The King's Fund

NHS hospital bed numbers: past, present, future

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10 comments

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This long read was updated in September 2021 by Deborah Ward and in March 2020 by Siva Anandaciva. It was originally written by Leo Ewbank, James Thompson and Helen McKenna and published in September 2017.

Note: The Covid-19 pandemic is having a significant impact on the way hospitals manage and deliver services, which has had an impact on the availability and use of hospital beds. To illustrate long-term trends in hospital beds in this analysis we use 2019/20 (pre-pandemic) data as the most recent comparator. However, where data is available for 2020/21 we have included this for information and to show the impact of the pandemic.

Key messages

- The total number of NHS hospital beds in England has more than halved over the past 30 years, from around 299,000 in 1987/88 to 141,000 in 2019/20, while the number of patients treated has increased significantly.
- Most other advanced health care systems have also reduced bed numbers in recent years. However, the UK has fewer acute beds relative to its population than many comparable health systems.
- Since 1987/88, the largest percentage reductions in bed numbers have occurred in mental illness and learning disability beds as a result of long-term policies to move these patients out of hospital and provide care in the community.
- The number of hospital beds for general and acute care has fallen by 44 per cent since 1987/88; the bulk of this fall is due to closures of beds for the long-term care of older people. Medical innovation, including an increase in day-case surgery, has also had an impact by reducing the time that many patients spend in hospital.
- While reductions in bed numbers have slowed in recent years, there are opportunities to make better use of existing beds by preventing avoidable admissions, reducing variations in length of stay and improving the discharge of patients.
- However, research shows that initiatives to moderate demand for hospital care often struggle to succeed. Progress depends on having sufficient capacity to provide appropriate care outside hospital, yet evidence suggests that intermediate care capacity is currently only enough to meet around half of demand and cuts in funding have led to significant reductions in publicly funded social care.
- Before the Covid-19 pandemic there was widespread evidence of a growing shortage of beds. In 2019/20, overnight general and acute bed occupancy averaged 90.2 per cent, and regularly exceeded 95 per cent in winter, well above the level many consider safe.
- It is not yet clear when and at what level hospital beds will stabilise after the pandemic. With hospitals under real strain from rising demand, significant waiting lists following the Covid-19 pandemic, staff shortages and many competing demands on NHS budgets after a decade-long funding squeeze, further reductions are both unachievable and undesirable.
- How hospital beds are used depends on the availability of other services, yet national data does not provide a full picture of NHS bed capacity and requirements. As the health and care system emerges from the pandemic, greater clarity from NHS national bodies is needed on their expectations for overall health and care bed capacity over the medium term, and the consequences of these choices.

Introduction and policy context

Interest in hospital capacity and, more specifically, the number of hospital beds has grown in recent years (https://www.rcem.ac.uk/docs/Policy/RCEM%20Vision%202020.pdf). This is, in part, due to mounting evidence that hospitals are struggling: bed-occupancy rates are above recommended levels, A&E performance remains challenged (https://qmr.kingsfund.org.uk/2017/23/), and the waiting list for elective care is at the highest level since current recording began.

At the same time, the NHS is attempting to change how it delivers care, as set out in the NHS Long Term Plan (https://www.longtermplan.nhs.uk/) and the Health and Care Bill (https://www.kingsfund.org.uk/publications/health-and-care-bill-key-questions). Integrated care systems (ICSs), partnerships that bring providers and commissioners of NHS services across a geographical area together with local authorities and other local partners to collectively plan health and care services, have been established across England. Within ICSs there is a requirement for providers to be part of at least one provider collaborative, where providers work together at scale to improve patient experience and outcomes. In some areas the plans for these new partnerships and the focus on collaboration will include changes to the roles of acute and community hospitals and reducing the use of hospital services.

This explainer aims to place discussions about hospital beds in a wider context by:

- presenting data on hospital beds for England over a 30-year period and, where possible, data on other categories of beds used in health care
- comparing bed supply in the NHS with other countries
- exploring the drivers underpinning changes observed in hospital bed numbers
- considering whether further bed reductions are realistic.

It is worth noting that for certain areas, particularly intermediate care capacity (for example, for people moving from hospital care to independent living or social care), comprehensive data on bed numbers is not available; these gaps in data clearly impede national planning and should be addressed.

The number of hospital beds in England and abroad: trends over time and drivers

Hospital beds play an important role in delivering health care services, but they are only one component of health care and most health care is delivered without using a hospital bed. Because beds rely on staff and associated equipment to deliver care, the term 'beds' usually refers to beds that are fully staffed, funded and available for use by patients.

The number of beds needed to provide health care effectively, and how they are used, depends on a number of interrelated factors. These can be thought of in three broad categories: underlying patient demand; national policy – including funding, workforce supply and access standards; and local circumstances – such as availability of other services and internal hospital processes (*see* Figure 1). The population, its demographic shape, and patient behaviours determine demand. National policy shapes how this demand is met, and local circumstances are crucial in determining how demand is managed at local level.

The interplay of these factors changes over time and varies across the country. Consequently, the number of beds that the health service needs to maintain to deliver an optimal service changes over time and differs between localities.

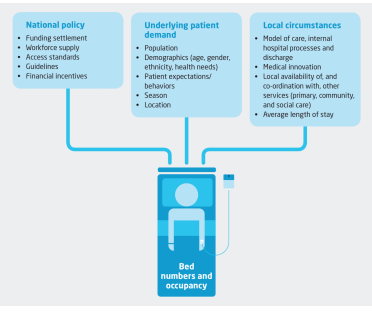

Figure 1: Diagram of factors influencing bed numbers and how they are used

NHS hospital beds in England

This briefing uses 1987/88 as the starting point for its analysis – the earliest point from which national data is routinely available. However, the number of NHS beds had been falling for some time before this. In 1974 the health service maintained almost 400,000 beds (https://academic.oup.com/jpubhealth/article/27/3/263/1511119); by 1979/80 the number had dropped to around 350,000 (https://www.bmj.com/content/346/bmj.f1563).

Between 1987/88 and 2019/20, the total number of NHS hospital beds fell by 53 per cent – from 299,400 to 141,000 (*see* Figure 2).[1](#footnote1_1yecwcg) Within this total number, there are different categories of bed across which the scale of change has varied considerably.

Figure 2 There are around half the number of hospital beds in the English NHS compared to 30 years ago

Over this same period, the number of overnight general and acute beds has fallen by 44 per cent – from around 181,000 to 101,000. However, within this category beds for the long-term care of older people fell more substantially.[2](#footnote2_1q1wizb) Between 1987/88 and 2009/10 – when beds for older people were recorded separately – numbers fell 61 per cent, from more than 53,000 to slightly less than 21,000. The number of acute beds reduced by only 21 per cent over the same period.

The largest percentage falls have occurred in overnight mental health and learning disability beds, which fell by 73 and 97 per cent respectively between 1987/88 and 2019/20. This was underpinned by a policy shift to

providing care for people with mental health problems and learning disabilities in the community rather than in institutional settings (*see* Reducing reliance on hospital care). The number of maternity beds has fallen by around 52 per cent over the same period, mainly as a result of changes in how long mothers stay in hospital before and after birth.

Figure 3 The type of hospital beds available has changed over time, with a fall in all types of overnight beds and a significant rise in day-only beds

In contrast to other categories, the number of day-only beds has grown by more than 530 per cent, from around 2,000 in 1987/88 to almost 12,800 in 2019/20, reflecting the rise in day-case surgery (*see* Patients spending less time in hospital).

These changes have reshaped the NHS's bed stock, with general and acute beds and day-only beds making up an increasing share of the total (*see* Figures 2 and 3).

The rate of change in bed numbers has slowed over time (*see* Figure 4). Between 1987/88 and 1991/92 total bed numbers fell by around 18 per cent, whereas in the most recent five years, between 2015/16 and 2019/20, they only fell by 2 per cent.

Figure 4 The number of hospital beds has been falling since 1987/88

The number of available hospital beds (fully staffed, funded and available for use by patients) has continued to be recorded during the Covid-19 pandemic and shows a decrease in 2020/21 compared to 2019/20 for all bed types. This fall reflects the impact of the pandemic, for example, social distancing and infection-control measures reducing the number of beds a ward can accommodate, reduced elective activity and reduced staffing due to sickness or staff being moved to other areas of the hospital such as critical care. Data for the first quarter for 2021/22 shows bed numbers increasing again.

This data does not include beds temporarily made available in the Nightingale hospitals (https://www.kingsfund.org.uk/blog/2021/04/nhs-nightingale-hospitals-worth-money), however. While these hospitals theoretically could have had a very high number of beds, in reality very few beds were staffed and available for use by patients.

As bed numbers have fallen, England's population has grown, from around 47.3 million in 1987 to approximately 56.6 million in 2020 (https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/timeseries/enpop/pop). As a result, the number of beds per capita has fallen faster than the absolute reduction in number of beds. Over this period, the number of older people in England – who are more likely to spend time in hospital – has also increased (https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalesscotlandandnorthernireland).

Critical care beds

The NHS also maintains critical care beds for patients who are seriously ill and require constant support. Unlike most other categories of hospital bed, the total number of critical care beds has increased in recent years. In 2011/12 there were around 5,400 critical care beds, by 2019/20 this had risen to 5,900 (https://www.england.nhs.uk/statistics/statistical-work-areas/critical-care-capacity/). Of these, around 70 per cent are for use by adults and the remainder for children and infants.

The Covid-19 pandemic rapidly increased demand for critical care beds, with the number of adult critical care beds jumping from around 4,000 before the pandemic to highs of almost 6,000 in the peaks of the first and second wave. Data on critical care beds has not been available since April 2021 so we don't yet know whether they are starting to return to pre-pandemic levels. There is more detail on critical care services in our critical care explainer (https://www.kingsfund.org.uk/publications/critical-care-services-nhs).

Figure 5 The number of critical care beds available rose substantially during the Covid-19 pandemic

Other beds

Many patients have needs that cross organisational boundaries and use a combination of services over a period of time. Other categories of health care bed, particularly in intermediate care services, the independent sector and social care, therefore matter when considering decisions about hospital bed stock.

Intermediate care beds

Intermediate care services occupy an important middle ground between primary and hospital care and are targeted at patients leaving, or at risk of going into, hospital (https://www.kingsfund.org.uk/blog/2013/12/national-intermediate-care-audit-key-understanding-integrated-care-older-people). They include bed-based care, reablement services and crisis response, which often provide a much-needed step-down service for older people moving between hospital care and independent living or social care. Since 2010/11 the national hospital bed dataset has not recorded numbers of intermediate care beds.

NHS Benchmarking's 2015 *National audit of intermediate care* (https://www.researchgate.net/publication/293824103_National_Audit_of_Intermediate_Care_2015_Full_Report_Analysis_of_Patient_Reported_Experiences), a survey of intermediate care providers and commissioners, found that there were an estimated 14,248 intermediate care beds in England in 2015 (NHS Benchmarking 2015 (https://www.researchgate.net/publication/293824103_National_Audit_of_Intermediate_Care_2015_Full_Report_Analysis_of_Patient_Reported_Experiences))[3](#footnote3_pgzccpm). The audit suggested existing capacity was sufficient to meet around only half of demand and that waiting times for patients accessing intermediate care had grown. The 2018 *National audit of intermediate care* showed bed numbers have fallen further (https://www.nhsbenchmarking.nhs.uk/naic), from 25.6 per 100,000 population in 2015 to 23.0 in 2018. A survey of NHS trusts found that 46 per cent of respondents indicated intermediate care capacity in their area was not sufficient to meet demand (https://nhsproviders.org/resource-library/surveys/delivering-care-in-every-setting).

Independent sector beds

The independent sector in the United Kingdom[4](#footnote4_7kxzuc2) partly caters for self-paying patients and those with insurance, but it also provides some planned care for NHS patients. Historically, NHS trusts have outsourced some elective activity to independent providers to manage waiting lists, and since 2008 elective NHS patients in England have had the option of using independent sector providers that meet NHS standards and prices (https://webarchive.nationalarchives.gov.uk/ukgwa/20130513202918/http:/ccpanel.org.uk/cases/Operation_of_any_willing_provider_for_the_provision_of_routine_elective_care_under_free_choice.html). In 2019/20 the Department of Health and Social Care spent a total of around £9.7 billion (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/956804/Department_of_Health_and_Social_Care_Annual_Report_and_Accounts_2019-20.pdf) on purchasing health care from independent sector providers.

In the absence of official data, figures from LaingBuisson (https://www.laingbuisson.com/healthcare-report-store/), a market intelligence company, suggest that the number of acute beds in the independent sector in the UK peaked in the mid-1990s at slightly less than 11,700 and have been falling gradually since.[5](#footnote5_0mzaetb) Numbers fell by 6.4 per cent between 2006 and 2016, from approximately 9,500 to approximately 8,900. The NHS also ring-fences some beds in private patient units within NHS hospitals for patients who choose private treatment; in 2016, an estimated 1,140 beds were kept for this purpose across the UK.[6](#footnote6_q2yr2ni)

Social care

Social care provides support to meet the needs of older people and those with an illness or a disability. UK figures from LaingBuisson (https://www.laingbuisson.com/social-care-report-store/) suggest that as the NHS has reduced the number of beds it has for the long-term care of older people, the number of social care beds has grown. Estimates suggest that in 1988 there were slightly fewer than 363,000 social care beds – residential and nursing – in the UK. Bed numbers peaked at more than 525,000 in the mid-1990s before beginning to fall. Numbers started to increase again in 2010, but at a relatively modest pace; by 2016 the number of social care beds had risen to around 458,000 – an increase of 26.2 per cent on 1988 figures. However, data for England shows that relative to the size of the older population the number of nursing and care home beds have consistently fallen (https://www.kingsfund.org.uk/publications/social-care-360/providers) for the past nine years, reflecting a change in national policy which encouraged more care at home.

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1. (#fn~~Hospital beds are r~~ecorded in the national dataset on the basis of average numbers available each day. From 1987/8 to 2009/10 they were reported as annual figures. From 2010/11 onwards they have been reported in quarters; for these years we have calculated annual figures using unweighted averages of the quarterly data.
2. (#fn~~These beds have~~ been referred to in official publications as geriatric beds.
3. (#fn~~This was based on~~ extrapolating from survey responses from 61 clinical commissioning groups (CCGs) and 46 local authorities that indicated they commissioned an average of 25.6 intermediate care beds per 100,000 of weighted population.
4. (#fn~~LaingBuisson data~~ for the independent sector and social care relates to the whole of the United Kingdom. Data for England is not available.
5. (#fn~~The independent s~~ector also provides mental health care; LaingBuisson estimates there were slightly fewer than 10,100 mental health beds in the independent sector in the UK in 2016.
6. (#fn~~Beds in private p~~atient units are not included in the national dataset of hospital beds.

How does the number of hospital beds in the United Kingdom compare to other countries?

International comparisons in health care are rarely straightforward (https://jamanetwork.com/journals/jama/article-abstract/2646461). In relation to bed numbers, differences in how countries organise health care make direct comparisons difficult.

But from available data, the UK has fewer hospital beds per 1,000 inhabitants than many other comparable health systems. Data from the Organisation for Economic Co-operation and Development also shows that while there is substantial variation in the number of total hospital beds per 1,000 inhabitants across countries, numbers have been falling (https://data.oecd.org/healthcat/hospital-beds.htm) in a large number of countries over recent years (*see* Figure 6).

Figure 6 The UK has fewer hospital beds than most comparable countries

Explaining decreases in the number of hospital beds

A number of factors have contributed to the long-term trend of falling hospital bed numbers.

Patients spending less time in hospital

The evolution of medical care – advances in anaesthetic and surgical techniques, pain control and changes to how recovery is managed – means that an increasing number of patients spend less time in hospital (https://www.kingsfund.org.uk/publications/better-value-nhs) now than they would have done in the past. This has contributed to better patient care and more efficient use of NHS resources.

The average length of stay in an NHS hospital has fallen by more than 40 per cent from 8.4 days in 1998/9 to 4.5 in 2019/20 (*see* Figure 7). The increase in the number of patients with very short lengths of stay, particularly those admitted as emergencies, has contributed to this reduction (https://www.kingsfund.org.uk/publications/data-briefing-emergency-bed-use). While reductions in average length of stay have slowed in recent years, the trend has helped the NHS treat increasing numbers of people each year.

Average length of stay fell even further during the Covid-19 pandemic (to 4.3 days in 2020/21). However, this is likely to have been impacted by the change in the number and type of patients hospitals were admitting and incentives to discharge patients to other care settings to free up space for Covid-19 patients. Data is not yet available to show whether these reductions will be sustained.

Figure 7 Average length of stay for patients admitted to hospital has fallen over the past 20 years

Alongside reductions in the average length of stay, clinical improvements have enabled many patients who once would have stayed in hospital overnight to undergo day surgery (https://apps.who.int/iris/handle/10665/107831). For example, the proportion of elective cataract surgery conducted as day surgery has grown from 62 per cent in 1996/7 to 98 per cent in 2013/14 (https://www.kingsfund.org.uk/publications/better-value-nhs).

Technical progress has also extended the range of interventions suitable for day surgery, for example, in ear, nose and throat surgery. National policy has encouraged this trend since work by the Audit Commission in the early 1990s highlighted the potential benefits of day surgery for the NHS and patients (https://www.iaas-med.com/files/historical/a_shortcut_to_better_services.pdf). This has helped the NHS to increase the number of patients treated without needing to increase the number of beds.

As day-case activity increases we may well see a levelling off in average length of stay as day-case activity is not included in calculations of average length of stay in hospital.

Reducing reliance on hospital care

In recent decades policy-makers have sought to reduce the NHS's reliance on hospitals and bed-based care. A key example of this is mental health provision. Since the late 1950s there has been a move away from hospitalising people with mental ill health wherever possible, and instead to provide care through multidisciplinary teams based in the community (https://www.kingsfund.org.uk/publications/service-transformation), while people live in their own homes. Large-scale closures of inpatient mental health beds followed in the mid- to late-1980s. Health systems in northern and western Europe and the United States took similar approaches (https://www.evidence.nhs.uk/document?id=1660544&returnUrl=search%3Fom%3D%5B%7B%22ain%22%3A%5B%22Commissioning+and+Management%22%5D%7D%5D%26q%3Doats%2Bprocedure%26sp%3Don).

For other areas of health care, a combination of factors has encouraged policy-makers to find new ways of meeting demand that rely less on hospitals. The cost of hospital care has played a part (https://www.oecd-ilibrary.org/social-issues-migration-health/tapering-payments-in-hospitals_5js4h5rlkxxr-en), in this, as has growing recognition of supply-induced demand (https://journals.sagepub.com/doi/abs/10.1258/1355819011927099) for hospital care. Although the evidence on the cost savings of shifting the location of care is mixed (https://www.nuffieldtrust.org.uk/research/shifting-the-balance-of-care-great-expectations), strengthening provision of care outside hospital has long been justified on the grounds that early intervention and support can help people to avoid costly hospital care (https://www.kingsfund.org.uk/publications/community-services).

Current pressures on hospital beds

The way hospital beds are used has evolved over time. In particular, occupancy rates have increased in recent years (*see* box below). In England, data on overnight hospital bed occupancy is available from 2010/11 and has risen from an average of 87.1 per cent in 2010/11 to more than 90 per cent in recent years (*see* Figure 8).

The Covid-19 pandemic has had a significant impact on bed-occupancy levels, seeing them fall to an average of just 76.8 per cent in 2020/21. However, NHS England noted that due to changes in the way patients needed to be treated during the pandemic, for example, enhanced infection-control measures and separating Covid and non-Covid patients, hospitals will have felt pressure on beds despite a much lower occupancy rate (https://www.england.nhs.uk/statistics/statistical-work-areas/bed-availability-and-occupancy/bed-data-overnight/) than before. Data for the first quarter of 2021/22 shows bed-occupancy rates are rising again, though not yet to pre-pandemic levels. This increase in occupancy may start to accelerate as in September 2021 the Department for Health and Social Care announced it was relaxing some of the distancing, and infection-control measures (https://www.hsj.co.uk/patient-safety/social-distancing-and-covid-testing-relaxed-to-help-hospitals-treat-patients-more-quickly/7030977.article) for hospitals to help them treat patients more quickly in response to the elective care backlog.

Figure 8 Before the Covid-19 pandemic hospital bed occupancy had been rising

The true level of hospital bed use is even higher than these figures suggest. Occupancy of overnight hospital beds is recorded at midnight; beds from which a patient has been discharged before midnight are recorded as unoccupied. Allowing for the fact that more than one patient can use a bed in a day, the Royal College of Emergency Medicine has suggested that daytime occupancy rates for general and acute beds frequently exceed 100 per cent (http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/health-committee/winter-planning/written/35483.pdf).

Similarly, quarterly occupancy figures do not reflect the periods of intense pressure during winter months (https://www.england.nhs.uk/2013/11/wint-ad/), when more people tend to be admitted from A&E, particularly as a result of respiratory problems, and delays in discharging patients are particularly challenging. Over winter months, occupancy of overnight general and acute beds nationally is consistently above 90 per cent and regularly exceeds 95 per cent. In response, trusts open large numbers of winter escalation beds to cope with this rising demand.

Bed-occupancy rate

> High levels of occupancy can make it difficult to manage patient flow through the hospital, with consequences for operational performance because it becomes difficult to find beds for patients, for example, those who need to be admitted from A&E departments. A relationship between high bed-occupancy levels and increased infection rates has also been identified.
>
> In 2018 the National Institute for Clinical Evidence (NICE) published guidance on bed-occupancy levels in emergency and acute medical care. After reviewing the available evidence, they recommended hospitals should plan to maintain bed-occupancy levels below 90 per cent. However due to the complexity and variability of different systems they noted this was a 'pragmatic maximum' and that local systems should be given flexibility around this to reflect different levels of risk in different clinical pathways.
>
> The 2020/21 NHS national planning guidance stated bed occupancy should be reduced to a maximum of 92 per cent through increasing the number of acute hospital beds, increasing community care, investment in primary care and improvements in length of stay and admission avoidance.

Delays in discharging patients from hospital

A large proportion of hospital bed days are used by a relatively small number of mostly older patients (https://www.kingsfund.org.uk/publications/data-briefing-emergency-bed-use) who remain in hospital for a long time. For example, in acute and geriatric specialties the 9 per cent of patients who stay in hospital for more than seven days use more than 72 per cent of total bed days (https://www.nuffieldtrust.org.uk/news-item/will-the-nhs-really-need-fewer-beds-in-the-future).

Before the Covid-19 pandemic, national policy-makers focused considerable efforts on improving the care and experience of these patients and alleviating pressures on hospital beds by reducing the time these patients spend in hospital.

Delayed discharges

The number of delayed discharges rose substantially between 2014 and 2017 (*see* Figure 9). This had a negative impact on patients' care and posed operational challenges for providers. A range of policy initiatives has been introduced to tackle delayed discharges. There was a government target that patients whose discharge was delayed should account for no more than 3.5 per cent of all hospital beds (https://www.gov.uk/government/publications/nhs-mandate-2017-to-2018) by September 2017. While this target was not fully achieved, the health and care system did succeed in reducing the number of delayed discharges from its 2017 peak (*see* Figure 9).

Figure 9 Before the pandemic, while improvements had been made many patients were still delayed leaving hospital

The number of beds occupied by patients whose discharge has been delayed was not substantial compared to the total bed stock; in January 2020, for example, the equivalent of 5,200 beds – 5 per cent of the total available acute and general beds – were being used by patients whose discharge had been delayed. Nevertheless, delayed discharges can exacerbate operational challenges; for example, reducing the number of beds available for patients who need admission can affect performance against key waiting time standards including A&E and elective care.

To reduce the burden on frontline staff during the Covid-19 pandemic a number of data publications, including delayed discharges, were paused and have not yet resumed, so there is no current data on the level of delayed discharges. However, the need to maximise available beds for Covid-19 patients led the government to introduce funding for the first few weeks of care following discharge from hospital, to speed up the discharge process. This policy will be in place until 31 March 2022 (https://www.england.nhs.uk/wp-content/uploads/2021/09/C1400-2122-priorites-and-operational-planning-guidance-oct21-march21.pdf), and may have had a positive impact on the number of delayed discharges.

Delayed transfer of care

> A 'delayed transfer of care' occurs when a patient is ready to leave a hospital or similar care provider but is still occupying a bed. Delays can occur when patients are being discharged home or to a supported care facility, such as a residential or nursing home, or are awaiting transfer to a community hospital or hospice.

Stranded and super-stranded patients

Because of the very specific definition of the term delayed transfer of care, the number of patients officially recorded as having been delayed is only a sub-set of patients who have long stays in hospital and/or could receive care elsewhere. The National Audit Office estimated that the number of older patients in hospital who are no longer benefiting from hospital treatment, but could receive the care they need in their own homes or in residential care, is around 2.7 times the delayed transfers of care figure (https://www.nao.org.uk/report/discharging-older-patients-from-hospital/).

For this reason, in recent years national NHS bodies have placed greater focus on reducing the number of 'stranded' and 'super-stranded' patients who spend more than 7 and 21 days in hospital respectively.

In 2017/18, NHS trusts were instructed to reduce the number of super-stranded patients by 25 per cent in order to free up 4,000 hospital beds. Although the target was not achieved, nearly 2,000 beds were made available through efforts to reduce the number of patients staying in hospital over 21 days.

As with delayed discharges, reducing 'super-stranded' patients was a key aspect of freeing up beds for Covid-19 patients. While data on 'super-stranded' patients is not routinely published, it is included as part of the winter sitreps and these show that in 2020/21 there were notably fewer 'super-stranded' patients in hospital compared to 2019/20.

Figure 10 There were fewer 'super-stranded' patients in hospital in winter 2020/21 than in winter 2019/20

Getting greater value from beds: opportunities, initiatives and outlook

Reducing variation and improving patient flow

Despite impressive reductions in the average length of stay and the number of acute beds in the NHS over the past 30 years, wide variations remain both across and within different parts of England that cannot fully be explained by differences in population need, case-mix or patient preference (*see* box below). Tackling some of this variation would not only free up beds but also improve outcomes for patients.

Examples of variation

> Average length of stay for children with asthma varies from 0.8 to 2.0 days, a 2.4-fold variation among clinical commissioning groups (CCGs) in England.[1]
>
> The rate of emergency admission to hospital for people aged 75 years and over who remain in hospital for less than 24 hours varies 4.2-fold among CCGs in England, from 2,260 to 9,536 per 100,000 of population.
>
> Average length of stay for patients after a colorectal cancer resection is slightly more than 10 days. If all hospitals could match the length of stay (five and a half days) of the best hospitals in England, 84,000 bed days

would be saved, along with £23.6 million.

Rates of day-case surgery vary, even for procedures where there is clinical agreement about its use. For example, according to the British Association of Day Surgery, at least 20 per cent of anti-reflux surgery should be possible as a day case. Yet most trusts do not currently offer this surgery on a day-case basis, despite data suggesting it improves patients experience and cost efficiency, with no detrimental impact on outcomes.

1. The seven CCGs with the highest rates and the seven CCGs with the lowest rates have been excluded from these figures.

There is wide variation in how older patients are cared for in different parts of England. Previous research showed more than two-fold variation in needs-weighted admissions per person and emergency length of stay for people over the age of 65 between different areas, with consequences for hospital bed use. Those areas that had more integrated services for older people showed lower rates of hospital bed use (https://www.kingsfund.org.uk/publications/older-people-and-emergency-bed-use) . So, while the challenges associated with caring for these patients – who often have complex needs – are real, there is an opportunity for the system to learn from the best-performing areas to identify more appropriate care settings.

There is also evidence that some demand currently being met by hospitals could be dealt with more appropriately in other settings. For example, around one in five emergency admissions to hospital are thought to be avoidable (https://www.nuffieldtrust.org.uk/research/focus-on-preventable-admissions) with better and more co-ordinated care management in the community. And once people are admitted to hospital, they often stay there longer than is medically necessary due to problems sorting out arrangements for their onwards care (*see* Pressures on hospital beds).

The NHS has developed two national programmes to help reduce unwarranted variation in how resources, including hospital beds, are used.

- Getting It Right First Time (GIRFT) (https://www.gettingitrightfirsttime.co.uk/national-general-surgery-report-published-2/) – a clinically led programme that seeks to improve quality and reduce cost in the delivery of hospital care by identifying and then tackling unwarranted variations in services and practices.
- RightCare (https://www.england.nhs.uk/rightcare/) – a national NHS England-supported programme aimed at reducing unwarranted variation in commissioning.

Moderating demand for hospital care

After the publication of the *NHS five year forward view* in 2014, the NHS began testing new models of care in 50 vanguard areas across England. Central to the vanguards programme was moderating rising demand for hospital care by focusing on prevention, early intervention, admission avoidance and support for people to remain independent in their own homes. The work of the vanguard programme was incorporated into the planning process of sustainability and transformation partnerships and now integrated care systems.

The NHS Long Term Plan highlighted the introduction of same-day emergency care in all major A&E departments (https://www.longtermplan.nhs.uk/) as playing a significant part in reducing acute admissions, as well as lending support to hospitals looking to increase the efficiency of their surgical beds through splitting their sites into 'hot' for complex, urgent care and 'cold' for elective services.

Alongside these initiatives, national NHS bodies have increased their oversight of bed stock. In April 2017, the then NHS England Chief Executive Sir Simon Stevens introduced a new test requiring local NHS organisations to demonstrate that 'significant' proposed bed closures meet one of three new conditions (https://www.england.nhs.uk/2017/03/new-patient-care-test/), one of these being that sufficient alternative provision, such as increased GP or community services, is put in place alongside or ahead of changes to moderate the demand for future hospital care.

While new models of care have the potential to improve patient outcomes and experience, analysis of the evidence underpinning them suggests they will not necessarily reduce the need for hospital care (https://www.nuffieldtrust.org.uk/research/shifting-the-balance-of-care-great-expectations) . Earlier work suggests that interventions intended to reduce unplanned hospital admissions often struggle to moderate demand (https://orca.cardiff.ac.uk/93110/) . Implementation also takes time; it can take several years for new models of community-based care to develop and to start to deliver results (https://www.nuffieldtrust.org.uk/research/evaluating-integrated-and-community-based-care-how-do-we-know-what-works) . They also require investment (https://www.kingsfund.org.uk/publications/making-change-possible) – to cover the costs of staff time, programme and physical infrastructure, and double-running costs (to allow new services to be set up while still providing existing services).

The Covid-19 pandemic has had, and will continue to have, a profound impact on demand for hospital beds and other NHS services. This, combined with other challenges the health and care sector is facing, such as GP shortages and the highest waiting list for elective care since current recording began, means that ambitions to moderate demand for hospital care are likely to have been put on hold.

What next for hospital beds in England?

A number of changes to how care is delivered have resulted in the number of beds falling over the past 30 years. While many advanced health care systems have seen bed numbers fall, the NHS currently has fewer beds relative to the population than almost any other comparable health system.

A significant portion of this reduction has been due to shifts in policy that have resulted in fewer people with mental illness and learning disabilities being treated in institutional settings, with care and support now provided in the community. Alongside this, the long-term care of older people has largely moved out of acute hospitals and is now delivered at home, in care homes or nursing homes. Other factors such as medical innovation, which has enabled less invasive surgery and shortened recovery time, have resulted in reduced length of stay and allowed more people to be treated within existing bed stock.

Before the Covid-19 pandemic, there were signs of a growing shortage of beds, as can be seen in extremely high levels of average bed occupancy. Analysis from NHS Improvement found the lack of available hospital beds is closely associated with the deterioration in performance against key waiting time standards such as how long patients wait in A&E departments before being admitted to hospital, as A&E departments can spend a lot of time looking for available beds for patients. There were also specific concerns about bed stock in mental health, with the Royal College of Psychiatrists warning of a 'national crisis (https://www.hsj.co.uk/humber-teaching-nhs-foundation-trust/royal-college-warns-bed-shortage-is-national-crisis/7020046.article)' resulting in more patients needing to be sent out of area for treatment.

Some opportunities to deliver more value from existing bed stock remain. Focusing on variations in practice (including in average length of stay), further reducing the number of super-stranded patients, preventing avoidable admissions, improving patient flow, splitting 'hot' and 'cold' services to improve efficiency and strengthening out-of-hospital provision all offer promise, which is being realised through a range of national initiatives. Integrated care systems have been tasked with implementing new ways of delivering care and progressing these – and other – initiatives.

Realism is needed about what can be achieved in improving the use of hospital beds and moderating future demands for bed-based care. Before the pandemic reductions in hospital bed numbers were slowing, in June 2019 Sir Simon Stevens said hospital bed numbers were 'overly pressurised (https://www.hsj.co.uk/policy-and-regulation/nhs-needs-more-acute-beds-after-decade-of-reduction/7025365.article)', and the NHS national planning guidance for 2020/21 explicitly called for an increase in acute hospital beds (https://www.england.nhs.uk/operational-planning-and-contracting/) . The Covid-19 pandemic has radically changed current demand for beds and it is still unclear when and at what level hospitals will stabilise. This has put policies for the medium- to long-term management of beds on hold as hospitals cope with the immediate practicalities. So, while there is further scope to make better use of the hospital bed stock, further reductions in the number of beds would be undesirable, as well as unachievable.

Glossary

Average length of stay: the average amount of time in days that patients spend in hospital between admission and discharge (day case admissions are excluded from the calculation).

Bed-occupancy rate: the percentage of available beds occupied by a patient. For overnight beds occupancy is measured at midnight each day; day-only beds are recorded as occupied if at least one patient has used the bed in the past day.

Day-case surgery: surgery for which the patient is admitted to hospital, the operation is performed and the patient discharged on the same day.

Delayed transfer of care: an adult inpatient in hospital who is ready to leave to return home or move to another setting, but is prevented from doing so. There are three conditions for a patient being ready for transfer:

- a clinical decision has been made that the patient is ready for transfer
- a multidisciplinary team has decided that a patient is ready for transfer
- the patient is safe to discharge or transfer.

EU-15 countries: EU member states before the May 2004 expansion and Brexit: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom.

Escalation beds: temporary beds opened by NHS providers during winter to provide short-term capacity.

General and acute beds: beds for patients who have been admitted from A&E or by their GP or who are recuperating after surgery. These include patients being treated by a range of specialties including general surgery, trauma and orthopaedics, cardiology and general medicine.

Supply-induced demand: demand for health care that in the absence of the provider may have gone unmet. Not necessarily inappropriate care.

Data sources

Our key sources of data for this briefing are quarterly bed availability and occupancy data published by NHS England, and the OECD's Health Care Resources dataset. In addition, we drew on NHS England's monthly situation reports and winter daily situation reports.

NHS England bed availability and occupancy

As noted, there have been some changes to the definition used in NHS England's quarterly bed availability data. Until 2009/10 the data was collected by ward type; since 2010/11 it has been counted using consultant speciality. Consequently, some types of beds, including intermediate care and community mental health, are excluded from current data. Comparisons across the period should therefore be treated as approximate. In 2015/16 mental health beds were revalidated and this led to a reduction of numbers of around 10 per cent. The data collection only includes beds at the reporting provider, not beds paid for at any other provider.

NHS England monthly situation reports

NHS providers submit monthly situation reports to NHS England. These record the number of critical care beds available and occupied. In contrast to the bed availability and occupancy data set, the monthly situation reports record the number of critical care beds via a snapshot on the last Thursday of each calendar month rather than as an average.

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