

Healthcare productivity: from diagnosis to action

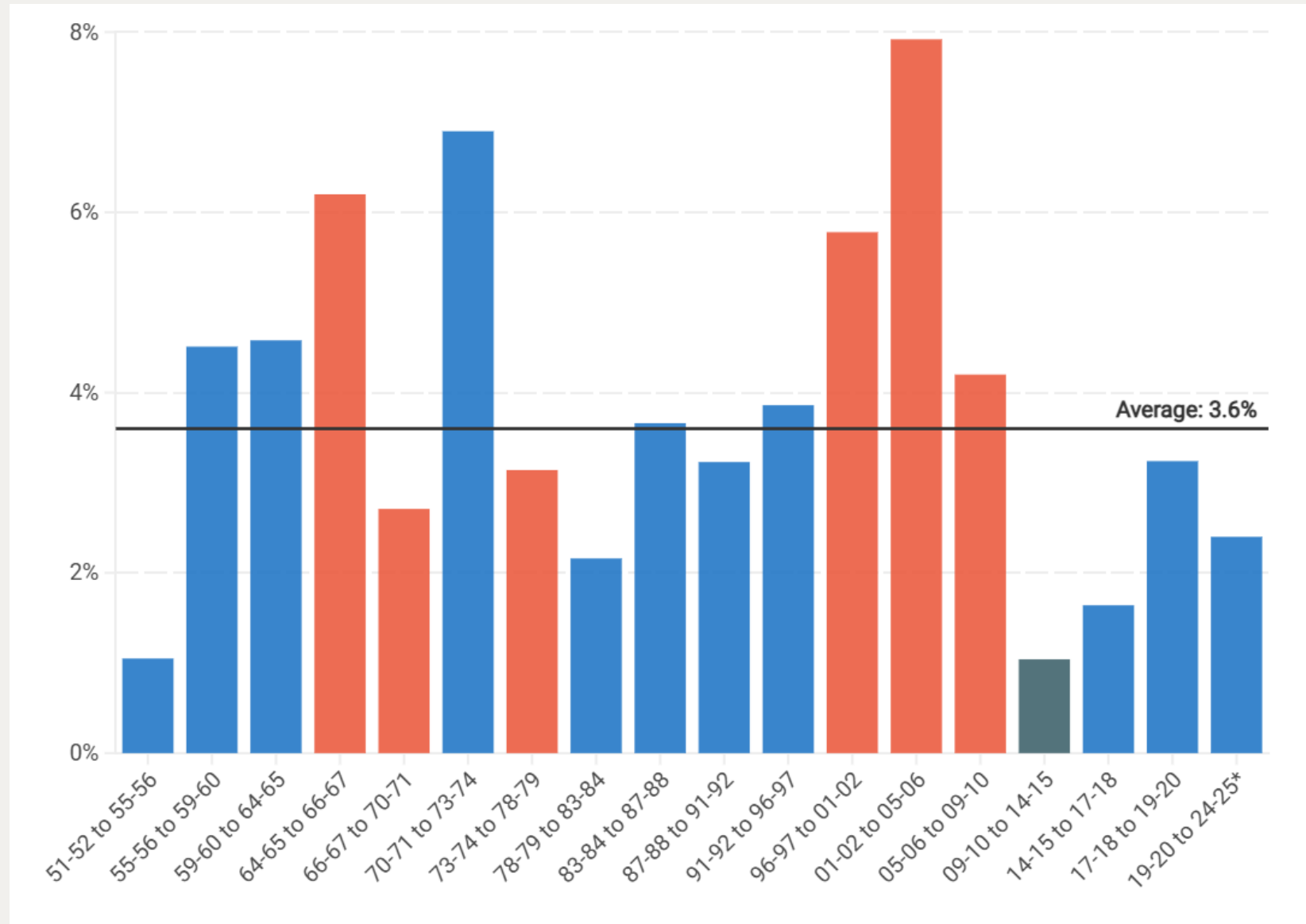
Charles Tallack, Director of Research and Analysis, The Health Foundation

6 February 2025



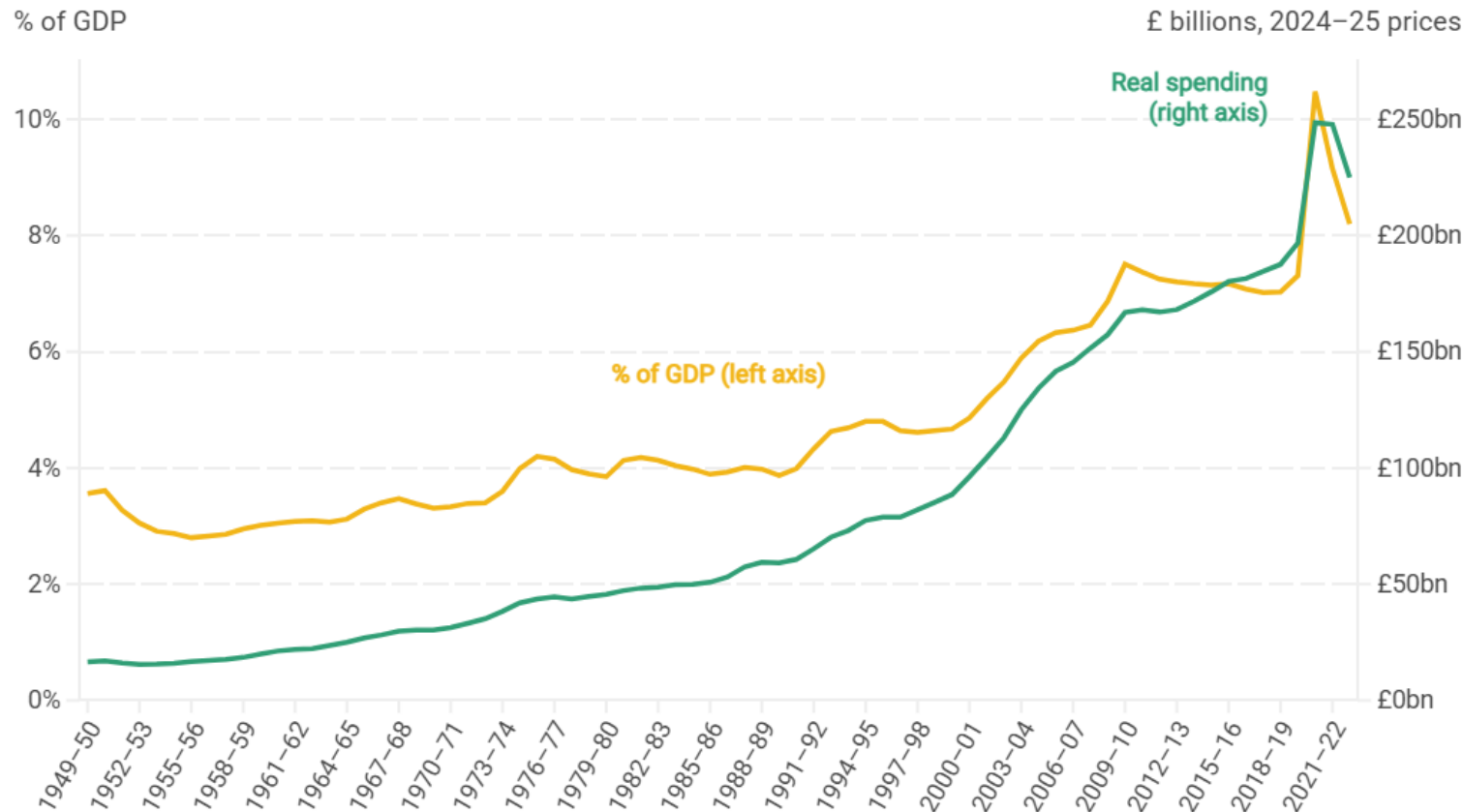
Why productivity matters

UK health spend has risen at an average of 3.6% pa



Health spending has grown at a faster rate than GDP

Figure 1. UK health spending in real terms and as a share of GDP, 1949–50 to 2022–23

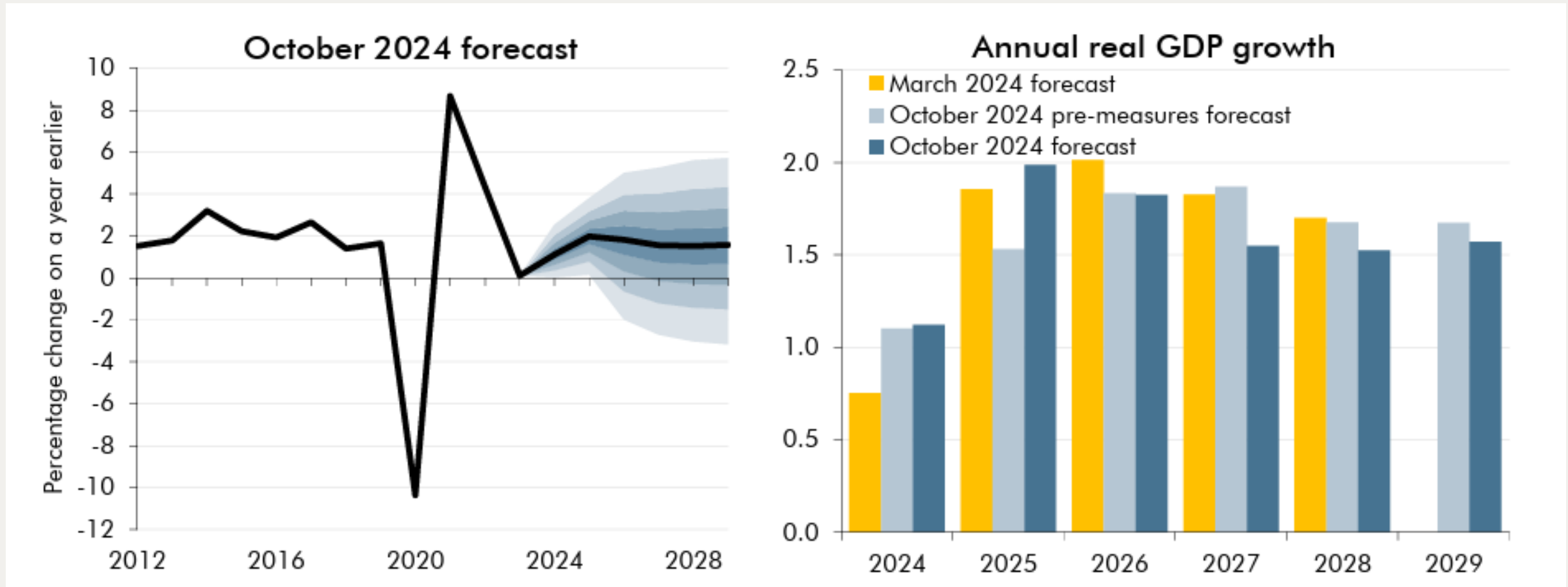


Over time, an increasing share of the UK's GDP has been spent on health.

The proportion has more than doubled over the lifetime of the NHS, from 3.6% in 1949/50 to 7.3% in 2018/19, and 8.2% in 2022/23.

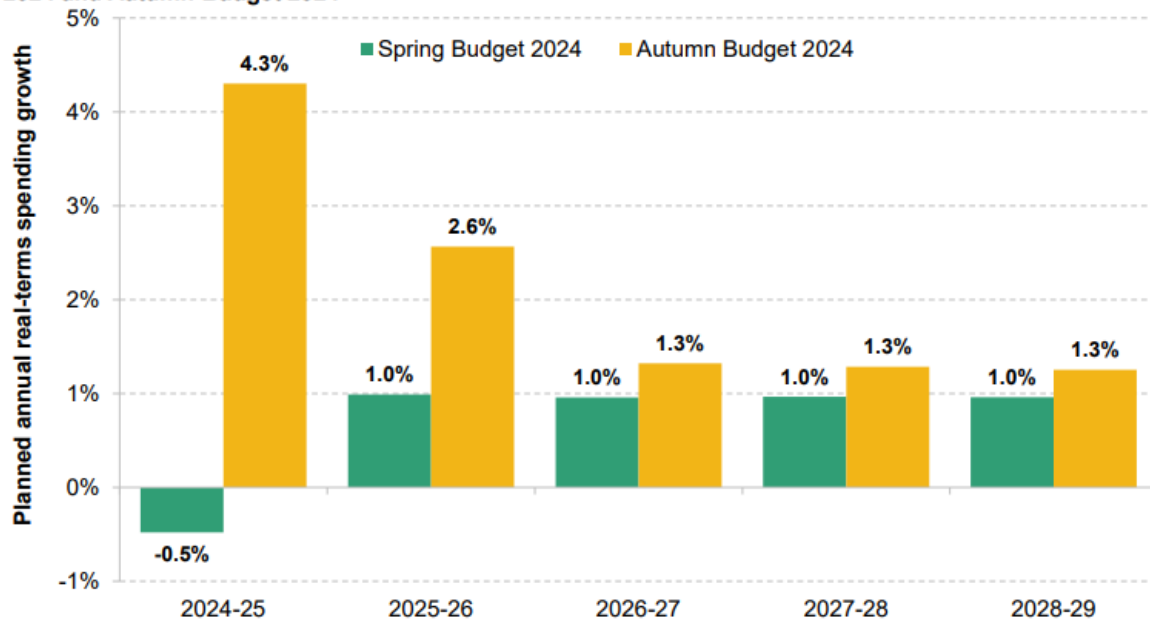
Source: [IFS spending composition sheet](#), [HM Treasury, Country and regional analysis 2023](#), [HM Treasury, GDP deflators at market prices](#), and [money GDP March 2024](#)

But sluggish economic growth over the next 5 years...

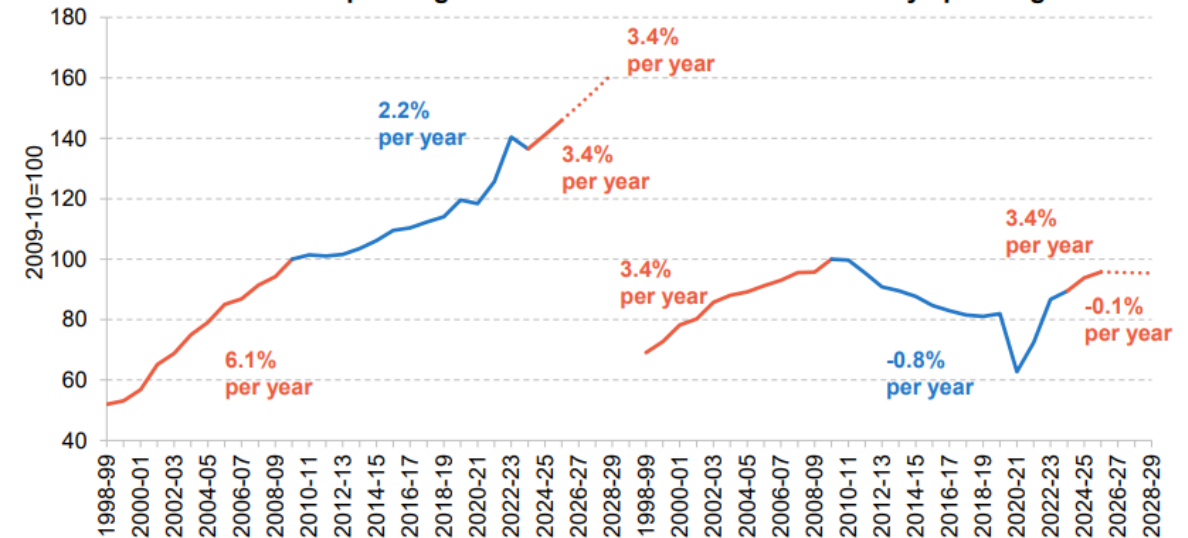


...makes the needed 3%+ difficult to sustain

Real terms day-to-day spending growth, 2024–25 to 2028–29, plans at Spring Budget 2024 and Autumn Budget 2024



Department of Health and Social Care day-to-day spending

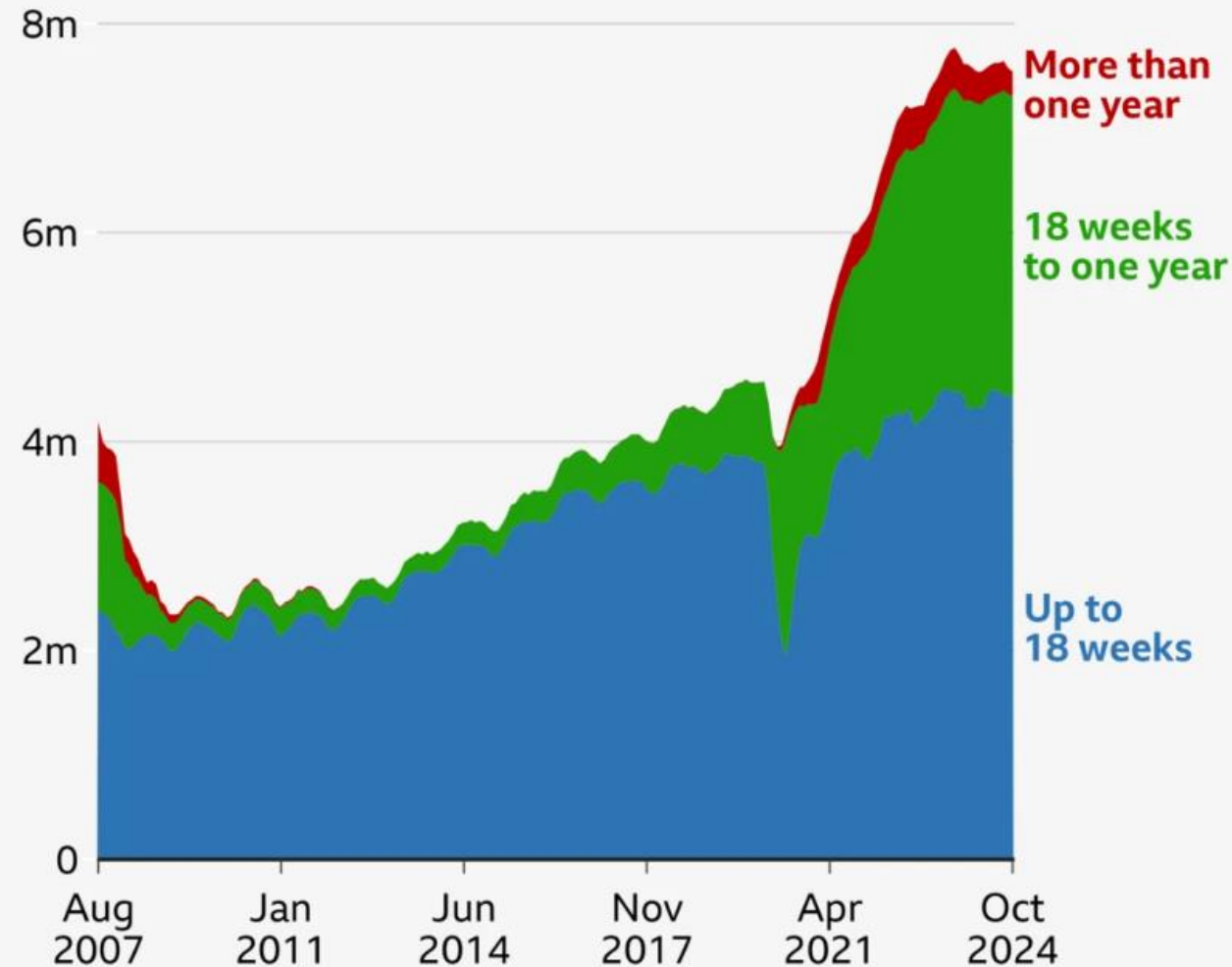


Improved productivity would reduce cost pressures

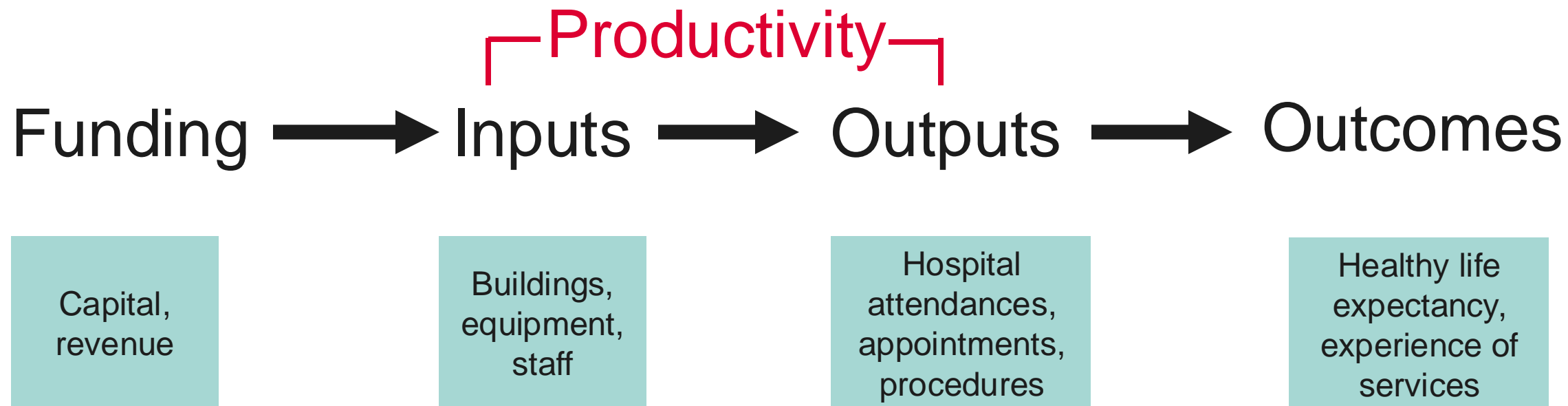


Long waits for treatment in England

Number of waits for hospital treatment in England (millions)



What is productivity?



$$\text{Productivity} = \frac{\text{Output}}{\text{Input}}$$

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e.g.

- Skill mix change
- Automation of healthcare tasks

STRATEGY 1:
ACHIEVE THE SAME
OUTPUT WITH FEWER INPUTS

SOURCE:

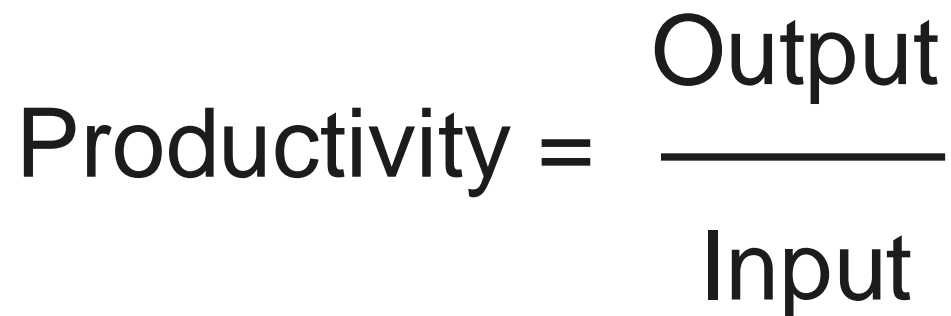
[*Agility: the missing ingredient for NHS productivity*](#)

Health Foundation, 2021

e.g.

- Improve flow
- Use technology to speed up processes

STRATEGY 2:
USE THE SAME INPUTS TO
GENERATE GREATER OUTPUT

$$\text{Productivity} = \frac{\text{Output}}{\text{Input}}$$


e.g.

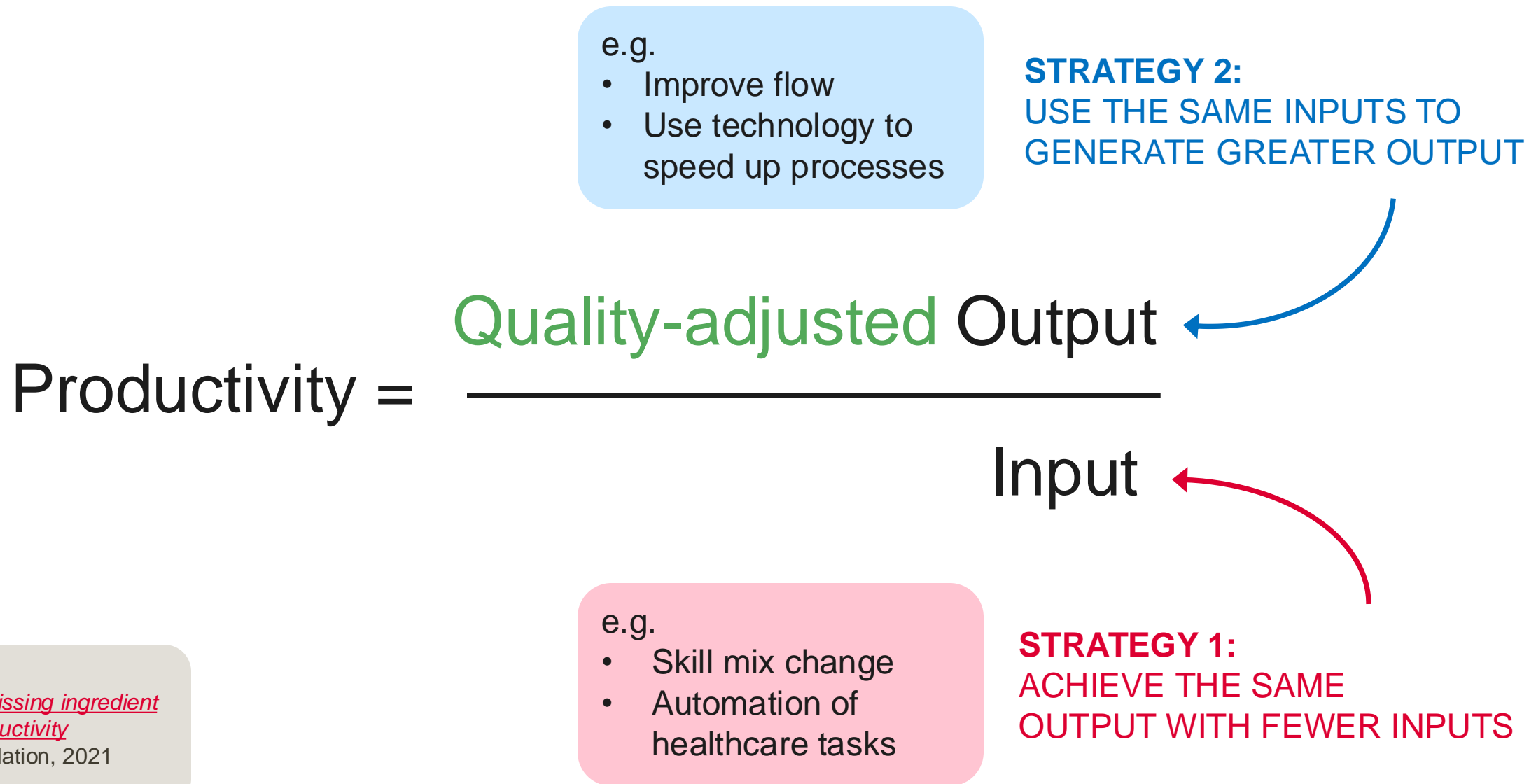
- Skill mix change
- Automation of healthcare tasks

STRATEGY 1:
ACHIEVE THE SAME
OUTPUT WITH FEWER INPUTS

SOURCE:

[*Agility: the missing ingredient for NHS productivity*](#)

Health Foundation, 2021



SOURCE:

[*Agility: the missing ingredient for NHS productivity*](#)

Health Foundation, 2021

STRATEGY 3:
IMPROVE OUTPUT QUALITY

- e.g.
- Lower waiting times
 - Safer care

- e.g.
- Improve flow
 - Use technology to speed up processes

STRATEGY 2:
USE THE SAME INPUTS TO
GENERATE GREATER OUTPUT

$$\text{Productivity} = \frac{\text{Quality-adjusted Output}}{\text{Input}}$$

- e.g.
- Skill mix change
 - Automation of healthcare tasks

STRATEGY 1:
ACHIEVE THE SAME
OUTPUT WITH FEWER INPUTS

SOURCE:

[*Agility: the missing ingredient for NHS productivity*](#)

Health Foundation, 2021

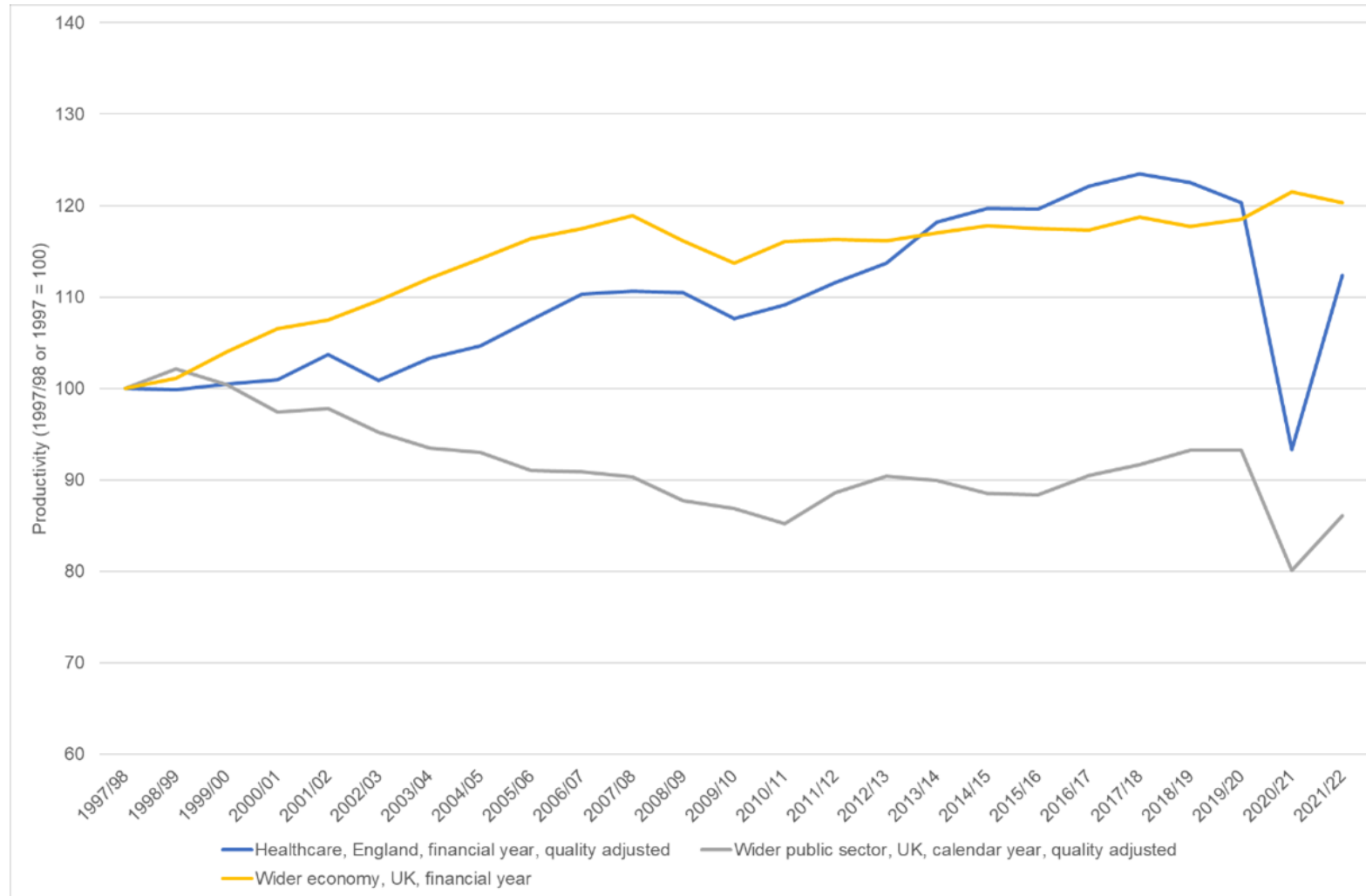
- Valuing activity by contribution of healthcare to outcomes. Better approach to prevention
- Better coverage of activities eg hospital at home, shifts in care settings, community services
- Incorporating changes in acuity/complexity

What's been happening to
productivity?

Productivity has struggled to recover since the pandemic

ONS Productivity Estimates 1997-2022

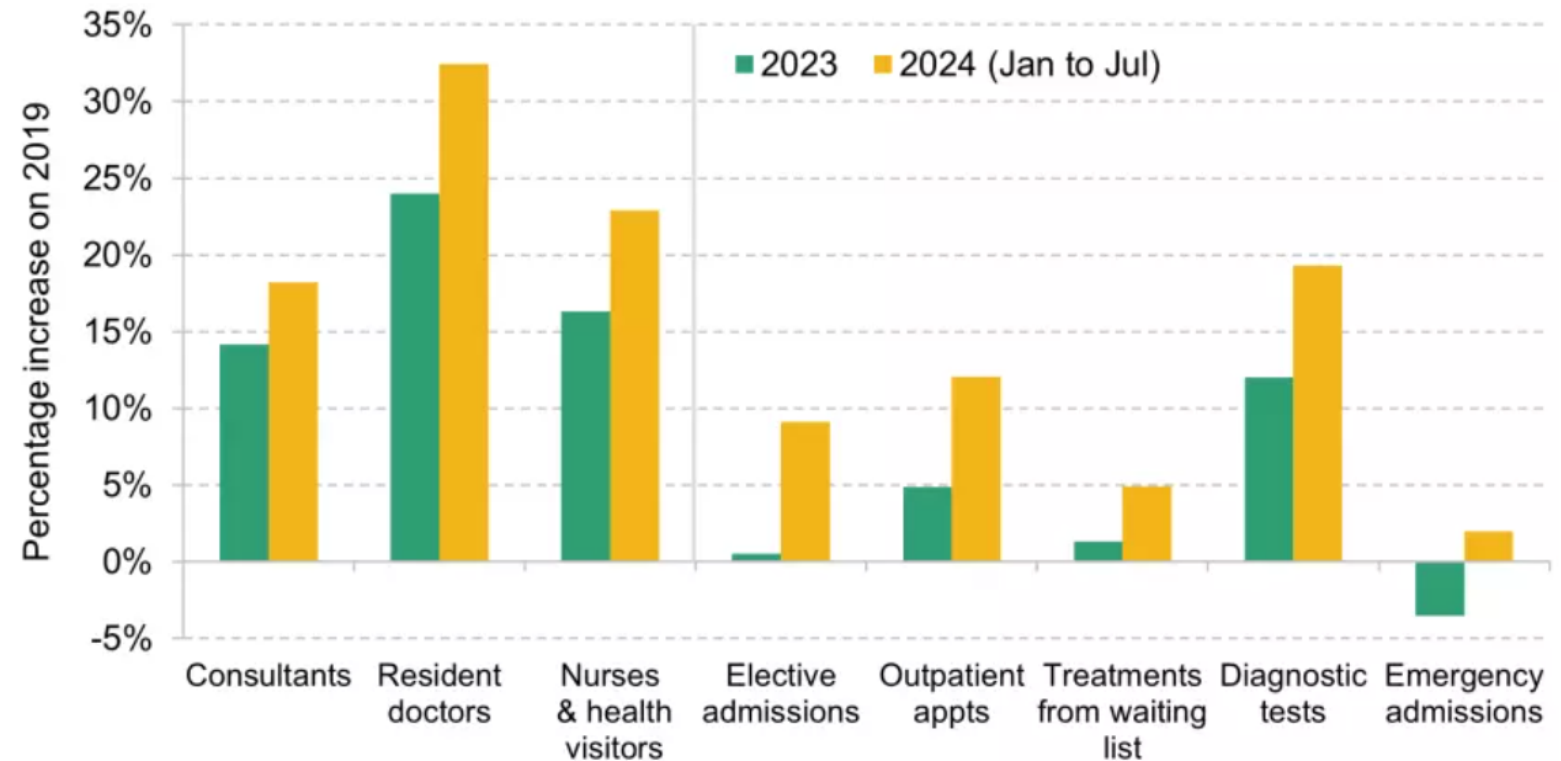
Healthcare, wider public sector, wider economy



More recent estimates tell a similar story

NHS staff and NHS activity since 2019

NHS England estimates that the productivity of NHS hospitals in 2023/24 was 11% below pre-pandemic levels (or 8% below if adjusting for the impact of industrial action)



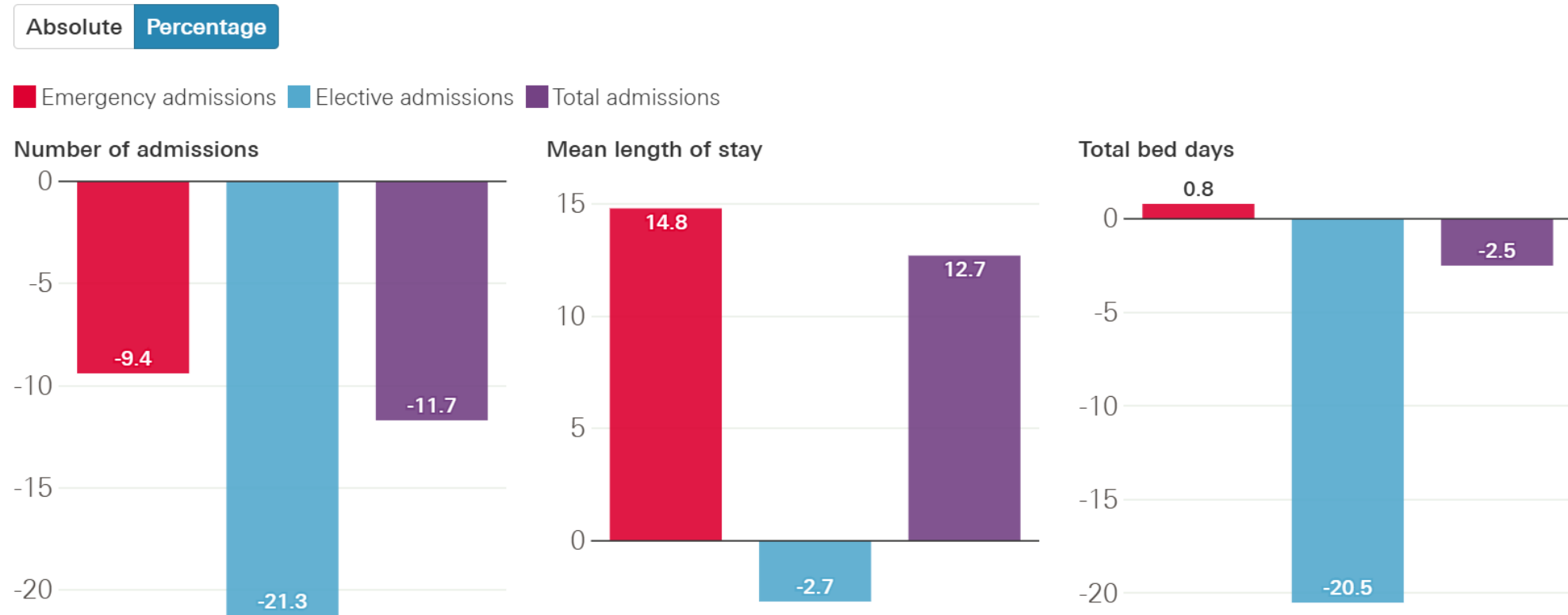
Source: IFS [‘Hospital productivity: some positive news’](#)

What explains the failure to
recover since the pandemic?

Length of stay increased, admissions fell

The number of patients admitted to NHS hospitals has fallen, while length of stay has risen

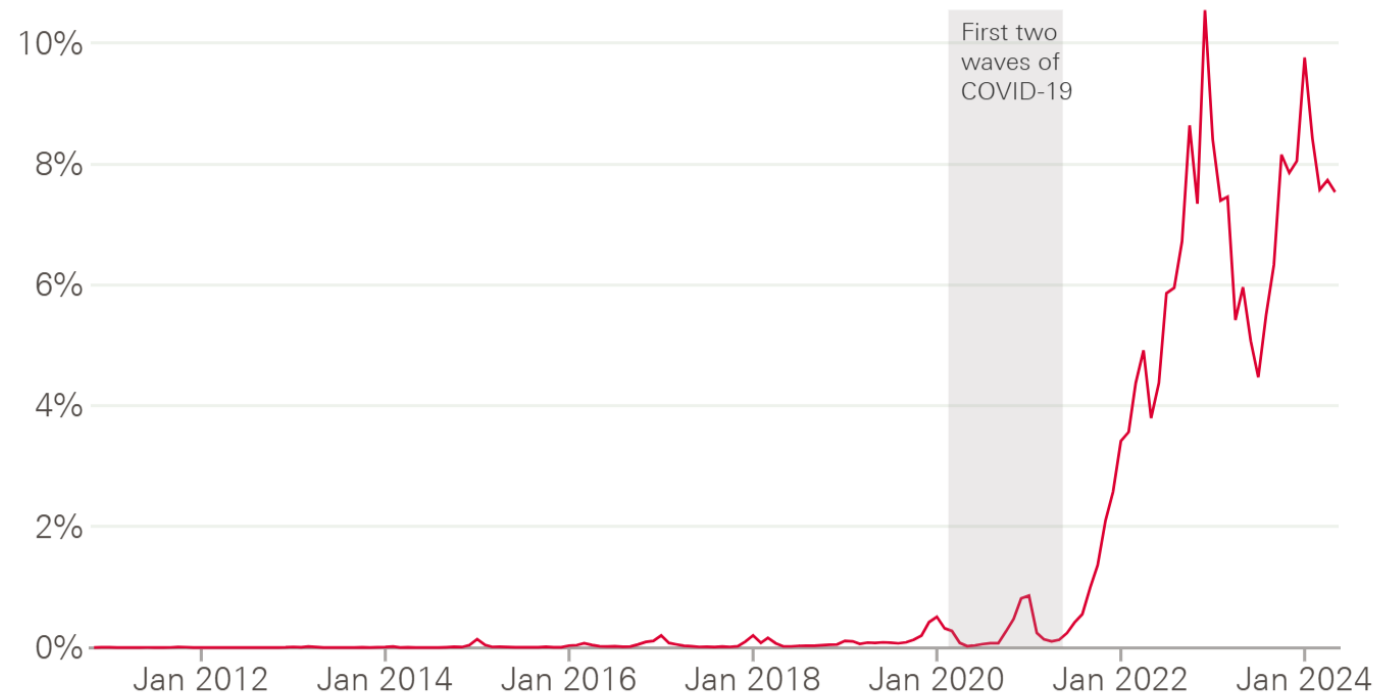
Change from 2019 to 2022



Lack of capacity led to sharp increase in A&E waits

Waiting times until emergency admission: England, 2010–24

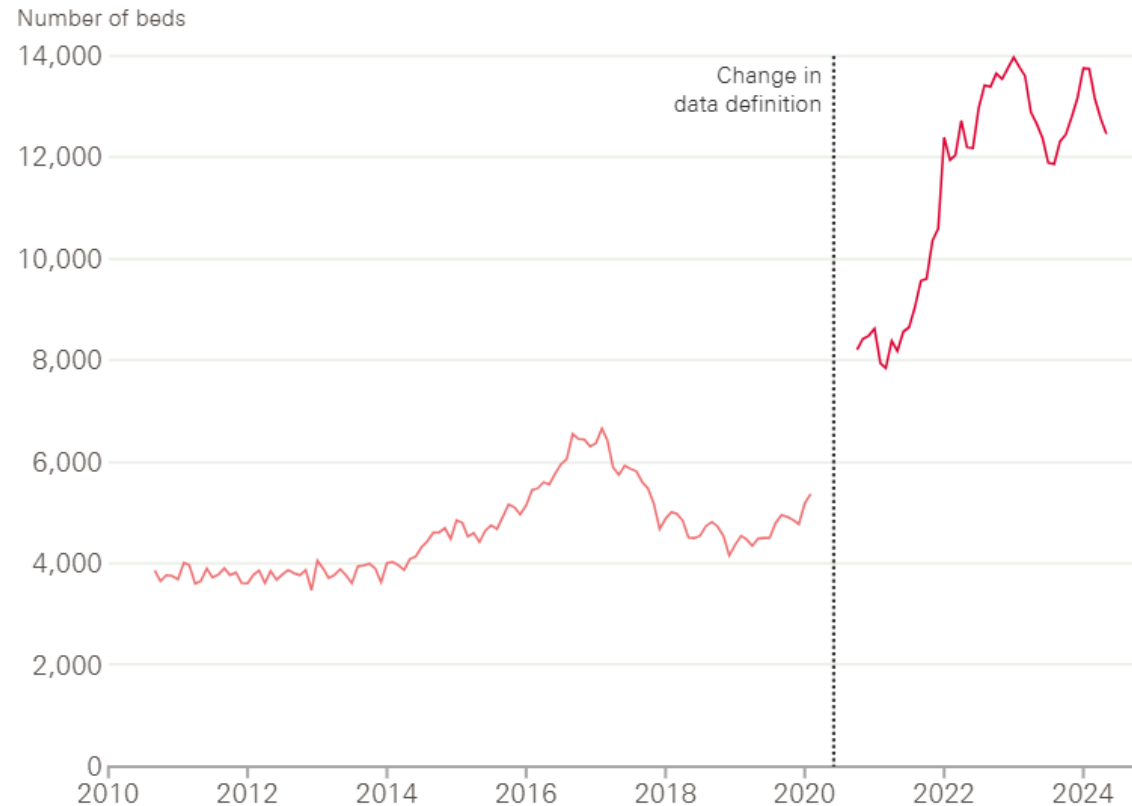
Percentage of patients waiting 12+ hours to be admitted



Increases in length of stay partly caused by bottlenecks

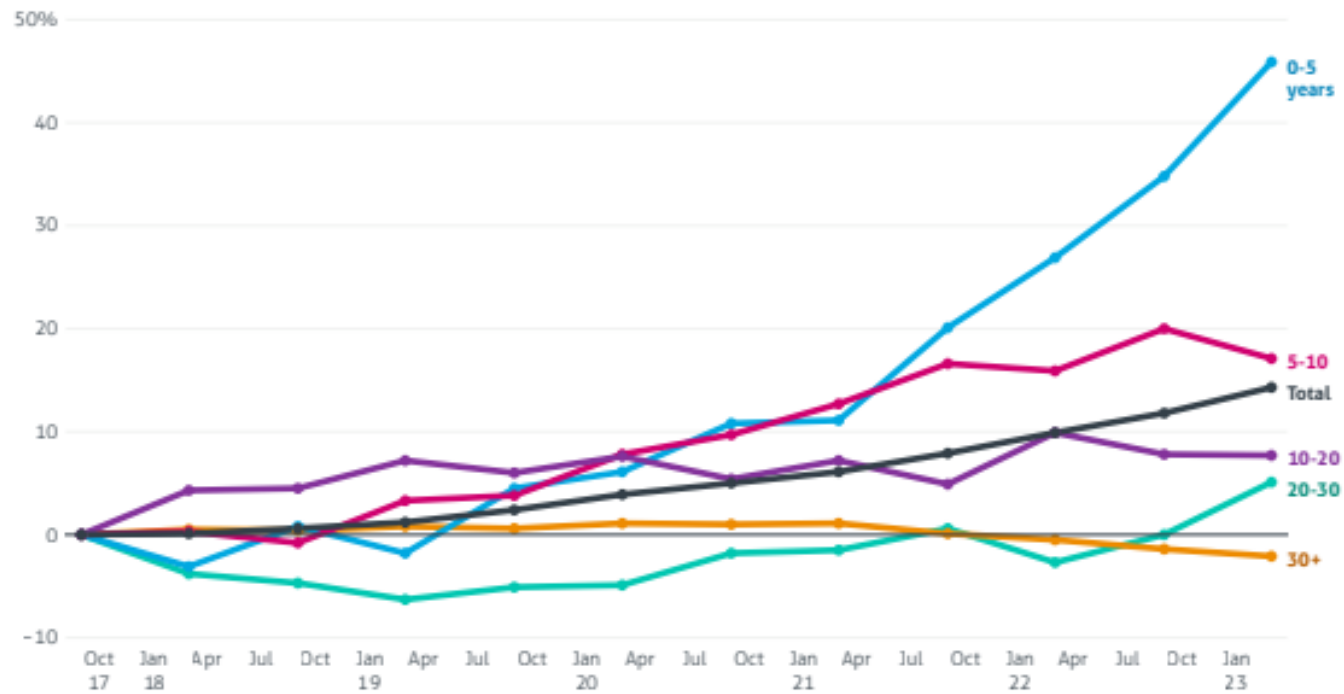
Recent increases in discharge delays are unprecedented Number of hospital beds occupied by patients able to be discharged

Acute trusts, England, 2010–2024



Workforce less experienced

Figure 19 Change in registered nurses since September 2017, by time since registration

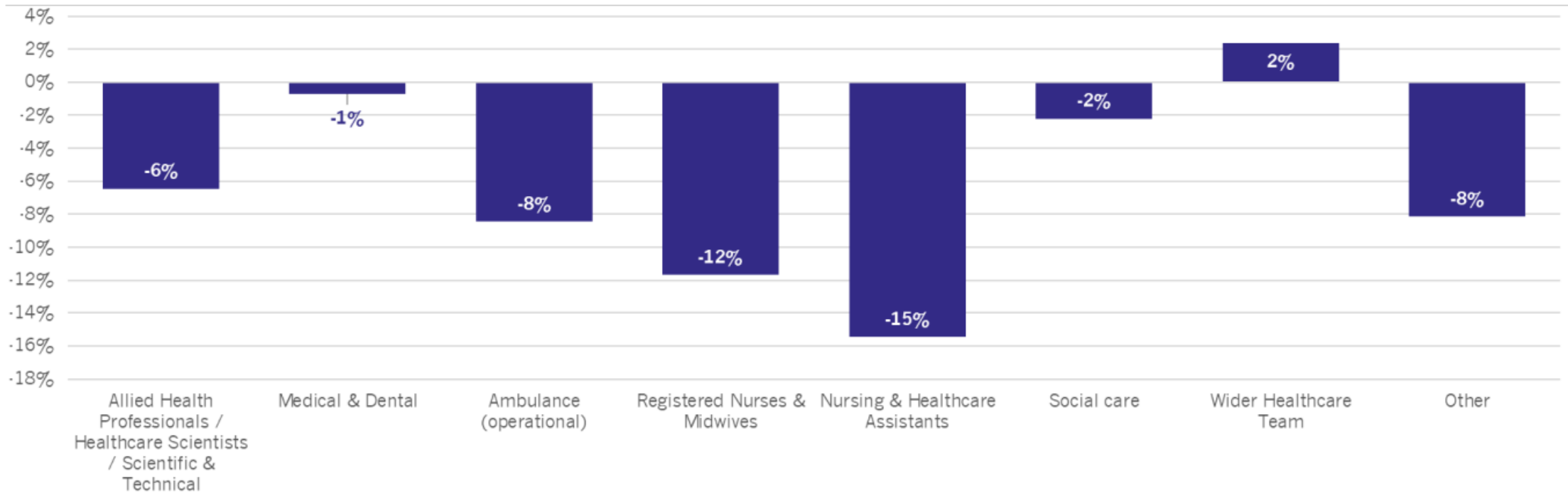


Source: IfG, Public First and Health Foundation analysis of Nursing and Midwifery Council, 'Permanent register data tables', ('Time' table), March 2023.

And less inclined to work unpaid overtime

3. Changes in discretionary effort by role

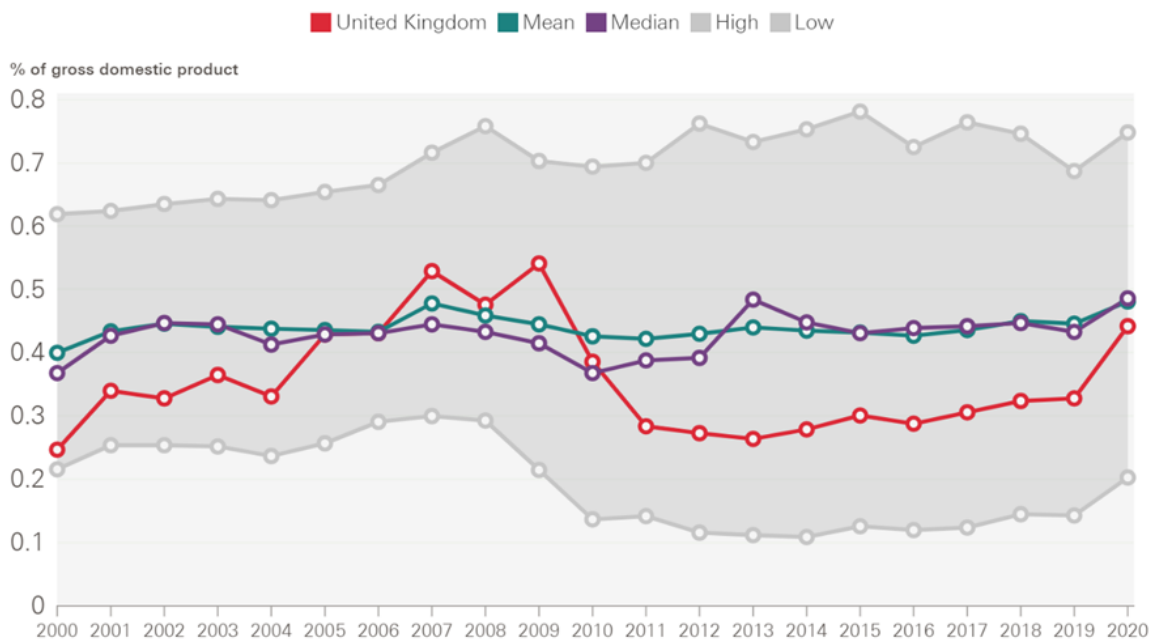
Figure VII.3: Percentage change in unpaid hours, over and above contracted hours, by occupation group, between 2019 - 2023



Priorities for improvement

1 Invest in infrastructure and equipment

Fixed capital formation in health care, for 12 OECD countries where data are available, 2000 - 2020.



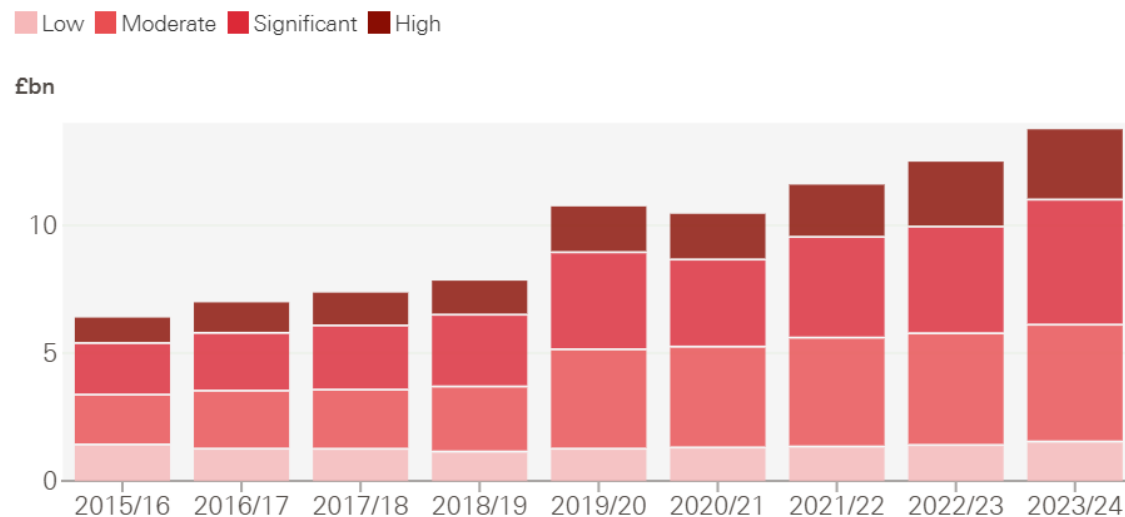
REAL Centre

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Source: OECD. • Countries selected based on data availability: Austria, Canada, Denmark, Finland, Greece, Ireland, South Korea, Norway, Spain, Sweden, UK, USA.

The maintenance backlog has more than doubled in real terms between 2015/16 and 2023/24

The cost to eradicate the maintenance backlog, by risk category, 2015/16 to 2023/24 (£bn, 2023/24 prices)



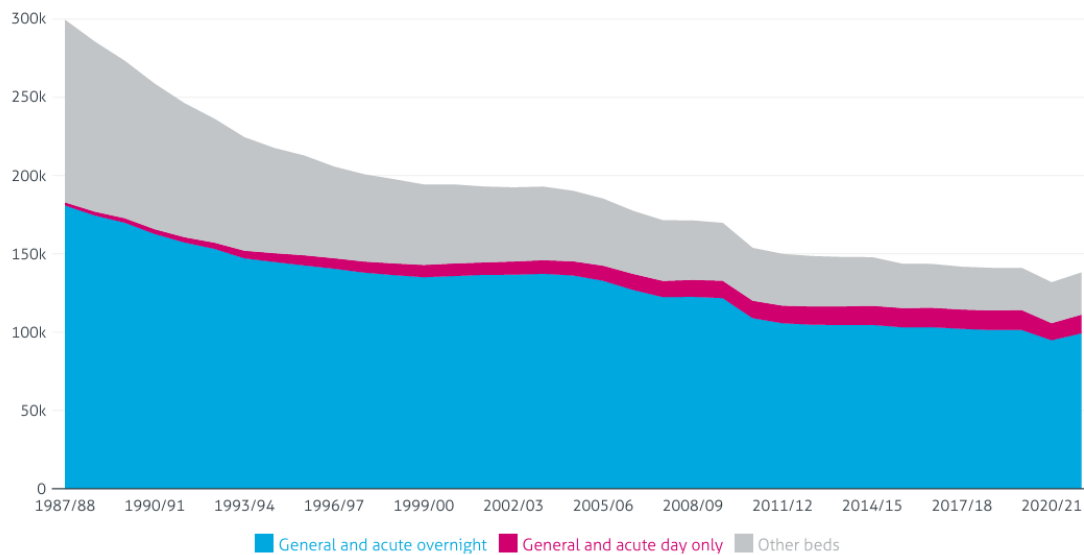
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Source: Estates Return Information Collection (2014/15 to 2023/24), Values are presented in 2023/24 prices using HM Treasury's GDP deflator at market prices

e.g. in bed capacity to improve flow

Figure 8 Available NHS beds, by type, 1987/88–2021/22



Source: IfG, Public First and Health Foundation analysis of NHS England, 'Bed availability and occupancy data' ('Open overnight' and 'Open day only' tables), December 2022. Notes: 'Other' beds are comprised of learning disabilities, maternity, and mental illness beds.

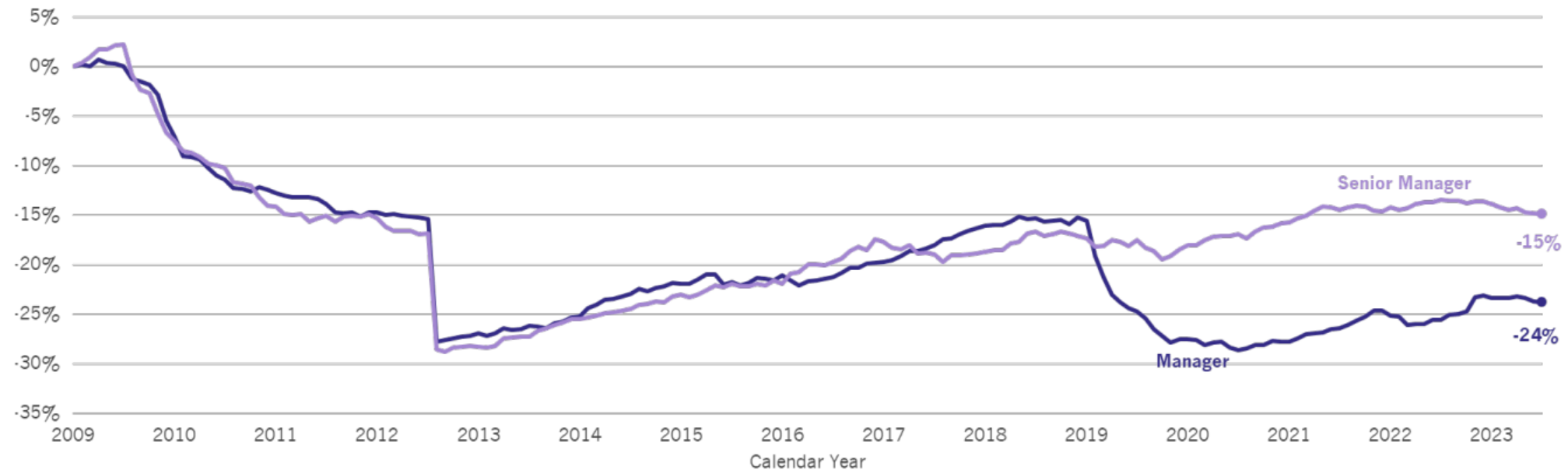
Bed occupancy



2 Improve operational processes

2.3 Changes in managers per NHS employee since 2009

Figure IX.2.3: Change in managers per NHS employee since September 2009

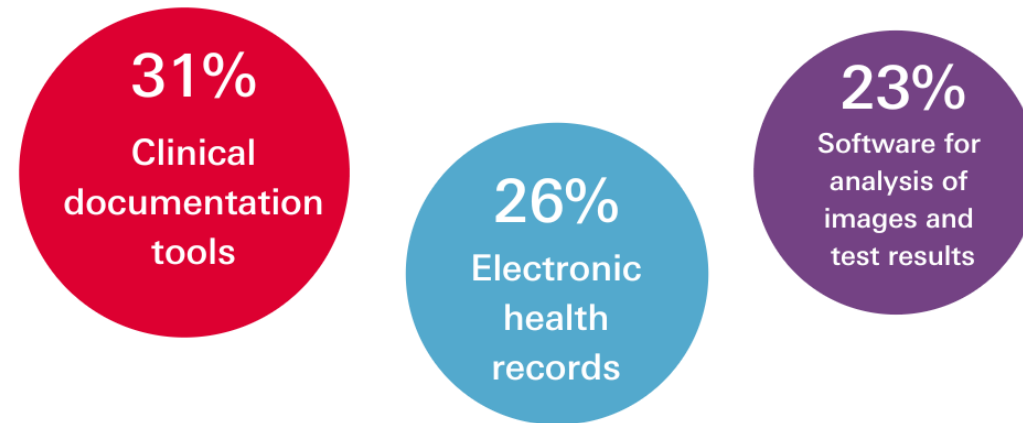


Notes: Staff numbers are in terms of FTE.

Source: NHS England. *NHS Workforce Statistics, April 2024*. Available: [NHS Workforce Statistics, April 2024 England and Organisation.xlsx \(live.com\)](#)

3 Make greater use of technology

Top 3 technologies that clinical staff we surveyed said have the greatest potential to save them time in their work within the next 5 years



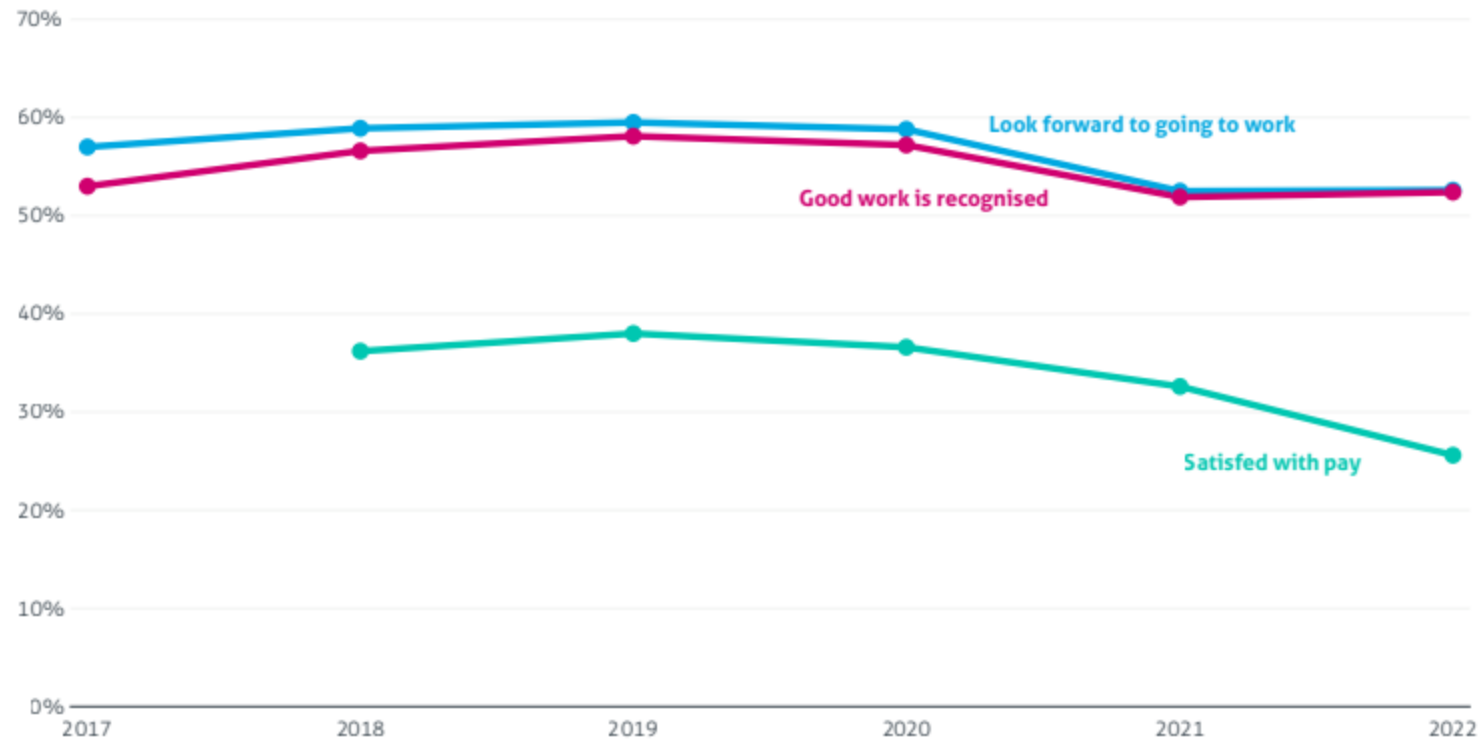
SOURCE:

[Which technologies offer the biggest opportunities to save time in the NHS?](#)

Health Foundation, 2024

4 Improve workforce morale and fill skills gaps

Figure 23 Staff satisfaction, 2017–2022



Source: IfG, Public First and Health Foundation analysis of NHS England, 'Staff Survey', 2022. Notes: For the "look forward to going to work" and "good work is recognised" questions, the percentage shows those who responded "agree" and "strongly agree". For the pay question, the percentage shows those who responded "satisfied" and "very satisfied".