BETTER TOGETHER

NHS
Royal Devon
University Healthcare
NHS Foundation Trust

# Digital Strategy

July 2023

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# 1 Foreword

Advances in digital and information are transforming our everyday lives, changing the way we socialise, shop and work and recreating how businesses supply services.

Through digital there is great potential to empower our patients in their care management, improve how we deliver our services and work with partners to optimise pathways. This will, if done well, free up time, augment our clinical offerings and lead to safer and more convenient care. It will also help us meet the increasing expectations and demands on our frontline and supporting services.

The Royal Devon has strong digital foundations in place with a powerful shared patient record across all our patient services and a proud culture of data and research-led clinical practice. We will support patients to feel the benefits of increasing digitally connection to their local NHS, either through their own access or via our teams.

Our recent experiences through the Covid-19 pandemic where we saw increased application of virtual consultations, remote monitoring and digital clinical decision aids in every day healthcare has developed wide consensus on the opportunities for technology to go hand in hand with our clinicians in helping us adapt our care to meet the expectations of our patients and staff in modern healthcare delivery.

We also know that innovation in automation, remote working, and robotic process automation in our corporate services like human resources and finance will ensure our clinical services and workforce are supported with efficient services.

As part of our digital plan, we want the Royal Devon to be known for its skill and innovation in harnessing technology to improve patient experience, outcomes and our staff experience working here.

This strategy describes how we expect digital to enable our ambitions to transform our patient care and sets out the roadmap to achieving it.

There will always be choice for our patients about how they access our clinics and appointments with face to face always an option; but everyone will benefit from the digital transformation and connections possible beyond the walls of our hospitals.

In implementing this strategy, we will take digital inequality into account, and ensure our advances in technology do not exclude anyone from accessing care. This means ensuring our staff have the digital skills to work in modern healthcare as well as ensuring our patients benefit from digitally enabled care whether or not they chose to access it virtually.

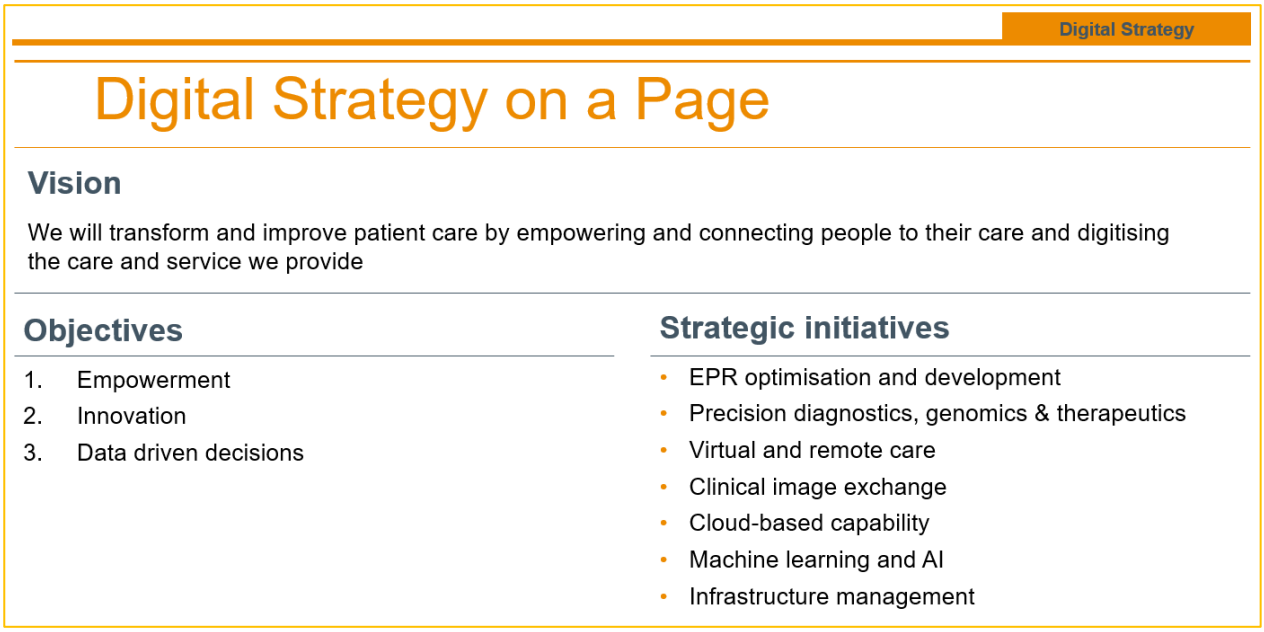
As across the wider NHS, Devon remains challenged with unprecedented service demands and financial constraints; we aim with this strategy to best serve our patients and staff through optimal use of digital and information as its potential evolves and presents greater opportunity for all.

**Professor Adrian Harris**
Chief Medical Officer

**Tony Neal**
Non-Exec Director – Chair of the Digital Committee

# 2 Executive Summary

## 2.1 Digital Strategy on a page




## 2.2 Digital Vision

Modern life is being transformed by innovations in technology and information and our digital strategy sets out how we will harness these opportunities to improve and transform healthcare.

Our strategy starts from strong foundations: we are already joining up people's care through our electronic patient record, patients attend virtual appointments with our clinicians and can check their own records using our patient portal.

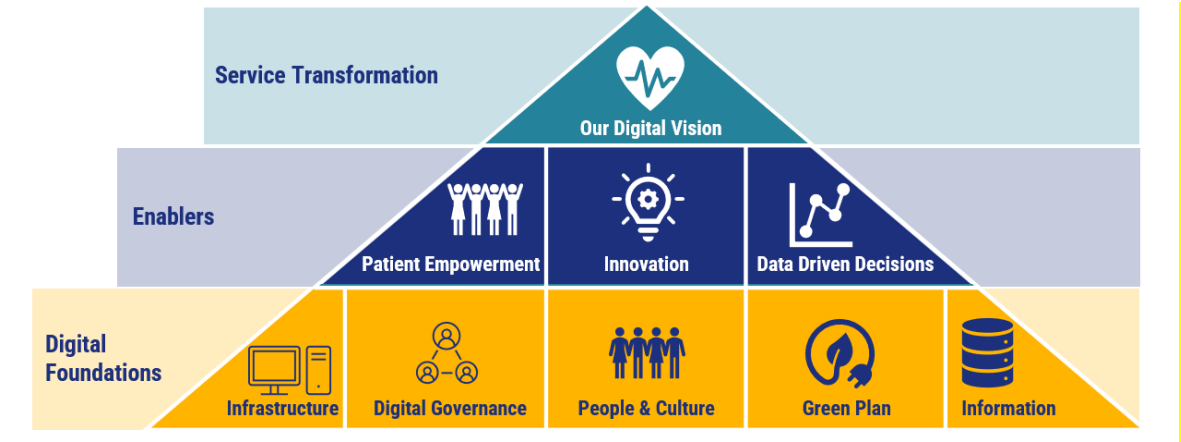
Over the next five years our vision is:

> We will transform and improve patient care by empowering and connecting people and digitising the care and service we provide

This strategy sets out our digital ambitions, which were developed with our staff and those who use our services, as well as a description of how people will experience working in and receiving digitally-enabled healthcare in the future.

## 2.3 Digital Themes

Extensive stakeholder engagement across Royal Devon and wider health community has underpinned the development of the Digital Strategy. Feedback from that stakeholder engagement identified key themes. These themes have been organised into 3 layers as shown below:




## 2.4 Digital enablers to our clinical and enabling strategies

This strategy supports the delivery of our clinical strategy by:

**Empowering patients and staff** to greater access to services and control of their care through digital tools and skills. We will ensure our workforce is confident in using digital tools and that we avoid digital exclusion.

**Innovating and transforming care** to improve health and quality outcomes and enhance the health and wellbeing of our local population. We will enable real-time clinical decisions and reduce administrative burdens.

**Data Driven Decisions** to the way we analyse and use the data to improve the efficiency and effectiveness of our care and services. Use our insights to collaborate with partners, develop our research and innovation capabilities in our collective efforts to modernise healthcare.

## 2.5 Our digital foundations

In developing this strategy five enablers were identified which need to form the foundation of delivering this strategy. They are:

**Infrastructure** includes — We will deliver a secure, safe and robust digital infrastructure function which cyber security and architecture expertise.

**Digital governance** — We will ensure the highest standards of information governance, data protection and patient safety.

**Culture** — We will support a culture open to the opportunities of digital innovation and ensure our staff and patients are supported through change. We will focus on the experience of people and develop our skills to meet expectations.

| | |
|---|---|
| **Sustainability** | We will maximise the use of digital tools and channels which reduce the NHS' carbon footprint. |
| **Information** | We will store and manage our data to enable the greatest potential of clinical innovation and service development. |

## 2.6 Where do we want to be by 2028?

By 2028 we aim to have achieved the following:

- Fully integrated digital team and systems, ensuring our team has the skills and creativity to support digital adoption and transformation
- Enhanced patient and staff experience via a digitally enabled clinical model
- Connecting patients to clinicians and supporting services
- Empower patients to manage their health and care offerings
- Optimise the use of EPR, our digital offerings and our resources
- Create time, improve pathways and automate where practical
- Unified and standardised services and infrastructure aligned to green plan
- Improve data driven decision making and seeking out AI opportunity

## 2.7 Headline activities and priorities / our roadmap

To achieve our ambitions, we have set out a roadmap of deliverables to support the three layers of the digital strategy.

Although delivery of the Digital Strategy is subject to a 5-year timeframe, in developing this strategy priorities were identified for the first 12 to 24 months. In light of the current financial and performance recovery context of the NHS, the initial phases of the strategy delivery have prioritised those schemes which:

- Deliver early benefits and help address immediate system pressures.
- Continue building the digital foundations required to enable future innovation.
- Addressing tactical as well as strategic priorities within Royal Devon.
- Aligning with dependencies that will enable delivery of other strategies (e.g. ICB, corporate, clinical).

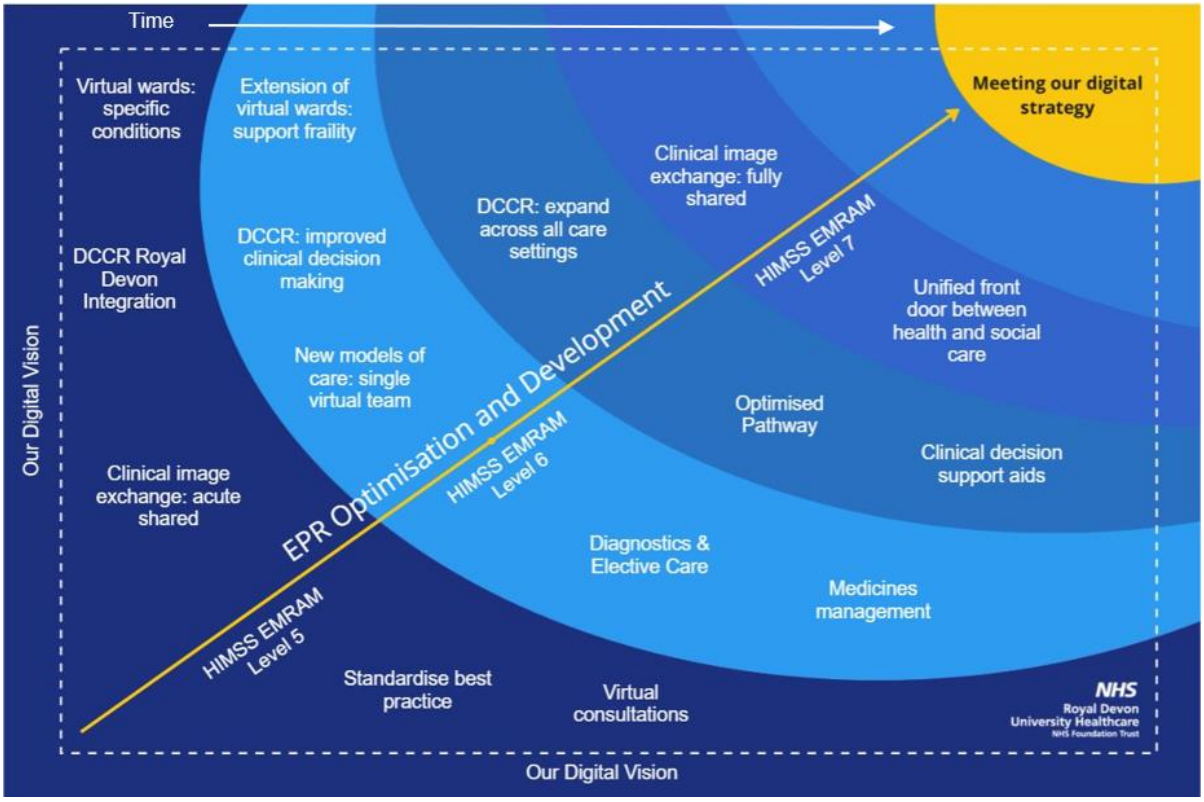
**Key Strategic Initiatives**

| | |
|---|---|
| **EPR Optimisation & Development** | A real-time and intelligent system that allows for greater efficiency and effectiveness of clinical and operational teams achieving an elevated level of maturity at a national level. |
| **Infrastructure Management** | Utilising estates monitoring equipment and connectivity to allow the effective utilisation of our buildings, locations and related equipment. Matching our ways of working with estate improvements such as hotdesking and role-based access will generate a managed environment that will allow evolution and growth. |
| **Precision diagnostics, genomics and therapeutics** | Improving our digital capabilities within this field of expertise will embed digitally enabled precision diagnostics, genomics and therapeutics services at the point of care. The Royal Devon will improve our presence as a national leader in this field whilst providing more accurate information about patients and their conditions. |
| **Virtual & Remote Care** | Using digital technology, we will increase our remote home care, using virtual wards, in-home monitoring, and patient self-care to develop an environment where patients can remain in their residences of choice with minimal care interactions. |
| **Clinical Image Exchange** | To produce a shared clinical image exchange with availability to all relevant healthcare partners. |
| **Cloud-Based Capability** | Working alongside OneDevon and national guidelines, we will perform assessments of the requirement to choose the right solution for the problem. |
| **Machine Learning and Artificial Intelligence** | Our services will effectively use current and future developments in AI and machine learning to improve efficiency and accuracy and importantly free up clinical time. Growth in this initiative will be key to delivering several key benefits and savings in future years. |

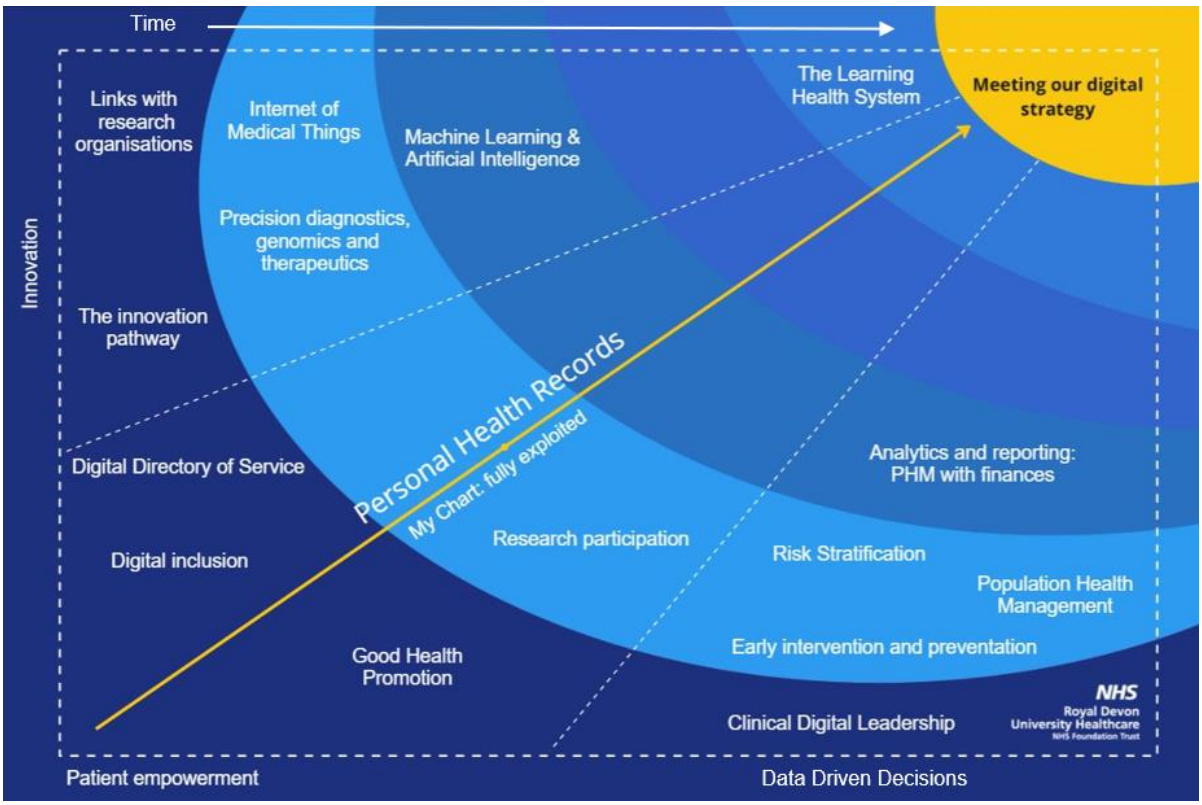
## 2.8 Transformation maps

The engagement during the development of this strategy generated ideas and proposals for how the Trust could aspire to meet its digital vision and ambitions. These ideas are placed in the following graphics to illustrate the range of initiatives the Trust could consider, subject to available investment and capacity.

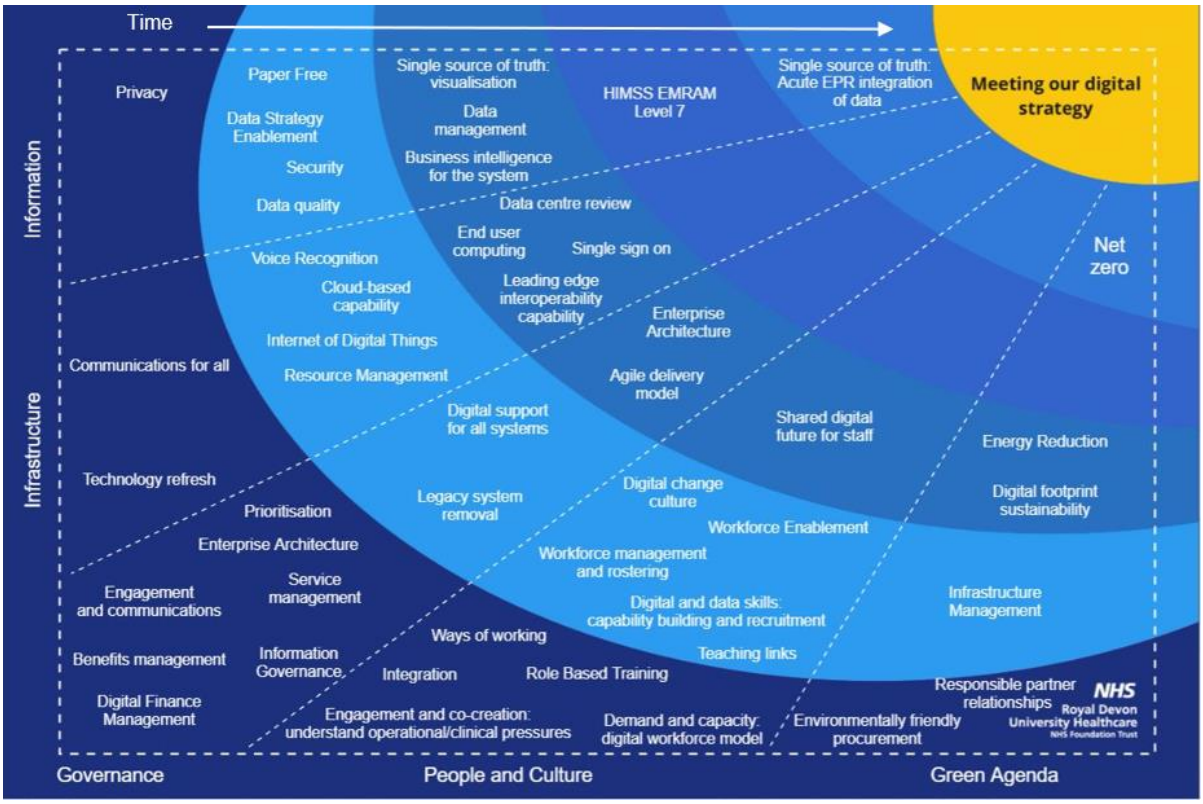
## Our Service Transformation




## Our Enablers



### Our Digital Foundations




## 2.9 Roadmap

# 2.10 Our Digital Strategy at a glance

## Our Digital Vision

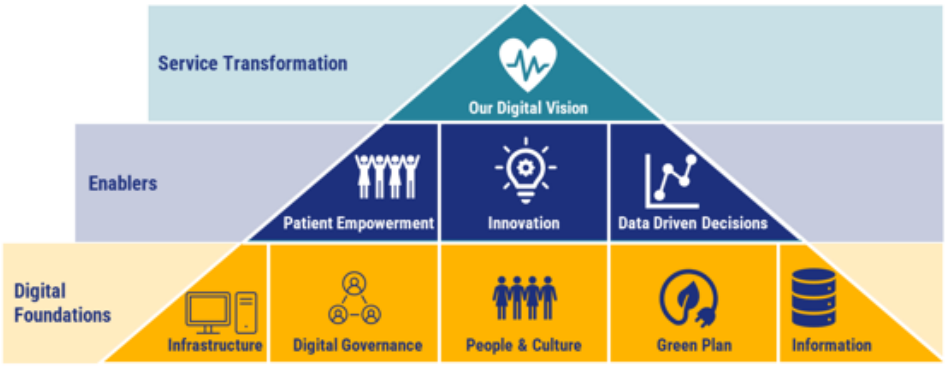
We will transform and improve patient care by empowering and connecting people and digitising the care and service we provide

## Our 10 Digital Principles

1. Digital Patient Services
2. Workforce and Leadership
3. Innovative and Agile Delivery
4. Patient Safety & Support
5. Clinician Time
6. System Focus and Leadership
7. Responsible Use of Information
8. Partnerships
9. Resource Management
10. Remain Strategic, Future Focus, Value Aligned

## Our CARE objectives

## Our Nine Digital Themes




## Our Delivery Roadmap

## Our 7 Key Strategic Initiatives

1. **EPR Optimisation & Development :** A real-time and intelligent system that allows for greater efficiency and effectiveness of clinical and operational teams achieving an elevated level of maturity at a national level.
2. **Infrastructure Management:** Utilising estates monitoring equipment and connectivity to allow the effective utilisation of our buildings, locations and related equipment. Matching our ways of working with estate improvements such as hotdesking and role-based access will generate a managed environment that will allow evolution and growth.
3. **Precision diagnostics, genomics and therapeutics:** Improving our digital capabilities within this field of expertise will embed digitally enabled precision diagnostics, genomics and therapeutics services at the point of care. The Royal Devon will improve our presence as a national leader in this field whilst providing more accurate information about patients and their conditions.
4. **Virtual & Remote Care :** Using digital technology, we will increase our remote home care, using virtual wards, in-home monitoring, and patient self-care to develop an environment where patients can remain in their residences of choice with minimal care interactions.
5. **Clinical Image Exchange:** To produce a shared clinical image exchange with availability to all relevant healthcare partners.
6. **Cloud-Based Capability:** Working alongside OneDevon and national guidelines, we will perform assessments of the requirement to choose the right solution for the problem.
7. **Machine Learning and Artificial Intelligence:** Our services will effectively use current and future developments in AI and machine learning to improve efficiency and accuracy and importantly free up clinical time. Growth in this initiative will be key to delivering several key benefits and savings in future years.

# 3 About Royal Devon

## 3.1 Our corporate services and vision

The Royal Devon provides acute and community healthcare services to the population of Northern and Eastern Devon with some specialist services across Devon, Torbay, Cornwall and beyond. The organisation was formed from the merger of Northern Devon Healthcare NHS Trust (NDHT) and the Royal Devon and Exeter NHS Foundation Trust (RD&E) in 2022.

Our Royal Devon Strategy – Better Together – sets out our journey to enhance staff experience to transform care across Northern and Eastern Devon, and to cement our position as a leading, digitally-enabled and clinically-led teaching Trust over the next 5 years.

This digital strategy and our suite of enabling strategies recognise the starting place for the Royal Devon in emerging from the shadow of the pandemic, having launched a newly merged Trust with a common Electronic Patient Record and recovering our services in a way which embraces new ways of working and responds to the changing needs of our patients and communities. Our experience through this time showed us that rapid, radical transformation is possible and beneficial to our patients.

Our Digital Strategy sets out our vision to transform and improve patient care by empowering and connecting people and digitising the care and service we provide.

A pre-requisite to the merger was the implementation of a single electronic patient record (EPR) across all our Northern and Eastern services. Both Trusts have a track record of investing in IT systems (Appendix A – Digital Achievements) with our clinicians leading the way in continuously challenging ourselves to do better and being curious about how data and intelligence can improve our care.

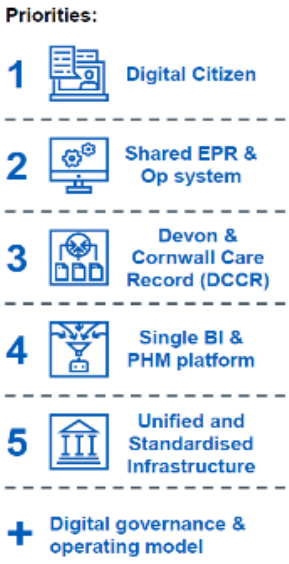
This provides the starting place for our digital evolution in supporting all our clinical innovation and transformation to improve patient care, quality, resilience and sustainability across Northern and Eastern Devon, and to tackle our most pressing challenges.

## 3.2 Our context

The NHS Long Term Plan (LTP) provides the evidence base for the NHS's adoption of digital technologies in improving patient safety and efficiency and sets the ambition for 'digitally-enabled care to go mainstream across the NHS'.

The LTP ambition to move more care into virtual settings was accelerated as we understood the advantages of technology in connecting people to their NHS when access to hospitals and clinics was restricted during Covid.

With the establishment of the Devon Integrated Care System (ICS) in 2022, the ICB has overseen the development of system strategies and enabling plans to achieve the Integrated Care Strategy and Devon Joint Forward Plan.



Digital transformation and opportunity is a strategic priority within Devon's strategies and plans.

The Devon ICB's digital strategy has the following vision:

***"Invest in a digital Devon: people will only tell their story once, first contact will be digital where appropriate and more advice and help will be available online. We want to make the most of advances in digital technology to help people stay well, prevent ill health, and provide care."***

The five digital priorities of the ICS digital strategy provide the foundations of all the Devon partners' digital strategies.

Royal Devon operates within a stable local health economy and has delivered significant levels of high-quality and cost-effective services to its population. Our Strategy (Better Together - Working together to help you to stay healthy and to care for you expertly and compassionately when you are not) sets out the journey to enhance patient and staff experience.

The Trust's strategic objectives - CARE – set out how we will achieve our vision and cement our position as a leading digitally enabled and clinically-led teaching Trust over the next 5 years.

Having published the Better Together strategy, the Trust commissioned the development of a supporting suite of enabling strategies, of which the clinical strategy has primacy.

Royal Devon's clinical strategy has a five-year vision to "Recovering our services whilst supporting clinical excellence and improved outcomes for our community, through working with the system partners and the application of technology, research and innovation'. This vision is underpinned by this digital strategy, as well as our other enabling strategies.

The Clinical Strategy has a set of principles to deliver upon its mission of improving the health and wellbeing of our community through leadership and partnerships, whilst delivering safe and

effective care to reduce clinical variation, improve process efficiency, and improve clinical outcomes.

## Clinical strategy:

| | |
|---|---|
| **Vision** | **Recovering our services whilst supporting clinical excellence and improved outcomes for our community, through working with system partners and the application of technology, research and innovation.** |
| **Objectives** | • Stabilising and developing acute medical services at North Devon<br>• Recovering our waiting times<br>• Reducing acute admissions and lengths of stay<br>• Increasing the separation between elective capacity and urgent care<br>• Strengthening cancer services<br>• Work with local partners to optimise community pathways |
| **Strategic priorities** | • Invest in staffing to support Acute Medicine in North Devon<br>• Improve safe alternatives to acute admission<br>• Build community capacity in domiciliary care and care home support<br>• Increase clinical productivity through transformation<br>• Build outpatient and diagnostic capacity<br>• Increase utilisation of the MyCare patient portal<br>• Reduce outpatient demand through patient initiated follow-up (PIFU) and increase virtual care<br>• Protect our elective bed capacity<br>• Support the Peninsula Acute Sustainability Programme (PASP)<br>• Using the power of Epic to transform services |

The digital strategy supports delivery of both Better Together and the clinical strategy by setting out the intention to optimise digital opportunities to improve patient care.

## 3.3 Our starting place

We are on a journey to enable Royal Devon to harness the power of digital advances in healthcare, to deliver better experiences for our patients and staff, and more productive services.

### 3.3.1 Where are we now?

**Culture:** Royal Devon has made substantial advances with the adoption of digital through the introduction of Epic and our transformative experiences throughout the pandemic. All of our front-line staff are trained to use a fully digitised electronic patient record, and there is a cultural appetite to modernise our corporate services and continue innovating our care models. We recognise there are further opportunities to exploit digital and information, to improve how we work.

**Processes:** Following the integration of RD&E and NDHT the digital corporate teams are integrated and embarked on a programme of system and process alignment.

**Systems:** Royal Devon's EPR (Epic) is live across both Eastern and Northern Services. There is significant opportunity to optimise the benefits from this investment and expand integration with other systems / services.

**Leadership:** Transitioning from support function to enabler within Royal Devon, collaborating with system providers on EPR and clinical systems development. Creating an infrastructure and service offering which will form a core building block for the wider Devon.

**Quality:** Digital maintains a good quality of customer service and service continuity to 13,000 staff and our clinical services, with plans to standardise across the East and the North. Reporting and data quality are priority areas of focus which led the Board to request a data strategy be developed and added to the suite of enabling strategies. There is a rise in information governance disclosure challenges with significant growth in patient requests for information, resulting in an 'Approaching Standards' rating within the Data Security and Protection Toolkit. There is a robust to cyber security, service level and change management.

### 3.3.2 Where do we want to be by 2028?

By 2028 we aim to have achieved the following:

- Fully integrated digital team and systems, ensuring the team has the skills and creativity to support digital adoption and transformation
- Enhanced patient and staff experience via a digitally enabled clinical model
- Connecting patients to clinicians and supporting services
- Empower patients to manage their health and care offerings
- Optimise the use of EPR, our digital offerings and our resources
- Create time, improve pathways and automated where practical
- Unified and standardised services and infrastructure aligned to green plan
- Improve data-driven decision making and seeking out Artificial or Augmented Intelligence opportunities

# 4 Our Digital Strategy

Royal Devon seeks to empower patients and staff by using information and digital technologies to transform and improve patient care. We will work with our system partners, to create a seamless experience for the Devon community harnessing innovation opportunities, developing clinical capabilities, ensuring patient safety, adoption and quality are central to our delivery. We will seek opportunities to innovate across care pathways and at every stage of the patient journey ensuring best outcomes and value for all.

This Digital Strategy was developed in tandem with the Clinical Strategy because of the close inter-dependencies between the two and the need to support robust investment decisions. Section 5 shows how the Digital Strategy is aligned to and enables delivery of the Clinical Strategy.

High-level financial analysis completed as part of developing the Digital Strategy suggests that successful delivery of this Digital Strategy:

- Will require significant investment to deliver over the 5 years
- Has potential to realise financial savings, which could create a potential return on investment over 5 years.

## 4.1 Digital Vision

Development of the Digital Strategy included extensive engagement with colleagues across Royal Devon and stakeholders across the wider ICS. We engaged our staff to ensure we informed this strategy with their views on the potential of using digital in our services and healthcare delivery. The themes emerging from this engagement were used to build the vision, as shown below.

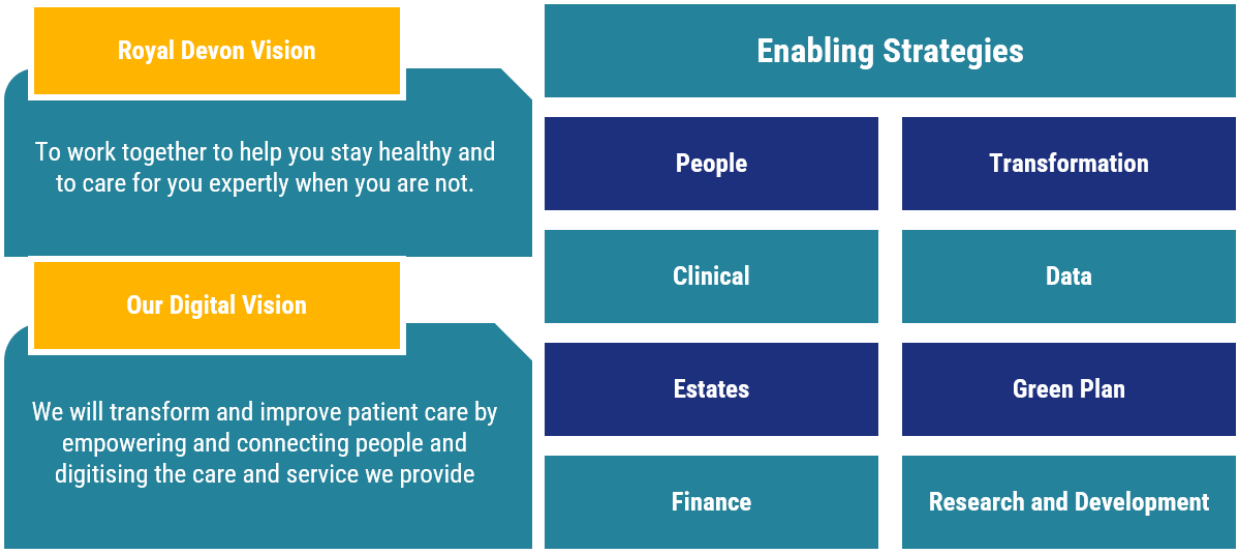
| | |
|---|---|
| **Our digital vision:**<br><br>**We will transform and improve patient care by empowering and connecting people and digitising the care and service we provide** | The aim to **transform and improve patient care** underlines that the Digital Strategy supports change to clinical and operational practice that delivers care in innovative ways to ultimately lead to better health outcomes for patients |
| | **Empowering and connecting people** recognises that digital capabilities support staff to be more effective and efficient in delivery through the provision of the digital tools and services they need to perform their role. The role of digital supports people to take greater responsibility for their own health through access to their own health and care information. |
| | Concluding the vision with the statement **digitising the care and service we provide** recognises the importance of every aspect of our digital offer takes in to account the lived experience of the people we serve. |

Underpinning all patient care are administrative systems which are essential in joining up and co-ordinating care. Patients are also consumers of other sectors like retail and banking, and their expectations of how the NHS should use digital to facilitate and aid access to care are rising. In a digital-first care environment, letters and appointments will be electronically transmitted and booked online and we will open up virtual care environments.

This strategy describes our ambition to harness the power of technology across all aspects of Royal Devon, for example:

- **Patients able to book their own appointments, access targeted information to suit their needs and manage their health in partnership with their clinicians via remote monitoring and wearables.**
- **Clinicians using technology to enable consistent clinical decision-making, being able to access reliable, real-time data and using digital tools to extend their interactions with patients beyond the walls of hospitals into virtual care settings.**
- **Corporate teams automating their manual data entry and streamlining the administration of clinical services to make it more efficient.**
- **Digital teams supporting a stable technology infrastructure and making sure there is sufficient capacity and capability to support our advances in clinical practice.**
- **Royal Devon being able to leverage our digital capabilities in the field of research, use our own data intelligence to form the evidence base for new care models, and medical advances such as genomics, automation and predictive healthcare.**
- **In North Devon specifically, due to the New Hospital Programme investment, leveraging our unique opportunity to reimagine digitally-enabled care in new digitally-enabled facilities. The learning from this significant investment will benefit our other services and inform our plans.**

We will ensure that all our digital investments and resources align with the delivery of our associated enabling Royal Devon strategies. The diagram below shows the key, interrelating strategies within our strategy suite.



## 4.2 Digital Principles

This Digital Strategy is underpinned by the following key principles, developed to reflect our patient journey and the need to demonstrate strong leadership in digital and information supporting our workforce, enabling them to deliver safe and high-quality care.

We recognise our need to effectively manage our information and resources delivering high quality care and the best possible patient outcomes in a way that is ambitious and responsible, aligned to our values and position as a digital leader.

Building on robust digital foundations these principles will guide our decision-making to ensure we deliver the best possible patient and staff experience in our exploitation of digital opportunity.

## 4.3 Strategic priorities

Although delivery of the Digital Strategy is subject to a 5-year timeframe, in developing this strategy priorities were identified for the first 12 to 24 months. In light of the current financial and performance recovery context of the NHS, the initial phases of the strategy delivery have prioritised those schemes which:

- Deliver early benefits and help address immediate system pressures.
- Continue building the digital foundations required to enable future innovation.

- Addressing tactical as well as strategic priorities within Royal Devon.
- Aligning with dependencies that will enable delivery of other strategies (e.g. ICB, corporate, clinical).

There are seven strategic priorities and they are summarised below and contained in more detail in Appendix C:

| | |
|---|---|
| **EPR Optimisation & Development** | A real-time and intelligent system that allows for greater efficiency and effectiveness of clinical and operational teams achieving an elevated level of maturity at a national level. |
| **Infrastructure Management** | Utilising estates monitoring equipment and connectivity to allow the effective utilisation of our buildings, locations and related equipment. Matching our ways of working with estate improvements such as hotdesking and role-based access will generate a managed environment that will allow evolution and growth. |
| **Precision diagnostics, genomics and therapeutics** | Improving our digital capabilities within this field of expertise will embed digitally enabled precision diagnostics, genomics and therapeutics services at the point of care. The Royal Devon will improve our presence as a national leader in this field whilst providing more accurate information about patients and their conditions. |
| **Virtual & Remote Care** | Using digital technology, we will increase our remote home care, using virtual wards, in-home monitoring, and patient self-care to develop an environment where patients can remain in their residences of choice with minimal care interactions. |
| **Clinical Image Exchange** | To produce a shared clinical image exchange with availability to all relevant healthcare partners. |
| **Cloud-Based Capability** | Working alongside OneDevon and national guidelines, we will perform assessments of the requirement to choose the right solution for the problem. |
| **Machine Learning and Artificial Intelligence** | Our services will effectively use current and future developments in AI and machine learning to improve efficiency and accuracy and importantly free up clinical time. Growth in this initiative will be key to delivering several key benefits and savings in future years. |

## 4.4 Implementing the strategy

The Royal Devon Board of Directors oversees the delivery of all strategies via a corporate roadmap. Presented quarterly the roadmap collates the milestones and achievements across all of the Trust's strategic programmes.

The digital strategy has its own delivery roadmap as well as enabling the delivery of many of the clinical milestones in the corporate roadmap.

The following high-level roadmap captures the key milestones that the Digital Strategy will deliver between 2023 and 2028. Also highlighted is their alignment to the C A R E objectives.

## 4.5 Improving patient experience

A more efficient NHS ultimately means a better service for patients, reduced waiting times and more effective, safe care. Patients will have more flexibility and choice about how and where they access services and receive care, helping them to stay healthy for longer. A key element of our digital vision is to deliver an improved patient experience of the care system, based on the following objectives:

1. Improved access to and choices about healthcare
2. Care co-ordination
3. Supporting people when they become patients through clear communication, which is underpinned by our digital systems, that reduces their anxiety and increases their autonomy and control of their care.

## 4.6 Staff experience: supporting a great digital place to work

This strategy aims to also improve the experience of staff who provide the care and support to our patients.

Our staff will have the best possible digital experience alongside fit-for-purpose training, with programmes focused on the following objectives:

1. **Enabling staff:** Workforce innovation and reducing the administrative burden for clinical staff are clear themes in the Clinical Strategy. The Digital Strategy will ensure that all staff have the right tools and training to fully leverage digital capabilities, and being mindful to avoid Digital Exclusion.
2. **Supporting transformation:** Our Better Together and enabling strategies all set out the need to continually evolve and transform our services, to deliver better care for our patients. There are key drivers to change our care pathways to reduce patient travel time and deliver care closer to home.

# 5 Enabling delivery of the Clinical Strategy

In jointly developing the clinical and digital strategies, it has been possible to align the priorities to ensure the interdependencies and innovation are captured. It is an explicit assumption that all future clinical innovation and transformation will require digital investment and support.

The detailed descriptions of the Digital Themes and Strategic Initiatives is shown within Sections 6,7 and 8. The table below demonstrates the alignment between the clinical themes in the Clinical Strategy and the strategic initiatives in this digital strategy:

| Clinical Theme | Strategic Area | Digital Themes / Strategic Initiatives |
|---|---|---|
| **Reduce acute admissions and length of stay** | Domain 1 | Virtual and Remote Care<br>Patient Portal |
| **Liaison and joint working/networking across providers**<br>**a) Trust working internally**<br>**b) Trust working with the system** | Domains 1-4 | Shared patient record (Devon and Cornwall Care Record - DCCR)<br>Machine Learning, Artificial Intelligence and Robotic Process Automation (systems for radiology)<br>System Integration<br>Optimised Pathways<br>Data-Driven Decision Making |
| **Providing timely elective care and tackling the current backlog** | Domains 2 and 3 | System Integration and Shared Patient Record (virtual teams)<br>Data-driven Decision Making (Using digital technology to identify health inequalities and solutions)<br>Machine Learning, Artificial Intelligence and Robotic Process Automation (Enabling further spread of Robotics in surgery)<br>Clinical Image Exchange (Hybrid theatres – bringing imaging technology into theatres) |
| **Changing care pathways and access to services**<br>- **Reducing patient travel**<br>- **Delivering care closer to home** | Domains 1-4 | Digital Directory of services – updated and dynamic<br>Demand and Flow Management (Using systems and digitally collected data to improve operations through the hospital) |
| **Patient empowerment/ personalised care** | Domains 1-4 | Patient Portal (MY CARE)<br>Virtual Consultations (Patient Initiated consultation - virtually enabled follow-up)<br>Virtual and Remote Care (Remote monitoring with wearable technology)<br>Digital Inclusion (Digital access in rural and remote environment) |
| **Workforce Innovation** | Domains 1-3 | Workforce Management and Rostering<br>End User Computing (Use of technology such as smart phones apps and VR)<br>Clinical decision support aids |
| **Reduce administrative burden** | Domains 1-4 | EPR Optimisation and Development (reduce nonclinical time for clinicians)<br>New approach to Data Analytics and Reporting<br>Systems Integration<br>Machine Learning, Artificial Intelligence and Robotic Process Automation |

# 6 Our 9 Digital Themes

Extensive stakeholder engagement across Royal Devon and wider health community has underpinned the development of the Digital Strategy. Feedback from that stakeholder engagement identified key themes. These themes have been organised into 3 layers as shown below:

**Service Transformation**

The Service Transformation layer delivers the digital vision of our future models of care (and similarly for enhancements to operational delivery) – from current initiatives such as virtual wards and remote monitoring to future uses of augmented intelligence and digital clinical decision support.

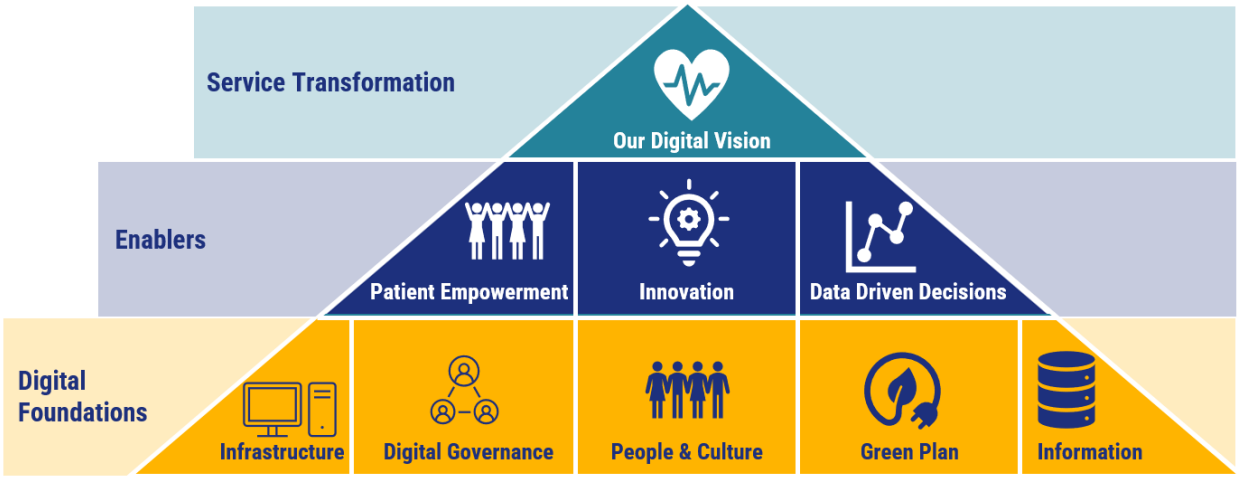
**Enablers**

The Enablers layer groups core aspects of digital delivery focused on empowering patients to be active participants in their health and care, embedding data and insights into all aspects of clinical and operational decision-making, and harnessing innovation to support our improved care provision.

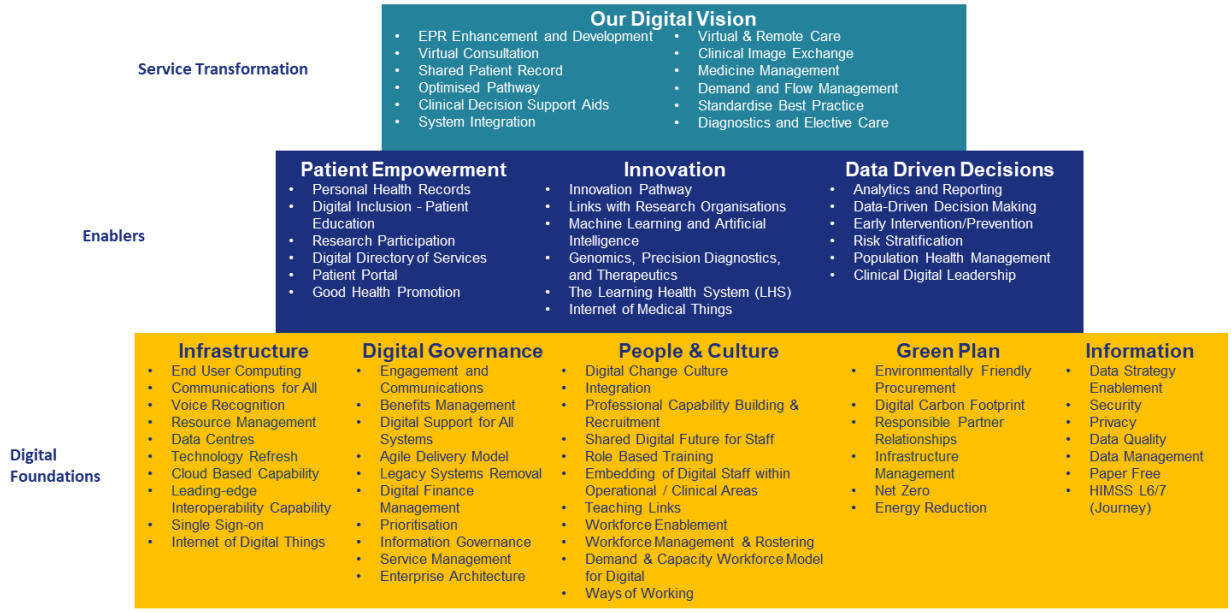
**Digital Foundations**

The Digital Foundation layer brings together the work needed to ensure all aspects of this Digital Strategy can be delivered by having the appropriate level of technology infrastructure in place, and an information architecture that supports all aspects of Royal Devon's service delivery. These digital foundations recognise the important contribution that digital can, and will, make to Royal Devon's Green Plan. They also embed active digital governance that combines clinical, operational, clinical safety and technical teams, decision-making about the future digital activity. At the heart of the foundational layer is the recognition that this Digital Strategy can only be delivered with the right people in place and a culture that embraces digital as a key enabler of transformation across Royal Devon.

The pyramid below populates the layers with specific priorities. The digital foundation layer describes the required support upon which the other layers are built and includes 5 themes. These robust foundations support the enablers layer (including 3 themes), which then enable Royal Devon to deliver 'Our Digital Vision' within the service transformation layer.



The Trust has identified 74 strategic initiatives which outline the digital workstreams which are required to support delivery of the clinical strategy and Trust strategy. These strategic initiatives are presented within the roadmaps against each section.



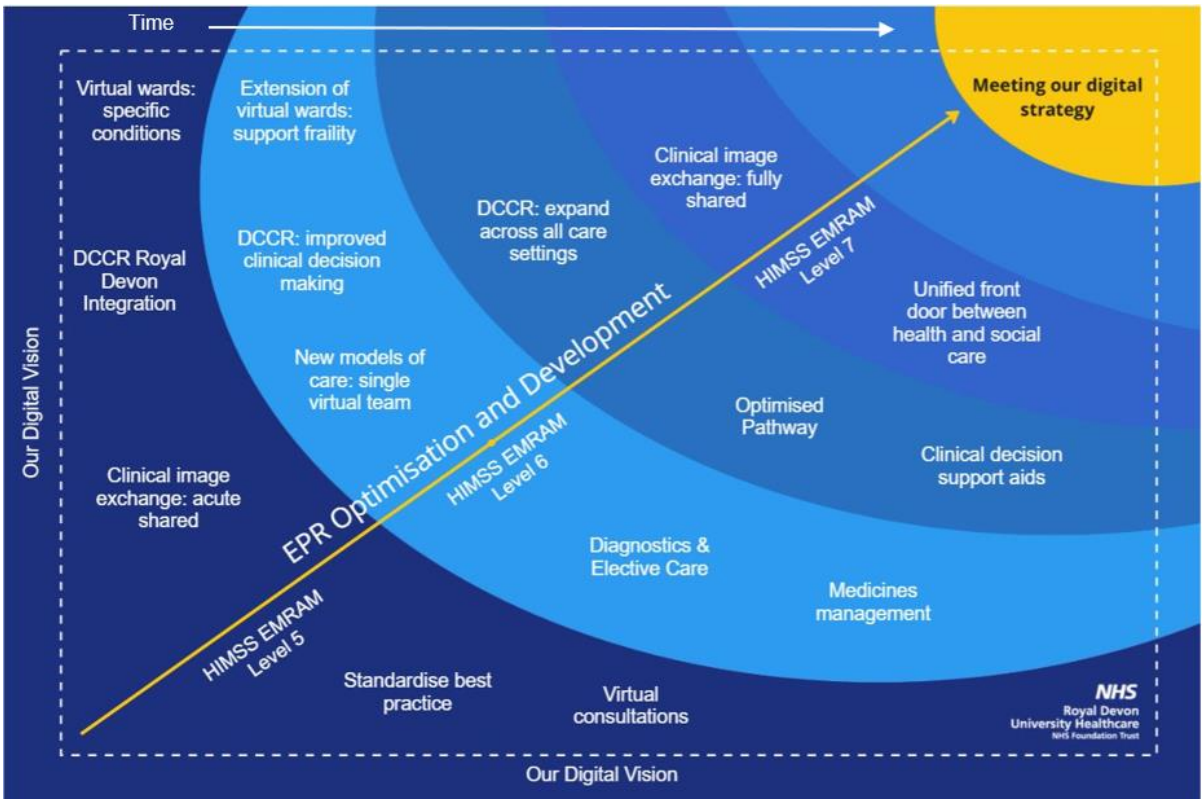

## 6.1 Service Transformation

Our strategy details the strategic initiatives that will support the development and delivery of the vision to “Transform and improve patient care by empowering and connecting people and digitising the care and service we provide”

The transformation roadmap below highlights several key areas and specific programmes which will enable delivery of the Trust strategies.

Whilst recognising that providing care or offering care to patients virtually is not always clinically appropriate, Royal Devon wants to both give clinicians the tools to deliver virtual care safely where it benefits patients and digitally underpin our services to that they are experienced in a joined up way whether accessed virtually or face to face.

The engagement during the development of this strategy generated ideas and proposals for how the Trust could aspire to meet its digital vision and ambitions. These ideas are placed in the following graphic to illustrate the range of initiatives the Trust could consider, subject to available investment and capacity.




### 6.1.1 Our Vision for Digital Care

Our digital vision takes stock of our starting place - a maturing EPR implementation, and a high degree of cultural aptitude for embracing technology to describe those areas where there is consensus on the initiatives which are going to move us the furthest forward in transforming our care and services.

Royal Devon's ongoing investment in, and clinical development of, our EPR is an important thread that runs through both Royal Devon's Clinical and Digital Strategies. Harnessing the benefits of the EPR is critical in enabling and empowering our teams to deliver the best outcomes for patients.

The investment and implementation of the EPR across North and East Devon was based on the need to connect rurally isolated acute services and clinicians together. That resilience, advice and support could be enabled by digital connections between clinical teams.

The capabilities unlocked by an EPR were evidenced by the speed with which Royal Devon implemented virtual wards as part of the 2022 NHS Winter Plan.

The following programmes describe the areas of focus to achieve our digital vision:

**EPR Optimisation and Development** will maximise the potential of our EPR, enabling changes to ways of working that ease the data input by clinicians, and increase the use of functionality within the system. This, in turn, will establish an environment that provides autonomy and empowerment to teams, freeing up clinical and operational time.

There is a significant emphasis on increasing **diagnostic capacity and elective recovery** in the Trust's strategies. Both of which will benefit from digital tools to automate processes, automate diagnoses with AI and joined up clinical administrative systems.

Equally the community and acute clinicians providing urgent care will benefit from accessing joined up patient care records and real-time information to support clinicians working and contacting patients remotely. For example, the creation of dashboards to identify COVID-19 patients, tools to streamline the discharge process and refinements to make prescribing safer.

Liaison and joint working/networking across providers will be improved by developing **Systems Integration** (including clinical imagery) with Royal Devon's health and care partners, communities and people. Utilising digital technologies to bring together and share patient data between Trust teams and with our partners is a key driver both nationally and regionally (i.e. via the 'What Good Looks Like' framework, ICS Digital Strategy, and the One Devon plan).

System integration will bring efficiencies in clinical care and will enable the best use of resources across health and care provision, allowing for a unified approach to patient **Demand and Flow Management**, ensuring the information needs between care services are fully communicated with supporting processes known to all and removing duplication of services and activity.

Leveraging the information within our EPR we will strive to improve our response to differing levels of demand and optimise how we manage flow through our various care settings. This requires us to make more intelligent use of our information, aided by automation where possible.

Our **Shared Patient Record** through communication and sharing of information provides clear advantages in connecting clinical services from across the health and social care system, and in making the whole system simpler and easier to navigate for patients, their families and staff. Our Clinical Digital team will work closely with our clinical teams to continuously improve the ways in which our EPR can make patient care, safer, easier and more effective.

By aligning to the Devon and Cornwall Care Record and participating in **Clinical Image Exchange** and Population Health Management, we will deliver better health outcomes for the communities of Devon and develop a care environment rich in real-time data, that is easy for patients to interact with through an Integrated Health and Care System (OneDevon).

Our **Optimised Pathways** will support a truly digital patient journey, integrating communication between all system partners enabled by systems integration, joint planning of care pathways, and continual joint review of how these are working. The focus will be on improving links with community, primary and social care digital systems, and with those of other care providers which offer services to the Royal Devon population. Evidence from other health systems shows that integrated digital care plans between acute, community and primary care (GP) can have significant positive financial benefit in reduced administrative activity as well as very substantial patient safety impacts.

Our digital capabilities will enable the development of one-stop services. This will involve changes in pathways and practices and sophisticated, person-centred scheduling, but will reduce numbers of hospital attendances, which will boost efficiency, improve patient experience (diagnosis and treatment on the same day) and reduce the effect of travel on the environment. Many of our patients are managing multiple health conditions and supporting them to manage the complexity of our services and systems will be of significant patient benefit.

Changing care pathways and access to services (where possible, keeping care closer to home), Royal Devon will work with the patient as a partner to co-design new models of care through digitally trained care staff and comprehensive access to patient information. With a more efficient care model developed, this means professionals will have more time for clinical judgement, service transformation, collaboration, and training.

This strategy supports the delivery of a key objective of the clinical strategy – to reduce acute length of stay – by supporting increased **Virtual and Remote Care**. We will extend our existing use of virtual ward capability within Ambulatory Medical Unit, Respiratory and Elective Care where practical across other specialties.

Our Clinical Strategy sets the expectation of significantly increasing the size and functionality of our virtual wards. via empowering patients to monitor their own health with smartphone apps, wearables and acoustic monitoring. Through this, we will deliver an environment where patients can remain as close to or in their homes of choice with minimal care interactions.

In our outpatient transformation plans, we commit to using **Virtual Consultations** wherever clinically appropriate to reduce the need and frequency of patients travelling to access services and simplify pre-assessment and follow-up. The alternative face to face options will always be available for those who prefer not to access our services digitally. Virtual provision not only enables care closer to patients' homes, but it also has important environmental benefits.

Based on our current data, an increase in virtual outpatient attendances is likely to mean that around 3.5 million fewer miles will be driven by patients each year, reducing carbon emissions by approximately 650 tonnes. For patients, this results in savings of approximately £0.5m in petrol costs and £600k in parking charges. This approach also supports a flexible working for clinical staff, making best use of valuable clinical time and further contributing to the environmental benefits because of reduced staff travel.

Royal Devon will be seen as a champion of **Standardise Best Practice** using digital tools and upskilled staff to standardise care pathways. This standardisation will facilitate the care of patients by the right people, in the right place, at the right time. Optimising and standardising ways of working through digital transformation can have many benefits. It can make workflows more efficient, as well as reallocating resources as required. As the Trust continues to network its pathways across the ICS and integrate pathways across North and East, supporting clinicians will remain a priority within this digital strategy.

Developing and using **Clinical Decision Support Aids** throughout Royal Devon services will support consistency of care, reduction of error, improve the level of accuracy, and streamline decision-making processes increase efficiency.

Providing digital tools in support of **Medicine Management** can deliver benefits including better substitution of generics, greater adherence to formulary and better processing and matching of invoices while addressing the increase in expenditure on high-cost drugs.

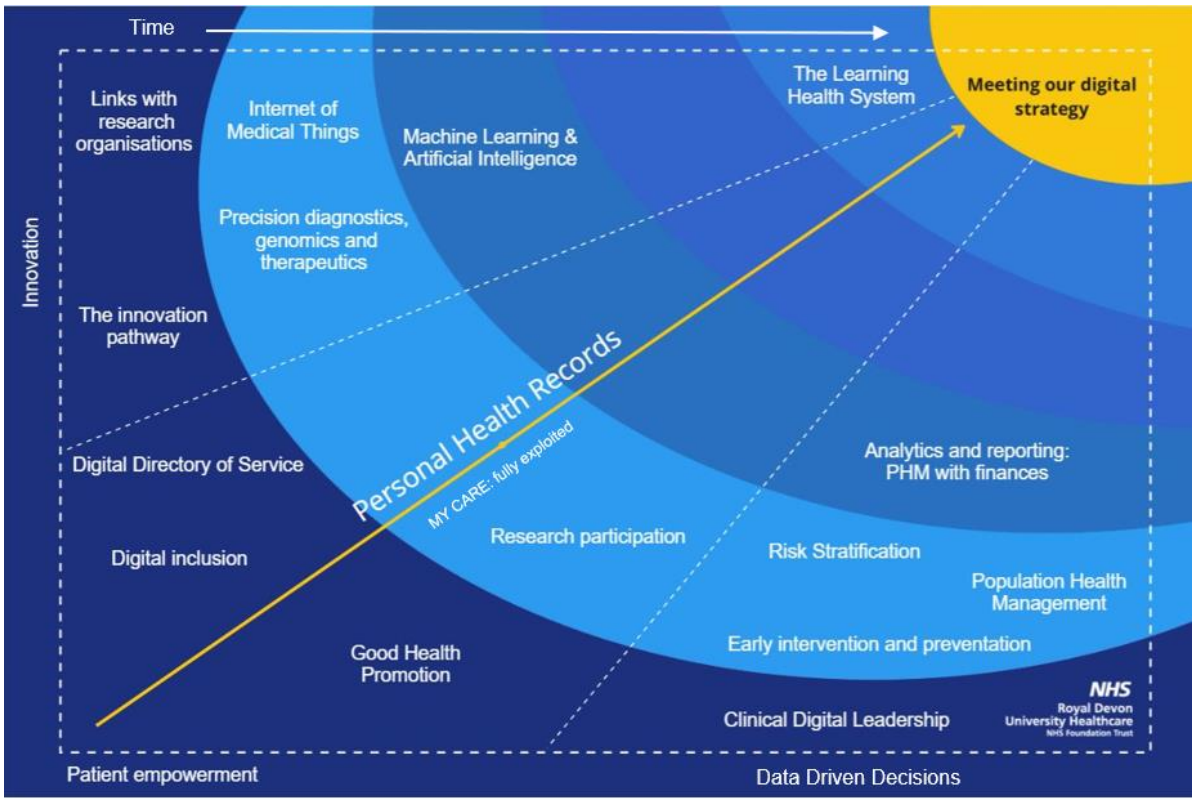
This section has described how digital technologies will support and enhance clinical and operational staff to deliver a future model of care that makes the most of Royal Devon's EPR and wider digital capabilities.

# 7 Enablers

Three enablers have been identified to support delivery of this Digital Strategy:

1. **Patient Empowerment**
2. **Innovation**
3. **Data Driven Decisions**

Again, during the engagement in developing this strategy our stakeholders considered the enabling interventions required to meet the digital vision and ambitions. The following graphic presents those ideas and proposals, all of which are subject to annual planning rounds and available resources.



## 7.1 Enabler 1 – Patient Empowerment

The greatest digital benefit in healthcare is the power of connecting people to clinicians to healthcare interventions. In a rurally isolated county such as Devon, this connection is vital in overcoming barriers of access.

At the heart of our model of care is the connection between clinician and patient and organising the resources of the NHS to promote health and wellbeing.

Involving people, as partners, in their care is an extraordinarily powerful capability enabled by the digitisation of our care services. Patients being able to access their own health records to understand and manage their interactions with the health service will lead to patients taking more control and ownership of their health.

For those living with long-term conditions, being digitally connected to their clinical team in times of health deterioration or reducing the disruption of follow-ups in their daily lives will empower these people to feel more in control and enable us to provide more continuity of care.

People will have greater ownership and control over their health and care through access to, and updating of, their **Personal Health Records** (PHRs). Integrating both our Patient Portal (MY CARE) and the NHS App will enable us to offer patients a wide functionality. We will embed PHRs in Royal Devon's care processes including links to other health and care providers.

With the introduction of a patient self-booking portal we will develop our patient portal to enable patients to book and cancel their own appointments safely and securely. Within five years we are aiming for 50% (c.400,000) of appointments to be booked by patients themselves. This will be more convenient for patients and reduce Did Not Attend's (DNAs) as the patient will be in control of their appointment and free up administrative staff to support clinical care in other areas.

Leveraging our **Patient Portal** is at the heart of our Patient Empowerment initiative as it enables patients to view all of their health and the tools to manage their own health in partnership with their clinician. By the end of 2023/24 we aim to have enrolled 100,000 patients on the system, increasing to 250,000 within 5 years. Support will be provided for patients who are inexperienced with digital systems, for example, in virtual consultations, and there will be support for patients who are unable to access the internet in their homes.

We will continuously increase the use of **patient-initiated follow-up (PIFU)** where a patient initiates an appointment when they need one, based on their symptoms and individual circumstances. This moves us from clinical practice of the clinician asking for a follow-up within time parameters to a position where patients who are managing their condition choose their frequency of appointment. If one in twenty follow-up appointments were saved through this approach, there would be an additional 22,000 slots available per year in which to see other patients, which would help reduce backlogs.

Driving continued integration post-merger, a **Digital Directory of Services** (DDOS) will be designed in support of the Clinical Strategy. The directory of services will span acute, community, primary care, mental health, and social care services, to direct staff and patients to the most appropriate team in the first instance. This will be developed with clear guidance on how to access existing and future services for use by clinical teams and patients.

The updated DDOS will include information about waiting times for our emergency department (ED), walk-in centres (WICs) and minor injury units (MIUs). Each year Royal Devon sends over 2 million letters to patients, many of which include leaflets (patients frequently receive the same leaflet multiple times) and other documentation, which could be more easily made available online, including improving the availability of **Good Health Promotion** advice. The Trust will broaden, improve and promote an online information centre, providing patients with access to up-to date support and information across our clinical services.

Whilst there are significant benefits of digitisation of care, we will ensure we avoid digital exclusion of our patients caused by people not having the digital skills, connectivity or accessibility to engage with health care services digitally. This means that whilst our internal systems and ways of working may be digitised, automated and connected, patients will always have a choice about how they interface with our clinicians and services. There will always be a face-to-face option.

With the patient as a partner, the digital team will develop initiatives to improve **Digital Inclusion** through connectivity, training, and engagement. Digital exclusion results in poorer health outcomes because it means people struggle to access all services, not just health, that may benefit them. To this end we will join in partnership with our partners across Devon and local voluntary sector organisations to ensure we are using our resources and facilities to help people overcome digital exclusion.

We will grow people's **Research Participation** through opportunities linked to Royal Devon and partner organisations (including university) developments. Using our patient base to develop, and integrate, research participation into our engagements will produce an ever-evolving health system that is generated from innovation and research.

## 7.2 Enabler 2 – Innovation

The innovation enabler was borne from the need to provide the evidence to support radical change. Our culture of innovation will continue to evolve supported by a clear innovation pathway that benefits from strong links with research organisations and industry.

This strategy is written at a time of sustained workforce pressures on the NHS and our ambition is to use digital capabilities to enable clinicians to release time to care. Taking away the administrative burden of care delivery through automation, digital diagnostics, robotic processing, mean that our clinical workforce can focus on their role in caring for patients.

In support of the Trust's transformation strategy and to reflect the prominence of digital in all future service innovation, Royal Devon will develop an **Innovation Pathway** to enable a forum which tests and challenges digital innovations before releasing them at scale across all services and teams.

To reduce administration burden, our services will effectively use developments in **Machine Learning, Artificial Information (AI) and Robotic Process Automation (RPA)** to improve efficiency, accuracy and importantly free up clinical and operational time. In the short term, Royal Devon will exploit existing capabilities of AI within Epic (Nebula), explore AI and RPA facilities in administrative functions such as recruitment and investigate machine learning for Population Health Management (PHM).

Effective administration is a hallmark of safe healthcare services and is valued in all safety-critical industries. These improvements will release capacity to core business and increase safety. We can envisage technology helping us to predict the length of stay of a patient based on their presenting condition in ED, meaning we can predict bed capacity and manage the safety of our hospitals. This functionality would also enable partners in social care, primary care and tertiary care to receive advanced notice of expected demand and start the preparations.

RPA will also be used between primary care and consultants to speed up referrals by automating the retrieval and sending of patient information required for the referral.

Our Digital Strategy aims to foster a culture with innovation at its heart, continually challenging ourselves to solve problems with ingenuity and creativity and seeking diversity of views to ensure everyone can see how this technology can benefit and be applied to their lives. Working alongside industry experts and connecting with university research hubs locally and nationally, Royal Devon will leverage its digital capabilities as a research partner, for example through participation in the Great Western Secure Data Environment.

Through the New Hospital Programme, Royal Devon will explore the capabilities and opportunities of the **Internet of Medical Things**, medical devices and systems that connect to healthcare IT systems through online computer networks. Remote monitoring is an example of this but within our new hospital there are opportunities to further automate remote observations.

From gaining continual insights and learning from Royal Devon data, implementing decision support around these learnings, and continuing to reassess Royal Devon's models of care, we can develop a continual **Learning Health System (LHS)**. Engaging region wide as part of sharing health records for clinical care and research will produce a care system that builds upon continuous improvement.

Improving Royal Devon's digital capabilities within the **Precision Diagnostics, Genomics and Therapeutics** fields of expertise will embed these services at the point of care. For example, harnessing our EPR (Epic) genomics module, providing test ordering and result work across Royal Devon and the Exeter genomics lab. Also linking with the likes of BioBank and building links into life science advances and nurturing closer **Links with Research Organisations** will improve the capacity of data and knowledge.

## 7.3 Enabler 3 – Data Driven Decisions

To improve patient care and patient treatment, we will develop forecasting and analytical tools which will help inform clinical practice with data-driven decisions. Enabling preventative measures through proactive targeting and data sharing will allow teams to predict growth in demand and highlight areas of concern. This will enable Royal Devon to anticipate service needs. Analytics and insights have been shown to drive significant opportunities for savings, and because this is such a priority area for the Trust, this is covered in the separate Data enabling strategy.

To ensure we target our care system resources at the cohorts of the population that we can evidence have the greatest need, this Digital Strategy anticipates the technology requirements which follow Devon's **Population Health Management** (PHM) strategies. PHM identifies where we can have the greatest impact – in terms of forecasting, demand and capacity predictions, risk stratification and patient cohorts presenting to individual services. This requires Royal Devon to build the capability of identifying patients suitable for preventative care to better manage their long-term condition before they become chronic through a focus on **Early Intervention/Prevention**. Clinicians will also be supported by digital prevention tools to support preventative and anticipatory care. Typical tools in this space include remote monitoring for chronic conditions (to prevent them getting worse), remote testing and result reporting (to prevent cross-infection) through to social prescribing of technology to address isolation (prevention of loss of mental function) and encourage activity (prevention of loss of physical function).

Used throughout clinical and operational areas, **Data-Driven Decision Making and Analytics and Reporting** will improve Royal Devon's ability to build and define key performance indicators (KPIs), provide clinicians and operational staff with decision support, and refine what Royal Devon is measuring and when. These concepts are fully explored within the data strategy.

Our **Clinical Digital Leadership** will work to take a strategic approach to delivering this strategy: identifying obstacles, such as the current lack of connectivity between different localities, or sharing of imaging between Trusts, to overcome them and to make care spanning more than one organisation more efficient and safer. This will be an ongoing challenge, because the scope for improving pathways is considerable, so the Clinical Digital Leadership will continually review and prioritise work, for maximum benefit in the most appropriate areas.

Digital tools will enable advanced **Risk Stratification** will help Royal Devon to identify patients that may be at risk of de-conditioning whilst on elective waiting lists where an optimisation intervention would be helpful (prehabilitation). It will also enable us to correlate health risks with deprivation and ethnicity, through our EPR, enabling us to take targeted action to ensure equity of access and outcome.

# 8 Our Digital Foundations

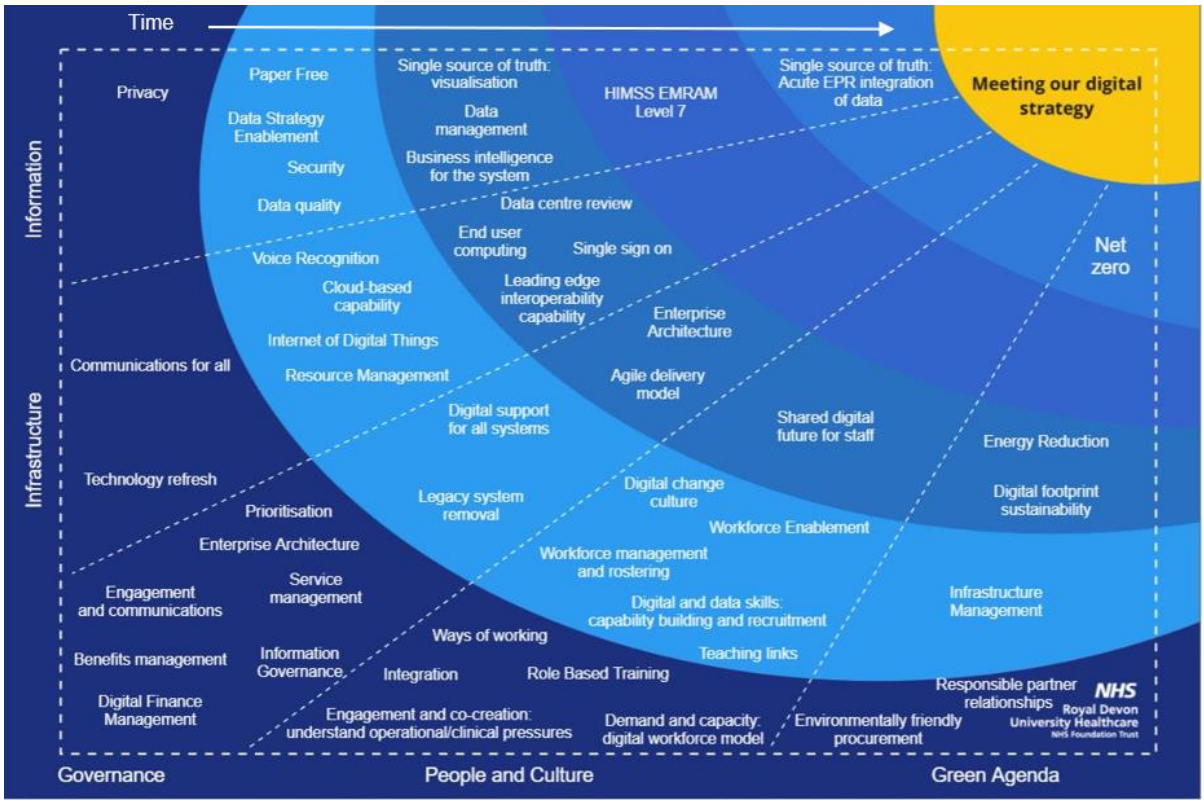
To support delivery of this Digital Strategy, five building blocks have been identified as the digital foundations:

1. **Our Infrastructure:** what we have and what we need in the future
2. **Our Digital Governance:** how do we organise ourselves so that we can deliver our vision
3. **Our People and Culture:** what we need to do to capitalise on our greatest asset, our people, and deliver the benefits of technology to them
4. **Our Green Plan:** how do we make a positive contribution to our environment through our work
5. **Our Information:** how do we gather the information to become truly insight-led across clinical and operational practice

The Digital Foundations are the building blocks of our Digital Vision and Strategic Initiatives and are graphically presented below. These will support building a workforce that is digitally enabled and has the skills and experience to fully leverage digital capabilities.

All future innovations need to be supported by a world-class infrastructure, that is flexible, safe, scalable, and helps us achieve our net zero targets. On a practical level, we will ensure staff devices work as expected, when they need them most, in the easiest way possible.

The digital foundations roadmap below presents the Digital Foundations required to support the Royal Devon's digital vision. Delivery of these will be dependent on funding cycles and capacity.




## 8.1 Digital Foundation 1 – Infrastructure

We will deliver a secure, robust, safe, and effective digital infrastructure supported by a responsive Service Management function underpinned by effective cyber security and architecture teams. Working closely with both the clinical and corporate teams, the digital team will provide a platform to enable delivery of our Trust strategies and ambitions.

The future focus will be on building a support/secure platform for **End-User Computing**. Developing a device-agnostic approach to delivery will increase Royal Devon's realisation of benefits, improve usage levels and evolve with the users rather than with the device. RDUH will work with partners across the Devon ICS to maximise increased buying power and savings potential.

Producing a secure platform of **communication for all** staff and transforming our communication routines to improve security, Information Governance and compliance policies.

Our clinical systems and EPR will be made easier to use through developing the capabilities of **Voice Recognition** as well as RPA mentioned in previous sections.

To ensure solid foundations in line with the OneDevon strategy, Royal Devon will work with partners to review the 'hosting options' for **Data Centres**, to enable them to be highly resilient, compliant, and secure, whilst releasing benefits such as economies of scale, common design, and lower costs.

We will develop a wider Cloud-based Capability with the likes of data warehousing performed in line with the data strategy as required. Migrating services to the cloud will save between 5 and 50% of storage costs.

Our increase in the use of digital devices/infrastructure will be supported by a robust **Resource Management** structure for the likes of room bookings, clinical device optimisation, equipment scheduling and utilisation. Utilising items within the **Internet of Digital Things** will ease resource monitoring processes and automate the likes of performance, capacity and utilisation tracking.

In line with this a Programme of **Technology Refresh** will continue to be delivered to ensure technologies and capabilities remain up to date throughout Royal Devon. Funding for these programmes will be on an agreed cycle and will use the OneDevon buying power to ensure greater value for money. Equipment refresh may vary due to the nature of the environment, especially within clinical situations, to allow for shorter refresh cycles.

Colleagues will have access to the information they need irrespective of which supplier or technology provides it. We will integrate services and systems to enable an effective Shared Patient Record that enhances the care provided to Royal Devon patients. From a technical perspective, we will use common platforms, consolidate capability and work with reliable providers to provide the **Leading-Edge Interoperability Capability** clinical colleagues need.

Royal Devon will build an environment that uses role-based access against a **Single Sign-On** structure to ease staff interactions, integration, and permissions. Single sign-on will reduce wasted time logging on to different systems and can reduce support costs.

## 8.2 Digital Foundation 2 – Digital Governance

This section describes how Royal Devon will develop and expand its digital governance in support of this strategy.

Digital governance and robust leadership will help standardise the ways of working (locally and nationally. Royal Devon will employ a consistent approach to prioritisation, whilst safeguarding Information Governance and patient safety.

Through transparency and building trust, the Digital team will provide excellent customer service and be the enabling partner of many of the Trust's key programmes. We will work with our **communications, engagement** and marketing teams to understand people's digital interactions with our service and ensure they have a seamless journey.

With an approachable and simple digital front door, Royal Devon will provide a best-practice **Service Management** function, aligned with industry standards. The service will be driven by a strong **Enterprise Architecture and Management** capability, aligned to agreed SLAs and the digital team will work closely with the wider Trust to develop a true partnership model. This change will improve the user experience and generate confidence in digital services.

Simplicity for patients will be provided through strong **Information Governance** which is enabled by technology to improve data control and management. Production of digital archives will enable safe and effective data retention and disposal.

Utilising a Control Objectives for Information and Related Technology (COBIT) governance structure based upon the Strategic Initiatives would allow for unified monitoring of performance against the strategy and BAU digital activities, refer to Appendix B: Proposed (simplified) digital governance for further details.

Other priorities:

- Effective end-to-end **Benefits Management** to ensure all aspects of savings/time/resources are accounted for.
- **Digital Support of all Systems** to ensure we standardise, unify and consolidate services.
- **Legacy Systems Removal** to decommission end of life or duplicated systems and infrastructure
- **Agile Delivery Model** to streamline the allocation of resources and increase the pace of delivery.
- **Digital Finance Management** providing a structured digital cost modelling function.
- Develop a **Prioritisation Process** with an efficient decision-making route, integration of risk systems and audit outcomes to support priority decision-making.

## 8.3 Digital Foundation 3 – People and Culture

Royal Devon wants to be a Great Place to Work; a place where great ideas flourish, where all staff and patients feel like they have a voice and the power to effect change delivering a culture of curiosity and innovation. Getting this right means the Trust will benefit patients and attract clinicians and corporate professionals to our digitally enabled working environment, where systems and colleagues can easily communicate and innovate.

Our People Strategy describes how we will support the development of new roles and skills required to operate in this new digital working environment.

Digital will help inform the plans to develop a workforce that is skilled, focused and enabled. Through training and coaching, the Royal Devon team will develop a **Digital Change Culture** through empowering, highly skilled teams and offering a clear path of progression. Digital engagement with the clinical and operational teams will generate a greater understanding of context and develop closer partnerships to jointly develop innovation areas, training materials, business cases and more.

In terms of the digital corporate team, it is important to create the same user and service experience across Royal Devon and beyond, and the team have developed a programme of **Integration** which looks at: consistent quality of service for services and staff; removing any duplication; ensuring better resilience of services; and offering greater staff growth opportunities.

In order to support the Trust become a digital exemplar, there is recognition of the need for the digital team to be supported with an OD programme of **Professional Capability Building and Recruitment** through a training structure with cross-skilling embedded in career routes. We will link essential skills to working standards such as Information Governance, Cyber Security and agreed industry best practice. All staff will have a **Shared Digital Future** aligned to digital skills and enabled by delivering user-friendly solutions to speed up data input time.

A **Role-Based Training** structure will be developed for the clinical and corporate workforce to enable us to harness the opportunities of technology. The Digital team will develop training resources that are timely and appropriate – fitting into the needs of staff and reflecting individual learning styles.

Enabling the **Embedding of Digital Staff within Operational/Clinical Areas** will ensure staff are thinking about digital solutions and engaging with digital teams to solve problems. Aligning with, and building upon, identified care domains, digital will develop a team who are ever more clinically aware.

Other areas:

- Establish **Teaching Links** with organisations and innovation partners to develop Royal Devon's digital skill base, in data science and analytics.
- **Workforce Enablement** to ensure our staff are equipped to use our digital solutions through needs analysis, training, development and other tools in support of care provision, and ensuring Digital Inclusion.
- **Workforce Management and Rostering** which links our rostering systems to our EPR and operational delivery
- Develop a **Demand and Capacity Workforce Model for Digital** to ensure the digital team prioritise the Trust's most important and impactful priorities.

This section has given a brief overview of the People and Culture changes required to deliver the Digital Strategy. It shows how we plan to put our people at the centre of this strategy and recognises that Royal Devon cannot achieve its digital ambitions without our most valuable resource.

## 8.4 Digital Foundation 4 – Green Plan

Already set out in the Trust's sustainability strategy – the Green Plan – is to ambition to reach **Net Zero**. Digital has a huge enabling role in supporting our sustainability agenda ranging from procurement, ways of working, reducing consumption and reducing wasted capacity/duplication.

The priority areas of focus are:

- Use our purchasing power to procure **Environmentally Friendly Suppliers or Deliverables**.
- We will ensure all procurements related to digital spending are with **Responsible Partners** who meet Royal Devon's social values.

Minimise our **Digital Carbon Footprint** using sophisticated **Infrastructure Management** and monitoring equipment. Supporting **Energy-Reduction** policies and care models by reducing the need for travel, by both patients and staff and providing remote (virtual) care where possible.

This section recognises the important contribution digital capacity and capabilities can make to our environmental sustainability ambitions.

## 8.5 Digital Foundation 5 – Information

The Royal Devon's Digital Strategy and Data Strategy are closely aligned with key dependencies with the wider One Devon strategy as the Royal Devon's EPR is integrated into the One Devon data set.

Our data strategy describes how our Clinical and Digital teams will work together to ensure that information from digital information systems is utilised as fully as possible, not only for service improvement, but also for research. The wealth of data that these systems gather offers great potential for both clinical and epidemiological research. The adoption of our new EPR offers important research opportunities and we will strive to be an organisation known for excellent in this field facilitated by the application of clinical data.

The priority of the digital strategy in terms of information is to ensure resilient systems supporting 24/7 information access and analysis are in place.

The digital strategy supports delivery of and overlaps with the data strategy in the following areas: **Data Strategy Enablement:** supporting a data culture that standardises data management operational tasks and actions.

This digital strategy supports the Trust's Data Strategy by improving **Data Quality** with initiatives to improve data quality by, a) training and educating users on the importance of good quality data entry, and b) putting validation processes in place to audit the data.

It also prioritises a focus on a 'single version of the truth' across Royal Devon with industry-standard version controls and data management processes in place. The production of one secure information and data management architecture, together with an organisational structure that contains defined boundaries, can generate efficient information management centrally, feeding all systems.

Promoting good **data management** via a strong data culture and good data discipline. Ensuring information is much more accessible, timely, secure, and with assigned reporting owners who are empowered to manage their data and information.

With a dual objective of net zero and data security, the Trust expects to transition to **Paper Free** wherever possible.

The Trust will continue to eradicate paper-based workflows to achieve a paperless environment as this will assist towards the Royal Devon's green plan, support greater sharing of information, increase efficiencies against patient care, and improve data quality. The digital team will support this by ensuring the continued optimisation of the EPR, interfacing third party systems and feeding into the Devon and Cornwall Care Record.

The other priority areas of focus are summarised below:

- The **Security** of our systems: that our systems interface safely with those of our partners, that data quality is assured, that our systems are safe from cyber-attack. With the increasing digitisation and dependence on technology, we must continue to invest in digital safety.
- Uphold the highest **Privacy** standards, ensuring our technology protects personal and sensitive information at a data, software, or hardware level.
- Ensure high-quality care is underpinned by a higher level of digital maturity, as measured by the national benchmarks (**HIMSS level 6/7**). Achieving this means the Trust continually improves the functionality of systems and optimise the use of innovative technologies which are underpinned by real-time and intelligent clinical systems. The HIMSS Value Suite tool can be used to determine possible benefits at each stage of (EMRAM) maturity by following the HIMSS Value STEPS approach (Satisfaction, Treatment/Clinical, Electronic information/data, Prevention & Patient Education and Savings)

# 9 Funding Our Digital Strategy

This Digital Strategy supports the transformation of population health and well-being through improved clinical services that deliver better outcomes, enabling operations to be more productive and improving the patient experience.

This strategy is set within the national context of an NHS facing unprecedented levels of demand and ever-tightening finances. Across Royal Devon, as elsewhere in the NHS, the clinical workforce delivering our services remains under pressure, stretched thinly and not as well served by technology as it could be.

Funding may come from multiple routes into Royal Devon and having various projects in development will allow for efficient business case generation and speed to implementation.

Achieving this strategy and all the benefits to patient care will require sustained investment. This section provides a high-level summary of the benefits, validated by evidence from across the NHS, proposals for how the strategy is to be funded and the required programme governance so that the vision is realised.

The central premise of this Digital Strategy is that investment in technology delivers return on investment in terms of productivity, transformation and efficient patient experience

Following a high-level financial analysis, it is anticipated that successful delivery of this Digital Strategy:

- Will require significant investment to deliver over the 5 years
- Has potential to realise financial savings, which could create a potential return on investment over 5 years.

**Financial Views – based on the existing 5-year Roadmap**

Achievement of all this strategy and the 74 Strategic Initiatives will require further economic and business analysis to arrive at the optimum delivery by year 5 of the strategy.

A more detailed **digital business plan** will contribute to the Trust's annual operation plan with discrete business cases as necessary to cover the initiatives. This will be developed with ICS partners to ensure we optimally address the financial challenges faced by both Devon and Royal Devon.

To achieve these financial savings and the wider improvement in outcomes, Royal Devon will embed a relentless focus on benefits and their realisation by:

- Having a value for money and delivery focus through agility and sharper informed decision making.
- Up-skilling and empowering our delivery teams to focus on what they do best (e.g. building on our experience through Covid).
- Encouraging benefits and outcomes prioritisation with the opportunity to reinvest financial savings.

- Recognising the flow of benefits that digital transformation will enable, from improved productivity, which will free up capacity and time, which will lead to reduced waiting lists, improved patient safety and financial savings that can then be reinvested
- Exploring alternative opportunities for sponsorship (e.g. additional income generation through leveraging third party investment).
- Recognising that improved digital capabilities and resources will drive digital delivery which will act as a catalyst for change, resulting in improved outcomes for our patients and staff.

Royal Devon already demonstrates good levels of digital maturity (See Devon DMA Assessment, Appendix D) which conversely may potentially limit the availability of central funding for these schemes as less mature providers are prioritised.

The Trust will continue liaising with partners and regulators to position the digital strengths of the organisation in offering support and facilitation to our partners. EPR developments and regional clinical networks remain pivotal in this regard. It should be acknowledged that many of the transformational benefits will fall to our front-line services and due consideration should be made to recycling a reasonable level of these back into future digital opportunities which can further catalyse change. There is a funding/benefit amplification factor which reflects the ambition and risk appetite of the organisation and where the organisation views itself in the strategic lifecycle of digital and information.

Ownership of benefits should be shared and sit across clinical, operational and digital teams. Active management, through a benefits realisation capability within Royal Devon, will establish a rigorous approach to ensuring benefits are measured and achieved.

## 9.1 Digital strategy and implementation governance

The roadmap for delivery of the Digital Strategy outlines a proposed sequence of delivery which supports delivery of the clinical strategy. As with all the implementation plans for the enabling strategies, the roadmap schedule will change and flex in response to incoming investment and reprioritisation.

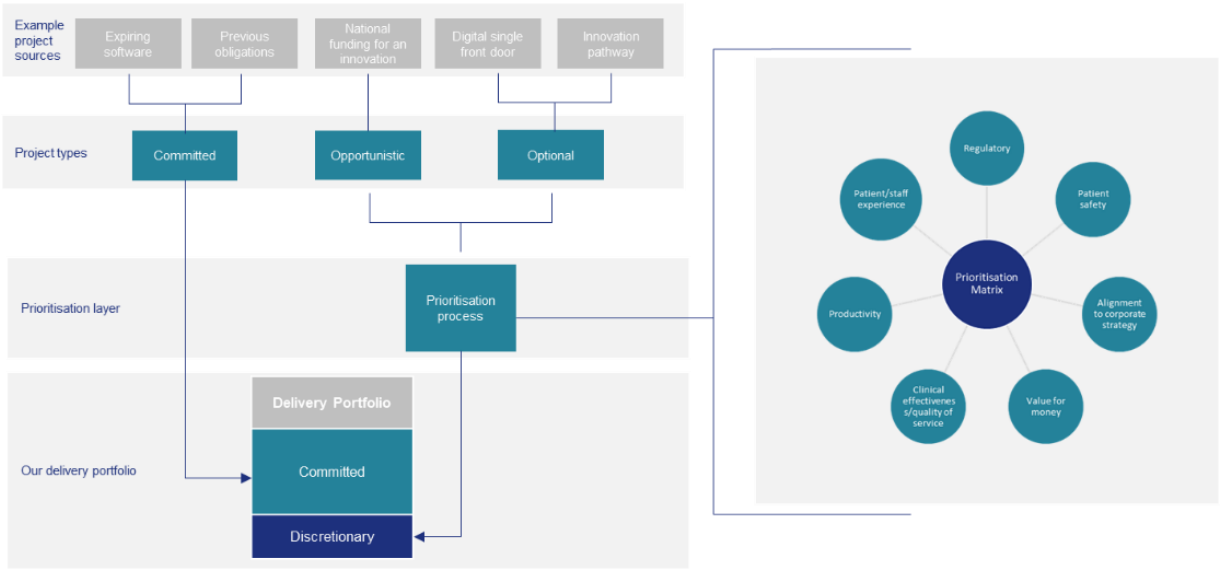
Ownership of benefits is shared and sit across clinical, operational and digital teams. Active management, through a benefits realisation capability within Royal Devon, will establish a rigorous approach to ensuring benefits are measured and achieved.

To ensure those programmes and projects remain correctly prioritised to reflect the needs of Royal Devon, active and participative governance is in place. Governance involves clinical and operational colleagues who are active participants in the regular review and re-prioritisation of digital projects.

Appendix B presents the integrated governance for the digital programmes. This governance ensures digital delivery remains aligned with Royal Devon's and can adapt to changing priorities locally, regionally, and nationally. It also recognises that project funding comes from a variety of sources and that there will always be a tension between Royal Devon's ambition and its financial affordability.

The diagram below outlines the approach taken to develop the delivery profile and the seven criteria of project prioritisation. The current approach to project prioritisation is robust and has

served Royal Devon well to date. Future digital governance will continue to use this approach and the seven prioritisation criteria.




## 9.2 Funding the key Strategic Initiatives

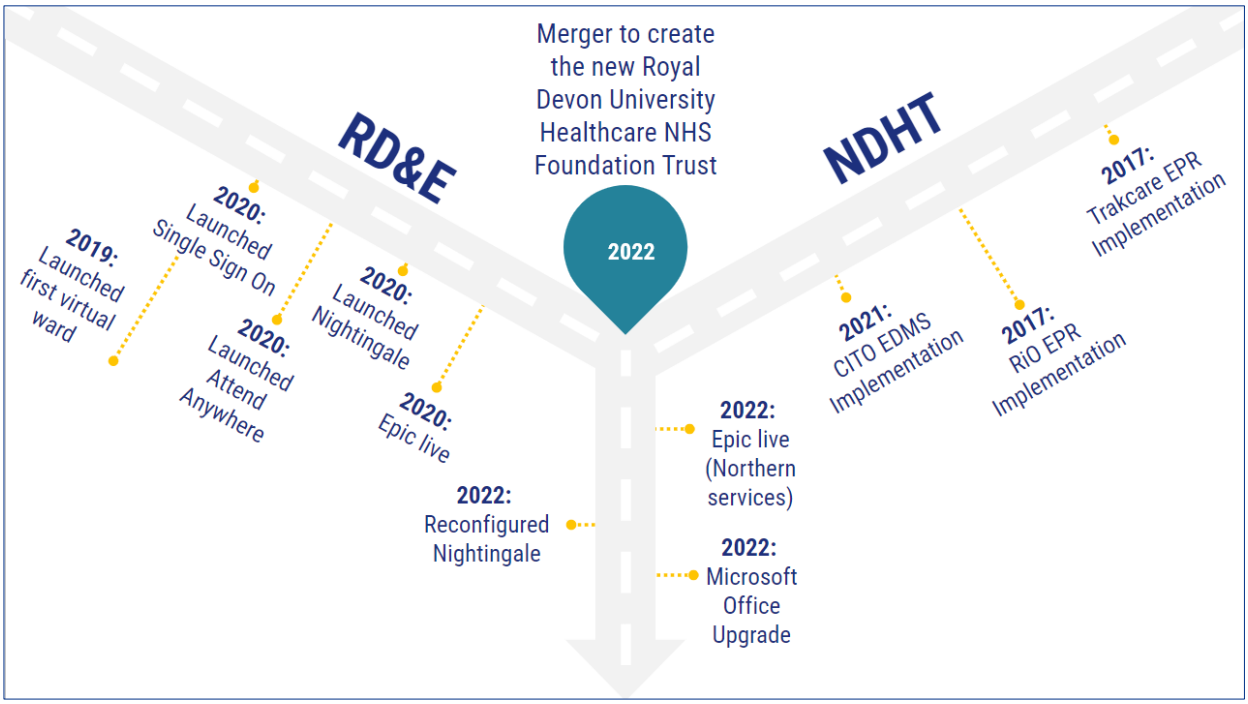
There are 74 strategic initiatives that will help deliver our Digital Vision. Of those, there are seven initiatives that have been identified as having the potential to deliver the most benefits for Royal Devon. The following table identifies these key Strategic Initiatives:

| | Key Strategic Initiative | Benefits Overview |
|---|---|---|
| 1 | EPR Optimisation and Development | • **Cash releasing** - reduced clinical and operational workforce.<br>• **Non-cash releasing** - greater time to care, improved clinical safety. |
| 2 | Infrastructure Management | • **Cash-releasing** - reduced energy usage costs through efficient use of facilities (using data within the built environment to ensure efficiency) in hospitals and community health and care hubs. |
| 3 | Genomics, Precision Diagnostics, and Therapeutics | • **Cash-releasing** - more precise and personal medicine reduces the usage of unnecessary drugs, removes the need for unnecessary tests and may result in fewer procedures taking place.<br>• **Non-cash releasing** - improved productivity due to a reduction in unnecessary activities.<br>• **Qualitative** - improved patient experience due to the unnecessary activity being avoided, improved patient outcomes due to the application of precision medicine based on their genetic makeup. |
| 4 | Virtual and Remote Care | • **Cash releasing** - reduction in beds and staff needed for patients requiring monitoring rather than care.<br>• Non-cash releasing - increases in productivity for clinical teams capable of delivering more care.<br>• **Qualitative** - improved patient experience, a richer data source for patient care, reduced levels of hospital-acquired infection. |
| 5 | Clinical Image Exchange | • **Cash releasing** - reduced storage costs de-commissioning of antiquated clinical imaging devices.<br>• **Non-cash releasing** - improved throughput of clinical images, ability to analyse more images.<br>• **Qualitative** - increased patient safety. |
| 6 | Cloud Based Capability | • **Cash-releasing** - reduced storage and processing costs, reduced support requirements removed the levels of staff.<br>• **Non-cash releasing** - improved productivity through access to capabilities that reflect the needs of staff.<br>• **Qualitative** - improved quality of service, improved security, improved availability of data from anywhere. |
| 7 | Machine Learning, Artificial Intelligence and Robotic Process Automation | • **Cash-releasing** - effective application of RPA can reduce the need for operational and clinical staff to perform repetitive tasks. Similarly, effective use of AI can be applied to clinical and operational tasks to speed up clinical decision-making, reduce the number of clinical staff required, increase flow within the hospital and contribute to the earlier discharge of patients.<br>• **Non-cash releasing** - improved productivity from the application of RPA and AI through reduced error rates and more rapid access to relevant information<br>• **Qualitative** - reduced error rates can have a material impact on patient safety and the quality of care provided |

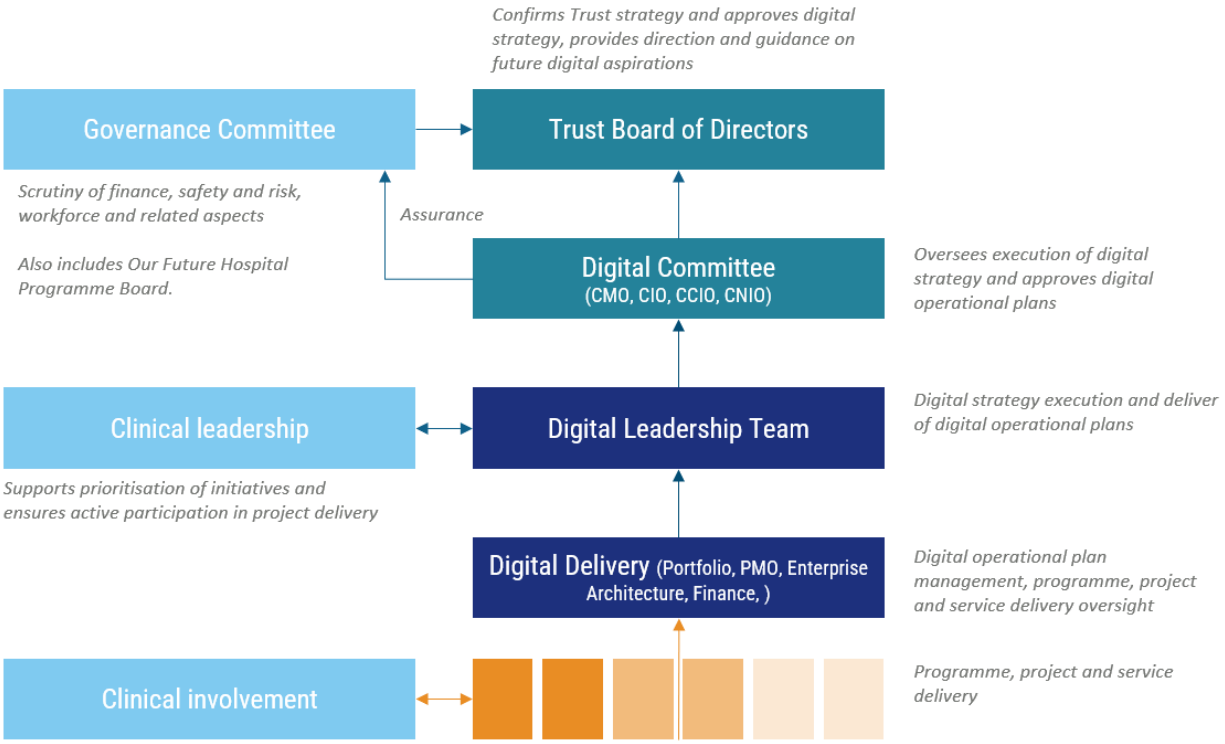
See Appendix C for more detailed benefits analysis for each of the key Strategic Initiatives.

# 10 Appendices

## 10.1 Appendix A: Digital Achievements to date



## 10.2 Appendix B: Proposed (simplified) digital governance




The governance structure to support the delivery of the Digital Strategy recognises the importance of the strong involvement of clinical and operational colleagues in digital decision-making. Assurance through the sub-committees of the Governance Committee is augmented by the Our Future Hospital Programme Board.

# 10.3 Appendix C: Strategic priorities: benefits summary

## EPR Optimisation and Development

Optimising and delivering the core patient record, and patient pathway management, through the delivery of the 3-year EPR roadmap. Establishing a real-time, intelligent system that allows for greater efficiency and effectiveness of clinical and operational teams that achieve a high level of digital maturity. Further development will maximise its potential, concerning ease of data input by clinicians, and producing optimised data for the review of services, learning and research. This will be achieved by:

- streamlining and optimising its use across specialities
- implementing further modules to expand the capabilities of Epic
- capitalising on its data analysis, learning and service development
- improving linkages with other systems, both in primary care and the wider care community

**Impact** - Greater efficiency and effectiveness of clinical and operational teams. The transformation of services, enabled by the new technology, will give all clinicians a much more comprehensive picture of their patients and their healthcare in a fraction of the time.

**Benefit Types Realised**

- Cash releasing - reduced clinical and operational workforce
- Non-cash releasing - greater time to care, improved clinical safety

**What does it feel like for:**

Yr1 - Targeted investments that shorten the gaps to achieving HIMSS level 5 will be delivered. Continued removal of paper-based services and further expansion of Epic into remote locations.

Yr2 - Targeted investments that shorten the gaps to achieving HIMSS level 6 will be delivered. Improvements in clinical services produce a greater depth of patient knowledge and address flow, while improved reporting allows greater Population Health Management (PHM) to reduce demand alongside targeted reductions in length of stay.

Yr3 - Targeted investments that shorten the gaps to achieving HIMSS level 7 will be delivered. A clinician will work to standardise practices and processes that will allow staff fluidity throughout Royal Devon and its specialities. Full integration to the shared care record.

Yr4 – A clinician will be able to provide virtual care in any speciality with support from a multi-disciplinary team to plan and coordinate care based on patient need across care settings. Time spent on clinical documentation will have halved from year 1.

Yr5 – A clinician will be able to communicate more easily with patients and their carers regardless of where they are. Improvements will allow clinicians to dictate patient notes/vitals and medical device data is automatically recorded into the patient record.

**Notes**: Potential overlap/duplication of benefits against the EPR Business Case and the Clinical Strategy. Delivery of each of the associated projects will have its own business case and benefit profile led by its associated clinical area.

## Infrastructure Management

Utilising infrastructure monitoring equipment and connectivity to allow the effective use of buildings, locations and related equipment. Matching digital ways of working with estate improvements such as hotdesking and role-based access will generate a managed environment that will allow evolution and growth while reducing operating costs and energy consumption.

The ambition is to employ digital aids to make the best use of all available space across Royal Devon's facilities in innovative ways aimed at providing care closer to patients' homes and minimising their need to attend or to stay for longer than necessary. Underutilised space in our extensive community estate will be reviewed and its use maximised for delivery of care closer to home, including increased maternity space and development of community hubs for frailty, diagnostics, heart failure and other focussed areas in line with the clinical strategy.

Digitally adapting Royal Devon's estate capacity for purposes like these will need continual review, based on usage, staffing, patient outcomes, predictions and financial considerations. Digital will enable smart buildings to monitor and optimise operations and security. Establishing/Improving utility monitoring systems for energy and water-efficient technologies and practices throughout Royal Devon's estate and services and delivering year-on-year reductions in consumption. Maintaining an ongoing programme of digitally enabled energy and water efficiency schemes.

Adopting smart building technologies will facilitate frictionless experiences through fully integrated physical and digital environments to enhance infrastructure and asset performance through proactive building operations and estate management.

**Impact** – The delivery of smart buildings enables Royal Devon to monitor and optimise operations and security, whilst reducing the energy usage of its facilities.

**Benefit Types** - Cash-releasing - reduced energy usage costs through efficient use of facilities (using data within the built environment to ensure efficiency) in hospitals and community health and care hubs.

What does it feel like for:

Yr1 – Royal Devon can proactively monitor the status of existing facilities, building management and operations and identify any need for early intervention.

Yr2 - Royal Devon can use the data captured from the current estate to inform the development of new facilities. Reduced usage of energy and water in existing facilities across Royal Devon.

Yr3 - Royal Devon has full visibility of the estate utilisation, using people flow and bottlenecks across the hospital footprint to re-design efficient facilities.

Yr4 - Royal Devon delivers resource-efficient, sustainable, and personalised experiences for staff and patients based on intelligence about facility usage. Redundant facilities are closed or converted.

Yr5 – Royal Devon is close to achieving its net-zero ambitions.

**Notes:** Potential overlap/duplication of benefits against the Estates and NHP strategies currently being created.

## Genomics, Precision Diagnostics, and Therapeutics

Improving the digital capabilities and support for precision medicine to embed these services at the point of care. Linking with the likes of BioBank and fostering closer ties with the blood labs, universities and partners to enhance Royal Devon's reputation as a national leader in this field.

Genomics and precision diagnostics are revolutionising healthcare and medicine by providing the right person with the right therapy at the right time. Recent advances in the understanding of normal and diseased states have led to revolutionary new treatments for conditions such as cancer, inflammatory diseases and inherited diseases. Royal Devon will improve its presence in this field. It will:

- Create a journey to pre-emptive care
- Be coupled with robust public health management
- Utilise big data analytics
- Ensure digital maturity with a range of data sources including the environmental, behavioural, and social determinants of health
- Assess health status and risk stratification

**Impact** - Precision medicine enables more accurate and personal treatment of individuals based on their genomic characteristics and precise diagnostic information.

**Benefit Types**

Cash-releasing - more precise and personal medicine reduces the usage of unnecessary drugs, removes the need for unnecessary tests and may result in fewer procedures taking place.

Non-cash releasing - improved productivity due to a reduction in unnecessary activities.

Qualitative - improved patient experience due to the unnecessary activity being avoided, improved patient outcomes due to the application of precision medicine based on their genetic makeup.

**What does it feel like for:**

Yr1 – Pilots initiated as part of the development of a precision diagnostics service to meet the priorities set out in the NHS strategic planning document of December 2022. The growth of the Nightingale project for elective recovery will continue.

Yr2 – First benefits are seen to be established following year 1 activities, such as reduced admissions, increased efficiencies in patient recovery and a greater population of the shared care record.

Yr3 – Further investment in diagnostics, digital genomics and pharmacogenomics, to improve patient care and reduce medicine management costs.

Yr4 – Focus placed on industrialising pilot programmes and initiation of projects related to therapeutics.

Yr5 – Royal Devon is seen to be a leader in digital genomics and precision diagnostics.

**Notes**: Potential overlap/duplication of benefits against the Clinical strategy.

## Virtual and Remote Care

Increasing Royal Devon's remote home care using virtual wards, wearables, in-home monitoring, and patient self-care to develop an environment where patients can remain in their residence of choice with minimal care interactions.

The introduction of virtual care in many services, driven in part by Covid-19, has increased efficiency and offered selected patient care in or close to their homes. This includes most specialities, preoperative assessments, postoperative follow-up, and remote monitoring.

As outlined in Royal Devon outpatient transformation plans and clinical strategy, increasingly virtual consultations will be used wherever it seems appropriate to reduce the need and frequency of patients travelling to access centralised services. Support needs to be available for patients who find this approach difficult.

Using digital technology, Royal Devon will increase the remote home care available to staff and patients, utilising virtual wards, in-home monitoring, and patient self-care to develop an environment where patients can remain in their residence of choice with minimal care interactions.

Virtual ward capacity will be increased for patients clinically suitable to be monitored away from the main hospital site and to support early discharge: the plan is to have 100 virtual beds by the end of 2023. The acceleration of digital expansion plans is in response to NHS England's recent mandate for all NHS Trusts to offer 40 to 50 virtual beds per 100,000 population. This 'comprehensive development of virtual wards' comes at a time when hospital waiting lists are exceeding 6.6 million.

**Impact** - More efficient delivery to a greater cohort of patients needing monitoring rather than care provision who can be in their own homes.

**Benefit Types**

- Cash releasing - reduction in beds and staff needed for patients requiring monitoring rather than care
- Non-cash releasing - increases in productivity for clinical teams capable of delivering more care
- Qualitative - improved patient experience, a richer data source for patient care, reduced levels of hospital-acquired infection

**What does it feel like for:**

Yr1 - (currently planned activities) As a patient I can have virtual appointments to avoid disrupting my daily life and save them time. The patient won't have to repeat the same

information to different clinical and operational staff at each visit. 40 to 50 virtual ward 'beds' per 100,000 population virtual ward beds by December 2023 will be delivered.

Yr2 - (currently planned activities) Expansion of virtual ward capabilities to all specialities. When a potential candidate is identified, enhanced in-home monitoring or home wearables are put in place. The patient can also help manage their recovery and health conditions by accessing my care plans at home and having access to online information.

Yr3 - The care team monitors the patient in any speciality effectively remotely. The patient can manage their appointments online and get alerts to their phone to remind them.

Yr4 – The patient can check in to their appointment on their phone and be notified with up-to-date waiting information. They have a level of personalised control, which they are comfortable with, and their health and safety are ensured. Royal Devon sees a reduction in the admissions and readmissions of patients.

Yr5 – Significant service delivery performed via virtual wards 'beds' with patients self-managing and clinicians monitoring. The patient will have a seamless, positive experience.

**Notes**: Potential overlap/duplication of benefits against the ICS, Clinical, Estates and Transformation strategies.

## Clinical Image Exchange

Producing a shared clinical image exchange with availability to all healthcare partners.

**Impact** - Efficient storage, analysis and sharing of clinical images for improved patient safety and reduced costs of management.

**Benefit Types**

- Cash releasing - reduced storage costs de-commissioning of antiquated clinical imaging devices
- Non-cash releasing - improved throughput of clinical images, ability to analyse more images
- Qualitative - increased patient safety

**What does it feel like for:**

Yr1 – Digital imaging is available to Epic users providing greater insight into the patient.

Yr2 – Greater investment in the sharing of clinical imagery, produces improved collaboration with patients and clinicians. Procurement and installation of new imaging equipment performed.

Yr3 – Integration activities reach the final stages to allow all ICS care providers access to a shared digital image repository/connection.

Yr4– All Devon ICS care providers have access to a share digital imagery repository/connection, allowing joint reviews to be performed across multiple disciplines and providers.

Yr5 – Patients are no longer required to attend multiple appointments for imagery. The use of home imagery through smartphones has become commonplace.

**Notes**: Potential overlap/duplication of benefits against the ICS, Clinical and Transformation strategies. Capital spend largely due to physical infrastructure – medical device costs are normally outside of the Digital budget. Some of the associated projects in this area will provide benefits to the Genomics, Precision Diagnostics and Therapeutics initiative.

## Cloud Based Capability

Working alongside the ICS and national guidelines, move to the Cloud where appropriate by performing assessments that identify the right hosting solution for business problems. Developing cloud capabilities in areas such as data warehousing in line with the data strategy. Operating environments will be reliable, modern, secure, sustainable and resilient. With the drive to push organisations towards 'simplification of the infrastructure' by sharing and considering consolidation of spending, strategies and contracts.

Care professionals can work seamlessly across systems without hindrance. Paired with modernised telephony and the use of cloud services where appropriate, this will provide staff choice and facilitate consistent care delivery across Devon.

**Impact** - Using modern, secure cloud storage and processing capabilities provides access to very cost-efficient and performant capabilities that markedly reduce the total cost of ownership of technology for Royal Devon.

**Benefit Types**

- Cash-releasing - reduced storage and processing costs, reduced support requirements removed the levels of staff
- Non-cash releasing - improved productivity through access to capabilities that reflect the needs of staff
- Qualitative - improved quality of service, improved security, improved availability of data from anywhere

**What does it feel like for:**

Yr1 – review of rationalisation opportunities for legacy systems initiated, and assessment criteria established for the use of cloud services.

Yr2 – Establishing a cloud-first approach to storage, migration activities commence from on-site data centres. Performance and cost monitoring is performed to ensure value for money and benefits delivery.

Yr3 – Cloud-based capabilities expand with the rationalisation of ICS data centres, placing more information and clinical services outside of the local infrastructure.

Yr4 - Staff able to work from any location within the county and access all necessary applications.

Yr5 - Minimal requirement of technical resources locally.

**Notes**: Potential overlap/duplication of benefits against the ICS strategy.

## Machine Learning, Artificial Intelligence and Robotic Process Automation

Utilising current and future developments in AI and machine learning (ML) to improve efficiency, and accuracy and importantly freeing up clinical time. In the short term, exploiting existing capabilities of AI within Epic (Nebula), producing RPA facilities administration and enabling machine learning for Population Health Management (PHM) as part of the data strategy. Growth in this initiative will be key to delivering several key benefits and savings in future years.

The Covid pandemic has been a significant driver for the use of machine learning and AI, highlighting this as a type of innovation to be developed and invested in further in thoughtful and imaginative ways. Attention needs to be paid to changing technologies for diagnosis and treatment so that solutions can be easily adopted, for example, predictive modelling in ED and the use of genomics data in medicines management.

AI-enabled robotically assisted surgery has become the gold standard for minimally invasive procedures in many surgical specialities. Royal Devon has been rather slow to adopt this technology (except for urology) and some well-respected services are falling behind their peers due to delayed adoption. Robotic procedures improve patient experience, reduce (or avoid) hospital stays, and improve staff wellbeing.

As systems using artificial intelligence (AI) become fit for routine use, they will be adopted selectively for clinical support (for example, reporting of imaging – mammography, CT, MR and in histopathology), for handling patient queries and bookings as well as for administrative support and planning which reduces the burden on administrative staff.

Machine learning will be applied to large data sets generated from Epic and elsewhere to enable predictive analytics that enhances planning in clinical and operational areas. Very recent research in Australia applied machine learning to nearly 600,000 ED presentations and was able to predict whether a patient would be admitted 86% of the time. The study concluded that this would have a positive impact on patient flow out of ED.

Robotic Process Automation will also be introduced where appropriate:

- As a virtual worker – providing software to automate administration activities
- To automate repetitive decision making- Imitates human decisions through repetitive processing, with staff handling only exceptions.

**Impact** - Royal Devon harnesses RPA and AI to contribute significantly to improved effectiveness and efficiency in service delivery and operational services.

**Benefit Types**

- Cash-releasing - effective application of RPA can reduce the need for operational and clinical staff to perform repetitive tasks. Similarly, effective use of AI can be applied to clinical and operational tasks to speed up clinical decision-making, reduce the number of

clinical staff required, increase flow within the hospital and contribute to the earlier discharge of patients.

- Non-cash releasing - improved productivity from the application of RPA and AI through reduced error rates and more rapid access to relevant information
- Qualitative - reduced error rates can have a material impact on patient safety and the quality of care provided

**What does it feel like for:**

Yr1 – Pilots initiated for RPA and AI opportunities with a focus placed on imagery and administration activities.

Yr2 – Epic cognitive computing module implemented to provide predictive analytics producing trend analysis and targeted intervention areas. RPA is introduced to Epic allowing administration time to be freed and clinical pathways to be streamlined.

Yr3 – Implementation of Surgical Robots to perform routine surgical activities. Clinical time is freed up through improvements and scope increases of RPA. Decision support provides generalist clinicians with the ability to progress admissions/discharges freeing senior clinical time.

Yr4 – All images are reviewed by AI before human validation. Clinicians focused only on highlighted images, freeing up further clinical time.

Yr5 – Patients discharged directly by AI and RPA following clear image scans.

**Notes**: Potential overlap/duplication of benefits against the ICS, Clinical and Transformation strategies.

## 10.4 Appendix D: Devon Trusts Digital Maturity Assessment

The table below provides the headline results from the Digital Maturity Assessment, where in Royal Devon are demonstrating evolving levels of Digital Maturity in the advent of EPR and the associated investment in infrastructure. Below find the benchmarking data for Devon Trusts. The full assessment including National comparators is available from the Digital Services Programme Office on request. Both the Devon ICS and the Royal Devon Digital Committee will further develop this benchmark over the months ahead.

| Provider | ROYAL DEVON UNIVERSITY HEALTHCARE NHS FOUNDATION TRUST | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Pillar | Acute | | | | | | Community | | | |
| Well Led | 2.0 | 3.0 | 3.0 | 3.0 | 2.5 | 2.5 | 1.5 | 1.5 | 2.5 | 3.0 |
| Ensure Smart Foundations | 1.9 | 3.6 | 3.6 | 3.6 | 3.4 | 3.4 | 2.3 | 2.3 | 2.3 | 2.7 |
| Safe Practice | 2.5 | 4.0 | 4.0 | 4.0 | 2.8 | 2.8 | 2.5 | 2.5 | 2.3 | 3.0 |
| Support People | 2.0 | 3.5 | 3.5 | 3.5 | 2.6 | 2.6 | 1.7 | 1.7 | 2.3 | 2.2 |
| Empower Citizens | 1.6 | 3.1 | 3.1 | 3.1 | 2.9 | 2.9 | 1.4 | 1.4 | 1.9 | 2.3 |
| Improve Care | 2.0 | 3.7 | 3.7 | 3.7 | 3.2 | 3.2 | 1.3 | 1.3 | 1.7 | 2.0 |
| Healthy Populations | 1.7 | 2.5 | 2.5 | 2.5 | 2.0 | 2.0 | 1.8 | 1.8 | 1.7 | 2.3 |
| **Total** | **1.9** | **3.4** | **3.4** | **3.4** | **2.9** | **2.9** | **1.9** | **1.9** | **2.1** | **2.4** |