

# Briefing: Acute hospital productivity

Health Foundation analysis of acute hospital productivity from 2009/10 – 2014/15

## 0.1%

Between 2009/10 and 2014/15, productivity of acute hospitals has increased by an average rate of 0.1% a year

## Background

The NHS in England, as outlined in the *NHS five year forward view* (Forward View),<sup>1</sup> needs to make 2-3% of efficiency savings each year between 2015/16 and 2020/21 to close the projected £22bn gap between the resources available and funding pressures. This is widely recognised as very challenging given the historic performance of health care systems in sustaining efficiency and productivity growth.

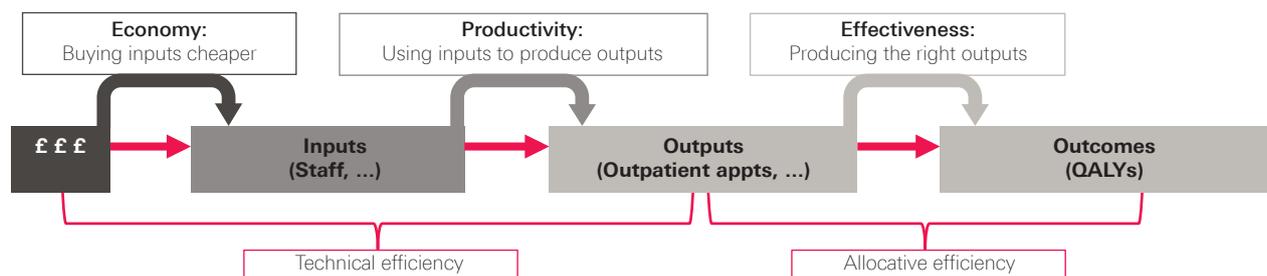
In December 2015 the National Audit Office, in its report *Sustainability and financial performance of acute hospital trusts*,<sup>2</sup> highlighted that acute trusts in 2014-15 made fewer recurrent cost savings than in previous years. Such a trend will be unsustainable in the long term and NHS providers will need to focus on improving productivity if they are going to achieve necessary efficiency savings.

Recognising the scale of the task for the NHS, the government asked Lord Carter of Coles to review the operational performance of NHS hospitals. Lord Carter identified the potential for hospitals to make £5bn efficiency savings by 2020/21.<sup>3</sup> Hospitals are now being asked to identify future savings as part of their sustainability and transformation plans (called 'the planning guidance'<sup>4</sup>).

## Productivity and efficiency

Productivity and efficiency are related, but different, measures of the performance of the health system. Productivity is the ratio of outputs of care (eg the number of hip replacements performed, patients treated in accident and emergency, etc) to inputs used to produce the care (numbers of staff, numbers and types of drugs, etc). Figure 1 shows the relationship between productivity, technical and allocative efficiency. The key difference between efficiency and productivity is that while productivity focuses on the number and mix of inputs used to deliver care, efficiency also considers the cost of the inputs.

**Figure 1: Productivity, technical and allocative efficiency**



Source: Department of Health Report to Public Sector Efficiency Group, June 2014

## Methodology

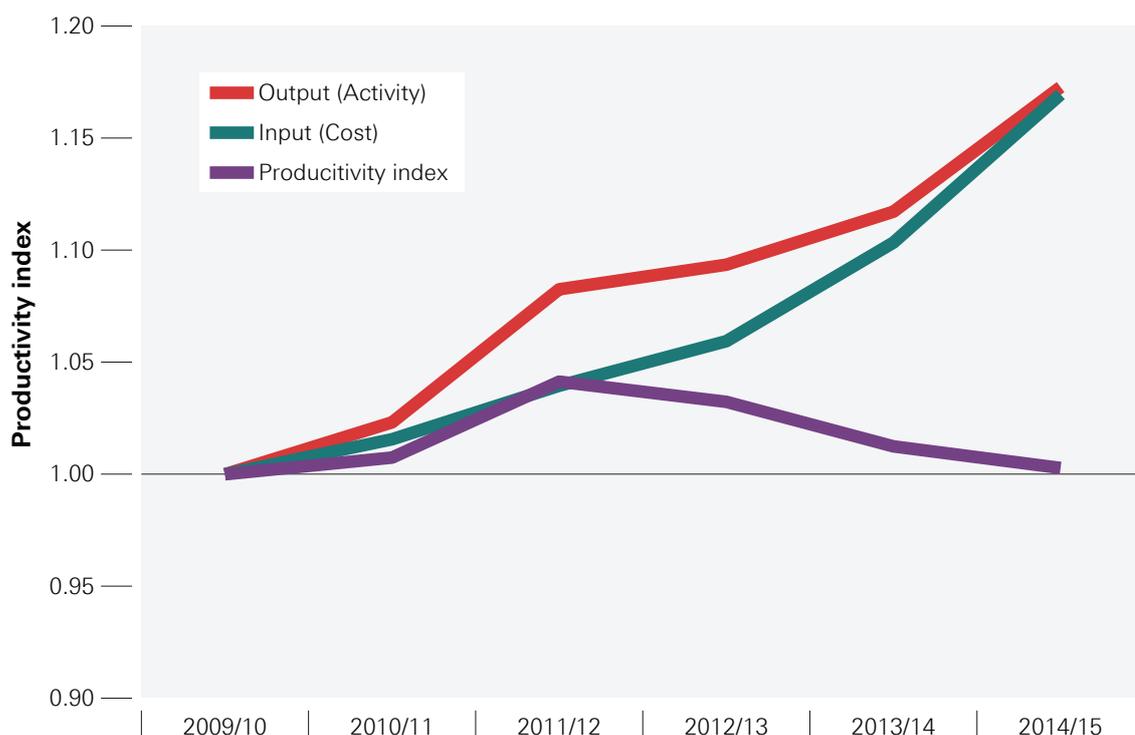
This analysis is an update to the April 2015 Health Foundation report, *Hospital finances and productivity: in critical condition?*<sup>5</sup>

- The updated analysis of hospital productivity uses the most recent data on NHS reference costs.<sup>6</sup>
- For this analysis, we measured the productivity of 152 hospitals in England where data were available from 2009/10 to 2014/15.
- We define productivity increases as a ratio of hospital output (acute care activity) to hospital input.
- Acute care activity includes: elective inpatient care; non-elective inpatient care; A&E attendances; and day case procedures. We have excluded outpatient appointments and their associated cost from this analysis due to data consistency issues over the time period we are analysing.
- We use the hospital and community health services (HCHS) pay and price index<sup>7</sup> to account changes in costs of the inputs used by hospitals to calculate an indirect estimate of the change in the volume of inputs used by hospitals.
- More details on the methodology can be found in the technical appendix published with *Hospital finances and productivity: in critical condition?*<sup>8</sup>

## Findings

The analysis shows that the productivity of acute hospitals in England has continued to deteriorate. Between 2013/14 and 2014/15 productivity fell (0.96%) for a third consecutive year. This is the result of inputs in 2014/15 rising faster (5.7%) than outputs (4.7%). Figure 2 (below) shows that inputs have increased at a faster rate than outputs since 2012/13 leading to a falling productivity index.

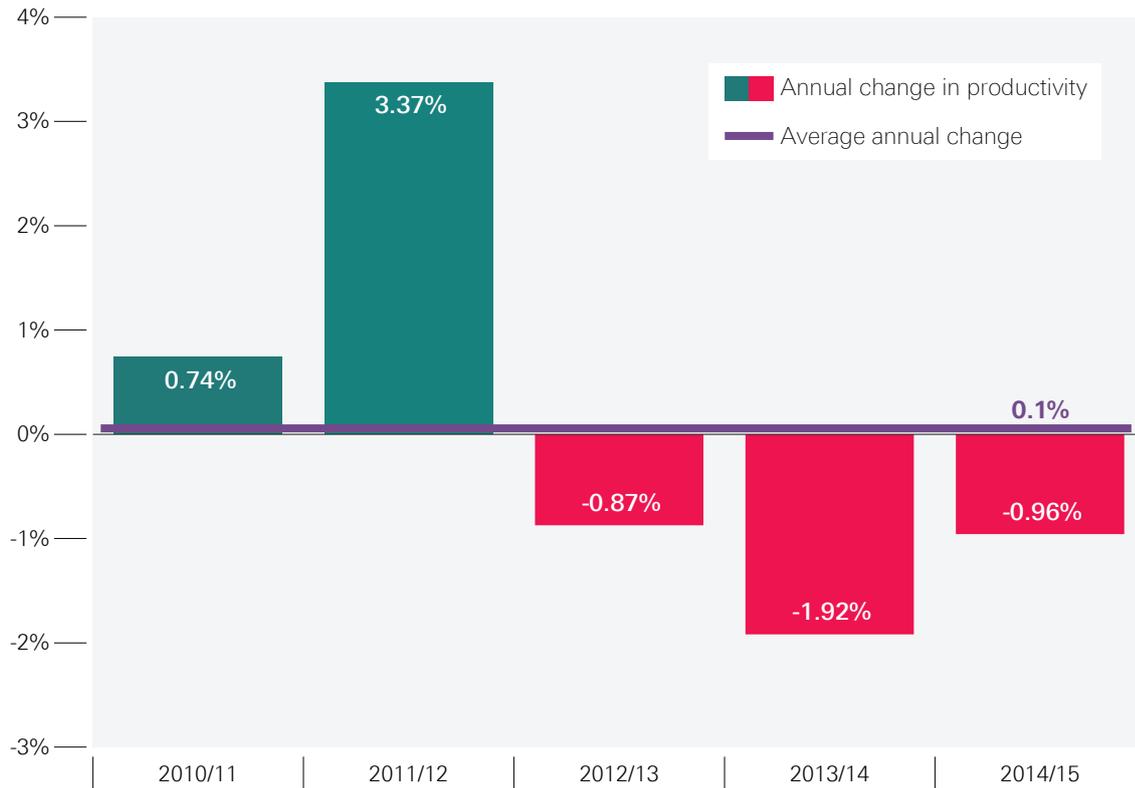
**Figure 2: Change in hospital productivity from 2009/10 to 2014/15**



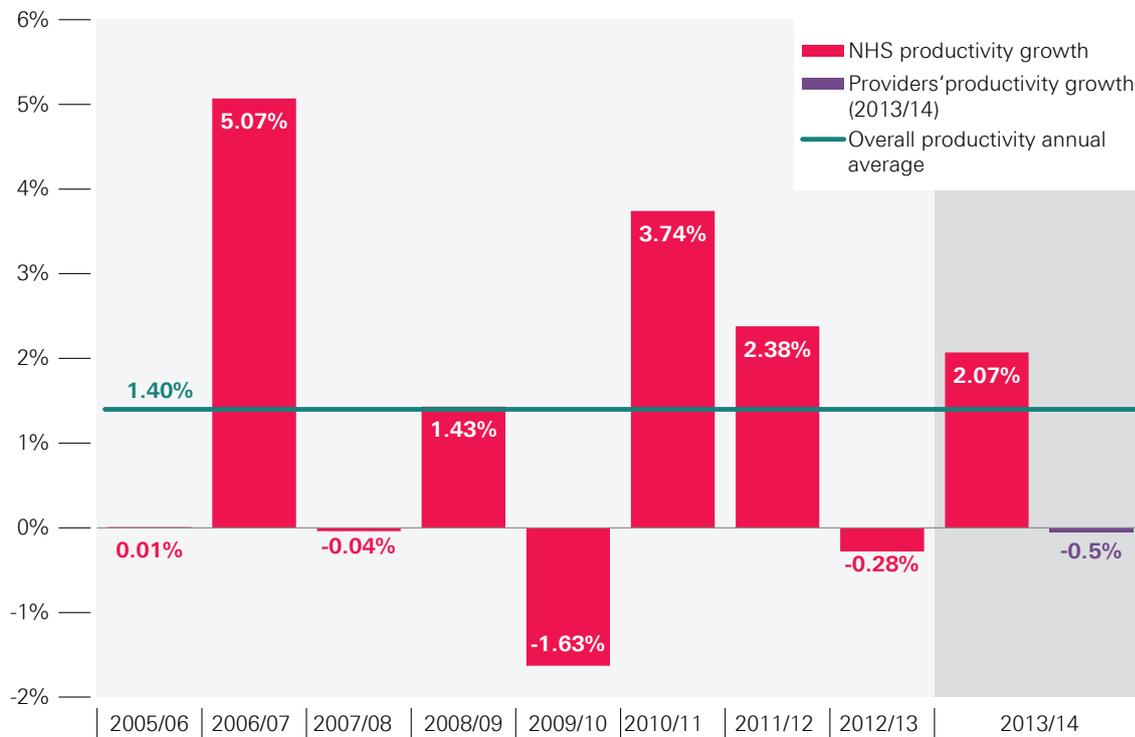
Overall, the productivity of acute hospitals increased by only 0.3% between 2009/10 and 2014/15 – an average rate of 0.1% per year (as shown in Figure 3 overleaf). Between 2009/10 and 2014/15 as a whole, activity growth and input growth have converged leading to the very low level of annual average productivity growth.

It is important to note that this is an estimate of productivity growth in the acute sector, and it excludes outpatient activity. It is possible that we have underestimated the true rate of acute productivity if hospitals achieved a higher rate of productivity growth for outpatients. Equally, we do not measure productivity for NHS providers of mental health and community services.

**Figure 3: Annual change in hospital productivity index from 2009/10 to 2014/15**



**Figure 4: Annual change in whole NHS productivity growth, 2005/06 to 2013/14<sup>9</sup>**

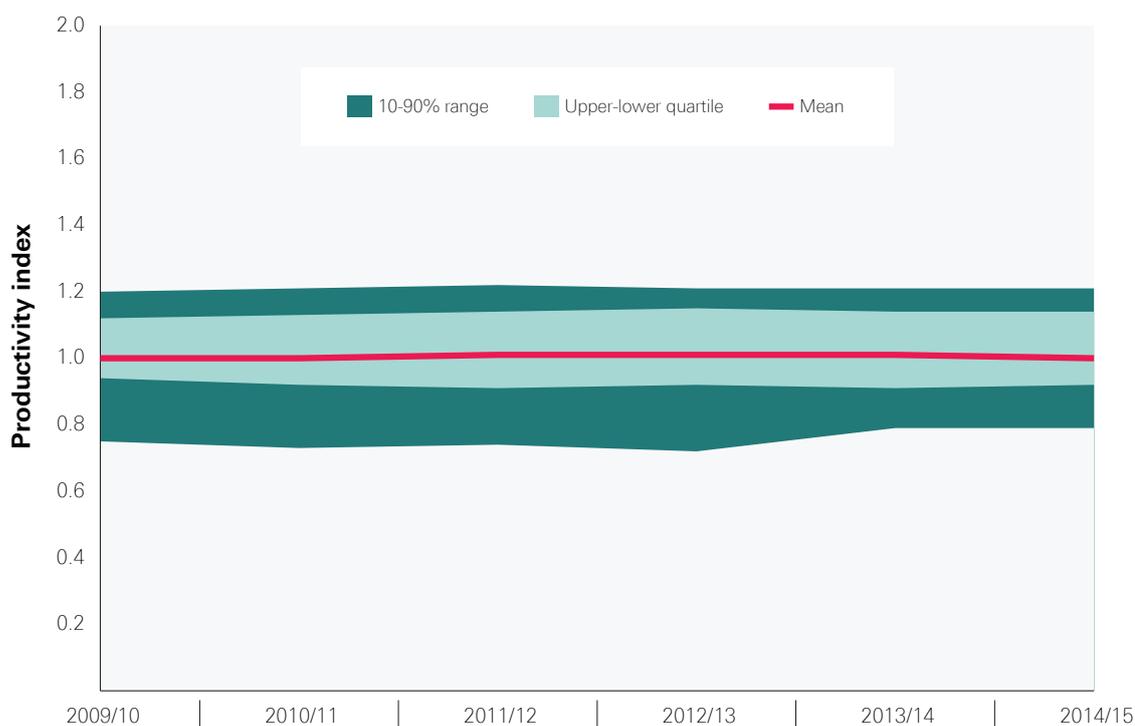


Source: *Productivity of the English NHS: 2013/14 Update*. Centre for Health Economics, University of York, 2016. [www.york.ac.uk/media/chel/documents/papers/researchpapers/CHERP126\\_NHS\\_productivity\\_update2013\\_14.pdf](http://www.york.ac.uk/media/chel/documents/papers/researchpapers/CHERP126_NHS_productivity_update2013_14.pdf)

The Centre for Health Economics (CHE) at the University of York has analysed productivity growth for all NHS providers including a wider range of activity outpatients, community nursing contacts and mental health activity.<sup>9</sup> Their analysis covers the period up to 2013/14. The York study shows that in 2013/14, the productivity of the NHS as a whole increased at a faster rate (2.0%) than NHS providers (-0.5%). Productivity of NHS providers, including community health services and mental health care, fell by 0.5% in 2013/14 (see Figure 4).

The NHS continues to seek ways to stimulate less efficient organisations to match the efficiency of the best. However our analysis shows that efforts to reduce this efficiency gap have largely failed to date with little change in the productivity performance of individual hospitals from 2009/10 to 2014/15. For example, around 70% of the hospitals that were above or below average in 2009/10 stayed above or below average in 2014/15. The upper quartile of the productivity index range increased from 1.12 to 1.14 in 2014/15 while the lower quartile fell from 0.94 to 0.92, as shown in Figure 5. This suggests a slight increase in the range of productivity performance across the NHS last year.

**Figure 5: variation in productivity of hospitals from 2009/10 to 2013/14**



It is important to note the limitations of our analysis. We measure crude productivity, taking no account of differences in the quality of care provided over time or between organisations. Following the issues raised in the Francis Inquiry into problems at Mid-Staffordshire NHS Foundation Trust, improving the quality of care has been a key focus of policy and practice across the NHS over recent years and may explain some of the increase in inputs. By focusing on crude productivity we may underestimate NHS performance if quality of care has improved through this period. But other studies suggest some aspects of care quality have deteriorated in recent years, in which case productivity performance would in fact be lower than we report.<sup>10</sup>

As already mentioned, this document only explored acute activity. We exclude outpatients as there are very different rates of growth in the hospital episodes statistics and reference cost datasets. There are also some changes to volumes in 2013/14. We cannot be sure how much is genuine growth and how much are one-off data issues associated with the restructuring of the NHS in April 2013. It is possible that we have underestimated productivity growth due to this, although recent finding from Centre for Health Economics at the University of York showed a similar – albeit smaller – fall in productivity for NHS providers in 2013/14 (see Figure 4).<sup>9</sup>

## Discussion

The need to improve productivity and efficiency is both critical and immediate, but as yet there is no clear national plan for this – Lord Carter’s work identified £5bn of savings but that still leaves a substantial gap to be filled. The NHS is now halfway through the most austere decade in its history. Much of the planned savings are expected to come from the hospital sector but at this mid-point it is clear that NHS hospitals in particular are struggling to find the savings – productivity performance is weak and finances are under extreme pressure. The NHS needs a new approach to change if it is going to reverse the recent deterioration in hospital productivity, make £22bn of efficiency savings and transform the delivery of care for the long term. To achieve these improvements the NHS needs a clear policy framework – including a realistic tariff, a clear accountability framework and multi-year budgets – but also financial and practical support to help realise recurrent efficiency savings and transform the delivery of care.

Beyond this though, hospitals and the NHS cannot bridge the funding gap alone. The University of York’s work is the most comprehensive analysis of health system productivity performance revealing that since 2004-05 productivity growth has averaged around 1.4%. The next five years will be much harder for the NHS than the previous five years – the comparatively easy efficiencies have been made and the labour market outlook will be considerably more challenging. The NHS needs to support hospitals but also unlock the system efficiency opportunities that undoubtedly exist. However, to do this there needs to be an effective public health strategy and high performing, sustainable social care system. What NHS England’s Simon Stevens referred to as ‘unfinished business’ from the Comprehensive Spending Review.

Recent trends combined with cuts to public health funding and pressures on social care would suggest a 2-3% efficiency target, as set out in the Forward View, is extremely ambitious.

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