BOARD OF DIRECTORS MEETING (Open)

Date: 14th February 2018   **Item Ref:** | 06

TITLE OF PAPER	Digital Transformation Strategy
TO BE PRESENTED BY	Nicola Haywood Alexander – Director of IMST and PMO
ACTION REQUIRED	For the Board of Directors to approve the revised Digital Transformation Strategy and Delivery Framework that will direct the digital transformation work and priorities of the Trust. For the Board to note the supporting portfolio management framework in place to ensure the strategy is delivered, monitored and reviewed by the Digital Transformation Board.
OUTCOME	For the Board to be assured that there is an appropriate Digital Transformation Strategy (incorporating the Clinical Digital Innovation, Informatics and ICT strategies) and strategic portfolio management framework in place to guide decision-making, manage delivery and ensure the Trust is harnessing its use of technology effectively to deliver new ways of working, new care models, national strategic discharging its responsibilities as a foundation trust.
TIMETABLE FOR DECISION	February 2018
LINKS TO OTHER KEY REPORTS / DECISIONS	NHS Improvement's Regulatory Framework Provider Licence Annual Governance Statement NHS Foundation Trust Code of Governance
STRATEGIC AIM STRATEGIC OBJECTIVE BAF RISK NUMBER & DESCRIPTION	Strategic Aim: Value for Money Strategic Objective: A404: Use technology to deliver new ways of working and new care models BAF Risk Number: A403 BAF Risk Description: There is a lack of embedded-ness of the digital strategy and interdependencies with associated strategies.
LINKS TO NHS CONSTITUTION & OTHER RELEVANT FRAMEWORKS, RISK, OUTCOMES ETC	NHS Five Year Forward View: Harnessing Technology and Innovation NHS National and GDE Investment Programmes Digital Programme

IMPLICATIONS FOR SERVICE DELIVERY AND FINANCIAL IMPACT	The Strategy defines a range of digital transformation programmes and plans.
	The outline expenditure required to deliver the Digital Transformation Strategy is estimated to be c£5M SHSC capital over 4 years, with an on-going revenue commitment of c.£500k pa (not including depreciation costs)
	Plus match funding of £3M NHS GDE funding over 3 years as a Fast Follower (application in progress).
	A full business case will define the options and cost benefits.
CONSIDERATION OF LEGAL ISSUES	GDPR CQC Data Security Standards.

Author of Report	Nicola Haywood-Alexander
Designation	CIO/ Director of IMST and PMO
Date of Report	8th February 2018

SUMMARY REPORT

Report to: **BOARD OF DIRECTORS**

Date: 14th February 2018

Subject: Digital Transformation Strategy

Author: Nicola Haywood-Alexander, Director of IMST

1. Purpose

For Approval	*For a collective decision*	*To report progress*	*To seek input from*	*For information*	*Other (please state below)*
X	X	X			

For the Board of Directors to approve the refreshed Digital Transformation Strategy that will direct the work and priorities of the Trust.

For the Board to approve the current priorities and note the portfolio management mechanisms in place to ensure the strategy is delivered, monitored and reviewed by the Digital Transformation Board, a subgroup of the EDG, on behalf of the Board.

For the Board to approve the application to NHSE to be a Digital Fast Follower, to attach £3M funding and to enter into a partnership with Worcestershire Health and Care Trust to deliver the health technology development programme.

2. Summary

National
The Department of Health and NHS England has identified how technology and innovation should be harnessed.

- **Helping people manage their own health**: The way that people use services has changed. The NHS will deliver more services online whilst remembering healthcare is about people and many patients want and need a real person to talk to face to face.

- **Digitising hospitals:** The NHS leads the world in the use of IT in primary care, but its adoption in the acute, community and mental health sectors lags behind.

- **Technology to support the NHS priorities:** Urgent and Emergency Care, Elective access and unwarranted variation and Digital contribution to research.

- **Innovation for future care improvement:** The UK has a world-leading life sciences

industry which is a magnet for investment and an engine for economic growth, enhancing productivity, driving healthcare innovation and creating employment.

The body commissioned to delivery this Trust, CCGs and GPs is NHS Digital.
Region

The South Yorkshire and Bassetlaw ICS digital vision is:

> A citizen in South Yorkshire and Bassetlaw will be able to access and use digital technology and information to improve or maintain their own health and wellbeing and expect any person or organisation involved in their care to do the same.

The main challenges and consequential aims for the ICS are:

- the integration of systems to facilitate the exchange of data, information and document that create clinical knowledge and public health intelligence;

- the creation of a system-wide digital capabilities by which patients can be empowered in the use of technology to support the management of their healthcare and wellbeing, their pathways can be better managed and new models of care enabled though the use of digital technology;

- progressing towards more cost effective shared services, solutions and federated procurement particularly in regard to infrastructure (networks, storage, desktops, hard ware, security) and informatics (data, coding, IG and GDRP).

SHSC NHS FT

The Digital Maturity Index for the Trust in 2015 indicated that while capability (use of clinical systems) was good it readiness was poor.

In Spring 2016, the Trust undertook a strategic review of IM&T, this resulted in an outline Digital Transformation Strategy for which the underlying principles were approved by the Trust on 18th March 2016.

On 2nd June 2016, EDG approved a proposed delivery framework to govern, plan and manage a portfolio of programme and project that would deliver the Digital Transformation Strategy. This required the development of new capabilities to implement and embed this framework, and its on-going effectiveness being evaluation at regular intervals with the respective EDG leads and consequential adjustments being made. The learning from this is now being applied to governing and managing the Trust's estate and operational transformational programmes.

During 2017 there were a number of environmental changes both in regard to the Trust and the wider landscape of digital health technology and integrated care systems. These changes and the consequential revision of the Trust Strategy in June 2017 gave rise to the need to refresh the Trust's Digital Transformation Strategy.

This was done through consultation both internally and external to the Trust. The priorities and incumbent strategies that make up the refreshed strategy have been informed by national mandates and priorities, clinical and business requirements and the technical experts' view. This work is being undertaken by three Strategy and

Portfolio Groups, which focus on clinical systems and service user applications (CSSG), business systems, informatics and intelligence (BSSG) and underlying technical infrastructure (ITSG).

As indicated in figure 1, these group report into the Digital Transformation Board, a sub-set of EDG, chaired by the Deputy CEO.

The strategy also takes a steer from the Trust's Data and Information Governance Board, chaired by the Executive Director of Nursing, Professions & Care Standards. This is body that attends to the Trust's responsibilities and accountability in regard to legislation, standard and obligations regarding data security, privacy, protection and quality. The Trust designated Caldicott Guardian and SIRO sit on this body.
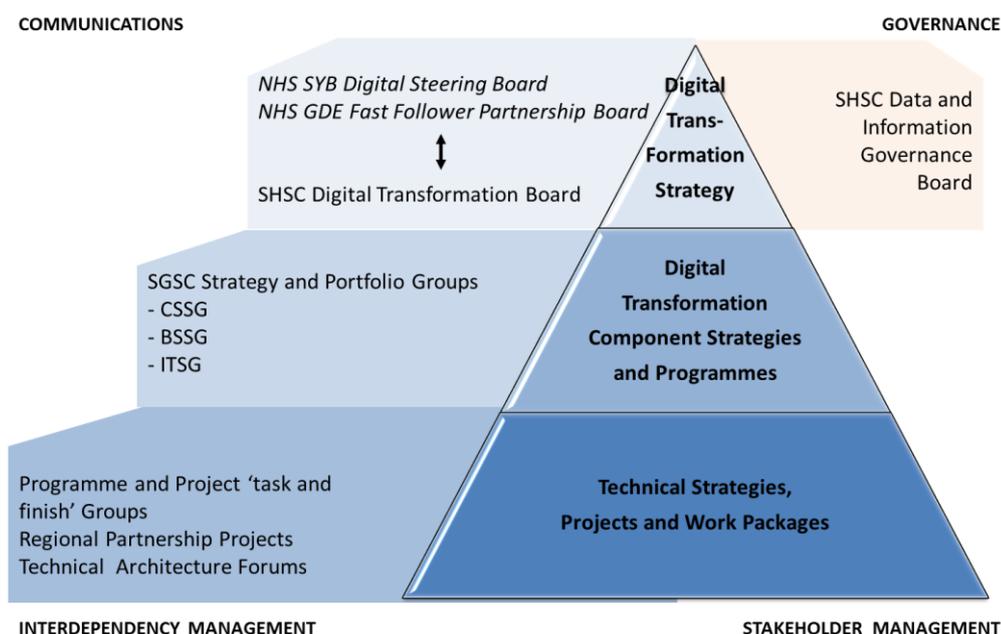

Fig 1. The Trust's Digital and Informatics Governance Framework

Vision, Principles and Plan

It is proposed that the Trust's digital vision remain:

> Our vision is a technologically and digitally enabled health and social care system built for and in co-production with our citizens to improve their mental health and wellbeing

It is proposed that the Trust's refreshed digital principles and aims, which have undergone a minor refresh to clarify focus and priorities are as presented in figure 2.
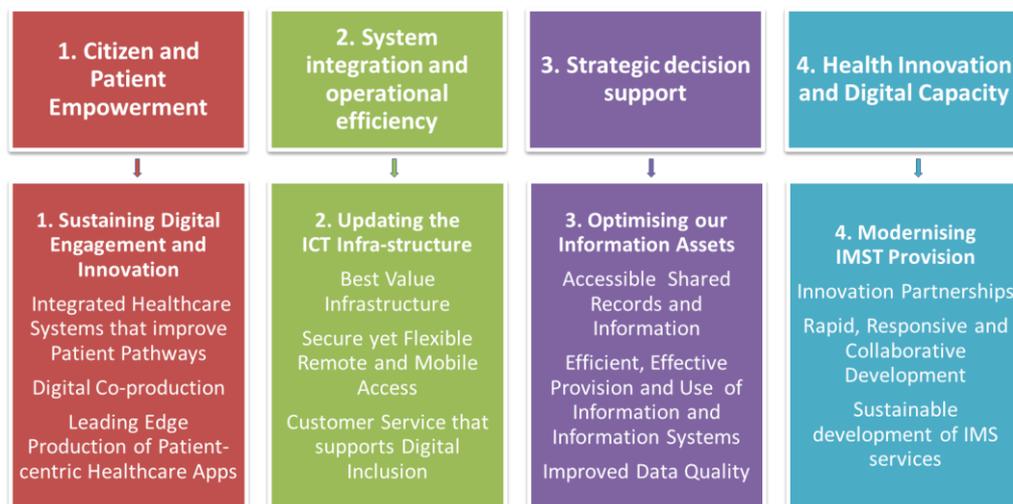
Fig 2. SHSC digital transformation principles and aims

Benefits

- **Citizen Empowerment**
  - Enhanced patient voice
  - Service users more empowered; increased service user control of own care
  - Increase patient choice
  - Improved patient engagement (Increased engagement without intervention)

- **Public Health and Wellbeing**
  - Improved quality of life for service users and their families
  - Improved wellbeing of service users and staff
  - Improved community well-being

- **Care**
  - Quicker clinical intervention across all regional service user pathways
  - Reduced assessment and treatment waiting times
  - Better care to more people
  - Reduced patient anxiety
  - Reduction in the intensity of care packages and associated costs
  - Increase staff safety

- **Clinical**
  - More effective use of clinical appointments to treat urgent and complex conditions
  - Increase success rate of interventions
  - Reduced risk of self-harm
  - Increased likelihood of recovery
  - Accelerated recovery rates
  - Reduced chance of relapse

- **Efficiency and Effectiveness**
  - Reduction in the costs associated with intensity of care packages
  - Reduction in DNAs, repeat appointments
  - Reduction in Urgent and Emergency Care activity
  - Reduce costs related to waste or repetition in operational processes

Priorities 2018/19

- Integrated Healthcare Systems *(CSSG, CCIO)*
  – Health Tech Development Coalition and Innovation Partnership
  – Integrated Mental Health Care System phase 1
  – NHS coding and integration standards
  – Clinical innovation; Fast Follower quick wins for early returns on investment

- Performance Management Framework *(BSSG, SIRO)*
  – Data Dictionary and Data Warehouse structure
  – Repository of KPI definitions
  – Consolidation of local MI systems (remove local of proliferation of local Excel spreadsheets) to improve efficiency and data quality

- Mobile and Remote Connectivity *(ITSG, CIO)*
  – Mobile MS Office phase 2
  – BYOD Policy (for staff and service users using own devices on infrastructure)
  – National HSCN migration, Regional Network and Storage Strategy (mandatory)
  – Estate driven network moves including Data Centre
  – Trust Communications Technology Strategy

Fast Follower

The purpose of the NHS GDE programme is to invest in digitally mature Trusts that are rated as 'good' and have the funds to match their investment to develop technology blueprints to deploy across the NHS.

Worcestershire Health and Care Trust is a GDE Trust and it has invited SHSC Foundation rust to partner with them as their 'Fast Follower'. This is intended to be a Collaborative and complimentary partnership to produce a blueprint for an Integrated Mental Health Care Information System.

NHSE provide match funding of £3M and the GDE programme provides use with access to current GDE technology blueprint and assets at no or significantly reduced cost. SHSC would use this opportunity to deliver its ambition to develop a 3rd generation leading edge asset for the NHS Mental Health.

A application will be most successful where it is about driving forward patient empowerment, integrated health provision and health tech innovation. For this reason, there is a good match with our strategy.

Costs

Pending a successful application, the outline capital investments are anticipated to be as follows:
- NHS England**:** Fast Follower Match Funding £3M

- Sheffield Health and Social Care NHS FT
  – Fast Follower Integrated Mental Healthcare c.£1.6M
  – Fast Follower Digital Clinical Innovation c.£1.4M
  – Business Intelligence and Public Health Outcomes c.£1.2M
  – Infrastructure c.£1.1M

- Worcestershire Health & Care NHS Trust, Oxford Health NHS FT and South London & Maudsley NHS FT blueprints valued in the region of:
  - Integrated Mental Healthcare c.£2M
  - Digital Clinical Innovation c.£.85M
  - Infrastructure c.£.35M

The on-going revenue commitment is likely to be around £0.5M, excluding capital depreciation costs. A full business is being development in conjunction with the Fast Follower application and consequential development of the Funding Agreement, and will be brought back to the Board of Directors to approve.

3   Next Steps

To support implementation of the Trust's Strategic Planning Framework the following actions and next steps are required
- Any revision of Refreshed Digital Transformation Strategy informed by Board feed-back and decisions.
- to NHSD to be a NHS GDE Fast Follower
- Full Business Case for the Digital Transformation Strategy, including the scope for the Fast Follower Partnership Programme
- Communications within the Trust regarding Refreshed Strategy

The current timeline (although this has been fluid) for this is:
- Jointly draft Proposal document - mid/end Feb 18
- Site visit hosted by both organisations - end Feb/Mid-March 18
- Approval to draft Funding Agreement (FA) - end of March/Mid April
- Sign off and funding – end April 18

4   Required Actions

i. The Board of Directors are asked to approve the refreshed Digital Transformation Strategy, which will direct the Digital priorities and associated work of the Trust.

ii. The Board of Directors are asked to note the framework that has been put in place to ensure the strategy is delivered, monitored and reviewed by the Trust.

iii. The Board of Directors are asked to approve in principle the Trust's to be a Digital Fast Follower in partnership with Worcestershire Health and Care Trust.

iv. The Board of Directors are asked to note the level of investment anticipated and a full business case will be brought to Board in line with the development of Fast Follower application and delivery programme.

5   Monitoring Arrangements

Progress reports regarding delivery of Trust strategy will be provided.

6   Contact Details

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The digital capabilities the Digital Transformation Strategy covers, for which the investment will be prioritised, are:

Citizen Empowerment
- Self-service appointment booking, support and guidance, patient feedback
- Online consultations and access to therapeutic services
- Self-management, monitoring and clinical data from wearables
- Service user relationship management (incl. social media intelligence), contact hubs (incl instant calling from the record) and communication channels
- Patients able to share experiences and support each other in a safe social media environment

Public Health, Care and Wellbeing
- Regional health and care record, Document sharing, Shared care plans, Information sharing consent status accessible to healthcare staff
- System that can be integrated across healthcare organisation and boundaries , Integrated care pathway, Digital referrals incl community and IAPT
- Electronic mental health, palliative and social care co-ordination
- *Bots as virtual support workers, machine learning of patient care pathways, pathway triggers and affective Computing (Emotion AI), pending further Mental Health funding*

Clinical
- Mobile records with voice recognition for records entry with semantic analysis of unstructured notes to determine key words for coding
- Integrated healthcare observations and electronic care record that collects physical health assessment and interventions data
- Clinical decision support, with bots as virtual clinical advisors pending Industry Strategy Catalyst funding
- *Capturing clinical, service and patient generated data and information, and a co-ordinated informatics resource for mental health research to support clinical decision-making, pending NCR Mental Health Data Pathfinder funding*
- *Artificial intelligence for predictive and prescriptive analysis, demand driven clinical processes and patient alerts, pending Industry Strategy Catalyst funding*
- *Electronic clinical screening and monitoring, machine learning of clinical pathways, pending Industry Strategy Catalyst funding*
- *Electronic social prescribing, integrated prescription of controlled substances, machine learning of medicine pathways and medicine reconciliation, pending NHSE Social Prescribing funding*

Efficiency and Effectiveness
- Staff are able to access systems quickly across the whole public sector estate
- Mobile communication and collaboration tools for staff
- Performance management of healthcare services, with mobile self-service reporting for staff
- Task-oriented working, healthcare workforce management and resource planning
- Equipment monitoring and asset management

Intelligence
- Standardised coding to create data making and to generate public health intelligence

- *Artificial intelligence to analyse relationships between prevention or treatment techniques and patient outcomes, pending Testbed funding*