National Audit Office

REPORT

Progress with the New Hospital Programme

Department of Health & Social Care, NHS England

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Progress with the New Hospital Programme

Department of Health & Social Care, NHS England

Report by the Comptroller and Auditor General

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Gareth Davies
Comptroller and Auditor General
National Audit Office

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Contents

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Key facts

40

number of new hospitals the government originally committed to build in England by 2030, in addition to eight hospital construction schemes previously approved

32

number of new hospitals the government now plans to build in England by 2030, according to its original definition, with a further eight to be completed after 2030

£3.7bn

capital funding provided in the 2020 Spending Review for new hospitals in the period up to 2024-25

£18.5bn

indicative maximum capital funding for new hospitals for 2025-26 to 2030-31, decided in early 2023 but subject to future spending reviews

£10.2 billion	value of backlog maintenance in the NHS hospital estate in 2021-22, compared with £4.7 billion in 2013-14 (at 2021-22 prices)
3 of 8	number of hospital schemes that have opened (or partly opened) to date from cohort 1 of the New Hospital Programme – with one exception, schemes in cohort 1 do not count towards the target of 40 new hospitals because they pre-date the commitment
Late 2023	forecast operational date of the first new hospital that counts towards the 40 new hospitals commitment (Dyson Cancer Centre, Bath)
Late 2025	forecast operational date of the second new hospital that counts towards the 40 new hospitals commitment (Shotley Bridge Hospital, County Durham)
95%	the New Hospital Programme's assumption of average bed occupancy in new hospitals built using the minimum viable product version of its Hospital 2.0 design – this compares with NHS England's priority to reduce bed occupancy to no more than 92% in 2023-24.
62%	proportion of posts in the New Hospital Programme's central team (223 out of 361) that were filled using consultancy services in February 2023
4	the number of main contractors in the UK that have told the New Hospital Programme they would consider building a large, complex hospital scheme
Over £1.0 billion	average estimated cost of replacing each of the five hospitals entirely made of reinforced autoclaved aerated concrete but not originally included in the New Hospital Programme

Summary

1 The NHS in England has around 1,500 hospitals, where most emergency and elective care is carried out. The hospital estate contains many old buildings and its condition has been deteriorating. In response, in 2020, the government announced the New Hospital Programme (NHP) and committed to build 40 new hospitals by 2030.

Scope of this report

2 This report examines whether NHP is being managed in a way that is likely to achieve value for money. To reach our conclusions, we considered the extent to which NHP:

- was designed and set up to manage the programme effectively;
- is making progress against its baselines for time, cost and quality; and
- is effectively identifying and managing the main risks to successful delivery.

3 Our report is organised in four parts, which cover:

- the need for new hospitals (Part One);
- progress made by NHP between 2020 and 2023 (Part Two);
- issues, risks and opportunities for NHP (Part Three); and
- how government reset NHP in May 2023 (Part Four).

4 NHP comprises many local construction schemes. While this report sometimes discusses individual schemes by way of example it does not set out to provide a detailed assessment of each scheme.

Key findings

The need for hospital investment

5 The condition of the NHS estate has seriously deteriorated in recent years because of under-investment. In 2021-22, 43% of the NHS estate dated from before 1985 and the total maintenance backlog was £10.2 billion, more than twice as high in real terms as in 2013-14. Twenty-two NHS trusts had backlog maintenance of over £100 million each. In the five years to 2018-19, the Department of Health & Social Care (DHSC) and NHS England diverted £4.3 billion of planned capital spend to fund day-to-day spending. Overall, parts of the NHS estate do not meet the demands of a modern health service, meaning many hospitals would benefit from refurbishment or replacement rather than just repairs (paragraphs 1.2 to 1.4, and Figure 2).

6 Seven entire NHS hospitals and parts of several others are known to be structurally unsound and urgently need replacement. From the 1960s to the 1980s, builders made extensive use of reinforced autoclaved aerated concrete (RAAC), a lightweight building material. From the late 1990s onwards, industry bodies warned that RAAC was unlikely to be structurally sound for much more than 30 years. A school roof collapse led to a national alert in 2019 about the risk of sudden failure and NHS England asked trusts to survey their estate for RAAC. Surveys found 41 buildings at 23 trusts containing the material, including seven hospitals with RAAC present throughout. The government has committed to eradicate RAAC from the NHS estate by 2035 and allocated £685 million over five years up to 2024-25 to mitigate immediate safety risks (paragraph 1.5 and Figure 3).

7 In 2020, DHSC set up the New Hospital Programme (NHP) to build 40 new hospitals by 2030 and to improve the NHS's approach to construction. DHSC created a Health Infrastructure Plan (HIP) in 2019 as a long-term programme to modernise the NHS estate, after several years when it built very few hospitals. Under HIP, DHSC planned 27 new hospital schemes by 2030. In October 2020, the government announced an expansion of DHSC's capital plans, stating that 40 new hospitals would be built by 2030, in addition to eight other hospitals that were in construction or pending final approval. DHSC set up NHP to deliver this commitment and manage all 48 schemes as a portfolio. It also tasked NHP with identifying ways to improve the efficiency and quality of hospital construction, including through greater standardisation, modern methods of construction, and a centralised approach to contracting. A timeline for NHP is at **Figure 1** on pages 8 and 9 (paragraphs 1.6 to 1.11 and 3.5).

Initial funding and selecting schemes for NHP

8 In October 2020, DHSC announced 32 of the 40 new hospital schemes, but the announcement did not explain the uncertainty in government about whether all the schemes could be afforded and completed on time. DHSC announced the locations of 32 new construction schemes in October 2020, providing brief details of the kind of improvement each would result in. These were in addition to the eight older schemes NHP was managing which did not count towards the 40 new hospitals commitment. NHP planned to add a final eight schemes later. For management purposes, NHP subsequently allocated the schemes to cohorts:

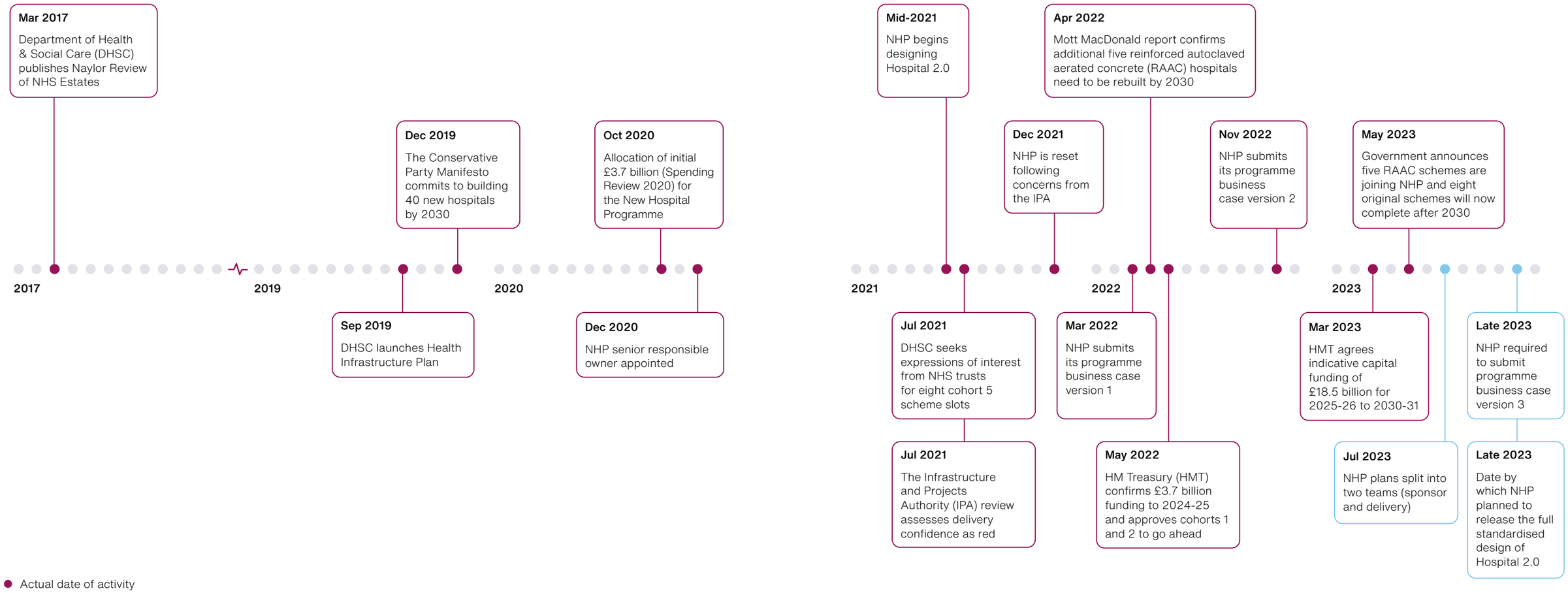
- cohort 1 – seven schemes in construction or pending full approval before NHP came into existence, which do not count towards the 40 new hospitals commitment, and one new hospital, the Dyson Cancer Centre (in Bath);
- cohort 2 – 10 schemes entering construction in the years up to 2024-25, nine of which were new hospitals and one of which (the National Rehabilitation Centre, near Loughborough) was considered to be a pre-existing scheme that does not count towards the 40 new hospitals commitment;
- cohort 3 – eight schemes mostly or entirely for construction from 2025-26 onwards;
- cohort 4 – 14 further schemes for construction from 2025-26 onwards; and
- cohort 5 – eight further schemes not yet selected, which NHP would construct in the late 2020s.

The October 2020 announcement stated that the 40 identified schemes (cohorts 1 to 4) would be "fully funded". However, in the 2020 Spending Review, HMT only allocated capital funding of £3.7 billion to NHP for the four years up to 2024-25. It intended NHP to use this mostly for pre-existing and early new schemes (cohorts 1 and 2). Government had still not made funding and scoping decisions about later cohorts because DHSC had not yet developed the new centralised, standardised approach to build them. This means there was inherent uncertainty about whether the specific schemes announced for cohorts 3 and 4 and the additional schemes scheduled for cohort 5 were affordable and achievable (paragraphs 2.4, 2.10, 2.11, 2.24 and 3.3).

Figure 1

New Hospital Programme timeline, 2017 to 2023

The impetus for major investment in hospitals grew from 2017 and the third programme business case for the New Hospital Programme (NHP) is expected in late 2023



Source: National Audit Office analysis of New Hospital Programme documentation

9 In response to our requests, DHSC has not been able to document fully the process used to select the 32 schemes announced in October 2020. For large capital programmes, we expect government to use clear, defensible criteria for the selection of schemes within a programme and to maintain records of its decisions. All but one of the 32 schemes announced in October 2020 were previously part of a HIP scheme, so we reviewed the selection process for HIP. We found that DHSC, supported by NHS England, had employed clear, evidence-based criteria to create a shortlist of schemes for HIP, but the list was later adjusted substantially, removing seven shortlisted schemes and replacing them with 14 others. Officials have told us that the final selection of schemes involved choices and judgements for which no further documentation is available. The failure to document this part of the process is an omission which means there is no basis for us to determine why DHSC selected these schemes (paragraphs 1.9 and 2.7).

10 The 32 schemes included only two of seven entirely RAAC hospitals, and fewer than half the schemes can be categorised as complete rebuilds or completely new hospitals. At the start of NHP, DHSC included two entirely RAAC hospitals in the programme. DHSC had proposed that the other five be included, but government instead decided to request a further assessment of the risks. Overall, DHSC adopted a broad definition of a "new hospital" for the purposes of the 40 new hospitals commitment. This includes completely new hospitals and complete rebuilds of existing hospitals, but also major new buildings at existing sites, and major refurbishments of existing hospital buildings. Excluding the eight pre-existing schemes, our analysis of the 32 new hospitals announced in October 2020 suggests that, as announced, 11 (34%) represented whole new hospitals, with another 20 (63%) meeting other elements of DHSC's definition. One scheme does not meet the definition: Christchurch Hospital in Dorset, which was always a very small scheme and subsequently reduced further in scope. In response to this descoping, NHP intends to split another scheme into two (St. Ann's Hospital in Poole and Alumhurst Road psychiatric unit in Bournemouth), counting each as a separate new hospital for the purposes of the target (paragraphs 2.6, 2.8 and 2.11).

11 After DHSC received less funding than it assessed it needed for NHP's first four years, it decided to start with smaller schemes and leave most construction for the final six years. In 2020, DHSC estimated it needed between £19.8 billion and £29.7 billion of capital funding to build 48 hospitals by 2030 (cohorts 1 to 5). This included between £3.7 billion and £16 billion for the programme's first four years up to 2024-25. HMT's decision to provide £3.7 billion up to 2024-25 necessarily meant more of NHP, including most of its larger schemes, being delivered towards the end of the decade. In options appraisal, DHSC called this option "maximum risk and policy compromises". This increased the risk that in later years many schemes would need to be under construction at once, meaning it could be harder to find construction companies willing or able to build them for a good price (paragraphs 2.3 to 2.5).

Progress with cohorts 1 and 2

12 In its first three years, NHP made slow progress constructing hospitals in cohorts 1 and 2. By June 2023, three of the eight schemes in cohort 1 had opened or part opened against an expectation of five. The other five schemes had been delayed by between one month and 16 months. For cohort 2, NHP expected all 10 schemes to enter construction between 2022 and 2024. By May 2023, no building had started, although some pre-construction site works valued at £11 million had been funded by NHP. NHP told us this was due to delays approving individual business cases. It now expects the first scheme that will count towards the 40 new hospitals commitment – the Dyson Cancer Centre, in Bath – to open in late 2023. The second – Shotley Bridge Hospital, in County Durham – is expected to open in late 2025 (paragraphs 2.14, 2.15, 2.18, 2.19 and 2.21, and Figures 8 and 9).

13 Forecast costs for schemes in cohorts 1 and 2 increased by 41% between 2020 and 2023. In 2020, NHP was allocated £2.0 billion for cohort 1 schemes but by March 2023 their forecast cost had grown to £2.7 billion. Similarly, the allocation for cohort 2 schemes was £916 million in 2020 but forecast costs had increased by March 2023 to some £1.3 billion. The causes of cost increases include higher-than-expected inflation and under-estimation of costs by some NHS trusts. Additionally, for reasons that are unclear DHSC had not budgeted for essential elements of two of the schemes: the Royal Liverpool University Hospital and Brighton 3Ts schemes are now forecast to cost some £400 million more than it expected. Where these costs fall in the period up to 2024-25, they must be met from NHP's £3.7 billion of capital funding, reducing contingency and the funding available for pre-construction works on cohorts 3 and 4. By March 2023, NHP had spent £1.1 billion of its allocation, which was broadly in line with expectations at the 2020 Spending Review (paragraphs 2.13, 2.16, 2.17 and 2.20).

Progress with cohorts 3, 4 and 5

14 NHP has been planning for schemes in cohort 3 and later to use an innovative standardised hospital design and modern methods of construction to reduce costs and timescales and improve the quality of new hospitals. Since 2021, NHP's central team has been developing the first standardised hospital design for England, Hospital 2.0, which it hopes will make construction more efficient. Hospital 2.0 will utilise modern methods of construction, which involve the offsite manufacture of major building components, as was used for the construction of The Grange University Hospital in Wales. NHP intends to introduce Hospital 2.0 in stages and estimates that, by cohort 4, hospital construction will be 25% cheaper and 20% quicker compared with traditional approaches. Standardisation can bring efficiencies and other advantages but NHP still needs to demonstrate that this level of efficiency is achievable (paragraphs 2.28, 3.6 and 3.7).

15 NHP currently assesses it will take until May 2024 to complete the challenging task of developing a standard hospital. In April 2022, the government's Infrastructure and Projects Authority (IPA) advised NHP to increase its internal capacity so it could complete the design by the end of 2022. During 2022, NHP's plan was to complete the design in three stages up to December 2023. But NHP struggled to recruit sufficient technical staff to achieve this. It now expects to complete the design by May 2024. Until Hospital 2.0 is finished there are limits to NHP's ability to make progress with planning schemes in cohort 3 and later. In the longer term, NHP is developing an environmental strategy to support its aim that the construction and operation of new hospitals can become net zero carbon by the 2040s (paragraphs 3.8, 3.9, 3.14 and 3.15).

16 There is a risk that a minimum viable product (MVP) version of Hospital 2.0 which NHP is considering will result in hospitals that are too small. During 2022 NHP created an MVP version of its high-level Hospital 2.0 specifications. NHP intended this version to be sufficient to achieve its key strategic objectives and critical success factors for the lowest possible cost. It results in smaller hospitals with lower initial building costs and lower running costs than other potential specifications. NHP has estimated that new hospitals built according to MVP would deliver £4.80 of benefits for every £1 of cost. We have examined how MVP has been modelled and are concerned that some of NHP's underlying assumptions may result in hospitals that are not big enough for future needs.

- One set of assumptions, called 'model of care shifts', presumes patient care will increasingly shift out of hospitals into adult social care, outpatient services, and community and digital healthcare. MVP assumes a recurring permanent 1.8% reduction each year in the need for hospital capacity because of these shifts. The reduction compounds over 60 years and more than cancels out the assumption of increasing demand due to an ageing and growing population. DHSC and NHS England want to shift care increasingly out of hospitals in future but do not have a funded strategy to deliver these shifts on this scale. NHS England told us this will depend on the next spending review.

- Secondly, NHP assumes building future hospitals with only single-bedded rooms, instead of open wards, will enable them to run at 95% occupancy and with average patient stays reduced by 12%. England already has one of the highest rates of bed occupancy and one of the shortest lengths of stay per patient in the Organisation for Economic Co-operation and Development (OECD). Currently, 95% occupancy is viewed as highly undesirable and indicative of crisis, and NHS England has a priority to reduce it to 92% across the NHS in 2023-24. There is a risk that running hospitals very full in future may affect their smooth operation and reduce the amount of spare capacity for coping with normal variations in demand, unexpected shocks and health crises. Specifically, the assumed 12% reduction in length of stay looks high. A recent systematic review of the effect of single beds on length of stay, funded by NHP and published in the British Medical Journal Open, found "the evidence was highly mixed with no clear benefit".

NHP officials told us that NHP's current MVP model was not necessarily the final position that would determine the size of future hospitals (paragraphs 3.11 to 3.14).

17 NHP recognises the importance of construction companies to its innovative plans for cohort 3 and beyond, but it has not yet engaged meaningfully with the industry about key aspects of the programme. The UK has a number of large infrastructure projects underway and NHP has identified only four main contractors who would consider building a complex, large (valued in excess of £600 million) new hospital. Contractors may well have a choice about the schemes they pursue in the second half of the 2020s, given high demands on their capacity. NHP has identified other risks, including a shortage of factory capacity to manufacture offsite building components, key to its plan to use modern methods of construction. Delays in developing Hospital 2.0 and in agreeing programme funding have constrained NHP's ability to engage with the industry and provide it with detailed information on the commercial pipeline and Hospital 2.0 (paragraphs 3.20 to 3.23, and Figure 11).

The NHP team's capacity and skills

18 Professional and technical consultancy is a normal part of large construction programmes, but NHP has had difficulty staffing its team adequately and has depended more than it wanted to on consultancy services. By February 2023, the NHP team had filled 361 posts but 165 (31%) were vacant, including five out of 12 executive posts. Of the 361 posts, it had filled 109 (30%) with permanent employees, while 223 (62%) were filled through consultancy services. Between April 2021 and March 2023, NHP incurred resource expenditure of around £89 million, £70 million (79%) of which it spent on consultancy services. It expects to continue to rely on delivery partners to provide professional and technical skills and for specific assignments, estimating £842 million consultancy spend between 2023-24 and 2030-31, 75% of its total resource expenditure for those years. While the use of consultancy services is normal on large construction programmes, relying on them, particularly in a long-term programme, brings risks of a lack of continuity and loss of knowledge (paragraphs 3.16 to 3.19, and Figure 10).

Agreeing further funding for the NHP and resetting the programme

19 It has taken DHSC longer than it expected to secure a clear indication of the capital funding available for NHP from 2025-26 onwards; this has created difficulties, but recent decisions have brought useful clarity about funding. From October 2020 until the first half of 2023, NHP did not know how much it could spend on building new hospitals up to 2030. It took until March 2022 for NHP to produce its first programme business case. Neither this nor a second version later in the year were sufficient to persuade government's Major Projects Review Group to recommend a funded scope for NHP for the period after March 2025. NHP's discussions with MPRG have been iterative and, during 2022, among other things, HMT was able to approve investment in a programmatic approach to deliver schemes within the £3.7 billion of funding already allocated. However, during 2022, it considered that it was impossible to set an indicative budget for later years due to issues with the scope of the programme, delivery capacity and the programme plan. In March 2023, HMT agreed a funding envelope and scope (subject to future spending reviews), indicating that the maximum NHP could expect to spend on new hospitals between 2025-26 and 2030-31 was £18.5 billion. It asked NHP to submit a third version of its programme business case requiring no more than this amount by the end of 2023 (paragraphs 2.27, 3.2, 3.3, 4.2 and 4.5).

20 The schemes in NHP will change fundamentally following recent decisions; all entirely RAAC hospitals will now be replaced by 2030 but, by the definition used in 2020, NHP will no longer construct 40 new hospitals by 2030. In May 2023, DHSC announced a major reset of the content and timing of NHP's schemes, which it expects NHP to reflect in its third business case. NHP will now include all seven entirely RAAC hospitals (the five additional RAAC hospitals in effect becoming NHP's cohort 5), but eight cohort 4 schemes will be delayed until the 2030s. DHSC will count three mental health hospital construction schemes towards the 40 new hospitals commitment, despite these having been approved outside NHP during 2022 and not previously counted. Even if these schemes are included and St. Ann's Hospital in Poole and Alumhurst Road psychiatric unit in Bournemouth are counted as two schemes, by our analysis the other announced changes mean that DHSC's plans would now lead to only 32 new hospitals by 2030, according to the definition it used in 2020. Another eight new hospitals will follow after 2030 (paragraphs 2.11, 4.2, 4.4 and 4.5).

21 NHP has affordability challenges to address in its third programme business case, which may reduce the scope of future hospitals or cause it to delay more schemes until the 2030s. The maximum funding level HMT has indicated (subject to future spending reviews) is less than NHP requested in its second business case: £18.5 billion for the period 2025-26 to 2030-31 instead of £21.3 billion, reflecting the changed scope of delivery required by 2030. NHP has previously assessed that entirely RAAC hospitals are likely to be relatively expensive to replace, on average over £1 billion per scheme, but it no longer needs to complete work on eight of the cohort 4 schemes by 2030. In developing its third business case, NHP will need to find more savings, possibly by reducing the specification of its MVP version of Hospital 2.0 or by rescheduling more schemes so that they are not completed until the 2030s (paragraphs 2.25, 4.2 and 4.5).

22 NHP has been a high-risk programme from the start; government has more to do in the coming months to reduce the delivery risks it faces. NHP is an ambitious and high-risk programme in many ways, requiring the highest standards of programme and project management. Due to its scale, it also requires effective and timely cross-government working. The IPA has been closely engaged in challenging, assuring and supporting the programme so far. Its confidence that NHP would deliver has varied between amber (successful delivery appears feasible but significant issues already exist, requiring management attention) and red (successful delivery of the project appears to be unachievable) over the last three years. NHP has an assigned team, with some members who have proven track records of delivering complex programmes. To date, in part because of difficulties securing approval of its programme business case and funding, this has not been enough to keep the programme on track. The next year is a critical period during which NHP needs to consolidate its scope, timetable, funding and approach to construction (paragraphs 2.12 and 3.23 to 3.26 and Figure 13).

Conclusion

23 DHSC launched NHP at a time when hospital construction was badly needed after years of underinvestment and in the context of a large maintenance backlog. The programme has innovative plans to standardise hospital construction and, based on experience elsewhere, there is reason to believe that these could deliver efficiencies. However, the October 2020 public commitment to construct a list of specific schemes and the target of building 40 new hospitals by 2030 were announced in the absence of key decisions about NHP's funding and approach to construction. Until 2023, DHSC was unable to secure agreement from the Major Projects Review Group about NHP's approach to building future hospitals and the scale of capital funding it would need for the programme's crucial last six years, when most new hospitals are to be delivered. It is unsurprising that when government finally took decisions, it required major changes to NHP's scope. Some of the changes will solve pressing problems for DHSC and NHS England, such as the inclusion of all seven entirely RAAC hospitals within NHP. But some schemes publicly promised in 2020 now face substantial delays and will not be completed by 2030, inevitably with implications for patients and clinicians.

24 By March 2023, DHSC had spent around £1.1 billion on NHP and the schemes it oversees. Delivery to date has been slower than expected, both on individual schemes and on NHP's central activities, in particular developing Hospital 2.0. Government has not achieved good value for money with NHP so far. The remainder of 2023 will be spent working up a third programme business case. It can improve the chances of NHP delivering better value for money through to 2030, including in the years when its spending will be highest. By the definition the government used in 2020, it will not now deliver 40 new hospitals by 2030. Understandably, it continues to want to build as many as possible. However, there could be substantial risks to value for money if this were to lead to hospitals that were too small to meet the needs of the communities they serve or if costs were to be inflated because so many hospitals were being built at once.

Recommendations

25 We make the following recommendations to assist DHSC, NHS England and government more widely with NHP and other major capital programmes.

a Announcements about major capital programmes extending over more than one spending review period should fully reflect known uncertainties so that everyone can be clear about the nature of the commitments being made.

b When it makes decisions about where to build new hospitals in future, DHSC should appraise options in a transparent way using the best evidence available and should keep full records of why it selects specific projects.

c NHP should increase its focus on completing the planning process for cohort 2 schemes and getting as many as possible into construction before the end of 2024 to prevent further bunching of schemes in the second half of the 2020s.

d Senior officials and clinicians in DHSC and NHS England should urgently re-examine the assumptions underpinning the minimum viable product (MVP) version of NHP's Hospital 2.0 design. In particular:

- they should identify and address any proposals that are likely to result in future hospitals being too small;
- they should set up a process for reviewing MVP hospitals' progress against the NHS's Net Zero Carbon Building Standard; and
- they should decide whether they are prepared and can afford to make happen in practice assumptions on which MVP relies, but which are outside NHP's control, for instance shifts in models of care.

e NHP should examine and reflect on lessons from the opening and early operation of The Grange University Hospital in Wales, which was built using modern methods of construction.

f In its third programme business case, NHP should quantify the potential costs of its commercial approach, including any premium from attempting to construct a large number of hospitals at once as well as any costs to government of backing an increase in the UK's capacity to manufacture building components offsite.

g DHSC should urgently review whether NHP has struck the right balance in its future plans for the division of work between consultancy services and in-house staff.

Part One

The need for new hospitals

1.1 This part considers the need for new NHS hospitals in England, which led the Department of Health & Social Care (DHSC) to set up the New Hospital Programme (NHP). It covers:

- the NHS estate's overall condition;
- hospitals with reinforced autoclaved aerated concrete (RAAC);
- the Health Infrastructure Plan (HIP); and
- the government's commitment to build 40 new hospitals by 2030.

The condition of the NHS estate

1.2 According to the Health and Social Care Act 2008 and the NHS Constitution, NHS providers are required to comply with legal requirements to deliver care in a clean, secure and suitable environment that is properly maintained.[1] NHS trusts and foundation trusts own most of the NHS estate and are responsible for its performance and maintenance. Some 43% of the NHS estate was built before 1985, with 15% predating the NHS itself. The NAO has previously highlighted that parts of the NHS estate do not meet the demands of a modern health service.[2]

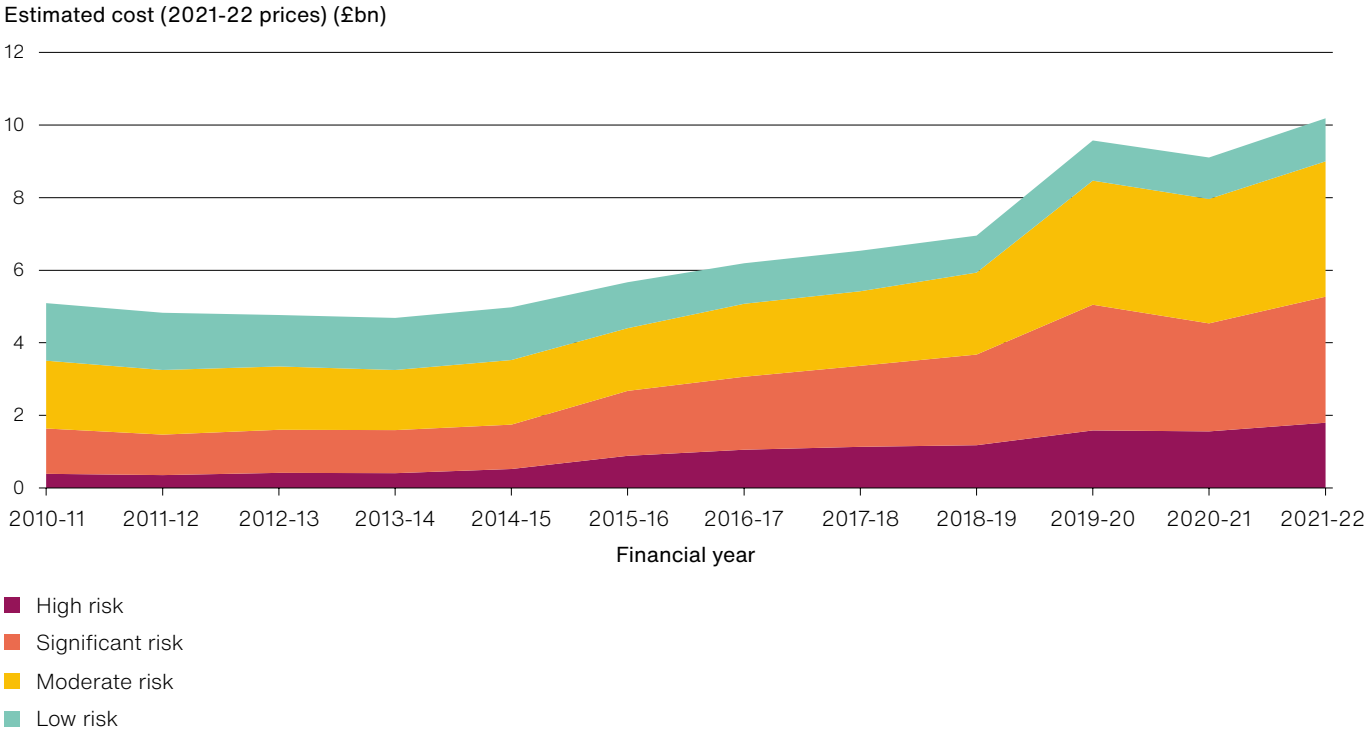
1.3 The NHS has faced a mounting maintenance backlog in recent years, meaning the cost of restoring all its buildings to an appropriate state has risen, reaching some £10.2 billion in 2021-22 (**Figure 2**). In that year, 22 NHS trusts (out of 202) had a total maintenance backlog of over £100 million each. The high-risk maintenance backlog has increased in real-terms value by 242% since 2014-15. The NHS's definition of high risk means buildings "where repairs/replacement must be addressed with urgent priority in order to prevent catastrophic failure, major disruption to clinical services or deficiencies in safety liable to cause serious injury and/or prosecution".

1 Department of Health & Social Care, *Handbook to the NHS Constitution for England*, 2022.
2 Comptroller and Auditor General, *Review of capital expenditure in the NHS*, Session 2019-20, HC43, National Audit Office, February 2020. Available at: www.nao.org.uk/reports/review-of-capital-expenditure-in-the-nhs/

Figure 2

Estimated cost to eradicate the NHS maintenance backlog, 2010-11 to 2021-22

The reported maintenance backlog has more than doubled in real terms since 2013-14, from £4.7 billion to £10.2 billion



Notes

1 The maintenance backlog is self-reported by trusts. It is a measure of how much is required to restore a building to an appropriate standard and it does not include planned maintenance. High risk elements are the urgent priorities needed to prevent catastrophic failure or major disruption.

2 Real-terms cost figures are given in 2021-22 prices using HM Treasury's GDP deflators.

3 This figure displays the total backlog maintenance for all organisation types except for ambulance trusts.

Source: National Audit Office analysis of Estates Returns Information Collection (ERIC) data, 2010–2021

1.4 In 2017, the government commissioned Sir Robert Naylor to conduct an independent review of the NHS estate. The Naylor Review reported that the levels of capital investment at the time were insufficient to fund the necessary transformation of the NHS and maintain the current estate.[3] In the five years up to and including 2018-19, DHSC and NHS England also diverted £4.3 billion of planned capital spending to fund day-to-day spending.

3 Sir Robert Naylor, *NHS Property and Estates: Why the estate matters for patients*, 2017.

Reinforced autoclaved aerated concrete (RAAC)

1.5 In recent years, the NHS has become aware of a serious issue with its buildings constructed from lightweight RAAC. Builders made extensive use of RAAC between the 1960s and the 1980s for roofs and walls as a cheap material that could be pre-cast offsite. A number of hospitals still in operation today contain RAAC, including seven which have the material throughout. Since the late 1990s, it has become increasingly apparent that the material can become structurally unsound. NHS England started to respond in 2020 and government committed to remove RAAC from the NHS estate by 2035. A timeline describing the issue of RAAC in the NHS is at **Figure 3**, while an example of its impact on one hospital is at **Figure 4**.

Figure 3

Reinforced autoclaved aerated concrete (RAAC) timeline, 1960s to 2023

Problems with RAAC were first evident in 1999; following an incident in 2018, DHSC and NHS England started to respond in 2020

Date	Event
1960s–1980s	Reinforced autoclaved aerated concrete (RAAC) used extensively, including in hospital construction.
Feb 1999	Report of the Standing Committee on Structural Safety (SCOSS) concludes RAAC planks could not be expected to have a useful life of much more than 30 years.
Jan 2018	Sudden partial collapse of a Kent school roof made of RAAC.
May 2019	SCOSS issues alert that pre-1980 RAAC planks were now past their expected service life, calling on owners to assess condition of RAAC planks and consider replacing them.
Jan 2020	NHS England requests trusts to identify and survey the condition of RAAC planks in their estate. The survey found 33 buildings in 13 trusts with RAAC plank construction. Later in 2020, DHSC committed to remove RAAC from the NHS estate.
Oct 2020	Government includes two RAAC hospitals in the commitment to build 40 new hospitals by 2030.
2021–2022	Government allocates £685 million in period up to 2024-25 to mitigate safety risks in NHS RAAC buildings.
Apr 2022	Mott MacDonald report confirms additional five RAAC hospitals need to be rebuilt by 2030.
Dec 2022	Updated survey of NHS estate found 41 buildings with RAAC planks across 23 trusts.
May 2023	Government announces five additional RAAC hospitals will be brought into the New Hospital Programme.

Source: National Audit Office analysis of New Hospital Programme documents and Standing Committee on Structural Safety reports

Figure 4

Use of reinforced autoclaved aerated concrete (RAAC) at West Suffolk Hospital

Installing temporary safety measures at one hospital will cost £65 million

West Suffolk Hospital (part of West Suffolk NHS Foundation Trust) is a district general hospital in Bury St Edmunds. It was built in the early 1970s, with extensive use of RAAC beams in the ceilings and RAAC panels in the walls. The trust has been aware it has a problem with RAAC since at least 2010. It has actively monitored the condition of the concrete and taken measures to strengthen it. However, even after adding additional support, the risk of ceiling beams failing cannot be ruled out. Consequently, the trust has also had to install fail-safe devices to minimise the impact of a collapse on patients and staff.

The trust estimates that over the four-year period 2021-22 to 2024-25 it will have spent £65 million on RAAC-related maintenance and installing safety measures throughout the hospital. It has also required a new 'decant' ward while other wards are being repaired. Since 2020 the hospital has been part of the New Hospital Programme and will be completely rebuilt on an adjacent site. When this is done, the existing building, including all the additional measures, will be demolished.

Note

1 The study team visited West Suffolk Hospital and met representatives of the West Suffolk NHS Foundation Trust in March 2023.

Source: National Audit Office case study

Health Infrastructure Plan

1.6 When a hospital requires substantial maintenance, DHSC and NHS England face the choice of refurbishing existing buildings or replacing them. The latter option can cost more but sometimes old buildings can never be successfully adapted for modern healthcare. Constructing new hospitals can bring additional benefits, such as greater potential for digital healthcare, improved patient experience or energy efficiency.

1.7 In the 16 years from 1999 to 2014, the NHS opened new facilities at approximately 100 hospitals, built using the Private Finance Initiative. Thereafter, hospital building slowed, with only six new hospitals constructed in the period from 2015 to 2020.

1.8 Partly in recognition of this, in 2019 DHSC established a new Health Infrastructure Plan (HIP) as a long-term, rolling five-year programme of capital investment. Central to this were new hospitals, but DHSC also intended HIP to reduce maintenance backlogs in other ways, to modernise primary care buildings, and to enhance diagnostic services. Under HIP, six trusts were to get new hospitals by 2025. DHSC also gave initial funding to 21 trusts for plans to redevelop further hospitals in the period between 2025 and 2030.

1.9 We asked DHSC and NHS England to tell us how they had selected the hospital schemes for HIP. They provided evidence of an NHS England long list of 56 possible schemes and of how DHSC had assessed each scheme based on its readiness to start, the level of critical infrastructure risk it would address, its deliverability (affordability and local support) and the regional equity of the portfolio as a whole. The assessment exercise produced a list of 20 schemes for inclusion in HIP. However, the 27 HIP schemes announced in 2019 included only 13 of the 20 schemes indicated by the assessment exercise.[4] The other 14 schemes had been considered but had not scored highly enough. Officials have told us that the final selection of schemes involved choices and judgements for which no further documentation is available. Given the amount of taxpayers' money involved, this is a failure in record keeping and means we cannot determine how the schemes were selected for this significant investment. As described in Part Two, it had a direct impact on the schemes later included in the New Hospital Programme.

Commitment to build 40 new hospitals by 2030

1.10 Following a manifesto commitment in the 2019 General Election, the government announced in October 2020 that the NHS would build 40 new hospitals by 2030, as well as completing eight schemes that were already in construction or pending final approval. This meant that a total of 48 hospitals should open between 2021 and 2030.

1.11 DHSC set up the New Hospital Programme (NHP) to deliver this commitment. Where hospital construction had previously been funded centrally but delivered locally, the NHP would take a new approach. It would manage projects as a portfolio, standardising processes and designs to increase efficiency. The rest of this report considers how NHP has performed in its first three years, including progress towards the goal of building 48 hospitals by 2030, and how it is approaching future opportunities and risks.

4 The seven trusts whose schemes were selected for inclusion in HIP but which were not subsequently included in the HIP announcement were: Buckinghamshire Healthcare NHS Trust; Doncaster and Bassetlaw Teaching Hospitals NHS Foundation Trust; East Kent Hospitals University NHS Foundation Trust; Medway NHS Foundation Trust; Salisbury NHS Foundation Trust; Sheffield Teaching Hospitals NHS Foundation Trust; and, Stockport NHS Foundation Trust.

Part Two

The New Hospital Programme, 2020–2023

2.1 This part examines the progress made by the Department of Health & Social Care (DHSC) and NHS England in setting up the New Hospital Programme (NHP) and delivering hospital construction between 2020 and 2023. It covers:

- NHP's funding and the selection of schemes;
- the internal set-up of NHP; and
- progress with specific hospital construction schemes.

Initial programme funding

2.2 At an early stage of a large multi-year programme like NHP, it is crucial to identify the likely funding envelope and use this to inform choices about scope. DHSC began with an objective to build 48 hospitals by 2030. However, with the exception of eight schemes already approved, the government still needed to choose what kind of hospitals to build and how much funding to allocate over the 10 years. In this context, decisions about funding would inevitably have a major impact on the schemes NHP could pursue and what it could construct at each site.

2.3 Ahead of the 2020 Spending Review, DHSC assessed seven options for delivering 48 hospitals. Its assessment focused on the funding consequences of different potential portfolios of schemes, looking separately at capital funding for the four years up to 2024-25 (the Spending Review period) and the following six years up to 2030-31. The options ranged between £3.7 billion and £16 billion for the first four years, and between £19.8 billion and £29.7 billion for the full 10-year period.

2.4 In the Spending Review, HM Treasury (HMT) provided funding of £3.7 billion for the period up to 2024-25, equivalent to DHSC's cheapest option. HMT declined to provide an indicative level of funding after 2024-25 until more detail had been provided through a programme business case for NHP.

2.5 DHSC had described the option that HMT partially funded as "maximum risk, policy compromises" because it judged it to contain several important problems.

- To achieve the target of 48 hospitals, the option included a greater number of cheaper schemes, meaning that some large hospitals in poor condition would not be replaced or not in full.
- Specifically, most of the seven reinforced autoclaved aerated concrete (RAAC) hospitals which needed full replacement would need to continue operating beyond 2030.
- By providing relatively less funding in early years, the option meant a substantial ramp-up in construction after 2024-25, with many hospitals being built at the same time, which might not be feasible or cost-effective because of the size of the UK construction industry. Delaying construction activity would, though, allow more time for developing the programmatic approach to managing schemes.
- By leaving more hospitals in a poor condition for longer, it meant delays to improved clinical services and increased remedial maintenance costs.

Selection of schemes

2.6 Based on the funding agreed by HMT at the 2020 Spending Review and the programme objectives, DHSC established a portfolio of schemes to complete by 2030 (**Figure 5**). For the purpose of the programme, DHSC defined a new hospital as being:

- a whole new hospital on a new site or current NHS land;
- a major new clinical building or a new wing, providing a whole clinical service, at an existing hospital; or
- a major refurbishment and alteration of all but the main structure of an existing hospital.

2.7 Rather than run a fresh assessment or bidding process to select the NHP schemes, DHSC decided to co-opt the schemes it had previously included in the 2019 Health Infrastructure Plan (HIP) – and all but one of the 32 NHP schemes for new hospitals (cohorts 1 to 4) had been part of HIP (including five Dorset schemes which were identified as one scheme for multiple hospitals in HIP). As described in Part One, DHSC's failure to provide us with sufficient documentation of the basis on which HIP schemes were selected means we cannot say whether there was an evidence-based process for selecting these schemes as opposed to others.

2.8 Given the increased concern about RAAC buildings by late 2020, it is particularly noteworthy that DHSC included only two of the seven entirely RAAC hospitals in NHP at that time. In its own Spending Review submission to HMT, DHSC had proposed replacing all seven RAAC hospitals under NHP, but government subsequently decided against it on the basis that risks and long-term solutions needed further assessment.

Figure 5

Planned hospital construction schemes as of October 2020

The Department of Health & Social Care planned for 48 schemes, which it subsequently split into five cohorts, with one scheme in cohort 1 and 39 in cohorts 2 to 5 counting towards the target

Cohort 1

Midland Metropolitan University Hospital

Brighton 3Ts

Greater Manchester Major Trauma Hospital

Royal Liverpool University Hospital

CEDAR Programme, Cumbria, Northumberland, Tyne and Wear

Moorfields Eye Hospital, London

Northern Centre for Cancer Care, North Cumbria

Cohort 2

National Rehabilitation Centre, near Loughborough

Schemes that government was counting in 2020 towards the target of 40 new hospitals by 2030

Cohort 1

Dyson Cancer Centre, Bath

Cohort 2

Women and children's hospital, Cornwall

Derriford Emergency Care Centre, Plymouth

Shotley Bridge Hospital, County Durham

Cambridge Cancer Research Hospital

Dorset County Hospital

Christchurch Hospital[1]

Royal Bournemouth Hospital

Poole Hospital

St. Ann's Hospital, Poole and Alumhurst Road psychiatric unit, Bournemouth[1]

Cohort 3

Leeds Teaching Hospitals NHS Trust

Epsom and St. Helier University Hospitals

Whipps Cross University Hospital, London

North Manchester General Hospital

University Hospitals of Leicester

Watford General Hospital

Princess Alexandra Hospital, Harlow

Hillingdon Hospital, London

Cohort 4

Torbay Hospital

Charing Cross & Hammersmith Hospitals

St. Mary's Hospital, London

Nottingham University Hospital

Kettering General Hospital

Royal Preston Hospital and Royal Lancaster Infirmary

East Sussex Healthcare NHS Trust

Hampshire Hospitals

Milton Keynes Hospital

James Paget University Hospital, Norfolk

West Suffolk Hospital

Royal Berkshire Hospital

North Devon District Hospital

Musgrove Park Hospital, Taunton

Cohort 5

Eight additional schemes for which hospital trusts would be invited to bid

Note

1 The Christchurch Hospital scheme was subsequently reduced in scope and NHP intends to replace its contribution to the target by splitting the St. Ann's Hospital, Poole and Alumhurst Road psychiatric unit, Bournemouth scheme, which covers two hospitals on separate sites.

Source: National Audit Office analysis of New Hospital Programme documentation

2.9 DHSC left eight empty slots in the programme in 2020. It planned to run a competition and assessment process to select schemes for these slots, which would be constructed late in the decade.

2.10 NHP made an early decision to split the programme into five cohorts, to make management and delivery easier. The five cohorts were:

- cohort 1 – eight schemes, seven of which were pending full approval or were already under construction (meaning that DHSC was not going to count these towards the 40 new hospitals commitment). The eighth scheme, the Dyson Cancer Centre in Bath was to count towards the commitment;
- cohort 2 – 10 relatively smaller schemes, which could make substantial progress with construction using the capital funding available to NHP up to 2024-25. Nine of these are new hospitals. The tenth, the National Rehabilitation Centre near Loughborough, was considered to be a pre-existing scheme and so did not count towards the 40 new hospitals commitment;
- cohort 3 – eight relatively larger new hospital schemes, mostly reliant on capital funding still to be determined for the period from 2025-26 onwards;
- cohort 4 – 14 relatively larger new hospital schemes, including two hospitals with extensive RAAC, reliant on capital funding still to be determined for the period from 2025-26 onwards; and
- cohort 5 – eight schemes for the late 2020s to be determined by a competition.

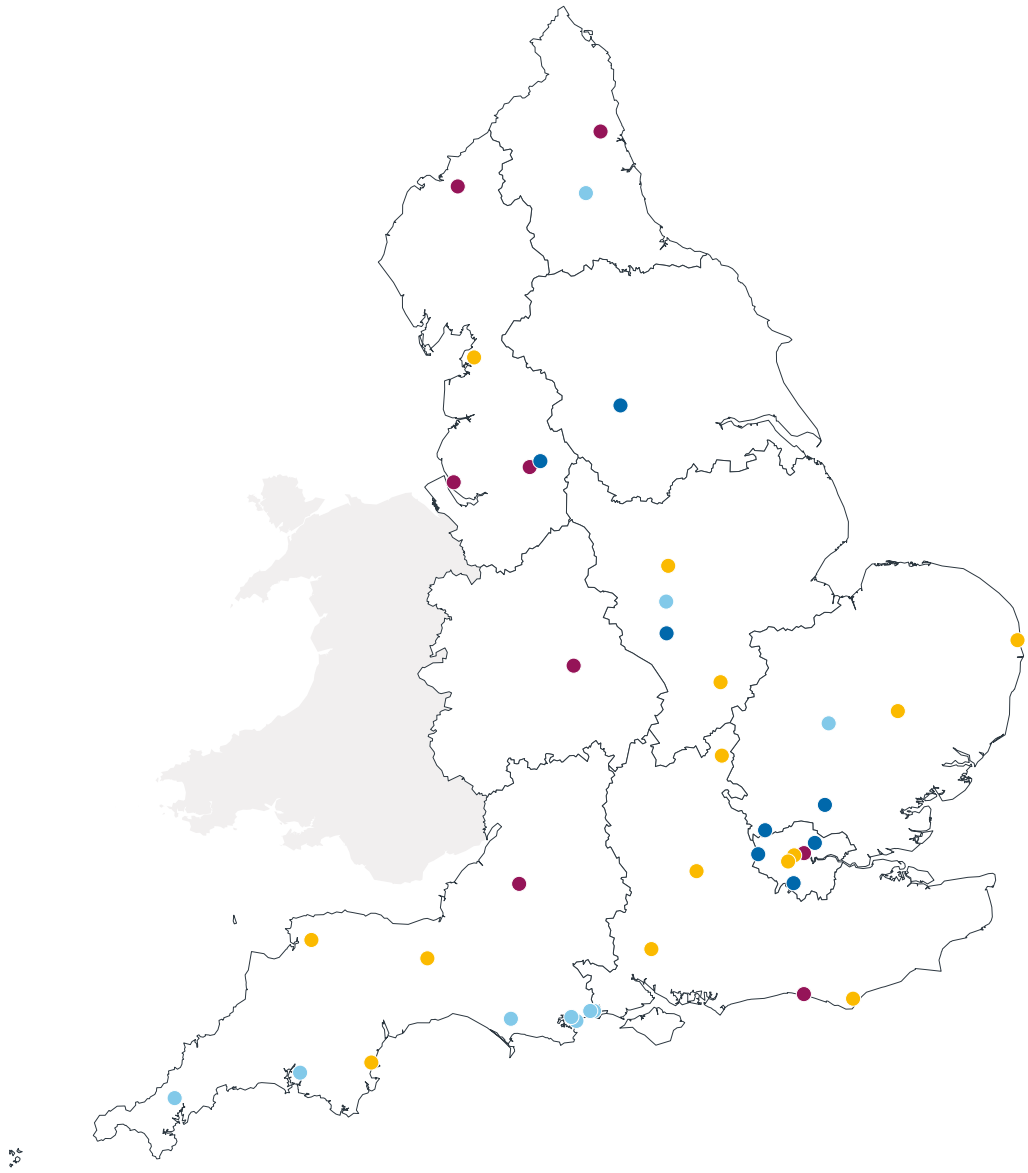
The location of the original schemes in cohorts 1 to 4 is shown in **Figure 6**. The initial funding of £3.7 billion was mostly for pre-existing and early new schemes (cohorts 1 and 2).

2.11 In October 2020, the government announced the 40 schemes in cohorts 1 to 4, along with high-level details of the kind of improvements each scheme could expect to receive. Thirty-two of the schemes would count towards the 40 new hospitals target. Despite the government's decisions in the Spending Review, the announcement stated that these were "fully funded". Details of the 40 original schemes are in Appendix Three. According to our assessment, 16 of the schemes were for whole new hospitals (including 11 of the 32 schemes which count towards the 40 new hospitals commitment). A further 23 schemes (including 20 that count towards the commitment) met one of the other two definitions of a new hospital DHSC had set out. In our judgement, one scheme in the original list for cohort 2 does not meet DHSC's definition. The Christchurch Hospital scheme was allocated a very small budget of less than £2 million. While funding was originally intended for new clinical facilities, it is now being used to prepare the site for rebuilding a hospice. NHP now intends to stop counting Christchurch Hospital towards the target. Instead, it will split into two another scheme in Dorset – St. Ann's Hospital in Poole and Alumhurst Road psychiatric unit in Bournemouth – so that each will count as a new hospital (**Figure 7** on page 28).

Figure 6

Location of New Hospital Programme schemes, by cohort

There were 40 schemes planned in the first four cohorts of the New Hospital Programme, with at least one scheme in every English region



- Cohort 1: 8 schemes
- Cohort 2: 10 schemes
- Cohort 3: 8 schemes
- Cohort 4: 14 schemes

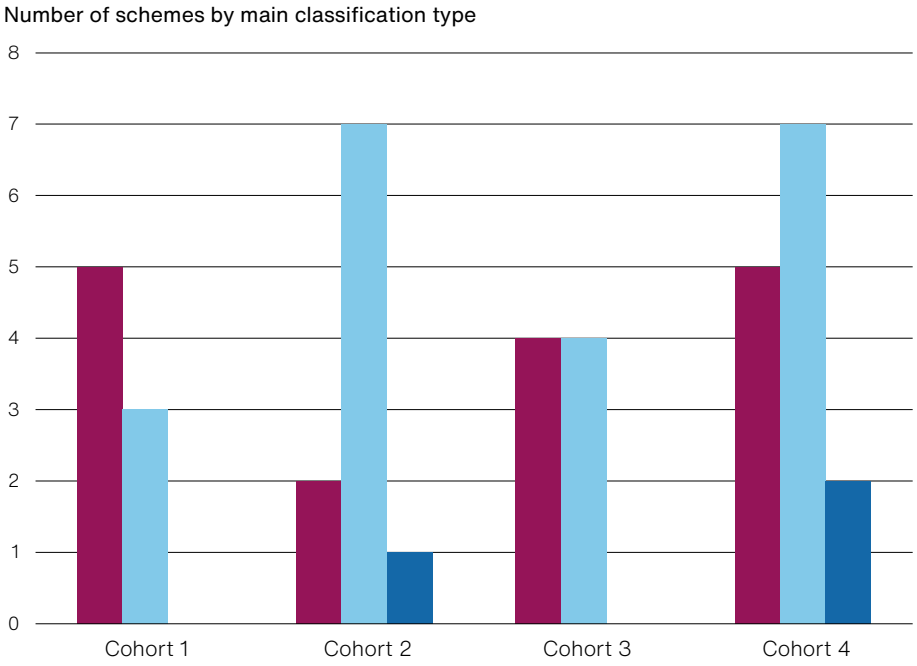
Note

1 This figure does not include the eight schemes (five reinforced autoclaved aerated concrete hospitals and three mental health hospitals) that were announced in May 2023 – see Part Four.

Source: National Audit Office analysis of New Hospital Programme scheme reports

Figure 7
Types of schemes in the New Hospital Programme

16 (40%) of the original 40 schemes in cohorts 1 to 4 are for a whole new hospital



	Cohort 1	Cohort 2	Cohort 3	Cohort 4
A whole new hospital on a new site or current NHS land	5	2	4	5
A major new clinical building or a new wing, providing a whole clinical service, at an existing hospital	3	7	4	7
A major refurbishment and alteration of all but the main structure of an existing hospital	0	1	0	2

Notes

1 One of the cohort 1 schemes (Dyson Cancer Centre, Bath) counts as a new hospital, while one of the cohort 2 schemes (National Rehabilitation Centre, near Loughborough) does not count.

2 We have excluded the Christchurch Hospital scheme, which NHP intends to replace its contribution to the target by splitting the St. Ann's Hospital, Poole and Alumhurst Road psychiatric unit, Bournemouth scheme, which covers two hospitals on separate sites. This figure treats St. Ann's Hospital and Alumhurst Road psychiatric unit as separate schemes.

Source: National Audit Office analysis of New Hospital Programme scheme data

Establishing the NHP team

2.12 DHSC formally created a central NHP team within the Department and appointed an experienced senior responsible owner in December 2020. At that time, it set six strategic objectives for the team, in addition to the responsibility of delivering 48 hospitals by 2030:

- to reduce the time and cost of building hospitals;
- to build national capability in planning and delivering new hospitals;
- to create an "infrastructure ecosystem", using centralised standards and designs and repeatable learning and efficiencies;
- to deliver a centralised procurement strategy;
- to use a programmatic approach to phase schemes optimally; and
- to build trust in the programme.

2.13 In pursuing its objectives between April 2021 and March 2023, the NHP team has spent £1.14 billion, including £1.05 billion of its allocated capital expenditure, which was broadly in line with expectations at the 2020 Spending Review. The team's work has focused on three broad activities:

- overseeing the delivery of fully-funded schemes in cohorts 1 and 2 (paragraphs 2.14 to 2.21);
- writing and gaining ministerial and HMT approval for a main programme business case to secure funding for the period between 2025-26 and 2030-31 (paragraphs 2.22 to 2.27); and
- developing a new centralised and standardised approach to building hospitals and a commercial strategy which it could apply to cohorts 3, 4 and 5 (see Part Three).

Progress with cohorts 1 and 2

Cohort 1 schemes

2.14 In October 2020, seven of the eight schemes in cohort 1 were already under construction or pending final approval. NHP had fewer decisions to take about these schemes and limited ability to influence their design as DHSC had already signed off their detailed business cases.

2.15 DHSC expected the schemes to result in buildings that were open and ready for use between August 2021 (Northern Centre for Cancer Care, North Cumbria) and February 2027 (Moorfields Eye Hospital). By June 2023, five of the schemes should have opened or part opened (**Figure 8**). Of the five, two – the Northern Centre for Cancer Care and the Royal Liverpool University Hospital – did open on time,[5] in August 2021 and October 2022 – and the first phase of the Brighton 3Ts scheme opened two months late. The other two (Phase 1 of the CEDAR programme, in Cumbria, Northumberland, Tyne and Wear, and Greater Manchester Major Trauma Centre) are yet to open and have faced delays of four months each.[6] All schemes in the second part of the cohort are also delayed.

2.16 Cohort 1 schemes are substantially over budget. Their expected cost at the Spending Review in 2020 was £2.0 billion. This has since grown to over £2.7 billion, an increase of £757 million, or 39%. A large part of the increase is because, for reasons that are unclear to us, DHSC had not budgeted for certain elements of two schemes: the Royal Liverpool University Hospital and Brighton 3Ts schemes are now forecast to cost some £400 million more than it expected. The cost of these unfunded elements must be met from the £3.7 billion of funding HMT allocated to NHP, reducing the available funds for cohort 2 and pre-construction works on cohorts 3 and 4.

2.17 The other reasons for cost increases and delays on cohort 1 schemes vary and we have not examined each scheme in detail. An assessment by NHP's commercial partner, KPMG, reported that, before NHP existed, trusts had used inconsistent methodologies to develop their business cases. It identified a trend whereby trusts had consistently underestimated the costs of complex schemes. In approving the business cases, DHSC had failed to identify this. Additionally, new NHS policies, in particular regarding net zero carbon, and inflationary pressures have increased costs.

5 Royal Liverpool University Hospital has opened; other site works are still to be completed.
6 The CEDAR programme consists of three phases across three different sites. Phase 1 (Northgate) has a delay of four months, Phase 2 (Ferndene) has a delay of 16 months, and Phase 3 (Bamburgh) has a delay of seven months to their hospital opening date.

Figure 8

Progress with cohort 1 schemes, April 2023

The total cost of the eight cohort 1 schemes has increased by £757 million compared with the budgets allocated by the Department of Health & Social Care (DHSC) in 2020

Scheme	Status[5]	Current stage	2022 Planned hospital operational date	2023 Forecast hospital operational date[1]	2023 Forecast scheme cost[1]	Percentage increase on budget allocated in 2020
					(£mn)	(%)
Royal Liverpool University Hospital	Completed	Completed	Completed Oct 2022	N/a	800	34 ↑
Brighton 3Ts	Green	Phase 1 complete, phase 2 in construction	Dec 2026	Mar 2027 ↑	700	42 ↑
Midland Metropolitan University Hospital, West Midlands	Red	Construction	May 2024	Oct 2024 ↑	600	67 ↑
Moorfields Eye Hospital, London	Green	Design	Feb 2027	Sep 2027 ↑	400	21 ↑
CEDAR programme, Cumbria, Northumberland, Tyne and Wear	Red	Construction	Mar 2024	Aug 2024 ↑	100	41 ↑
Greater Manchester Major Trauma Hospital, Salford	Green	Construction	Jun 2023	Oct 2023 ↑	Less than 50	53 ↑
Dyson Cancer Centre, Bath	Amber	Construction	Nov 2023	Dec 2023 ↑	Less than 50	0
Northern Centre for Cancer Care, North Cumbria, Carlisle	Completed	Completed	Completed Aug 2021	N/a	Less than 50	6 ↑
Total					**2,709**	

↑ Increase on planned cost or delay to planned operational date

Notes

1 Forecast operational dates and forecast costs are by their nature provisional, particularly for those schemes where completion is some years ahead.

2 The percentage increase is based on the budget allocated by DHSC in 2020.

3 Forecast scheme costs have been rounded to the nearest £100 million. The forecast costs do not sum because of rounding.

4 Brighton 3Ts and the CEDAR programme are multi-phase programmes with significant work still to complete. The forecast operational dates are those of the final phase of each programme.

5 The New Hospital Programme team uses the traffic light system of rating a scheme's status. The three statuses are Red, Amber, and Green, and indicate whether a scheme is likely to meet its deliverables to time and budget upon evaluation of the various risks and issues of a scheme.

Source: National Audit Office analysis of New Hospital Programme cohort progress reports, October 2022, January to April 2023 and other management reports

Cohort 2 schemes

2.18 Nine of the 10 schemes in cohort 2 will count towards the policy objective of 40 new hospitals by 2030, the exception being the National Rehabilitation Centre, near Loughborough, which NHP considered to be a previously-approved scheme. Based on its funding settlement, NHP deliberately selected smaller schemes that it believed could be delivered relatively quickly, cheaply and straightforwardly. In 2021, it expected the construction stage of each scheme to start in the period between 2022 and 2024 and to complete in the period between 2024 and 2026. NHP had the ability to influence these schemes more than those in cohort 1, including on design and commercial matters. The schemes were still too early to benefit from much of the centralisation and standardisation that NHP plans to introduce. However, NHP has developed a partnering agreement for all trusts and contractors involved in cohort 2 as a first step towards a more programmatic approach.

2.19 Progress with cohort 2 schemes has been slow (**Figure 9**) and it has not been as straightforward to get them into construction as NHP expected. NHP set a clear baseline for the timing of individual schemes in 2022 but since then several schemes have incurred delays. Three are now not expected to complete before 2027, with a further three due in December 2026. By May 2023, no scheme had yet entered construction. NHP told us this was due to delays in approving individual business cases and that £11 million of pre-construction works, known as enabling works, had been funded at three trusts.

2.20 The budget for cohort 2 at the 2020 Spending Review was £916 million but the total cost of the schemes is now forecast to be some £1.3 billion, an increase of £429 million (47%). Cohorts 1 and 2 combined have a forecast cost overrun of some £1.2 billion (41%). NHP needs to meet these additional costs partly from its £3.7 billion of funding up to 2024-25 and partly from funding for the period from 2025-26 to 2030-31. In three schemes, whose total cost increases are estimated at £307 million, this is partly the result of NHP reversing earlier decisions to reduce the scope of construction.

Figure 9
Progress with cohort 2 schemes, April 2023

As of April 2023, none of the 10 cohort 2 schemes had had a full business case approved

Scheme	Status[4]	Current stage	2022 Planned hospital operational date	2023 Forecast hospital operational date[1]	2023 Forecast scheme cost[1]	Percentage increase on budget allocated in 2020
					(£mn)	(%)
Cambridge Cancer Research Hospital, Cambridge	Amber	Business case	Jun 2027	Jul 2027 ↑	300	22 ↑
Women and children's hospital, Cornwall	Amber	Business case	Jul 2028	Jul 2028	300	103 ↑
Royal Bournemouth Hospital, Dorset[5]	Amber	Business case	Nov 2026	Dec 2026 ↑	200	1 ↑
Derriford Emergency Care Centre, Plymouth	Green	Business case	Jan 2027	Dec 2026 ↓	200	137 ↑
National Rehabilitation Centre, near Loughborough	Red	Design	Nov 2024	Jan 2025 ↑	100	49 ↑
Dorset County Hospital, Dorchester	Red	Business case	Jun 2026	Apr 2027 ↑	100	1 ↑
St. Ann's Hospital, Poole and Alumhurst Road psychiatric unit, Bournemouth	Red	Business case	Jun 2025	Jan 2027 ↑	100	3 ↑
Shotley Bridge Hospital, County Durham	Red	Business case	Mar 2025	Oct 2025 ↑	Less than 50	48 ↑
Poole Hospital, Dorset[5]	Green	Business Case	Oct 2026	Sep 2026 ↓	Less than 50	-8 ↓
Christchurch Hospital, Dorset[6]	Red	Business Case	May 2024	Nov 2025 ↑	Less than 50	100 ↑
Total					**1,345[3]**	

↑ Increase on planned cost or delay to planned operational date

↓ Decrease to planned cost or earlier planned operational date

Notes

1 Forecast operational dates and forecast costs are by their nature provisional, particularly for schemes that have not yet secured business case approval.

2 The percentage increase is based on the budget allocated by DHSC in 2020.

3 Forecast scheme costs have been rounded to the nearest £100 million. The forecast costs do not sum because of rounding. As none of the schemes have an approved full business case, the forecast scheme cost is the estimated cost at completion, which includes any remaining contingency allowances.

4 The New Hospital Programme team uses the traffic light system of rating a scheme's status. The three statuses are Red, Amber, and Green, and indicate whether a scheme is likely to meet its deliverables to time and budget upon evaluation of the various risks and issues of a scheme.

5 The Poole Hospital and Royal Bournemouth Hospital schemes are multi-phase programmes. The forecast operational dates are those of the final phase main projects in each programme.

6 NHP intends to split the St. Ann's Hospital, Poole and Alumhurst Road psychiatric unit, Bournemouth scheme, which covers two hospitals on separate sites. The Christchurch Hospital scheme would then be merged into another scheme.

Source: National Audit Office analysis of New Hospital Programme cohort progress reports, October 2022, January to April 2023, and other management reports

2.21 Delays in approving early NHP schemes will increase the riskiness of the programme as a whole in later years, when more construction will have to occur at the same time in order to meet the target of 40 new hospitals by 2030. Delays can also cause immediate problems for individual trusts and hospitals. The new National Rehabilitation Centre, near Loughborough, was due to open by November 2024, according to programme plans in 2022. The trust submitted its full business case for approval to NHP in September 2022, but by April 2023 it was still awaiting approval to proceed, and the estimated hospital operational date had slipped to January 2025. This delay has financial implications. The trust had appointed a contractor and provisionally agreed a fixed price for the scheme, but certain elements will now need to be renegotiated to reflect the impact of inflation. In addition, the trust could be liable for 'standing down' costs of around £500,000 if the delay extends beyond the contracted period (followed by a similar amount payable if it subsequently re-engages the same contractor). The delay also risks the trust's future income flows, as it has contracts with higher education providers to deliver rehabilitation training to students from November 2024.

The main programme business case and cohorts 3, 4 and 5

The main programme business case

2.22 In the 2020 Spending Review, HMT provided no indication of the level of funding it would approve for NHP for the period between 2025-26 and 2030-31. It first required DHSC to submit and have approved a main programme business case. NHP spent 2021 and the first part of 2022 drawing up this business case, including detailed work to demonstrate how greater centralisation and standardisation of hospital construction could reduce costs and timescales. NHP might have been able to produce its business case earlier if it had been able to staff up its team more quickly. We discuss NHP's plans for centralisation and standardisation, and its staffing in Part Three.

2.23 NHP produced the first programme business case in March 2022 and the Major Projects Review Group (MPRG), including officials from HMT and the Cabinet Office, considered it in May 2022. NHP requested £19.3 billion for the period after 2025-26. This represented a 79% increase on the £10.8 billion that DHSC's "maximum risk, policy compromises" option had called for in 2020. It was described as the estimated cost of completing cohorts 3 and 4, but not cohort 5. NHP did not include an estimate of the cost of completing cohort 5.

2.24 In May 2022, the government's MPRG did not recommend approving this business case or allocating any funding for the period after 2024-25, but it did allow cohort 2 schemes to start delivery. It told NHP to make adjustments and submit another version of the business case by the end of the year. Specifically, MPRG wanted NHP to carry out further work on its new centralised, standardised approach to building hospitals before agreeing indicative funding and the scope of later cohorts of the programme. MPRG also asked DHSC to clarify how it would approach the issue of replacing the five remaining entirely RAAC hospitals by 2030 within an additional NHP funding envelope of £1 billion for cohort 5.

2.25 NHP completed a second version of the business case in November 2022. Further detailed costing work had increased the total it was requesting for the period after 2024-25. It said it would now need £21.3 billion for the period between 2025-26 and 2031-32 just to complete the schemes in cohorts 1 to 4. This was a 97% increase on the "maximum risk, policy compromises" option HMT had partially funded in the 2020 Spending Review. If government wanted an additional five RAAC hospitals to be replaced, the business case stated that this would cost substantially more: between £7.0 billion and £7.8 billion.

2.26 In December 2022, MPRG again was unable to recommend approving the business case and allocating any budget to the programme for after 2024-25. HMT and the Cabinet Office wrote to NHP, stating that it had made excellent progress since the previous business case and agreeing that the five additional RAAC hospitals could be brought into the programme but not announced until the implications were understood. They requested NHP to assess the trade-offs between programme scope, time and funding, and develop an option to limit the full programme costs up to 2030 to no more than £18 billion. The letter set out potential routes to achieve this, including:

- reducing the scope of individual schemes so that 40 hospitals could be completed by 2030; or
- developing a longer pipeline of schemes, similar to the previous HIP programme, that would continue after 2030-31 but would require no more than £18 billion up to that point (by implication, this approach would mean fewer than 40 new hospitals by 2030).

2.27 After December 2022, DHSC, HMT and the Cabinet Office continued their discussions about the level of funding and the programme scope to approve for the years after 2024-25. In March 2023, HMT agreed a funding envelope and a new scope allowing NHP to move forward. On 25 May 2023, the Secretary of State for Health and Social Care announced these decisions publicly. This amounts to a major reset of NHP and is discussed in detail in Part Four.

Cohorts 3 and 4

2.28 NHP planned that the eight schemes in cohort 3 and the 14 schemes in cohort 4 would adopt, to an increasing degree, its new template for standardised hospital design and its new commercial and contracting approach. NHP considers cohort 3 schemes as pathfinders, through which it will learn about the strengths and weaknesses of its chosen approaches to standardisation, modular design and offsite manufacture. For cohort 4 schemes, NHP is planning to mandate all high-level requirements for design, commercial arrangements and delivery.

2.29 It has been clear since the 2020 Spending Review that the schemes in cohorts 3 and 4 could not commence major capital works until after the start of the next Spending Review period in April 2025. The lack of an agreed programme scope and a clear indication of funding for the programme after 2024-25 limited the schemes' ability to carry out other useful work in 2021 and 2022 because there was no clarity about the scale of new construction that NHP could afford at each site.

2.30 NHP has approved some cohort 3 and 4 schemes to carry out enabling works. Until early 2023, such works were restricted to land acquisition, clearance or construction that did not commit a scheme to any specific type of eventual solution (for example, a commitment to rebuilding existing buildings rather than refurbishing them). In 2021-22 and 2022-23, NHP provided £135 million for enabling works at eight cohort 3 trusts and three cohort 4 trusts.

2.31 In March 2023, we conducted fieldwork at Leeds Teaching Hospitals NHS Trust, one of the original HIP schemes announced in 2019. It had an approved outline business case in 2020, and is now part of cohort 3. We learned that the scheme had incurred design-related costs estimated in excess of £10 million since 2018. Some of this might prove to have been fruitless if the design needs to be reworked to meet NHP's new standards. NHP will need to factor in such costs when it evaluates any efficiencies that result from NHP's new approach to hospital construction.

2.32 In March 2022, NHP provisionally expected all cohort 3 schemes to reach completion between 2026 and 2028, with all cohort 4 schemes completing between 2027 and 2030. This was based on being able to agree a business case including defined scope and budget with HMT in mid-2022. Subsequent delays have made it likely that some cohort 3 schemes will not be able to complete construction until 2029 or 2030. Part Four of the report explains how a government announcement in May 2023 has fundamentally altered cohort 4.

Cohort 5

2.33 According to DHSC's plans in 2020, the eight schemes in cohort 5 were essential if NHP was to reach the policy objective of building 40 new hospitals by 2030. In July 2021, NHP sought bids for these slots and trusts submitted 128 expressions of interest.

2.34 NHP originally planned an initial selection process for autumn 2021, with final decisions made by spring 2022. NHP's business cases in 2022 did not include a funding bid for cohort 5. Instead, the second programme business case highlighted that the five additional RAAC hospitals would be considered as a standalone option for inclusion in the programme. The government announcement in May 2023 confirmed that the five RAAC hospitals would be prioritised over other expressions of interest, in effect becoming cohort 5 of NHP.

Part Three

Issues, risks and opportunities for the New Hospital Programme

3.1 This part examines some of the issues, risks and opportunities the New Hospital Programme (NHP) has been handling in its first three years including:

- uncertainty about programme funding and scope;
- progress with standardising hospital design;
- programme staffing issues; and
- commercial risks, including construction industry capacity.

Uncertainty about programme funding and scope

3.2 NHP appeared to get underway with a high degree of certainty in late 2020. However, the government's decisions about the programme were not as mature as implied by its public announcement in October 2020 – summarised in Appendix Three – which included high-level descriptions of the kind and scale of construction that would occur at each of 40 sites and stated that these schemes were "fully funded".

3.3 In fact, for most schemes the issue of affordability had not yet been considered. With NHP yet to develop its new standardised hospital design and without indicative funding identified for the second half of the decade, it was always likely that the scope of some schemes would need to change or that some schemes might need to be dropped from the programme. This was not made clear to the public at the time. NHP hoped to get clarity about funding and scope during the first half of 2022, and its discussions with government's Major Projects Review Group (MPRG) have been iterative. However, neither the May 2022 programme business case nor the version in November 2022 were sufficient to persuade MPRG to recommend approval of a funded scope for NHP. HM Treasury (HMT) explained that this was because of issues with the scope of the programme, delivery capacity and the programme plan – although it was able to approve investment in a programmatic approach to deliver schemes within the £3.7 billion of funding previously allocated. Uncertainty about funding for the period after 2024-25 persisted until early 2023.

3.4 Between 2021 and 2023, NHP provided resource funding to schemes in cohorts 3 and 4 of up to £1 million a year each to cover project costs. Individual project teams have used the funding to advance their plans where possible, though those we spoke to accepted that some of their work might need to be re-done depending on future decisions by government. Based on schemes we visited, it is also possible that some have spent additional money, from their own trusts' funds. At times, especially during the latter part of 2022 and the first half of 2023, at least two schemes had limited useful work they could do but continued to employ project teams, partly in an attempt to hold onto valuable staff as they awaited greater clarity about whether and how their scheme would proceed.

3.5 Six schemes in cohort 3 have felt the lack of clarity particularly acutely.[7] All were part of the Health Infrastructure Plan (HIP) in 2019, and at that point DHSC considered them sufficiently advanced to proceed to business case approval. For them, inclusion in NHP has meant a delay to, rather than an acceleration of, the capital improvement of their estate. As described at paragraph 3.20, uncertainty during late 2022 and the first part of 2023 has also delayed NHP in engaging meaningfully with the construction sector about its plans for standardising hospital design.

Standardising hospital design

Hospital 2.0

3.6 NHP has identified a key opportunity to improve the cost-effectiveness and quality of new hospitals by standardising hospital design and making increased use of modern methods of construction (MMC). If successful, NHP considers these approaches would move the NHS away from the old arrangements, where trusts tended to develop designs from scratch on a 'scheme-by-scheme' basis, sometimes leading to deviation from standards. Many traditional hospital construction schemes suffered from cost overruns and delays, which NHP believes can be reduced through a more centralised, modern approach. NHP told us that some delays and cost increases in cohort 1 and 2 schemes were evidence of these problems. Specifically, NHP estimates that schemes that fully adopt its new approach would cost 25% less and take 20% less time to build than under traditional design and construction approaches. It accepts that these are estimates that will need to be tested and proven in practice.

7 Epsom and St. Helier University Hospitals; Leeds Teaching Hospitals NHS Trust; University Hospitals of Leicester; Princess Alexandra Hospital; Watford General Hospital; and Whipps Cross University Hospital.

3.7 Standardised architecture is not new in public sector construction. The government adopted a similar technique with the Department for Education's Priority School Building Programme, which aimed to build or refurbish 500 schools over 10 years from 2013. The Ministry of Justice, among others, is currently using MMC to construct new prisons. Widescale use of MMC has been less common in hospital construction, although the NHS in Wales built The Grange University Hospital using MMC in 2020. This hospital was reportedly completed under budget and three months ahead of schedule, meaning it was available for the second wave of COVID-19. However, following the COVID-19 pandemic, there have been some challenges with its unscheduled care model working as intended, with more walk-in patients attending than was planned for. Following an unannounced visit, the Healthcare Inspectorate Wales reported that the waiting area in the emergency department was too small and unfit for purpose. The Grange University Hospital was built on a greenfield site, but a particular challenge for NHP is that many of its schemes are on previously developed sites. This means that standard designs will sometimes be implemented at constricted and irregularly-shaped locations.

3.8 NHP began developing its new approach in 2021, including through engagement and collaboration with clinical and other experts. The template design is called Hospital 2.0. An Infrastructure and Projects Authority (IPA) review in April 2022 recommended that NHP should increase its internal capacity in order to finish this design by the end of 2022 so that it could be used for early proof of concept testing. However, in the second version of its programme business case (November 2022) NHP planned to release the design in three stages during 2023.

- First, in January 2023, a set of standardised designs for key hospital elements, including inpatient rooms, critical care units, outpatient rooms and an initial 'kit of parts' for MMC to enable the creation of an NHP component library.
- Secondly, by July 2023, a full standardised design for Hospital 2.0 along with a building information management component library and a standardised business case process.
- Thirdly, in the period up to December 2023, a final release focused on supporting individual schemes in cohorts 3 and 4 to adopt the new designs, and also concerted activity to prepare the construction industry to deliver Hospital 2.0.

3.9 NHP has not been able to meet this timetable. By April 2023, it had not released any details of Hospital 2.0 to trusts or the construction industry, except for a general commitment that all hospitals from cohort 3 onwards would comprise only single rooms. In April, NHP also assessed that eight of the 18 deliverables it needed to complete in order to release the full standardised design by July 2023 were rated red, meaning there was a high likelihood they would not be delivered on time. It told us this was because it was awaiting approval from DHSC to recruit a temporary design team of up to 300 specialist designers. Overall, NHP estimated that Hospital 2.0 was running around five months behind schedule, with the outputs planned for July 2023 now likely to come in late 2023 and the final release not until May 2024. Clearly, however, this revised timetable is dependent on NHP being able to access sufficient expertise on a timely basis.

3.10 The delay in completing the new hospital design has not yet directly affected the earliest point at which schemes in cohorts 3 and 4 could proceed, because construction of them cannot start until after March 2025. However, it increases risks, leaving less time to engage with the construction industry and for prototyping and piloting. Build UK, the construction industry association, told us that the fact the construction industry has not yet been consulted increased the risk that certain elements of Hospital 2.0 might not be buildable. Since 2022, DHSC has been planning that all schemes in cohorts 3 and 4 will adopt the Hospital 2.0 design. At an earlier stage, it thought some schemes in cohort 3 could use traditional designs that they had already paid for. This decision has reduced the amount of time contingency that NHP has to complete the Hospital 2.0 design and persuade the construction industry to adopt it.

The minimum viable product

3.11 Standardisation does not in itself determine the quality or specification of a building. It is for NHP to decide how and to what extent Hospital 2.0 meets future healthcare needs. Decisions about specification will inevitably affect the wider NHS, including future staffing levels, the volume of inpatient and outpatient work the NHS can do, and where and how patients are treated. At an early stage, NHP considered a wide range of options for what Hospital 2.0 could support. However, during 2022, with the aim of developing an approach that met its key programme objectives for the lowest possible cost, NHP began to focus on a basic hospital design which it calls the “minimum viable product” (MVP).

3.12 NHP describes the MVP as "viable, sustainable hospitals" that comprise "the minimum viable set of services, in the minimum viable building size, to the minimum specification, and at the minimum viable time and cost to build". The economic case in NHP's latest business case calculated that the MVP had a positive benefit-cost ratio, delivering £4.80 of benefits for every £1 of cost. An NHP comparison of what MVP would cost on each individual scheme in cohorts 3 and 4 found a mixed picture. Compared with trusts' own "preferred way forward", the MVP was cheaper by between 27% and 43% in 15 out of the 23 assessed schemes. For six schemes the MVP cost more than trusts' preferred option, and for the remaining two schemes the costs were almost identical.

3.13 MVP hospitals will lack certain key enhancements that would be present in other versions of Hospital 2.0 that NHP has developed and assessed. These include certain digital enhancements and additional beds that could be used to address future patient backlogs or future shocks similar to that experienced during the COVID-19 pandemic. NHP told us that it will consider whether such enhancements are justified and affordable for individual schemes through a business case process.

3.14 We have concerns about some assumptions NHP has used to develop the MVP. There is a risk of new hospitals being too small if these assumptions prove over-optimistic.

- One set of assumptions, called 'model of care shifts', presumes that patient care will increasingly shift out of hospitals into adult social care, outpatient services, community healthcare services and digital healthcare. NHP's MVP model assumes a recurring 1.8% reduction each year in the need for hospital capacity because of these shifts. The 1.8% compounds over 60 years – the assumed life of new hospitals – to reduce expected demand by 66%. This more than cancels out the assumption of demand increasing due to a growing and ageing population. This may be unrealistic. Although DHSC and NHS England want to shift care increasingly out of hospitals in future, they do not have a funded strategy to deliver such reductions in the use of hospitals. NHS England told us that this will depend on the outcome of the next spending review.
- A second set of assumptions relates to the transformational impact of switching to wards with single rooms only.
    - NHP points to research that this can reduce bed closures, reduce individual patients' length of stay in hospital and allow for higher bed occupancy, meaning a hospital can be smaller than would otherwise be the case. The MVP version of Hospital 2.0 assumes future bed occupancy will run on average at around 95% and that patient stays will reduce by 12% relative to today.

- However, England already has one of the highest rates of bed occupancy in the Organisation for Economic Co-operation and Development (OECD) – a pre-pandemic average of 90% in 2019-20 compared with an OECD average of 76% in 2019. Very high rates of occupancy, such as 95%, are viewed as highly undesirable and indicative of crisis and NHS England currently has a priority to keep occupancy below 92%. The NHS also has one of the shortest lengths of stay per patient: 4.5 days in 2019-20 compared with an OECD average of 8 days in 2019.
- In our judgement, there is a risk that running hospitals very full in future may affect their smooth operation and it will certainly reduce the amount of spare capacity available for coping with normal variations in demand, as well as unexpected shocks and health crises. In particular, NHP's assumption of a 12% reduction in length of stay seems poorly supported by the evidence. A recent systematic review of the effect of single beds on length of stay, funded by NHP itself and published in the *British Medical Journal Open,* found "the evidence was highly mixed with no clear benefit".[8]

NHP officials told us that NHP's current MVP model was not necessarily the final position that would determine the size of future hospitals.

3.15 Under the MVP approach, there is a risk that new hospitals will not be fully compliant with the new NHS Net Zero Building Standard. NHS England published its Net Zero Building Standard in February 2023, setting out a path to achieving net zero carbon buildings by 2045. The standard was developed by NHS England separately from NHP. NHP sees environmental responsibility, including net zero carbon, as part of achieving a sustainable legacy and it is developing an environmental strategy. It is setting a target for its schemes to achieve net zero emissions from operations by 2040 and from construction by 2045, which it told us it expects to meet through an ongoing process of innovation and feedback.

Staffing the NHP team

3.16 The NHP team was small to start with but has grown considerably, reaching a headcount of 361 by February 2023. It comprises existing DHSC and NHS England staff, staff seconded from elsewhere in the civil service and the NHS, and staff from the private sector, many of them hired under consultancy contracts. In the 2020 Spending Review, DHSC received dedicated capital funding for NHP but no dedicated resource funding with which to run the team. DHSC subsequently obtained approval from HMT to transfer some of the capital funding to pay for the team between 2021-22 and 2024-25. The full resource costs of the team are not yet clear, but it expected to spend around £340 million, reducing by 9% the money available for capital investment during the first four years of NHP.

8 Bertuzzi A, Martin A, Clarke N, et al, *Clinical, humanistic and economic outcomes, including experiencing of patient safety events, associated with admitting patients to single rooms compared with shared accommodation for acute hospital admissions: a systematic review and narrative synthesis*, British Medical Journal Open, 2023.

3.17 One of NHP's strategic objectives is "to build national capability in planning and delivering new hospitals". In effect, this means creating a new central government function to design and contract for hospitals, replacing some functions that trusts and other local NHS bodies used to perform in conjunction with private-sector partners. The programme's senior responsible owner (SRO) told us that recruiting her team had been a major challenge, due to a combination of factors including the COVID-19 pandemic, delays in obtaining departmental approval to increase headcount and enter into consultancy contracts, and the high demand for certain key skills.

3.18 NHP has continued to carry a large number of gaps in its team through to 2023. Consequently, it has made more use of consultancy services than would otherwise have been the case – with expenditure on consultancy services of some £76 million in 2021-22 and 2022-23 (including £6 million which was capitalised), compared with total resource expenditure of £89 million in the period. In October 2022, the NHP People Resourcing Committee decided that the programme needed eight new posts for its healthcare innovation team. However, it took four months for NHS England to sign off this decision, so that, by March 2023, NHP had recruited only two people while the other six posts had just been advertised. Across the NHP team, there has continued to be a very high vacancy rate of 31%. In April 2023, the programme's 12 executive team posts included five vacancies and only four permanent members of DHSC or NHS England.

3.19 Because of the need for significant external support, NHP has used a delivery partner model. Between April 2021 and December 2022, NHP estimated it had spent £44 million with its two interim partners, Mott MacDonald and KPMG, comprising 79% of its total consultancy spend to that point. These companies supported a range of delivery (cohorts 1 and 2), technical design and programme management activities and assignments. NHP estimates that the future cost of consultancy services from 2023-24 to 2030-31 will be around £842 million (75% of its expected total resource expenditure). This includes the cost of the 300 specialist designers required to complete Hospital 2.0 (paragraph 3.9). While consultancy services bring necessary professional and technical expertise and their use is normal in large construction projects, relying on them in a long-term programme brings risks of lack of continuity and knowledge loss. In February 2023, 45 out of 58 staff in NHP's commercial workstream and all 84 people in its programme delivery workstream were provided through consultancy services (**Figure 10**).

Figure 10

New Hospital Programme's (NHP's) use of non-permanent staffing resources, February 2023

Only 109 (30%) of NHP's team are permanent staff while 223 (62%) are consultants, typically provided by its two interim partners

Workstream	Total, of which:	Permanent employees	Consultants	Loans and secondments	Contingent labour	Fixed term	Vacancies
Analytics	**14**	13			1		
Clinical	**4**			2		2	
Commercial	**58**	13	45				9
Cross Directorate	**15**		15				
Digital	**2**			1		1	
Estates and facilities management	**1**			1			
Executive team and associated assistants	**11**	5		3	2	1	8
Finance	**13**	10			2	1	
Innovation	**1**			1			
Market Management	**1**			1			
Programme Assurance	**8**	7				1	
People	**14**	5	6			3	1
Policy	**8**	8					
Programme	**16**	15		1			8
Programme Delivery	**84**		84				
Programme Office	**51**	1	50				
Sponsorship	**1**			1			12
Transformation	**55**	32	23				38
Workforce	**4**			4			
Other	**0**						89
Total	**361**	**109**	**223**	**15**	**5**	**9**	**165**

Notes

1 Workstream totals exclude vacancies to show the current staffing mix.

2 The 'Other' category encompasses roles across the whole of the programme workstreams as estimated by the programme team. Further detail has not yet been made available as to where these 89 new roles are expected to sit within the team.

3 Around one half of the Programme Delivery team is engineering and architectural design personnel who are provided by NHP's interim delivery partner.

Source: National Audit Office analysis of New Hospital Programme staffing numbers

Commercial arrangements

3.20 As described above, NHP has recognised the importance of engaging with the construction industry. To date it has built relationships with construction companies and their industry bodies and sought to keep them informed about developments. However, delays in the development of Hospital 2.0 and in approving the programme business case and funding, have limited NHP's ability to engage meaningfully. This has directly affected contractors expecting to work on cohort 2 schemes, where it has taken longer than expected to obtain approval to commence work. Regarding cohort 3 and later, NHP has been constrained in its engagement with the industry and has been unable to provide detail that industry would like about the future commercial pipeline, the sequencing of schemes, and Hospital 2.0. Industry stakeholders told us that, despite their initial enthusiasm for the programme, the lack of information shared by NHP had caused frustration.

3.21 NHP acknowledges that for cohort 3 and beyond, it will be a new client in an already saturated marketplace that is operating with significant constraints. There is currently no shortage of large infrastructure projects in the UK or further afield, with many large programmes in other government-related sectors (for example, High Speed 2, Thames Tideway, nuclear power stations, schools and prisons). Construction industry stakeholders told us that industry is currently making decisions on its allocation of resources for the next 12-18 months.

3.22 NHP is aware of important capacity shortages. In March 2023, NHP carried out a market engagement exercise, in which only four of 11 main contractors it contacted would consider building complex, large hospital schemes valued in excess of £600 million. The engagement exercise also identified that main contractors viewed the delivery of more than one large scheme in the same region concurrently as being likely to create supply-chain capacity risks. In April 2023, NHP analysed the capacity of the main contractor market and found that five out of 11 had "demonstrable capability" of delivering construction contracts in excess of £200 million. Other commercial risks are outlined in **Figure 11**.

Overall delivery complexity

3.23 NHP is a high-risk programme. Those running it are aware of this. We assessed the programme as a whole against the NAO's Delivery Environment Complexity Analytic and found that, in 11 out of 12 areas, it was in the highest category of complexity. The full analysis can be viewed at Appendix Two.

Figure 11
Commercial risks to the New Hospital Programme (NHP)

NHP has to manage a number of commercial risks to the programme

Risk	Implications for NHP
A **saturated market** with no shortage of non-NHS large infrastructure projects in the UK or further afield	Importance of stimulating interest and confidence in NHP's commercial pipeline of work
Significant investment needed urgently in **new factory capacity** for constructing modular units and components offsite	Factory supply constraints for modular units could result in delays and higher prices or represent a fundamental challenge to NHP's plan to use modern methods of construction. Government might need to provide financial guarantees to companies to invest
Shortage of training in the UK for some skills needed for modern methods of construction	Skills shortages could lead to construction delays and increased costs
The high rates of **inflation** (around 14% a year in the construction sector between May and December 2022) may result in companies being increasingly unwilling to bear the risk of inflation in contracts	The Department of Health & Social Care and HM Treasury will have to agree how to fund the cost of inflation
Bunching of schemes could reduce the feasibility or increase the cost of delivering all the schemes needed between 2025 and 2030	Reduces the deliverability and value for money of the programme, and limited field of potential bidders and a compressed schedule might result in higher prices

Source: National Audit Office analysis of New Hospital Programme documentation

3.24 The IPA has also assessed NHP as high risk and assigned it a red delivery confidence assessment (successful delivery of the project appears to be unachievable; the project may need re-scoping and/or its overall viability reassessed) in a review in July 2021. The IPA stated that NHP needed to be clearer about the aim and purpose of its team. It also noted that expected major programme documentation, such as the programme baseline, was not in place and that overall delivery plans were insufficiently developed. The IPA found a lack of capability and expertise in NHP's leadership, with a need for large-scale programme management and construction expertise.

3.25 In response to IPA's concerns, NHP underwent a programme reset. In October 2021, DHSC appointed an experienced chief programme officer as a deputy to the SRO. NHP also incorporated learning from the IPA review into its main programme business case. In subsequent reviews in 2021 and 2022, IPA rated its delivery confidence for NHP as either amber (successful delivery appears feasible but significant issues already exist, requiring management attention) or red.

3.26 Based on the second version of NHP's programme business case government's MPRG identified a number of issues, including:

- serious concerns about the ability of the programme to build 40 new hospitals by 2030;
- difficulty securing approval for sufficient funding from HMT in order to deliver new hospitals to the MVP specification; and
- the potential disruption of having to include five additional entirely RAAC hospitals within NHP.

Part Four

Resetting the New Hospital Programme in 2023

4.1 This part examines the reset of the New Hospital Programme (NHP), which the Secretary of State for Health and Social Care announced on 25 May 2023. The reset represents the next stage in NHP's attempt to secure funding for later years of the programme.

4.2 The main elements of the reset are set out below (**Figure 12** overleaf).

- NHP will now take responsibility for rebuilding all seven entirely reinforced autoclaved aerated concrete (RAAC) hospitals by 2030, five more than the Department of Health & Social Care (DHSC) included in the original programme in 2020. Building works on the first of the RAAC hospitals are planned to start in 2025.
- NHP will delay the completion of eight cohort 4 schemes until the 2030s, when they will form part of a new five-year rolling programme of planned hospital upgrades.
- NHP's plan to have a cohort 5 of eight new hospitals has been replaced by the five additional RAAC hospitals. These hospitals were among the 128 expressions of interest NHP received for cohort 5.
- HM Treasury (HMT) has indicated that capital funding for NHP for the period between 2025-26 and 2030-31 will be up to £18.5 billion. This will be subject to future spending reviews.
- Government has given approval to NHP to build all hospitals from cohort 3 onwards according to Hospital 2.0 minimum viable product specifications.

Figure 12
Planned hospital construction schemes as of May 2023

The New Hospital Programme (NHP) now includes the replacement of five additional reinforced autoclaved aerated concrete (RAAC) hospitals, but completion of eight new hospitals has been delayed until after 2030

Cohort 1
- Royal Liverpool University Hospital
- Brighton 3Ts
- Midland Metropolitan University Hospital
- Moorfields Eye Hospital, London
- CEDAR programme, Cumbria, Northumberland, Tyne and Wear
- Greater Manchester Major Trauma Hospital
- Northern Centre for Cancer Care, North Cumbria

Cohort 2
- National Rehabilitation Centre, near Loughborough

32 schemes to be delivered by 2030 that are new hospitals, according to government's definition in 2020

Cohort 1
- Dyson Cancer Centre, Bath

Cohort 4
- Milton Keynes Hospital
- Kettering General Hospital
- Musgrove Park Hospital, Taunton
- Torbay Hospital
- James Paget University Hospital (RAAC), Norfolk
- West Suffolk Hospital (RAAC)

Cohort 2
- Shotley Bridge Hospital, County Durham
- Cambridge Cancer Research Hospital
- Derriford Emergency Care Centre, Plymouth
- St. Ann's Hospital, Poole
- Alumhurst Road psychiatric unit, Bournemouth
- Women and children's hospital, Cornwall
- Dorset County Hospital
- Royal Bournemouth Hospital
- Poole Hospital

Additional RAAC hospitals
- Airedale General Hospital, Keighley
- The Queen Elizabeth Hospital King's Lynn
- Hinchingbrooke Hospital, Cambridgeshire
- Leighton Hospital, Cheshire
- Frimley Park Hospital, Surrey

Cohort 3
- Leeds Teaching Hospitals NHS Trust
- Epsom and St. Helier University Hospitals
- Whipps Cross University Hospital, London
- North Manchester General Hospital
- University Hospitals of Leicester
- Watford General Hospital
- Princess Alexandra Hospital, Harlow
- Hillingdon Hospital, London

Mental health
- St. Peter's Hospital, Surrey
- Kingsway Hospital & Chesterfield Royal Hospital
- Mossley Hill Hospital, Liverpool

Cohort 4 hospitals now to be delivered after 2030
- Charing Cross & Hammersmith Hospitals
- St. Mary's Hospital, London
- Nottingham University Hospital
- Royal Preston Hospital & Royal Lancaster Infirmary
- East Sussex Healthcare NHS Trust
- Hampshire Hospitals
- North Devon District Hospital
- Royal Berkshire Hospital

Notes
1 Government intends to count eight pre-existing schemes towards the 40 new hospitals commitment, although they were not to be counted under the 2020 definition. The three pre-existing mental health schemes will not be managed by NHP or paid for from the NHP funding.
2 The Christchurch Hospital scheme was subsequently reduced in scope and NHP intends to replace its contribution to the target by splitting the St. Ann's Hospital, Poole and Alumhurst Road psychiatric unit, Bournemouth scheme, which covers two hospitals on separate sites.

Source: National Audit Office analysis of New Hospital Programme cohort progress reports, 2020–2023

4.3 This reset brings welcome clarity to important aspects of the programme. In particular, for the first time NHP knows how much funding it can expect to receive up to its original deadline of 2030. DHSC and NHS England also now have a commitment in principle to capital funding for hospital upgrades after 2030. The previous Health Infrastructure Plan (HIP) was a rolling five-year programme of capital investment, but NHP began in 2020 with a fixed end date of 2030. Additionally, the NHS now has a clear strategy for dealing with the biggest RAAC sites in its estate and this accords with the latest possible replacement date identified in an April 2022 report conducted for DHSC and NHS England by Mott MacDonald.[9]

4.4 However, the reset creates new uncertainties. The basis for determining whether the government has met its commitment to 40 new hospitals by 2030 has changed fundamentally. The government intends to count three new mental health hospitals towards the target, despite these having been approved for funding outside of NHP and not previously counted towards the 40 new hospitals commitment.[10] NHP will not have responsibility for delivering these schemes. By our analysis and using government's original definition from 2020, the replacement of cohort 5 with five RAAC hospitals, the decision to delay eight cohort 4 schemes until the 2030s, and the small size of the Christchurch Hospital scheme mean that, even with the three mental health hospitals, the government's plans would now lead to only 31 new hospitals by 2030. If, as intended, NHP splits St. Ann's Hospital, Poole and Alumhurst Road psychiatric unit, Bournemouth into two schemes, then NHP would deliver 32 new hospitals by the target date.

4.5 The capital funding HMT has indicated (subject to future spending reviews) is less than NHP requested, £18.5 billion for the six-year period 2025-26 to 2030-31 compared with £21.3 billion in NHP's second version of the main programme business case. But it now has to complete fewer schemes by 2030. HMT has asked DHSC to submit a revised programme business case by the end of 2023, setting out a new scope, scheme prioritisation and delivery timeline that meet the available funding. In preparing this business case, NHP will need to consider ongoing affordability issues because of the number of schemes to be completed or started by 2030, its expectation that RAAC hospitals will be relatively expensive to replace, the risk of cost overruns, and the impact of inflation being higher than expected. NHP will need to consider the relative merits of moving more cohort 4 schemes into the 2030s or reducing the scope of its Hospital 2.0 MVP.

9 The five hospitals added to the programme are Airedale General Hospital, Frimley Park Hospital, Hinchingbrooke Hospital, Leighton Hospital, and The Queen Elizabeth Hospital, King's Lynn.

10 The three mental health schemes are part of a separate investment programme to eradicate dormitories from the mental health estate that was announced in October 2020.

4.6 The NHP team has a busy and critically important few months ahead, as it attempts to progress and have approved both the schemes it must deliver and the content of Hospital 2.0. This is happening at a time when the team is going through internal changes. In July 2023, it will split into two teams, with one becoming a sponsor team inside DHSC and the other becoming a delivery team inside NHS England. NHP considers that this reorganisation is desirable to improve programme governance and accountability.

Appendix One

Our evidence base

Interviews

1 The study team conducted more than 60 interviews over the course of this study. Most of the interviews have been carried out virtually, except those that have taken place on trust sites including those during our case study visits.

- Topics for interviews were identified by the National Audit Office, with DHSC identifying the appropriate interviewees for the topics.
- We have met with contractors to DHSC – including Mott MacDonald and KPMG.
- Main topics covered in interviews included programme governance, funding, sponsorship, risk management, scheme design and scope, Hospital 2.0, RAAC, and scheme selection.
- Detailed minutes were taken during every interview and then saved to an interview log.
- Interview data has been used in the report to broaden our knowledge of the New Hospital Programme and to develop our recommendations for this report.

Document review

2 Over 450 documents have been received by the study team, including the NHP Programme Business Cases, NHP Governance Framework, NHP reports on the progress of the 40 schemes (between October 2022 and April 2023), NHP Risk Register, briefings to ministers on programme updates, scheme selection data, and committee minutes.

3 Other documents received include the Infrastructure and Projects Authority's (IPA's) programme assessment reviews of the New Hospital Programme.

4 The National Audit Office document review tool was used to analyse the large quantity of committee and board minutes received.

5 The National Audit Office back catalogue analyser was used to identify previous reports relating to maintenance backlog and NHS capital expenditure.

6 All documents received by the study team or external sources were recorded in an evidence log.

Case studies

7 Five case study visits were conducted by the study team during fieldwork:

- University Hospitals Sussex NHS Foundation Trust (10 October 2022);
- West Suffolk NHS Foundation Trust (14 March 2023);
- Epsom and St. Helier University Hospitals NHS Trust (24 March 2023);
- Leeds Teaching Hospitals NHS Trust (27 March 2023); and
- Nottingham University Hospitals NHS Trust (29 March 2023).

8 Case study evidence has been used in the report to support our findings, for example regarding hospitals with evident maintenance backlog and those made from structurally unsound RAAC. In addition, case studies were used to identify the engagement between the NHP team and specific Trusts within the programme.

Stakeholder consultation

9 Stakeholder consultation included meetings with:

- HM Treasury;
- the Infrastructure and Projects Authority (IPA);
- NHS Confederation;
- NHS Providers;
- Nuffield Trust;
- Professor Chris Goodier, Director of Centre for Innovative and Collaborative Construction Engineering;
- the Institution of Structural Engineers;
- Build UK; and
- the Association for Consultancy and Engineering.

Quantitative analysis

10 The study team analysed Estates Return Information Collection (ERIC) data between 2009-10 and 2021-22. ERIC is a mandatory collection of information from all NHS trusts and published annually on the NHS Digital website – though trusts are only required to report quinquennially. ERIC data comprises information relating to the costs of providing and maintaining the NHS estate. The specific data analysed for this report was the cost to eradicate high, significant, moderate, and low risk maintenance backlog per NHS trust sites between the years 2010-11 to 2021-22, and to identify the age of the NHS estate from pre-1948 to 2024. It must be noted that the methodology used to review costs to eradicate backlog differs between trusts, therefore there may be issues with data quality when comparing different trusts.

11 The study team also analysed NHP reports which include data on all 40 schemes in the programme. The reports were from October 2022 to June 2023 and provided details for each scheme including performance and forward plan, red-amber-green rating, cost performance data, schedule, and strategic milestones. To calculate the percentage increases used in Figures 8 and 9, the NAO assessed variances on NHP data between the 2020 Spending Review allocations and the 2023 allocations provided in the second programme business case. These numbers are held centrally by the NHP team and not necessarily by NHS trusts. Analysing these reports allowed us to evaluate whether schemes were on track and whether any key dates, including starting construction, had changed. An internal NAO scheme database was created to compile all the information into one place to allow for quick comparisons and updates as more information was provided.

12 The study team analysed the complexity of the New Hospital Programme through use of our in-house Delivery Environment Complexity Analytic (DECA) tool. This was used to assess the NHP against the 12 factors that influence the complexity of a programme to deliver. The IPA has included DECA in their Infrastructure Procurement Route map and it helps to systematically assess and compare the risks within different environments.

13 The NHP team provided data on the current staffing mix, as well as a document illustrating the current gaps and vacancies. The study team combined these into a spreadsheet to analyse total staffing numbers, broken down by workstream and employment type.

Appendix Two

The complexity of delivering the New Hospital Programme

1 We used the Delivery Environment Complexity Analytic to assess the complexity of delivering the New Hospital Programme (**Figure 13**).

Figure 13

Assessment of the complexity of the New Hospital Programme (NHP) environment

Assessment using our Delivery Environment Complexity Analytic indicates that the delivery environment for NHP is high risk across almost all factors

	Factor	National Audit Office assessment	Reason
1	Strategic importance	High	NHP is critical in meeting DHSC and government strategic objectives including delivering the NHS Long Term Plan. There is a high level of political/ministerial and public interest.
2	Stakeholders	High	There are many stakeholders with influence on programme outcomes including senior politicians, the construction industry, NHS staff, and the public. Their expectations may differ.
3	Requirements and benefits	Medium	Delivery requirements of NHP and expected benefits are measurable and linked to outcomes. It is clear how expected benefits contribute to wider policy outcomes and how the programme is expected to deliver and what success will look like.
4	Stability of overall context	High	NHP is a long-term programme spanning more than one spending review period. Its governance structures are likely to change.
5	Financial impact	High	NHP is a high-cost programme with a substantial financial impact in the short, medium, and long terms. There is considerable uncertainty around the programme costs, including the effects of inflation, and it will need a greater amount of contingency.
6	Implementation Complexity	High	NHP will require substantial use of new business practices and technologies, including modern methods of construction, standardised hospital design, and a digital transformation of hospitals. The programme is expected to deliver at speed with inflexible deadlines.
7	Relations with delivery partners	High	Delivery of NHP is highly dependent upon partners outside the direct control of the NHP, including the construction industry.
8	Range of disciplines and skills	High	Delivery of NHP requires substantial specialist input and skills, within the NHP team and each trust in the programme. These skills are in short supply.
9	Interdependencies	High	There are important dependencies between NHP team projects, including Hospital 2.0 and the commercial strategy, and local hospital schemes. If schemes in cohorts 1 and 2 go over budget, there may be insufficient funding for later schemes.
10	Extent of change	High	NHP represents a major change of approach for the NHS, including adapting modern methods of construction and a standardised hospital design.
11	Organisational capability and performance	High	The NHP team is not fully staffed and does not have a track record with major hospital schemes, and it will have to deliver at an unusually fast speed.
12	Interconnectedness	High	NHP needs to manage some major overlapping risks.

Source: National Audit Office (NAO) analysis of programme complexity using the NAO's Delivery Environment Complexity Analytic

Appendix Three

New Hospital Programme scheme details

1 Descriptions of schemes in the New Hospital Programme are set out in the following figures:

- **Figure 14** on page 59 – cohort 1.
- **Figure 15** on page 60 – cohort 2.
- **Figure 16** on page 61 – cohort 3.
- **Figure 17** on page 62 – cohort 4.
- **Figure 18** on page 63 – RAAC hospitals.

Figure 14

New Hospital Programme cohort 1 schemes

There are eight schemes in cohort 1, forecast to complete construction by 2027

Scheme name	Location	Description	2023 Forecast cost
			(£mn)
Royal Liverpool University Hospital	Liverpool	A three-phase scheme to demolish and rebuild the existing hospital to include a teaching and research hospital and clinical research facility	800
Brighton 3Ts	Brighton	A three-phase scheme replacing the front half of the Royal Sussex County Hospital with new clinical buildings and a helideck, replacement of the oldest acute ward in the NHS, and a new service and logistics yard	700
Midland Metropolitan University Hospital	West Midlands	A new acute general hospital bringing together all acute and emergency care services that currently take place at City and Sandwell Hospitals	600
Moorfields Eye Hospital	London	Relocation of the current hospital to a new build in St Pancras, including a clinical research facility and education centre	400
CEDAR programme	Northumberland	A three-phase scheme to modernise the provision of mental health care in the North East through the development of an integrated adult mental health and learning disability services centre, the re-provision of children and young people's inpatient services, and the re-provision of adult inpatient services across Northumberland	100
Greater Manchester Major Trauma Hospital	Salford, Greater Manchester	A new-build to create a major trauma centre for Greater Manchester based at Salford Royal Hospital	Less than 50
Dyson Cancer Centre	Bath	A new build on existing NHS estate to provide cancer treatment facilities in a new building	Less than 50
Northern Centre for Cancer Care, North Cumbria	Carlisle	A new build on existing NHS estate to provide an oncology hospital for patients across North Cumbria	Less than 50

Note

1 Forecast costs are the total amount of funding approved in the final business case. These have been rounded to the nearest £100 million. Forecast costs are by their nature provisional, particularly for those schemes where completion is some years ahead.

Source: National Audit Office analysis of New Hospital Programme scheme progress reports

Figure 15
New Hospital Programme cohort 2 schemes

There are ten schemes in cohort 2, expected to complete construction by early 2028

Scheme name	Location	Description	2023 Estimated cost (£mn)
Women and children's hospital	Cornwall	A new build on an existing site to bring all women and children's services into one building	300
Cambridge Cancer Research Hospital	Cambridge	A new facility built on the existing site, to provide essential cancer care and research space funded by the University of Cambridge	300
Royal Bournemouth Hospital	Dorset	A refurbishment of wards and other facilities plus a new modular building to create an emergency care hospital	200
Derriford Emergency Care Centre	Plymouth	An extension of the existing hospital and refurbishment of the existing urgent and emergency care facility	200
National Rehabilitation Centre	Near Loughborough	A new clinical facility, national training and education centre, and research hub with academic partners	100
Dorset County Hospital	Dorset	A new extension and refurbishment of the existing facility	100
St. Ann's Hospital, Poole and Alumhurst Road psychiatric unit, Bournemouth[2]	Dorset	Phase one is a partial redevelopment of the existing site to provide new and refurbished mental health accommodation. Phase two comprises a new child and adolescent mental health services psychiatric intensive care unit.	100
Christchurch Hospital	Dorset	Enabling works, supporting a separately-funded rebuild of a hospice	Less than 50
Shotley Bridge Hospital	County Durham	A new build to replace the existing hospital	Less than 50
Poole Hospital	Dorset	A refurbishment of the existing site to become the area's major planned care hospital	Less than 50

Notes

1 Estimated costs are the provisional estimated cost at completion, as no cohort 2 scheme had a full business case approved by May 2023. Estimated costs are rounded to nearest £100 million, these include contingency allowances.

2 The New Hospital Programme intends to split the St. Ann's Hospital, Poole and Alumhurst Road psychiatric unit, Bournemouth scheme, which covers two hospitals on separate sites. The Christchurch Hospital scheme would then be merged into another scheme.

Source: National Audit Office analysis of New Hospital Programme scheme progress reports

Figure 16

New Hospital Programme cohort 3 schemes

There are eight schemes in cohort 3, expected to complete construction by mid-2030

Scheme name	Location	Description	2023 Estimated cost band
Leeds Teaching Hospitals NHS Trust	Leeds	A new adult's hospital, a new children's hospital, and a new maternity and neonatal centre with a new car park, and a new education and training centre	£1bn – £2bn
Watford General Hospital	Hertfordshire	A new hospital at Watford General Hospital, and a redevelopment and refurbishment of Hemel Hempstead and St. Albans City Hospitals	£1bn – £2bn
Whipps Cross University Hospital	London	A new district general hospital, with the remainder of the site released for future development (housing or other health and care services)	£501mn – £1bn
Hillingdon Hospital	London	A new build and redevelopment to provide a district general hospital with the remainder of the land to be sold	£501mn – £1bn
North Manchester General Hospital	Manchester	A rebuild of North Manchester General Hospital, as a new build extension attached to the refurbished 1990s block	£501mn – £1bn
Princess Alexandra Hospital	Harlow	A new district general hospital on a new site to address the increase in population for the area	£501mn – £1bn
Epsom and St. Helier University Hospitals	Surrey/London	A new Specialist Emergency Care Hospital at Sutton and reconfiguration of Epsom and St. Helier Hospitals	£501mn – £1bn
University Hospitals of Leicester	Leicester	A reduction of three sites to two (Leicester Royal Infirmary and Glenfield Hospital), including a rebuild of the women's and intensive care services; and a diagnostic and community facility at Leicester General Hospital	£501mn – £1bn

Note

1 Estimated costs are the estimated cost at completion, as no cohort 3 scheme has yet had a full business case approved. The National Audit Office has placed the estimated project costs into bandings, these include contingency allowances.

Source: National Audit Office analysis of New Hospital Programme scheme progress reports

Figure 17

New Hospital Programme cohort 4 schemes

There are fourteen schemes in cohort 4, eight of which are expected to complete construction after 2030

Scheme name	Location	Description	2023 Estimated cost band
St. Mary's Hospital	London	A full rebuild with land disposal upon completion	Greater than £2bn
Charing Cross and Hammersmith Hospitals	London	A full refurbishment of Charing Cross Hospital and a mix of refurbishment and rebuild at Hammersmith Hospital	£1bn – £2bn
James Paget University Hospital	Norfolk	A full replacement of the reinforced autoclaved aerated concrete (RAAC) affected hospital on an adjacent site	£1bn – £2bn
Nottingham University Hospital	Nottingham	A new-build and refurbishment on the Queen's Medical Centre and City Hospital sites	£1bn – £2bn
Royal Preston Hospital[2]	Lancashire	A new-build replacement of the Royal Preston Hospital on a new site	£1bn – £2bn
Royal Lancaster Infirmary[2]	Lancashire	A new-build replacement of the Royal Lancaster Infirmary with capital investment in Furness General Hospital	£501mn – £1bn
Hampshire Hospitals	Hampshire	A new-build hospital for Mid and North Hampshire and significant investment in the Royal Hampshire County Hospital, Winchester	£501mn – £1bn
Royal Berkshire Hospital[3]	Reading	Rebuild of the emergency and elective blocks on the existing site	£501mn – £1bn
East Sussex Healthcare NHS Trust	East Sussex	Significant refurbishment and new builds across three hospital sites at Eastbourne District General Hospital, Conquest Hospital, and Bexhill Community Hospital	£501mn – £1bn
West Suffolk Hospital	Suffolk	A full replacement of the RAAC-affected buildings through a new build hospital on a new site	£501mn – £1bn
Kettering General Hospital	Northamptonshire	A new-build hospital for a number of the clinical services on the existing site	£501mn – £1bn
Torbay Hospital	Devon	A new-build major inpatient development and new planned care centre, in addition to extending and refurbishing the emergency department	£501mn – £1bn
North Devon District Hospital	Devon	A new-build and redevelopment of the hospital site	£501mn – £1bn
Musgrove Park Hospital	Somerset	A new-build women's and children's centre, a new-build elective care centre, and capital investment in the emergency care centre	£500mn or less
Milton Keynes Hospital	Buckinghamshire	A new-build on the existing site containing the women's and children's hospital and surgical ward beds	£500mn or less

Notes

1 Estimated costs are the estimated cost at completion, as no cohort 4 scheme has yet had a full business case approved. The National Audit Office has placed the estimated project costs into bandings, these include contingency allowances.

2 The Royal Preston Hospital and Royal Lancaster Infirmary were counted as one scheme in the 2020 announcement of the programme because it was thought they might combine on one site. However, because the scheme now involves construction at two large sites, The New Hospital Programme team manages this as though they were separate schemes.

3 The New Hospital Programme team is considering three options for the redevelopment of the Royal Berkshire Hospital. The cost stated in this figure is for the cheapest option, development of emergency and elective blocks on the existing site.

Source: National Audit Office analysis of New Hospital Programme scheme progress reports

Figure 18

New Hospital Programme additional reinforced autoclaved aerated concrete (RAAC) hospitals

There are five schemes in cohort 5, which are all RAAC hospitals, and they are expected to complete construction by 2030

Scheme name	Location	Description	2023 Estimated cost band
Frimley Park Hospital	Surrey	Complete rebuild to replace the existing hospital comprised of reinforced autoclaved aerated concrete (RAAC)	£500mn – £1.5bn
Airedale General Hospital	Keighley	Complete rebuild to replace the existing RAAC hospital	£500mn – £1.5bn
Hinchingbrooke Hospital	Cambridgeshire	Complete rebuild to replace the existing RAAC hospital	£500mn – £1.5bn
Leighton Hospital	Cheshire	Complete rebuild to replace the existing RAAC hospital	£500mn – £1.5bn
The Queen Elizabeth Hospital King's Lynn	King's Lynn	Complete rebuild to replace the existing RAAC hospital	£500mn – £1.5bn

Notes

1 Estimated costs are the estimated cost at completion, as no cohort 5 scheme has yet had a full business case approved. The NAO has placed the estimated project costs into bandings, these include contingency allowances.

2 The three new mental health hospitals are not included in this figure because they are not going to be managed or funded by the New Hospital Programme.

Source: National Audit Office analysis of New Hospital Programme scheme progress reports

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