

Sherwood Forest Hospitals NHS Foundation Trust: Digital Strategy 2020 – 2025

Informed decisions, digitally connected care

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Introduction

My name is Chitra Acharya and I am a Patient Leader at NHS Nottingham and Nottinghamshire CCG. I am passionate about encouraging people to use digital services across the NHS and I am proud to be introducing Sherwood Forest Hospital's new five year Digital Strategy. With my lived experience as a carer for someone with complex medical needs, I know how it feels to experience and navigate health and care services across Nottinghamshire.

New advances in digital technology, like the NHS app, are life changing for my family – they will make my life so much easier, with the ability to book and manage my son's appointments online, order repeat prescriptions and view his medical history at any time. Being able to see all the relevant information and records about my son's health and care needs, contributing to decisions about his care, and benefiting from easy and manageable interactions with health and care providers all save time, effort and travel. I want to be able to share information with health and care professionals so they can see relevant information about my son's health and care needs, meaning that he always receives the best care without me having to repeat information over and over again. I also want to access understandable information about my son's condition and his care, so that I can stay informed about his condition and manage it well.

As a carer and an ambassador for the NHS App, I think it's absolutely right that SFH focuses on informed decisions and digitally connected care, to improve the health and wellbeing of all those in its community over the next five years.

Our Journey

The last five years at Sherwood Forest Hospitals has seen a wave of enthusiasm for the many benefits to both patient care and colleagues' experience from the use of digital technology. This has seen some highly successful transformation that has contributed to delivering our vision of Healthier Communities, Outstanding Care by making the best use of information and digital technology.

Through listening events and a detailed survey, clinical and non-clinical colleagues have been clear that patient safety achieved through joined up information and an outstanding user experience are key to the next stages in our digital journey. We believe that through the delivery of this strategy we will see fundamental changes in the way we experience and deliver care to our patients.

Our vision of Informed decisions and digitally connected care answers the questions our Healthcare Professionals have asked us, bringing clarity to the what, who, how, why and when of digital transformation. To this end we have been privileged to work with colleagues across the organisation and the Nottingham and Nottinghamshire ICS and it is with great pleasure that this Digital Strategy is presented to you.

Morgan Thanigasalam

Clinical Lead for Digital Innovation and Transformation – Sherwood Forest Hospitals NHS Foundation Trust

Spring 2020

Covid-19

Whilst the majority of this strategy was developed prior to the Covid-19 pandemic, the priorities and approach have not changed. Our response to Covid-19 has included the rapid deployment of digital technology to support more mobile working, remote consultations and a greater degree of flexibility in how different colleagues approach their work. There are changes that we want to keep and the accelerated adoption of new technologies is something that we should learn from. Rather than diverting us from the course set out in this strategy, the crisis and our response to it has underlined the importance of rapidly delivering Electronic Patient Records (EPR), improving communication and connectivity between colleagues, patients and the wider public, and using information more effectively. This is vital, as we seek to appropriately target messages and treatment to the right people at the right time, whether we are facing a pandemic or not.

We recognise that much has changed during the pandemic and the full long term impact of it is not yet clear. It is therefore vital that we regularly review this strategy, enabling us to adapt our plans in response to any shifting priorities and any new opportunities that arise. This may result in a change to the timescales set out in this strategy, with an expectation that more progress may be achievable sooner.

Background to our digital strategy

In April 2019 we launched our new vision and strategy, 'Healthier Communities, Outstanding Care'. This represented a renewed focus on working with partners to improve overall health and to ensure people receive the right support and care in their home, in the community and in hospital. The fourth strategic objective in our strategy explicitly includes the need to 'make the best use of information and digital technology'. This Digital Strategy sets out how we plan to do so over the next five years.

In addition to responding to our new Trust strategy, we need to take account of recent changes nationally, regionally and locally, all of which have a bearing on the approach we should take to digital technology and the use of information. In particular, we need to move away from the piecemeal purchasing and deployment of technology and fragmented information flows, instead taking a strategic, longer term approach that enables us to make the best use of information and digital technology. This includes setting a new vision, defining our priorities and being realistically ambitious about what we can achieve in the coming years. Our Digital Strategy, *Informed decisions, digitally connected care* does just that, reflecting feedback from the 400 detailed responses that were received during its development, from clinicians, colleagues and partners, alongside wider organisational engagement.

National and Local Context

The publication of the NHS Long Term Plan (LTP) has provided some helpful clarity about the national priorities for the NHS, and in some cases, the acute sector specifically. Indeed, the LTP states that 'all providers...will be expected to advance to a core level of digitisation by 2024'¹, covering clinical and operational processes. Currently, 'the ability to share records between hospitals, GPs, community pharmacies and care providers is inconsistent and people are frequently

¹ NHS Long Term Plan (2019). Available [here](#)

discharged from hospital without sufficient or accurate information about their care needs². We know that Longitudinal Health Care Records (LHCR) are going to be increasingly important for citizens and clinicians, creating integrated care records across primary, secondary, community and social care and ensuring patient information is available to clinicians at the point of need. As such, it is vital that we accelerate the roll out of Electronic Patient Records (EPR) based on nationally agreed standards to enable integration with the East Midlands LHCR.

We have a part to play in the expansion and use of Public Facing Digital Services (PFDS), including through the use of the NHS App, video consultations, electronic appointment management and giving citizens read/write access to their own records. As part of our commitment to transforming outpatient services, we will use virtual clinics to replace some follow-up appointments, reducing unnecessary attendances for patients and improving the efficiency of our services. We agree with the assertions in the LTP that too often, digital technology in the NHS can be a burden to staff. Instead, as the interim NHS People Plan makes clear, digital technology 'should enhance the lives of those who provide services'³ and support more productive and efficiency ways of working for clinical and administrative staff. We are therefore committed to improving the usability of our technology and infrastructure, to enhance the experience of patients and clinicians.

As well as ensuring clinicians can access relevant information about the patient in front of them, there is significant opportunity to gain deeper insight about demand for services and trends in our local population through using information at a macro level. As we work with our Integrated Care System (ICS) partners to analyse this information, we will be able to collectively better understand the needs of our local communities, planning our services more effectively and on a more informed basis. Gathering information digitally will be essential to this, as we support the wider ICS priority of Population Health Management.

Where are we now?

We are starting from a good base, having achieved significant success in our digitisation journey in recent years. For example, we have:

- Implemented Nervecentre e-observations and bed management modules, attracting national attention for our migration approach;
- Implemented and embedded e-rostering, winning an award for our impact on clinical and performance targets;
- Introduced automation of Social Care Assessment Notice referrals for all our sites, improving communication with social care colleagues, reducing delays and improving patient experience. This achievement attracted national attention and we were shortlisted for three awards;
- Replaced a number of paper-based assessments with digital ones;
- Been successful in obtaining national funding to support the deployment of Electronic Prescribing and Medicines Administration (ePMA) during 2020/21 and 2021/22;
- Increasingly automated previously manual processes for reporting information;
- Worked with partners to improve our collective analysis and understanding of patient activity trends;

² The future of healthcare: our vision for digital, data and technology in health and care (2018). Available [here](#)

³ Interim NHS People Plan (2019). Available [here](#)

- Invested in our data centre, servers, storage and networks, providing a strong foundation for our future digital requirements.

Benchmarking

It is recognised nationally and within our organisation that to maximise the benefits of information and digital technology, more investment is required. Indeed, the Chief Clinical Information Officer of NHS England stated in September 2019 that *“we are spending less than 2% in many of our organisations on our full digital infrastructure... any other similar size industry will be spending 4-5%.”*⁴ Following an extended period of underinvestment, in recent years we have spent between 2% and 3% of our turnover on the maintenance and implementation of digital technology. This has predominantly been invested in recovering lost ground and ensuring we have a robust platform on which to build.

It is challenging to compare our digital capabilities to other organisations objectively. Our use of e-observations and e-rostering is more advanced than some, whilst other organisations have gone further in their journey towards EPR. To help us further understand our progress objectively, we will be undertaking the HIMSS (Healthcare Information and Management Systems Society) EMRAM (Electronic Medical Record Adoption Model) evaluation. This will help us to better understand our level of EPR maturity against an internationally recognised scale. In addition, through the ICS, we are participating in the HIMSS Continuity of Care Maturity Model evaluation, which will assess the level of coordinated data and information sharing across the wider health community. Both assessments will identify areas for improvement and enable progress to be tracked over time.

Our vision

Our vision is that **informed decisions and digitally connected care** will become the norm. We will know we have been successful if:

- Citizens have the information they need, when they need it
- All colleagues have the information they need, easily accessible
- All colleagues have the right tools to do their jobs
- Reliance on paper is significantly reduced

⁴ <https://www.hsj.co.uk/technology-and-innovation/nhs-living-in-the-dark-ages-says-digital-chief/7025874.article>

Our strategy

To deliver this vision, we must achieve the following **objectives**:

1. Deliver Electronic Patient Records
2. Connect digitally with patients and partners
3. Support our colleagues
4. Unleash information bringing insight to our decision making
5. Improve our digital infrastructure

Vision: Informed decisions and digitally connected care

NHS
Sherwood Forest Hospitals
NHS Foundation Trust

Objectives	Approach	Outcomes
Deliver EPR	<ul style="list-style-type: none"> • Clinically led • Mobile first • Phased, modular and interoperable 	Citizens have the information they need, when they need it
Connect digitally with patients and partners	<ul style="list-style-type: none"> • Citizen ownership of health and care record • System-wide demand and capacity management • Clinical information shared across the ICS 	All health and care colleagues have the information they need, easily accessible
Support our colleagues	<ul style="list-style-type: none"> • Digital Transformation Unit for delivery and education • Right devices to meet individual needs • Prioritising user experience 	All health and care colleagues have the right tools to do their jobs
Unleash information for insight	<ul style="list-style-type: none"> • Innovation through AI and machine learning • Analysis that informs decisions • Self-service reporting platform for SFH and ICP 	Reliance on paper is significantly reduced
Improve our digital infrastructure	<ul style="list-style-type: none"> • Ensure consistent connectivity across all our sites • Up to date software and systems • Cyber secure 	

Foundations

Partnership

Working closely with partners to ensure information follows the citizen, supporting patient care, professional practice, coordination of services and population health management

Culture

Digital transformation is about people and not products, so behavioural and cultural change are vital

The following sections of our strategy explain why and how we will achieve these objectives, including timescales for specific projects where already planned.

Objective 1: To deliver Electronic Patient Records (EPR)

What this means

Electronic patient records (EPR) are ‘digital records of a patient’s health and care’ and include a broad range of information including ‘current treatments, test results, clinical notes, care plans, correspondence between professionals’⁵. The core functionality of an EPR includes:

- Electronic observations (e-obs)
- Ordering and viewing test results
- Digital correspondence with patients and clinicians
- Bed management
- Patient Administration System (PAS)
- ePMA
- Digital patient assessments
- Patients notes (captured and viewed electronically)
- Care plans
- Digital imaging and reporting

In delivering EPR, we will be building and expanding upon the digitisation that has already taken place in some areas of the Trust, by enabling all patient information (regardless of their location), to be captured and shared digitally.

Case for change

Currently, too much information about a patient’s health and care is recorded and stored on paper, or electronically on separate systems that are not interoperable, or that require separate logins. Conversely, using integrated electronic patient records allows a comprehensive set of information to be shared securely and efficiently between health professionals in support of patient care.

It is widely accepted that the key driver for projects that implement EPR functionality is to improve patient safety. Whilst digitisation brings wide ranging safety improvements, this is typically achieved as a result of improved compliance with clinical process and visibility of patient data. An example at this organisation was electronic observations, introduced in response to audit findings that showed significant error rates in completion, with error rates in the digitised areas reduced to zero. Efficiency improvements, essential for a sustainable NHS, are realised in two key areas – releasing time to care and reductions in paper. Time saved through digital versus paper based processes can be “reinvested” in patient care. Measurable benefits will be realised in how long it takes to login (to fewer systems) and record patient data, how much time is spent looking for information, including paper notes and how often handwriting is indecipherable leading to delays or incorrect treatment. Workload for clinicians is significant and time not spent on process improves the working environment and delivers higher quality care. Reductions in paper come with some significant revenue benefits and over time a dramatic reduction in storage requirements.

Finally, a full EPR, used effectively, will help reduce a series of risks that our organisation faces. This includes reducing patient safety risks, supporting our workforce in a context of constrained capacity and enabling effective partnerships with other organisations.

⁵ The King’s Fund (2016), ‘A digital NHS?’

Approach

Our approach to delivering EPR will focus on the following principles:

1. Clinically-led

Our requirements and procurement decisions will continue to be shaped by our clinicians. Clinical teams will lead the implementation of our EPR, ensuring processes are truly transformed. Our improvement and change management approach will be supported by Human Factors expertise, Quality Service Improvement and Redesign (QSIR) methodology and Ergonomics (see Objective 3 for further details). Taking this approach will ensure we adhere to all clinical standards.

2. Mobile first

Feedback from our clinicians tells us that it is vital to have accurate, complete and contemporaneous information available to them wherever they are. This requirement can only be met by equipping our colleagues with mobile devices through which they interact with the EPR. Patient data will be entered at the bedside, information communicated and received in real time with no delay or inaccuracies introduced through reliance on paper or static equipment.

Mobile devices are particularly advantageous because of their flexibility (i.e. a range of formats), usability and the availability of Apps. They are also consistent with people's everyday experience and practice and will provide a positive working environment that supports recruitment and retention.

3. Interoperability

Regardless of which supplier provides which functionality, it is vital that our systems are interoperable and interchangeable. Historically there have been significant challenges with multiple suppliers being unwilling or unable to share and display data flexibly, with significant resources required for enabling this. We need the flexibility to change modules as our requirements develop over time. Whilst reducing the number of systems will improve user experience and safety and reduce cost, we also know that we will continue to be reliant on bespoke systems in some areas, and we need to connect those systems with any core functionality. The significance of this becomes more apparent the further the sharing extends. Compliance with national standards such as Fast Healthcare Interoperability Resource (FHIR) is mandatory, with the expectation that patient data is shared across the ICS and LHCR.

4. Phased and modular

We are already implementing key elements of EPR functionality through our ePMA project, which builds upon our digital assessment implementation and the first phase of our electronic observations. Our journey towards a full EPR will involve adopting new EPR functionality in a phased way, module by module, and replacing older systems where appropriate. To reduce interoperability challenges and to ensure alignment with partners across the ICS, this is likely to involve working with a strategic supplier for a core set of EPR functionality. This has a further benefit that instead of using multiple systems (including paper), risking confusion as to which patient is the subject, all information is available in one place. Our approach will mean focusing our resources on

delivering a full future-proofed electronic patient record and as such we do not anticipate the widespread scanning of historic records.

Timescales

What we will do	By when
Complete implementation of e-obs phase 2 (ED and Maternity)	Q3 2020/21
Fully optimise bed management, capacity and flow	Q2 2021/22
Complete implementation of e-obs phase 3 (ICU, Neonates and Theatres)	Q4 2021/22
Patient assessments fully digitised	Q4 2021/22
Implement a new care pathways and workflows solution	Q4 2021/22
Review the future requirements for our Patient Administration System (PAS)	Q4 2021/22
Review the future requirements for Order Communications	Q4 2021/22
Implement ePMA	Q3 2022/23
Ensure all correspondence (patient and clinician) is digital	Q3 2022/23
Digitise patient notes (captured and viewed electronically for all pathways)	Q2 2023/24
Integrate digital imaging with EPR	Q2 2023/24
Integrate Infection Prevention and Control with EPR	Q2 2023/24

Objective 2: To connect digitally with patients and partners

What this means

Connecting digitally with patients and partners can include anything from online appointment booking to video conferencing and assistive technology that allow patients to manage their conditions at home, supported remotely by professionals. It includes giving people access to their health records, sharing x-ray images across organisations and providing clinicians with the information they need to care for the patient in front of them, regardless of where the patient previously received care.

We support the ICS vision to transform the way people experience and access health and care services across Nottinghamshire, by providing digital health tools and services that connect them to the information and services they need, when they need them. We want to enable people to access care in a convenient and coordinated way, promoting independence through the digital tools that people are familiar with in other aspects of their daily lives.

Case for change

Digital technology is increasingly the means through which people access services, be they healthcare or otherwise. Not only do people expect to be able to communicate digitally with professionals, there are significant benefits to them doing so. For example, using virtual consultations (where appropriate) reduces the need for travel and results in environmental, financial and convenience benefits, whilst giving patients access to their own records supports greater ownership of their information and their health. Assistive technologies, which are continually developing and improving, promote and support independence for patients.

Too often people can experience disjointed care as a consequence of organisational boundaries. Sharing information creates an opportunity to overcome this, leading to a seamless experience of health and care.

Approach

This objective will be delivered through focusing on the following areas:

Public Facing Digital Services (PFDS)

Through the NHS App, we will be supporting citizens to take greater ownership of their health management. People will be able to proactively access and contribute to their health records in a range of ways, including:

- Symptoms trackers;
- Signposting to services;
- Appointment management;
- Video consultation;
- Questionnaires (e.g. pre-operative assessment);
- Digital letters;
- Accessing test results;
- Maternity and child records.

Outpatient Innovation

The NHS App provides us with an opportunity to significantly transform how we deliver outpatient services. The NHS Long Term Plan highlights the need to do this, recognising that patient demand has increased, while clinical practice and technology have both developed. By responding to our patients' needs and delivering outpatient care in a different way, we will release capacity for those patients who absolutely need to be seen in a hospital setting. This will support shorter waiting times and reducing the burden of travel for many of our patients who will be able to access their care at home or in a community setting.

Capacity and Flow

Being able to effectively transfer a patient from one care setting to another is limited by each organisation's visibility of activity and capacity elsewhere. This leads to discharge delays, inferior patient experience and increased cost. This programme aims to create a real-time single view of health and care resource, to support the seamless transition of patients across the ICS. The flow of patients across acute, community, mental health and social care will be improved by:

- Exchanging bed capacity information in real-time across health and social care;
- Providing an exchange of clinical information on patients as they transfer;
- Visual displays of patient status and capacity information, presented in a single place.

ICS interoperability and Longitudinal Health Care Records (LHCR)

Using the learning from the Nottinghamshire Health and Care Portal (which allows some clinical information to be shared across the ICS), we will work with partners to ensure maximum availability of relevant information across all care settings, throughout the ICS and ultimately as part of the LHCR. To this end we will only use systems that have adopted national interoperability standards, ensuring our collective infrastructure is future-proofed.

Timescales

What we will do	By when
PFDS roadmap developed	Q1 2020/21
Digital correspondence with patients commence	Q3 2020/21
Secondary care data sharing infrastructure development	Q3 2020/21
System-wide demand, capacity and flow information available	2021/22
ICS interoperability fully functional	Pending ICS DAIT Strategy
LHCR	Pending LHCR strategy

Objective 3: To support our colleagues

What this means

We want all our colleagues to have the right tools to do their jobs to the best of their ability. Digital technology has the ability to reduce the administrative burden on our colleagues through automating processes (e.g. pre-populating digital forms), supporting decision-making (e.g. alerts to prevent duplication of medications) and providing clear information (e.g. structured fields and digital text, rather than handwritten notes).

In addition to having the right technology, it is vital that people have the right skills to use it. To this end we are committed to supporting our colleagues through training, education and development.

Case for change

It is well recognised that not having clear information impairs patient care and staff satisfaction. This lack of clarity results from handwritten notes, lost notes and information not being recorded, all of which lead to inefficiencies and significant frustration.

Our colleagues also tell us that as well as not always having the right tools, sometimes they are unable to use the technology they do have to the maximum of its potential. This can be as a result of insufficient training and education, or because the usability of the technology is sub-optimal.

Approach

The implementation and ongoing development of our digital strategy cannot take place in isolation. Fundamental to the successful delivery of this strategy and any digitisation project is the cultural and behavioural change, or as the Wachter Review (2016) described it, 'adaptive' change. To support this, and to ensure that realising the benefits of patient safety and quality improvements is central to our approach to digitisation, we will enhance our current clinically-led implementation model into a Digital Transformation Unit (DTU) that is aligned to our standardised approach to Quality Improvement. This will support our emerging Patient Safety Academy.

To support our colleagues, we will provide them with the mobile devices that they need to fulfil their role, whilst minimising the amount of equipment they are required to carry. Technology will be supplied with up to date and fit for purpose software and applications. Fundamental to this will be undertaking a project in 2020/21, led by a digital clinical fellow, to determine the optimal means of communication between colleagues. This will include reviewing the current intranet.

Feedback that we received from clinicians when developing this strategy is consistent with the national view relayed by NHSX, that multiple logins are both time-consuming and obstructive for clinicians reliant on a number of systems. Our approach to delivering an EPR will partially resolve this over the long term, but in the meantime, we will actively seek to adopt the national 'single sign-on' solution that has been committed to.

Timescales

What we will do	By when
Establish Digital Champions Network	Q1 2020/21
Establish DTU	Q1 2020/21
'Tap and go' delivered in urgent and emergency care	Q3 2020/21
Communications optimisation project (including intranet review)	Q4 2020/21
Ensure mobile devices are available in all relevant clinical areas	Q4 2021/22
Wider rollout of single sign on	Pending national solution

Objective 4: To unleash information bringing insight to our decision making

What this means

We have access to significant sources of data, which will continue to increase as we capture more information digitally. How we use this information is on a very broad spectrum, from artificial intelligence (AI) supporting clinicians and patients, through to the identification of cohorts of the population with particular needs or risk factors, or activity information being used to understand trends in behaviours across services and communities.

Case for change

Demand on our services is increasing year on year and resources are not keeping pace. Unleashing the potential of the information available to us is the primary way that we can overcome this challenge. The Nottinghamshire ICS is prioritising population health management as a means to address health inequalities and support the long term sustainability of health and social care. Information that we gather and share is going to be increasingly important for this.

Both experience and research tell us that the increasing demands for data and reporting (nationally and locally) mean that there is often little capacity to provide in-depth analysis that leads to true insight⁶. We need to continue automating processes to free up skilled colleagues who can provide this expertise.

Increasingly, research and innovations such as genomics will support targeted treatment, based on risk factors. To maximise the benefit of this, holistic information about an individual and their history is required.

Approach

Our approach to improving our use of information is based on four steps:

- Integrate – this is the range of processes required to combine data from a range of sources, including through automation to avoid copying data from one database to another. We have already made significant progress in this area and will build upon this across the Integrated Care Partnership (ICP).
- Visualise – this is presenting information in a way that aids understanding and usability, allowing relationships between datasets to be understood in an interactive way. We will encourage people across our organisation and beyond to interrogate and better understand the available information, through a visualisation tool.
- Analyse – analysts' time will be further released from manual tasks, so that they can use their expertise in analysing information to identify patterns and trends over time, correlations and connections between datasets, unwarranted variation and hypotheses of what may be causing identified trends.
- Insight – these hypotheses will be tested out with subject matter experts, enabling long term decisions to be made about services based on insight and evidence, rather than anecdote or expedience. We will do this across the ICP and ICS, actively playing our part in the

⁶ The Health Foundation, 2016: Understanding analytical capability in health care (<https://www.health.org.uk/sites/default/files/UnderstandingAnalyticalCapabilityInHealthCare.pdf>)

development and delivery of the ICS Data, Analytics, Information and Digital Technology (DAIT) strategy.

Importantly, none of the above can be done in isolation. Through working with our ICS and ICP partners, we have an opportunity to generate true insight, as we seek to understand patient and service need across our local population, rather than just the across the services we provide. Sharing information for population health management and supporting the ICS Data Analytics and Information and Technology (DAIT) strategy will ensure we are playing our part in addressing the specific needs of our local population. This includes moving towards a more proactive approach to healthcare, shaping clinical pathways and interventions around the specific needs of the communities and neighbourhoods we serve.

Over the coming years, machine learning and AI will support patients and colleagues in a range of areas, including through detailed algorithms supporting triage, outpatient scheduling and enhancing clinical decisions. Therefore, building on our innovation in areas such as breast screening, we will continue to work with East Midlands Academic Health Science Network (EMAHSN), ICS and industry partners to develop and exploit AI.

Timescales

What we will do	By when
Coproduce ICS DAIT strategy	Q2 2020/21
Develop proof of concept for visualisation platform, test and refine	Q3 2020/21
Develop suite of interactive SFH reports through a visualisation platform	Q2 2021/22
Develop suite of interactive ICP reports through a visualisation platform	Q4 2021/22
Share learning across the ICS	Q2 2022/23

Objective 5: To improve our digital infrastructure

What this means

Feedback from our colleagues makes it clear that getting the basics right is a priority. User satisfaction will only be high if the devices we use are built upon resilient, stable and secure foundations, with excellent connectivity.

Case for change

Our Digital Strategy survey highlighted the necessity of devices and equipment that are up to date, portable and meet the differing needs of each user. High levels of cyber-security are essential to maintain services and patient safety, whilst comprehensive and fast WiFi across all our sites will ensure colleagues and patients can access the information they need. Finally, objectives one to four and our mobile-first approach will only be achievable if our digital infrastructure is fit for purpose.

Approach

We have future-proofed our datacentre by using infrastructure that allows for modular increases in capacity and performance. This combined with an anticipated move towards a cloud-first strategy means that we have flexibility to provide the infrastructure that is needed, as our requirements change over time.

Our infrastructure needs to support the mobility of our colleagues, be that to enable working across sites, out in the community, across partner organisations or at home. During 2020/21, we will roll out up to date tools that support collaboration between colleagues. Over the next two years, we will replace the Wi-Fi at Newark and Mansfield Hospitals and increase coverage to address blackspots in King's Mill Hospital. The implementation of the new Health and Social Care Network (HSCN) infrastructure, the successor to N3, will provide the capability for all organisations to share the same circuits whilst maintaining organisational network security. It will enable an increase in bandwidth at Newark and Mansfield Community Hospitals, ready for our future digital requirements. We will ensure compliance with all relevant national policies and standards, including meeting the Data Security and Protection Toolkit (DSPT) standard by June 2021. We will adhere to Information Governance standards, including for the availability, security and integrity of information, acknowledging the complexities of access to records, particularly for vulnerable groups.

Underpinning our approach, is our multi-year capital programme, which will be reviewed and adapted based on changing requirements and the availability of funding.

Timescales

What we will do	By when
HSCN migration	Q2 2020/21
Complete rollout of Office 365	Q2 2021/22
Resolve WiFi blackspots at King's Mill Hospital	Q4 2020/21
Replace WiFi at Newark and Mansfield Hospitals	Q4 2021/22

Foundations of partnership and culture

As with our Trust strategy, our approach is built upon partnership working and culture. For this strategy to be successful, these foundations must be in place.

Partnership

This strategy is consistent with the emerging ICS DAIT Strategy and the strategic direction of our partners locally. Increasingly, our success in realising our vision of *Healthier communities and outstanding care for all* will be dependent on our ability to effectively work with our partners. Our approach to delivering our digital strategy is no different and we need to be working closely with our local, regional and industry partners to ensure relevant information flows across organisations to support patient care, professional practice, coordination of services and population health management. If we do this well, we will ensure patients' experience of care is seamless, regardless of the organisation providing the care, and that colleagues are equipped with the right technology and information to do their jobs effectively.

Culture

We recognise that the majority of digital transformation is about people and not products. If the change that this strategy advocates is to be successful, we must have a relentless focus on adaptive change i.e. behavioural, rather than simply technical change. This 'involves substantial and long-lasting engagement between the leaders implementing the changes and the individuals on the front lines who are tasked with making them work'⁷. Having this focus will ensure that the way we work is transformed, instead of simply digitising ineffective or inefficient paper-based processes. This combined with an emphasis on training and education will ensure we have the right culture and environment to be successful.

Financial requirements

Delivering this strategy will require significant financial investment to be made in people and systems (a multi-million pound commitment each year). We know that we cannot deliver the entirety of this strategy within existing resources and as such we will take more opportunities to access national funding (building on the successful EPMA bid), whilst prioritising our capital programme, reducing contractual commitments where possible and pooling our existing resources.

Conclusion

Over the coming five years, we have an opportunity to significantly transform the way we deliver care, communicate, support each other and use information. This strategy describes our intentions and our approach to doing this. We acknowledge that in the fast-paced world of digital technology we will need to be flexible and respond to new advances and opportunities. As such, we will regularly review this strategy and adapt accordingly, being proactive in identifying and sharing good practice.

⁷ Wachter (2016): Making IT Work: Harnessing the Power of Health Information Technology to Improve Care in England. Available at: <https://www.gov.uk/government/publications/using-information-technology-to-improve-the-nhs>

Appendix 1 – Glossary

Apps	Short for 'application'. Refers to a programme or piece of software, in particular on a mobile device
Artificial Intelligence (AI)	Technology operating in a way that would require intelligence if performed by humans
Assistive Technology	A system or product that helps someone with a disability, injury or restricted mobility to undertake tasks that would otherwise be difficult or impossible
Cloud-first	Considering in the first instance and primarily using systems and storage that are hosted and accessed remotely
Data Security and Protection Toolkit (DSPT)	A self-assessment tool that allows organisations to measure performance against 10 data security standards
Digital	Computer-based products, solutions, systems and approaches
Electronic Patient Records (EPR)	Patient health and care information recorded and available digitally
Fast Healthcare Interoperability Resource (FHIR)	The industry standard for exchanging information between systems
Health and Social Care Network (HSCN)	A national data network that allows for the safe, secure and reliable connectivity
Healthcare Information and Management Systems Society (HIMSS)	Not for profit organisation providing expertise, advice and internationally recognised measures of digital maturity
Human factors and ergonomic	Understanding and addressing how people and technology fit together, ensuring that systems and processes are suitable for the user
Integrated Care Partnership (ICP)	A partnership that brings together health and social care services to meet the needs of the local population
Integrated Care System (ICS)	A partnership across Nottinghamshire, consisting of three ICPs, setting the goals and strategy for health and care
Interoperable	Systems and software that can communicate, share data and work efficiently with one another.
Longitudinal Health Care Record (LHCR)	These enable an individual's health and care information to be shared as they move across the NHS and social care. In our region this is known as East Midlands One-Care
Machine learning	The process by which systems automatically learn from data / experience without human intervention
Mobile-first	Primarily using and considering mobile devices for capturing,

	using and interacting with information
NHS App	A mobile application through which citizens can access a range of NHS services
Population Health Management	Using information and insight to understand the needs of populations and target resources and interventions accordingly
Quality Service Improvement and Redesign (QSIR)	A proven quality, service improvement and redesign methodology, underpinned by tools, theories and techniques that can be applied to a wide range of situations
Self-service reporting	An approach that allows individual users to access, interrogate and generate reports to support their own analysis and insight
Single Sign-on	Provides a common authentication method across multiple systems
Tap and Go	Allows users to login and logout through tapping their smartcard on a reader

Vision: Informed decisions and digitally connected care



Sherwood Forest Hospitals
NHS Foundation Trust

Objectives	Approach	Outcomes
Deliver EPR	<ul style="list-style-type: none"> Clinically led Mobile first Phased, modular and interoperable 	Citizens have the information they need, when they need it
Connect digitally with patients and partners	<ul style="list-style-type: none"> Citizen ownership of health and care record System-wide demand and capacity management Clinical information shared across the ICS 	All health and care colleagues have the information they need, easily accessible
Support our colleagues	<ul style="list-style-type: none"> Digital Transformation Unit for delivery and education Right devices to meet individual needs Prioritising user experience 	All health and care colleagues have the right tools to do their jobs
Unleash information for insight	<ul style="list-style-type: none"> Innovation through AI and machine learning Analysis that informs decisions Self-service reporting platform for SFH and ICP 	Reliance on paper is significantly reduced
Improve our digital infrastructure	<ul style="list-style-type: none"> Ensure consistent connectivity across all our sites Up to date software and systems Cyber secure 	

Foundations

Partnership

Working closely with partners to ensure information follows the citizen, supporting patient care, professional practice, coordination of services and population health management

Culture

Digital transformation is about people and not products, so behavioural and cultural change are vital

Benefits of our Digital Strategy...

We are committed to making the best use of information and digital technology, as we seek to realise our vision of Healthier communities, outstanding care for all.

Much has changed nationally and locally in recent years, whilst the opportunities created by digital technology continue to evolve. Our new Digital Strategy, Informed decisions, digitally connected care, describes how we will maximise these opportunities, reflecting feedback from the 400 responses that were received during its development, from clinicians, colleagues and partners.

We have set a clear direction and ambitious goals for the next five years that will benefit the communities we serve, as well as colleagues across SFH and our partners. Through delivering this strategy, we will enhance patient and clinician experience, improve safety and efficiency, better understand the needs of our local communities and plan services accordingly.

We will target treatment effectively, give citizens convenient access to services and their records, and ensure relevant information follows each patient regardless of where they're treated. Importantly, we will adapt to new opportunities as they emerge over the coming years, learning from others and sharing our experiences and successes across Nottinghamshire and beyond.

