

Written evidence submitted by The Health Foundation

About the Health Foundation

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

Our submission:

Below we set out the Health Foundation's assessment of the key issues related to the NHS backlog and waiting times. We have provided answers to the questions where we can offer most value to the Committee based on our analysis. We set out the scale of the NHS backlog, the challenges facing the NHS before the pandemic, and issues that have been made worse as a result of the pandemic. We outline some of the biggest constraints to addressing the backlog, such as staff shortages and funding, and highlight some of the enablers and potential solutions to meet the challenges now and in the future.

The scale of the NHS care backlog

The picture before Covid

Prior to the pandemic, the NHS had not met the 18 week standard for elective treatment since February 2016 and waiting times had been steadily increasing. Consequently, the waiting list had already grown from 2.92 million at the start of 2015 to 4.42 million by the end of 2019, an average annual increase of almost 300,000. By the end of 2019, 83.7% of patients waiting were within 18 weeks – substantially below the expected standard of 92%. Waiting times increased in all regions and specialties. Fundamentally, NHS activity to complete pathways and remove patients from waiting lists did not keep pace with the growth in demand. Prior to the pandemic, it was hard to see how the 18-week standard could have been achieved by the end of 2023/24 given the infrastructure and staffing levels.^[2]

The number of urgent GP referrals for suspected cancer more than doubled in the decade prior to the pandemic, from 1,005,066 in 2010/11 to 2,386,815 in 2019/20. This was positive, indicating a trend towards earlier diagnosis of more cancers, which is a key requirement to close the gap in survival rates between England (as well as the rest of the UK) and comparable countries.^[3] However, the divergence between performance against the 31- and 62-day cancer waiting time standards over this period suggests an increasing number of patients who went on to receive cancer treatment waited longer to receive a definitive diagnosis.^[4] More recently, there were also indications that the NHS was struggling to deliver timely access to first appointments with a specialist for patients urgently referred with suspected cancer. The constitutional standard that at least 93% of patients should be seen by a specialist within 14 days of an urgent referral has not been consistently met since 2017/18.

This steady deterioration in performance against the waiting time standards for cancer and elective treatment prior to the pandemic was a reflection of the NHS's capacity to see, diagnose and treat patients failing to keep pace with the growth in demand.

NHS capacity before Covid

NHS capacity going into the pandemic was highly constrained. In this respect, the UK may face deeper challenges in recovering health care services than many of the countries we would consider our peers. International comparisons highlight that, relative to the size of the population, the NHS operates with fewer professional staff and diagnostic equipment than most of the health systems in North America and Western Europe.^[9]

Going into the pandemic, for example, in the UK there were:

- 2.45 hospital beds per 1,000 population – the lowest in Europe aside from Sweden (2.07), well below the 7.91 in Germany, 5.84 in France, 3.16 in Italy and 3.08 in the Netherlands.
- 2.95 physicians per 1,000 population – more than in the USA (2.64), but the lowest in Europe including Germany (4.93), Italy (4.05) and France (3.17).
- 8.2 practicing nurses per 1,000 population – more than Spain (5.89) and Italy (6.16), but substantially fewer than in Germany (13.95) and the Netherlands (10.69).
- 0.47 physiotherapists per 1,000 population – less than the 0.71 in the USA, 2.33 in Germany, and 1.3 in France.
- 9.46 CT scanners per million population (when data was last reported in 2014) - compared to 44.94 per million in the USA (2019), 35.33 per million in Germany (2018) and 18.17 per million in France (2019).
- 7.23 MRI scanners per million population (when data last reported in 2014) - compared to 40.44 per million in the USA (2019), 34.47 per million in Germany (2018) and 15.38 per million in France (2019).

The impact of the pandemic on waiting times

The pandemic has caused severe disruptions to the delivery of elective care, with substantial increases in waiting times and the number of patients waiting. As of the end of October 2021, NHS England figures show the waiting list for consultant-led elective care was 5.98 million with over 300,000 patients waiting more than a year.

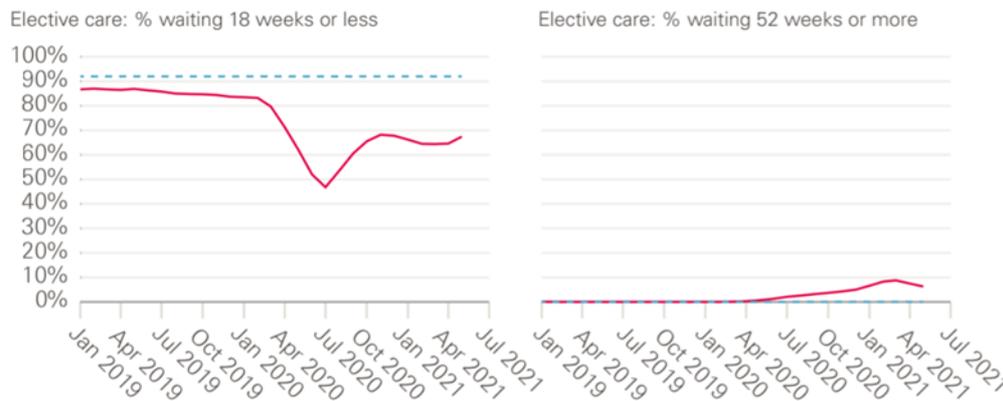
Postponements to elective care

In elective care, the total number of completed pathways fell sharply in April and May 2020, as non-urgent treatment was postponed early in the pandemic. The NHS made considerable progress in restoring activity after the initial outbreak, but the second wave of the virus caused further disruption to routine care – albeit with completed pathways falling far less than might have been expected, despite extreme strains on the health service.

The total number of completed pathways steadily increased up to July 2021, but has only reached 2019 levels in one month (June 2021) of 2021 thus far. Between January 2020 and July 2021, more than 6 million fewer pathways were completed than would have been expected based on 2019 numbers. This includes 4.6 million fewer pathways completed in 2020 and 1.6 million fewer from January to July 2021^[9].

Analysis we undertook in October 2021 suggests that delivering the constitutional standard of 92% of patients being treated within 18 weeks by the end of 2024/25 would require £4.2bn a year in additional funding between 2021/22 and 2024/25 (£16.8bn in total)^[10]. This assumes that 75% of patients not referred for treatment during the pandemic (see below) return to seek treatment.

Performance of elective care against waiting list standards, January 2019-June 2021



Source: NHSE, A&E Attendances, 2021, NHSE, RTT waiting times, 2021, NHSE, Cancer waiting times, 2021

Missing patients

Since the start of the pandemic, substantially fewer patients have been added to the waiting list for elective care than would have been expected based on historic activity. In 2020, 5.9 million fewer people were added to the waiting list than in 2019. Between January and July 2021, 1.6 million fewer people started a new pathway compared to the same period in 2019. On this basis, we estimate that there could now be around 8 million ‘missing patients’ who have not started a pathway potentially leading to routine hospital treatment^[11]. And this may be an underestimate, as demand for elective care was projected to rise prior to the pandemic^[12]. As services resume some of these patients would be expected to return, but there is significant uncertainty over what proportion. We estimate the waiting list could grow to 10–13 million if the majority (50–90%) do return and activity continues as usual^[13].

The reasons for these ‘missing patients’ are complex and warrant further research. Polling that we undertook in May 2020^[14] showed that 47% of people felt uncomfortable in using their local hospital at the time, primarily due to concerns about being exposed to Covid. This fell to 23% when asked the same question in November 2020^[15]. While this was a significant shift over the course of six months, but the fall in the level of unease about using hospital services has not been reflected in an increase in referrals for elective care. This may indicate that factors other than a reluctance to seek health care, such as barriers to accessing services, may also be playing an important role in limiting the expected return of missing patients.

Unequal disruption to care

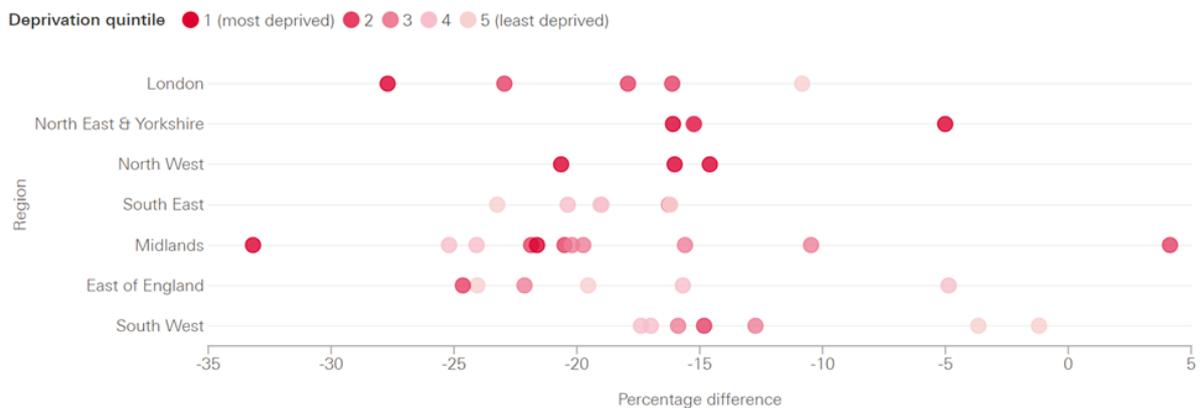
While elective care has been disrupted in every part of England, the extent of this disruption is not the same everywhere. On average, the most socioeconomically deprived areas of England face the biggest backlogs, and patients in these areas face longer delays.

Our analysis suggests elective care activity fell in each of England’s 42 Integrated Care Systems (ICS) during the pandemic, but there were considerable differences between ICSs in terms of both the level of disruption and rate of recovery. The ICSs with the largest falls in completed pathways in 2020, compared to 2019, were in East London (37% fewer), Greater Manchester (34% fewer) and Suffolk and North East Essex (34% fewer). The smallest reductions were in Bath and North East Somerset, Swindon and Wiltshire (21% fewer), Mid and South Essex (18% fewer) and Nottingham and Nottinghamshire (13% fewer).

Additionally, as of July 2021, the numbers of completed pathways in some ICSs were considerably nearer to (and in one ICS exceeded) 2019 levels. Between January and July 2021, the areas with the most completed pathways compared to the same months in 2019 were Nottingham and Nottinghamshire (4% more), Bath and North East Somerset, Swindon and Wiltshire (1% fewer) and Gloucestershire (4% fewer). The areas with the fewest pathways completed relative to the same months in 2019 were Herefordshire and Worcestershire (25% fewer), East London (28% fewer) and Birmingham and Solihull (33% fewer).

There are also major concerns that more socioeconomically deprived areas of the country have more missing patients still waiting to come forward to begin treatment pathways. Those who do present may have seriously deteriorated in the interim, so could need more urgent, intensive treatment. How many of these missing patients will eventually present, and what treatment will be needed by those who do, is a big unknown. This uncertainty has major consequences for the time and funding needed to address the elective care backlog.

Percentage difference in completed care pathways between 2019 and 2021 for each Integrated Care System



Missing patients are not evenly distributed across England. The ICSs with the largest falls in new pathways in 2020, compared to 2019, were Northamptonshire (39% fewer), North London (35% fewer) and East London (35% fewer). ICSs in Mid and South Essex, Nottingham and Nottinghamshire (both 17% fewer) and Cornwall and the Isles of Scilly (20% fewer) saw the smallest reductions in the same period.

Missing patients may also be returning faster in some ICSs than others. Between January and July 2021, Mid and South Essex (8% more) exceeded the number of new pathways in the same months of 2019 and ICSs in Coventry and Warwickshire and Gloucestershire came very close (both 4% below). Relative to the same period in 2019, ICSs in North London (28% fewer), North West London (25% fewer) and Lincolnshire (23% fewer) had the fewest new pathways started in this period.

One example of the regional inequalities in the disruption to elective care is rates of hip replacements. The NHS in England usually carries out 330 elective hip replacements a day on average under regular circumstances. During March and April 2020, this fell to an average of between one and two a day. Recovery on this began in May 2020, but the pace and extent of this varied by region, with only London recovering to pre-pandemic numbers by the end of 2020. This led to 58,000 fewer people having hip replacements in 2020. Those waiting are particularly likely to be in certain regions of England (the North West and the South West both have 50% fewer admissions than usual), are slightly more likely to be older and slightly more likely to be living in deprived areas. In London there has been only a

15% reduction in admissions for the least deprived area, compared with 30% for the most deprived. This data is indicative of wider trends across all elective care specialisms.

ICSs are expected to play a central role in restoring elective care, including developing local plans for recovering services^[16]. The move from managing waiting lists at system level, rather than at the level of individual providers, is an important shift in policy. There are a range of potential benefits to managing waiting lists at system level, particularly around managing capacity and resources, but unlocking this potential is unlikely to be straightforward. With ICSs still at varying levels of maturity, this may limit the progress that can be made in the parts of the country where systems are less well established. While NHS leaders reported that the pandemic had enhanced local partnership working, assessments of local collaboration by the CQC found a much more mixed picture^[17]. Collaboration was often effective where there were good pre-existing relationships and clear governance, but the CQC found confusion and duplication in areas where these were lacking.

Disruption to cancer services

The delivery of cancer services has been similarly disrupted. By mid-2021 the cumulative difference between observed and predicted first treatments was more than 40,000^[18]. This implies there are more than 40,000 patients who are living with undiagnosed cancer, have died with undiagnosed cancer, or have decided not to undergo treatment. This effect has come from the reduction in consultations and referrals, the pressure on secondary care during the pandemic, and a dramatic reduction in attendance of cancer screening. Of this 40,000 plus backlog of missing cancer patients, over 10,000 are missing from the normal diagnosis numbers following a screening.

The screening programme for bowel cancer was paused during the early stage of the pandemic, with main diagnostic tests being limited to emergency settings. This resulted in the number of people being invited to screenings falling from over one million in April-June 2019 to 604 people in April-June 2020. Recovery efforts for bowel cancer screenings were extensive towards the end of 2020 (see following section). However, 46% fewer people received colonoscopies between April and October 2020 than the same period in 2019. Cancer charities remain concerned about the number of people waiting for bowel cancer investigations in 2021. As of May 2021 the number remained five times higher.

The NHS has made more obvious progress in restoring activity in cancer services than for elective care. The number of patients seeing a specialist following an urgent GP referral for suspected cancer has been consistently above 2019 levels for the last few months. The volume of treatment activity, including first treatments and second and subsequent treatment, has also been consistently at or slightly above pre-pandemic levels. However, these statistics relate to numbers of pathways being completed rather than the number of patients currently waiting. Management information published by NHS England suggests the backlog of patients yet to start treatment more than 62 days after an urgent referral with suspected cancer to start of first definitive treatment is growing.¹ From a low of 14,919 in week ending 25 April 2021, the number of patients yet to start treatment who have already waited over 62 days has steadily increased to 23,256 by week ending 31 October 2021.

Barriers to addressing the backlog

Workforce shortages

There is a legitimate risk that shortages in workforce could undermine the effort to recover the elective waiting list. In 2020, we estimated that an additional 4,100 consultants and

17,100 nurses would be needed to meet the elective backlog on a national level^[23]. Since then, the number of additional treatments needed to meet the backlog has grown substantially. Under our estimates, if 75% of missing patients returned, then meeting the referral to treatment (RTT) target by 2024/25 would require 13% more pathways to be completed each year than in 2019/20; this would equate to an additional 4,400 consultants and 18,310 nurses each year. In a more conservative scenario, if the system is on course to return to 2018/19 levels of performance by 2028/29, then the number of pathways would need to be 7% higher than in 2019/20. This would mean 2,270 more consultants and 9,370 nurses would be needed each year nationally above filling existing shortages.

Estimated additional staff required (75% missing patients returning)

Extra resources needed	Returning to 18/19 levels of performance (2021/22-2028/29)	Meeting the RTT target (2021/22-2024/25)
Consultants	2,270	4,440
Nurses	9,370	18,310

Strain of the pandemic on existing staff

Serious staff shortages are compounded by the fact that staff are exhausted by their experience of the past 18 months. Results from the NHS Staff Survey 2020 show that 44% of staff reported feeling unwell as a result of work-related stress, the highest result over the past five years. While the full impact on the mental wellbeing of staff will likely not be known for some time, there are likely to be ongoing impacts for some staff. A study conducted after the first wave of covid-19 in summer 2020 found almost half of critical care staff met thresholds for Post-Traumatic Stress Disorder, depression, anxiety, or problem drinking. Some staff are likely to have experienced moral injury, the distress arising from being unable to act in line with their personal ethical codes. It will not be possible for NHS organisations to recover activity levels without a significant focus on providing ongoing support for staff. This is likely to impact the speed at which services can be accelerated.

Funding

The Health Foundation's REAL Centre estimates suggest that clearing the backlog and returning to the 18-week RTT target in this parliament would cost £11.7billion (50% of 'missing patients' returning) to £15.7billion (75%). In addition, some recurring cost of around £300m would be needed each year to reach and maintain the 92% target. In all, over this parliament, £12.8billion to £16.8billion in funding would be needed.

This equates to between £3.2billion and £4.2billion a year in additional funding each year from 2021/22 to 2024/25. This funding would enable the NHS to clear the backlog of people waiting for routine elective care, including returning 'missing patients' by treating an additional 1.7million to 2.2million people a year. However, as above, even with this funding there may not be capacity to treat this number of patients over the next 4 years. Moving at a slower pace, with the ambition of returning to 18/19 levels of waiting by 2028/29 would require £5.4 billion (50%) to £7.1billion (75%) by the end of the parliament, £1.3billion-£1.8billion per year up to 2024/25.¹

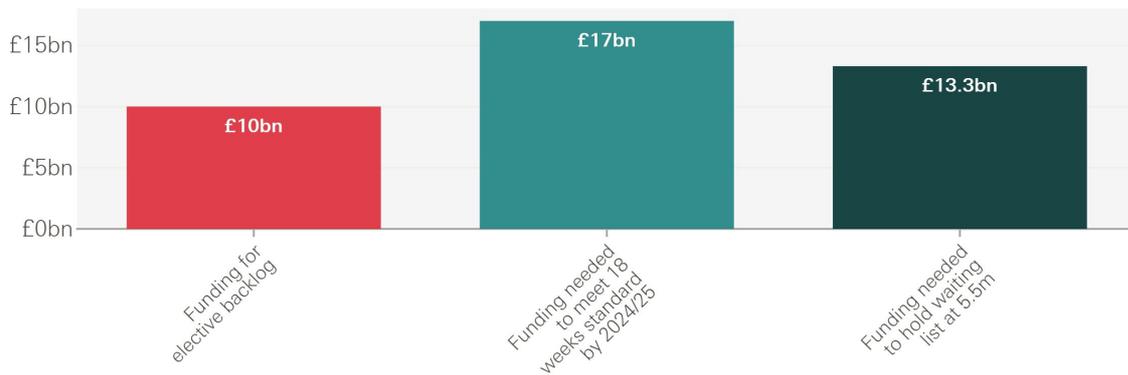
¹ Note, the total cost to clear the backlog would be between £8.8billion (50%) and £12.3billion (75%) by 2028/29, plus some recurring cost each year.

By comparison, the government has committed a total of £10 billion to meet the elective care backlog in the NHS, considerably less than the REAL Centre's estimate of what would be needed to clear the backlog in this parliament but enough to put it on track to return to waiting times target in 2028/29. Finally, we estimate that keeping the waiting list to 5.5million by the end of the parliament would require £13.3 billion.

Comparison of funding committed and REAL Centre estimates to clear the backlog

Current funding will almost certainly mean longer waiting lists by the end of this parliament

Funding announced for recovering the elective backlog compared to estimated funding needed



REAL Centre

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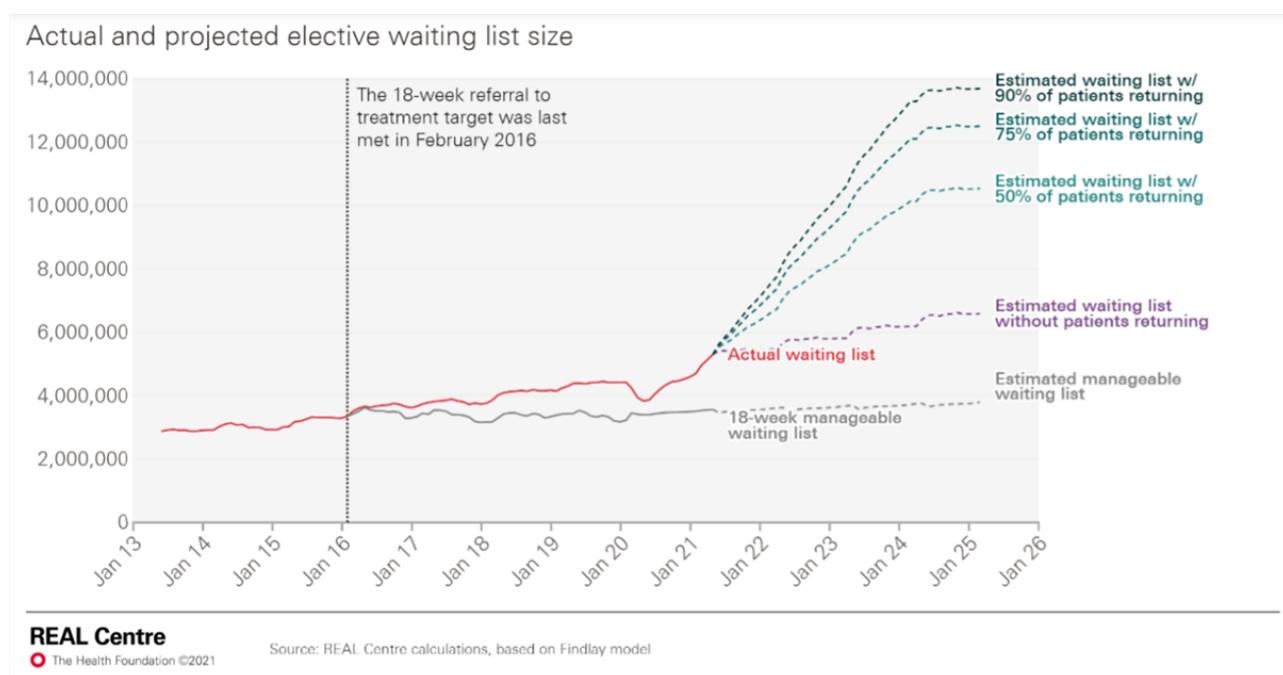
Source: REAL Centre analysis

Note: REAL Centre estimates assume 75% returning

How the REAL Centre calculates the funding needed to clear the backlog

The funding needed to clear the backlog is a function of the activity required and the cost of that activity. The chart below shows the 'actual waiting list' and the '18-week manageable waiting list'. As activity generally increases over time, the size of the waiting list for which the 18-week RTT target can be met also grows. Recently, however, the waiting list has been growing faster than the rate at which the target can be met and performance was deteriorating even before COVID-19.

Moreover, as services resume some of the 'missing patients' - the up to 8 million referrals that would have been expected but didn't occur - would be expected to return. There is significant uncertainty over how many, but if sizeable numbers do return, we estimate the waiting list could grow to 10.5-13.7 million (with 50-90% of missing patients returning over three years).



To meet constitutional waiting times standards, the NHS would need to do two things:

- first, undertake more activity on an ongoing basis to stop waiting lists from growing (this is a recurrent cost);
- second, clear the backlog (this is modelled as a one-off increase in activity to treat those already waiting and returning 'missing patients').

Costs are based on a weighted average of outpatient and inpatient costs of admission. Only some patients will require a hospital admission (22% of completed pathways in 2018/19). Looking only at those completed after 18 weeks, a higher proportion were admitted (39%). We assume 39% of those in the backlog, including missing patients, require admitted patient care.

Furthermore, the non-recurrent costs of clearing the backlog are uprated to account for the price premium associated with using more bank and agency staff or capacity in the private sector. While bank and agency staff account for around 8% of the NHS workforce on average, REAL Centre analysis indicates that they cost on average 90% more than establishment staff per whole time equivalent. The uprate factor applied depends how quickly the backlog is cleared.

COVID-19 as an endemic challenge

A significant challenge in the recovery is the reality of living with Covid-19 over the long term. Trying to bring down waiting times for elective care and cancer services will be made even more challenging if the health service faces further waves of COVID-19.

This has been evidenced throughout the past two years. Elective care was disrupted less, and subsequently recovered faster, in regions with lower COVID-19 infection rates. Compared to 2019, waiting list activity during 2020 fell by 31% in the North West (biggest fall) and by 24% in the South West (smallest fall). The regions with below average rates of COVID-19 also recovered to pre-pandemic levels of activity faster. Higher rates of COVID-19 cases in the community will lead to higher numbers of patients admitted to hospital with COVID-19, limiting the beds available for elective care. Higher rates of community cases is also likely to cause higher levels of sickness absence and self-isolation among NHS staff, limiting the workforce available for elective care. It should also be noted that the regions are large and there is almost certainly as much (possibly more) variation within regions as between them.

Enabling improvements over the long term

Given the scale of the backlog, recovery just to pre-pandemic levels, let alone further improvements, may take several years.

In developing a support offer for local providers, we urge DHSC and NHSE to develop and deliver a long-term framework for recovery that focuses on embedding sustainable improvements in the design and delivery of elective care. As well as delivering care to more patients in the short-term, this could also help to realise some long-term aspirations for the service, including reform of outpatient services, increasing patient involvement in their care and speeding up the adoption and spread of technological and digitally enabled care.

a number of key enablers to improving NHS productivity which will also be important in facilitating service recovery. It will also be important to focus on other factors such as staff wellbeing and management and leadership.

Key enablers

- Invest in providers' **capability for innovation and improvement** – QI skills, data analysis, capacity for evaluation, etc – following through on the NHS Long Term Plan commitment to help providers build their improvement capability. A large proportion of English trusts rated 'outstanding' have built up their improvement capability over a number of years; but while pockets of excellence exist, more needs to be done to move from this being the exception to the norm. Evidence suggests building improvement capability can reap long-term productivity dividends, though requires upfront investment – a barrier at a time of wider financial pressure.
- **Encourage sharing of data, analysis and learning.** Networks such as the **Q Community and Beneficial Changes Network** allow for sharing learning and can support the rapid scale and spread of innovation, thus breaking down barriers in overcoming siloed working. We recommend continued support of learning networks

such as these, in addition to other mechanisms of shared learning between staff and organisations.

- **Provide effective implementation support.** As described in the Health Foundation's report *The Spread Challenge*, the requirements of effective implementation are often a barrier to change being initiated, completed and sustained. Appropriate support from central bodies, including funding to cover upfront costs of adoption, and assistance with analytics and evaluation, will be important in supporting regional and local providers to transform services successfully. One example of this is the Nottingham University Hospitals NHS Trust Information and Insight Department, who deliver robust analysis and implementation support to service transformation, working alongside teams improving clinical services.
- **Investment in digital infrastructure across the NHS.** This is an important enabler of many types of innovation and improvement. The recent £250m technology fund is a promising start, but more remains to be done. Challenges remain in developing digital capability and improving the interoperability of health information technology systems. Historically, much attention has typically been paid to cutting-edge technological innovation in leading providers, less to organisations lower down the curve where the real barriers to improvement lie. NHSX's Digital Aspirant programme is a positive development but covers only a minority of trusts; this kind of support should become a regular funding stream and expanded to more organisations. More focus is also needed on the challenges of digital infrastructure in primary and community care.

In addition to much needed investment and support in improvement, innovation and infrastructure, providing support to staff at all levels will be crucial to recovery of services.

- **Support good management practices.** The forthcoming Messenger review should be seen as an opportunity to showcase and spread best practice amongst managers at all levels, with a focus on enabling transformative change and improving culture. Managers should be supported rather than 'performance managed', with recognition that as a workforce they are key in delivering patient care and improvement, and operate in a sustained high-pressure environment.
- **Increased focus on staff wellbeing.** The wellbeing of all staff is crucial to ensure high performance, and enable them to offer compassionate, person-centred care. This should encompass all aspects of wellbeing including appropriate development opportunities for staff. It is important that the staff wellbeing support provided by central bodies during the pandemic is continued long term and not considered a 'Covid-only' measure.
- **Ensure consistency in priorities and support.** For staff to perform at their best, they need support and 'air cover' from national policymakers and politicians. National policymakers and politicians also need to take action to reduce the overload of priorities facing leaders and managers as well as avoiding constant structural reorganisation, which can sometimes make it harder for those on the ground to demonstrate effective local leadership. Cutting the upward reporting burden, tackling regulatory thickets, and moving away from a 'blame' culture will all help providers to focus on service transformation and continuous improvement.

The elective recovery plan

The NHS is under major strain with significant staff shortages. Waiting lists have now reached record levels, with almost 6 million people now waiting for treatment. The government's NHS recovery plan needs to be realistic about the complexity of bringing waiting lists down and how long it may take to do so. This means striking a balance between meeting increased demand for care, supporting the wellbeing of patients waiting longer for

treatment and an under resourced and overstretched workforce exhausted from the pandemic.

It also needs to be a practical strategy that supports innovation and improvement, while not being top down, punitive or target driven. The recovery challenge is also not the same everywhere with some areas hit much harder than others. Any solutions, therefore, such as relocating patients for treatment, should aim to actively address these unjustified disparities and, at the very least, must avoid exacerbating the existing inequalities that have been widened by the pandemic.

ⁱ <https://www.england.nhs.uk/statistics/statistical-work-areas/cancer-waiting-times/management-information-on-cancer/>

Appendix: additional sources and references for our submission

- <https://www.england.nhs.uk/statistics/statistical-work-areas/rtt-waiting-times/rtt-data-2021-22/>
- <https://www.health.org.uk/publications/long-reads/returning-nhs-waiting-times-to-18-weeks>
- <https://www.health.org.uk/publications/unfinished-business>
- <https://www.england.nhs.uk/statistics/statistical-work-areas/cancer-waiting-times/>
- <https://www.oecd.org/health/health-at-a-glance/>
- <https://www.health.org.uk/publications/reports/the-nhs-long-term-plan-and-covid-19>
- <https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/12/important-for-action-operational-priorities-winter-and-2021-22-sent-23-december-2020.pdf>
- <https://health.org.uk/news-and-comment/charts-and-infographics/how-is-elective-care-coping-with-the-continuing-impact-of-covid-19>
- <https://health.org.uk/news-and-comment/charts-and-infographics/elective-care-how-has-covid-19-affected-the-waiting-list>
- <https://www.health.org.uk/publications/health-and-social-care-funding-projections-2021>
- <https://www.health.org.uk/news-and-comment/charts-and-infographics/elective-care-how-has-covid-19-affected-the-waiting-list>
- <https://www.health.org.uk/publications/reports/health-and-social-care-funding-to-2024-25>
- <https://www.health.org.uk/publications/health-and-social-care-funding-projections-2021>
- <https://www.health.org.uk/sites/default/files/2020-06/Health-Foundation-2020-COVID-19-Polling-v2.pdf>
- <https://www.health.org.uk/publications/public-perceptions-of-health-and-social-care-in-light-of-covid-19-november-2020>
- <https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/07/20200731-Phase-3-letter-final-1.pdf>
- http://www.cqc.org.uk/sites/default/files/20201016_stateofcare1920_fullreport.pdf
- <https://gitlab.com/tlswatt/cancer-wait-times/-/tree/master/charts>

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- https://www.cancerresearchuk.org/sites/default/files/covid_and_cancer_key_stats_october_2021_external.pdf
 - https://www.cancerresearchuk.org/sites/default/files/covid_and_cancer_key_stats_october_2021_external.pdf
 - <https://health.org.uk/publications/a-year-like-no-other>
 - <https://health.org.uk/publications/reports/the-nhs-long-term-plan-and-covid-19> – page 59
 - <https://www.health.org.uk/publications/long-reads/managing-uncertainty>
 - <https://www.health.org.uk/publications/long-reads/agility-the-missing-ingredient-for-nhs-productivity>
 - Note, our estimate here includes a growth in referrals of 1.8% year-on-year, which is estimated based on historic data. This may reflect factors such as a growing and ageing population.
 - Estimated over the period January 2017 -December 2019
 - <https://www.hsj.co.uk/finance-and-efficiency/revealed-the-cost-of-restoring-18-week-waits/7021025.article>
 - <https://www.england.nhs.uk/statistics/statistical-work-areas/rtt-waiting-times/>
 - There are several reasons for extending this assumption to returning missing patients. For one, admitted patient care fell more significantly than non-admitted patient care during the pandemic. Another is that returning patient are likely to be of relatively high severity, both because GPs are more likely to refer those in greater need and because ‘missing’ patients, by definition, are being referred later than usual.
 - This is an estimate based on the fact that [vacancy rates](#) for total NHS workforce have averaged 8% since 2018/19 and that most vacancies are filled by bank and agency staff according to latest [data](#).
 - <https://www.health.org.uk/what-we-do/real-centre/nurse-supply-model>
 - <https://www.nao.org.uk/report/nhs-backlogs-and-waiting-times-in-england/>
 - <https://health.org.uk/news-and-comment/news/nao-delivers-cold-dose-of-reality-for-governments-nhs-recovery-plan>

December 2021