

Digitally transforming health and care in the NHS: A practical guide

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Digital transformation is primarily about how an organisation radically rethinks how it uses technology, people, and process to change and improve outcomes.

Introduction

Digital transformation in healthcare is being driven by the need to improve quality, reduce costs, and enhance the patient experience of health and social care delivery. This is being achieved through both the direct intervention of technology to create new diagnostic and treatment opportunities, and through the improved use of data to create more efficient and engaging patient care processes.

Digital transformation is now being taken so seriously by the government that a new joint organisation for digital, data, and technology has been set up to oversee the digital transformation of the health and care system. The new unit, called NHSX, will bring together the Department of Health and Social Care, NHS England, and NHS Improvement, allowing patients and staff to benefit from the latest digital systems and technology. The stated aim of NHSX is to bring together health and technology to make things better for patients and staff. The “X” in NHSX stands for experience, cementing its intent to be a standards-led and user-driven organisation.

What does digital transformation really mean?

Digital transformation is primarily about how an organisation radically rethinks how it uses technology, people, and process to change and improve outcomes. In the healthcare sector, this is being achieved for the benefit of healthcare staff, clinicians, and, most importantly, patients.

The focus is not on specific technology nor the digitisation of existing services but on the beneficial outcomes that can be achieved through improved processes and efficiencies. Digital technology is advancing exponentially and its relative cost is falling. At the same time, the demand for, and cost of, healthcare is rising, which is challenging most health economies across the world. With the global ageing population set to increase and people living longer with more complex health and care needs, there is a need to radically reform current systems. The need to adopt technology to help meet these challenges seems obvious, but the healthcare sector continues to lag behind other industries in utilising the benefits of technology to improve outcomes with service users, in this case, such as patients and carers.

The challenges of change

Resistance to change, an inability to progress productivity, and an exodus of demoralised employees are just some of the challenges of embarking on a digital transformation program – regardless of the industry. However, the risks are more pronounced within the healthcare sector as it has lagged behind other industries in digitising processes.

Often, both staff and service users are not tech savvy, nor should they need to be to do their jobs. Many applications found in healthcare environments have been implemented with a specific use case in mind and bolted on to the existing systems. The needs and capabilities of the users, both staff and patients, are often neglected due to a lack of a wider strategy and vision for the healthcare environment.

Transformational change requires a fundamental rethink to create completely different, more effective ways of addressing the same problem. In the face of dramatic change, there can be a sense of inertia and a need to maintain the status quo. To respond to the growing pressures and demands in the health and care system, change is needed. However, successful implementations have shown that change is best brought about from within the organisation. Transformation requires collaborative and distributed leadership styles bringing together people from disparate groups to harness their collective potential and is best led by frontline staff and service users who can define reality and build a shared vision.

The benefits of digital transformation

Healthcare employees are motivated by a vision of safe, patient-centric care that delivers quality services and progresses patient outcomes. Transformational change within the context of healthcare needs to be tenaciously focused on the requirements of service users, aligning models of care and the mechanisms for supporting healthcare staff to the core purpose of improving people's lives. Similarly, for technology it is essential that investments are tightly coupled to the core vision and meets the needs of the service users.

With effective leadership, collaboration, and a defined vision, organisations can embark on digital transformation to deliver:

- Increased operational productivity to meet service demand
- Improved patient engagement
- Greater support to clinicians in an increasingly complex healthcare setting
- Improved resource allocation (engage with the need to achieve more with less)
- Greater transparency that improves safety and accountability
- Improvements in how care is coordinated by multi-disciplinary working and communication
- Systemic learning and knowledge sharing to target proactive and efficient care
- Simplified system access for users whilst maintaining security

Transformation requires collaborative and distributed leadership styles bringing together people from disparate groups to harness their collective potential and is best led by frontline staff and service users who can define reality and build a shared vision.

Successful implementation of transformational programmes requires a mindset shift to empower and embolden front line staff and encourage collaboration across care teams taking a patient first approach.

Grasping the opportunities that digital transformation can deliver requires new skills and capabilities at all levels of an organisation. It also requires organisations, and in particular the leadership teams, to think about the development and use of technology in an entirely different way.

Laying the foundation

Transformational change is not merely about changing how a service operates, but also about shifting mindsets, changing relationships, and re-distributing power. A convergence of agile thinking is needed to deliver new ways of working by aligning the operational needs of the organisation with the right culture for people to collaborate. Successful implementation of transformational programmes requires a mindset shift to empower and embolden front line staff and encourage collaboration across care teams taking a patient first approach.

There are conflicting factors which can hamper success: the time needed for transformation and the urgency for it to happen. In light of this, two things are key:

- A supported focus on learning together as a health and care system to work effectively within current constraints whilst developing structures to support transformation. By understanding and connecting efforts, teams can develop expertise, relationships, and confidence
- A form of leadership that is collaborative and distributed, bringing together people from disparate groups to harness their collective potential

Global Digital Exemplars

A Global Digital Exemplar (GDE) is an internationally recognised NHS provider delivering exceptional care, efficiently, through the use of world-class digital technology and information. Exemplars share their learning and experiences to enable other trusts to follow in their footsteps as quickly and effectively as possible.

With central funding finally making its way through to GDEs, the rising pressures and expectations for GDE trusts to deliver on-going digital advancements in healthcare provision continue to heighten, with progress remaining under close scrutiny.

Imprivata is currently working closely with several GDEs to support their journey of transformation into internationally recognised digital pioneers, whilst they also achieve the shared goals set out in local Sustainability and Transformation Plans (STPs) and Local Digital Roadmaps (LDRs).

Dr James Reed, Consultant Forensic Psychiatrist & Chief Clinical Information Officer at Birmingham & Solihull Mental Health NHS Foundation Trust (BSMHFT) says: “One of the key aims of being a Global Digital Exemplar is to build a digitally engaged workforce – that means delivering a great user experience. The more transparent the technology, the better our clinicians and care givers can do their jobs, delivering top quality patient care.”

Fast, secure access to clinical applications

For any end user working in healthcare, no matter their role, accessing electronic systems will be the first hurdle to address in any organisation moving to a paperless environment and embracing digital workflows. Although a seemingly straightforward task, this in fact comes with a high degree of complexity in regard to balancing security, ease of access, information governance, clinical risk, and workflow management.

Prior to starting a clinical or administrative activity, the initial process to confirm and authorise appropriate access to healthcare information can significantly impact end users’ experience of all other electronic systems, either individually or as a whole, and when optimised enables the full potential of all systems to be realised. The importance of smooth but secure access is integral to all clinical workflows, especially when completed frequently and repeatedly in high volume by all end users. This results in the requirement for a simple, robust, and efficient automated access and password management solution that is almost invisible and unnoticed by end users, but remains a fundamental necessity in helping organisations achieve exceptional healthcare delivery.

These critical clinical workflow insights and identifying how digital tasks can be streamlined and translated into technical solutions requires organisational commitment to clinician engagement and a deep understanding by IT of the problems to be solved. A capacity to forge frontline patient centric correspondences to compile feedback is invaluable to deliver digital solutions to healthcare staff at the point of care.

Digital transformation case study - The power to reimagine

BSMHFT has an IT team who proactively undertakes positive engagement with the clinical workforce to find ways in which to make working life easier for frontline staff and care givers, and thus support patient care. Imprivata OneSign is live across BSMHFT in a variety of settings, including a medium secure in-patient ward and a community mental health setting, which have served as a digital test bed for learning how the solution needs to be configured to meet clinical need. Investment in frontline relationships with clinicians is leading to knowing how, staff can have fast, secure access to patient information across a wide range of different systems.

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Consultant Forensic Psychiatrist & CIO,
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Imprivata OneSign has been designed to be intuitive to use, minimising the complications of its adoption.

Future proofing

With both clinical and digital strategies shifting to provide healthcare under new models of integrated care, this will lead to the exchange of information across multiple organisations, regions, disciplines, specialties, services, and applications. This resulting increase of more interphase points will be followed by complex information governance agreements in who/how/why information is accessed.

This will require solutions that can be tailored to manage the various access requirements of end users, complicated by any overlap of departmental boundaries, which highlights the priority for an effective automated access and password management solution.

The Imprivata solution enables frontline healthcare staff to spend less time with technology and more time with patients. With a centralised password management system at the core of the solution, the need to repeatedly type usernames and passwords to access multiple electronic systems is eliminated.

At BSMHFT, a key goal around the implementation was to streamline password resets, with the result that not only were staff back online and able to access vital patient information much faster, but the service desk was freed up for more strategic work.

The benefits

Typically, after the initial uptake of new technology, productivity is likely to drop initially whilst users acquire new skills, adapt to new ways of thinking, and adjust workflows accordingly before they can realise the full gains in efficiency. But Imprivata OneSign has been designed to be intuitive to use, minimising the complications of its adoption.

With healthcare staff able to access clinical and administrative applications quickly and securely, clinical workflows are streamlined, and, with improved information governance best practices, the adoption of digital systems is optimised. This contributes to improving the quality, efficiency, and safety of clinical care that health organisations can provide and initiate the foundations for learning healthcare systems to be established.

Clinical productivity

Providing swift, simple, auditable, and secure access to electronic systems has resulted in time and efficiency savings. More time is available for clinicians to spend on patient facing activities, with more opportunities for the completion of time-sensitive tasks, which helps expedite the safe care, transfer, and flow of patients through organisations. There are also significant improvements in user experience, with reduced frustration in digital systems, improved clinical focus, smoother clinical workflows, and improved clinical safety.

Risk and information governance

At its core, poorly managed access to information systems leads to a poor flow of information within and between organisations. Without efficient access to digital systems, information input and output is compromised, which impacts the quality of information in circulation, affecting the quality of care provided, and can even increase clinical risks.

Many clinicians adopt workarounds to overcome what they consider to be obstacles in their workflows, which can result in a culture within the organisation where information governance (IG) best practices are compromised. These actions compromise the integrity of data and incrementally erodes trust in the information clinicians use for decision making and providing patient care.

By working to complement and enhance clinician workflows, rather than inhibit workflows, Imprivata OneSign helps organisations increase clinical productivity whilst reducing the impact of human factors in information security and improving both individual and cultural IG practices.

Operational benefits

With healthcare provision needed 24/7, constant access to digital systems is required for high quality continuity of care, particularly during out-of-hours activity. Imprivata OneSign provides a consistent experience and frees up IT resources from password management. This is also important when managing the fluctuating demand of temporary staff including the locum and agency workforce.

Due to the combination of robust auditing capabilities (improved transparency and accountability), this also streamlines any investigative processes, including during the review of any adverse clinical incidents. Technology that can seamlessly facilitate auditing and transparency of how clinical systems are utilised creates corner stones for learning and systems that can continuously improve.

Remaining at the forefront of transformation

Significant funding continues to be allocated to the GDE programme to continue the advancement of high levels of clinical staff engagement, the consistent presence of a clinical leadership team in health IT projects, and the use of quantitative methods for iterative clinical productivity benchmarking, including the mapping of clinical workflows pre- and post-digital transformation.

As Dr. Reed summarises: “The Imprivata offering was the best match to the requirements of BSMHFT. In addition, Imprivata has a proven international track record, their systems are used locally by other trusts, as well as by hospitals around the world. This gives a level of comfort that Imprivata has the resources to provide professional services that truly understand the complex healthcare setting.”

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The GDE programme provides a fantastic opportunity to modernise and establish world-class technological developments in healthcare, with fast followers helping accelerate such digital improvements across the UK. It also provides a business case justification through increased functionality and a roadmap for subsequent digital transformation while moving from one maturity level to the next to achieve their long term digital goals.

How NHSX will help

NHSX plans to work with experts in technology, digital, data, and cybersecurity to deliver on the Health Secretary’s tech vision and the Long Term Plan for the NHS.

NHSX’s responsibilities are as follows:

- Set national policy and develop best practice for NHS technology, digital, and data, including data-sharing and transparency
- Set standards – develop, agree upon, and mandate clear standards for the use of technology in the NHS
- Ensure that NHS systems can talk to each other across the health and care system
- Help to improve clinical care by delivering agile, user-focused projects
- Support the use of new technologies by the NHS by working with industry and via its own prototyping and development capability
- Ensure that common technologies and services, including the NHS App, are designed so that trusts and surgeries don’t have to reinvent the wheel each time
- Make sure that all source code is open by default so that anyone who wants to write code for the NHS can see what the NHS needs
- Reform procurement – helping the NHS buy the right technology through the application of technology standards, streamlined spend controls, and new procurement frameworks that support standards
- Set national strategy and mandate cyber security standards, so that NHS and social care systems have security factored in from the start
- Champion and develop digital training, skills, and culture so that NHS staff are digital-ready
- Deliver an efficient process for technology spend, domain name management website security

Having one organisation tasked with all of these deliverables will bring together policy, implementation, and change under one department for the first time.

Recommendations for planning, implementation, and evaluation of digital transformation in healthcare

These recommendations for successful planning, implementation, and evaluation of digital transformation in healthcare are based on evidence and experience of many projects and implementations:

- 1. Alignment of vision, aims, and objectives:** the case for change needs to be planned, understood, and agreed upon across strategically relevant areas within the organisation that can influence and champion success.
- 2. Ensure the business outcome for transformation and its impact is understood in relation to the needs of patients:** this maintains organisational focus and meaningful engagement from all areas of a specific service, hospital, and organisation.
- 3. A minimum set of Key Performance Indicators (KPIs) are identified using a measurable approach:** for example, SMART that are aligned to the needs of the health organisation.
- 4. Effective stakeholder identification and development of an engagement strategy:** ensure all stakeholders who will be directly and indirectly affected by the transformation are included and their level of influence in the success of the project is assessed.
- 5. Ensure an effective communication strategy is agreed upon and implemented for all stakeholders:** awareness of stakeholders and understanding their influence informs the type of content they will be interested in receiving regarding the change.
- 6. Agree on an appropriate clinical governance approach:** identifying and managing risk, using a well-accepted approach of:
 - Clinical effectiveness
 - Clinical audit
 - Education and training
 - Research and development
 - Openness
 - Risk management
 - Information management

This can inform how to maintain safe management of patients and staff: providing clinical accountability of the proposed change with structured visibility of issues, priorities, and transparency for the organisation.

The GDE programme provides a fantastic opportunity to modernise and establish world-class technological developments in healthcare, with fast followers helping accelerate such digital improvements across the UK.

The primary focus of transformational change needs to be people: patients and staff.

- 7. Ensure the proposed transformational change is capable of transitioning from being a new initiative to business as usual (BAU):** planning for how new processes and tasks are to be absorbed into an organisation and by whom.
- 8. Transformational change needs to be focused on managing learning:** consider how individuals will be prepared and have the necessary skills to be ready for the proposed change.
- 9. Plan for a period of operational transition:** where mitigating actions will be needed to account for individuals and the organisation learning new processes. Operational performance may decrease for a period of time during transition from new process to BAU.
- 10. The primary focus of transformational change needs to be people – patients and staff:** it's a human story that needs time inbuilt for individuals to accept change.

About Daniel Johnston

Daniel Johnston, MRes, RN, is Clinical Workflow Specialist and Clinical Safety Officer at Imprivata. He is a Registered Staff Nurse, specialising in Emergency Medicine at Cambridge University Hospitals NHS Foundation Trust and previously worked at Beth Israel Deaconess Medical Center, Harvard teaching hospital, and Moorfields Eye Hospital NHS Foundation Trust, and has international service improvement experience in Iceland, Denmark, and Haiti. Daniel combines his National Institute for Health Research fellowship background in human factors at Kings College London and APMG certified Change Management Practitioner training to partner with several Global Digital Exemplars and their associated Fast Followers on their digital transformation journeys.



About Imprivata

Imprivata, the healthcare IT security company, enables healthcare securely by establishing trust between people, technology, and information to address critical compliance and security challenges while improving productivity and the patient experience.

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