



one_{NBT}
Digital Vision

Four year view, ending in 2022



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Welcome

1: Foreword

Welcome to our “OneNBT Digital Vision”...

These are exciting times for NBT when you consider our exceptional facilities, and our expert workforce. Taking full advantage of digital to support our transformation is an irresistible opportunity to accelerate progress toward our ambitious long-term goals.

One of the most important components of our future success will be how well we embrace the challenge of digital, and I can see over recent years that there has seen a significant improvement in our technology, but there remains a long way to go.

We must ensure that our Trust is best placed to continue to deliver world class clinical services. This will only be possible if we have first-class digital infrastructure and solutions working hand-in-hand with a digitally skilled workforce. Every individual and department should have the ability and confidence to seize the opportunities of digital technology, and have easy access to high quality digital tools to support their work.

The Trust is currently refreshing its strategy and redefining our ambition for excellence by building on our strategic strengths, and tackling our underlying weaknesses. At its core this strategy will help create a leading digital environment that works for everyone. It is part of this Trust's ambition to be outstanding for patients, forward thinking for staff and a leading player in delivering healthcare across the region.

Publishing this strategy is just the start of a new phase of close engagement and collaborative working across our regional healthcare system. Delivering its ambitious vision will require a combined effort from us all to realise the considerable benefits of a digital future.

- Andrea Young, Chief Executive



These are exciting times for NBT... Taking full advantage of digital to support our transformation is an irresistible opportunity to accelerate our progress.

3

Executive Summary



3: Executive Summary

An ambitious strategy powering our digital future...

Our OneNBT Digital Vision is an ambitious strategy that presents the need for changing the culture through digitally enabled transformation combined with an opportunity for accelerated delivery and a focus on collaboration.

As a Trust with an annual turnover of £564 million, that is facing significant challenges over the coming years including sustained pressure from unprecedented demand for clinical services over the coming years, it is crucial that we use every available tool, including technology, to improve the safety, quality of care and efficiency of providing our services.

In a society that is rapidly embracing and adopting technology, the NHS cannot stand still. Our vision outlines how we intend to integrate digital solutions into every patient interaction and how, through clinical leadership, we will use these to improve the quality of care and experience of our patients and support our workforce providing safe and efficient tools.

Our road to embracing digital will see us remove digital friction, implement enabling technologies, ensure technology is aligned to roles, and enable high quality data at the point of care. Additionally we describe the digitisation of patient interactions, and the automation of related processes, enabling the sharing our data across the system. Finally we will reflect our growing wealth of data back to decision-makers at all levels of the Trust through compelling self serve BI.

Our Digital Vision:

*We will deliver a **Digital Trust**, providing **exceptional care, quality and safety** for our patients, **a single view of information** for our clinicians, with **collaboration** at our core..*

Our aim is not to simply “go paperless”, although this will be a by-product of digitisation, but to ensure that the information our teams require is available in the right place, at the right time and on the right device. With the information needed to hand our teams will be able to perform to their maximum potential, this leads to increased quality, safety and efficiency which will in-turn will drive down costs

The need to collaborate and interoperate with our local partners is also key to our digital vision, and reflects that we are part of a wider team of organisations and that patient care will be greatly improved if we all have sight of each others actions.

To quote the highly regarded Wachter report “... the one thing the NHS cannot afford to do is remain a largely non-digital system. It is time to get on with IT”; this is our response to that challenge.



Our Digital Vision at a glance...

Our Road to Digital

Eight steps to delivering digital transformation including removing digital friction, implementing enabling technologies and digitising core activities.

Digital Patient Vision

In the future we will have digitised all of the events and information that relate to a patients care into an easily accessible data store that can be shared with our BNSSG partners.

Digital Workforce

Building a digitally skilled workforce that is directly engaged in digital transformation, and growing our digital leadership capability through the NHS Digital Academy.

System Leadership

We will improve cross-organisation care and services by implementing a seamless joined-up technology platform that allows patient information to flow freely and securely.

Data Analytics

Our Business Intelligence strategy will revolutionise data and information consumption within the Trust, and will provide a leading example of robust data analytics across the system.

Technical Infrastructure

The foundation of our digital aspirations, requiring the transformation of our network, connectivity, and alignment of devices and technologies.

Technical Systems

A commitment to reducing system divergence, delivering solutions such as Personal Health Record, instant messaging, e-Observations, e-Prescribing, all designed with interoperability as standard

Digital Maturity

At the conclusion of the longer term elements of this strategy, the trusts digital maturity will be increased to HIMSS Stage 7 or an equivalent measure.

OneNBT
Digital Vision

HIMSS
EMRAM

4

Contexts



4: Contexts

North Bristol NHS Trust: Our vision and values...

North Bristol NHS Trust is one of the largest in the UK and a major trauma centre for the South West and has an annual turnover of £564 million. The majority of our services are commissioned by the Bristol North Somerset and South Gloucestershire (BNSSG) Clinical Commission group with other specialist services commissioned by NHS England directly.

We employ over 8,000 highly skilled, experienced and caring staff who aim to deliver excellent clinical outcomes and service experience whilst treating some of the most challenging medical conditions, in an increasingly complex patient population.

Our commitment is that each patient is treated with respect and dignity and, most importantly, as a person. We aim to deliver excellent clinical outcomes and a great experience for everyone who uses our services: exceptional healthcare, personally delivered.

Our vision is to be the provider of choice for patients needing our specialist care. We want to deliver innovative services with excellent clinical outcomes in the most appropriate setting for our patients. We are committed to maintaining a culture of openness, transparency and candour in all we do and especially in the way we communicate with our patients and their families.

Our Trust Board is committed to creating a strong, vibrant organisation that is at the forefront of healthcare delivery in the West of England.




 OneNBT


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The Vision for OneNBT

NBT takes pride in delivering excellence in acute care, and know that we are responsible for continuously improving what we do. As a Trust we work hard every single day to ensure beds are available when needed. We invest in our staff, to ensure they are equipped and supported in taking the right decisions, so that no patient experiences unnecessary moves or delays in their care. By focusing on all that is in our control we will create a planned and proactive approach to the use of our bed base.

Realising our OneNBT Vision

- We will value every hour a patient spends in hospital, ensuring that they are in the right bed at the right time and can return home as soon as possible.
- We will ensure empty beds every morning and eliminate delays in care, which will ensure we deliver the exceptional patient standards that we would expect for ourselves and our families.
- We will meet all patients' urgent care needs making sure there is always a bed available for them at any time of day, and so meeting the urgent care performance standards.
- We will guarantee delivery of planned surgical and interventional procedures and so enhance our place as a surgical centre of excellence.

We will use the full skills and capabilities of our staff, making sure that they are engaged, supported and equipped to work flexibly, centred on meeting patients' needs... We are all individuals within one team, within one division, within OneNBT!

- We will use the full skills and capabilities of our staff, making sure that they are engaged, supported and equipped to work flexibly, centred on meeting patients' needs.
- We will all be responsible for playing our part in delivering this vision through our actions and decisions.

By doing all of this we will maximise the opportunity of our specialities to deliver exceptional care and enhance our reputation as a Surgical 'Centre of Excellence'. We are all individuals within one team, within one division, within OneNBT!

Our Digital Journey To Date

We have delivered improvements to the working environment by creating combined digital and clinical teams that have delivered end to end solutions for our Breast and Emergency care services. As shown below, we have delivered discrete pieces of a digital jigsaw and in doing so gained valuable insight, learning and success that we will translate into an organisation wide digital solution for clinical care.

Flow

We manage the flow of patients through our Trust and monitor the status of our beds, in real time, using interactive digital whiteboards on every ward

Connecting Care

Our BNSSG partners are able to view core information regarding our patients, including correspondence, via a digital interface with the Connecting Care shared record system – and our clinicians are able to obtain a summarised holistic view of a patient, including primary care medication and GP notes. We use this in our Emergency Department to improve safety and flow.

Digital Notes within ED

Within our Emergency Department our patient notations are made digitally from end to end, contributing to safety and performance, including the automatic population of discharge summaries for electronic distribution via Connecting Care.



We have delivered pieces of the jigsaw, and gained valuable insight for a lasting digital vision.

Digital Archiving

We have improved paper note availability by investing in a digital archiving tool that allows our clinical teams to access previous notes without needing to wait for their physical return.

Digitised Results

The requesting of tests and receipt of results from our pathology and radiology teams has been digitised from end to end, reducing the number of repeat tests and assisting with diagnosis as all results are available to clinical staff.

Pilot of Personal Health Record

We have successfully piloted the use of a Personal Health Record for major trauma patients allowing them to have access to notes and information regarding their care after they have left the Trust.

Our Local Community

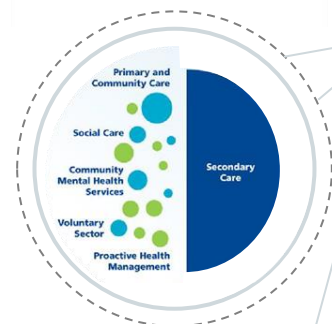
Healthier Together

With a population of nearly one million and a footprint that includes a large city and outlying towns, villages and rural locations, our citizens have a varied age profile similar to England as a whole. The region comprises of a recently merged single Clinical Commissioning Group, three local authorities, three acute trusts, three community providers and just under 100 GP Practices

The health and social care community involves around 20 members spanning acute, primary, community and social care all of whom have joined together to form the Healthier Together Board. Their aim is to transform and improve the care we provide to our citizens through delivering:

- **Convergence** across BNSSG of Patient Administration System (PAS) supporting, Acute Care, Mental Health and Community Care
- Developing a **shared infrastructure** plan across BNSSG Health Services to consolidate existing infrastructure
- **Interoperability** plans to enhance mobility, remote and flexible working
- Identification of opportunities for using current and future assets, resources and **co-location of support services** and facilities
- Building on existing data flows from Health & Care, enable the development of a **system wide information engine**
- The overall aim of Healthier Together is to provide an **integrated approach** to care provision across the entire region.

Our strategy has been developed to support this approach of system wide integration and to provide our citizens with similar digital experiences wherever they interact with the NHS in BNSSG.



Now



3-5 Years



5+ Years



National NHS Developments

In October 2014 the NHS outlined its five year forward view which highlighted the significant part that digital technology must play in improving the care of our patients and to the efficiency of operation. Components such as the provision of digital access for patients, wider sharing of information and the use of technology to speed up and reduce the costs of communication are all features of this strategy.

This was followed in August 2018 by the NHS commissioned report “Making IT Work: Harnessing the Power of Health Information Technology to Improve Care in England”, now commonly referred to as the “Wachter Report”. The reports findings and recommendations have been widely accepted across the NHS.

Internationally, the digitisation of hospitals has been proceeding for a number of years leading to the development of the Healthcare Information and Management Systems Society Analytics Electronic Medical Record Adoption Model (HIMSS EMRAM). Our vision will be to achieve a level 7 HIMSS rating over the succeeding years.

We have ensured that our digital vision is aligned with both the local and national strategies, also ensuring eligibility for upcoming national funding programmes such as Global Digital Exemplars for Integrated Care Systems.



NHS
England



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“Getting it [digital] right requires a new approach, one that may appear paradoxical yet is ultimately obvious; digitising effectively is not simply about the technology, it is mostly about the people”.

— Wachter Report, 2016

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Our Digital Vision



5: Our Digital Vision

*We will deliver a **Digital Trust**, providing **exceptional care, quality and safety** for our patients, a **single view of information** for our clinicians, with **collaboration** at our core.*

For Our Trust

We will enable the Trust to excel in its objectives through digital transformation, underpinned by high quality efficient services with safety at their core.

For Our Patients

By focusing on safety we will achieve higher quality, a good patient experience, strong performance and efficiency.

For Our System

We will provide leadership to the wider health system to drive forward collaboration and place the patient at the centre of everything we do across the community.

Digital Workforce

Trust-wide transformation, with digitally skilled and engaged staff.

Data Analytics

Compelling self-serve BI to support data-driven decision-making.

Technology

Reliable, streamlined digital systems, infrastructure, and services.

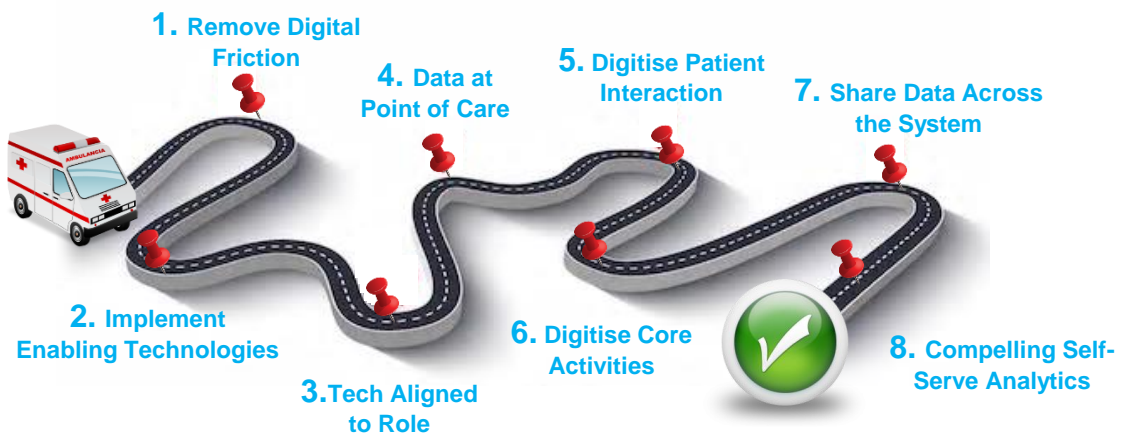
Supporting

Our Digital Ambition

Our ambition is to change the way digital transformation is approached, funded and delivered within our Trust, whilst also harnessing the knowledge and capability available in the local and national health communities.

5.1: Our Road To Digital

Making digital an integral part of our culture...



By embracing the strategy and making digital technology a key component of all organisational transformation, we will ensure it is part of every clinical pathway and contributes to the care given to, and safety of, our patients. Digital transformation will blend into our culture to become a foundation of change that leads to improved patient care and safety.

Our road to digital is characterised by the following key points on the journey:

1. Removing Digital Friction

We will remove the high levels of digital friction experienced by our teams when accessing patient information. We will remove multiple logons, passwords and slow authentication in order to reduce the fatigue and discontent that can build when using a high number of disparate systems.

Our strategy will be to reduce digital friction by using fewer systems and more streamlined access methods whilst retaining high levels of security.

2. Implement Enabling Technologies

IT Systems must improve our teams' ability to support patient care rather than be viewed as an administrative barrier.

3. Tech Aligned to Role

We will implement digital technology that allows carers to remain at the patients side when updating or viewing information. We will supply our staff with devices pertinent to the environments in which they are operating. Tools such as tablet computers, smart phones, and wearable devices will all have a place in our new digitally connected way of working.

4. Data at Point of Care

Smart graphical representations of patient data will be made available to clinicians at the point of care, this will improve the speed at which analysis can be made and improve the accuracy of decisions.



5. Digitise Patient Interactions

Our patients safety and care will also be improved as IT systems inform prescribers of potentially dangerous drug combinations whilst automatically tracking drug administration times and prompting nursing staff when medication is required. By using clear digital instructions and prescriptions, safety will be further improved as the reliance on interpreting hand written notes will be removed.

6. Digitise Core Activities

As the strategy progresses, the use of digital tools will become second nature; for example, the clinical observations of our patients will be a fully digitised end to end process. This will have massive administrative and clinical benefits by removing the need to manually collate and process paper charts across every bed, instead activity can be easily prioritised based upon recorded observational feedback.

Digitising core activities, such as observations, will lead to improved patient care, safety and reduced costs.

7. Share Data Across the System

At an organisational level, the success of our strategy will be proven when digital is regarded by our patients, staff and health economy partners as a key enhancement to every clinical pathway and is embedded as a way of working.

At an organisational level, the success of our strategy will be proven when digital is regarded... as a key enhancement to every clinical pathway and is embedded as a way of working.

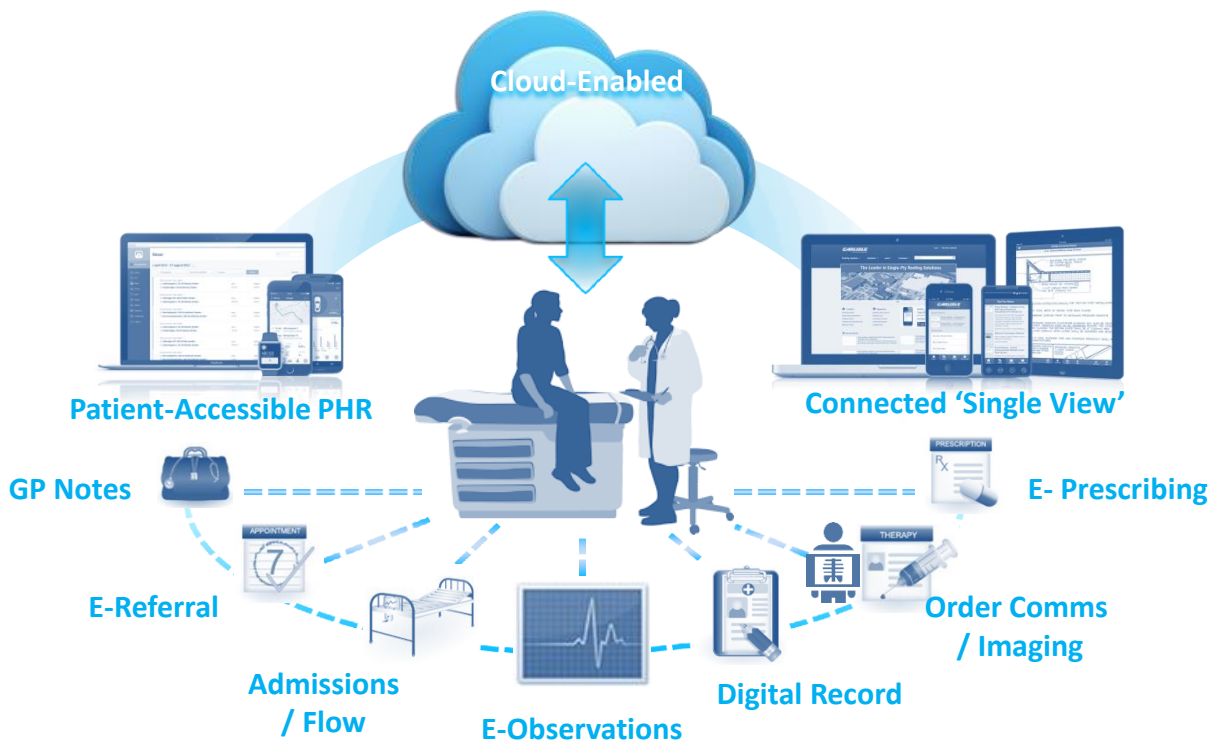
By sharing our information with partners and services across BNSSG and wider national bodies, we will occupy a leading role in shaping the future direction of healthcare within the region.

8. Compelling Self-Serve Analytics

The data we acquire throughout our daily activity will be proactively placed back into the hands of our clinicians, managers, leaders and decision-makers through compelling self-serve reports and dashboards. There will be a desire to get smarter through advanced data analytics.

5.2: Our Patient Vision

Our **digitally transformed future** healthcare vision...



In the future we will have digitised all of the events and information that relate to a patient's care into an easily accessible data store that can be shared with our BNSSG partners. Clinicians will be able to view all the requests and results relating to a patient, including images, not only from our Trust but also our partners in primary, secondary and community care.

By digitising the complete care pathway, from admission through medicines administration and onto discharge, patients will receive better and safer care as our teams will have a clear and easily understood picture of the patient's health.

The digital Trust will revolutionise the way our teams operate and will make technology work for them. With the patient at the centre of the data, we can include them in this digital revolution by providing access to their records and increasing engagement in their own health care.



Digitise Patient Interactions

In future, our patients must be able to interact and provide updates to our teams in ways more efficient than the existing physical appointment process. Some examples of future digital interactions are the ability to record information relevant to their health, view results, seek quick help using “webchat” type tools and to also hold online appointments.

Apps Integrated with Systems

We will improve the health and wellbeing of our patients by providing them with digital solutions and apps that are integrated and interoperable with the trusts systems. Personal Health Record facilities are a crucial enabler that will allow our citizens to view their treatments and information in a seamless way across the BNSSG community, regardless of whether this is from their local GP, a secondary care hospital or community health provider.

Accessible Records Across BNSSG

Our digital platforms will interoperate across the whole BNSSG community and provide patients with the ability to access their records and care plans wherever they are, allowing them to be more active participants in their own care

One Place for Patient Information

We picture a time when a patient will be able to, through a single app, see when their next GP appointment is due, when a community nurse will be visiting and when

Personal Health Record facilities are a crucial enabler that will allow our citizens to view their treatments and information in a seamless way across the BNSSG community, regardless of provider

their hospital consultant expects to see them. By providing citizens with straightforward access to this kind of information, we will allow them to have a clearer view of all NHS interactions which will in turn reduce the likelihood of missed appointments

Empowering Citizens

By providing our citizens with straightforward access to Personal Health Records, we will improve safety and efficiency across the NHS whilst also empowering them to take control of their own healthcare needs. Our digital revolution will simplify and empower our patients.

5.3: System Leadership

Leveraging capability in a connected healthcare system...

Working Together

Some of our key measures will be how we improve quality, safety and patient experience in our service. We will move to a highly interoperable, care-system wide, approach to technology solutions and away from disparate silo-based implementations. Only by working together and joining up our digital platforms will we be able to create a single view of the NHS for our patients.

Friction-Free Information Exchange

We will remove the digital friction between our Trust and other providers by implementing a seamless joined-up technology platform that allows patient information to flow freely and securely. By ensuring our information is available across the region we can improve the flow of patients into and out of our hospital. Community care providers will be able to use our data to automatically seek and allocate community beds based upon patient needs, reciprocally, they will be able to understand our bed-state and use this to assess if a patient would be better to remain in place with local care.

Servicing Our Health System Needs

Out of hours GPs will have access to up-to date information regarding the treatment given and recommended courses of action, allowing them to forward plan for potential home visits and arranging follow-up appointments.



We will remove the digital friction between our Trust and other providers by implementing a seamless joined-up technology platform that allows patient information to flow freely and securely.

Unifying Disparate Information

We will ensure that our staff and all those based within our health system have the ability to view a complete picture of the individuals they are caring for, rather than the current jigsaw puzzle that can have pieces missing.

Leading Across the STP

We will use our leadership positions on the newly formed STP Healthier Together boards as the platform to access the wider community. Through these boards and partnerships we will distribute what we learn



and include our wider partners in the changes we are making to share rich summaries of patient care.

Championing 'Connecting Care'

Working together as a single health community is vital to create a safe and holistic view of our citizens health. Our membership of the BNSSG Connecting Care partnership has resulted in NBT being an active provider of information into a clinical portal and data sharing platform. Along with other providers in the region, our teams are already able to view GP records, current medications, mental health information and correspondence.

Commitment to Sharing Information

The continued use of Connecting Care is vital to sharing information across the local health community and will continue to be used as our strategy progresses. By continuing to supply data from our systems, we will provide our partners with access to vital up to date patient information whether they have access to our core clinical systems or not.

Benefitting the Patient

Patient diagnosis and pathways will continue to be improved as more teams make use of the Connecting Care platform.



We will use our leadership positions on the newly formed STP Healthier Together boards as the platform to access the wider community... Working together as a single health community is vital.

6

Supporting Strategies



League of Friends

F

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6.1: Digital Workforce

Shaping a **digitally smart** workforce for the future...

We strongly believe that the use of technology and information will be crucial in resolving the challenges facing the NHS and our Trust. However, digital transformation should no longer be viewed as something created by “the IT department” and then delivered to the clinical and operational areas. Successful digital transformation cannot be made in isolation and requires people from all areas of the Trust to challenge their current ways of working and become part of the change. Accomplished change will only come through collaborative and creative working between the clinical and digital teams.

Simply automating the existing paper processes or digitally replicating paper forms may appear to be a rapid route to digitisation but this will not yield the productivity increases that the Trust requires. Instead, the fundamental changes will need to come from both disruptive technology implementations and process transformation; this will require input from all those impacted in patient care and operational support.

The trust’s recent successful implementation of Lorenzo into the Emergency Department can be attributed to the combined efforts of the digital and clinical leadership teams who took a key role in the project at all stages; from inception to delivery. This needs to be the model for all future transformations.

Building upon these foundations, we will radically change the way in which digital



The fundamental changes will need to come from both disruptive technology implementations combined with workforce transformation which requires input from all those impacted.

transformation is accomplished across our Trust and the STP. If we are to deliver on our ambitious aims to increase the digital maturity to HIMSS Level 7, or equivalent, then we must also develop our workforce.

Starting with digital leadership we will extend and mature the CCIO role to increase its importance and influence. We will invest time and energy into creating a team of well-informed clinical informaticians who will assist in the delivery of every transformation; every change we make must have clinical leadership and influence.



Digital transformation is felt at all levels of the Trust...

Board Sponsorship for Change

If digital working is to be at the heart of everything the Trust does, the board need to consider how this is to be delivered throughout the organisation. This requires a cultural change at board level to publically inform the organisation that this is part of its core business. We will look to the board to consider the impact of all developments within the Trust from a digital perspective, seeking feedback and advice from the clinical workforce through the CCIO team.

Workforce Engagement & Development

Our strategy will be to increase the number and spread of clinical and operational staff who are directly engaged in digital transformation. They should be appointed from across all professions including nursing, doctors and allied health professionals. We should ensure that our organisation takes advantage of the NHS Digital Academy and supports the formal development of its clinical and digital leadership by ensuring regular enrolments. This will have the benefit of providing a clear professional development pathway and of involving key decision makers within the national digital healthcare networks.

Rise of CCIOs & Clinical Informaticians

These influencers will create the digital leadership network and identify the clinical informaticians within the organisation.



This [strategy] requires a cultural change at board level to publically inform the organisation that this is part of its core business. We will look to the board to seek routine insight from the digital transformation teams.

Digital leadership roles will be pivotal to our success...

As recommended in the Wachter report and accepted for adoption as best practice by NHS Digital, we would expect around six individuals in digital leadership roles including CCIOs, CNIO and further leads from other professions

Instilling Purpose & Direction

The challenge of shifting to digitally led transformation should not be underestimated; our clinical digital leadership teams will be key in challenging the culture of the organisation and for creating convincing messages as to why change is needed.

Embracing Digital is Fundamental

We must overcome the opinion that the digital recording of clinical activities is optional or performed by others as an add-on to clinical practice. In the same way as electronic blood pressure machines are now accepted as standard practice, so too will we come to accept digital observational recording and notation as normal.



6.2: Data Analytics

Getting smarter with self-serve intelligence...

Our Business Intelligence strategy will revolutionise information consumption within the Trust, and will provide a leading example of robust data analytics across the system.

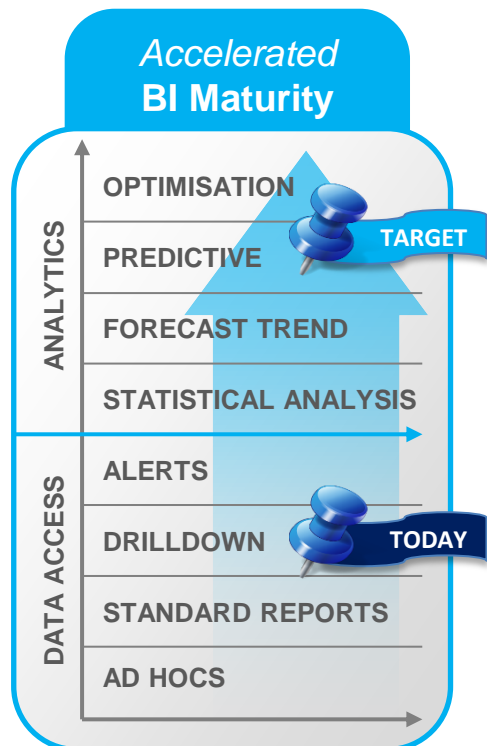
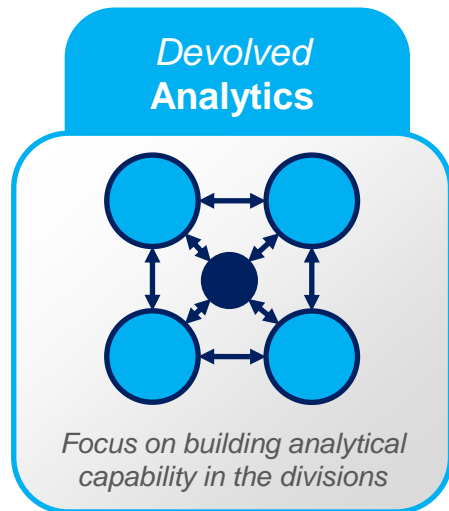
Self-Service & Self Sufficiency

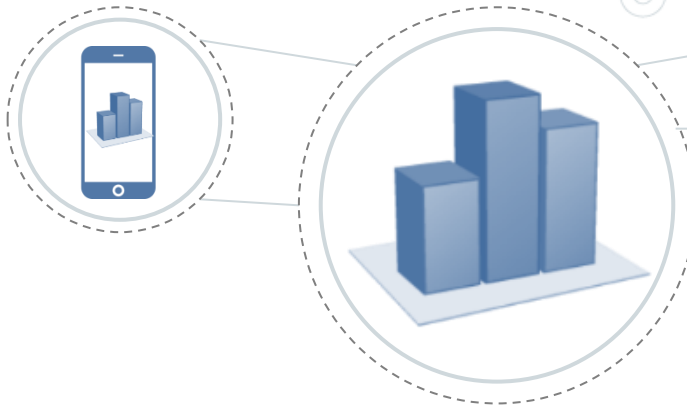
The cornerstone of our strategy is to embed self-service and self-sufficiency of analytics within our divisions. The divisions know the questions that need answering to drive change and improvement. Our intention is to place powerful interrogation tools and compelling dashboards in the hands of clinicians, analysts, managers and decision-makers, while decreasing the reliance on IT delivery resources.

We will revolutionise information consumption within the Trust.

Focus on Data Management & Quality

The retained BI function will ensure that data is engineered according to the most rigorous professional standards, with the latest thinking influencing the creation of increasingly sophisticated and user-friendly insight models. Quality and availability of data will be the core aim of the BI function, in order to ensure data is reliable when sliced and interrogated through different perspectives or organisational levels.





Key Data Analytics Objectives

Our solutions will enable us to:

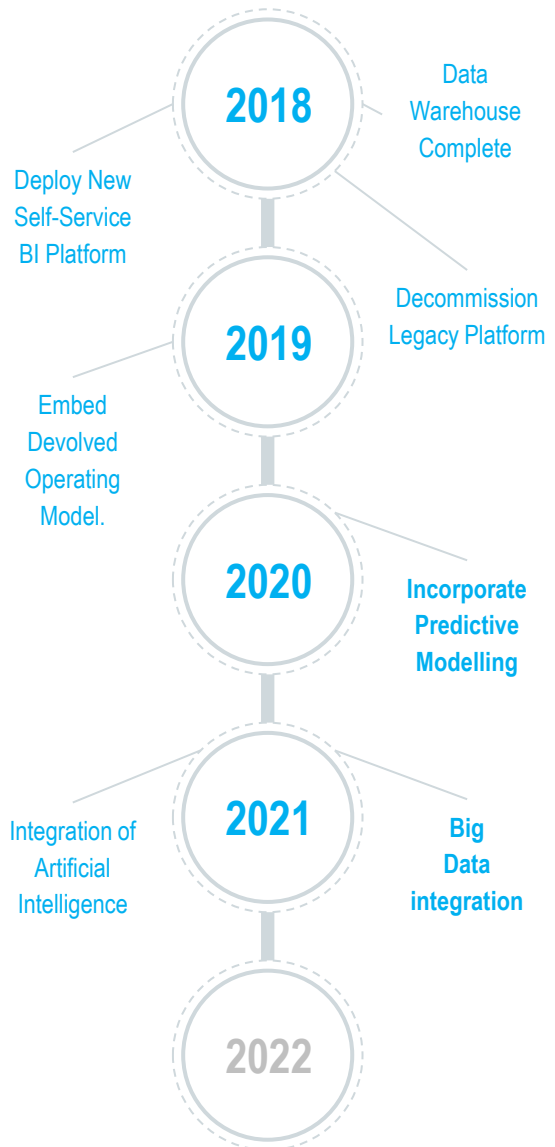
- Embed skilled Analysts within each division
- Reveal emerging trends internally and externally in the wider populous
- Highlight key issues in our data quality
- Provide detailed insight and analytics to clinicians, mangers and decision-makers
- Model the direction and performance of the organisation from multiple perspectives
- Support the collaborative use of data across the system, in conjunction of sharing best practice.

Step-Change in Analytical Maturity

Over the lifetime of the strategy we will transform our analytical maturity, embracing and driving changes that come with broader usage of data. We will provide better predictions, safety improvements, pre-emptive controls, usage of AI models, and greater confidence in our information-based decisions.

Getting Smarter

As our strategy matures, so will our usage and scope of the data we work with. We will no longer be constrained by only the data our Trust holds – we will look to predictive modelling tools, artificial intelligence and machine learning to boost our insight of Trust organisation and big data inputs. Sophisticated analytics will then become available on the consumer’s device of choice, enabling intuitive use of data.



6.3a: Technology: Infrastructure

The foundations of our digital aspirations...

Our digital infrastructure is currently undergoing a huge transformation in order to provide the stable foundations for our future aspirations. As our digital transformation moves forward, the dependency on devices that can connect reliably and at speed is critical; without this our staff and patients will become locked-out from the information they need.

This work is of crucial importance to the ongoing sustainability and security of IT services and the principle enabler for our long-term strategic aims. It is also the work that is least visible to patients and staff, operating “below the water line”, but powering our day-to-day activity.

Over the next 24 months the network across our entire estate will be replaced with a single integrated solution which has been designed to meet future expectations of growth in size and breadth of services. We will also look to leverage cloud-based approaches as our strategy and needs evolve.

A stable network will enable our vision of providing information to staff using the right devices for their situation. For example, teams will have tablets or other mobile devices which will provide them with patient observations and records to hand when performing ward rounds - minimising the need to leave the bedside and providing more time for patient interaction.

Outpatient clinics will have devices that allow our consultants to converse with patients whilst also viewing historical records with minimal delay, in addition to having the ability to rapidly record notations digitally. All of our staff will have the capability to use whatever devices are appropriate to their situation and location. For example smart phones will replace pagers, tablet devices will replace pens, paper and clipboards with traditional laptops or desktops being used when high degrees of input are required.





Enabling new ways of working...

Embracing the 'Internet of Things'

As we progress further, the use of Internet of Things sensors along with dedicated telemetry and tracking devices will provide data to improve the care given to our patients by providing real-time feedback of observations and locations.

Bring Your Own Device (BYOD)

The ability of staff to choose or bring their own devices and have secure access to our systems will become part of everyday life. The flexibility provided by allowing clinicians to configure devices to their liking also improves productivity and efficiency; we envisage a time when a clinic can be held in any room or location.

'Pop-Up' and 'Virtual' Clinics

With access anywhere we will be able to flex and operate "pop-up" clinics at locations outside of the Trust and take specialist care into community locations closer to our patients. In addition, the use of high speed network connectivity will allow us to hold online video consultations as an everyday event.

Renewed Cyber Security

To support this level of flexibility, we must also continue to invest in Cyber Security measures so that our Citizens data is kept safe. Our software will be maintained in line with supplier support and we will commence the rollout to the latest versions of desktop

Care of patients will be transformed by using systems that assimilate raw telemetry data into graphical formats that allow trends to be identified quickly and easily, often through use of internet enabled wearable tech.

operating systems and office productivity tools over the next 18 months.

Cloud-Based Solutions

The move to cloud-based Office 365 is more than a simple replacement of our aging productivity tools. As our data is moved into the cloud, our teams will be able to access the data, securely, wherever they may be. The highly collaborative nature of the platform will allow us to share our data, subject to information governance rules, with other providers and commissioners far more efficiently.

Implementing IT solutions that just work...

Virtual Collaborations

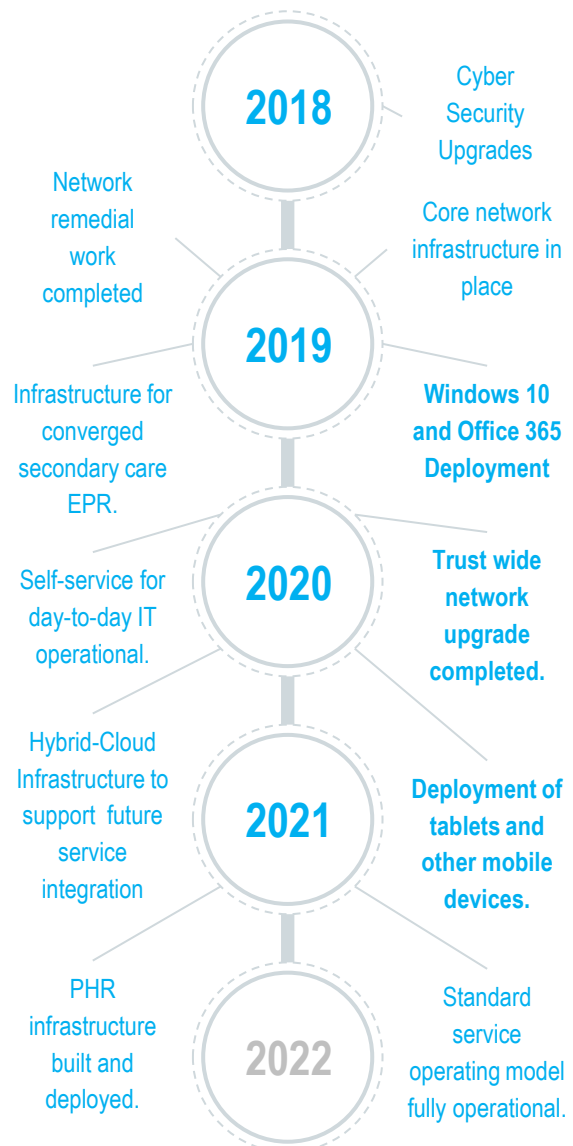
It will become normal practice to hold multi-disciplinary team sessions where everyone has access to the same information at the same time and are able to update this in real time. The safety and outcomes for our patients will be greatly improved as hand-overs will have an accurate and timely flow; gone will be the need to fax, print or email static documents. The need to fax will be completely eradicated from patient care in the first stage of the strategy.

Fit-For-Purpose Hosting

Whilst some services will benefit from cloud based solutions, there will be a continued need to host our own systems locally for performance and cost reasons. We will take a pragmatic approach to our future infrastructure requirements and use a hybrid-cloud methodology accompanied by the need to maintain pace, security and supportability, wherever our systems are based.

A Place Where IT Just Works

The underlying IT Service will be standardised into an industrial strength solution where things will "just work". When incidents and problems do occur, we will ensure there are skilled teams available to remedy the situation with minimal impact to the staff and patients.



6.3b: Technology: Systems

Standardised solutions with interoperability at their core...

From Divergence to Convergence

In order to move from our current silo-based system architecture, we intend to pursue and agree a robust plan for EPR development that will meet our patient, staff and collaborative needs. Our vision for the future will ensure there is a reduction in the amount of system divergence across the whole BNSSG region whilst simultaneously improving the standard of the EPR solution by taking advantage of lessons from the GDE programmes.

Focus on Solutions

Whilst we are committed to aligning systems, we will also ensure that we deliver solutions such as Personal Health Records, patient integrated instant messaging, electronic observations and a fully digitised medicines administration system.

Growing Capabilities via GDE

Looking to the wider geography and the possibility of adopting a GDE platform, we must ensure that solutions are interoperable with our existing valued software suites so we do not re-create things that currently work well. The move will also provide us with a single platform over which our patient information can be easily shared.

Single Master Patient Index

We will create a Master Patient Index across BNSSG as a basis for joining together data gathered across all organisations. This will allow our staff to view all patient records and interactions that have taken place. No longer will our patients be asked to recall what happened in other locations and nor



Our vision for the future will ensure there is a reduction to the levels of system divergence across the whole BNSSG geography whilst simultaneously improving the standard of the EPR solution

will our consultants be asked “What, you cannot see what they did”?

Agility, Alignment, Standardisation

By standardising on the same software solutions across BNSSG, our staff will no longer need to learn how to operate multiple interfaces. For people who work across various locations, it will greatly improve their ability to focus on patient care rather than wrestling with alternative systems. Opportunities for closer alignment of services between trusts will also emerge as the digital barriers are removed.

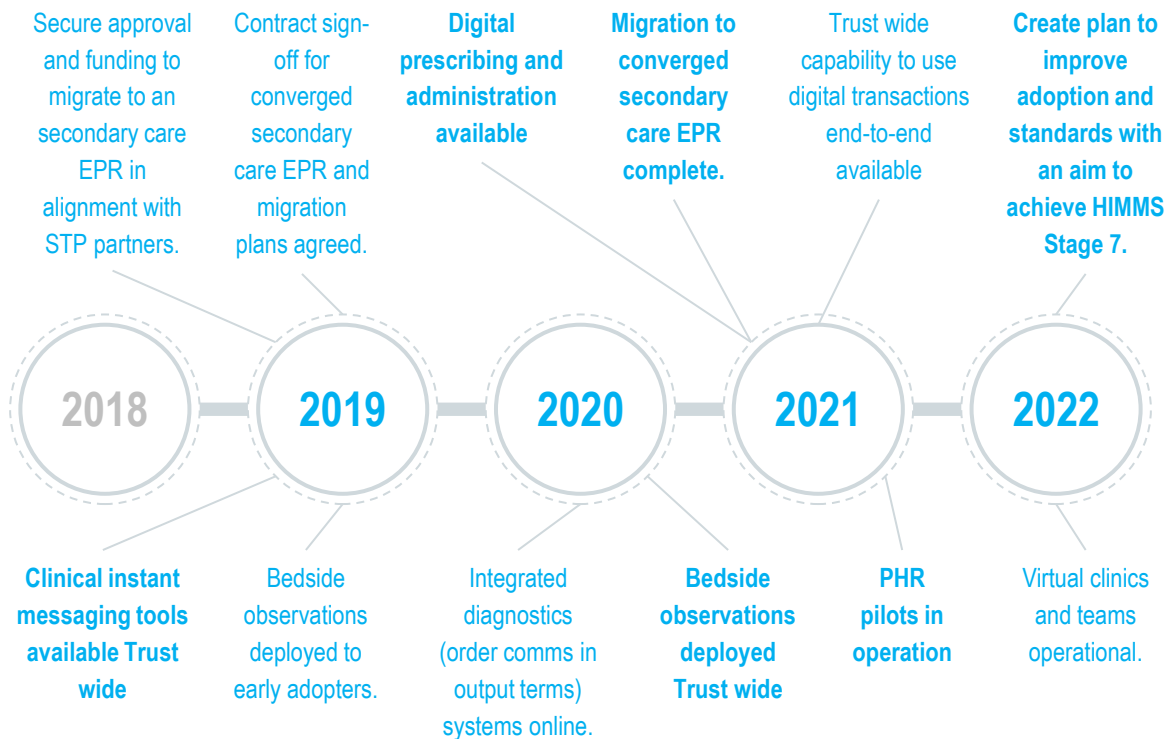
Efficient solutions enabling collaboration...

Efficiency Through Collaboration

With a single platform and collection of interfaces, the digital transformation teams in BNSSG organisations will benefit from each other experiences. By working more closely together, deliveries will become more efficient as we avoid solving the same solutions separately.

Solutions Right for NBT

Whilst we will be taking advantage of the GDE systems, our implementation will remain independent allowing us to seek different opportunities and solutions in the future, where this is in the interests of our patients or better clinical working.

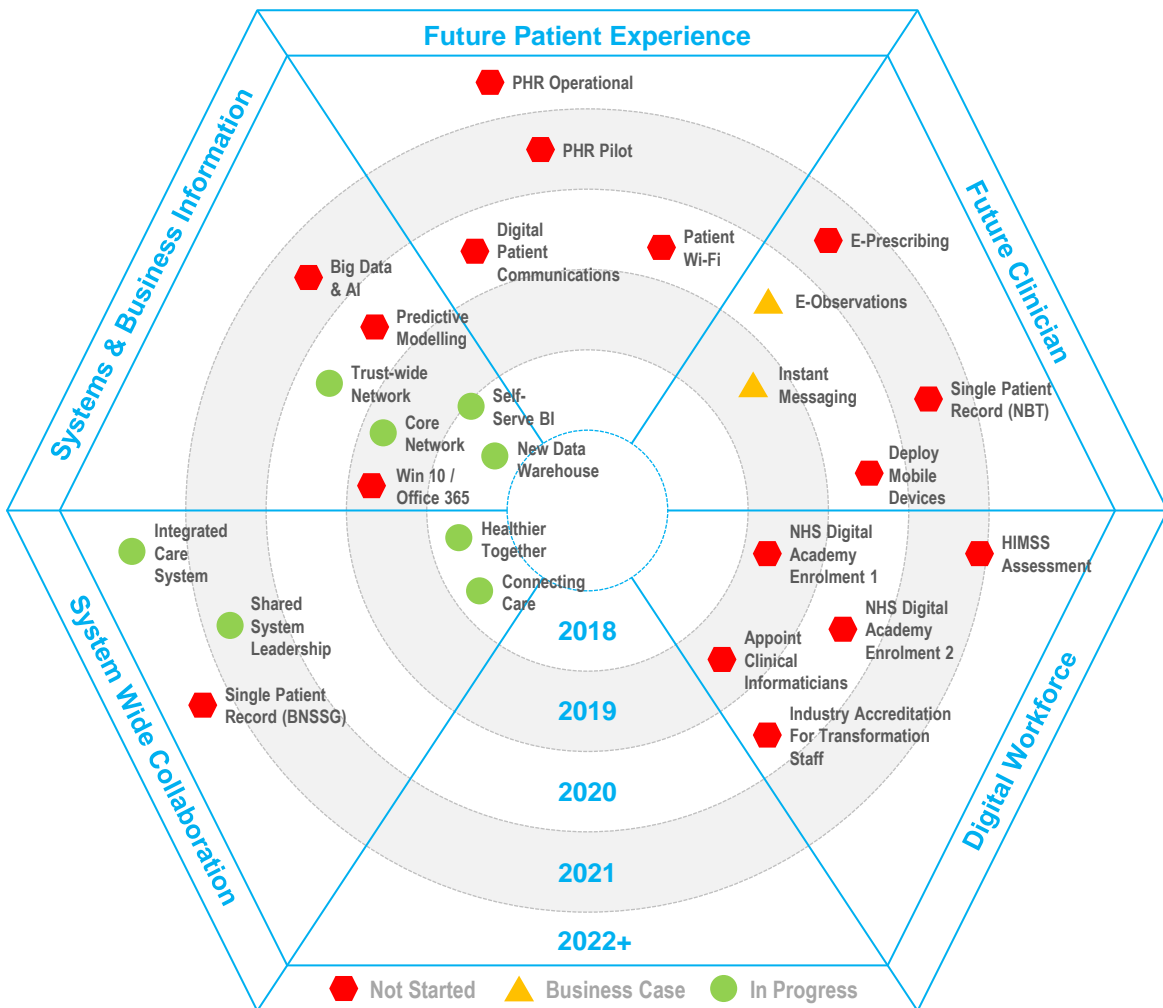


7

What & When?

7: What & When?

Key activities and timings within the digital strategy...



2018-2019

This period is characterised by key activities that will enable further phases of the strategy, notably the upgrading of our network, operating system and productivity tools. The data warehouse will move into production, and we will begin appointing key staff into transformation and academy roles.

2020-2022+

The early work on our foundations enables a consistent programme of delivery in our patient, clinician and system wide plans. New tools and services will begin deployment from 2020, including the pilot of a digital Patient Health Record, alongside E-prescribing.

8

How It Will Feel: Case Studies



8: How It Will Feel



Clinical perspectives on a digitally transformed organisation...

Emergency Department Doctor

As Emergency Physicians we have become used to rapidly assimilating patient information from multiple sources, including individually password-protected clinical software products. The risk of error and harm through misinformed decision-making is very significant and it is tremendously inefficient.

Fully inter-operable clinical systems are required. There also needs to be full clinical engagement in product design, development, and deployment.

This *is* achievable.

In the Emergency Department we are already reaping the rewards of strong collaborative working between IM&T and clinicians. We have redesigned our EPR and the digital and operational processes that support its use. Discharge summaries are now electronically available to GP's in seconds, we are now reporting against the Emergency Care Data Set at close to 100%, and the improved coding accuracy of Observational Medicine activity is resulting in a significant uplift in income. Digital clinical decision support is improving the clinical quality of the service we deliver and there has been no detrimental effect on speed of work.

With appropriate resource provision, clinical engagement, regional collaboration and pragmatism, we have a real opportunity to make sustainable positive change

We have become used to rapidly assimilating patient information from multiple sources... Fully inter-operable clinical systems are required.

Digital clinical decision support is improving the clinical quality of the service we deliver and there has been no detrimental effect on speed of work.

– **Ben Jordan**, Senior Consultant, ED



Clinical perspectives on a digitally transformed organisation...

Junior Doctor

Hello I'm Jacob, and I'm a core medical trainee. A digitally transformed NBT will allow me to view my patient's information in a single place and through a single user sign on for all of my services. Once I am online, I can access a comprehensive electronic patient record, I have EPMA information linked to discharges, together with pre-populated discharge summaries. Enhanced digital services helps to alleviate the day-to-day pressures of being a junior doctor! Digital transformation will help me to make more efficient use of my time, and the number of forms and systems I use can be minimised.

– **Jacob Roelofs**, CT2, Core Medical Trainee

Digital transformation will help me to make more efficient use of my time, and the number of forms and systems I use can be minimised

Ward Nurse

With digital technology, we could be monitoring our patients even more closely at home... which could identify any changes in their conditions quicker.

As Clinical Manager for the new Hospital at Home service, I envisage technology improving the communication channels between the service, our patients and the hospital. Hospital at Home is an alternative service that is enabling patients to receive their hospital treatments at home. With digital technology, we could be monitoring our patients even more closely at home; allow the patients to potential input their own measurements and progress which could identify any changes in their conditions quicker. Technology could enable a video interaction and avoid the need to come into hospital.

– **Lucinda Saunders**, Team Manager , Gate 34B

9

Our Digital Maturity

Our Digital Maturity

Our journey to a **digitally sophisticated** organisation...

Exceeding Expectations

Our staff and patients should have a digital experience that exceeds their expectations and is in line with the best digitally enabled businesses. Our health is more important than our wealth, yet we can already bank online and purchase insurance but must wait for a paper letter confirming appointments for major surgery.

Raising Our Ambitions

As an organisation we must accelerate and raise our ambitions to create a digitally lead Trust that exceeds the expectations of both our staff and patients. The HIMSS assessment framework provides an excellent benchmarking facility and outlines the levels of maturity hospitals should be striving for. With the existing high quality staff, buildings and facilities available to us, we will aim for the highest level of digital maturity which will create an improved safe, efficient and friendly environment for all.

HIMSS Maturity Index

At the conclusion of the longer term elements of this strategy, the trusts digital maturity will be increased to HIMSS Stage 7 or an equivalent measure.

Safety Through Digital Maturity

As a digitally mature organisation we will be able to shorten our diagnosis and treatment times whilst simultaneously creating a more efficient and cost effective organisation due to a large scale reduction in repetitive,



As an organisation we must... raise our ambitions... At the conclusion of the longer term elements of this strategy, the trusts digital maturity will be increased to HIMSS Stage 7 or an equivalent measure.

manual and resource intensive activities. Our digital solutions will increase safety whilst simultaneously reducing resource intensive activities.

More Than Just Electronic Paper

Our digital strategy will not simply look at existing processes and digitise them, it is important that as an organisation we embrace the change that technology can bring and use these to influence and disrupt our current workflows. We will introduce new developments, such as instant messaging tools, and empower our teams with the flexibility to use these in new and exciting ways.



HIMSS EMRAM

The days of waiting for call-backs from a pager request will come to an end as we replace them with instant secure messages containing photos and other media.

Familiar Tools, Freshly Implemented

Secure, medically focused, versions of consumer style tools, such as instant messaging, will be introduced to improve our organisations communication abilities leading to an increase in efficiency and faster service for our patients

Clinical and Operational Led Change

All of our staff will become well versed and understanding of the need to move from traditional practices into digital solutions; our clinical and operational teams will become the drivers of change and the identifiers of

service improvements with the digital teams being the enablers of transformation.

Digital As Standard

Our organisations clinical and operational leaders will encourage and lead the move to digital solutions by embracing the changes and supporting individuals as their jobs and working practices change. It is important that the use of digital technology is not seen as an optional requirement of patient care but a necessary component that will improve our patients outcomes.

Leadership Level Advocates

Our organisational leadership will encourage and support staff as we move from traditional solutions and introduce digital working at all stages of patient care.

| STAGE | HIMSS Analytics EMRAM EMR Adoption Model Cumulative Capabilities |
|-------|--|
| 7 | Complete EMR; External HIE; Data Analytics, Governance, Disaster Recovery, Privacy and Security |
| 6 | Technology Enabled Medication, Blood Products, and Human Milk Administration; Risk Reporting; Full CDS |
| 5 | Physician documentation using structured templates; Intrusion/Device Protection |
| 4 | CPOE with CDS; Nursing and Allied Health Documentation; Basic Business Continuity |
| 3 | Nursing and Allied Health Documentation; eMAR; Role-Based Security |
| 2 | CDR; Internal Interoperability; Basic Security |
| 1 | Ancillaries - Laboratory, Pharmacy, and Radiology/Cardiology information systems; PACS; Digital non-DICOM image management |
| 0 | All three ancillaries not installed |
| 0 | ballatnifn ton eahallanah eerrf ilA |
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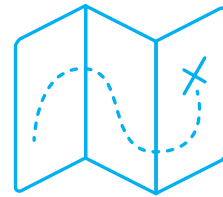
In Conclusion...

By pursuing our vision we will build solutions where the core aim is to benefit our citizens ahead of our organisations.

We will act with the interest of the local health economy at the centre of everything we do and ensure collaboration is built into our digital solutions from the outset rather than added as an afterthought. Collaboration will not stop at the technology as we will share our resources and learning to ensure that as a community we are not re-inventing solutions.

We will accelerate our digital transformation by assimilating existing best practice solutions into our organisation. As a Trust we will learn from implementations elsewhere in the NHS and beyond, recognising that others also have the skills and ability to create transformational solutions which we can assimilate into our operations.

Executing our strategy means quality, safety and patient experience will improve by using our digital solutions to create an environment in which the right information is available to our staff at the right time. By listening and co-designing our solutions with all stakeholders, we will provide innovative, intuitive and vastly improved ways of interacting with the NHS.



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