

NHS England Board meeting

Paper Title: NHS Transformation Directorate – Digital, Data and Technology

Agenda item: 8 (Public session)

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Paper type: For information

Organisation Objective:

NHS Mandate from Government	<input type="checkbox"/>	Statutory item	<input type="checkbox"/>
NHS Long Term Plan	<input checked="" type="checkbox"/>	Governance	<input type="checkbox"/>
NHS People Plan	<input type="checkbox"/>		

Executive summary:

To provide an update on the NHS Transformation Directorate's key Technology and Data work areas.

Action required:

To note the information provided in the report.

Background

1. With the legal merger of NHS Digital into NHS England, the new NHS England becomes one of the largest digital and tech organisations in the country. While a significant proportion of tech transformation occurs on the frontline, the national team plays a critical role both in supporting this innovation and in the development and deployment of national products and platforms, and runs a large number of live services including: 1.4bn monthly transactions on [NHS Spine](#), providing 97% GP coverage to the [Electronic Prescription Service](#) and giving 1.6m users across the NHS access to NHS Mail and Microsoft Office 365.
2. Our strategy for technology in health and care over the next 3 years is to [“Digitise, Connect and Transform”](#):
 - a. **Digitise:** Level up NHS and social care services to ensure they have a core level of infrastructure, digitisation and skills.
 - b. **Connect:** Join services together through data and technology, allowing health and care providers to share information with one another and take a shared approach to procurement and implementation.
 - c. **Transform:** Using the platform of a digitised, interoperable, connected health and social care system to deliver services more effectively and productively, and with the citizen at the centre.
3. In June 2022, together with the Department for Health and Social Care (DHSC), we published [“Data Saves Lives”](#) setting out future plans for data, building on lessons learned about the power of data from COVID-19, as well as [“A Plan for](#)

[Digital Health and Social Care](#)”, which set out a vision and plan for digitally-transformed health and social care services, including a roadmap for providing additional functionality for patients and the public through our National Digital Channels (NHS.uk and the NHS App).

4. Data and digital technology is also a key enabler of many wider NHS priorities, in particular the ongoing recovery of services, reducing health inequalities, and building resilience for the future. Examples of this include:
 - a. Digitally mature trusts operate with approx. 10% improved efficiency compared with their less digitally mature peers.
 - b. Alert and action features in Cambridge University Hospitals NHS Foundation Trust’s electronic patient records led to a 42% reduction in sepsis mortality.
 - c. Digital solutions are helping Trusts to treat more patients faster and more efficiently. At Chelsea and Westminster Hospital, a new digital theatre scheduling tool has helped to increase theatre use by 4.8%.
5. The NHS Transformation Directorate continues to work to support all parts of the health and care system to put the digital foundations in place so that patients and staff in every part of England can benefit from innovations such as these which improve care and/or increase efficiency. The recently published [2023/24 priorities and planning guidance](#) clarifies requirements of ICSs to further embed digitally-enabled care and reflects our published strategies.

Updates for key work areas

Digitise: Electronic Records and digital foundations

6. Electronic records provide health and care professionals with access to critical information when needed, enabling them to deliver better care. They are also an important foundation for service transformation and integration. We have committed that:
 - a. NHS organisations will have a core level of digital maturity and, specifically, an electronic patient record (EPR) by March 2025.
 - b. 80% of CQC-registered adult social care providers will have digital records by March 2024.
7. Currently 86% of NHS Trusts have an EPR in place and this is expected to rise to 91% by December 2023. In social care, 52% of providers now have a Digital Social Care Record (up from 41% in December 2021). All ICSs have a shared care record in place, enabling information to be shared between primary and secondary care.
8. We will continue to support the coverage and convergence of EPR systems across NHS secondary care providers to a baseline level of digital capability, and have committed c.£2bn in investment to ICSs support this.
9. We have also invested £300 million into cyber security since 2016, and our ambitious programme will address the changing cyber risk landscape, expanding protection and services and increasing NHS cyber resilience.

Connect: Federated Data Platform

10. A 'data platform' allows NHS organisations to bring together operational data – currently stored in separate systems – to support staff to access the information they need in one safe and secure environment so that they are better able to coordinate, plan and deliver high quality care. A 'federated' data platform means that every hospital trust and integrated care system (ICS) will have their own platform which can connect and collaborate with other data platforms, making it easier for health and care organisations to work together to achieve better improvements in care and outcomes for patients than they could each achieve individually.
11. This programme is already trialling tools locally with promising results. An elective care coordination pilot in East Sussex removed 16% of their waiting list through error identification. This will be live in 36 Trusts by the end of March 2023. A discharge pilot that helped North Tees reduce patients staying 21 days or more to 12% over a twelve-month period will be live in 16 Trusts by the end of March (the national average is 20%).
12. Procurement for a Federated Data Platform on behalf of the NHS in England began on 10th January 2023, with the contract planned to be awarded in the Autumn of 2023. A commitment to maintaining the confidence of patients and the public in the security of their personal data has been at the heart of this work from the outset, and we continue to undertake extensive public engagement to ensure any concerns are answered. Control of data access remains in the hands of local NHS leaders.

Connect: Data for Research and Development

13. Supporting trusted partners to access data to support research into diseases and other conditions affecting the population can both help support the development of new diagnostics and treatments, improvements in clinical practice and the prevention of ill health, as well as supporting the development of the UK Life Sciences sector.
14. We have committed to make data for research and development safely available through an interoperable network of Secure Data Environments by March 2025 to enable more rapid and efficient health tech innovation. [Over £13.5 million of investment](#) has been announced to support this. These SDEs are designed to provide pre-approved and transparent access to data without the data leaving NHS secured databases.

Connect: Interoperability

15. Health and care software systems require a 'common language' and rules so that information is exchanged safely, securely, and easily across the health and social care system. With the Faculty of Clinical Informatics, we published a [draft standards and interoperability strategy](#) in April 2022. This strategy provides an overview of the challenges and opportunities with interoperability, defining key terms and setting out proposed solutions. The final strategy is due in Spring 2023.

16. We also want to make it easier for third-party suppliers, from large, well-established software companies to small start-ups, to design products which can integrate and connect to our platforms and services, creating an environment where digital innovation can thrive and patients and staff alike can benefit from new software and applications developed outside the NHS. To achieve this, we are improving the way we deliver our information feeds or Application Programming Interfaces (APIs), including our exemplar [Personal Demographic Services API](#), which will enable third-party suppliers, where there is a [legal basis](#), to securely access the national electronic database of NHS patient details an example being Medicus in their support of GP practice systems¹.

Connect: Electronic Bed Management

17. We are exploring the development of cross-ICS bed management systems to improve the flow of patients through hospitals and across the healthcare system. Our work includes quantitative analysis to understand the potential benefits in key areas of performance (such as length of stay and A&E waits) of having an electronic bed management system compared to other methods and potential investments, as well as conducting frontline interviews and site visits to identify opportunities and barriers to implementation.

Connect: Improving call access in Primary Care

18. Since December 2021, we have provided additional outbound Voice over IP (VoIP) capacity across primary care to help free up practice phone lines for inbound (patient) calls. Currently, 92,000+ GP practice staff are enabled for Microsoft Teams Outbound Telephony (via the NHSmail service), and since launch, 6.8m minutes of calls have been made. Our ambition is to increase usage levels of this capability via promotion through NHS England's Primary Care team.

Transform: NHS App

19. The NHS App and NHS.uk are a major 'front door' to the NHS, helping people to participate more in their health and care. NHS.uk received more than 90 million visits a month in 2022 – making it the UK's most popular health website - and more than 31 million users are registered for the NHS App – making it the most popular non-commercial app.

20. We have committed to achieving a target of 75% of adults being registered for the NHS App by March 2024, up from a base of less than half a million at the start of the pandemic, and crucially ensuring that they are able to take advantage of an increasing number of useful functions, including access to their records, booking appointments and refilling medications.

21. The public can already use the NHS App, where enabled, to order prescriptions, book primary care appointments, access their records, update the organ donor register and exercise preferences over how their data is used. Each month the App enables people to undertake tasks relating to 2.1m repeat prescription

¹ [API platform case study - Medicus - NHS Digital](#)

orders (saving practises 336k hours in administration time), 1.2m referrals to secondary care, 300k primary care appointments (saving practises 12.5k hours of administration time) and 470k people view their secondary care appointments. Online appointment management and repeat prescriptions have saved a total of approx. 3m hours of GP practice time, equal to approx. £28.4m between April – December 2022.

22. We have recently added features to enable users to receive notifications from their GPs and view and manage their hospital appointments, giving people more control over their care, and as of the 1st February we will make it easier for people to take part in clinical research by promoting it on the homepage.
23. We are currently working with the DHSC to go further and faster on key aspects of the roadmap for the National Digital Channels originally set out in June 2022 through "[A Plan for Digital Health and Social Care](#)", in particular around patient choice and experience. Regular meetings take place co-led by the Secretary of State and NHS England CEO, and Joe Harrison, CEO of Milton Keynes University Hospitals NHS Trust, has been appointed to support the National Director for Transformation and teams across the organisation to help deliver on this increased ambition. We are working closely with the DHSC to expedite necessary funding and business case decisions to support this work.

Transform: Digital Health Technologies

24. Well-evidenced digital health technologies (DHTs) empower patients to manage their own health and get rapid access to peer support and clinical advice. They also help frontline staff to provide high quality care and make best use of their time. We are jointly developing the Early Value Assessment with NICE, which will set clear standards and improve the process for DHTs to be adopted by the NHS.
25. As part of the pilot, NICE will assess at least 15 products on their emerging evidence for plausible clinical or cost effectiveness by March 2023 and will streamline evaluation of products that address NHS priorities, initially focused on cardiovascular, mental health and screening products. Products that receive a recommendation by NICE will be ready for NHS procurement within a month.

Transform: Artificial Intelligence (AI)

26. AI has the potential to make a significant difference to the delivery of clinical care, in particular in the field of screening and diagnostics for cancer, stroke, eye disease and a range of other conditions. AI can support clinicians to make the best use of their expertise, informing their decisions and saving them time.
27. The NHS AI Lab, set up in 2019, aims to accelerate the development and deployment of safe, effective artificial intelligence applications. So far, we have funded seven technologies through our AI in Health and Care Award. These have been rolled out to 65 hospital sites and helped over 200,000 patients. One recipient, Brainomix, has been shown to triple the number of stroke patients recovering with no or only slight disability - defined as achieving functional independence - from 16% to 48%.

Transform: Cardiovascular Disease Prevention

28. The [NHS Long Term Plan](#) included an ambition to prevent 150,000 strokes and heart attacks through a combination of factors including better acute treatment and effective early identification and intervention for those patients living with key risk factors such as hypertension and atrial fibrillation. Large numbers of people are undiagnosed or under treated for these conditions, partly because they often have no symptoms, and partly because treatment decisions are complex.
29. NHS England has commissioned a national primary care audit – CVDPREVENT – which automatically extracts and presents data from GP records to help clinicians understand where their patients might be unidentified, undiagnosed, under-treated or possibly over-treated, and therefore helping to identify where there is the potential to improve care and outcomes, and reduce health inequalities.
30. A complementary case finding tool is being explored that would help local health partners to directly act on CVDPEVENT data and identify individuals to optimise treatment to for individual patients to prevent heart attacks and strokes. We are working to test the tool with a small number of ICSs, with national roll out to follow.

Transform: Eliminating unwarranted variation in clinical standards and outcomes

31. Data that allows for the visualisation of variation in performance from one organisation to another is core to much of our work. Our Getting it Right First Time (GIRFT) programme aims to support the adoption of validated, efficient and cost-effective best-in-class services across the whole of the NHS. It is informed by a clinically-led and ambitious approach to the use of data to improve services.
32. Our core services aim to support elective recovery and improve theatre utilisation, and so far, key highlights include conducting 42 specialty reviews of all providers in England, as well as developing 1,100 GIRFT metrics on the Model Health System across 16 specialties – growing to cover 24 specialties over the next 18 months.
33. GIRFT has seen a positive trajectory in clinical performance, including reductions of length of stay in many specialties, reductions in litigation in orthopaedics, increases in target day case rates and increases in best practice adoption in terms of procedure type and perioperative care.
34. In addition to driving up activity and quality in elective recovery and outpatients, the programme offers support to Regions, Systems and Trusts to improve their pathways and theatre productivity, as well as underpinning the new investment in elective hubs in terms of guidance on operating models, pathways and best practice.

Digital Inclusion

35. Rates of digital inclusion are rising in England. ONS data shows that in 2020, only 6.3% of adults had never used the internet, down from 7.5% in 2019. While comparatively fewer disabled adults (81%) reported being a recent user of the internet than the wider population (92%), the rate of growth among disabled adults from the previous year was 3ppt compared to 1ppt. Similarly, while far lower than the general population, the proportion of those aged 75 years and over who are recent internet users has nearly doubled since 2013, from 29%, to 54% in 2020.
36. Though we must remain mindful of the risk of digital exclusion, there is potential for digital solutions to help to reach communities with less engagement with traditional health services and thereby reduce health inequalities (highlighted by the NHS [Race and Health Observatory](#)). Digital technologies can also make it easier for people to report their characteristics, helping identify previously hidden inequalities and enabling more sophisticated population health management.
37. Mitigating the risk that digital approaches exclude people unwilling or unable to use them is a continuing priority for action on health inequalities, set in operational planning guidance for systems. This requires a considered approach where digital offers complement other channels or modes, including telephone and face-to-face help.
38. A [guide](#) has been published to inform action by commissioners and providers of health services seeking to support groups at risk of digital exclusion and recent [research](#) provides insight on how to engage people who lack the motivation or trust to use digital services, even if they have the skills to do so. Following the recommendation of the [Wade-Gery review](#) that NHS England should develop national frameworks, guidance and best practice in designing and implementing digital solutions to reduce inequalities, NHS England will publish a framework for NHS action on digital inclusion by May 2023, setting out future plans to support ongoing learning and action.