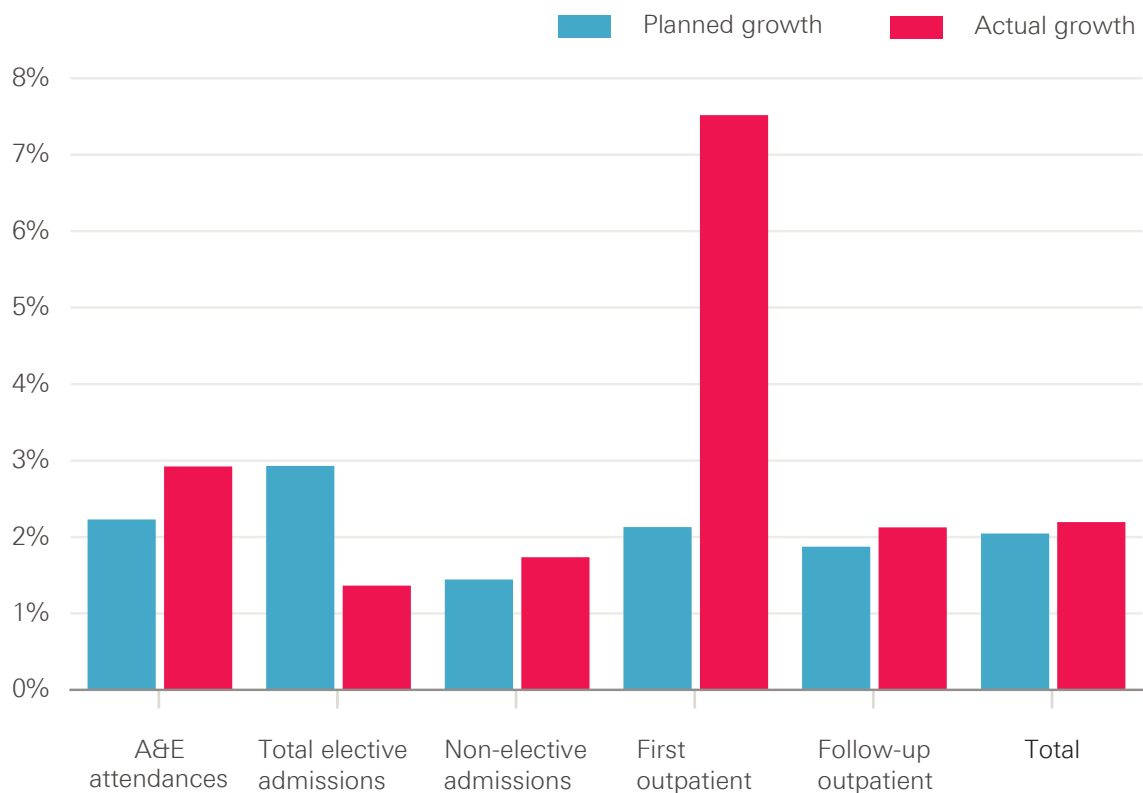
* For more details about the analysis, see the technical appendix, available from: www.health.org.uk/yearofplenty

6. Discussion

2015/16 was another hugely challenging year for the NHS. Although funding rose, once again it did not keep pace with increases in costs, resulting in another increase in the net deficit for providers. Demand for NHS services continues to rise, particularly for emergency admissions. Between 2014/15 and 2015/16, emergency admissions to hospital rose by 2.7%, with elective admissions, A&E attendances and outpatient appointments rising by 2.3%, 2.5% and 4.4% respectively. Acute activity is therefore generally growing faster than the income of NHS acute trusts, which rose by 1.2% in real terms. Some of the additional activity is required to support the growing population. However, as the population rose by 0.9% in 2015/16, activity is clearly growing at a faster rate.

This increase continued into 2016/17. NHS Improvement calculated that, for the first nine months of 2016/17, providers had planned for an increase in cost-weighted activity of 2.0%. However, the actual increase in cost-weighted activity was 2.2% – around 10% higher than planned. What's more, emergency inpatient care rose faster than expected, while elective inpatient care was the only activity that had an actual growth rate below the planned rate.

Figure 6.1: Planned versus actual year-to-date growth by type of activity, Q3 2016/17 (%)¹⁹



Source: NHS Improvement, 2017.

High growth in emergency admissions relative to elective admissions can have considerable implications for NHS providers. As NHS hospitals begin to reach capacity in the care they can provide, alternative options exist to commission outpatient and elective inpatient care from non-NHS providers. However, alternative options are more limited for emergency care, which can result in NHS providers focusing more on emergency care while elective care is delivered elsewhere.

Although the overall amount of care funded by the NHS has increased, a growing share of pre-planned care was purchased from non-NHS providers. In 2015/16, the percentage of elective inpatient admissions purchased by the NHS from non-NHS providers rose by 6.8%, while outpatient appointments grew by 7.2%. The result was that more than 6% of pre-planned acute activity occurred at non-NHS providers in 2015/16. Any growth in emergency admissions must be met by the NHS, and greater increases in emergency inpatient admissions, relative to elective inpatient and outpatient admissions, means the activity mix for NHS providers is shifting towards delivering a greater portion of more costly emergency care (Table 6.1).

Table 6.1: Increase in acute hospitals' elective inpatients, outpatients and emergency inpatients for NHS and non-NHS providers, 2013/14–2015/16 (%)⁴⁴

	Elective inpatients				Outpatients				Emergency inpatients
	Total	NHS	Non-NHS	% of non-NHS	Total	NHS	Non-NHS	% of non-NHS	Total
2013/14	-	-	-	5.6%	-	-	-	5.5%	-
2014/15	3.3%	2.7%	12.4%	6.1%	4.4%	3.9%	12.4%	5.9%	3.7%
2015/16	2.3%	2.0%	6.8%	6.4%	4.4%	4.3%	7.2%	6.1%	2.7%
Average increase 2013/14–2015/16	2.8%	2.4%	9.6%	-	4.4%	4.1%	9.8%	-	3.2%

The growth in care provided by non-NHS bodies is not restricted to acute care, but common to the whole NHS. In 2015/16, NHS England's real-terms spending increased by £2bn, but £900m of this went on additional care bought from non-NHS providers. Therefore, 45% of the increased funding for commissioning care did not reach the NHS provider sector.

The trend towards a greater proportion of NHS trusts' activity involving emergency care can affect their financial sustainability, as trusts often report that pre-planned care offers more opportunity to make a positive margin. The PbR system of paying trusts is based on historic costs, which require hospitals to apportion much of their fixed costs between different types of services and complexity of patients within a case mix adjusted group. If the mix of services or complexity of patients changes in a material way, the PbR system may not accurately reimburse providers for the cost of providing care. Capacity issues increased again in 2016/17, and NHS hospitals are providing more emergency care, with a growing share of pre-planned care outsourced to independent sector providers (ISPs). This trend raises questions about the payment system, which will need to be more flexible and provide more certainty of income for emergency care providers.

Moreover, if the independent sector is relied upon for a greater proportion of pre-planned care for NHS patients, there are questions about whether the prices paid by the NHS are optimal and, specifically, whether the NHS has used its purchasing power to reap some of the economies of scale and specialisation that the independent sector will be able to realise. As our analysis of consultant productivity shows, more specialised hospitals have higher consultant productivity. If a provider can narrow the range of services they provide, they can improve the efficiency of care for those specific services so that the unit costs of care will be lower than the cost of the same service in a hospital delivering a wider range of services.

Despite the desire of the government to shift the balance of resources from acute hospital care into the community, 2015/16 saw mixed progress. Funding for community-based prescribing and some primary care services grew, but spending on primary care does not seem to be translating into more GPs, the numbers of which fell.

The picture for mental health is complex. Overall the NHS reports increased investment, but this is not reaching all parts of the mental health system. NHS providers of mental health care services saw their income rise in real terms by just 1.3% in 2015/16. This followed a fall in income of 0.9% per year over the previous four years. It is also clear that, while the NHS as a whole is planning to meet the parity of esteem (PoE) funding target, this is not true for adult mental health services in particular. Funding for such services at CCG level is growing more slowly than total allocation, and CCGs need to increase funding by an extra £20.8m by the end of 2016/17 in order to increase planned spending on adult mental health services in line with their total allocation – as they have committed to do.

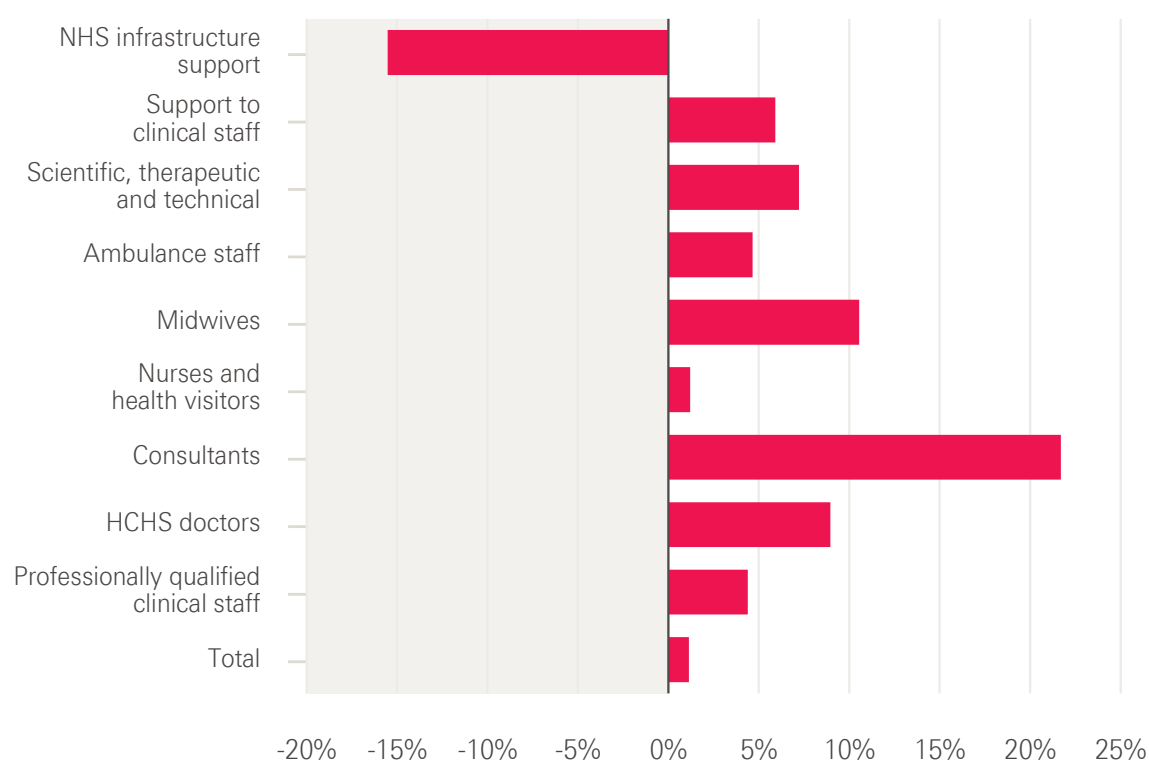
Beyond low growth in income for NHS providers, their finances also came under pressure from a combination of rising input costs and problems delivering sustained efficiency savings. Staff costs added £1.6bn to NHS providers' operating costs and the drugs bill increased them by a further £0.7bn. Together these factors accounted for over 80% of the increase in NHS providers' operating costs in 2015/16.

Rising input costs: staff

Staff cost pressures are not primarily the result of big increases in the number of people directly employed by the NHS. The number of FTE staff employed by the NHS has been broadly flat since 2010: in March 2016, the NHS employed just 1.0% more staff (11,500) than it did in March 2010. Over the same period, funding grew by 13% and activity by 27%.

But the pattern of staffing has not been even. Staff numbers fell between 2010 and 2013 before increasing again; in 2015/16 they rose above the level seen in 2010. The number of FTE staff employed by the NHS grew by 21,000 in 2015/16 – an increase of 2.1%. Staff increases were not evenly distributed across occupational groups. 2015/16 continued the trend of recent years, with large increases in the number of hospital consultants (3.5%) compared with much more modest increases in the number of nurses (0.8%).

Figure 6.2: Change in number of full-time equivalent staff by occupational group, March 2010–2016 (%)⁴⁵



HCHS – hospital and community health services

Source: NHS Digital.

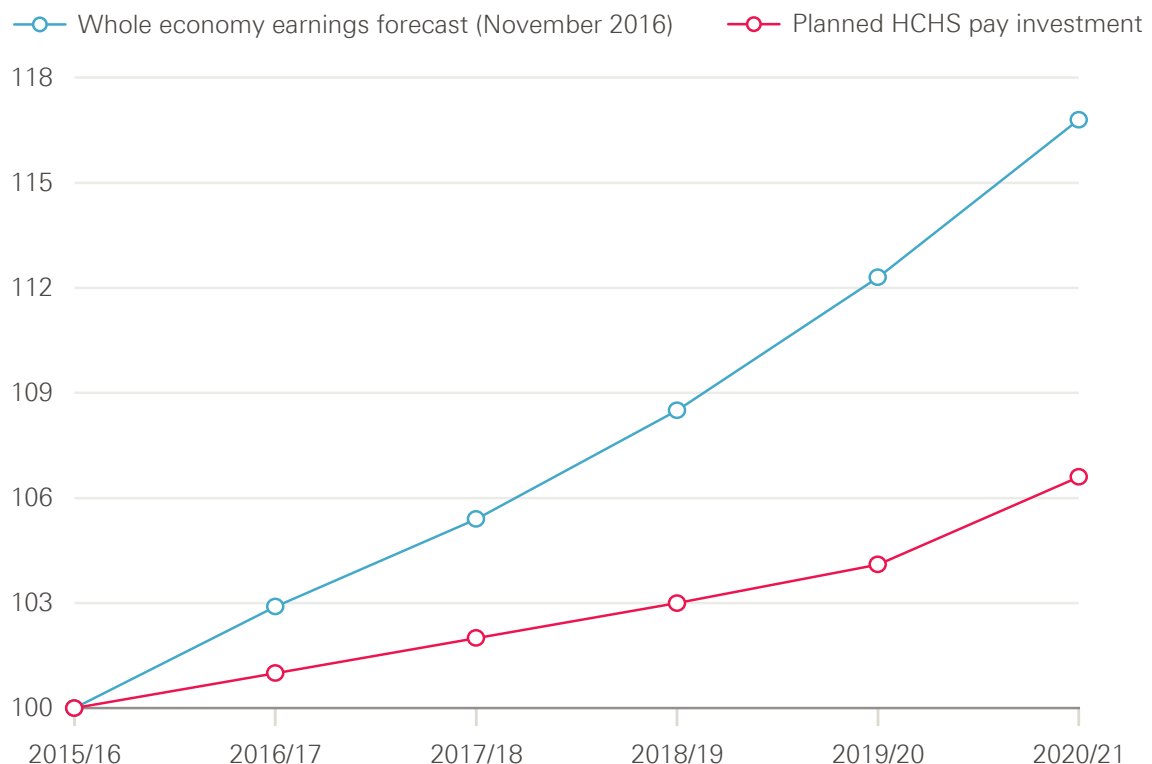
The NHS has seen a shift in the skill mix of its workforce since 2010 – the service has more professionally qualified clinicians and the number of doctors has increased at eight times the rate of nurses. Increasing the skill mix of NHS clinical staff will increase the pay bill per head – even at a time of national pay restraint – due to salary differentials between staff groups. This changing skill mix reflects past policy decisions to expand the consultant workforce, many of which were motivated by concerns about quality of care, the impact of innovation and the changing burden of disease, which is becoming increasingly complex as many more patients are frail and subject to multi-morbidity. Moreover, the UK has

traditionally had a low number of doctors per head compared with other Organisation for Economic Co-operation and Development (OECD) and EU countries. But increasing consultant numbers is an expensive option and the NHS needs to ensure that this more enriched skill mix is used productively if it is to be financially sustainable.

While the directly employed NHS workforce expanded in 2015/16, a further cost pressure was the escalating agency bill, as the NHS continued to rely on temporary staff. Reducing the agency bill has been a central principle of policy, with the amount spent by providers on agency staff capped in April 2016 in order to return the NHS to balance. In Q3 2016/17, NHS providers had spent £2.2bn on agency staff and reported they expected to end the year with agency and contract staff costs of £2.9bn. This is £900m less than in 2015/16, but above the agency spending ceiling set by NHS Improvement. Most of the progress to date has been achieved by reducing reliance on agencies for nursing staff. There has been much less progress for medical staff, which account for 37% of total agency staff cost.

The challenge in bringing down the agency bill highlights one of the key risks to NHS finances: the ability to expand the workforce to meet the needs of a growing and ageing population while continuing to hold down pay. NHS Improvement reported that, in Q3 2016/17, providers were struggling to keep pay growth within the 2.3% planned increase. Despite this, NHS staff earnings have fallen by 10% in real terms since 2010. Figure 6.3 shows that, in the government's current plans, there will be a divergence between the earnings growth of NHS staff and those in the wider economy. It is difficult to see how this divergence can be achieved, given the modest increases planned for staff training numbers and the risks to international recruitment following the EU referendum.

Figure 6.3: Planned hospital and community health services (HCHS) pay investment and whole economy earnings, 2015/16–2020/21 (index 2015/16=100)^{46,47}



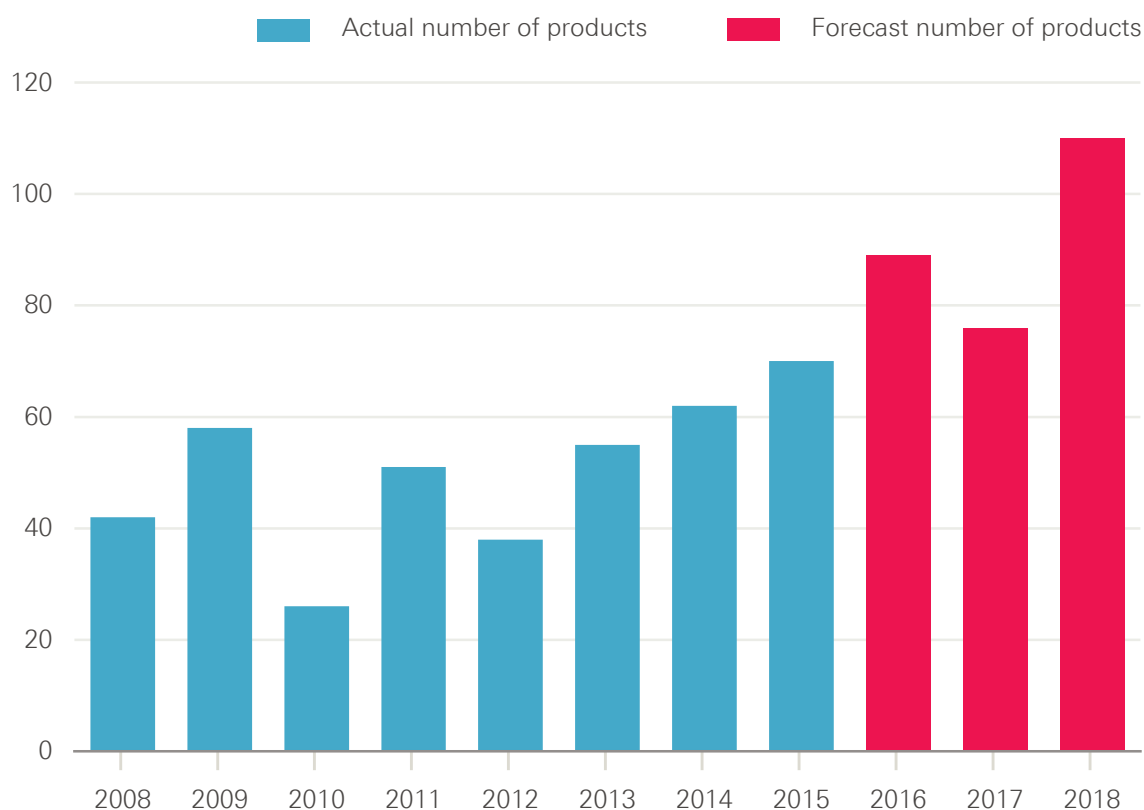
Source: Health Foundation analysis based on Office for Budget Responsibility data.

Rising input costs: drugs

The other notable area of input cost growth in 2015/16 was drug costs – particularly in the hospital sector. Drug cost pressures were historically low at the turn of the decade, due to a combination of many very popular drugs reaching the end of their patent life – allowing for generic substitution – and a low rate of new drugs being launched in the UK.

Figure 6.4 shows that the number of new chemical entities* launching in the UK is expected to be more than 100 a year by 2018. This compares to a low of fewer than 30 in 2010. It means that there will be many more new, and almost certainly more expensive, drugs that offer potential benefits to patients. If these are found to pass the cost-effectiveness threshold of the National Institute for Clinical Excellence (NICE), they will either add to financial pressures on the service or increase political pressures, as patients face the prospect of delayed access to cost-effective care on affordability grounds. The ability to negotiate prices effectively will be important but is not a magic bullet – many drugs will be expensive as they have high research and development costs.

Figure 6.4: Recent and forecast number of new chemical entities launched, 2008–2018⁴⁸



* A new chemical entity is defined as a product that has not previously been described in scientific literature.

Difficulties delivering the required efficiency savings

Below-trend growth in spending on staff and drugs was critical to balancing NHS finances in the first few years of austerity. But it is clear that this was not a sustainable strategy to deliver financial balance and the outlook for both is now materially different. Achieving financial balance will require renewed focus on realising the efficiency savings planned in the FYFV. The NHS is clearly struggling to find efficiencies on the scale required.

NHS providers are required to make savings of 2% a year, with Quality Innovation Productivity Programme (QIPP) savings additional to this. For the tariff setting process, NHS Improvement has modelled the efficiency performance of the acute sector. It has now estimated the efficiency performance of the sector on three occasions. Table 6.2 shows the results.

Table 6.2: NHS Improvement acute provider efficiency estimation^{34,36,49,50}

	Period of estimation	Trend efficiency estimate
2015/16 tariff modelling	2008/09–2012/13	1.2–1.3% per annum
2016/17 tariff modelling	2008/09–2013/14	1.4% per annum
2017/18 tariff modelling	2008/09–2014/15	1% per annum

In each year the estimate of the annual increase in trend efficiency* is below 2%. NHS Improvement has updated its most recent tariff-setting estimates to include 2014/15 data. The resulting estimate of the trend increase in acute providers' efficiency fell from 1.4% a year to 1.0% a year – less than half the rate of efficiency improvement needed for the FYFV financial plans.

One of the main proxy measures of efficiency is average length of stay (ALOS) for inpatient admissions. ALOS fell by 7% over the last five years, from 5.5 days in 2010/11 to 4.9 days in 2015/16. But there is some concern about the scope for further improvements, as problems in the social care system impact on the ability of the NHS to discharge patients who are medically fit but need some care at home or a place in a residential home. In 2015/16, the number of delayed discharges in the acute sector rose by 15.6% and the number of patients experiencing a DTOCs reached 3,718 (see Table 6.3 overleaf).

* Trend efficiency is the average sector-wide efficiency gain we observe over time.

Table 6.3: Average length of stay (bed days) and delayed transfers of care (number), 2010/11–2015/16

	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	Average annual change
Average length of stay	5.5	5.3	5.2	5.1	5.0	4.9	-2.1%
Annual change	-	-3.6%	-1.9%	-1.9%	-2.0%	-1.3%	-
Delayed transfers of care (as of March)	2,290	2,400	2,518	2,815	3,215	3,718	10.2%
Annual change	-	4.8%	4.9%	11.8%	14.2%	15.6%	-
<i>Source: NHS England, NHS Digital, Hospital episode statistics.</i>							

NHS Improvement argues that the 2% efficiency target is achievable given the substantial variation across acute providers. If the average acute provider was as efficient as those in the 60th percentile, this would deliver an extra 1.6% of efficiency gains. The potential for above-trend efficiency gains through reducing variation has been at the heart of national financial planning over recent years, but is largely unrealised potential.

With relatively little scope to bear down on input costs, delivering improved efficiency savings will require a focus on underlying productivity. Productivity is the ratio between the volume of output and volume of input. Lord Carter’s review of operational productivity highlighted large variations in the cost of inpatient care.³⁴ His work identified £5bn of potential efficiency gains through reducing variations in the cost of providing care, of which around £2bn could be achieved by reducing unwarranted variation in clinical workforce productivity.

Nursing and medical staff account for around half of the pay bill for NHS non-specialist acute providers – using those skilled staffing groups well is of fundamental importance. Lord Carter’s review looked at the variation in clinical staff cost per weighted activity unit and found the most expensive trusts spend around 1.3 times more on clinical staff per weighted activity unit than the least expensive trusts.

Our findings on consultant productivity are consistent with earlier research. Bloor and Maynard examined the productivity of hospital consultants in the English NHS between 1999 and 2009. During this period, consultant numbers expanded by 62% and a new contract was introduced, increasing the average pay of consultants by 27% in the three years from 2003/04 to 2005/06. Bloor and Maynard measured productivity as finished consultancy episodes (FCEs) per doctor. Their analysis was at the individual consultant rather than organisational level and found a statistically significant downwards trend in productivity between 1999 and 2009. The average number of FCEs per consultant in surgical specialties fell by 0.14 per month, while the average FCEs per consultant in medicine fell by 0.08 per month.⁵³

Our analysis is at organisational rather than individual consultant level, but suggests that falling productivity was not an isolated occurrence linked to the new contract. Consultant numbers have continued to expand since 2009. Between 2010 and 2016, the number of FTE consultants employed in the NHS increased by more than 20%.⁵⁴ The DH reported that labour productivity growth for the whole NHS was positive between 1998/99 and 2013/14, and increased at a much faster rate than total factor productivity (TFP).^{*} TFP grew by an average of just 0.2% a year during this period, while labour productivity increased by 2% each year.

Our results are lower than those from studies examining labour productivity in the whole NHS partly because our results are not quality adjusted and because the number of staff employed in acute NHS trusts increased at a faster rate than the overall NHS workforce. In the 150 hospitals in our analysis, the number of total staff rose by 3.2% each year (unadjusted for agency staff numbers). This compares to the NHS as a whole, within which staff numbers remained relatively flat (0.2% growth per year).

The efficiency gains in labour productivity of the whole NHS are partly accounted for by the very low input growth resulting from the switch from relatively expensive primary care trusts (PCTs) and strategic health authorities (SHAs) to the less resource-intensive NHS England and CCGs. In 2013/14, when CCGs were established, the number of FTE staff in the NHS fell by 0.3% from the previous year. Moreover, our analysis focuses on NHS providers; much of the increase in activity in recent years has occurred among non-NHS providers. Between 2012/13 and 2013/14, non-NHS providers' activity rose by 21% per year, compared with 5.0% yearly growth for providers from all sectors.

Our analysis suggests that consultant productivity in the acute sector has continued to decline since 2010, as has total labour productivity for NHS acute providers. However, overall labour productivity for the NHS as a whole has increased, reflecting reductions in regional and commissioning bodies and non-clinical staffing. Delivering health care in the 21st century is a team activity. As Figure 5.2 shows, in a period when consultant productivity has fallen by an average of 0.7% a year, total labour productivity fell by an average of 2.3% per year. This suggests that the role of consultants in the team may be

^{*} This includes all non-staff resources used to generate NHS output, such as drugs and premises.

facilitating improved productivity. However, our analysis also confirms there are significant variations in consultant productivity between trusts: the most productive trusts have consultant productivity rates 29% higher than the poorest performing trusts.

Our multivariate regression provides some further clues to the policy and operational issues that need to be addressed to narrow this gap and improve consultant productivity. First, the results show that skill mix within clinical teams matters – higher rates of nurse staffing are associated with improved consultant productivity. This raises further questions about the decision over the last six years to continue to increase doctor – and particularly consultant – numbers at a much faster rate than nurses employed by the NHS. Finally, we find that relative pay matters for productivity. This reinforces our worry that government policy is placing too much reliance on pay restraint to achieve financial balance. The health service needs an integrated workforce strategy that looks at these issues in the round – focusing on the skills of the current workforce as well as the pipeline of new staff. This strategy must ensure that those working for the NHS are supported to be as productive as possible, rather than minimising the pay bill above all other considerations.

Conclusion

The 2015/16 financial year was hugely challenging for the NHS, most starkly for NHS providers. Our analysis shows that NHS providers saw relatively little of the income growth for the NHS as a whole. NHS providers received just £650m of the £2bn of extra funding for commissioners. This was less than the £900m of additional funding that went to pay for care provided by non-NHS bodies. Part of this was to support the underfunded social care system, but it also reflects clear capacity pressures in the NHS, which meant that emergency demands ‘crowded out’ the scope to provide pre-planned care and hit providers’ finances with lower income and higher costs. 2015/16 saw some rebalancing of resources out of hospitals and towards the community, although the main area of cost growth was the cost of prescriptions, rather than additional service capacity in general practice.

With low income growth, NHS providers face even greater pressures to manage costs and deliver efficiency. Drug costs have emerged as a significant pressure for both hospitals and the community. Looking to the future, funding will be growing slowly but drug costs are expected to rise rapidly. Providers are not obviously benefiting from the national Pharmaceutical Price Regulation Scheme (PPRS) deal to manage the cost of new drugs for the public purse.

Staff costs remain the largest area of spending and pressure for NHS providers. Delivering the necessary efficiency savings is not primarily about back office or procurement savings, but required sustained growth in labour productivity. This means that it is even more important that the NHS has an effective strategy for the recruitment, retention and productivity of its workforce. Our research suggests that the NHS has a long way to go if it is to realise the power and potential of its workforce. It cannot afford to neglect this key issue.

The last six years have seen big changes in the composition of the NHS workforce – fast growth in consultant numbers but little growth in nurses. Meanwhile, productivity for consultants and the wider workforce in acute hospitals has been falling. This does not mean that staff are not working incredibly hard – they are. But people work in teams and in systems. No matter how hard people work, if they are not supported properly by these systems they will not be as productive as they could be, which is bad for finances and bad for staff morale. There may be good reasons for the growth in numbers of consultants, but the NHS is not using their skills well – as the fall in consultant productivity shows.

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Sarah is Senior Economics Analyst at the Health Foundation. She joined the Health Foundation from the Nuffield Trust where she conducted financial analysis of NHS funding. Previously, Sarah worked at the Health Analytical Services of the Scottish government, working on a number of health and social care projects and publications such as the integration of health and social care project and the new social care survey.

Sarah has a Master's in ecological economics from University of Edinburgh. Her MSc dissertation was on the government cost of occupational cancer in Great Britain, where she conducted a cost and benefits analysis of implementing a health policy to prevent occupational cancer. She graduated from McGill University in Canada with a double major in international development and environmental studies, focusing on the ecological determinants of health in society.

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Anita was Chief Analyst and Chief Scientific Advisor at the Department of Culture, Media and Sport from 2007 to 2010 and, prior to this, she was Director of Public Spending at the Treasury from 1998 to 2007, where she led the team working with Sir Derek Wanless on his reform of NHS funding in 2002. Anita has a Master's in Health Economics from York University and has worked as an Economic Advisor in the Department of Health and for SmithKline Beecham pharmaceuticals in the UK and USA.

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Before his time at the Nuffield Trust, Adam was responsible for the production of risk estimates of NHS organisations for the Care Quality Commission (and the former Healthcare Commission) to support the programme of targeted inspections. These estimates were generated by applying cutting-edge methods to all relevant and available data sources, both quantitative and qualitative, to identify areas of possible concern for the commission to follow-up.

Adam graduated from Keele University in 2004 where he achieved a First Class Dual Honours Degree in Statistics and Economics.

The Health Foundation is an independent charity committed to bringing about better health and health care for people in the UK.

Our aim is a healthier population, supported by high quality health care that can be equitably accessed. We learn what works to make people's lives healthier and improve the health care system. From giving grants to those working at the front line to carrying out research and policy analysis, we shine a light on how to make successful change happen.

We make links between the knowledge we gain from working with those delivering health and health care and our research and analysis. Our aspiration is to create a virtuous circle, using what we know works on the ground to inform effective policymaking and vice versa.

We believe good health and health care are key to a flourishing society. Through sharing what we learn, collaborating with others and building people's skills and knowledge, we aim to make a difference and contribute to a healthier population.

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