

## The Digital Ambitions for Sandwell and West Birmingham Trust 2020-2025

### Introduction

Technology and digital solutions continue, at pace, to change our everyday lives, yet it is well documented, and known by those of us who work in the NHS, that basic IT, digital and online platforms and clinical tools in health and care is far behind where it needs to be (NHS England & NHS Improvement (NHSE&I), 2019; Department of Health and Social Care (DHSC), 2018).

We need to harness the advances in technology and digital solutions to enable services to transform and move away from the traditional service models that were created when the NHS was founded in 1948. New service models need to empower people to have more control over the care they receive, have more support to keep them well, and better able to manage conditions, all while assisting health care workers in their work (NHSE&I, 2019). Across the Trust many staff are still having to follow paper-based processes as workarounds because the technology is slow and clunky. Our staff, partners and patients need technology that makes life easier for staff and all those using health and care services and their families (DHSC, 2018).

Within our STP, the Black Country and West Birmingham (BCWB) Healthier Futures Digital IT Strategy (2019/20) reiterates the NHS Long Term Plan observations that technology has revolutionised our lives and that digital technology offers the greatest potential to transform health and social care. The STP agenda focuses on digital as a key factor to improve the quality of care and service delivery, become a financially sustainable system and make our organisations the place of choice to work for health and social care professionals. The Sandwell and West Birmingham (SWB) 2030 vision, as noted in the Healthier Futures Digital IT Strategy (2019/20), outlines the 6 system principles of mobile, available, geographical, current, shared and secure.

The digital ambitions for Sandwell and West Birmingham Hospitals (SWB) have been born out of consultation with clinical and operational leaders in the Trust alongside ideas submitted by staff at all levels. As we continue on this journey of improving our digital footprint we aim to not just respond to the needs of our stakeholders but be proactive in our approach; understanding the challenges our staff and patients' experience and seek to find digital solutions to reduce or eliminate these challenges, all while aligning to the regional and national agendas in digital transformation.

### Vision and Mission

Our digital ambitions will underpin the principle of providing the right care and information to the right person at the right time and in the right place.

This will look and feel different depending on your view as a stakeholder:

- As a patient of SWB you have access to the healthcare information you need and about you at your fingertips. Use digital solutions to support you in making decisions about your healthcare and to seek care in a method, time and place that suits you, and choosing where you are cared for including in your own home.
- As a member of the community you have access to the healthcare information you need to keep you well and know when to seek help through digital tools such as online self-assessments, virtual triage and online appointment bookings.

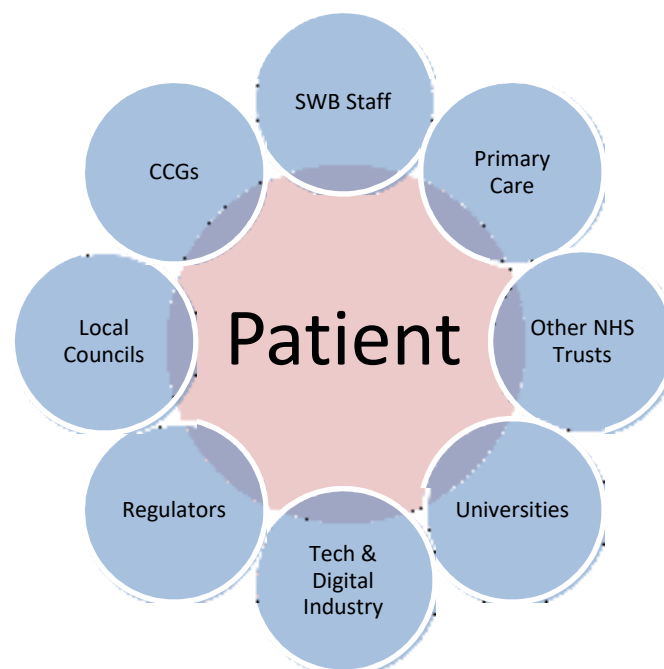
- As a member of staff you have the correct and reliable equipment and IT systems to effectively and efficiently care for your patients, communicate with your colleagues and offer a variety of teaching methods.
- As an organisation we have the right tools and data to ensure we understand our population health, our patient flow, and manage our resource. We will drive forward technological and digital solutions to achieve our strategic ambitions.

To achieve our visions our mission is to be responsive to the needs of our stakeholders, implementing innovative and reliable agile digital solutions that provide the desired outcomes for patients, staff and the local community.

### Stakeholders

To achieve our visions we will consult and collaborate with our stakeholders which include a wide variety of organisations such as Primary care, other NHS Trusts, CCGs and Local Council funded organisations as well as the Third Sector – volunteer and charitable organisations. The technological and digital industry also provides many of the innovative solutions to support new ways of working; and our local universities and regulators provide the frameworks to provide evidence based solutions in a safe and effective way. And of course our staff are key to drive forward change, seeking digital and technological solutions to help solve the challenges they face in delivering timely and effective care to our patients, who are at the core of everything we do.

### Stakeholders (Fig 1)



### Priorities

The priorities for digital transformation for the next 5-10 years have been documented by numerous organisations, such as DHSC, NHSE and NHSI.

Themes across all these include:

- Ease of access and interaction for patients and clinicians
- Secure and interoperable
- Use of innovative technology and digital solutions such as AI

We will align our priorities to those of our STP and focus the delivery of our digital ambitions to achieve these (BCWB, 2019/20):

1. Allow integration and interoperability to minimise the impact of organisational boundaries in health and social care. Information must be available to the right people, in the right place, at the right time to deliver and transform services, and break down organisational boundaries.
2. Develop a cyber resilient infrastructure which helps teams work efficiently across our system.
3. Enable data driven health care technology – technology which succeeds is based on human behaviour, human needs and an understanding and empathy for individual’s ability to read, interact with, and understand what is expected of them.
4. Enable prevention, empowerment and person centred care - We need to give consideration to our local population needs, develop a deep understanding and empathy for individual’s ability to read, interact with, and understand what is expected of them. Increasing health literacy can help improve physical and mental wellbeing and health.
5. Enable innovation and transformation Research and innovation almost always requires some form of coordinated collaboration with other teams, specialists, education, industry, manufacturers and volunteers, sometimes with international input. We need to continue to invite specialists from various clinical, technology and medical backgrounds within and external to our organisations.
6. Enable a sustainable and effective system. We need to transform our digital offer to both the public and staff to become a sustainable and thriving system.

### Guiding Principles

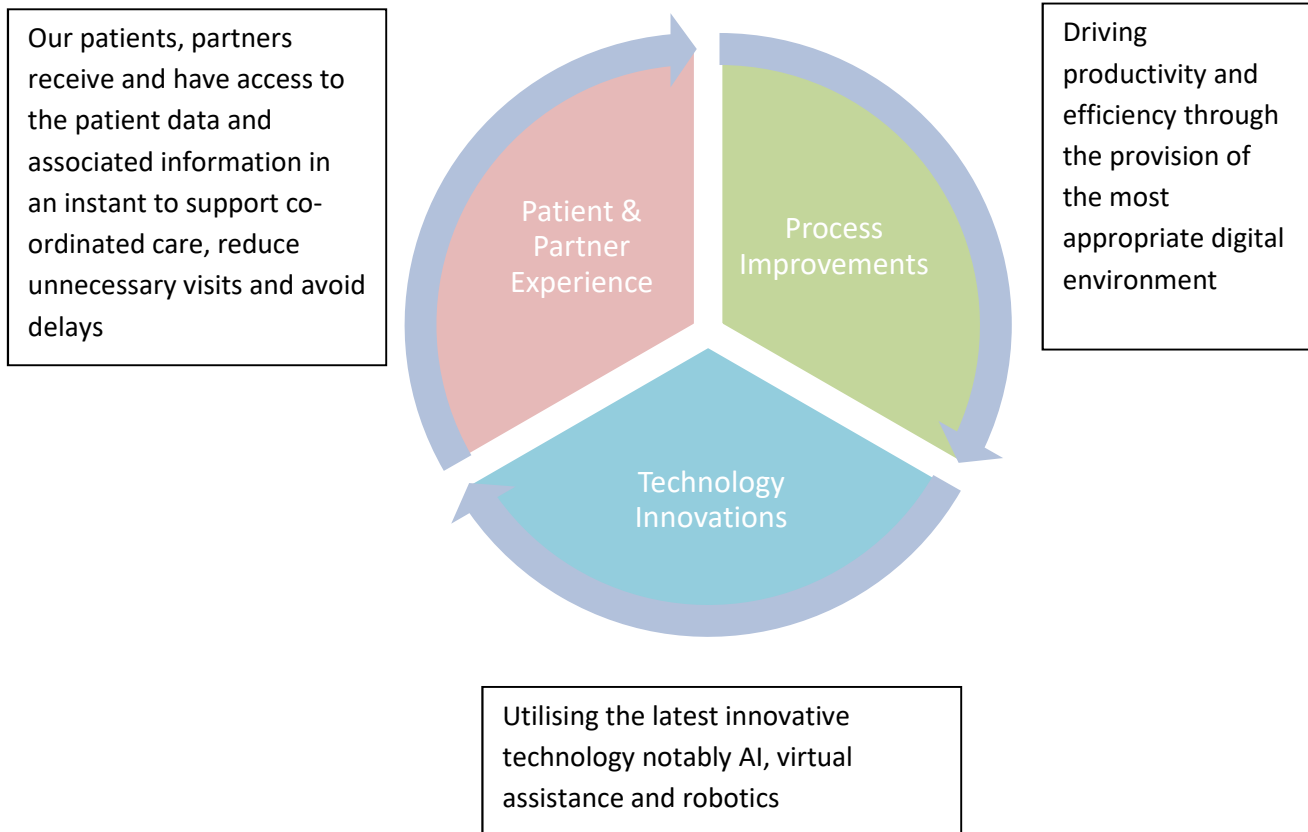
These 10 guiding principles will underpin the delivery of the above priorities:

<b>Organisational</b>	<b>Technological</b>
1. Support co-ordinated care across care providers without unnecessary delays in transfer of care	1. Secure and GDPR compliant
2. Improved access to diagnosis, treatment and health information	2. Promote use of innovative solutions
3. Support care provision in people’s own home and out of hospital settings	3. Device agnostic and platform independent
4. Promote self-care and maintaining own well-being	4. Offer system integration to existing systems to support data sharing
5. Support improved business processes	5. Cost effective

## Themes (Fig. 2)

The themes of our digital ambitions are divided into 3:

1. Patient and partner experience
2. Process improvements
3. Technology innovation



### Patient and Partner Experience

Our ambitions within this theme focus on empowering patients to maintain health and stay independent and easily navigate the health and care system when they require advice and intervention. Supporting our system partners by providing ease of and rapid access to clinical advice and health data will also enable an improved patient and partner experience.

Some of the measures of success may include:

- Secure access of patients to their own health record
- Clinical consultations able to be provided remotely and securely
- Reduce unnecessary hospital visits
- Reduce delays in accessing appropriate clinical advice
- Trusted online information for patients
- Ability for patients and partners to book and amend appointments with the Trust
- Improved PROMS and Friends & Family tests scores

### Patient and Partner Experience specific initiatives in delivery

No.	Initiative	Current status
1	Virtual consultations with patients	Delivered for OPA during Covid19
2	HIE for GPs (View of Unity)	First phase of GPs signed up during 2019/20
3	Patient portal for Unity	First phase of go live end Sept 2020
4	Regional record sharing	BCWB STP project in progress
5	VCreate for maternity (remote parent / baby video)	Delivered during Covid19

### Proposed Patient and Partner Experience specific initiatives

No.	Initiative	Idea Originator
1	Extending the scope of the use of virtual consultations with patients such as for examinations and teaching or rehab	PCCT
2	Further roll out of HIE to GPs with deployment during the remainder of 2020	Primary Care Liaison
3	Further roll out and improvements of the Unity patient portal	Trust-wide
4	Dedicated apps or mobile friendly web pages to support patients in receiving and interacting with certain specialities	PCCT / W&CH
5	STP - Single digital front door – linking a BCWB App with the NHS App	BCWB STP
6	Visitor and new patient app or mobile friendly web page to provide information, directions and self-check in	MMUH
7	Ability for patient to contact a Healthcare professional for those with long term conditions (and be monitored at home)	PCCT
8	Text consultations with patients such as for treatment reviews by pharmacy	Primary Care
9	Patient transport App similar to Uber	Trust-wide
10	Ability to 'bring your own device' (BYOD) when an inpatient to communicate with friends and family, use the internet and even work	IT
11	Real time advice, MDTs and prescribing between primary care and hospital clinicians	Primary Care Liaison / BCWB STP
12	Language translation services / Interpreting	Trust-wide

### Process Improvements

Our ambitions within this theme focus on driving productivity and efficiency, seeking to improve business processes (and not simply digitise poor business processes) which have traditionally been done manually, use out dated labour intensive digital and paper-based processes or use traditional methods of communication.

Some of the measures of success may include:

- Reduce delays in the referral process between teams, departments and organisations
- Reduction in errors and duplication of data entry owing to lack of interoperability between systems
- Reduce use of paper
- Provide instant access to clinical and corporate information
- Reduction in the cost of storing and scanning paper records
- Rapid and streamlined on-boarding for staff to improve turnaround times for recruitment
- Increased staff satisfaction

#### Process Improvements specific initiatives in delivery

No.	Initiative	Current status
1	Virtual conversations and collaboration between staff	Implementation of webex meetings and Teams during Covid19. Roll out of N365 due in 2021
2	Use of a bleep app to replace the bleep device	Testing in progress Aug-Sept 2020
3	Internal electronic referrals using Unity	Options appraisal in progress Aug-Sept 2020
4	Clinical image sharing apps*	Options appraisal complete and testing in progress Aug – Sept 2020. Integration with EPR and process to comply with GDPR to be determined.
5	Clinical diagram drawing functionality in Unity	Device functionality under review by Cerner July-Sept 2020
6	Single sign on	Phase 1 complete during 2019, phase 2 to include further applications in progress during 2020
7	IT role based equipment and software deployment (digital identity)	Phase 1 in progress to determine feasibility between associated IT systems, due end Sept 2020

#### Proposed Process Improvements specific initiatives

No.	Initiative	Idea Originator
1	Further develop the Acute EPR, Unity (potential scope and roadmap in appendix 1)	CCIO, CSO, CIO
2	Extending the scope of virtual meetings for managing MDTs and training	Trust-wide
3	Further integration and improvements of the EPRs used across the Trust – Unity, SystemOne and Badgernet	CEO
4	Implement EPMA for SystemOne	PCCT
5	Access to EPR off-site	PCCT
6	Alternatives to traditional databases to capture patient data outside of an EPR	W&CH
7	Digital asset management system (*potential to include a clinical image sharing app)	Clinical Illustration
8	Electronic referrals – improved management of internal and external referrals	Trust-wide
9	Electronic consenting process	Trust-wide
10	Bed head access to clinical systems	MMUH

11	E-triage for General Practice, ED and sexual health	PCCT / ED
12	Digitally accessible maternity records	BCWB STP
13	Electronic PROMs	Surgical Services
14	Dashboard for monitoring ward stock levels	Medicine
15	Virtual Smartcards	IT
16	Electronic job planning and staff rotas	Medicine
17	Electronic staff files	HR
18	Electronic PDR and staff talent management	HR
19	Recruitment software (TRAC)	HR
20	Redesign the IT portal on the Connect intranet	IT
21	Centralised Trust-wide managed alarms	Security
22	Integrated Trust-wide system for security – CCTV, body worn cameras, car parking passes, door controls	Security

### Technology Innovations

Our ambitions within this theme focus on utilising the latest innovative technology notably AI, virtual assistance and robotics. Advances in this type of technology have the potential to revolutionise healthcare to:

- speed up tasks that are repetitive and mundane to free up time
- support clinicians by improving accuracy of diagnosis
- and empower patients, enabling them where possible, to monitor their own condition through AI and wearable technologies

Some of the measures of success may include:

- Improved accuracy and turnaround times for imaging diagnostics
- Reduced delays in responding to the deteriorating patient
- Reduction in turnaround times for previously paper-based or manual tasks

### Technology Innovations specific initiatives in delivery

No.	Initiative	Current status
1	AI for Imaging	Pilots in progress with IBM Watson, led by Imaging
2	Softphones (telephone calls on computers)	Testing in progress. Aim Trust-wide roll out by end Sept 2020
3	Robotic Process Automation (RPA) to reduce repetitive manual tasks	Options appraisal in progress 9Aug-Sept 2020). Proof of Concept for pharmacy invoices Oct - Dec

### Proposed Technology Innovations specific initiatives

No.	Initiative	Idea Originator
1	Wearables and biosensors to support remote monitoring	PCCT
2	Home testing and dosing alert system for anti-coagulation	PCCT
3	Remote clinical examination	PCCT
4	Voice recognition for clinical note taking	Trust-wide

5	Virtual reality for clinical activities such as surgical training	Surgical Services
6	Virtual reality for patient rehab and mental well-being	IT
7	3D imaging to improve diagnosis	Imaging
8	Extending the scope and roll out of AI for imaging diagnostics	Imaging
9	Patient tracking e.g. babies, those with dementia, ward transfers	MMUH, Medicine & ED, & W&CH
10	Chatbot for FAQs for staff	HR
11	Chatbot for FAQs for patients	Trust-wide
12	Real time alerts for nurses regarding the deteriorating patient	Medicine
13	App to support reduction of falls	IT
14	AI use to triage, manage referrals and schedule appointments	Surgical Services
15	Voice assistance to support carers in rehab, dementia support, medicines management	IT
16	Robotic surgical platform	Surgical Services
17	Use of robotics in urology and T&O	Surgical Services
18	Robotics to support pharmacy operations	Pharmacy
19	Device tracking	MMUH
20	Automated goods vehicles	MMUH
21	Automation of on-boarding and off-boarding of staff	HR

### Enabling work-streams

There are four enabling work-streams to support the delivery of the digital ambitions. Three of these will work alongside the delivery of the initiatives to ensure clear engagement, associated training and an improvement in business processes.

#### 1. People & OD

Building a digitally capable workforce with the relevant skills, knowledge and attitude is a vital part of successful implementation of all digital solutions. A training work-stream is therefore proposed to be established to ensure suitable training methods are considered and developed including e-learning, user guides, videos and bespoke face to face training as required, supported by the health and care digital capabilities framework (Health Education England, 2018).

#### 2. Communications & Engagement

The development and implementation of each digital ambition will require engagement from the services which will utilise and benefit from the digital solution which may be Trust-wide. The establishment of a communication and engagement work-stream will support the development of an over-arching communication plan and co-ordinate engagement activities, but this should not be seen as a standalone piece of work as communication and engagement will need to be an integrated part of all digital ambitions work-streams.

#### 3. Business processes

A separate work-stream may not be required but it will be important to ensure all digital ambitions are supported by efficient and effective processes and not simply digitising poor business processes.



Where poor processes are identified support from operational, clinical and improvement leads to redesign the business processes to support the implementation of any digital ambition will be essential.

#### 4. IT Infrastructure

The fourth enabling work-stream is IT infrastructure. This work-stream needs to be delivered regardless of the digital ambitions agenda to ensure the Trust has an improved and stable IT but the ambitions are dependent on its success. A two year plan is currently underway continuing to improve the Trust’s IT infrastructure, including supporting the delivery of the new hospital Midland Metropolitan University Hospital project.

Key deliverables include:

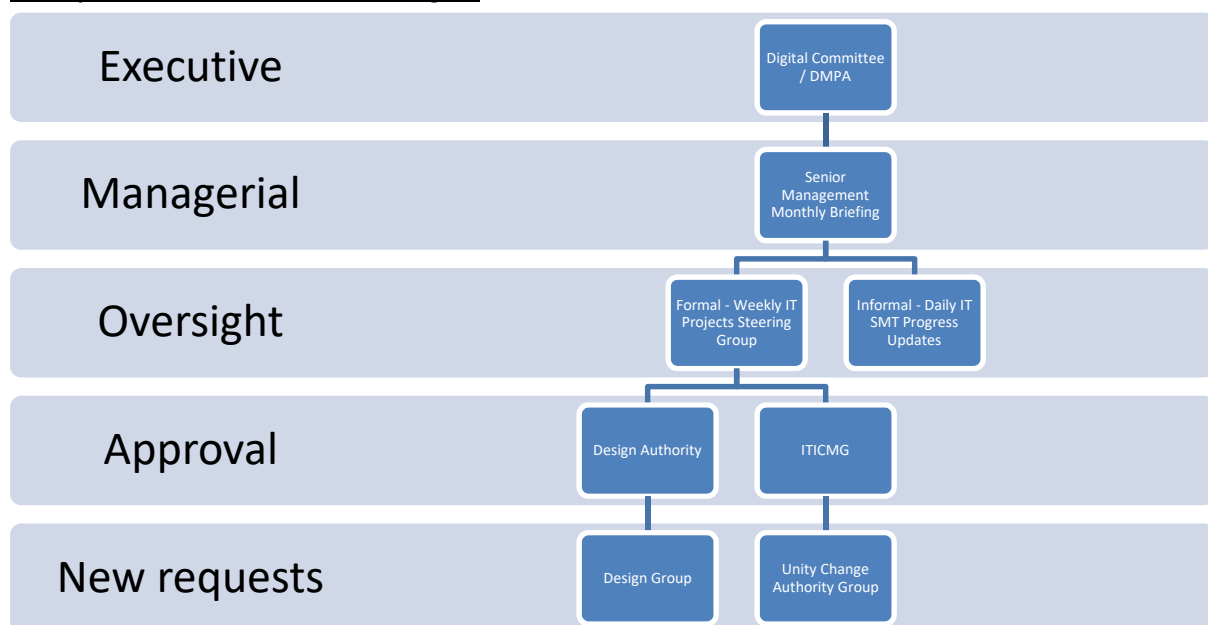
- Capable and reliable networks including Wi-Fi stability
- Resilience of systems availability
- Latest reliable version of software
- A robust cyber security platform
- Simple identity management
- Sound and video capability for all

#### Delivery of the Digital Ambitions

##### Governance and change management

Existing project and change management governance, within the IT department, will be used to manage the digital ambition pipeline of initiatives through to delivery. An improved IT project governance structure has been established in 2020 (fig. 3) and works alongside the existing IT change management group, clinical reference group and local digital committees which ensure the appropriate engagement, design and relevant approval of each change request.

IT Project Governance Structure (Fig. 3)



This approach provides the forums to determine the most appropriate solutions to meet the stakeholder requirements, track the progress of delivery, and manage risks, issues and dependencies as they arise. The high level process for managing new requests is shown in appendix 2.

New requests are received in a variety of ways from individuals to local digital committees. Approval to proceed to delivery is sought from the local digital committee or for corporate requests the Head of Department. The Clinical Reference Group may advise on trust-wide clinical impacting initiatives, but the appropriate approval process for Trust-wide initiatives may need further consideration.

### Funding

Financial support for the development and implementation of digital ambitions will need to be considered on a case by case basis. There is a moderate budget available to support some Trust-wide initiatives in a proof of concept stage or to support with implementation costs. It is proposed however that business cases will be required to be written by the primary stakeholder for approval by the budget holder when the costs of an initiative exceeds £25,000.

The writing of business cases for initiatives specific to a particular service or Group will be led by the service, those with Trust-wide implications such as RPA will be led by the IT department, and funding sought from Groups who wish to use the initiative.

In all cases the assessment of costs will include:

- License or product fees
- Equipment – all hardware
- Supplier maintenance
- Trust and IT resource required for maintenance / ongoing support
- Supplier implementation
- Trust and IT resource required for implementation
- Potential integration with other products e.g. an EPR

Funding provision for the Cerner roadmap is also required. To support the ongoing development of the Unity product additional modules will be required. Pre-arranged funding arrangements and not the requirement of business cases for each module will support more rapid deployment. The potential implementation of PowerTrials for research is a current example, in which the Head of R&D is in the process of writing a business case.

It is worth noting a report from the National Audit Office on NHS Transformation (May 2020) highlighted that recent investment in digital transformation within the NHS has been inadequate, resulting in a poor track record of delivery, and key targets such as a paperless NHS by 2018 have not been achieved. Typically trusts spend less than 2% when 5% is recommended, however working within the STP provides us the opportunity to standardise, benefit from economies of scale and seek additional funding.

## Inclusion and addressing inequality

It is important to consider inclusion and address the potential for inequalities with the introduction of new technology and digital solutions. An Equality Impact Assessment (EIA) is required when introducing a new service, policy, or function development, as per Trust policy. EIAs seek to determine if there could be a negative or the potential for a negative impact on any member of the protected characteristics.

EIAs should therefore be completed when developing or introducing new digital solutions. Consideration beyond the 9 protected characteristics, such as other socially excluded groups, and those with low digital literacy or those less able to access technology, will also be important to achieving equal outcomes implementing any reasonable adjustments as and when required (DHSC, 2018).

## Conclusion

In 10 years' time the new model of care for the NHS will be 'digital first', supporting people to stay well, recognise important symptoms early and to manage their own health, all guided by digital tools (NHSE&I, 2019). By harnessing the power of technology and creating an environment to enable innovation, we can manage the growing demand for services and create the secure and sustainable future for the health service and social care system (DHSC, 2018).

Our patients are at the core of everything we do and so with the ongoing programme of engagement and collaboration, and developing and introducing digital ambitions we will ensure we provide the right information at the right time, improve time to diagnosis and care, and ensure the patients are fully informed about their own healthcare.

## Recommendations

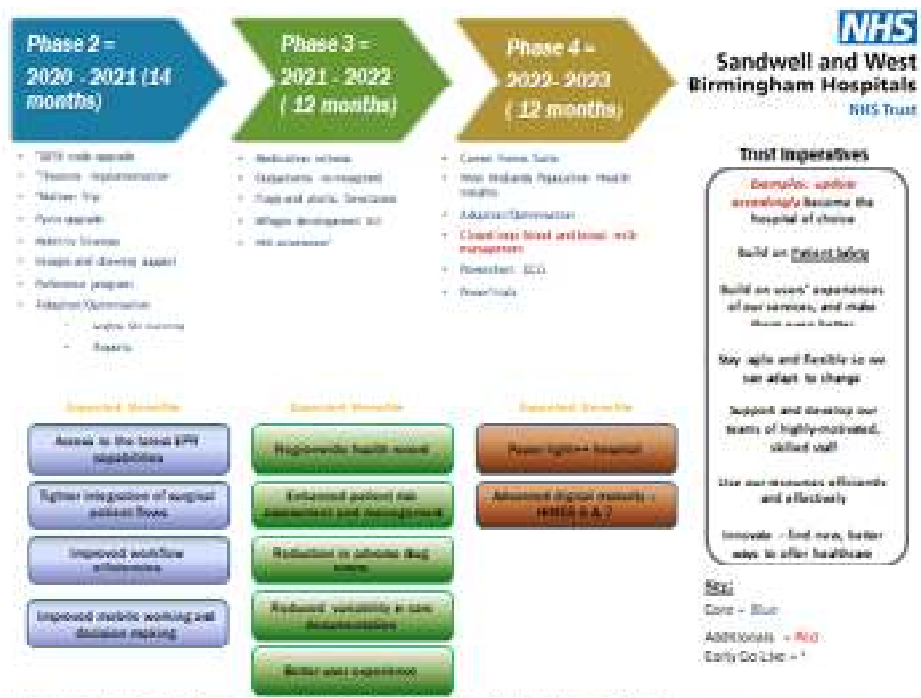
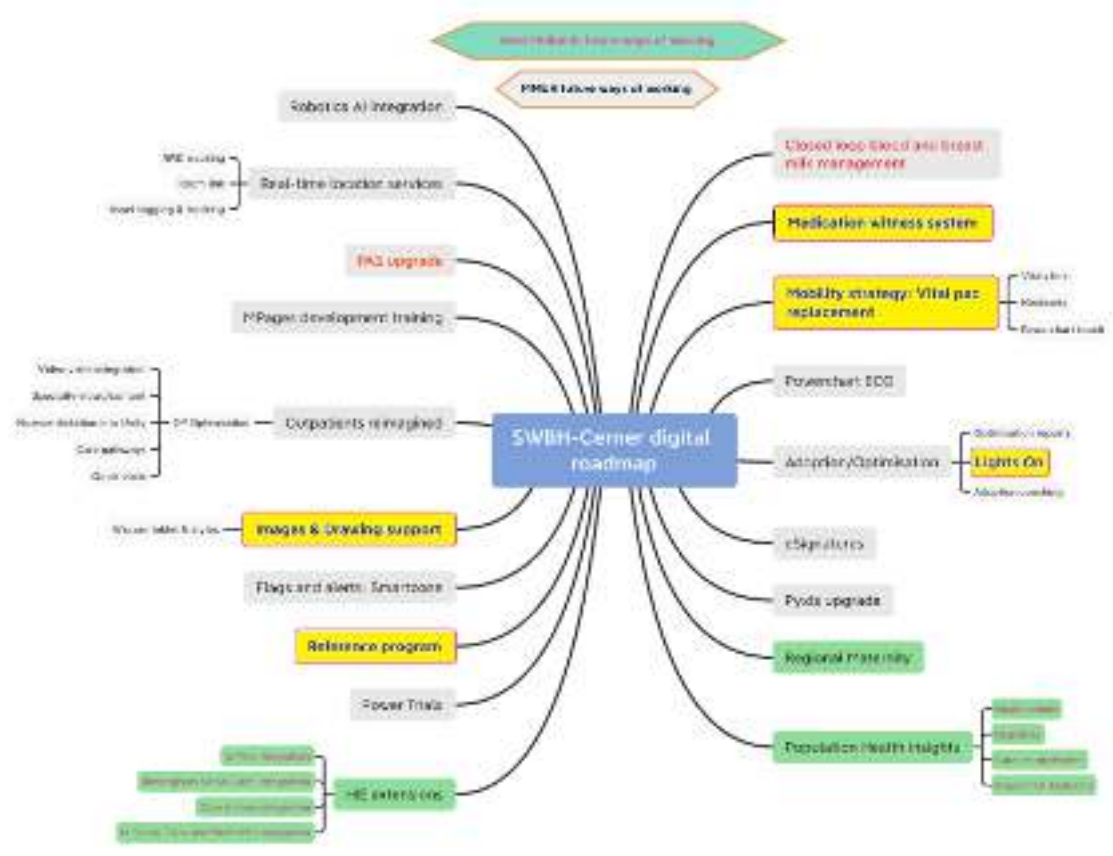
- The committee is asked to note the content of the paper
- The committee is asked to confirm the governance arrangements of approval of Trust-wide initiatives
- The committee is asked to consider the use of business cases funding arrangements of the digital ambitions
- The committee is asked to consider the next steps to in reviewing the Cerner Unity scope and roadmap

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August 2020

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# Appendix 1 Provisional Cerner Unity Scope and Roadmap



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## Appendix 2

### High Level IT Process for Managing New Requests



### Key

Activity	Yellow
Document(s) to be completed	Purple
Meeting / Forum	Green
Forum action	Blue