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Public Accounts Committee

Digital transformation in the NHS

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to the report*

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The Committee of Public Accounts

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Summary

Improving digital services is at the heart of delivering the *NHS Long-Term Plan* but remains a huge challenge to deliver. The Department and NHS bodies still have a long way to go to deal with the proliferation of legacy IT systems across the health and care system and move on from their track record of failed IT programmes. The Department did not achieve a ‘paperless NHS’ by 2018, and this target has now been watered-down and moved back by six years.

We are far from convinced that the Department and NHS bodies have learned the lessons from previous IT programmes. Without this, they risk repeating the mistakes that led to those programmes failing to deliver and taxpayers’ money being wasted. Successful delivery of the digital ambition for the NHS will require effective governance, realistic and detailed plans, sufficient investment nationally and locally, and clear accountability. It is six years since its 2014 digital strategy with the headline target to achieve a ‘paperless NHS’ and none of these vital components to make digitally-enabled care mainstream across the NHS are in place. Despite publishing its *Vision for digital, data and technology* in 2018, the Department still does not have an implementation plan for how this will be delivered in practice. Current governance and accountability arrangements are both overly complex and insufficiently defined. Local trusts are at varying levels of digital maturity and some are struggling financially. Unless national bodies do more to support trusts and local health and care systems in difficulty, then their progress in digital transformation is at risk of diverging further.

The Department and NHS bodies face major challenges dealing with the current COVID-19 pandemic, and we commend the work of staff across these organisations. This has also shown the potential for organisations to deploy digital solutions and adapt to new technologies. We look to the Department and NHS bodies to make best use of this learning in their digital programmes.

Introduction

The Department of Health and Social Care (the Department) has a longstanding ambition to digitally transform the NHS and enable seamless sharing of data (interoperability) between the many organisations that make up the health and social care system. The Department published its digital strategy in 2014 and in 2016 it set up the Digital Transformation Portfolio to deliver the strategy. The Department has since set out its priorities for improving digital services in its 2018 *Vision for digital, data and technology*. NHS England & NHS Improvement (NHSE&I) expects patient care to be increasingly planned and coordinated through partnerships of local health and care organisations, known as integrated care systems (ICSs) and sustainability and transformation partnerships (STPs). This makes sharing data between organisations essential to enable electronic patient records to be available to, and updated by, clinicians in different organisations such as GP practices and hospitals.

Since 2016, management of the portfolio of national programmes to digitally transform the NHS has been overseen by a combination of the Department, NHSE&I and NHS Digital. NHS Digital has been the primary delivery organisation for national programmes. The Department set up NHSX in July 2019 to lead digital transformation across the NHS. NHSX reports to both the Department and NHSE&I. According to NHSE&I, the NHS will need around £8.1 billion to deliver its digital transformation ambitions, including £5.1 billion from national bodies and £3 billion from trusts.

Conclusions and recommendations

1. **The Department and National Health Service have a poor track record for transforming NHS IT and have made insufficient progress against national ambitions.** Digital transformation of the NHS is a huge challenge due to the vast array of IT systems, many of which are out-of-date legacy systems that cannot easily interact with each other. The Department's previous attempt to reform how the NHS uses IT, running between 2002 and 2011, was both expensive and largely unsuccessful. We are therefore alarmed at how little progress has been made against current ambitions. The NHS missed its main target for a 'paperless' NHS by 2018, and this has now been watered down into a new target to reach a 'core level' of digitisation by 2024. NHSX acknowledges that there is "a very long way to go" to achieve the new target. Despite being recognised as essential to managing patient care, there has also been a lack of progress on interoperability (seamless sharing of data). Only three out of the ten standards for interoperability so far identified by NHS Digital were ready by May 2020, and the national bodies are unable to tell us how many are now ready. The use of digital services within the health and social care system has increased during the COVID-19 pandemic—including providing more services remotely—showing the substantial potential for organisations to use digital services more and adapt quickly.

Recommendation: *The Department should set realistic targets for transforming digital services and sustaining the gains made during the COVID-19 pandemic, and publish details of these by March 2021.*

This should include a mix of longer-term and intermediate targets for tracking progress for both nationally-led programmes and those delivered at local health and care system level.

2. **The Department's failure to ensure clear and transparent governance arrangements for digital transformation is putting the successful delivery of the *Vision for digital, data and technology* at risk.** There are many organisations working at both national and local levels to deliver the digital transformation of the NHS. Yet governance arrangements are complex and confused. The Department, NHSX, NHS Digital and other stakeholders recognise that there is a lack of clarity over the roles of NHSX and NHS Digital and the overlaps in their work. The new Chair of NHS Digital is due to review the approach that has been taken to digital transformation, including the operating models being used across NHS Digital, NHSX and NHSE&I. However, we are concerned that governance arrangements for NHSX have still not been finalised over a year after it was set up. NHSX is not a statutory body and does not prepare financial statements for audit, and so there is little transparency over its spending and activity. It has spent an estimated £11 million on the first phase of the delayed contact-tracing app, and expects to spend another £25 million on the second stage. Given the taxpayers' money involved, transparency is important to allow Parliament and the public to hold it to account.

Recommendation: *To improve clarity and transparency, the Department should:*

- *Write to the Committee by spring 2021 clearly setting out the responsibilities for digital transformation of each national organisation, and communicate*

this to local organisations.

- *Publish an annual report of NHSX’s activity and the spending it controls and/or directs.*

3. **Without a proper implementation plan, the Department and NHSX cannot be sure that the £8.1 billion of taxpayers’ money being invested in the digital transformation programme will deliver value for money.** The Department’s 2018 *Vision for digital, data and technology* is not an implementation plan as it does not set out how the NHS will deliver its ambitions in practice. It does not include a timeframe or plan for achieving interoperability, which NHSX acknowledges is an “extremely complex” process and could take “years”. The Department asserts that it will take a “blended” approach to planning, which will take place both nationally and locally by NHS systems and individual organisations. However, the Department has not demonstrated that national and local initiatives will be sufficient to meet the overall ambition. Furthermore, the national organisations have not yet put in place the planned levers and incentives to encourage trusts and other parts of the NHS to take the appropriate action on the ground. This will make it harder to ensure that local organisations are carrying out transformation in a way that is consistent with the national strategy and will benefit patients and staff.

Recommendation: *NHSX should, as a matter of urgency, publish an implementation plan for meeting its ambitions for transforming digital services. This should:*

- *Clearly set out actions required to transform digital services and how it will assess progress in enabling organisations to interact effectively to improve care.*
- *Include the incentives and levers that improve the application of national standards for interoperability within and between local NHS organisations.*
- *Identify and prioritise those areas where the digitisation of services will add the greatest value to patients and clinicians.*

4. **To deliver the digital Vision, NHS organisations’ IT systems must be interoperable.** Many of the standards required to enable this are not yet in place, and much work is required before benefits, such as digital-image sharing, can be realised. NHSE&I increasingly seeks to plan and coordinate patient care through local partnerships of health and care organisations, making data sharing between organisations essential. Currently, many local organisations rely on legacy systems that are unable to do this, so these systems need to be upgraded. But at May 2020 only three of the 10 sets of standards for achieving interoperability, identified by NHS Digital, were ready and NHSX could not tell us when the others would be ready. Interoperability will also help the NHS to make good use of the cloud which could, for example, benefit patients, radiologists and consultants by facilitating the sharing of digital images.

Recommendation: *NHSX should urgently bring forward the remaining standards in order to provide clarity for trusts and suppliers, including providing trusts with guidance on the potential use of the cloud to enable digital image sharing.*

5. **We are concerned that patients and local health and care systems could be left behind if some less digitally-advanced trusts are unable to invest in the technology and skills they need to catch-up.** There is wide variation in the digital maturity of trusts, with 13% of trusts assessing their capability as ‘high’ and 16% of trusts assessing it as ‘low’ in 2017. It is essential that trusts have the necessary digital skills if they are to improve their digital maturity and make national ambitions a reality, but these skills are in short supply. We are particularly concerned about the lack of skills in cyber-security, as legacy IT systems are especially vulnerable to attack. But despite these shortcomings and the variation between trusts, the Global Digital Exemplar programme has focused on improving the digital maturity of a small number of higher-performing trusts. NHSX’s focus is now moving to helping the less-advanced trusts to catch up. However, we are concerned that trusts may be unable to invest the £3 billion expected of them by the Department under its matched-funding arrangements. Our reports have illustrated the long-standing financial challenges facing many trusts.

Recommendation: As part of the implementation plan, NHSX should work with NHS England & Improvement and NHS Digital to develop a more-focused package for those local health and care systems most in need of support for planning, funding and implementation, and with a clear basis for priority action.

6. **The Department and NHSX lack the information they and local organisations need on which of the options for achieving digital transformation in local health and care systems achieves the best value for money.** The Department considers that the £8.1 billion being invested in digital transformation will be sufficient to achieve its ambitions, but its costing estimates are based on very limited data. The capital element of this funding is subject to approval at the next spending review, due in autumn 2020, and there is likely to be financial pressures on the Department as a result of the COVID-19 response. NHSX plans to assess the cost and benefits of different approaches to electronic patient record systems within the next six months. Local organisations will need information on the whole-life cost and benefits, and the conditions on the ground needed for success, so that they can make the best choices about how to invest the limited funding available.

Recommendation: NHSX should develop and publish a cost-benefit analysis of the various approaches available to local organisations when implementing their system solutions. It should also use the information to assess the realism of the £3 billion contribution from the NHS trust sector toward the overall budget of £8.1 billion.

1 Plans for digitally transforming the NHS

1. On the basis of a report by the Comptroller and Auditor General, we took evidence from the Department of Health and Social Care, NHS Digital and NHSX on digital transformation in the NHS.¹

2. The Department of Health and Social Care (the Department) has a longstanding ambition to digitally transform the NHS and enable seamless data sharing (interoperability) between the many organisations that make up the health and social care system. The Department published its digital strategy in 2014 and in 2016 it set up the Digital Transformation Portfolio to deliver the strategy. The Department set out its priorities for improving the use of data, digital services and technology in its 2018 *Vision for digital, data and technology*, which included interoperability between data and systems as one of the first steps to allow the sector to benefit from cutting-edge technologies.²

3. Since 2016, management of the portfolio of national programmes to digitally transform the NHS has been overseen by a combination of the Department, NHSE&I and NHS Digital. NHS Digital has been the primary delivery organisation for national programmes. The Department set up NHSX in July 2019 to lead digital transformation across the NHS. NHSX reports to both the Department and NHSE&I. According to NHSE&I, the NHS will need around £8.1 billion to deliver its digital transformation ambitions, including £5.1 billion from national bodies and £3 billion from trusts.³

The scale of the challenge

4. NHSX, NHS Digital and other organisations highlighted how digital transformation of the NHS will be a huge challenge. As NHSX explained, the NHS's digital estate comprises an enormous number of out-of-date 'legacy' systems that cannot easily interact with each other and some trusts are using up to 400 different IT systems. NHS Digital echoed this, telling us that there were lots of legacy technologies and different IT systems in use across the NHS. We received written evidence from the NHS Confederation, which told us that there were also systemic issues within the NHS with broadband connectivity and outdated hardware, and a lack of funding and resources to train staff to use the technology available to them. The Royal College of Midwives also wrote to us that there needed to be a cultural shift amongst healthcare workers so that they are engaged with new digital technologies.⁴

5. The Department's previous attempt at digital transformation in health was both expensive and largely unsuccessful.⁵ In our 2013 report, *The dismantled National Programme for IT in the NHS*, we examined the Department's attempt between 2002 and 2011 to introduce modern integrated IT systems and make patient records available electronically throughout England. We found that the benefits from the National Programme by that time were extremely disappointing and while the full costs of the Programme was still not certain, the public purse was continuing to pay the price for

1 C&AG's report, Digital transformation in the NHS, HC 317, Session 2020–21, 15 May 2020

2 C&AG's report, para 1,1.6,1.7 & Figure 2

3 C&AG's report, para 1, Figure 2 & 3.4

4 Q32, 50; DGT0014 - The NHS Confederation, para 2; DGT0007 - Royal College of Midwives submission

5 C&AG's report, paras 1,19

failures by the Department and its contractors. We were sceptical that the Departmental could deliver its vision for a paperless NHS by 2018 and recommended that the Department needed to draw on the lessons from the Programme and develop and clear plan for how it would deliver its ambitions.⁶

6. In late 2015, the National Advisory Group on Health Information Technology in England was formed to advise the Department and NHS England on its efforts to digitise the secondary care system, with findings published in the 2016 Wachter Review.⁷ The National Audit Office reported that while some high-level lessons were identified in the Wachter Review, it had not seen evidence that the lessons from the National Programme and other programmes had been captured systematically.⁸ In response to our questions about the lessons it had learnt, the Department told us that it had moved away from a centralised national programme which determined which technologies should be used and that it had made improvements in procurement and contracting arrangements. The Department also said it was balancing its ambitions with realism about the challenges of implementation.⁹

7. The NHS has not made the expected progress since its 2014 strategy and missed its main target to achieve a ‘paperless’ NHS by 2018.¹⁰ The 2018 target has since been redefined in a new target to reach a ‘core level’ of digitisation by 2024. We asked why a watered-down target had been put in place rather than the previous commitment to ‘paperless’. The Department told us that its ambitions for digital transformation within the NHS were no less ambitious, but that this target was “more realistic”. NHSX told us that it has made “considerable progress” against the new target, but admitted that there was still “a very long way to go”.¹¹

8. NHS England & NHS Improvement (NHSE&I) increasingly seek to plan and coordinate patient care through partnerships of local health and care organisations, known as sustainability and transformation partnerships (STPs) and integrated care systems (ICSs). This makes sharing data between organisations essential to enable electronic patient records to be seen and updated by clinicians in different organisations such as GP practices and hospitals. A key part of the Department’s plan is the interoperability of IT systems within the health and social care service, which involves the seamless sharing of data so that electronic patient records can be shared between different organisations. NHSE&I expects that interoperability will release staff time and provide a better patient experience. For example, it is hoped that interoperability will reduce duplication of care, since clinicians will see information (such as test results) recorded by others. To enable interoperability, organisations need to upgrade their legacy systems to meet modern standards. However, in 2017 only 15% of trusts reported being mostly compliant with the standard for clinical terminology (SNOMED CT). NHS Digital asserted that the level of compliance was now much higher: it estimated that over 80% of trusts were now using SNOMED CT in one or more healthcare settings for information recording or reporting.¹²

6 Committee of Public Accounts, *The dismantled National Programme for IT in the NHS*, HC 294, Session 2013–14, 15 July 2013. Available at: <https://publications.parliament.uk/pa/cm201314/cmselect/cmpubacc/294/294.pdf>

7 National Advisory Group on Health Information Technology in England, *Making IT Work: Harnessing the Power of Health Information Technology to Improve Care in England*, 2016

8 C&AG’s report, para 19

9 Q36

10 C&AG’s report, para 4

11 Qq 41–42 & 44

12 C&AG’s report, para 14 & 1.7; Qq 44– 45; Correspondence from NHS Digital, dated 24 September 2020.

Nonetheless, by May 2020 only three of the 10 sets of standards identified by NHS Digital for achieving operability were ready. We asked NHSX when the remaining seven sets of standards would be ready. NHSX told us that it was “making progress” but could not answer the question with a number. It told us that its digital medicines programme and its events management services was now live, and others, such as transfers of care for patients and pathology standards, were in progress. It asserted, however, that progress “was not binary” and we asked it to write to us with a note detailing progress against each of the standards.¹³

9. We were particularly interested in one aspect of interoperability, namely the opportunities afforded by the cloud and cloud computing. For example, vendor-neutral digital image sharing through the cloud can benefit patients, radiologists and consultants. But suppliers might experience difficulties in providing these services to the NHS. NHSX told us that, to facilitate the use of cloud (for image sharing, and more widely), there were a number of actions that could be, or had been, taken. First, it could ensure that the policy and standards facilitate the use of cloud and image sharing. Second, that NHS Digital had already undertaken work to ensure the connectivity and bandwidth were in place to allow these types images to be shared. Third, care pathways could be designed to make use of digital image sharing to deliver a more efficient service and better outcomes.¹⁴

10. The Department, NHSX and NHS Digital told us that the COVID-19 outbreak had shown how quickly and efficiently the NHS can introduce new IT services and adapt to new technologies.¹⁵ This view was echoed by NHS Providers, which told us in its written evidence that the pandemic had resulted in many trusts accelerating their digital plans, including by increasing remote consultations and improving the way data is captured and used. The Nuffield Trust also told us that there had been a surge in patients’ uptake of remote health services, including using the NHS app, NHS login and e-prescription services.¹⁶ NHS Digital told us that the pandemic was showing that the NHS could be more ambitious than it had been in the *NHS Long-Term Plan* and get more effective at sharing data across the system. It explained that, as a result, it was more confident in the potential for the digitisation of the system than it had ever been previously.¹⁷

Governance and accountability arrangements

11. Since 2016, management of the portfolio of national programmes to digitally transform the NHS has been overseen by the Department, NHSE&I and NHS Digital. The National Audit Office reported that these governance arrangements were complex. It found that problems included confusion caused by there being multiple stakeholders, funding held in multiple budgets across organisations, and unclear lines of commissioning, funding, delivery and accountability. The NAO concluded that these issues contributed to slow delivery and transformation within the NHS. It found that previous attempts to improve these arrangements had been unsuccessful for a variety of reasons, for example, because accountability for managing development costs and for achieving programme benefits were shared across different organisations. The Department set up NHSX in July 2019 to lead digital transformation across the NHS to resolve conflicting priorities and confusions

13 Q48; C&AG’s report para 14

14 Qq 52–53

15 Qq 74 & 78

16 DGT0011 - NHS Providers, para 3; DGT0021 - The Nuffield Trust submission, para 5,

17 Q 31; *NHS Long-Term Plan*, NHS England, January 2019

and take overall responsibility for digital transformation.¹⁸

12. In May 2020, the new governance arrangements for NHSX had not been finalised.¹⁹ We received written evidence from NHS Providers, which told us that national governance and oversight arrangements remained fragmented and ambiguous, with many trust leaders still unsure where responsibilities sat between NHSX, NHS Digital and NHSE&I.²⁰ The Department, NHSX and NHS Digital admitted that there were still tensions in the governance model, a lack of clarity over the roles of NHSX and NHS Digital, and overlaps in work. NHS Digital told us that it had started working with NHSX to clarify where the boundary between the two organisations should sit, although it said the work has become less of a priority while it dealt with the COVID-19 outbreak. It told us that the new Chair of NHS Digital was due to take their post within the next few months and would review the approach that had been taken to digital transformation, including the operating models being used across NHS Digital, NHSX and NHSE&I.²¹

13. NHSX is not a statutory body and does not prepare financial statements for audit. We asked how the Department was tracking the performance of NHSX and ensuring that money was being well used given that NHSX was not audited. The Department explained that NHSX's funding came from the budgets of the Department and NHSE&I, and would therefore follow the normal funding allocations processes within each of these organisations. The Department accepted that the budgetary arrangements for digital transformation were not straightforward and this was an area it should keep under review. It said that it would be worthwhile to get "the money tidied up" so that there was greater accountability over how NHSX prioritised its spending.²²

14. NHSX was responsible for the initial development of a new NHS COVID-19 app, before this responsibility transferred to the newly-established NHS Test and Trace. The app, which was initially due to be launched in May 2020, alerts people who have had close contact with someone who has tested positive for COVID-19. It was launched on 25 September, after our evidence session and some four months after it was due. We asked NHSX why it had taken so long to launch the app. It told us that while some areas of the project had worked "extremely well", other parts of the technology had not worked in the way it anticipated. It explained that it started the project before the Google and Apple framework had been announced or developed, and it had changed direction to using this framework very soon after it was announced. It asserted that it had tested "very extensively" to make sure it understood the effects of the app, how it worked and how people would interact with it, and had changed its approach as a result. NHSX estimated that the cost of developing the app and supporting it will be £36 million. It estimated that the cost of the first stage of developing the app was some £10.8 million. Of that, some £4 million was spent on developing the version of the app that it moved away from, £6 million was on development that was necessary for both versions and £0.8 million was on Google and Apple technology that is now being used. It estimated that a further £25 million would be needed for the second app in 2020–21.²³ NHSX was not able to tell us what impact it would have on the successful tracing of people, because that would depend

18 C&AG's Report, para 11, 2.2–2.3

19 C&AG's Report, para 11

20 DGT0011 - NHS Providers

21 Qq 56–59

22 C&AG's Report, para 11; Qq 67 & 69

23 Qq 23, 25 & 29; Department of Health and Social Care announcement, 25 September. Available at: <https://www.gov.uk/government/news/nhs-covid-19-app-emails-and-sms-messages>

on many variables, but said it would give useful information to people.²⁴

Creating plans and incentives for delivering on the ground

15. *The NHS Long-Term Plan* includes some challenging ambitions for digitising the NHS, including the target that all trusts reach a 'core level of digitisation' by 2024. However, the NAO found that there was no digital implementation plan which set out how digitally enabled care will be rolled out across the NHS and its plans were underdeveloped. For example, there was no clear schedule for achieving interoperability, which risks making interoperability harder to achieve in the future.²⁵ We asked NHSX how long it expected it to take to achieve interoperability between systems. NHSX was unable to provide a timeframe for achieving complete interoperability, stating that dealing with the enormous legacy of IT systems was an "extremely complex" process and could take "years". NHS Digital similarly explained that there was no easy way to migrate legacy systems to modern standards, but acknowledged that there needed to be a clear plan for moving away from each legacy system.²⁶

16. In response to our questions about when there would be an implementation plan, NHSX told us that it had intended to produce a digital strategy during the first eight months of this year. It put out for consultation the vision part of its digital strategy in February 2020, which was to be followed by six months of consultation and "co-creation" between the national bodies and frontline. The Department explained that the development of the strategy had been delayed as a result of the extra demands that had been placed on organisations as a result of COVID-19, but it was still its intention to undertake this consultation.²⁷ The Department told us that it will take a "blended" approach to planning, which will take place nationally, as well as locally by NHS systems and individual organisations. NHSX added that its digital ambitions would primarily be delivered by the frontline, so their capability, decisions and progress were fundamental to overall success. As such, it considered that it was important that the national bodies helped local systems and organisations by giving them parameters, support and guidance.²⁸

17. The National Audit Office found that arrangements for ensuring trusts' technology spending was consistent with the national strategy were still being developed.²⁹ We asked NHSX what levers it had to influence trusts' digital investments, and whether there were any circumstances where it would intervene in local systems if they were out of step with national strategies. NHSX told us that it wanted to implement "more nimble" spending controls, covering much more of trusts' technology spending than the current business case approvals process for large projects. It explained that these controls will be used to ensure that the systems purchased by trusts were consistent with its standards and can speak to each other.³⁰ NHSX told us that it was using procurement frameworks to save money, as well as to ensure that organisations are purchasing from a set of products that it has vetted and which it knows are compliant with the standards. We asked NHS Digital how it would manage the tension between achieving interoperability and increasing the number

24 Q24 & 29

25 C&AG's Report, paras 10, 15 & 1.15,

26 Qq 50–51, 54

27 Q37

28 Q37

29 C&AG's Report, para 12

30 Q 71

of suppliers in the system via the procurement frameworks. NHS Digital responded that interoperability would be a foundation condition for a vibrant, competitive market for healthcare technology.³¹

2 Funding and support to improve the NHS's digital capabilities

Supporting local organisations to improve their digital capabilities

18. Patient records are fragmented across thousands of local organisations that provide patient care, including 227 NHS trusts and NHS foundation trusts, around 7,000 GP practices and around 18,500 adult social care providers.³² NHSX acknowledged that to deliver its digital strategy, local organisations would need the necessary skills and capacity, as well as guidance from the centre, to be able to make decisions and progress.³³ However, specialist skills in digital are in short supply.³⁴ The National Audit Office found that 13% of trusts self-assessed their capability as 'high' and 16% of trusts self-assessed it as 'low' in 2017.³⁵ The Department noted that some trusts were more digitally mature than others.³⁶

19. The Global Digital Exemplar (GDE) programme, run by NHSX, aims to create a cadre of high-performing trusts which other trusts can follow (in particular partner trusts, known as 'fast followers'). Despite the variation between the digital maturity of trusts, the National Audit Office found that the GDE programme had focused on improving the digital maturity of a small number of higher-performing trusts. In 2016–17, the programme committed to providing £385 million of funding between 26 relatively digitally-mature trusts to enable them to become world leaders (with smaller shares going to the fast followers).³⁷ NHSX told us that it had moved from supporting the most digitally-mature trusts to helping the less-advanced trusts to catch up. It told us that it was also reducing the paperwork required for applications for funding, to make the process more manageable and make it easier for trusts that may not have the skills and capacity required to submit a top-quality business case. It explained that it also planned to increase its spending on training the digital workforce, from £3.5 million in 2019–20 to an estimated £9 million in 2020–21 and expected to increase this further in future. Its initial focus will be on training chief executives, boards and leadership teams, and it will next turn its focus to chief information officers and chief clinical information officers.³⁸

20. In our 2018 report on the *WannaCry Cyber-attack on the NHS*, we found that the Department and its arm's-length bodies were unprepared for the relatively unsophisticated WannaCry attack and had a lot of work to do to improve cyber-security for when, and not if, there was another attack.³⁹ We asked how the NHS was ensuring that it had the skills it needed to manage the risks of future cyberattacks, NHS Digital acknowledged that there remained a "significant cyber risk" associated with legacy IT systems, which were especially vulnerable to cyber-attack.⁴⁰ It admitted that the NHS "desperately need skills" in cyber security. It told us that it was using questionnaires to assess trusts' exposure to cyber-security risks and was focusing its efforts on trusts at the bottom end of the

32 C&AG's Report, para 1.4, Figure 2

33 Q37

34 C&AG's Report, para 17

35 C&AG's Report, para 8, Figure 4.

36 Q41

37 C&AG's Report, para 7

38 Qq 73, 81–82

39 House of Commons Committee of Public Accounts, *Cyber-attack on the NHS*, HC 787, Session 2005–06, 18 April 2018. Available at: <https://publications.parliament.uk/pa/cm201719/cmselect/cmpubacc/787/787.pdf>

40 Qq 33, C&AG's Report para 18

spectrum. In response to our questions, NHS Digital was not able to confirm that all trusts have a suitable cyber-security plan. NHSX added that it was focusing on building cyber-security capability within NHS Digital and the National Cyber Security Centre, rather than trying to turn every trust into a “cyber-security hothouse”.⁴¹

21. NHSE&I expects that trusts will need to contribute £3 billion, under matched-funding arrangements, between 2019/20 and 2028–29 to meet its current plans for a digital transformation.⁴² However, in their written evidence to us NHS Providers, the Royal College of Midwives and the NHS Confederation all raised concerns about the ability of trusts to fund digital transformation programmes.⁴³ The Royal College of Midwives told us that in its survey of ‘digital midwives’, a lack of money was the most common answer to its question on why they had not achieved digital transformation within their trust. NHS Providers also told us that that access to funding was one of the factors driving the variation in digital maturity between trusts. We have reported on the financial and service sustainability of NHS bodies every year since 2011, and have consistently highlighted a range of challenges faced by the NHS, including rising demand, lack of capital investment and tackling trust deficits.⁴⁴ We asked the Department how it was ensuring that those trusts which had financial difficulties were still able to invest in digital transformation. The Department told us that the funding for digital transformation was not ring-fenced. It expected the £3 billion from trusts to come through its matched-funding arrangements under which the Departments and trusts contribute equivalent funding for local projects. It explained that as part of its strategy to return the provider sector to financial balance, it planned to engage with the most financially-challenged trusts to develop recovery plans.⁴⁵ However, our reports have illustrated that many trusts have deep-rooted structural issues that are difficult to fix. For example, our report on *NHS financial management and sustainability* found that writing off the loans owed by struggling trusts does not solve the underlying problems facing these organisations.⁴⁶

The cost and benefits of the digital transformation

22. Of the £8.1 billion estimated to be needed to deliver its digital transformation ambitions, NHSE&I expects that £5.1 billion will be funded by national bodies. This includes £2.2 billion of revenue funding, which covers day-to-day activities, and £2.9 billion of capital funding, which covers investments in new buildings or equipment.⁴⁷ The National Audit Office found that NHSE&I’s costing estimates for the £8.1 billion were based on very limited cost data, using information from just 14 trusts. We asked whether the Department was confident that the £8.1 billion would be enough to achieve its ambitions, particularly given problems of under-investment in the past. The Department told us that it was confident that the £8.1 billion would be enough to achieve its ambitions and make good progress, but recognised that investment in digital capability would be an “enduring

41 Qq 33 & qq83–85

42 C&AG’s Report, para 6

43 DGT0011 - NHS Providers submission, para 5; DGT0007 - The Royal College of Midwives submission, para 25; DGT0014 - NHS Confederation submission, para 6

44 House of Commons Committee of Public Accounts, NHS capital expenditure and financial management, HC344, Session 2019–21, 8 July 2020. Available at: <https://committees.parliament.uk/publications/1779/documents/17455/default/>.

45 Q89

46 Q79; House of Commons Committee of Public Accounts, *NHS capital expenditure and financial management*, HC344, Session 2019–21, 8 July 2020.

47 C&AG’s Report, para 6

feature” of the NHS. The Department explained that the £2.9 billion of capital funding will be subject to approval at the next spending review, due in autumn 2020. We asked the Department whether the COVID-19 outbreak would put extra financial pressures on the Department’s spending. In response, it told us that that “generally speaking” the Treasury had been meeting additional costs that have resulted from the pandemic and it was not expecting any additional financial pressures as a result.⁴⁸ In our report on *NHS financial management and sustainability* we reported that future services would be under increased pressure as a result of COVID-19. For example, NHSE&I recognised that services cannot go back to the way they were delivered before due to the risk of the virus and additional capacity will be required just to treat the same number of patients as before.⁴⁹

23. The National Audit Office found that NHSX was unclear about the whole-life costs and benefits of the different approaches to digital transformation at a local level.⁵⁰ For example, NHSX expected trusts to take one of three approaches to replacing their electronic patient records:

- an enterprise-wide commercial system, which can have high upfront costs;
- a “best of breed” approach, integrating different systems, which can have higher running costs; and
- in-house systems built by the NHS.

NHSX acknowledged that the NHS cannot afford to implement the enterprise-wide system in every trust. A 2019 survey of 186 IT leaders across the sector found slightly more trusts were developing an enterprise-wide approach compared with best of breed (at a ratio of 33:26)

24. We noted that having a clear grasp of the costs and benefits of digital transformation will be essential to ensuring trusts are on board. We therefore asked what NHSX was doing to address this and help trusts see the long-term potential savings from its plans.⁵¹ NHSX recognised that engaging with those on the front line would be essential to the success or failure of its initiatives.⁵² It told us that it intended to complete an initial assessment of the costs and benefits of the different approaches to implementing electronic patient record systems within the next six months.⁵³ However, the NHS also lacks cost and performance information on the true cost of legacy services. The NAO report highlighted that such information is vital for investment decisions on replacement IT systems and for producing a robust business case for such a change.⁵⁴

48 Qq 76 -78

49 See footnote 49.

50 C&AG’s Report para 6, 13, 3.5,

51 Qq 86, 88

52 Q 88

53 Q87

54 C&AG’s Report, para 1.3

Formal minutes

Monday 2 November 2020

Virtual meeting

Members present:

Meg Hillier, in the Chair

Sir Geoffrey Clifton-Brown	Richard Holden
Barry Gardiner	Sir Bernard Jenkin
Dame Cheryl Gillan	Sarah Olney
Peter Grant	James Wild

Draft Report (*Digital transformation in the NHS*), proposed by the Chair, brought up and read.

Ordered, That the draft Report be read a second time, paragraph by paragraph.

Paragraphs 1 to 24 read and agreed to.

Summary agreed to.

Introduction agreed to.

Conclusions and recommendations agreed to.

Resolved, That the Report be the Twenty second of the Committee to the House.

Ordered, That the Chair make the Report to the House.

Ordered, That embargoed copies of the Report be made available, in accordance with the provisions of Standing Order No. 134.

[Adjourned till Thursday 5 November at 9:15am

Witnesses

The following witnesses gave evidence. Transcripts can be viewed on the [inquiry publications page](#) of the Committee's website.

Thursday 17 September 2020

David Williams, Second Permanent Secretary, Department of Health and Social Care; **Matthew Gould CMG MBE**, CEO, NHSX; **Sarah Wilkinson**, CEO, NHS Digital

[Q1–89](#)

Published written evidence

The following written evidence was received and can be viewed on the [inquiry publications page](#) of the Committee's website.

DGT numbers are generated by the evidence processing system and so may not be complete.

- 1 Anonymous Member of the Public ([DGT0010](#))
- 2 The Association of the British Pharmaceutical Industry ([DGT0022](#))
- 3 British Specialist Nutrition Association Ltd ([DGT0016](#))
- 4 Care England ([DGT0023](#))
- 5 Cystic Fibrosis Trust ([DGT0008](#))
- 6 Health Innovation Manchester ([DGT0020](#))
- 7 Healthy.io ([DGT0013](#))
- 8 NHS Confederation ([DGT0014](#))
- 9 NHS Providers ([DGT0011](#))
- 10 Nuffield Trust ([DGT0021](#))
- 11 Office for Statistics Regulation ([DGT0006](#))
- 12 openDemocracy (Caroline Molloy, Editor) ([DGT0018](#))
- 13 PAGB, the consumer healthcare association ([DGT0009](#))
- 14 Pharmacy2U ([DGT0005](#))
- 15 Roche Diabetes Care ([DGT0002](#))
- 16 Royal College of Midwives ([DGT0007](#))
- 17 Royal College of Physicians ([DGT0019](#))
- 18 Royal College of Psychiatrists ([DGT0017](#))
- 19 Self (Dr Terry Critchley, Retired IT Consultant, now an author) ([DGT0003](#))
- 20 YoungMinds ([DGT0012](#))

List of Reports from the Committee during the current Parliament

All publications from the Committee are available on the [publications page](#) of the Committee's website. The reference number of the Government's response to each Report is printed in brackets after the HC printing number.

Session 2019–21

First Report	Support for children with special educational needs and disabilities	HC 85
Second Report	Defence Nuclear Infrastructure	HC 86
Third Report	High Speed 2: Spring 2020 Update	HC 84
Fourth Report	EU Exit: Get ready for Brexit Campaign	HC 131
Fifth Report	University Technical Colleges	HC 87
Sixth Report	Excess votes 2018–19	HC 243
Seventh Report	Gambling regulation: problem gambling and protecting vulnerable people	HC 134
Eighth Report	NHS expenditure and financial management	HC 344
Ninth Report	Water supply and demand	HC 378
Tenth Report	Defence Capability and the Equipment Plan	HC 247
Eleventh Report	Local authority investment in commercial property	HC 312
Twelfth Report	Management of tax reliefs	HC 379
Thirteenth Report	Whole of Government Response to Covid-19	HC 404
Fourteenth Report	Readying the NHS and social care for the COVID-19 peak	HC 405
Fifteenth Report	Improving the prison estate	HC 244
Sixteenth Report	Progress in remediating dangerous cladding	HC 506
Seventeenth Report	Immigration enforcement	HC 407
Eighteenth Report	NHS nursing workforce	HC 408
Nineteenth Report	Restoration and renewal of the Palace of Westminster	HC 549

Twentieth Report	Tackling the tax gap	HC 650
Twenty-First Report	Government support for UK exporters	HC 679