NHS
Sheffield Teaching Hospitals
NHS Foundation Trust

Digital, Data and Technology Strategy 2022-2025

PROUD TO MAKE A DIFFERENCE

SHEFFIELD TEACHING HOSPITALS NHS FOUNDATION TRUST

Version 1.6. 24 March 2023

Strategic Drivers 3
Sheffield Teaching Hospitals Context
National Context
Needs of Patients and Staff

Strategy Plans 7
Digital Missions
Strategy Framework
Pillars of Work
Underpinning Enablers

Strategy to Action 12
Delivery Roadmap: Pillars of Work
Delivery Roadmap: Underpinning Enablers
Governance Structure
Operational Structure
Delivering Successfully
Financial Investment

Measuring Success 19
Digital Maturity Assessment
HIMMS EPR Adoption Model
What Good Looks Like

The Expected Impact 23
Impact on Patients, Staff and Partners
Example Future State Pathway
Future Maternity Journey

Beyond This Strategy 27
Strategic Planning Cycle

Making a difference, the next chapter.

Effective use of digital tools and services to support achieving our priorities.

This Digital, Data and Technology (DDaT) strategy is about the effective use of digital tools and services and is a key part of delivering the trust's strategic priorities. These are to; deliver the best clinical outcomes, provide patient centred services, employ caring and cared for staff spend public money wisely, deliver excellent research, education and innovation and create a sustainable organisation. This strategy sets out our digital ambition, across the breadth of adult community, primary, secondary and tertiary healthcare services, for at least the next five years. There is a clear focus on delivery over the next three years as we implement a new electronic health record system and build upon the opportunities this provides. I am confident that this strategy lays out significant strengthening of the digital foundations across the trust. The strategy focuses on realising the benefits of investing in a new electronic patient record and all that goes with it.

Delivery will improve patient care by ensuring patient records are accessible up-to-date and make use of the latest technology to guide safe and effective clinical care. Opportunities to better personalise and deliver preventative care will be increased. Digital tools and services will be intuitive and easy to use, supporting staff with the information they need to work effectively for patients. An effective digital offer will improve efficiency of care and reduce waste. The accessibility of information and the ability to join that information up will increase the opportunities for innovation and research. It will also enable us to work more effectively with partners across the health and social care system. We will better understand the health and care needs of our patients, and how to design services and pathways within the trust and with our health and care partners. Also, our enhanced digital capability will provide greater opportunities to support innovation and technological development across Sheffield and beyond.

All these developments should reduce waiting times, reduce length of stay, embed best practices, deliver increased care closer to home, improve the effectiveness of care, reduce clinical risk and do this in the most cost effective way.

Through this strategy, we increase our commitment to digital inclusion, and will support patients and staff to adopt the digital tools and services we deliver, whilst ensuring we accommodate the needs of those for whom this is not viable or for whom compliance with accessible standards is essential.

Our digital ambition is clear. The investment we make in digital tools and services will fundamentally underpin the development of our services, the experience for patients and staff, and how we work with partners - all with the aim of improving the health and wellbeing of our population.

David Black, Medical Director (Development)

Strategic Drivers

Key strategies and identified needs that have informed this strategy.

Sheffield Teaching Hospitals and South Yorkshire Context

Sheffield Teaching Hospitals NHS Foundation Trust (STH) is one of the UK's biggest providers of integrated hospital and community-based healthcare. We have a history of delivering high quality care, training and developing, high calibre health professionals clinical excellence and innovation in medical research, providing a comprehensive range of local and tertiary services to over 584,000 residents of Sheffield, and wider across South Yorkshire, Mid Yorkshire and North Derbyshire and also some highly specialist services to all parts of England. Our vision, mission, strategic aims and values have guided the organisation's success over many years.

Our Vision

To be recognised as the best provider of health care, clinical research and education in the UK and a strong contributor to the aspiration of Sheffield to be a vibrant and healthy city region.

Our Mission

We are here to improve health and wellbeing, to support people to keep mentally and physically well, to get better when they are ill and when they cannot fully recover, to stay as well as they can to the end of their lives. We aim to work at the limits of science – bringing the highest levels of human knowledge and skill to save lives and improve health. We touch lives at times of basic human need, when our care and compassion are what matter most to people.

Our Strategic Aims

- Deliver the best clinical outcomes
- Provide patient centred services
- Employ caring and cared for staff
- Spend public money wisely
- Create a sustainable organisation
- Deliver excellent research, education and innovation

Our Values

- Patient-first: Ensure that the people we serve are at the heart of all that we do
- Respectful: Be kind, respectful, fair and value diversity
- Ownership: Celebrate our successes, learn continuously and ensure we improve
- Unity: Work in partnership with others
- Deliver: Be efficient, effective and accountable for our actions

Delivering Our Organisational Strategy

'Making a Difference: The next chapter' is our organisational strategy for the period 2022 to 2027. It identifies this Digital Strategy as a key enabling strategy to delivering the identified priorities for action, and has provided the basis for the planning within this document. A particular focus has been placed on priorities for action which include reducing wait times across the organisation, improving ambulance handover, reducing length of stay, reducing unwarranted variation and embedding best practice.

Integrating Health and Care Across South Yorkshire

The South Yorkshire Integrated Care Board (ICB) consists of the four Integrated Care Partnerships of Barnsley, Doncaster, Rotherham and Sheffield. Each delivers their own Health and Wellbeing strategies, and Doncaster and Rotherham have also developed their own Digital Strategies. The ICB Digital Strategy, covering the period 2021 to 2024 acts as an umbrella strategy. It aims to' loosely couple' all digital delivery, raise digital maturity and support innovation across South Yorkshire. This strategy seeks to align with the ICB Digital Missions of Digital Services for our Public, Enabling the Workforce, delivering Integrated Digital Health and Care and extending use of Data and Intelligence.

Our Operating Locations

As an integrated provider of healthcare services, STH delivers a comprehensive range of adult community, primary, secondary and tertiary healthcare services. Our hospital-based services are delivered across the following locations: Northern General Hospital, Royal Hallamshire Hospital, Charles Clifford Dental Services, Jessop Wing Maternity Unit, Weston Park Cancer Centre and Networked Services.

National Context

NHS Long Term Plan (LTP)

In January 2019 the NHS Long-term Plan was published to provide a new service model for the 21st century as medicine advances, health needs change and society develops. It recognises that the NHS has to move forward continually so that in 10 years' time we have a service fit for the future. The Plan emphasises the importance of Integrated Care Systems in engaging with all the healthcare organisations in a geography to ensure collaboration and integration of care. It recognises that technology underpins the future of health and care services, setting out the critical priorities that will support digital transformation and provide a step change in the way NHS providers care for patients.

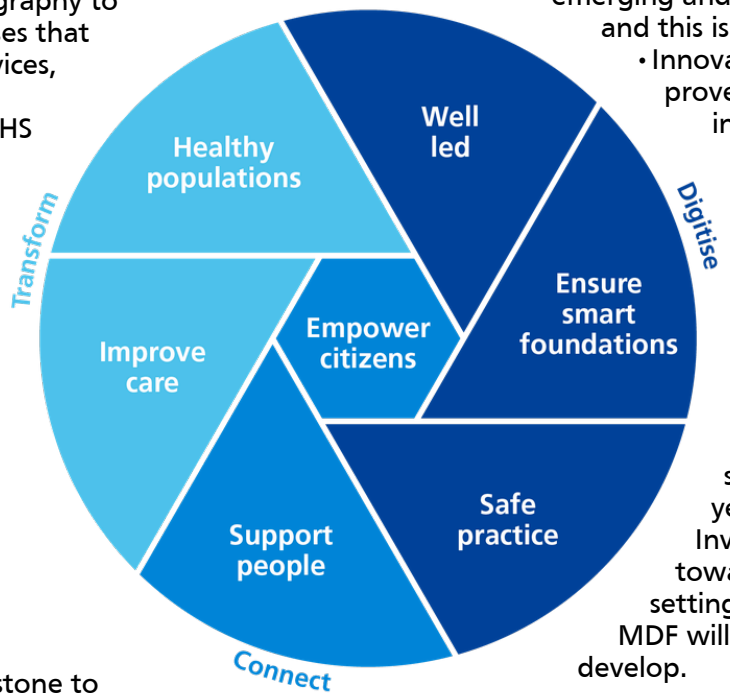
What Good Looks Like Framework (WGLL)

The WGLL framework was published during 2021, and builds on good practice to provide guidance for the safe and secure digitisation of health and care services in support of the LTP aspirations. The framework provides success measures in seven areas (illustrated in this diagram) and will be supported by tools setting out criteria in each of area, against which we can assess our digital maturity to ensure all care systems have a core level of infrastructure, digitisation and skills.

NHS Minimum Digital Foundations (MDF)

Building on the WGLL framework, the Minimum Digital Foundations has been published, and is a key stepping stone to delivering the extent of WGLL, in support of the LTP. The MDF identifies eight elements of maturity relating to the digitisation of care records, specifically: Records and Assessments, Transfers of Care, Diagnostics Management, Medicines Management, Decision Support, Remote and Assistive Care, Asset and Resource Optimisation, Business and Clinical Intelligence. Across each of these categories, the MDF has been split in to three areas related to:

- Foundational elements: The foundational capabilities set the bar for a minimum level of digital maturity for the levelling up agenda and there is a well-established market offering (although organisations should use this as a base to deliver transformation and future innovation).
- Transformational elements: Where some example implementations are present in selected organisations, but this is not widespread. There is an emerging and scalable market offering for these functionalities and this is what all advanced Trusts should aim to achieve.
- Innovation elements: such technologies have yet to be proven at scale but hold promise. Such areas should be included in future development plans of digitally mature organisations, with support from the market to develop such solutions, including developments to support future national requirements.



NHS Provider plans, including the plans of STH, to deliver the MDF should include ambitions to consolidate purchasing and deployment of digital capabilities, at ICS level where possible. Investment will be available from NHS England/Improvement to support systems in the delivery of the MDF for three years from FY 2022/23, and linked to ICS Digital Investment Plans. Priority funding will be directed towards the least digitally mature across all services and settings based on digital maturity. It is expected that the MDF will evolve and iterate as the national expectations develop.

This strategy seeks to align with the LTP, the WGLL framework and the MDF ambitions. Consideration of digital delivery plans and investment will also be based on these tools.

Source: NHS England/Improvement Frontline Digitisation.

Figure: The seven success measures of What Good Looks Like

NHS England
Department of Health & Social Care

The Needs of Patients and Staff

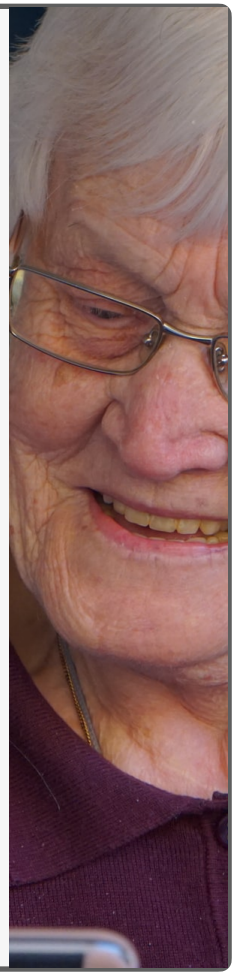
Our patients require us to better enable them to take an active role in managing their health and wellbeing, they require the ability to interact with us digitally, to access and contribute to their health and care records, and must have confidence in how we manage their data. Our staff, across community, primary, secondary and tertiary services need access to the right information at the right time, via digital tools and services that are fit for purpose and that support us to deliver the best clinical outcomes.

Our Patients

We're focused on delivering the best clinical outcomes through delivering patient centred services.

To help us achieve this from a digital perspective, our patients can expect us to:

- develop a single, coherent strategy, in conjunction with the South Yorkshire and Bassetlaw ICS, for citizen engagement and the delivery of citizen-facing digital services that have been led by and co-designed with citizens.
- make use of national tools and services (the NHS website, NHS login and the NHS App), supplemented by complementary local digital services that provide a consistent and coherent user experience.
- use digital communication tools to enable self-service pathways such as self triage, referral, condition management, advice and guidance.
- ensure that citizens can access and contribute to their health and care data.
- ensure that citizens have access to care plans, test results, medications, history, correspondence, appointment management, screening alerts and tools.
- have a clear digital inclusion strategy which incorporates full compliance with accessible information standards, to ensure digitally disempowered communities are better able to access and take advantage of digital opportunities.

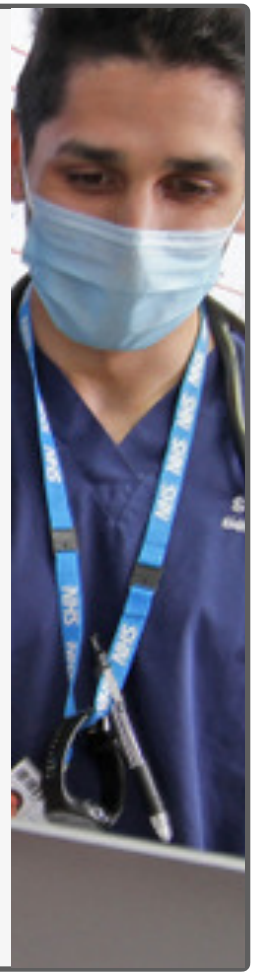


Our Staff

Our caring and cared for staff deserve an environment in which they can deliver the best clinical outcomes, with wellbeing at the heart.

To help us achieve this from a digital perspective, our staff can expect us to:

- ensure that we deliver digital tools and services in conjunction with staff.
- place our users at the centre of specification, design and implementation of the digital tools and services we deliver.
- ensure that our digital tools and services are intuitive, easy to use and configured in line with optimal workflow to enable the effective and efficient delivery of care, without distraction.
- provide staff with the information they need safely and efficiently at the point of care delivery.
- support all staff to attain a basic level of data, digital and cyber security literacy, followed by continuing professional development.
- create and encourage a digital first approach and share innovative improvement ideas from all staff supporting the delivery of health and care services across STH.
- support our staff to work flexibly, remotely, and across multiple locations.
- provide access to digital support services 24 hours per day, resulting in high first-time fixes.



NHS
Sheffield Teaching Hospitals
NHS Foundation Trust

Strategic Plans

Digital, Data and Technology missions for the next five years, and delivery plans for the next three years.

Digital, Data and Technology Missions

Fundamental to this strategy are our DDaT Missions. They align with the Trust's Strategic Aims and provide the basis for determining our delivery plans, and for appraising digital investments. They are intended to have permanency beyond the term of this strategy and will provide a basis upon which to build future plans.

Deliver the best clinical outcomes

Deliver organisational and clinical strategies.

Investment in digital tools and services will support us to deliver organisational-level priorities, and support us to deliver the most effective and efficient care to our citizens and patients.

Spend public money wisely

Deliver value for money and collaborate across South Yorkshire.

Appropriately appraise investments to ensure best value, and identify opportunities to collaborate with system partners to re-use and expand existing investments, where this is advantageous.

Provide patient centred services

Engage citizens and patients in the implementation of digital services.

The views of citizens and patients will be taken into account during the specification, procurement, design and implementation of patient-facing digital tools and services.

Create a sustainable organisation

Invest in technology which supports our focus on sustainability.

Assess impact on the environment and opportunity for societal benefits, which support us to create a sustainable organisation for the benefit of citizens in Sheffield.

Employing caring and cared for staff

Provide staff with the right tools and support for the job.

Place staff at the centre of investment in digital tools and services to ensure we take a user-centred approach, and are fully informed of the real needs of users, including how we support end users.

Deliver excellent research, education & innovation

Enable new possibilities within research, education & innovation.

Ensure data can be used appropriately in support of research, education and innovation strategy and initiatives, both internally and externally, to drive more effective and efficient care delivery.

Strategy Framework

We recognise the need to change the way we deliver digital in order to support the achievement of our strategic priorities for action, and to deliver in line with our DDaT Missions. We will structure strategic digital delivery into Pillars of Work (strategic programmes) which have clear objectives, and Underpinning Enablers (focused business as usual activity). Pillars of Work will link closely with Organisational Development plans, to deliver as part of integrated programme teams.

Pillars of Work

Digitising Health and Care Records

Supporting the transformation of care across all services, focused on improving effectiveness and efficiency, to deliver the best clinical outcomes

Digitally Enhancing Patient Experience

Developing how we interact with citizens and patients in support of new models of care, the delivery of patient centred services, and digital interaction

Digitally Enhancing Staff Experience

Developing how we interact with and take care of staff across all services to support us to employ caring and cared for staff

Supporting Integrated Care

Proactive engagement across Sheffield, SY ICB and beyond to enhance the sharing of health and care records in support of new models of care

Data Informed Innovation

Increasing the proactive use of data in transforming how we use data to deliver care and in support of Research and Innovation

Underpinning Enablers

Stable, Secure and Integrated Infrastructure	Hosting, networks and interoperability within STH and across SY ICB
Workflow Aligned End User Devices	Selecting and deploying devices aligned with workflow and expectations
Development of Digital Skills	Ensuring a digitally inclusive environment for patients and staff
Integrating Communications	Simplifying how staff effectively collaborate and communicate, digitally

Pillars of Work

	Digitising Health and Care Records	Digitally Enhancing Patient Experience	Digitally Enhancing Staff Experience	Supporting Integrated Care	Data Informed Innovation
Scope of Work	Implementation of a high functioning Electronic Patient Record (EPR) in line with the eight elements of the NHS Minimum Digital Foundations (MDF), and to enable the transformation of care delivery across all services. The EPR will deliver a range of quality, cash releasing and societal benefits, and will put comprehensive but digestible patient records in the hands of clinicians at the point of care delivery, connecting community, primary, secondary and tertiary services.	Implementation of accessible digital tools and services which, in the short term, support patients to manage their interactions with the Trust, and to have access to relevant care records. Over the medium to long term extend the level of digital engagement between patients and clinicians. This will include, but not be limited to, scoping the opportunity to deliver preventative, self-prescribed, digital tools which support patients managing long term conditions to live healthier without the need for clinician-led intervention.	Review existing corporate staff-facing systems to determine the opportunity to digitise high impact processes. A particular focus will be placed on seeking to digitise HR-related processes to ensure optimal efficiency and experience across recruitment, onboarding, induction, rostering and scheduling, annual leave management, performance review and ongoing learning/professional development. Where appropriate, robotic process automation should be considered.	Engage proactively with system partners, across both Sheffield and South Yorkshire and Bassetlaw, to align STH digital transformation priorities and action plans with the needs of the system and investments being made by other NHS, Local Authority and Third Sector Providers. Particular focus should be placed on identifying opportunities to standardise and integrate workflow, processes and systems across organisations.	Beyond the essentials of getting the basics right, support the Research, Education and Innovation strategy, and the establishment of the strategic principle that "Research and Innovation is Everyones' Business". This includes making a broader set of data accessible for internal and appropriate external use, establishing STH as a partner of choice for innovation, alignment with life sciences strategies, and putting a greater range of self-serve data analysis tools in the hands of staff.
Objectives	• As a minimum, deliver the scope of NHS MDF across all the operating locations of STH by May 2024. • As a minimum, deliver the expected quality, cash releasing and societal benefits in line with the Full Business Case. • Provide a basis for enhancing the use of clinical data across STH.	• Complete implementation of My Pathway as an enabler to EPR. • Scope opportunity to extend My Pathway, prior to replacement with EPR. • Provide women and birthing people with access to their digital record and ability to self refer. • Embed use of remote consultation technology. • Scope opportunity to work with system partners to deliver preventative digital services to patients.	• Review corporate staff-facing systems and identify those that would benefit from digitisation. • Determine technology requirements to address identified need, and business justification. • Develop implementation plan. • Deliver digitally supported elements of Vanquishing Variation.	• Support the establishment of digital governance across the Integrated Care Board. • Determine the priorities within the SY ICB Digital Strategy and the alignment / role for STH. • Collaboratively deliver priority programmes - particularly citizen facing initiatives.	• Determine the scope of digital in delivering the Trust's Research, Education and Innovation strategy. • Support current and future contracts with third parties to trial new and innovative use of data. • Deliver self-serve data analysis tools to STH staff.

Underpinning Enablers

	Stable, Secure and Integrated Infrastructure	Workflow Aligned End User Devices	Development of Digital Skills	Integrating Communications
Scope of Work	We will ensure our hosting, storage, and network connectivity is fit for purpose. Our infrastructure will support both on premise and remote working, and will be flexible to cope with changing requirements. In line with national strategy, it is expected that there will be an increasing need to accommodate cloud-based solutions. As our use of digital increases, we will align with the NHS Data Security and Protection policies, and increase the cyber awareness amongst staff. We will only deploy standards-based solutions capable of sharing data across both STH and SY ICB.	We must ensure that our staff have access to the devices they need in order to align the use of digital tools and services with transformed care delivery, or our Pillars of Work will fail. We will consider not just PCs and laptops; but also smartphones, tablets and other devices which are used by our staff; including personal devices which we know are in use today. We will engage end users in determining what devices will be made available across a range of roles within the organisation, and will pilot devices before adoption to ensure we capture and address any issues before wide use.	Our increased use of digital tools and services will mean we require new capabilities amongst both staff supporting the delivery of those tools and services, and staff using them. Our Learning and Development Team, Clinical Educators and Clinical Systems IT Trainers will focus on supporting us to build our capability. We will invest in supporting staff to develop digital skills through both structured learning, as part of our pillars of work, and through less structured knowledge sharing and thought leadership. We will consider what core competencies are required by those working within digital programmes and projects, and will invest in staff to ensure we are able to deliver successfully.	We will build on our initial implementation of Microsoft Teams for online meetings in both administrative and clinical environments by supporting further adoption (extent and breadth of functionality), ensuring the right supporting technology is deployed and ensuring that our technology supports effective hybrid collaboration. We will review our current telephony infrastructure and build the business justification to move to Voice Over IP technologies, and also review our 'bleep' system. We will also seek to identify opportunities to share investment across Sheffield and SY ICB.
Objectives	• Review our current infrastructure in line with Pillars of Work and identify delivery plans for enhancements. • Deliver enhancements aligned to Pillars of Work. • Review hosting strategy, consider cloud principles and determine scope of implementation.	• Review estate of deployed end user devices in line with Pillars of Work delivery schedules. • Establish mechanism for greater engagement with end users in device selection and configuration. • Make available and maintain user-informed device catalogue. • Determine and implement Bring Your Own Device (BYOD) policy.	• Engage with Learning and Development Team to undertake an assessment of the digital skills required within the Trust. • Develop and deliver training and development plans to address these needs, aligned with Pillars of Work. • Develop a cyber-aware culture across all staff.	• Review extent and breadth of Microsoft Teams deployment and develop plan to enhance. • Review deployed technology to support online and hybrid collaboration, identify needs for investment and develop plan to enhance. • Develop scope and business justification for VOIP technology. • Develop plan to replace bleep technology.

NHS
Sheffield Teaching Hospitals
NHS Foundation Trust

Strategy to Action

Making this strategy a reality.

Delivery Roadmap: Pillars of Work

Pillar	Objective	FY 2022/23				FY 2023/24				FY 2024/25			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Digitising Health and Care Records	Deliver the scope of NHS MDF across all the operating locations of STH by May 2024.												
	Deliver the expected quality, cash releasing and societal benefits in line with the Full Business Case.												
	Provide a basis for enhancing the use of clinical data across STH.												
Digitally Enhancing Patient Experience	Complete implementation of the My Pathway as an enabler to EPR.												
	Scope opportunity to extend My Pathway, prior to replacement with EPR.												
	Provide women and birthing people with access to their digital record and ability to self refer.												
	Embed use of remote consultation technology.												
	Scope opportunity to work with system partners to deliver preventative digital services to patients.												
Digitally Enhancing Staff Experience	Review corporate staff-facing systems and identify those that would benefit from digitisation.												
	Determine technology requirements to address identified need, and business justification.												
	Develop implementation plan.												
	Deliver digitally supported elements of Vanquishing Variation.												
Supporting Integrated Care	Support the establishment of digital governance across the Integrated Care Board.												
	Determine the priorities within the SY ICB Digital Strategy and the alignment / role for STH.												
	Collaboratively deliver priority programmes - particularly citizen facing initiatives.												
Data Informed Innovation	Determine the scope of digital in delivering the Trust's Research, Education and Innovation strategy.												
	Support current and future contracts with third parties to trial new and innovative use of data.												
	Deliver self-serve data analysis tools to STH staff.												

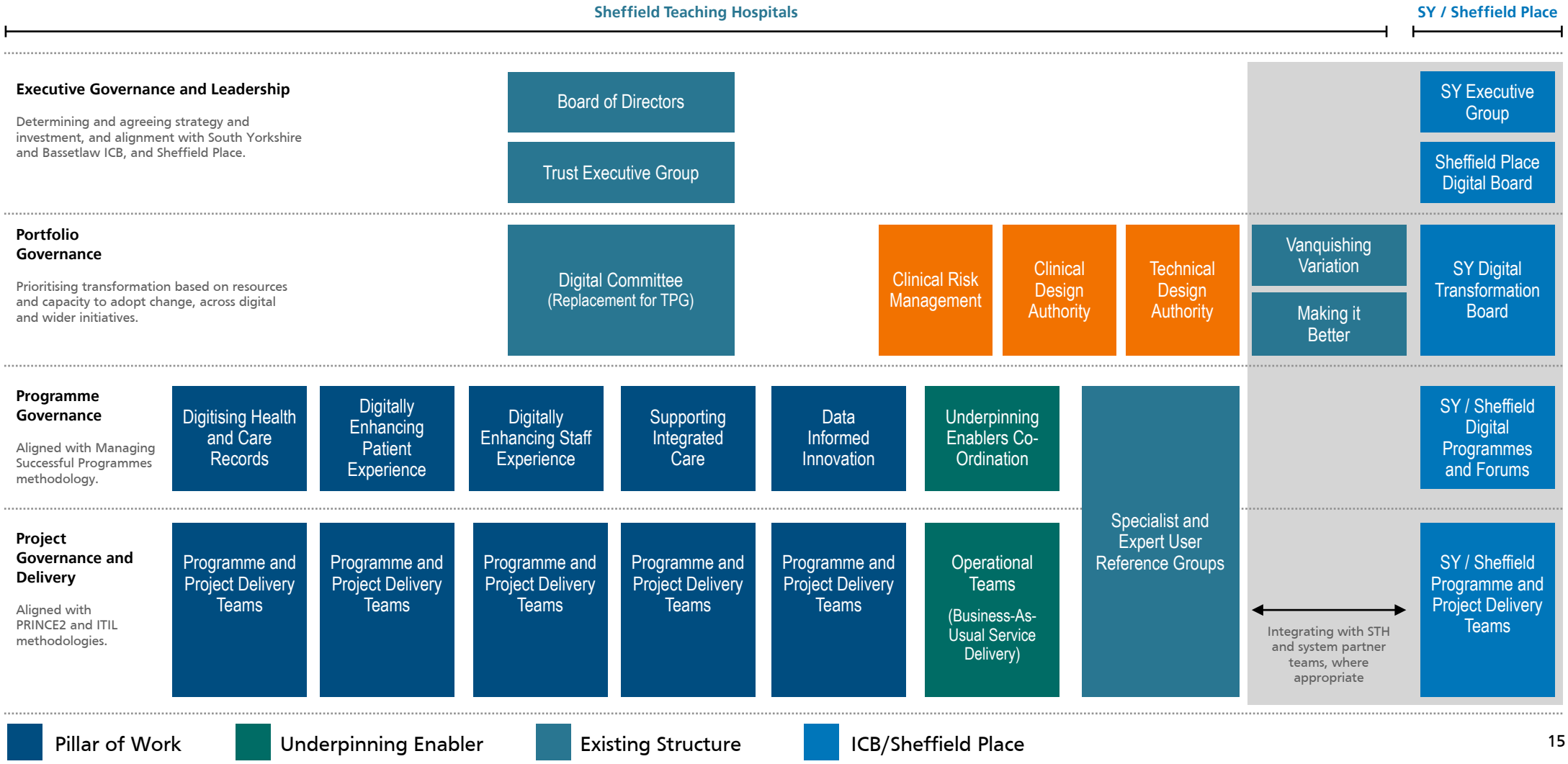
Delivery Roadmap: Underpinning Enablers

Pillar	Objective	FY 2022/23				FY 2023/24				FY 2024/25			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Stable, Secure and Integrated Infrastruc-ture	Review our current infrastructure in line with Pillars of Work and identify delivery plans for enhancements.	■	■										
	Deliver enhancements aligned to Pillars of Work.	■	■	■	■	■	■	■	■	■	■	■	■
	Review hosting strategy, consider cloud principles and determine scope of implementation.	■	■										
Workflow Aligned End User Devices	Review estate of deployed end user devices in line with Pillars of Work delivery schedules.	■	■	■	■								
	Establish mechanism for greater engagement with end users in device selection and configuration.		■	■	■								
	Make available and maintain user-informed device catalogue.					■	■	■	■	■	■	■	■
	Determine and implement Bring Your Own Device (BYOD) policy.	■	■										
Development of Digital Skills	Engage with Learning and Development Team to undertake an assessment of the digital skills required within the Trust.			■	■								
	Develop and deliver training and development plans to address these needs, aligned with Pillars of Work.					■	■	■	■	■	■	■	■
	Develop a cyber-aware culture across all staff.	■	■	■	■	■	■	■	■	■	■	■	■
Integrating Commun-ications	Review extent and breadth of Microsoft Teams deployment and develop plan to enhance.	■	■										
	Review deployed technology to support online and hybrid collaboration, identify needs for investment and develop plan to enhance.	■	■										
	Develop scope and business justification for VOIP technology.			■	■								
	Develop plan to replace bleep technology.			■	■								

Governance Structure

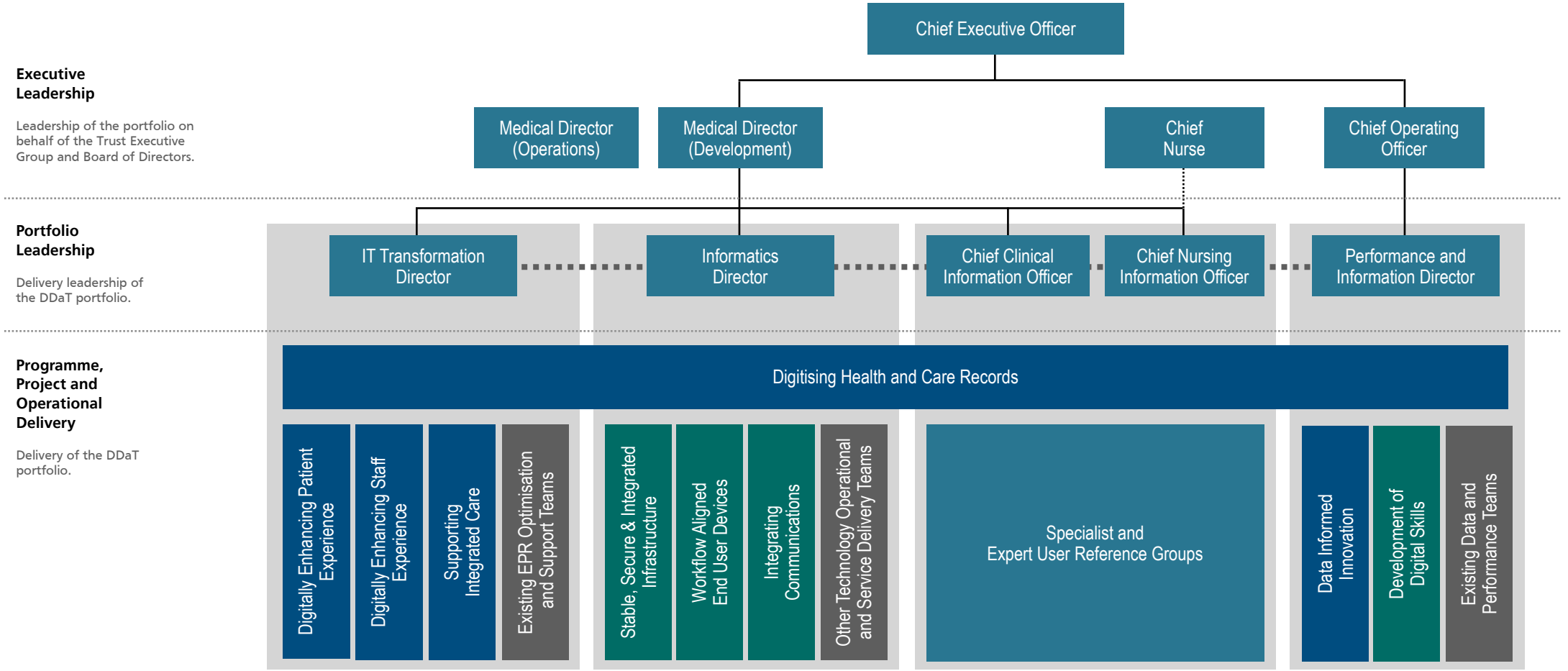
Sheffield Teaching Hospitals
NHS Foundation Trust

Digitally-enabled transformation will be managed as a portfolio of work, by a Digital Committee, on behalf of the Trust Executive Group and Board of Directors, to achieve the intended outcomes whilst managing priorities and constraints (such as resources) across the portfolio. Delivery will be led by Programme Teams and Operational Teams. Programmes will establish Project Teams, as necessary or deliver via Operational Teams, in the case of underpinnings enablers. We will deliver through widely recognised standards-based methodologies.



Operational Structure

Areas of responsibility for the operational leadership and delivery of the breadth of this strategy is, rightly, distributed across three members of the Trust Executive Group (TEG). This diagram illustrates how the Pillars of Work and Underpinning Enablers could be distributed across the reporting teams of TEG members, and aligned with existing operational activity not detailed within this strategy such as the ongoing management of our current EPR, wider technology-related delivery and wider performance and data related delivery.



Where a programme is sufficient in scale and complexity, such as Digitising Health and Care Records, a Programme Director would be appointed to lead its delivery. The Programme Director for this particular programme would formally report to one member of Portfolio Leadership, but collaborate closely with all.

Delivering Successfully: The STH Way of Working

Overarching Principle of Delivering Integrated Care across South Yorkshire and Sheffield

The health and care landscape is changing. This Digital Strategy sets out a clear direction for STH, aligned with our organisational strategy, for the next three years, and with the current SY ICB Digital Strategy. Delivery plans at SY ICB and Sheffield-place levels are still being developed, and we will need to remain responsive to align with those plans, and proactively engage to shape their development. As an overarching principle, we will consider 'system first' at every opportunity.

Portfolio, Programme and Project Delivery

We will manage the delivery of our digital tools and services as a portfolio of programmes which are focused on clinical and operational outcomes, and which if sufficiently complex, will be delivered through projects. The portfolio approach will support activity and resource prioritisation across all programmes and underpinning enablers. Programmes will be delivered in line with the principles of the Managing Successful Programmes methodology and guidance. Projects will be delivered in line with the principles of the Projects in Controlled Environments (PRINCE2) methodology and guidance. Service Management will be aligned with Information Technology Infrastructure Library (ITIL) standards.

User Centred, Clinically and Operationally Led

The delivery of digital tools and services will be clinically and operationally led. We will specify, procure and implement tools and services in partnership with our staff. Where appropriate, we will deliver in partnership with citizens. We will always seek to vanquish unwarranted variation and to fully meet Accessible Information Standards.

Data Informed Design Decisions

We will consider our use of data beyond clinical or operational workflow at the time of specifying, designing and implementing digital tools and services. We will ensure clarity on how we will use data beyond its traditional use to inform performance monitoring, accuracy of activity reporting, and future service design.

Benefits Informed Investment Decisions

We will make investment decisions based on the anticipated benefits of delivering digital tools and services. In advance of an implementation, we will identify, quantify and assign ownership of benefits, and put in place a benefits management plan to be able to monitor and proactively manage the achievement of benefits. The breadth of benefits we will consider are quality, cash-releasing, non-cash releasing and societal.

Risk Management

Risks will be proactively managed throughout the delivery of programmes and projects, both within each project as well as at programme-level, with appropriate detail. Risks and issues will be reported using the portfolio, programme and project reporting structure. Portfolio-level risks will be incorporated into the Trust risk register. At portfolio level, there will be a particularly focus on strategic risks, such as resource management and capacity for change.

Financial Investment

Overarching Principles

Developing detailed plans, where they do not already exist, to support the delivery of the Pillars of Work and Underpinning Enablers within this strategy is key. When considering the affordability of those delivery plans we will, as part of a structured business case development process, appraise investment against our Digital Missions to identify strategic fit, assess capital and revenue costs against quality, cash releasing, non-cash releasing and societal benefits, and assess risk.

Existing Budgets and Planned Investment

A significant proportion of the content of this strategy aims to focus work already planned or being considered; for example our investment in Digitising Health and Care Records, refining our investment in improving infrastructure, refining how we select, pilot and deploy end user devices, and working more collaboratively in how we use data to innovate in service design and delivery. However, there will undoubtedly be additional investment required in order to fully deliver our ambitions - which must be considered, and existing budgets and allocations reviewed accordingly.

Access to Funding

Beyond the funding STH is able to commit directly, the availability and nature of capital and revenue funding to support the Frontline Digitisation of NHS Providers is changing - both as a result of the establishment of Integrated Care Boards (ICB), and as a result of increased and targeted investment by NHS England.

The South Yorkshire and Bassetlaw ICB, in its Digital Strategy, has indicated the rough order of magnitude of investment required to deliver its five missions and their associated capability. This is anticipated to be c£38m of capital and c£17m of revenue of the 2021/22 to 2023/24 financial years. The ICB is in the process of developing detailed digital investment plans which will be submitted to NHS England for consideration.

Having already invested significantly, NHS England has stated it's intention to continue to invest in Frontline Digitisation: "Investment will be available to support systems in the delivery of the Frontline Digitisation Minimum Digital Foundations for three years from 2022/23, linked to the ICS Digital Investment Plans. Priority funding will be directed towards the least digitally mature across all services and settings based on digital maturity."

Working collaboratively with both the ICB and NHS England will be critical for both maximising the opportunity for STH in planned local collaborative investments, and in accessing further support from Frontline Digitisation teams to support STH to advance its own digital maturity.

Measuring Success

Objective measures that will support us to assess our impact, across our care settings.

NHS England Digital Maturity Assessment

The NHS England Digital Maturity Assessment can help NHS Providers by:

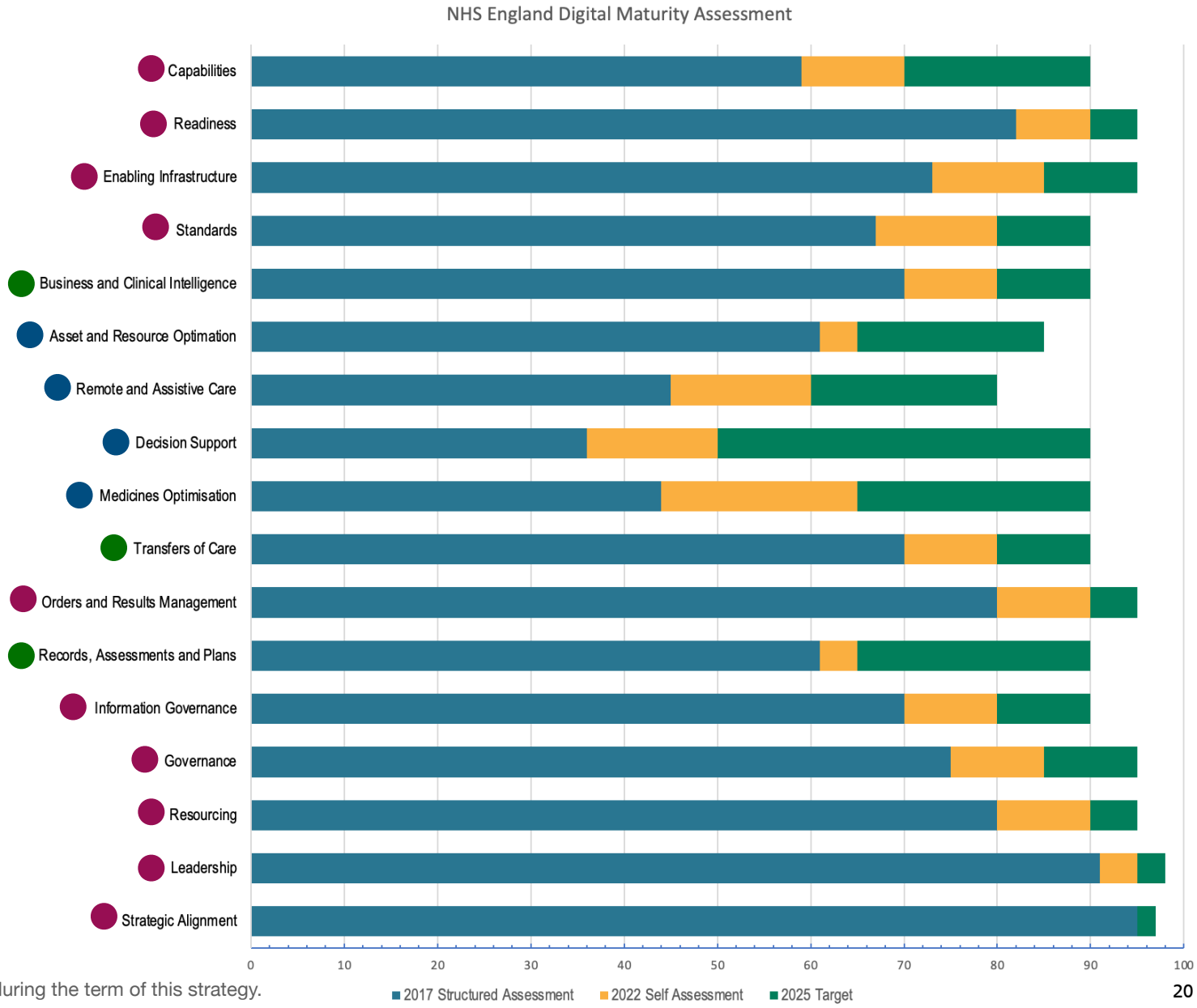
- Providing a framework to identify opportunities for improvement and further development.
- Encouraging knowledge sharing initiatives with similar organisations.

This chart shows three indicators:

- 2017 Assessment: which was undertaken through a structured assessment process with support from NHS England
- 2022 Self Assessment: without access to the exact methodology, this represents an estimate of where we are today, across the same capabilities.
- 2025 Target: representing where we would expect to be upon implementation of this strategy, with further opportunity to optimise.

Each of the aspects have been categorised as either foundational, evolutionary or revolutionary, depending on the extent to which they support the transformation of care.

The illustration provides us with a good basis on which to focus both current and future strategic plans. As an example, it tells us that by the end of this strategy period we can expect to have made good progress in the foundational and evolutionary areas, yet still have the opportunity to progress some revolutionary areas, such as further developing Remote and Assistive Care.



For full definitions: NHS England DMA Model.
It is expected that this model will be updated by NHS England during the term of this strategy.

HIMSS EPR Adoption Model

The HIMSS (Healthcare Information and Management Systems Society) Electronic Medical Record Adoption Model (EMRAM) provides an international framework, based on an algorithmic assessment to methodically score hospitals around the world relative to their Electronic Medical Records (EMR) capabilities.

This eight-stage (0-7) model measures the adoption and utilisation of EMR capabilities across an organisation.

Although official validation for a stage requires an activity to be undertaken in partnership with HIMSS, it is not unusual for NHS organisations to use it as a baseline for measuring digital maturity and progress with developing their maturity.

Current Self Assessment

The table on the right illustrates our current state self assessment against the elements of capabilities that should be adopted across the Trust in each of the EMRAM stages.

We have determined that STH would currently be considered at the Stage 2 of maturity using this model, with partial compliance at Stage 3.

Ambition through Delivering this Strategy

Over the coming 3 years, through the delivery of our Pillars of Work and Underpinning Enables, most notably our Digitising Health and Care Records pillar, we will significantly develop our level of maturity.

It is our ambition, by the end of 2025 / early 2026 to undertake a formal assessment, and to have reached Stage 6 of maturity within this model; and to have a clear path to then reach Stage 7.

HIMSS

For full definitions: HIMSS EMRAM Model

Stage	Summary of Capabilities	Current Compliance
7	Complete Electronic Patient Records (>90%), External Health Information Exchange, Data Analytics, Governance, Disaster Recovery, Privacy and Security	Not compliant
6	Technology Enabled Closed Loop Medication (>50%), Blood Products, Human Milk Administration, Risk Reporting, Full Clinical Decision Support	Not compliant
5	Physician Documentation Using Structured Templates (>50%), Intrusion/Device Protection	Not compliant
4	Computerised Practitioner Order Entry with Clinical Decision Support (>50%); Nursing And Allied Health Documentation (>90%); Basic Business Continuity	Partially compliant
3	Nursing And Allied Health Documentation (>50%), Electronic Medication Administration Record, Role-Based Access Control	Partially compliant
2	Clinical Data Repository, Internal Interoperability, Basic Security	Fully compliant
1	Laboratory, Pharmacy and Radiology / Cardiology Information Systems, PACS, Digital Non-DICOM Image Management	
0	All Three Ancillaries Not Installed	

NHS England What Good Looks Like Framework

The What Good Looks Like framework draws on local learning. It builds on established good practice to provide clear guidance for health and care leaders to digitise, connect and transform services safely and securely. There are seven success measures for provider organisations, summarised below, and for which we have indicated a self assessment of our status in 2022 and expected status in 2025:

Success Measure 1: Well Led
Boards are equipped to lead digital transformation and collaboration. They own and drive the digitally enabled transformation journey, placing citizens and frontline perspectives at the centre.

Success Measure 2: Ensure Smart Foundations
Digital, data and infrastructure operating environments are reliable, modern, secure, sustainable and resilient. Organisations have well-resourced teams who are competent to deliver modern digital and data services.

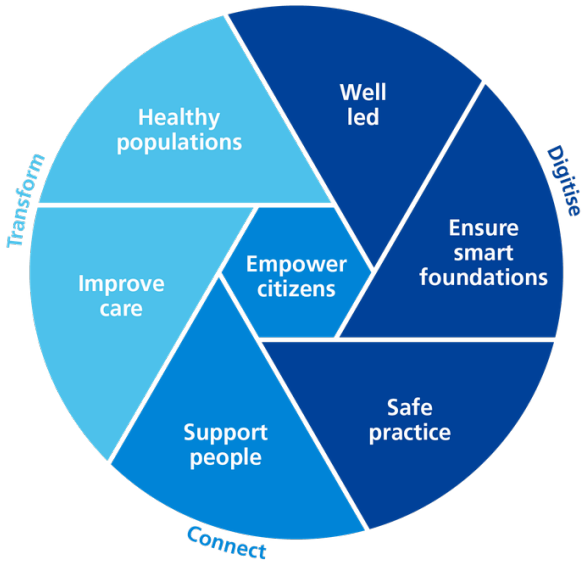
Success Measure 3: Safe Practice
Organisations maintain standards for safe care. They routinely review digital and data systems to ensure they are safe, robust, secure, sustainable and resilient. Digitally-enabled outcome-driven transformation is at the heart of safe care.

Success Measure 4: Support People
Your workforce is digitally literate and are able to work optimally with data and technology. Digital and data tools and systems are fit for purpose and support staff to do their jobs well.

Success Measure 5: Empower Citizens
Citizens are at the centre of service design and have access to a standard set of digital services that suit all literacy and digital inclusion needs. Citizens can access and contribute to their healthcare information, taking an active role in their health and wellbeing.

Success Measure 6: Improve Care
Health and care practitioners embed digital and data within their improvement capability to transform care pathways, reduce unwarranted variation and improve health and wellbeing. Digital solutions enhance services for patients and ensure that they get the right care when they need it and in the right place.

Success Measure 7: Healthy Populations
Organisations use data to inform their own care planning and support the development and adoption of innovative ICS-led, population-based, digitally-driven models of care.



Success Measures Self Assessment	2022	2025
Success Measure 1: Well Led		
Success Measure 2: Ensure Smart Foundations		
Success Measure 3: Safe Practice		
Success Measure 4: Support People		
Success Measure 5: Empower Citizens		
Success Measure 6: Improve Care		
Success Measure 7: Healthy Populations		

For full definitions: NHS England WGLL Framework

Expected Impact

The difference this strategy will make to patients, staff and partners.

Impact on Patients, Staff and Partners

What will it be like for patients, staff and partners by 2025?

Sheffield Teaching Hospitals
NHS Foundation Trust

We expect the delivery of our DDaT Strategy to have a significant and positive impact on our patients, staff and partners, and how each interact with the Trust. Below articulates some of the key points of how the experience of patients, staff and partners is expected to be different.

What will our patients say?

"

My care providers can access all the relevant information they need in relation to my care, without the need for me to repeat myself many times.

I'm able to access my records, know what has been written about my care and can interact digitally with the Trust and my care providers.

I can access and exchange information that will help me make decisions; influence and plan my care.

Other organisations supporting me can see relevant information, with my consent, that help them to deliver informed care.

I can make use of devices and technology to help me manage and monitor my care at home whilst knowing that health professionals can intervene if there are any concerns.

"

What will our staff say?

"

I'm able to access comprehensive information about my patients, at the point I need to and with ease.

The devices I use to access clinical information, and wider systems within the Trust, are fit for purpose and support me to work effectively.

I'm able to develop the necessary digital skills to be able to use our digital tools and services, and know where to turn for help when I need it.

It's straightforward for me to digitally collaborate with others, whether in relation to patient care or another matter.

I have access to decision making tools that help me provide the best care I can.

It's not necessary for me to use manual administrative processes, and I interact digitally with the Trust.
I'm able to access information to help with clinical practice and research.

"

What will our partners say?

"

We have access to the right patient data and information to help us support patient pathways across organisations and deliver optimum care to our patients as a health and social care system.

We understand the health needs of our population and can shape services from the shared data we have.

"

Example Future State Citizen Journey

Below is an example future state pathway illustrating the management of a long term condition, which can be better managed through a mix of self-management, self referral, virtual reviews and supported discharge - underpinned by appropriate citizen-facing digital tools and services.

1 Self Management
We digitally provide online guidance and support, which has the ability to connect Sheffield citizens with their relevant services or pathway should it be required.

2 Self Referral
Conditions continue to cause concern, despite self management and education use of digital advice leaflets and apps. We digitally provide the entry point for referral to ease access, save GP time and enable the citizen to see a care provider sooner, when needed.

3 Virtual Review
An online appointment is made to triage the citizen, provide immediate advice, and determine if face to face review is required (in which case at the right time by the right care provider) or amend self management approach.

4 Virtual Multi-Disciplinary Review
Digitally enable formal mechanism for multidisciplinary input into advising care providers regarding ongoing management and care of citizen.

5 Virtual Education and Relevant Therapy Programme
Delivery of facilitated education discussion and relevant therapy session virtually, allowing citizen to access the programme and continue to receive support for their condition.

6 Discharge
Following a further virtual review, satisfactory progress is being made to improve the condition. Electronic guidance material is provided to support the citizen to manage their own condition following discharge.

7 Patient-Initiated Follow-Up
Should it become necessary, the citizen can digitally request a follow up appointment for further, advice and guidance, or for review which may result in intervention.

Future Maternity Journey

NHS
Sheffield Teaching Hospitals
NHS Foundation Trust

The Jessop Wing staff are here to support physiology and safeguard mental and physical wellbeing during pregnancy, birth and the postnatal period. We aim to bring the highest levels of human knowledge and skill to improve health and save lives, acknowledging that we touch lives at times of basic human need, when our care and compassion are what matter most to people. Part of this endeavour is engaging with digital advances and maximising on the potential they hold for improving the experience and outcomes for those in our care. We will ensure that our digital systems align with key national requirements (including those outlined in Saving Babies' Lives, CNST and the Ockenden Review).

1 Jessop Wing digitally provides preconception, pregnancy, labour, birth and postnatal information and resources online. Women and birthing people from Sheffield are connected to our online presence and the route to accessing our services is clear, and welcoming.

2 Women and birthing people maintain autonomy using the digital self referral into maternity care through an accessible and secure portal, time is saved for them and professionals. Care can be planned efficiently with the correct team for the most appropriate moment.

3 The midwife provides the first contact at the booking appointment which is informed by complete medical history stored digitally and accessible remotely. This facilitates person-centred, holistic assessments and care planning.

4 All relevant professionals have access and contribute to a single record throughout the pregnancy, birth and postnatal period; gold standard communication between the multidisciplinary team is the norm aided by clarity of record keeping.

5 The woman or birthing person is empowered by holding their pregnancy record in their own phone or tablet, they have easy access to self referral for complementary services and they author their own personalised care and support plan.

6 The team around the new parent and baby receive a comprehensive digital summary of care on their discharge from maternity services, care is individualised and reflecting the experience and needs of the family.

Impact on women, birthing people and families

What will our patients, women/ and families say?

"I didn't have to keep retelling my story, whenever I needed to see someone new they had all my records in front of them ready. I can look at my records too on my phone, so I can recap my partner when they can't come to an appointment, and I have links to information that is really important to me for making decisions about my care like my birth plan. My GP knows what is happening in my pregnancy as well so I don't have any problems when I need a prescription or an appointment with them too"

What will our staff say?

"I am able to easily access comprehensive information about my patients in a single system. Our devices are up to date and reliable, and if there are any problems I can get help immediately so I don't get behind. When there is new technology to get to grips with I am really well prepared and supported, given time to practice and ask questions, and I always understand what the benefits to myself and those in my care will be. Sharing information with colleagues about patient care or other matters is secure and efficient, records are clear and so much time is saved on admin, it is satisfying to see more time spent on the care of women and their families."

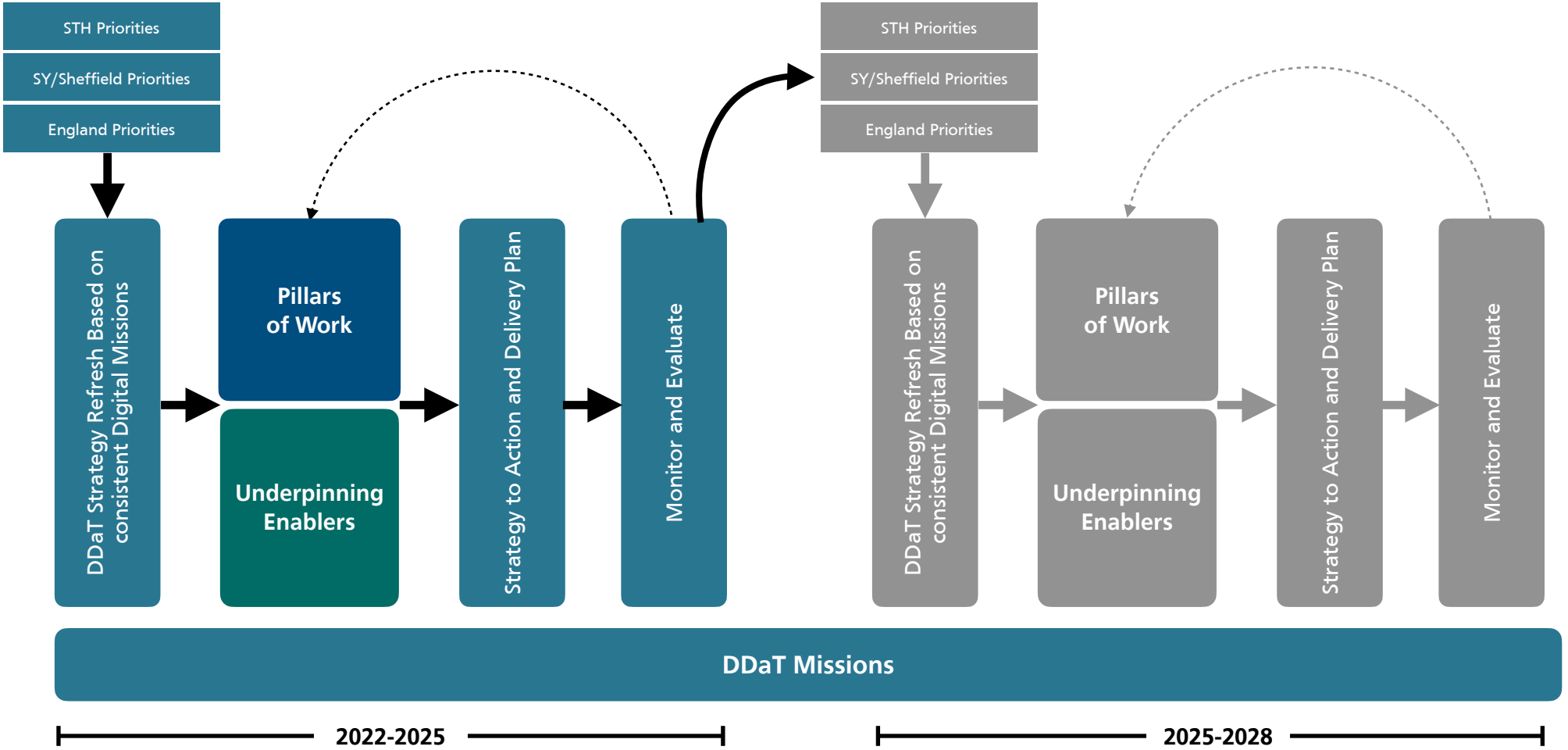
NHS
Sheffield Teaching Hospitals
NHS Foundation Trust

Beyond This Strategy

A basis for future strategic digital planning.

Strategic Planning Cycle

The construct of this Digital Strategy enables consistency across multiple planning cycles, each expected to cover a two to three year period. Our Digital Missions should have permanency beyond the term of this strategy. Our Pillars of Work and Underpinning Enablers can be regularly reviewed to ensure that their aims and objectives remain aligned with the priorities of the organisation and across South Yorkshire.



Timescales are indicative. Changes in organisational, regional or national priorities could prompt a review of the Digital Strategy at any time.

NHS

Sheffield Teaching Hospitals

NHS Foundation Trust

Northern General Hospital
Herries Road
Sheffield
S5 7AU

Royal Hallamshire Hospital
Glossop Road
Sheffield
S10 2JF

Jessop Wing
Tree Root Walk,
Sheffield
S10 2SF

Weston Park Hospital
Whitham Road
Sheffield
S10 2SJ

Charles Clifford Dental Hospital
Wellesley Road
Sheffield
S10 2SZ

Telephone: 0114 243 4343

www.sth.nhs.uk