

# From diagnosis to delivery

A framework for accelerating NHS productivity growth

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# The NHS Productivity Commission

The Health Foundation has launched the NHS Productivity Commission to provide evidence and identify solutions that can drive productivity growth in the NHS in England over the next decade.

The Commission is co-chaired by Anita Charlesworth, Senior Economic Adviser at the Health Foundation, and Tera Allas, a leading expert on economic growth, productivity and public policy.

Our eight commissioners – Richard Murray, John Hall, Habib Naqvi, Jim Buchan, Catherine Davies, Matthew Bell, Rachel Wolf and Ben Gershlick – bring expertise from policy, economics and the front-line workforce. They are supported by a secretariat, based at the Health Foundation, and an Expert Advisory Panel, whose role is to provide challenge and support for each of the productivity drivers, working with the commissioners and secretariat to develop policy solutions (see Who we are).

## Acknowledgements

We are grateful to all our co-chairs, commissioners and Expert Advisory Panel members, whose views and comments informed this report.

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Errors or omissions remain the sole responsibility of the authors.

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# Foreword



Spending our careers in and around the NHS, wider public sector and private sector – often working directly on productivity – has taught us a simple truth: productivity is not an abstract statistic. Sometimes referred to as the economy’s ‘speed limit’, productivity underpins rising living standards and provides the headroom for improved public services.

Since 2007, UK productivity growth has been weak, and communities have felt the effects through stagnant living standards and austerity. The same is true in health: a fall in NHS productivity growth means fewer people have accessed timely, high-quality care, with consequences for both their quality of life as well as the economy.

It is no surprise that NHS productivity fell during the COVID-19 pandemic. While there are now signs of recovery, experiences after past economic shocks show recovery cannot be taken for granted. Nor is recovery enough. Sustained improvement is essential to the NHS’s long-term sustainability: an extra one percentage point of productivity growth each year over the next decade could free up around £20bn for improving care, but failing to do so would leave a big dent in the public finances.

Our aim in the NHS Productivity Commission is to bring together evidence from the NHS, other countries and the wider UK economy to help policymakers and leaders unlock that potential.

These are simultaneously exciting and worrying times for the NHS. The goals of the government’s recent 10-Year Health Plan – a shift to prevention, community care and digital – are welcome. But after years of tight funding and the pandemic, the pressures are intense and the NHS has struggled with these shifts before. Technology represents a big opportunity, but one that most organisations across the economy find difficult to capitalise on.

We do not expect to find silver bullets. In a system with more than 1.5 million staff seeing around 2 million patients each day, change cannot be mandated from the centre. Opportunities will shift as technology expands what is possible. Local organisations and teams need to keep finding, testing and scaling improvements, and they need the time, support and autonomy to turn opportunities into results.

That requires trust. We know ‘productivity’ can sound threatening: in the wider economy it is often linked with job losses or fears of de-skilling. In the NHS, it can be heard as a criticism of staff or as money placed before quality. Change is hard, and while productivity brings collective benefits, leaders must consider carefully how productivity gains are experienced and shared among staff, patients and taxpayers.

Government and national bodies have a critical role. The government has set a productivity growth target more than double the pre-pandemic rate. That ambition is welcome. But goals are not enough – the conditions for success, including the practical tools, must be created.

This Commission will propose how to build those conditions. We are focusing on the foundations of productivity growth: workforce, capital, technology and innovation, and transformation. This report outlines our early thinking about why productivity matters, trends in productivity and what explains the recent downturn. Going forward, we are working with our fellow commissioners, secretariat and an Expert Advisory Panel to develop a roadmap for long-term, sustained NHS productivity growth. In doing so, we want to move from describing the problem to identifying solutions.

We cannot do this alone. We want to engage widely throughout this Commission. Alongside this report, we are launching a call for evidence. If you have practical ideas for change and improvement, please share them with us.

**Tera Allas and Anita Charlesworth**

Co-chairs, NHS Productivity Commission

# Key points

- Productivity is about delivering the best health care from the available resources. This has always been important for the NHS but became even more so after the onset of the COVID-19 pandemic.
- NHS productivity rose for decades but fell sharply in 2020 and, despite improvements since, has not returned to its original path. The health service has lost around a decade of productivity growth, according to the latest official data for 2022/23. If pre-pandemic trends had continued, the NHS would have been around 14% more productive in 2022/23 – equivalent to roughly £20bn of additional care.
- International comparisons should be made with caution, but the NHS appears to have experienced a steeper and more prolonged productivity decline than many peer countries' health services.
- Recovering this lost productivity matters for patients and public finances. But recovery alone is not enough: population ageing, rising illness and a weak economic outlook mean the NHS must deliver sustained productivity growth.
- The NHS has achieved gains before, averaging around 1% per year pre-pandemic. Shorter hospital stays contributed significantly: we estimate it explains around half of pre-pandemic gains in productivity (non-quality-adjusted). Advances in treatments and changes to payment systems supported this shift, which shows what is possible when policy levers are aligned.
- Much of the NHS's productivity shock is structural and linked to long-term policy decisions. The health service entered the pandemic with a hospital-centric system but with little spare capacity. Hospital staff numbers grew even as there were constraints on other resources, such as available beds.
- The government has ambitious plans for improving NHS productivity. But experts recently convened by the Health Foundation judged there is only a 1 in 6 chance of achieving the government's 2% annual productivity growth target – which is more than double the historical rate – under current conditions.
- There is also a risk that a short-term target crowds out longer term priorities. Successful technology adoption could raise growth, but the NHS has an uneven track record of scaling digital tools and faces a legacy of underinvestment in capital.

- To avoid a ‘diagnosis without delivery’ cycle, the NHS Productivity Commission will focus on four drivers where national policy can unlock gains: workforce, capital, technology and innovation, and transformation.
- By spring 2026, expert commissioners will co-author four policy options papers (one per driver) proposing solutions to increase NHS productivity. From spring to autumn 2026, we will integrate these into a coherent roadmap for raising productivity.

# Introduction

The background is a solid dark teal color. A curved line, resembling a horizon or a wave, separates the dark teal upper section from a lighter teal lower section. The line starts from the left edge and curves upwards towards the right.

Improving productivity is integral to creating a high-performing and sustainable health service. Amid tight public finances and stalled progress in improving the nation's health, the NHS in England needs to seize opportunities over the next decade to deliver more and better care to patients for every pound spent. To assist, the Health Foundation has launched the NHS Productivity Commission to develop practical, evidence-based and ambitious solutions to improve productivity.<sup>1</sup>

NHS productivity increased for decades before the COVID-19 pandemic but reversed at its onset. Had pre-pandemic trends continued, the NHS in England would have been 14% more productive in 2022/23 – equivalent to around £20bn of the NHS budget. That is enough for millions more outpatient appointments or tens of thousands of extra major operations.

Unlike the UK economy, NHS productivity remains stubbornly below pre-pandemic levels.<sup>2</sup> Since 2019, activity has not kept pace with funding increases and performance is poor.<sup>3</sup> Public satisfaction with the NHS is at a record low, and waste is a growing concern.<sup>4,5</sup> Meanwhile, public spending pressures are mounting. Recovering the fall in productivity is crucial.

But recovery alone will not be enough. Demographic change, rising illness and a weak economic outlook mean continued productivity growth is essential for improving outcomes and protecting public finances.<sup>6,7,8,9</sup> Our projections show that sustained productivity growth could free up tens of billions of pounds for the NHS.<sup>10</sup>

Had pre-pandemic trends continued, the NHS in England would have been 14% more productive in 2022/23 – equivalent to around £20bn of the NHS budget.

Fortunately, this is also a moment of real opportunity. Breakthroughs in technology, including artificial intelligence (AI), are starting to show genuine promise.<sup>11,12</sup> Just as productivity growth has been the long-term driver of rising living standards in the wider economy, health care could be similarly transformed, offering better patient outcomes at lower cost.<sup>13</sup>

The 10-Year Health Plan is ambitious. The government has also set a target of 2% annual NHS productivity growth to the end of this parliament – more than double the long-term average.<sup>14</sup> However, while there are many promising initiatives across the system, experts convened by the Health Foundation were not confident this target will be met without further action.<sup>15</sup>

We will support efforts to boost productivity by looking carefully at the foundations. We have developed a framework based on what matters most:

1. having the right staff to deliver care (workforce)
2. fit-for-purpose equipment and buildings for staff (capital)
3. the right digital tools and new ways of working (technology and innovation)
4. the leadership, objectives, accountability and resources to drive forward change (transformation).

Over the course of this Commission, we will build an evidence-based understanding of how each driver can be strengthened and the policy reforms needed to get there. We will learn from best practice in health care, internationally and from other sectors. Our recommendations will be brought together in a series of policy options papers for each driver and, finally, an overall roadmap for the system that sets out priorities for change.

This report lays the groundwork. To begin, we set out our understanding of NHS system productivity. We look at trends in key measures over the past two decades and diagnose the reasons for the NHS's recent stalling productivity. Then, we introduce our four-driver framework, which will guide future recommendations. And finally, we explain how you can get involved.

What is system  
productivity?



Though productivity can be defined and measured in many ways, this Commission will take the broadest view: system productivity means the health care value created for every pound invested.

This definition reflects the NHS Constitution's principle of making 'the most effective, fair and sustainable use of finite resources' and aligns with duties in the Health and Care Act 2022.<sup>16,17</sup> It applies at every level of the system, from the whole NHS, down to a single operating theatre. In every case the question is the same: **are resources being used to create the greatest value?**

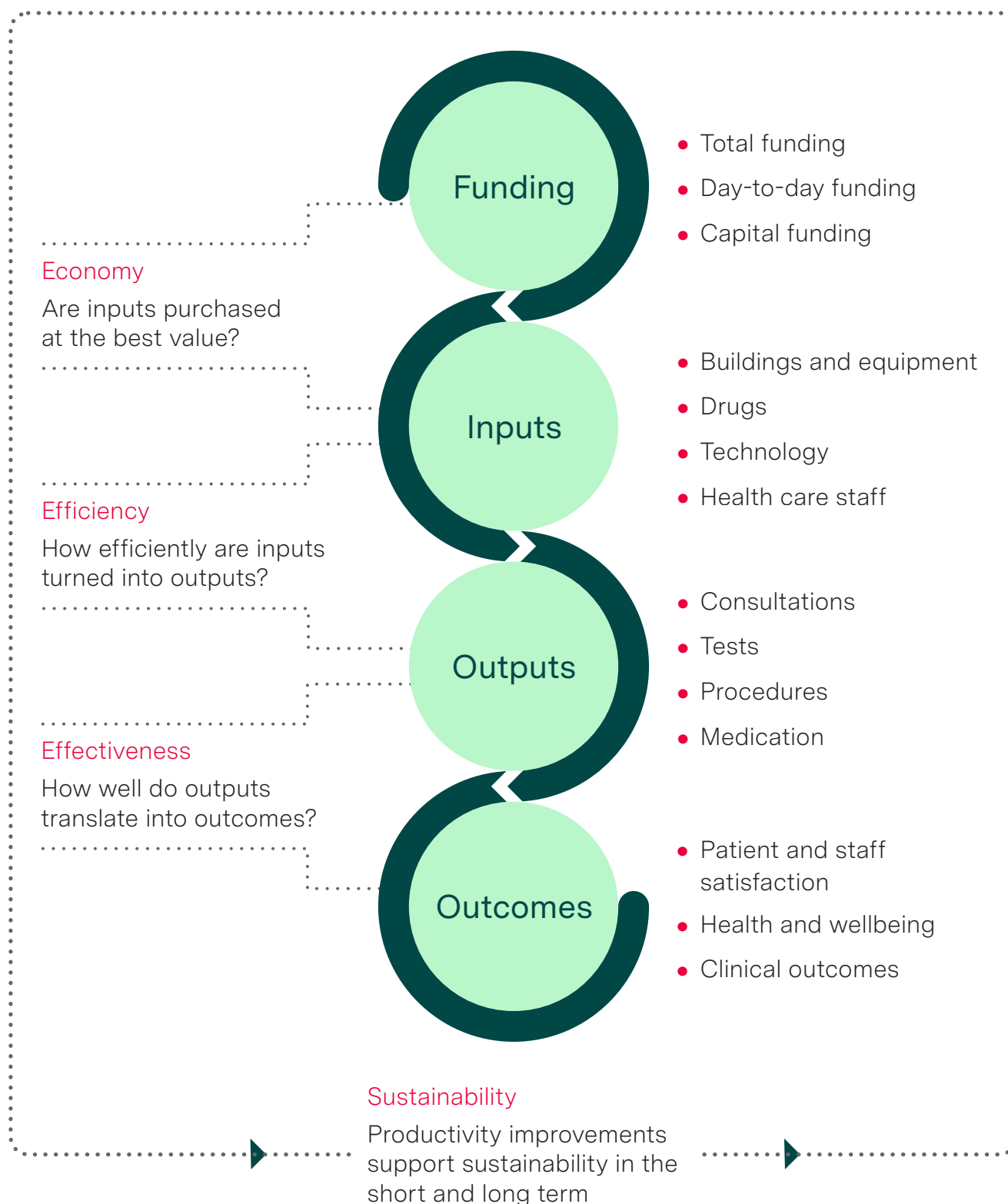
We can think of this in three steps (Figure 1):

- **Funding** is used to purchase **inputs**, such as staff time and equipment.
- Inputs are combined to create **outputs** – consultations, tests, procedures and admissions.
- We measure how these outputs translate into **outcomes** – sustainable improvements in health, wellbeing and patient experience.

System productivity in health care goes beyond asking whether the NHS turns inputs into as much care as possible (**efficiency**). It is also whether the health service obtains good value when buying supplies (**economy**), whether care improves people's health (**effectiveness**), and whether gains are **sustainable**.

By defining productivity more broadly – focusing on value – we aim to connect this concept with what matters most to staff, patients and policymakers alike.<sup>18</sup> But this brings challenges. Measurement is vital to decision making. While there are various measures of productivity available, none capture everything.<sup>19</sup> At present, the approach adopted by the Office for National Statistics (ONS) and others gets closest. This compares output – weighted by cost – to inputs, with an additional quality adjustment. We will generally rely on this approach as a guide, but we will supplement it with further data on broader outcomes and value.

**Figure 1: Defining system productivity**



Source: Adapted from Aldridge S, Hawkins A, Xuereb C. [Improving public sector efficiency to deliver a smarter state](#). UK government; 2016. Contains public sector information licensed under the Open Government Licence v3.0 ([www.nationalarchives.gov.uk/doc/open-government-licence/version/3](http://www.nationalarchives.gov.uk/doc/open-government-licence/version/3)).

# NHS productivity landscape

The image features a solid dark teal background. In the top left corner, the text 'NHS productivity landscape' is written in a white, sans-serif font, with 'NHS productivity' on the first line and 'landscape' on the second line. At the bottom of the image, there is a large, smooth, curved shape in a lighter teal color that sweeps from the left edge towards the right, creating a modern, abstract design.

- **NHS productivity improved steadily from the mid-1990s to the late 2010s, delivering more and better care for the resources used.**
- **Shorter hospital stays (enabled by technological innovation) have been a critical driver of past gains, but both went into reverse after the onset of the COVID-19 pandemic.**
- **The NHS experienced a sharper and more prolonged pandemic productivity downturn than in other countries and sectors.**
- **The relationship between health outcomes and productivity is complex, with periods of productivity growth not always translating into improved outcomes.**
- **Even before the pandemic, the UK was considered relatively efficient but not relatively effective compared with other health systems, raising questions about whether an increasingly hospital-centric NHS is allocating resources to the right activities.**

As productivity can be defined and measured in many ways, we describe these measures in the Appendix, with explanatory notes.

## NHS productivity trends

NHS productivity in England (according to the ONS measure) fell sharply at the start of the pandemic, reversing some of the gains made during the previous 25 years.<sup>20</sup> Productivity growth was achieved by increasing outputs (a metric that combines different types of health care activity) faster than the inputs (eg staff) needed to deliver that care. In addition, the quality of care increased. However, this sharply reversed in the pandemic. Many non-urgent operations were postponed early on, creating an initial productivity shock. Even after services resumed, productivity remained below its pre-pandemic baseline.

### Inputs

Inputs grew by 3.7% per year on average between 1995/96 and 2022/23, according to the ONS, with faster growth in the 2000s (4.9% per year) than in the 2010s (2.1%). While staff (labour) is the single biggest cost, accounting for just over 50% of expenditure in 2022/23, the strongest growth over time has come from goods and services. This includes areas

such as drugs and other materials but also agency staff and independent sector spend (ie when non-NHS providers are commissioned to deliver NHS care).<sup>21</sup> The weakest growth has been in capital consumption, such as for buildings and equipment.

## Outputs

These inputs are used to deliver care across different services, in the form of appointments, admissions, tests, treatments and procedures. Collectively, these are measured as outputs, which rose by 4.0% per year between 1995/96 and 2022/23.<sup>20</sup> Again, growth was faster in the 2000s (5.2%) than in the 2010s (3.4% up to 2018/19). Much of the growth came from hospital and community health services, which is consistent with funding flows that show the NHS becoming increasingly hospital-centric over this period.<sup>22</sup>

Outputs can also be adjusted for quality, accounting for survival rates, health improvements, waiting times and patient experience. By this measure, care quality improved steadily, rising by around 10 percentage points between 2001/02 and 2018/19 – equivalent to 0.5% growth a year.\*

Outputs grew faster than inputs over the 25 years before the pandemic, which means **the NHS became more productive.**

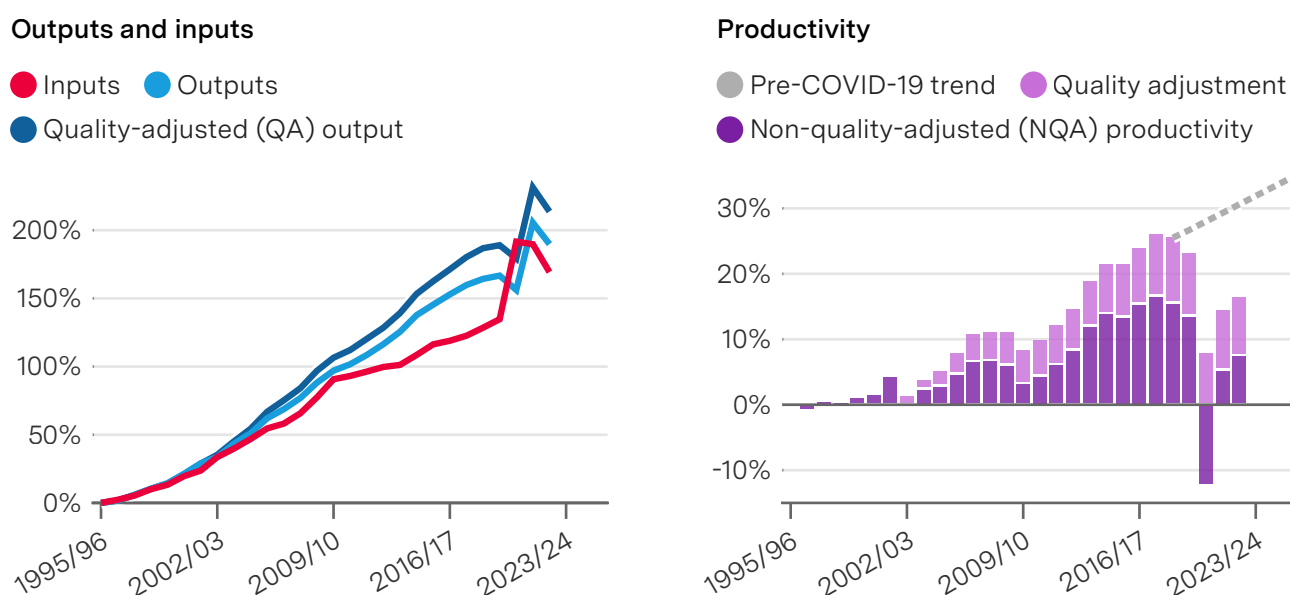
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\* Quality adjustments were not incorporated in the measure until the early 2000s.

## Productivity (ONS measure)

Outputs grew faster than inputs over the 25 years before the pandemic, which means the NHS became more productive (Figure 2). This peaked before the pandemic. In 2018/19, productivity was 16% higher than in 1995/96 on a non-quality-adjusted (NQA) basis, equivalent to growth of 0.6% per year.<sup>20</sup> Once quality is factored in, gains were even greater: by 2018/19, quality-adjusted (QA) productivity was 26% above 1995/96 levels (1.0% per year growth). The ONS's estimates are similar to those from the Centre for Health Economics.<sup>23</sup>

**Figure 2: The efficiency and quality of NHS care increased before the COVID-19 pandemic**  
Percentage change in NHS inputs, outputs and productivity versus 1995/96, England



Source: ONS.

Even before the pandemic, productivity growth varied over time (Table 1). There was little growth before 2002/03 (0% NQA productivity and 0.2% QA productivity) and moderate growth for the rest of the 2000s (0.5% and 1.0% respectively). Partly this is explained by rapid funding growth in the 2000s, resulting in marked input growth, that took time to be absorbed and translated into faster output growth. Productivity growth was highest in the early 2010s (2.0%, 2.3%), as funding and input growth slowed but outputs continued to rise. Growth slowed after 2014/15 (0.3%, 0.8%),

even before the pandemic led to a sudden fall. The slow recovery from the productivity shock means that by 2022/23 the NHS had lost a decade of productivity improvement.

**Table 1: Funding and productivity growth over time (England)**

|                                    | 1995/96 to<br>2002/03 | 2002/03 to<br>2009/10 | 2009/10 to<br>2014/15 | 2014/15 to<br>2018/19 | 2018/19 to<br>2022/23 |
|------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <b>Health funding (real terms)</b> | n/a                   | 5.4%                  | 1.1%                  | 1.5%                  | 5.4%                  |
| <b>Inputs</b>                      | 4.2%                  | 5.2%                  | 1.8%                  | 2.3%                  | 4.2%                  |
| <b>Outputs</b>                     |                       |                       |                       |                       |                       |
| NQA                                | 4.2%                  | 5.7%                  | 3.8%                  | 2.7%                  | 2.3%                  |
| QA                                 | 4.4%                  | 6.2%                  | 4.2%                  | 3.2%                  | 2.3%                  |
| <b>Productivity</b>                |                       |                       |                       |                       |                       |
| NQA                                | 0.0%                  | 0.5%                  | 2.0%                  | 0.3%                  | -1.8%                 |
| QA                                 | 0.2%                  | 1.0%                  | 2.3%                  | 0.8%                  | -1.8%                 |

Source: Productivity of health care in England, ONS; NHS funding and expenditure, House of Commons library; GDP deflator, HM Treasury · QA = quality-adjusted, NQA = non-quality adjusted. Calculated using compound annual growth rate from start to end year.

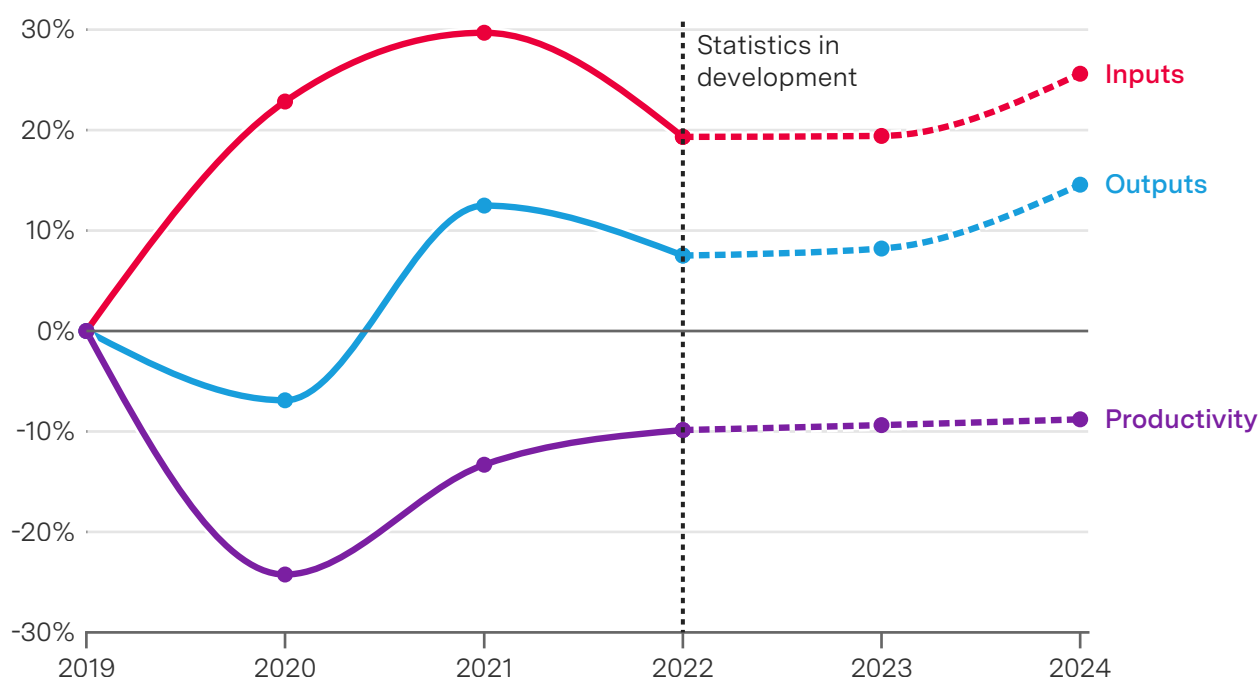
## Recent trends

The most recent full year of data for health care productivity in England from the ONS is 2022/23. According to its experimental series\* – which is for the UK rather than England, and for calendar rather than financial years – health care productivity remained 9% below pre-pandemic levels in 2024 (Figure 3).<sup>2</sup> The ONS cites considerable uncertainty surrounding this estimate. NHS England has been developing its own approach to measuring productivity and reports faster growth in acute productivity in recent years than the ONS data suggest, with a 2.7% increase in acute hospital productivity in 2024/25.<sup>24</sup>

\* This is classified as a statistic ‘in development’ (see Appendix).

**Figure 3: Estimated health care productivity in 2024 remained 9% below 2019 levels**

Percentage change in inputs, outputs and productivity versus 2019, UK



Source: ONS public service productivity, quarterly (healthcare), July 2025 · Figures from 2022 onwards are experimental statistics in development.

## Understanding changes in productivity

### Variation across sectors in the NHS

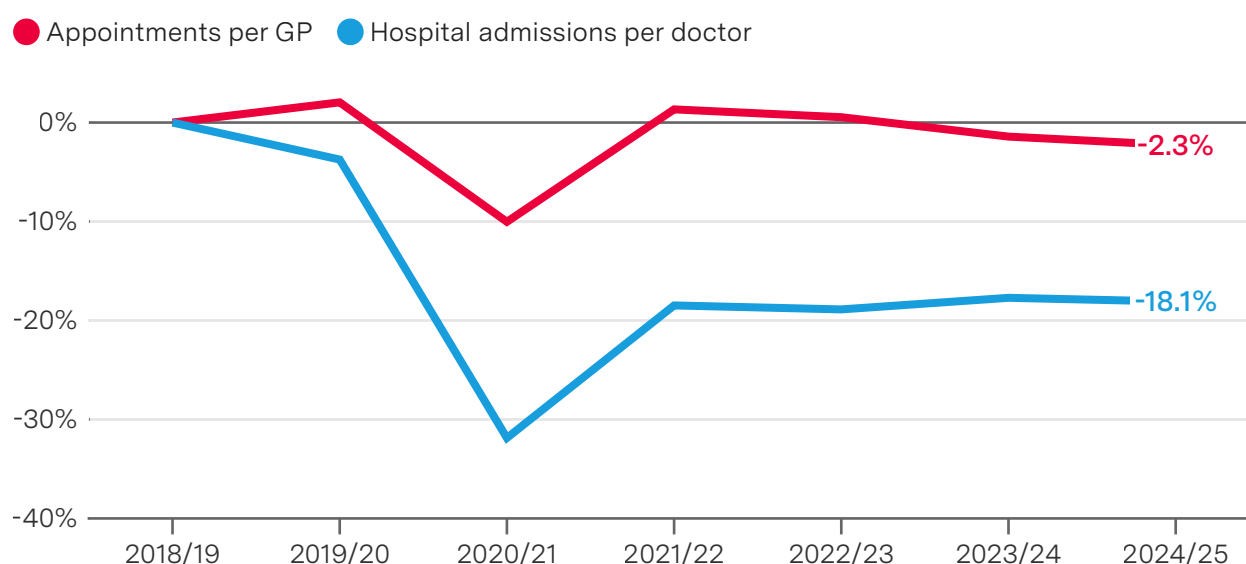
Productivity growth has likely varied across different NHS care settings. However, because current measures do not disaggregate by sector, and due to a lack of consistent, high-quality data, it is difficult to interrogate productivity trends outside of secondary care – especially for services such as mental health and community care. However, proxy indicators over time show differing trends between hospital services and general practice:

- **Hospital services:** before the pandemic, most output growth – and probably much of the productivity gain – was in hospital and community health services. In hospitals, admissions per doctor, after falling in the early 2000s, increased between 2006/07 and 2018/19, and the complexity of care (captured in acute care) also increased. Outpatient attendances and procedures per consultant grew rapidly between 2000/01 and 2018/19.<sup>25</sup>
- **General practice:** by contrast, appointments per general practice staff member declined over the two decades before the pandemic.

This proxy does not account for rising complexity – patients were on average older and had more comorbidities – or higher quality of care.<sup>26</sup> It also masks variation by staff group.

Since the pandemic, the pattern has flipped: GP appointments per GP are slightly below 2018/19 levels, but hospital admissions per doctor remain markedly lower (Figure 4). These simple aggregates mask considerable change in both settings, with substantial growth in the non-GP workforce in primary care,<sup>27</sup> and more same-day emergency care in hospitals. A fuller account of the productivity impacts of such changes is needed.

**Figure 4: The number of appointments per GP has recovered more quickly than admissions per doctor**  
Percentage change in activity per staff member versus 2018/19, England



Source: NHS Digital: Appointments in General Practice, Provisional Monthly Health Episode Statistics, General Practice Workforce, NHS Workforce Statistics · Hospital admissions per doctor includes all admissions. Appointments per GP includes only those appointments delivered by GPs.

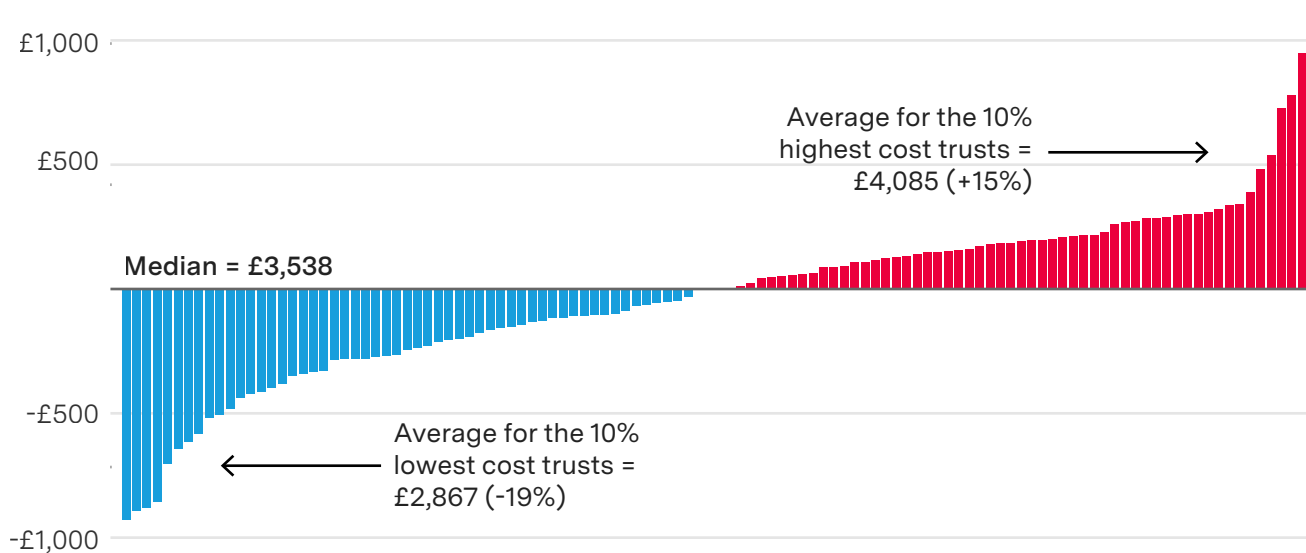
## Variation within NHS sectors

NHS productivity varies not only between sectors but also across organisations within sectors.<sup>28</sup> This is not unique to the NHS – there is considerable variation between businesses across the UK economy.<sup>29,30</sup> While some variation is inevitable and warranted, interventions such as the NHS England programme Getting it Right First Time have focused on identifying ‘unwarranted variation’. This has been a consistent focal point in health care policy, notably as part of the interim report of the

Carter Review of productivity in hospitals (2015), which estimated that the NHS could save up to £5bn a year by 2019/20 by reducing unwarranted variation.<sup>31</sup>

**Figure 5: Trusts in the lowest cost group had 19% lower activity costs than the median**

Variation in cost per weighted activity unit (WAU) across acute, non-specialist trusts compared with the median, 2023/24, England (£)



Source: NHS Model Health System (2023/24) · WAU is a standardised unit of health care activity. Adjusted for market forces factor. One WAU is equivalent to the average amount of clinical activity that can be produced for £3,500 by the average hospital.

Comparing the cost of providing one weighted activity unit (WAU) – a standardised unit of health care activity – across acute trusts reveals notable variation. Comparing trusts by their cost per WAU shows that the median cost of one WAU is £3,538 (Figure 5). This is 19% lower for the group of trusts with the lowest cost, and 15% higher for those with the highest cost. Reducing this variation in the cost of providing hospital care could present an opportunity to improve whole-NHS productivity.

Variation in productivity is not confined to acute care or hospitals but, again, data quality is weaker for other care settings. Recent research found modest productivity differences across general practice, with most practices operating within a narrow band of efficiency.<sup>32</sup> By contrast, research has identified much greater variation across mental health providers, reflecting differences in case mix, service configuration and local demand.<sup>33,34,35,36</sup>

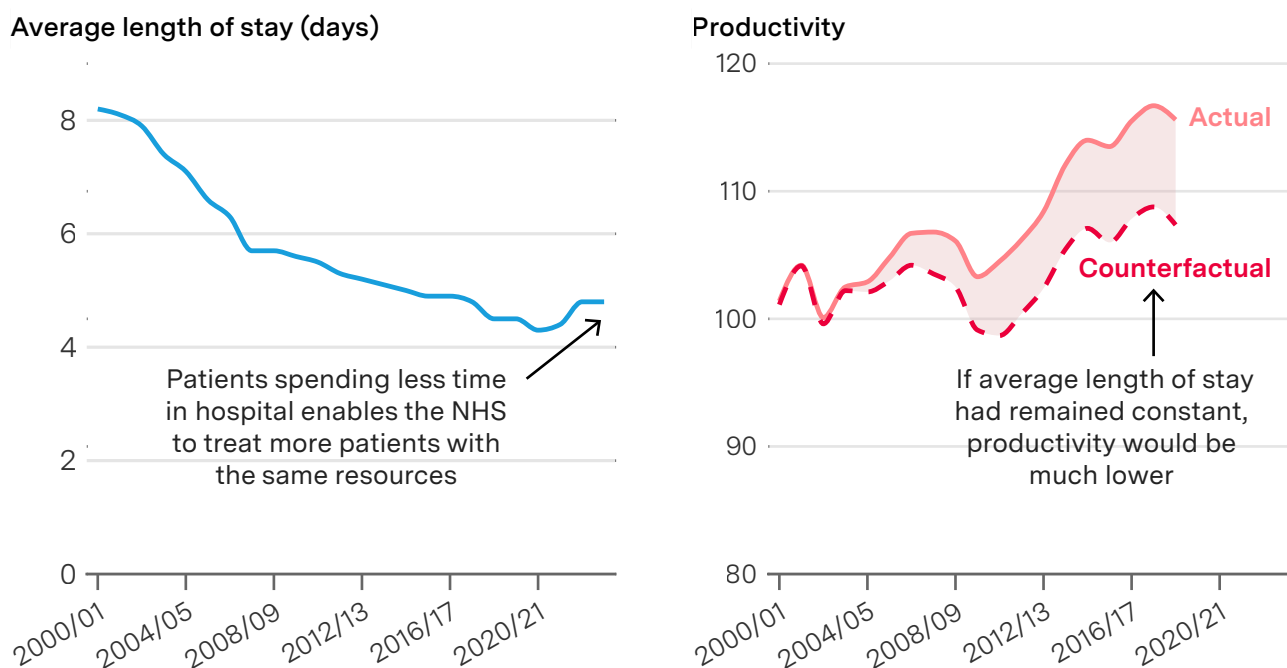
## Sources of productivity gains

Many factors have contributed to increased NHS productivity, including the switch from expensive branded drugs to cheaper generic alternatives and improvements in the quality of care, such as higher post-operative survival rates. However, as noted earlier, hospitals account for much of the increase in outputs. Shorter stays and greater use of day-case surgery (not requiring an overnight stay) have been critical drivers of gains in this sector.<sup>25</sup>

The average length of a hospital stay in 2018/19 was 4.5 days, down from 8.4 days in 2000/01 (Figure 6). Our analysis shows that, under a counterfactual scenario in which the average length of stay stayed constant at 2000/01 levels, the NHS would have been able to admit a quarter fewer cases in 2018/19 due to bed capacity constraints. That would have eliminated half the total gains witnessed in NQA productivity up to 2018/19.

**Figure 6: Average length of stay has fallen notably since 2000/01; if it had remained constant, pre-pandemic productivity growth would have halved**

Non-quality-adjusted (NQA) productivity under actual and counterfactual scenario where average length of stay remained constant at 2000/01 levels, England



Source: Health Foundation calculations based on data from the ONS and NHS Digital • Productivity recorded is NQA.

Together, shorter stays in hospital and a shift towards day cases have been enabled by less invasive surgery, faster diagnostics and safer anaesthesia, supported by services outside of hospital such as reablement and adult social care. These have been reinforced by national policy levers (particularly financial incentives) and benchmarking (NHS RightCare and Getting It Right First Time, for example) and ultimately delivered by front-line clinical and operational leadership.<sup>34,38</sup> The length of hospital stays increased at the onset of the COVID-19 pandemic,<sup>39</sup> bringing this down is a policy priority.

## How does the NHS compare internationally?

### International comparisons

When comparing health care data internationally, caution is needed due to differences in data collection and reporting, as well as broader variability in the context and design of health care systems between countries. That said, the NHS has long been considered a relatively efficient health care system (Figure 7). For instance, it has high use of cheaper generic drugs, a low length of stay, high levels of bed occupancy and low administration costs.<sup>39,40</sup>

**Figure 7: The UK was judged to have a relatively efficient health care system before the pandemic**  
DEA score: total health expenditure (per capita in PPP) versus hospital discharges (2012 or latest)

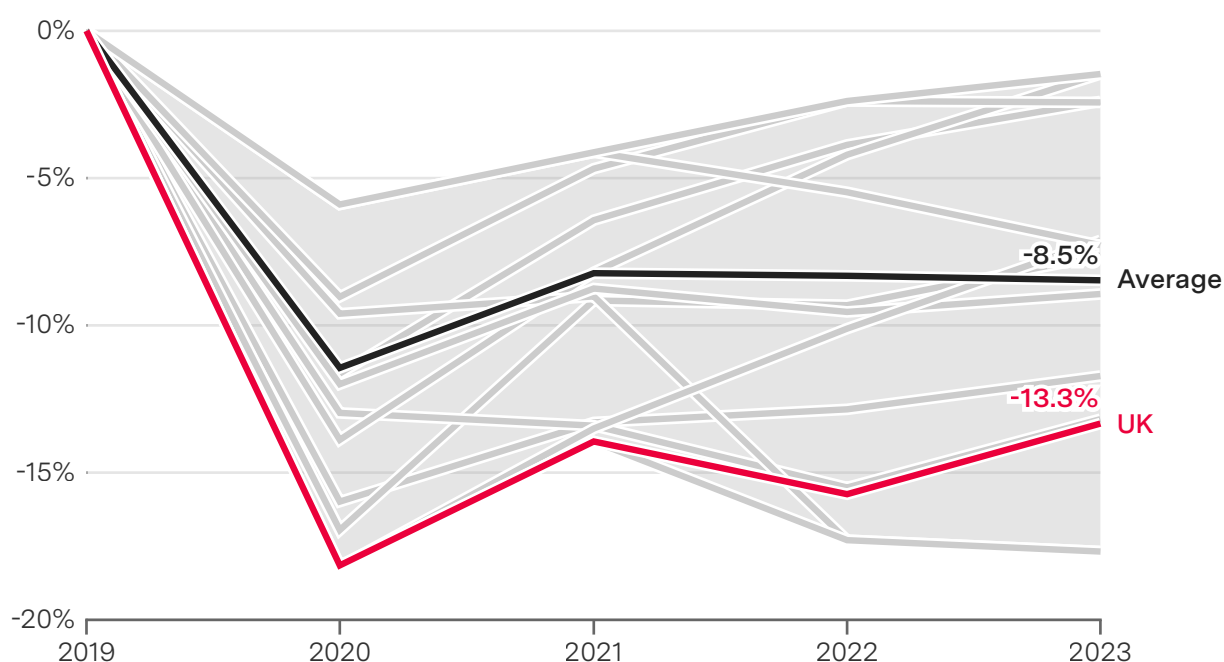


Source: Intermediate outputs (Model 4), Annex 5, Efficiency estimates of health care systems (2015), European Commission · Includes a subset of comparator countries. DEA = data envelopment analysis; PPP = purchasing power parity.

Since the pandemic, however, the UK seems to have experienced both a steeper fall in hospital activity and a more protracted recovery than many peers, suggesting a deeper drop in productivity (Figure 8).

**Figure 8: The UK experienced one of the sharpest falls in hospital discharges since the pandemic and has recovered more slowly**

Percentage change in hospital discharges in the UK and peer countries versus 2019



Source: OECD Hospital aggregates (data accessed: 10 October 2025).

## Comparison with other sectors

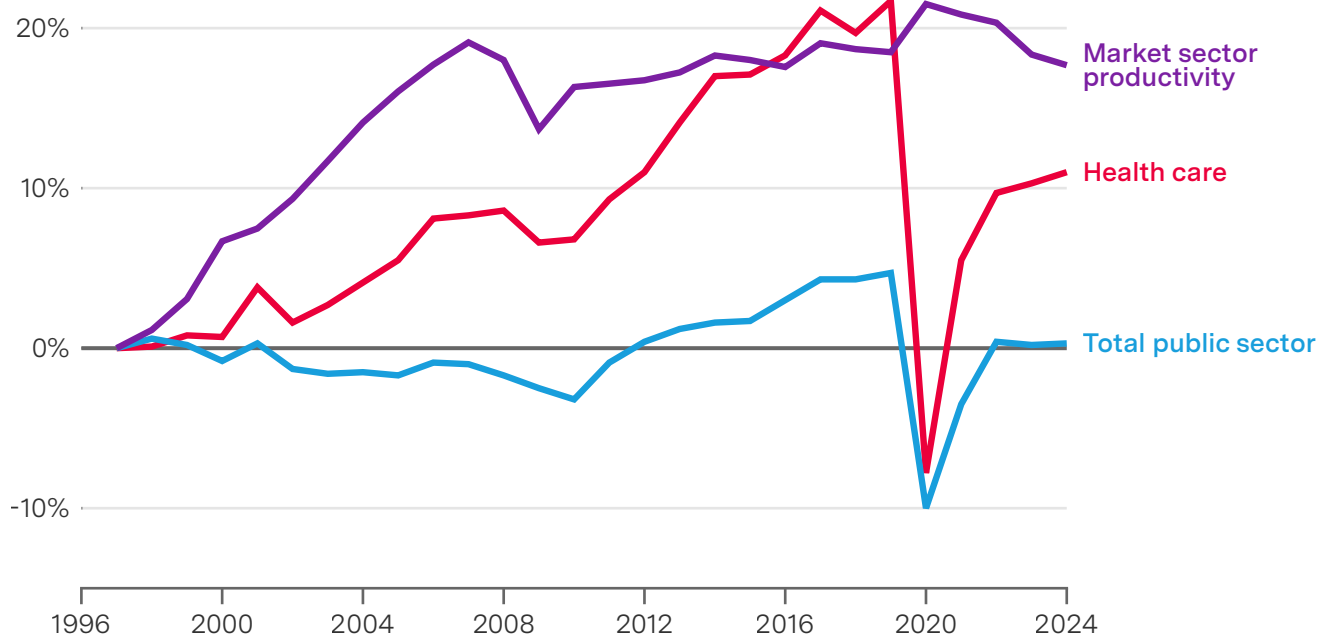
Comparing changes in health care productivity with that of the wider public sector and the market (private) sector reveals (Figure 9):

- Productivity growth was robust before the pandemic: the NHS performed very strongly in the 2010s, recording higher growth than the market sector prior to COVID-19. Productivity growth was also much higher than other public services.\*
- The productivity slowdown since the pandemic has been more pronounced in health care compared with both the wider public and market sectors, albeit health care is now recovering.

\* This measure shows the NQA comparison, but the difference is even greater once QA productivity is included.

**Figure 9: Health care productivity outperformed other sectors before the pandemic but the slowdown since has been more severe**

Percentage change in productivity versus 1997 by sector, UK



Source: ONS annual multi-factor productivity and public service productivity (total and health care).

## Broader system productivity

The ONS approach to measuring productivity is world leading, but it does not cover all the wider issues raised by our definition of system productivity in health care. Here we consider two further aspects: the link between funding and inputs (economy) and the link between outputs and outcomes (effectiveness).

### Economy: funding productivity

The **economy** of the NHS is the value for money it receives when purchasing resources to deliver care. Since 2002/03, there have been periods when funding has increased faster than inputs and periods where the opposite holds. Overall, the Institute for Fiscal Studies finds that health care ‘funding productivity’ (how many outputs the health service can buy with every pound of spending) has risen, but by less than the rate recorded under the standard ONS measure.<sup>42</sup>

Pay is the NHS's largest cost, accounting for around two-thirds of spending. Wage growth can push up spending faster than the inputs needed to deliver care, but this may be necessary to recruit and retain staff and is partly driven by pay trends in the wider economy.<sup>42,43</sup>

By contrast, there are areas of spend where the NHS has more control and has not always secured value for money. Major capital programmes have faced cost overruns and procurement has not always made best use of the NHS's collective buying power.<sup>44,45,46</sup> Reliance on agency staffing has also raised costs without building long-term capacity.

Taken together, these trends mean that even during periods of rising NHS funding the service has not always translated additional spending into proportionate increases in inputs (and then activity or outcomes). Importantly, though, the cheapest option is not always the best value – as seen in patient transport contracts that were underpriced.<sup>47</sup>

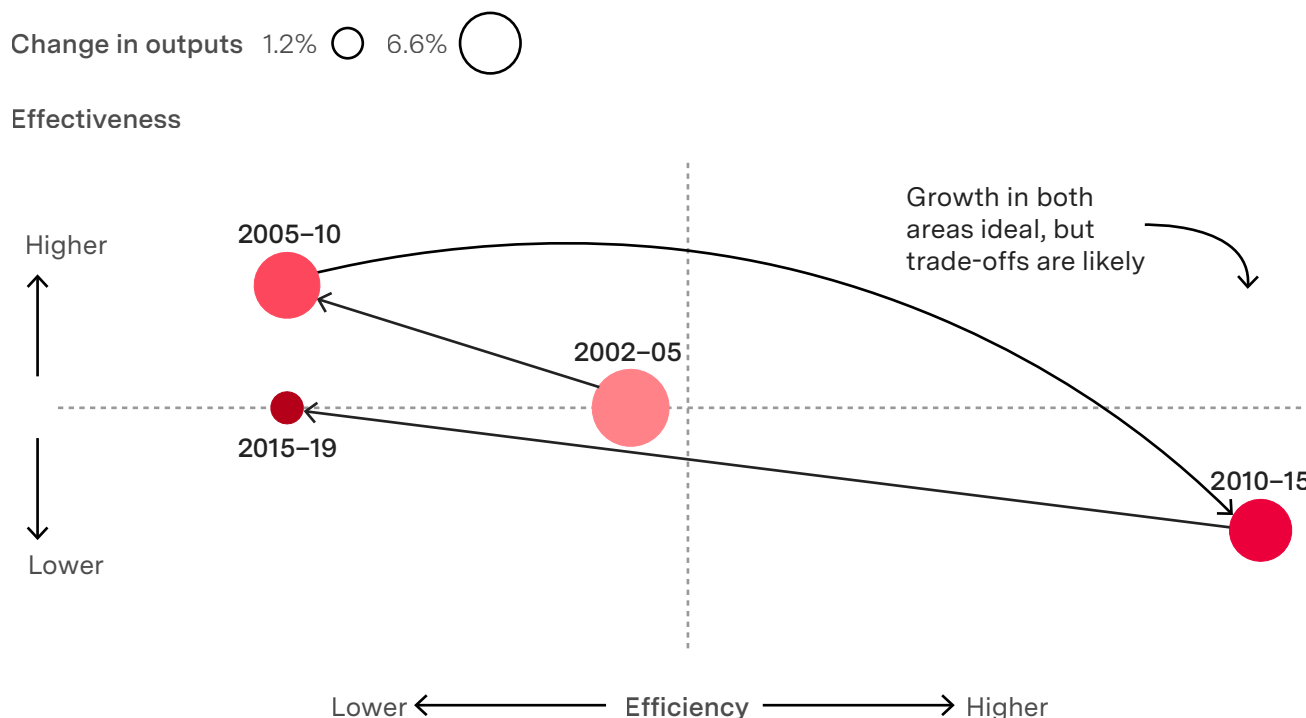
## Effectiveness: outputs and outcomes

**Effectiveness** is about whether care delivered by the NHS translates into better outcomes for patients and the wider population. In other words, it measures how well NHS activity turns into improved population health or experience. Ideally, both **efficiency** (more output per input) and **effectiveness** (better outcomes from outputs) improve together. But past trends hint at a tension between the two.

In the 2000s, England saw major improvements in outcomes such as avoidable mortality, infant mortality and avoidable hospital admissions, but productivity growth was relatively weak. In the 2010s, the picture shifted: growth in inputs slowed and outputs held up; productivity was high but progress against many outcomes (proxied in Figure 10 by avoidable mortality) stalled.

**Figure 10: In the early 2010s, efficiency was high compared with previous periods, but progress on outcomes stalled**

Growth in efficiency versus growth in effectiveness by time period, England



Source: Efficiency: ONS public service productivity estimates: health care, England (2022); Effectiveness: ratio of outputs (ONS, 2022) to progress derived from ONS. Avoidable mortality in England and Wales (2023) · Metrics are calculated using compound annual growth rate from start to end year.

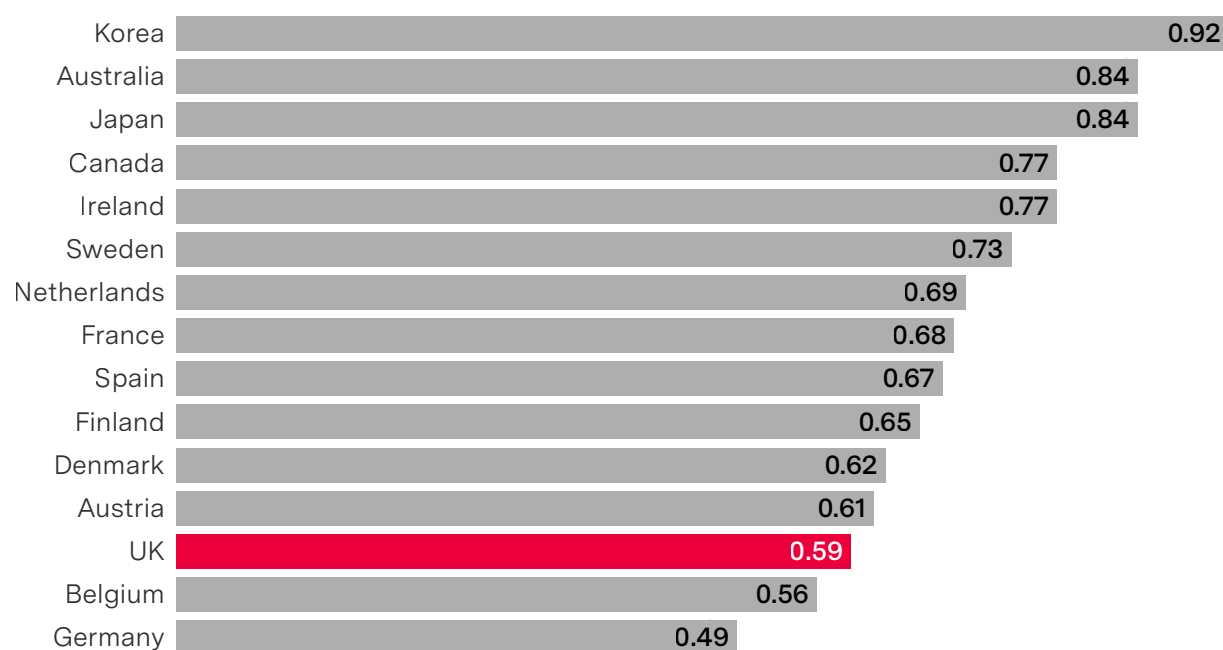
### Box 1: Efficiency–effectiveness trade-offs?

All being equal, greater efficiency should support better outcomes. But more activity is not always more effective. For example, in screening programmes, targeted testing often outperforms broad-based programmes; wide testing can produce low-value care (many negatives) and even harm (false positives). The Organisation for Economic Co-operation and Development (OECD's) research shows a sizeable share of inpatient costs reflect harm from care.<sup>48</sup>

Overall, research suggests there is scope to improve the cost effectiveness of UK health care (Figure 11). Studies suggest that some spending on new medicines (2000–2020) delivered less overall health than the care it replaced,<sup>49</sup> and some other National Institute for Health and Care Excellence (NICE)-approved innovations may have reduced net health once trade-offs are counted.<sup>50,51</sup> Meanwhile, primary care, community services and public health – often better value – appear to have been underfunded.<sup>52</sup>

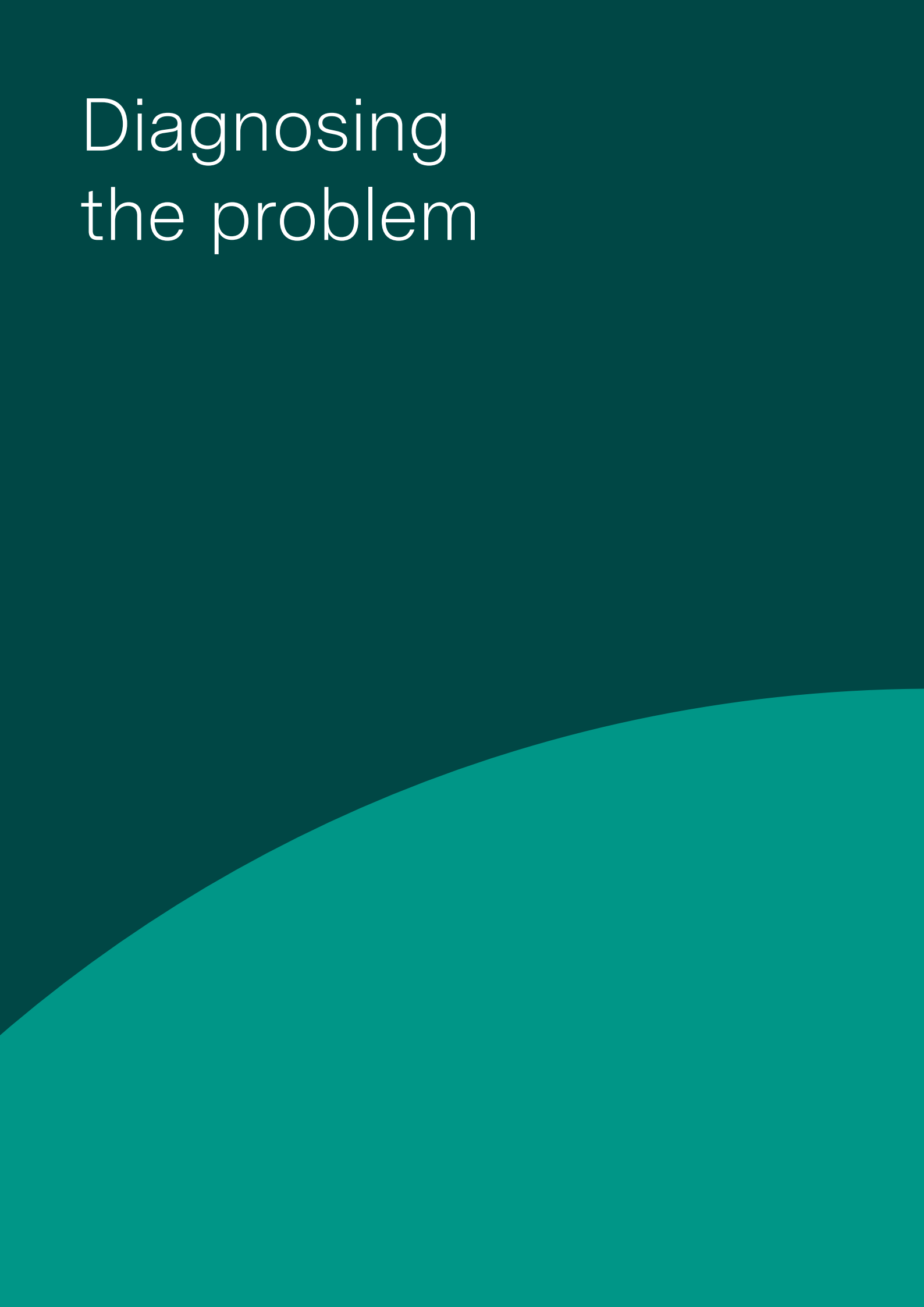
**Figure 11: Research suggests the UK could have improved the effectiveness of spend even before the pandemic**

DEA score: health expenditure (share of GDP) versus age-standardised mortality rates, 2019



Source: How do health system features influence health system performance? OECD and the Health Foundation · DEA = data envelopment analysis. Selected peer countries.

# Diagnosing the problem



- There is no single cause of the NHS productivity slowdown.
- Rising patient complexity, undermanagement, lack of physical capacity – both in and outside of hospital – and staff turnover all contributed to the recent increase in hospital stays.
- Many issues predate the COVID-19 pandemic and cast doubt on the sustainability of productivity gains in the 2010s.
- There are opportunities to increase productivity, but experts are not confident the NHS will meet its 2% target.
- The NHS must avoid a ‘diagnosis without delivery’ trap that could lead to prolonged weaker productivity growth.

## Causes of NHS productivity slowdown

Many organisations have explored the NHS productivity slowdown. The Health Foundation-commissioned report, *The NHS productivity puzzle*, from the Institute for Government (IfG) and Public First, identified under management, lack of capital and the loss of senior staff as key factors.<sup>53</sup> Other studies are consistent with the IfG and Public First assessment, pointing to pressures on patient capacity and flow – both through and out of hospitals – as well as workforce, capital and estates, technology and data, and the finance/measurement and incentive environment (Table 2).

The causes of the NHS productivity slowdown are multifaceted and interdependent; they must be tackled together, not with isolated fixes.

**Table 2: Causes of the NHS productivity slowdown**

| Theme                              | What is slowing productivity?                                                                                                                     |
|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Patient capacity and flow          | Discharge delays; higher acuity/complexity; low out-of-hospital capacity, including adult social care; blocked beds and longer length of stay     |
| Workforce and management           | Undermanagement; burnout and sickness; experience mix/supervision burdens; industrial action; lack of flexible deployment                         |
| Capital and estates                | Underinvestment; £13.8bn maintenance backlog; slow approvals; weak workforce–capital alignment                                                    |
| Technology and data                | Legacy systems; poor interoperability; under-resourced change; rigid workflows/systems                                                            |
| Finance/measurement and incentives | Return to block payments in acute care; short-termism and heavy assurance burdens; repeated provider deficits; concentration of care in hospitals |

Source: Institute for Government/Public First, The Health Foundation, Nuffield Trust, The King's Fund, Institute for Fiscal Studies, NHS Providers, Healthcare Financial Management Association, NHS Confederation, NHS England.<sup>22,54,55,56,57,58,59,60</sup>

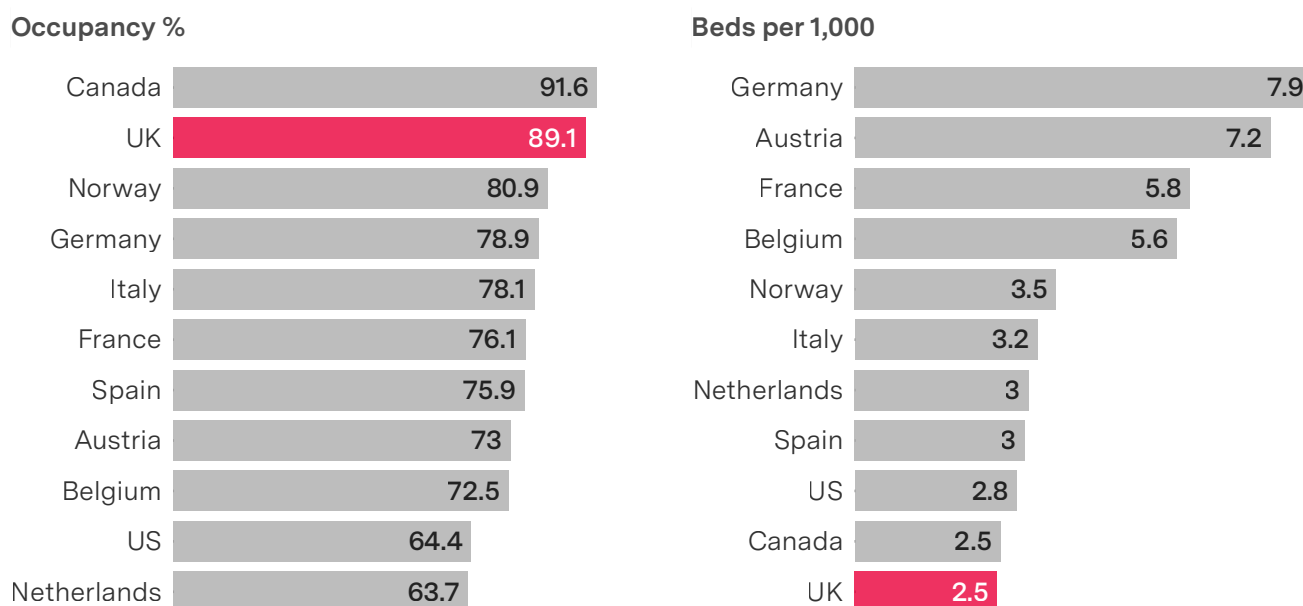
There is broad consensus that the causes of the NHS productivity slowdown are multifaceted and interdependent: for example, poor estates worsen flow, and limited management capacity slows technology adoption. This means they must be tackled together, not with isolated fixes.

A second consensus is that many challenges predate the pandemic. The 2010s saw the NHS deliver strong productivity gains. However, constraints on inputs, notably capital investment and pay/workforce growth, boosted in-year productivity measures while storing up pressures and limiting future capacity. Sustainability matters: choices that improve measured productivity in the short term can lower potential in the medium term – this has important implications for how we think about productivity.<sup>61,62</sup>

## International analysis

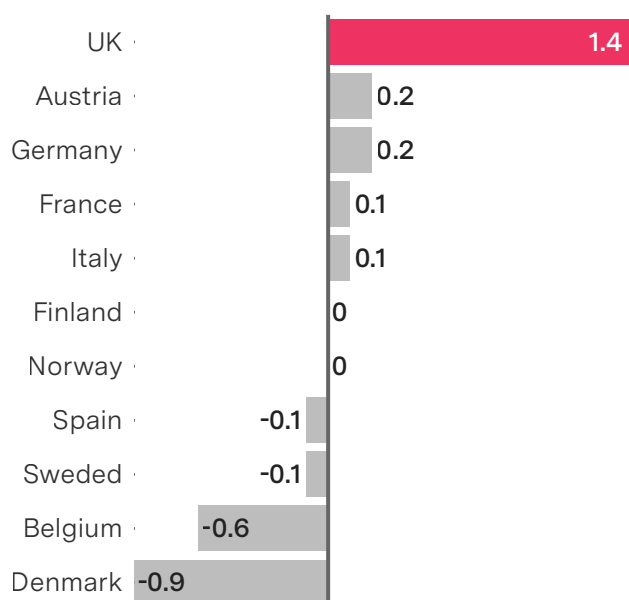
International comparisons reinforce these two main findings: that the NHS productivity shock is multifaceted and has long roots. Data show the UK entered the pandemic with low bed capacity and high occupancy. Average length of stay then rose, putting pressure on capacity while the hospital workforce expanded. Hospital activity, proxied by hospital discharges, fell. That combination – more inputs, despite other constraints, resulting in lower output – helps to explain the scale of the NHS productivity shock.

**Figure 12: The UK entered the pandemic with low bed supply and high bed occupancy**  
Hospital bed occupancy and supply of beds, UK and other countries, 2019



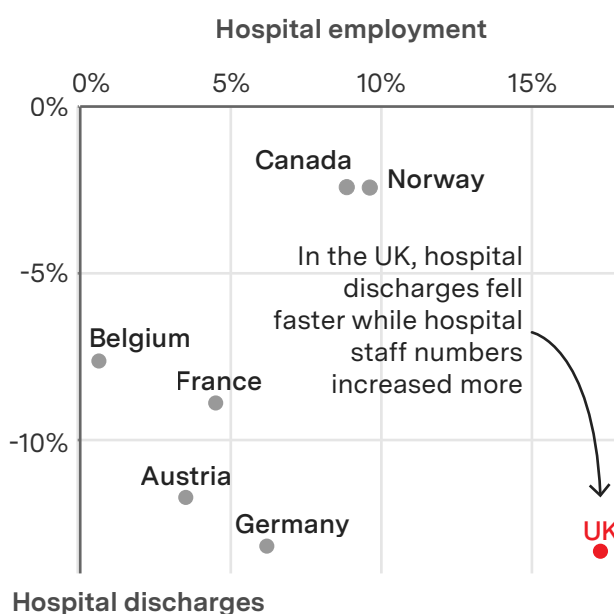
#### Hospital stays lengthened but the UK had little spare capacity...

Change in average length of stay in hospital (days), 2023 versus 2019



#### ...and activity fell and has not recovered: the UK is an outlier

Percentage change in hospital employment and hospital discharges, 2023 versus 2019



Source: OECD Health Statistics (via the OECD SDMX API, accessed 10 October 2025). Measures used: Hospital beds per 1,000 population – 2019 (Hospital resources dataset); Bed occupancy – Curative care hospitals (HC1), 2019 (Hospital aggregates); Average length of stay (ALoS) – Inpatient, total (indicator), 2019 & 2023 (Hospital aggregates); Discharges – Inpatient, total, 2019 & 2023 (Hospital aggregates); Hospital employment – FTE, 2019 & 2023 (Health employment).

## Avoiding ‘diagnosis without delivery’

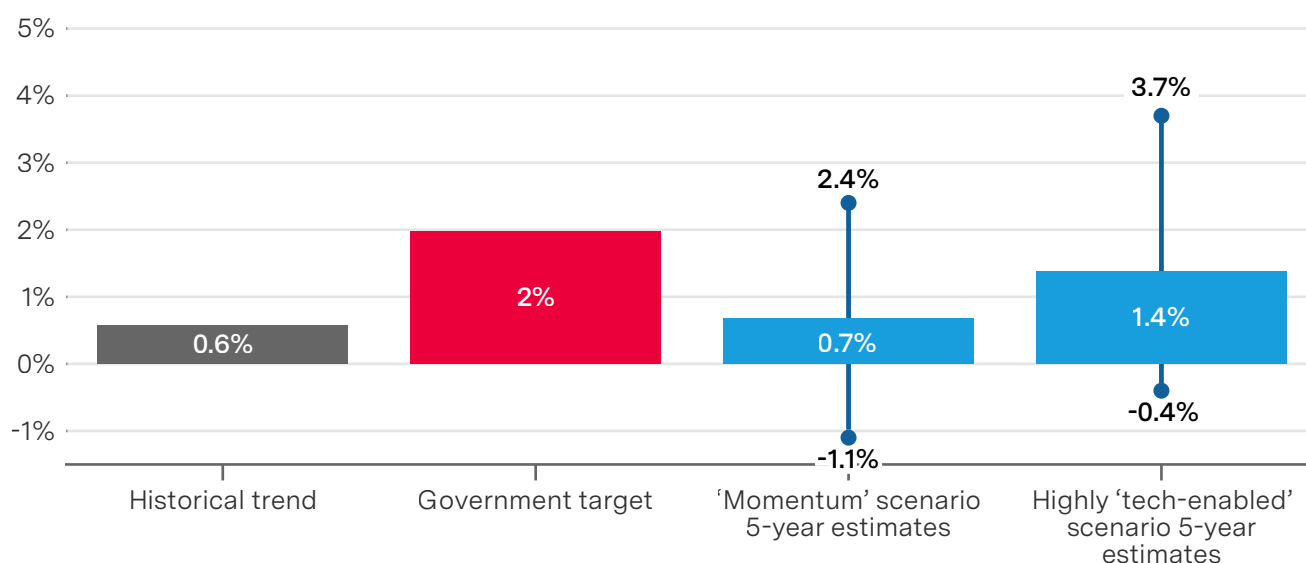
The 2025 Spending Review set a multi-year funding increase and an ambitious 2% annual productivity target,\* underpinned by operational and clinical improvement, digital transformation and workforce initiatives.<sup>14</sup>

Faster growth is plausible in the short term, as services recover productivity lost at the start of the pandemic by reducing length of stay and agency costs, but the longer term outlook is less certain.<sup>63</sup>

The Health Foundation, supported by The Strategy Unit, convened a diverse group of 14 experts with research, policy and front-line experience to consider the outlook for productivity. These experts judged this growth hard to sustain and were not confident that productivity growth would meet the 2% annual NHS target under current policies (estimates equate to a 15% chance, roughly 1 in 6, that the target will be met) (Figure 13).<sup>15</sup>

**Figure 13: Based on the current direction of travel, experts did not think the government’s 2% productivity target would be met**

NHS annual productivity (NQA) growth rates (historical trend, target, expert estimates)



Source: Historic trend: ONS growth in NQA health care productivity, 1995/96 to 2018/19; Scenario estimates: analysis of results from a productivity expert elicitation session run by the Health Foundation and The Strategy Unit, July 2025. ‘Momentum’ scenario assumes continuation of current direction of travel. Hypothetical ‘tech-enabled’ scenario assumes adequate funding, sustained investment and support for adoption of technology for a highly tech-enabled NHS.

\* It has not been made wholly explicit what metric this target is being compared against, as there are multiple different measures available from the ONS and NHS England, among others. The productivity plan contributes directly to efficiency gains and is compared with the NHS’s non-quality-adjusted growth rate over time: this suggests the 2% target is a non-quality-adjusted measure.<sup>14</sup>

Failure to meet the 2% target would impact near-term public sector efficiency plans and performance, requiring the government to either accept lower standards of care or award more funding.<sup>64</sup> According to Health Foundation analysis, if NHS productivity grows by 1% a year instead of 2%, the NHS would need about £9bn extra each year to the end of this parliament to provide the same level of care.<sup>10</sup>

However, there are also risks associated with attempting to meet this target, namely that the pursuit of short-term productivity gains crowds out longer term priorities. The last time the NHS achieved 2% annual productivity growth (NQA) in the early 2010s, subsequent growth was much weaker (0.3% NQA) (Table 1).

Policy should pair immediate gains with longer term enablers. The same experts convened by the Health Foundation believed that technology could boost NHS productivity but only with the right investment and if adopted and implemented at scale (Figure 13). They also shared concerns over elements such as workforce retention and limited capital investment.<sup>15</sup> Moreover, many policy ambitions for improving quality and productivity reflect long-standing aims (such as care closer to home, prevention and reducing variation) that have seen limited progress – and there are real tensions to manage (for example, pushing hospital efficiency while investing in out-of-hospital care).<sup>22,65,66</sup>

The risk, echoing productivity performance in the wider UK economy post-2008, is ‘diagnosis without delivery’: repeated identification of barriers and solutions but without execution. The root causes – underinvestment, misallocated resources, skills mismatches and limited management capacity – overlap and reflect the core drivers of productivity growth.<sup>67,68,69</sup> To realise the opportunities of the next decade, the NHS needs a cohesive package of reforms to support sustained and sustainable productivity growth. The next section presents a framework to guide this.

# A framework for improving productivity



## What are the drivers of productivity?

Governments and research bodies have long employed practical models to make productivity understandable and actionable.

For instance, HM Treasury's 'five drivers of productivity' – investment, innovation, skills, enterprise and competition – provide an accessible structure that shaped policy.<sup>70</sup> Research by the World Bank identified a similar set of core drivers – innovation, education, infrastructure, market efficiency and institutions<sup>71</sup> – while the OECD stresses inclusiveness and tackling variation.<sup>72,73,74</sup> Despite differences in emphasis, these approaches overlap in important ways.<sup>71</sup>

We identify four main drivers of productivity that can be applied to health care (Figure 14):

1. **workforce:** the people who support care delivery
2. **capital:** the buildings, equipment and digital infrastructure
3. **technology and innovation:** the adoption, implementation and spread of technologies
4. **transformation:** the things that enable the system to work more effectively, including leadership and management, coordination and governance.

### Workforce

People get more done when they have the right skills, work in well-run teams and focus on high-value tasks. Large-scale studies consistently link both the quantity and quality of education to increased output and faster adoption of new technologies.<sup>75,76,77</sup> But it is not just about cognitive ability – soft skills such as sociability and teamwork are also predictors of outcomes.<sup>78</sup> Effective management and a positive team climate help to translate skills into performance.<sup>79</sup> Structured training and a strong team culture improve safety and reliability across sectors.<sup>80</sup> Finally, reducing low-value administrative activities – such as meetings, duplicative reporting and complex approvals – helps to free up time for core tasks and delivers productivity gains.<sup>81</sup>

## Capital

Providing people with better tools, equipment and buildings helps them to produce more, with fewer errors and less disruption.<sup>82</sup> Many years of research have shown that capital investment raises output per worker – and more recent evidence shows investing in information technology (IT) enables even higher returns.<sup>83,84</sup> But it matters how money is invested and managed: programmes perform better when assets are chosen, placed and maintained well, with clear approval steps and follow-through.<sup>85,86</sup> Targeted upgrades that remove bottlenecks can unlock additional gains.<sup>87</sup>

## Technology and innovation

New ideas and better methods are fundamental to adding value over time. The biggest gains arrive when proven technologies are adopted widely and paired with process change. For example, a productivity boom in the late-1990s reflected widespread IT adoption while redesigning workflows.<sup>84,88</sup> Studies show that who adopts new ideas and technologies, how quickly and how thoroughly explains large productivity differences across places and sectors.<sup>89,90</sup> Practical enablers – including standards, training, interoperable data and proportionate quality assurance – reduce adoption costs and help spread the benefits.<sup>91,92</sup>

## Transformation

The system can only improve productivity when goals, rules, incentives and resources align – and when the system can shift people, money and assets to higher-value inputs and settings. A robust evidence base links institutional quality – especially policy stability and regulatory quality – to increased investment and productivity.<sup>93,94</sup> At the economic level, better allocative efficiency – whether changing the input mix or shifting resources to more productive firms and sectors – raises output and productivity.<sup>95,96</sup> Finally, within organisations, stronger management practices can raise productivity by deploying resources more effectively across sites and products, without necessarily needing more inputs.<sup>79,97</sup>

## Applying the drivers to health care

While insight can be obtained from broader definitions of productivity, health care is distinct in several important ways.

**Competition:** as patients do not face the full costs of NHS health care, market signals such as price and consumer choice are muted. For that reason, competition often plays a relatively limited role in a publicly funded system, though competition-like mechanisms can be used as policy tools.

**Balance:** health care services often pursue several, potentially conflicting objectives at once, such as access, safety, efficiency, clinical effectiveness and equity. For this reason, it is important that productivity balances economy (getting best value when purchasing inputs), efficiency (turning inputs into care) and effectiveness (generating outcomes that matter to patients).

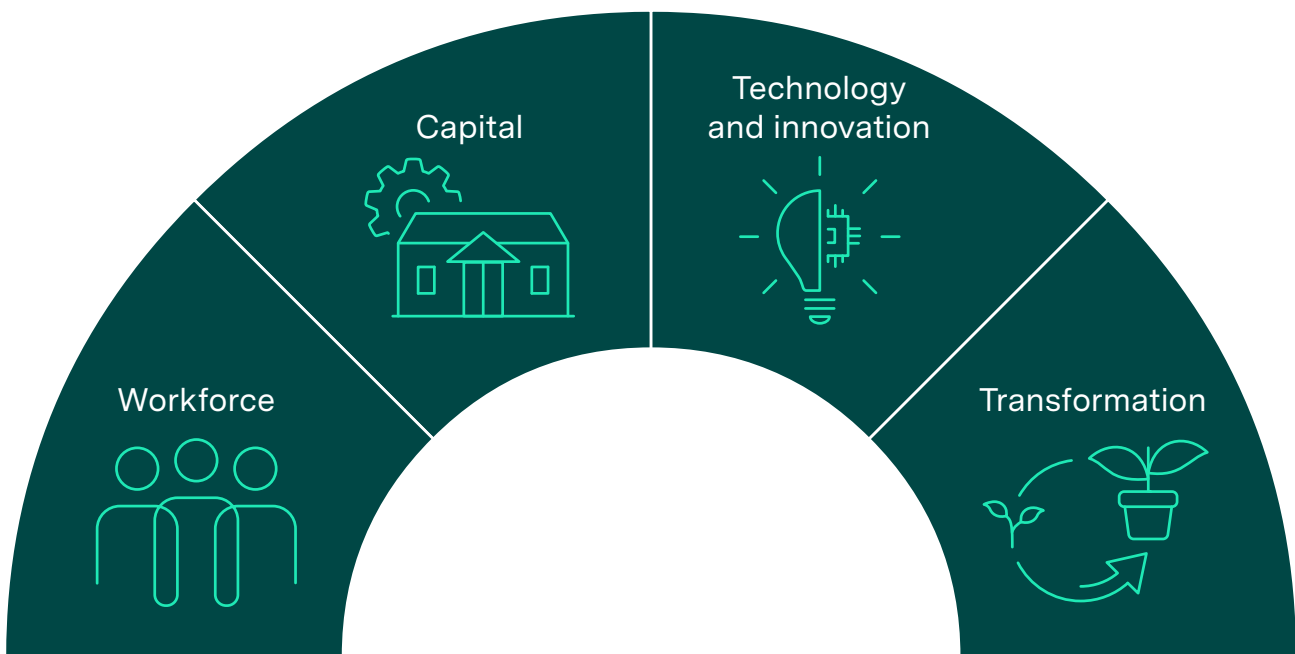
**Human-centred:** care poses higher risk and assurance requirements than many other sectors. However much digital technologies and automation are adopted within the NHS, staff will remain at its heart.

**Complexity:** the NHS is a composite system, delivering services across a wide range of settings and with responsibilities spread across national bodies, regulators and local organisations. No single actor has complete control and there are many policy levers, which can result in duplication, gaps or misaligned incentives. These can make system-wide reform difficult. The OECD's performance and resilience work shows that gains come when several levers move together, so that different actors pull in the same direction.<sup>98</sup>

**Figure 14: A framework for NHS productivity**

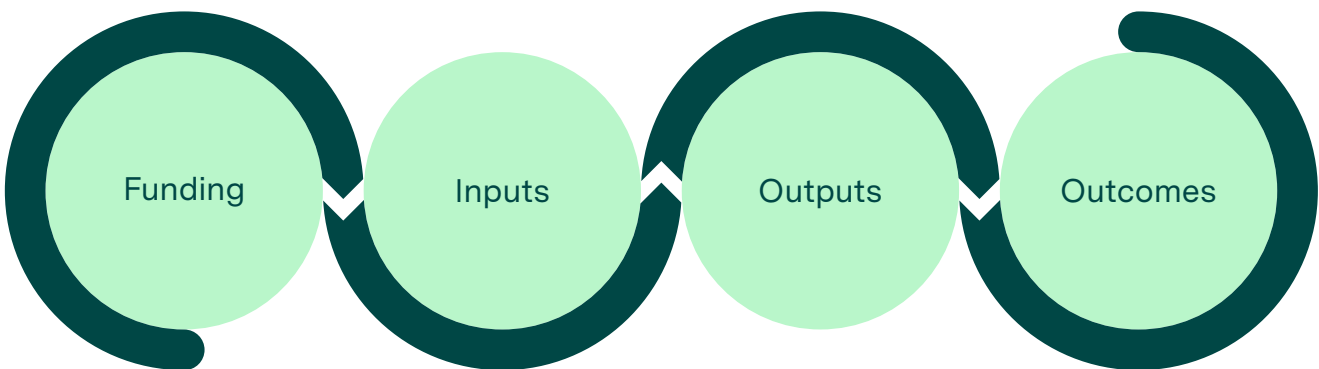
The NHS needs a broader and purposeful framework for productivity. Our framework is grounded in the understanding that **health care is a complex system**.

We identify **four main drivers of productivity**:



Policymakers have access to a wide variety of **policy levers** that can be applied to these drivers – including incentives, targets, regulations and guidance.

Our goal is to generate policy solutions that **improve productivity** and ultimately **health outcomes**:



# Workforce

## Scope

This driver includes how the workforce is trained, deployed and supported, how careers progress, and how teams and cultures enable safe, effective care. The NHS in England directly employs around 1.5 million people across clinical and non-clinical roles, in addition to the large numbers employed in general practice, pharmacy and dentistry. This is not to mention those in the voluntary, community and social enterprise sector, independent sector partners, and a large volunteer base who also support the delivery of care. This driver will focus on the workforce employed or commissioned by NHS organisations while recognising the contribution of other sectors to NHS productivity.

## Context

Productivity rises when the right skills meet the right need at the right time; when clinical time is not swallowed by administration;<sup>99</sup> and when tools, supervision and culture help teams perform.<sup>100</sup>

NHS pressure points include losing experienced staff, high sickness and burnout rates, rigid roles and slow progression, inflexible training pipelines, thin management capacity and environments where staff are frustrated by process or equipment faults.

### Exploratory questions

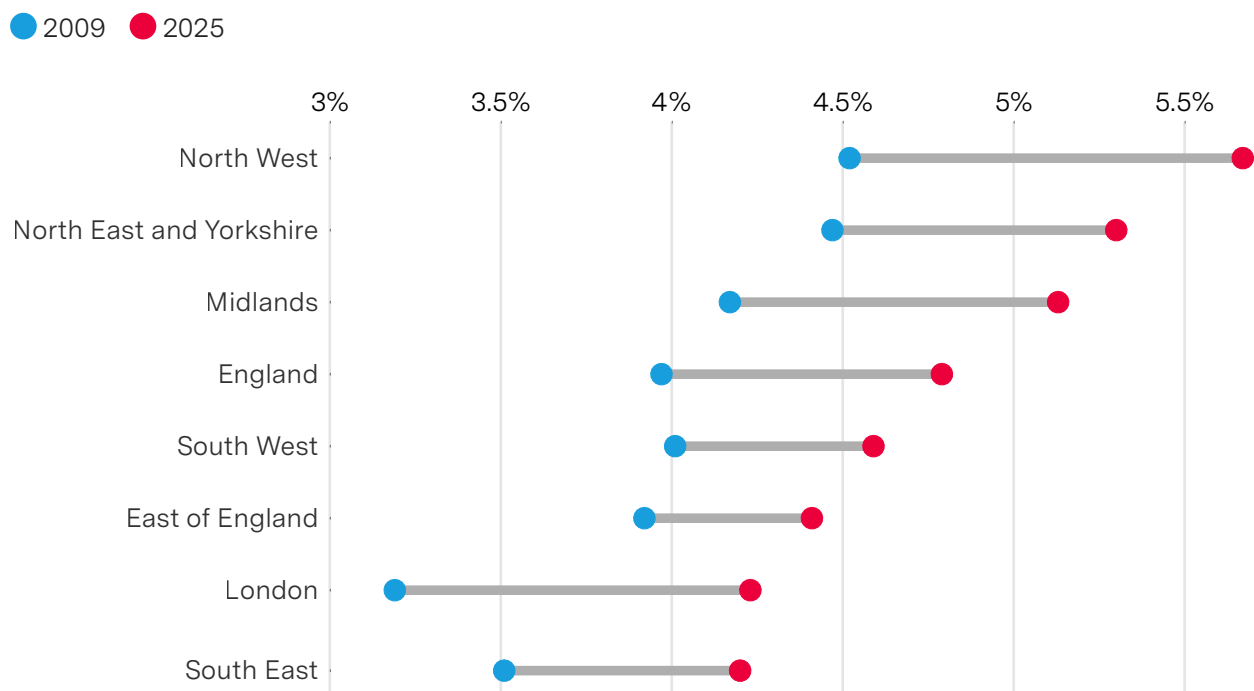
- What mix of roles and skills do teams need in different care settings to meet changing demand?
- How should the NHS reshape day-to-day work so that scarce clinical time is spent on clinical care rather than administration?
- Which broad retention levers – flexibility, progression, wellbeing and pay architecture – most reliably stabilise teams?
- How should education and continuing professional development evolve so that skills keep pace with new models of care?

## Case study: Improving workforce efficiency

University Hospitals Sussex NHS Foundation Trust used the HealthRota e-rostering system to match staff skill mix to shift needs, to improve shift flexibility. Staff could share availability, swap shifts and receive rotas via email. The reported improvements in staff retention and efficiency, and lower locum doctor costs, are in line with evidence from wider systematic reviews.<sup>101,102</sup>

**Figure 15: NHS staff absence rates have risen across England and are particularly high in the North West**

Monthly staff absence rates by NHS England region, April 2025 versus April 2009 (%)



Source: NHS Sickness Absence Rates, April 2025 – Staff in NHS Trusts and other core organisations.

Key  
fact

Google's Project Aristotle found that psychological safety – not pay or cognitive ability – was the strongest predictor of team success<sup>100</sup>

# Capital

## Scope

Capital covers the NHS's estate, equipment and core digital infrastructure – both the stock in use and the flow of new investment – across hospitals, primary and community services, and partner providers. It includes what is bought, how it is procured, where it is placed and how assets are maintained and shared.

## Context

Modern, reliable assets – scanners, theatres, IT and estates – improve patient safety and flow, as well as clinician effectiveness; ageing or fragile kit drives downtime, cancellations and repeat tests. Barriers include ageing buildings and digital infrastructure, a large maintenance backlog, slow and centralised approvals, fragmented funding pots that are hard to reallocate, and weak alignment between capital plans and workforce/service plans. Despite significant underinvestment in capital, budgets are often not fully used.<sup>103</sup> There are opportunities to prioritise high-impact upgrades, simplify routes to invest and protect capital so that it delivers over time.

### Exploratory questions

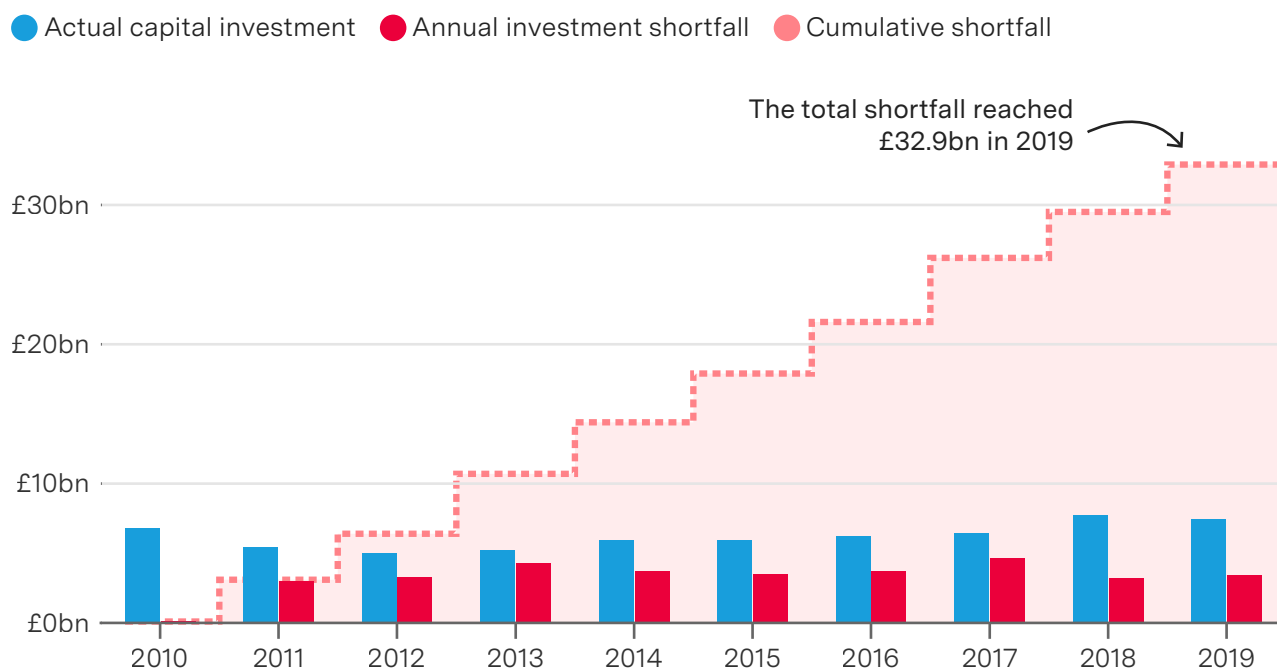
- What processes would make procurement and approvals simpler, faster and more reliable?
- How should the NHS allocate capital across places and sectors to have the greatest impact on flow, safety and capacity?
- What are the most strategic investments to meet the needs of the future population, and how can capital budgets be protected from short-term raids?
- How can capital planning be tied directly to workforce and service redesign so that assets are used to full effect?

## Case study: Achieving economy in capital procurement

When NHS organisations pool purchases of expensive equipment, they can negotiate lower prices and better terms.<sup>105</sup> A £300m fund established in 2012 enabled trusts to buy high-cost imaging equipment together via NHS Supply Chain, using standard specifications and whole-life costing; programme updates reported further multi-million savings from bundled deals. The National Audit Office's 2024 review confirmed that aggregating demand and standardising purchases secures better prices and value – though take-up across the NHS remains uneven.<sup>101</sup>

**Figure 16: During the 2010s, the UK would have needed to invest £32.9bn more to match spending of comparable countries**

Capital investment and investment shortfall in health care compared with other countries, 2010–2019 (2019 prices)



Source: OECD Health Statistics 2022 • European average for capital only covers Austria, Denmark, Finland, France, Greece, Ireland, Luxembourg and Sweden due to data availability.

Key  
fact

**NHS capital per worker has fallen by 36% in real terms since 2010<sup>104</sup>**

# Technology and innovation

## Scope

This is the data, digital systems and technologies that support care, including but not limited to: electronic patient records, decision support, AI, remote monitoring, virtual wards and automation – plus the pathway redesign and change management needed to make them work in practice. The emphasis is on adoption at scale, not just choosing ‘big bets’.

## Context

Innovations such as AI could transform health care delivery.<sup>107</sup> But new technologies tend to raise productivity most when embedded in redesigned workflows, not layered on existing processes.<sup>108</sup> This works best when underpinned by interoperable data and confident users. Progress is often slowed by legacy systems, uneven digital maturity and limited implementation capacity. Crucially, incentives can help shape uptake: adoption is spurred when services retain some of the savings or time released. Appropriate assurance processes and evaluation can help manage safety (including for AI) without creating burdens that deter rollout.<sup>109</sup>

### Exploratory questions

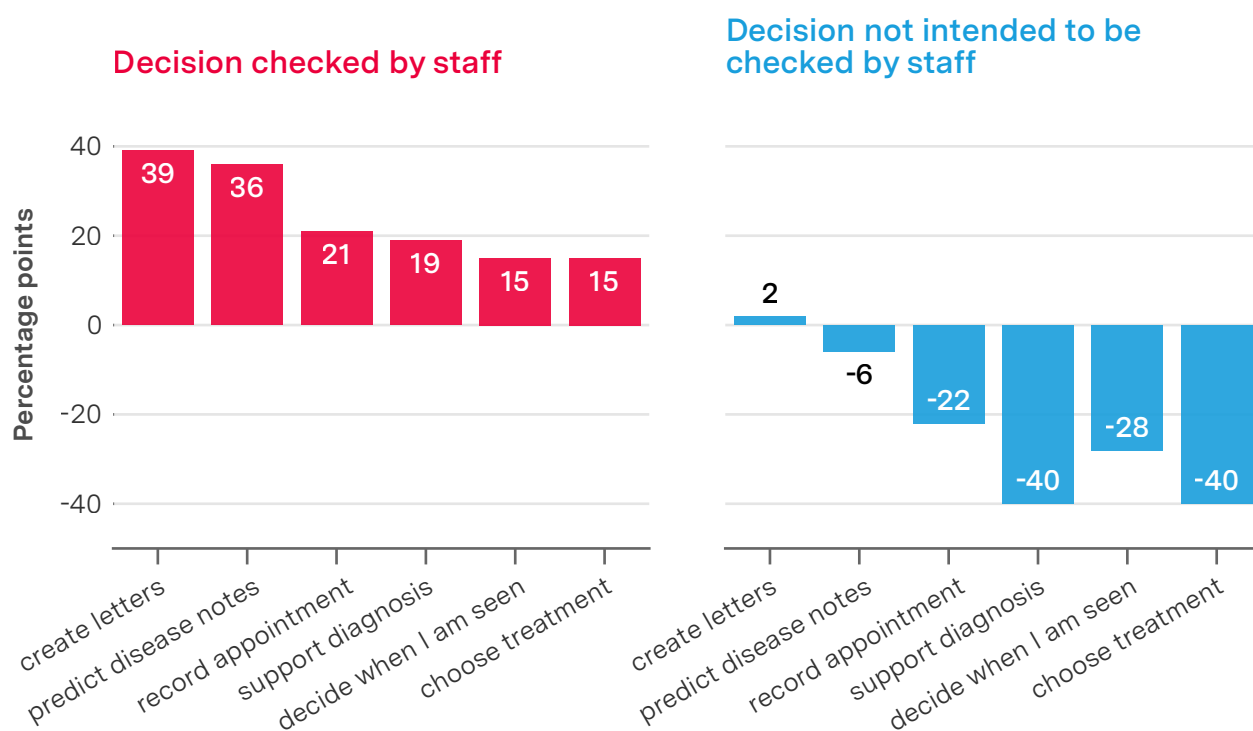
- How can the NHS identify pathways that benefit most from digital redesign to materially improve flow and outcomes?
- What incentives, common standards, funding models and commercial approaches would make interoperability and spread the default?
- How much management and improvement capacity is needed to make adoption stick, and where should it sit?
- How can benefits, safety and equity be monitored most effectively so that confidence grows as tools are scaled up?

## Case study: Supporting effectiveness in community palliative care

As part of the EnComPaSS Integration project in Sheffield, senior staff in a community palliative care setting could provide remote support to colleagues via mobile technology. This allowed junior colleagues to operate more independently, so fewer joint visits were required. An evaluation of this pilot found it led to a reduction in A&E admissions and patients reported improved quality of care.<sup>111</sup>

**Figure 17: The public does not, on balance, support the use of AI in the NHS if the outputs are not checked by staff**

‘I would be happy for the NHS to use AI to...’



Source: UK public survey fieldwork carried out online and by phone by Censuswide, 7 June to 8 July 2024; total sample size 7,201 adults (85% from England, 8% Scotland, 5% Wales and 3% Northern Ireland); figures have been weighted and are representative of all UK adults (aged 16 years and older). Scores are calculated as the percentage point difference between the proportion who would be happy and the proportion who would not be happy with each scenario. X-axis labels have been paraphrased for ease of reading.

Key  
fact

**70% of integrated care systems (ICSs) have electronic bed management systems, but fewer than 40% report seeing benefits<sup>110</sup>**

# Transformation

## Scope

Transformation is the leadership, management, governance and incentive environment that sets direction and aligns action. It covers who decides what, how money and accountability flow, how performance is measured and how learning spreads across the system. It involves leaders in the Department of Health and Social Care (DHSC), NHS England, regulators, ICSs and providers.

## Context

Productivity is reinforced by sufficient management capacity and capability, clear priorities, consistent rules and empowered local delivery.<sup>112</sup> However, weak leadership, frequent policy shifts, unclear central–local boundaries, conflicting oversight signals and reductions in management capacity pull the other way. It is key to understand where resources are most needed and allocate them accordingly. Aligning finance, regulation and performance management around patient-centred outcomes – and building leadership skills throughout the system to execute decisions on these – creates the conditions for sustained improvement.

### Exploratory questions

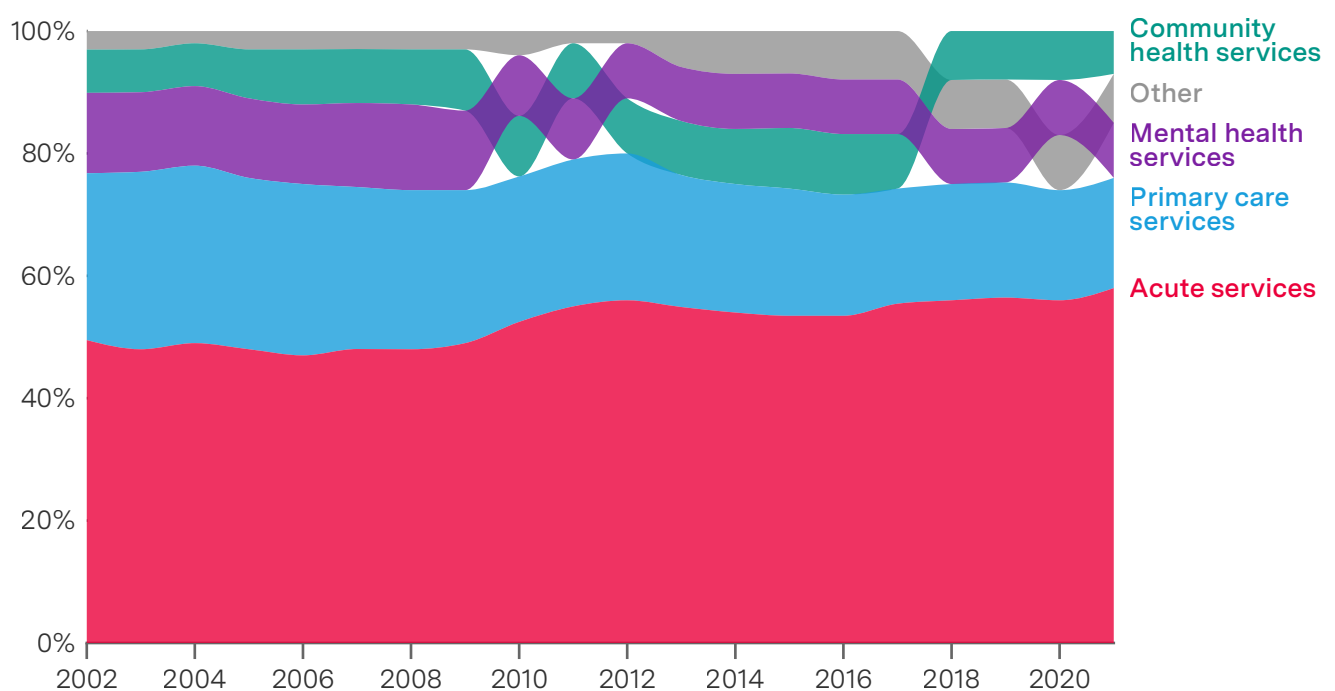
- What should be decided nationally and locally, and how is accountability enforced at each level?
- How can the NHS align finance, regulation and performance management so they pull in the same direction on productivity and outcomes?
- What leadership and management capabilities are missing at system and provider level, and how can they be built at pace?
- What data architecture and improvement approaches can best surface bottlenecks and quickly spread what works?

### Case study: Leadership for efficient and effective care

From 2015, five trusts in England worked with the Virginia Mason Institute in Seattle, Washington, US to build a system of continuous improvement. The independent evaluation reported that more clinical time had been released and there was better patient flow in targeted pathways. The most sustained gains occurred when boards stuck to a few priorities, modelled the methods, and protected staff time for improvement.<sup>114</sup>

**Figure 18: Acute care has accounted for a growing share of NHS spend in England over the past two decades**

Estimated NHS group spend by health care service, 2002–2021



Source: Independent investigation of the NHS in England (Figure VIII.1.1) · There was a change in methodology in 2010 and 2013.

Key  
fact

**60% of NHS trusts have a 'first-time' CEO<sup>113</sup>**

From problems  
to solutions

The image features a solid dark teal background. In the upper left corner, the text "From problems to solutions" is written in a white, sans-serif font, arranged in two lines. At the bottom of the image, there is a large, smooth, curved shape in a lighter teal color that sweeps across the width of the frame, creating a modern, abstract design.

This report has primarily looked to the past to describe the trends and challenges. But this Commission is especially focused on identifying practical policy solutions for stronger productivity growth.

We know that these solutions will need to be firmly grounded in the evidence of what works. IfG research found that reviews create most impact when they diagnose the real problem, align with delivery capacity and consider implementation.<sup>115</sup>

We will need to consider the evolving landscape. Over the next decade, the health and care system will be shaped by several major forces, including the rate of economic growth and its impact on public finances, an ageing population with many more people living with major illness,<sup>116</sup> and rapid technological change.

For the NHS, the government's 10-year plan sets the high-level policy direction. But locally, leaders and commissioners are dealing with long waiting lists, operational pressures and tight finances, with many providers struggling to balance their books.<sup>117</sup> Our goal is to suggest actions that are bold but can deliver productivity improvements within these real-world constraints.

## Our plan of action

Between now and spring 2026, pairs of commissioners will co-author one policy options paper per driver. These will consider how national policy levers can be applied to improve productivity across the NHS in England. Our scope is restricted to health; we will not focus directly on reforms to adult social care or the wider determinants of health, although these are important and changes at the interface with health may be considered.

From spring to autumn 2026, these four policy options papers will be brought together into a final roadmap. This will provide decision makers with a coherent package of reforms to improve productivity, while helping to meet patient need, improve staff experience and support the sustainability of the NHS.

## Get involved

Productivity is complex, so identifying policy options will take time – and we cannot do it alone. We will engage with a variety of stakeholders to build our understanding, gather evidence and challenge our thinking. We invite input on our work, including feedback on the scope and direction.

The publication of this report coincides with the launch of our call for evidence. We invite submissions from a wide range of respondents. It is an opportunity to shape this work, including providing general reflections on NHS productivity, your views on the main opportunities and challenges, and your proposed policy options to take those opportunities and meet those challenges.

Evidence and insights will also be gathered from public-facing expert panel events, roundtables, site visits and data analysis – all of which will inform the solutions proposed in the policy options papers and the final roadmap.

Productivity is complex,  
so identifying policy options  
will take time – and **we  
cannot do it alone.**

# Who we are

## Co-chairs

Anita Charlesworth and Tera Allas

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Stephen Rocks, Alison Moulds, Katie Fozzard, Juney De Aguilar and Hannah Chhoa-Howard

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John Hall (Consultant, former Director of Strategy, DHSC, and former Head of Health Spending, HM Treasury)

### Workforce

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### Technology and innovation

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Matthew Bell (Director and Joint-Head of Public Policy, Frontier Economics)

### Transformation

Rachel Wolf (Founding Partner, Public First)

Ben Gershlick (Head of Performance and Planning, University College London Hospitals NHS Foundation Trust)

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# Appendix

There are several ways to measure productivity and associated metrics, many of which are featured in this report. Some are health care specific, while others are for the whole economy. Care is needed when comparing between approaches. For a review of measurement, see the report, *Measuring productivity in health care*.\*

| Metric                                                                | Classification             | What it is (role)                                                                     | Typical application                                                                      |
|-----------------------------------------------------------------------|----------------------------|---------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| ONS: Health care productivity in England (official statistic)         | NHS-wide productivity      | National accounts measure of NHS output vs inputs for England, published annually     | Track long-run productivity trends; inform spending reviews and policy                   |
| ONS: Public service productivity nowcasts (UK)                        | NHS-wide productivity      | Early/partial estimates of current-year public service productivity                   | Near-term signal for fiscal policy and commentary; experimental dataset                  |
| Centre for Health Economics: Health care productivity in England      | NHS-wide productivity      | Independent academic series – similar to ONS official statistic                       | Track long-run productivity trends and contribution to input/output by type              |
| NHS England: Health care productivity in acute trusts                 | NHS sector productivity    | Trust-level output/input measures. Acute trusts but with plans to extend              | Track recent trends. Benchmarking between trusts; targeting improvement support          |
| NHS England: Labour productivity used in NHS Long Term Workforce Plan | Operational productivity   | Staff-to-activity ratios used in workforce modelling                                  | Forecast staffing needs; test impact of changes on headcount                             |
| Model Hospital/ weighted activity unit (WAU)                          | Operational productivity   | WAU standardises diverse clinical activity; Model Hospital is a benchmarking platform | Compare cost and productivity between peers; spot outliers and improvement opportunities |
| ONS: Labour productivity                                              | Whole-economy productivity | Economy-wide (and industry-level) output per worker/hour                              | Contextual comparison with other sectors; caution when translating to NHS                |

\* NHS Arden and Greater East Midlands (GEM) Commissioning Support Unit (CSU). Measuring productivity in Health Care. NHS Arden and GEM CSU; 2025 ([www.ardengemcsu.nhs.uk/showcase/news-events/news-events/new-report-published-to-modernise-productivity-measurement-in-healthcare](http://www.ardengemcsu.nhs.uk/showcase/news-events/news-events/new-report-published-to-modernise-productivity-measurement-in-healthcare)).

| Metric                                                                    | Classification              | What it is (role)                                                                                   | Typical application                                                                   |
|---------------------------------------------------------------------------|-----------------------------|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| ONS: Multi-factor productivity (MFP)                                      | Whole-economy productivity  | Output growth not explained by measured labour/capital                                              | Long-run productivity for wider economy; caution when translating to NHS              |
| Efficiency/ productivity scores (DEA/ Stochastic Frontier Analysis (SFA)) | System-wide estimates       | Frontier methods estimating relative efficiency vs best performers                                  | Research; used to identify units furthest from 'frontier'. Sensitive to model choices |
| Cost-benefit and cost effectiveness (NICE)                                | Service resource allocation | Compares costs and health gains (eg £ per quality-adjusted life year (QALY)) to adoption thresholds | Decide which technologies/ interventions to fund within programmes and pathways       |

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