NHS Ayrshire & Arran

Meeting:	**Ayrshire and Arran NHS Board**
Meeting date:	**Monday 30 January 2023**
Title:	**Digital Services Strategy**
Responsible Director:	**Nicola Graham – Director of Infrastructure & Support Services**
Report Authors:	**Nicola Graham – Director of Infrastructure & Support Services**
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1.   Purpose

This is presented to the Board for:
- Decision

This paper relates to:
- Local Policy
- NHS Board/Integration Joint Board Strategy or Decision

This aligns to the following NHS Scotland quality ambition(s):
- Safe
- Effective
- Person Centred

2.   Report summary

2.1   Situation

As we go forward, delivery of strong robust innovative Digital Services within Ayrshire and Arran will play a critical role in how we recover from the immediate challenges across our system and achieve the extent of reform required to become sustainable in the longer term.

Over the past year, work has been undertaken to review our digital approach, use of technology and digital infrastructure within the Board. This work has highlighted our need to invest in and take a more strategic approach to digital.   An initial interim plan has been implemented and this report presents our new Digital Strategy for approval (Appendix 1).

This paper sets out the background of work undertaken to date, our ambitions in the new strategy and the associated investment levels to allow us to embrace our improved use of technology and data.

2.2 Background

Our current digital strategy was written in 2018 and laid down five building blocks of enhanced clinical and social apps; mobile and digitally connected workforce; digitally connected citizens; integrated applications and infrastructure and decision support tools.

A significant proportion of its ambitions have not been achieved such as patient access, end user device strategy, convergence of health and social care systems, a secure and robust infrastructure and an integrated health and social care electronic patient record (EPR). Some of this lack of progress has been as a direct consequence of COVID and some due to a lack of identified funding.

Caring for Ayrshire was established in 2017 and the Ayrshire and Arran Digital Strategy makes no reference to it, even though good digital systems are critical to the organisations ambitions of right care, right place, right time. Furthermore, the past three years of the pandemic has put particular focus on the use of technology to sustain healthcare services.

Over the past 12 months a review of our Digital Service provision has been undertaken. This highlighted areas of improvement and the opportunities for reform. It found that our current approach to Digital Services is of a traditional nature, where in the main our services are provided on premise. These on premise services and core infrastructure now require significant investment to make them fit for purpose, or a different approach taken. Our applications are in the main hosted locally and many require upgrading and lack integration.

A number of papers were presented to the Corporate Management Team and a Board Workshop undertaken. On the back of this work a new Strategy and reform plan have been developed. To date several key pieces of work are already underway:

- Our key Patient Management System (Trakcare) is in the process of being upgraded and moved to a hosted environment. This includes the purchase of additional modules and an implementation program to streamline and improve processes.
- A review of our LAN/WAN infrastructure is underway with the view to redesign. This redesign will ensure our connectivity is fit for purpose and our WiFi is pervasive.
- A review of our Data Centres is underway to develop our cloud strategy to be clear on how best to deliver our application and data services.
- Infrastructure remediation work has been undertaken in order to stabilise and reduce our immediate risks.

2.3 Assessment

There are a number of drivers for change which rely on excellent digital services within Ayrshire and Arran – Caring for Ayrshire; Sustainability agenda; People Strategy; Community Wealth Building; National Digital Health & Care Strategy.

The new NHS Ayrshire & Arran Digital Strategy focuses on a clear path toward delivery of a digital ecosystem, with strong foundations to provide a platform approach and integrated services.
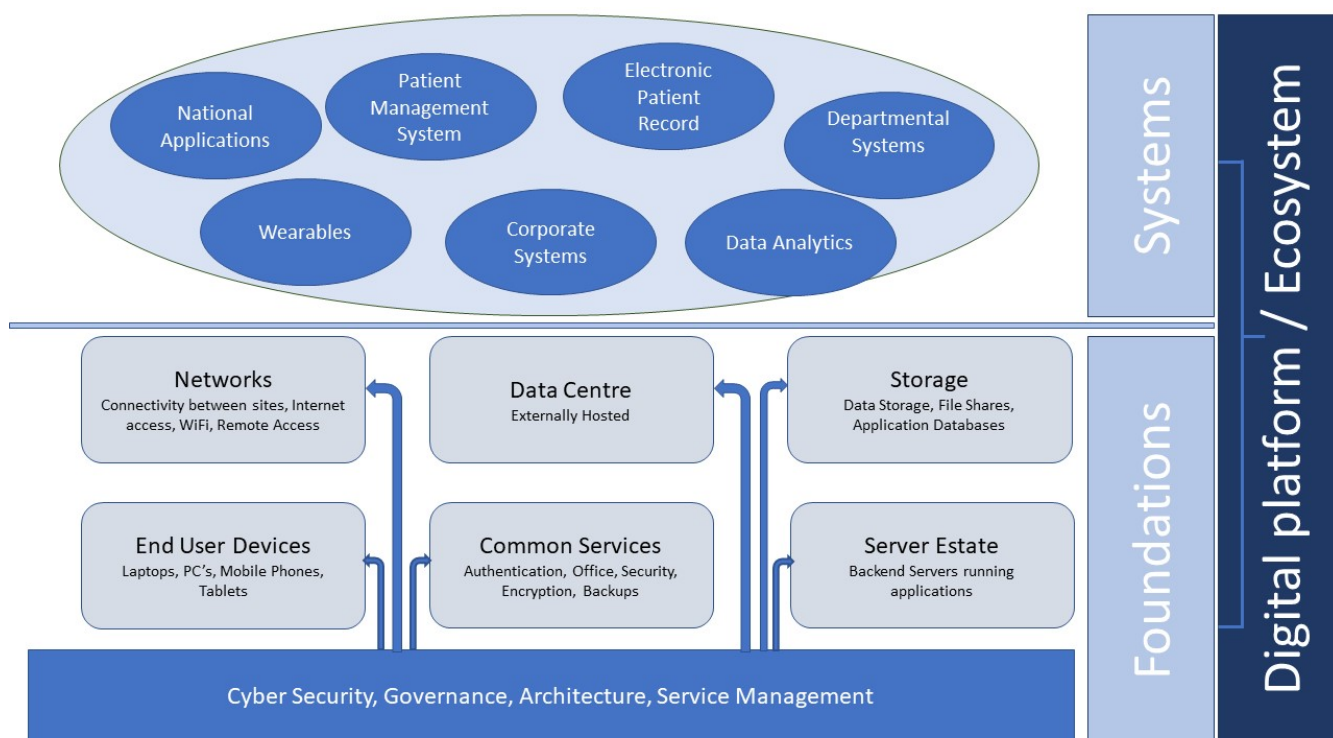
A move towards this approach allows both a strategic approach to be undertaken alongside strong operational grip and best practice approaches to delivery of Digital Services to be implemented. The strategy has a clear plan associated along with details on the required investment.

The reform plan which sits alongside the Strategy has several actions, which include but are not limited to:

- Redesign and establishment of our network estate and WiFi
- Refresh of our end user estate (devices) with a clear replacement rolling programme
- Cloud hosting of services currently within our own data centres
- Additional cyber-security measures and systems
- Additional staff to ensure delivery and appropriate ongoing delivery
- Full deployment of Office 365
- Full upgrade to Trakcare, including electronic whiteboards
- Upgrades to Laboratory, GP IT and Emergency Department systems
- New Theatre Management, Patient Wristband, Clinical Comms and Intensive Care Unit systems
- Delivery of a single Electronic Patient Record

All of our plans align closely to Scotland's Digital Health and Care Strategic ambition(s) as outlined within "Enabling, Connecting and Empowering: Care in the Digital Age" and starts us on the journey of delivering their 2015 Cloud First Strategy

The National "Digital Health and Care Strategy" focuses on six priorities – digital access; digital skills/leadership; digital services; digital foundations; digital futures and data driven services.   A clear and ambitious plan is required from Ayrshire and Arran to achieve the vision within this strategy.

To take forward delivery of this plan and implementation of the strategy a new delivery group will be established (Strategic Digital Delivery Group). The role of this group is to drive both the delivery of the programme and develop a clear benefits realisation and return on investment (ROI) plan.

The delivery group will report into Corporate Management Team with governance scrutiny of strategic delivery and strategic risks reported to Integrated Governance Committee.

2.3.1 Quality/Patient Care

Benefits - Digital solutions represent great opportunity to improve quality of service and patient care. The needs of patients can be met more quickly with service delivery improved. We currently have visible inefficiencies across our system and by making the right technology & data decisions, Ayrshire & Arran can emerge stronger in our recovery plan and be more resilient to the uncertainties ahead.

In addition, this programme will lead to improved quality within our healthcare environment and improvements in patient care:

- Improved safety as patients are mapped throughout their entire acute episode.
- Single patient records for all disciplines means continuity of care is delivered
- Transform our live patient care with insightful, accurate and up to date data; live bed management tools
- Improved collaboration and data sharing across the entire system making the Board future ready for the National Care Service, ensuring we develop with this strategy and national commitment
- Support delivery of our current reform programmes, including right sizing the workforce, rightsizing the bed footprint (right patient / right place), electronic patient record and distributed working.
- Streamlining operational processes, including increasing clinical/nursing time to care and improving the productivity in operational areas.
- Releasing time to care as live note taking and integrated monitoring is captured electronically
- Improving care outcomes as waits are reduced with integrated pharmacy and diagnostics.
- Discharge planning and access to a single record will support system partners in accessing patient information.

2.3.2 Workforce

The impact on our wider workforce will be measurable, in terms of their access to reliable and modern digital systems which are joined up and provide real time data. This will release time to provide patient care, reduce pressure in our system and increase our effectiveness. It also has the potential to increase the appeal of us as a Board of choice to work for, increasing our ability to recruit and retain people who expect to work in a system with a contemporary digital solution.

2.3.3 Financial

Initial funding of £2.629m was secured in the financial year 2022/2023, which supported the reform work already underway as highlighted in this report. The fully costed plan for the years 2023/2024 and 2024/2025 is as follows:

2023/24 One off Revenue	£2,150,859
2023/24 Capital	£4,900,000
2024/25 One off Revenue	£250,000
2024/25 Capital	£3,000,000
Additional Recurring Revenue from 2023/24	£4,832,668

2.3.4 Risk assessment/management

There is currently a Strategic risk for "Failure of Digital Services across Ayrshire and Arran". This risk is rated as high, with work being undertaken in 2022/2023 to mitigate some of the risk. The new Digital Strategy and reform plan has been identified as the key mitigation to reduce this risk to low.

2.3.5 Equality and diversity, including health inequalities

An impact assessment has been drafted and will be presented to the Strategic Digital Delivery Group for review and approval. Each individual project within the overall programme of work will also have a full EQIA developed.

2.3.6 Other impacts

- Best value
  - Effective Partnerships
  - Governance and accountability
  - Use of resources
  - Performance management

- Compliance with Corporate Objectives

2.3.7 Communication, involvement, engagement and consultation
External consultation was not required.

2.3.8 Route to Meeting

This has been previously considered by the following groups as part of its development. The groups have either supported the content, or their feedback has informed the development of the content presented in this report.

- CMT 11 January 2022
- CMT Workshop 28 February 2022
- CMT 26 July 2022
- CMT 23 August 2022
- CMT 20 September 2022

- Board Workshop 3 October 2022
- Infrastructure Programme Board 25 October 2022
- CMT Workshop 7 December 2022
- CMT 20 December 2022
- CMT 18 January 2022 by email

2.4 Recommendation

For decision. Members are asked to receive the report and
- Approve the 2023-2025 NHS Ayrshire & Arran Digital Services Strategy
- Note the proposed funding for financial year 2023/2024 will be outlined in the capital plan and revenue plan which will come to the NHS Board in March.

3. List of appendices

The following appendices are included with this report:

- Appendix 1, Digital Services Strategy

D R A F T

NHS Ayrshire & Arran
Digital and Data Strategy 2023 - 2025

Digital Excellence in Healthcare, a platform for change

Director of Infrastructure and Support Services
Draft January 2023

Version control, approval and review detail to be added

Foreword

Caring for Ayrshire is an ambitious whole system strategy committed to delivering the best quality care through health and social care partnerships, by providing the best environment for its citizens to live the healthiest life possible.

We want to offer and support our citizens to have access to information, education, housing and employment, as well as access to public sector services that empower our communities to flourish.

Key to the successful delivery of our Caring for Ayrshire strategy is how we communicate, manage and share information with our communities about how we develop and provide their public services. Our vision is to put information about health and care services throughout Ayrshire and Arran in the hands of its citizens in the easiest and fastest way possible. Our commitment to digital reform helps us to deliver on this vision.

The first digital strategy for NHS Scotland was published in 2018 and our ambitions for digital reform are fully aligned to this strategy. Within the digital strategy for NHS Ayrshire & Arran, we describe how we are going to develop and deliver on ambitions for a unified digital infrastructure that will ensure we are digitally fit to network with health and social care partners, as well as with national networks. This technical platform for integration will help us maximise opportunities for seamless health and care support, when and where it is needed.

Our commitment to digital reform will enable us to develop and implement new ways of working also. We have already seen how digital imaging has enabled clinical decision making - for example, physicians can digitally enhance images to levels not considered possible even ten years ago. As robotic enhanced surgery techniques advance, surgical procedures will become less invasive and patients will be able to recover more quickly.

But we can only fully utilise these technological advances if the access to health and care information is seamless. Our digital commitment within this strategy, is to place NHS Ayrshire & Arran at the forefront of digital reform, to help us share information for the benefit of every one living in Ayrshire and Arran. There is a lot of work to do, but our digital strategy has strong foundations that will benefit our communities for many years to come.

Claire Burden   Lesley Bowie
Chief Executive   Chair
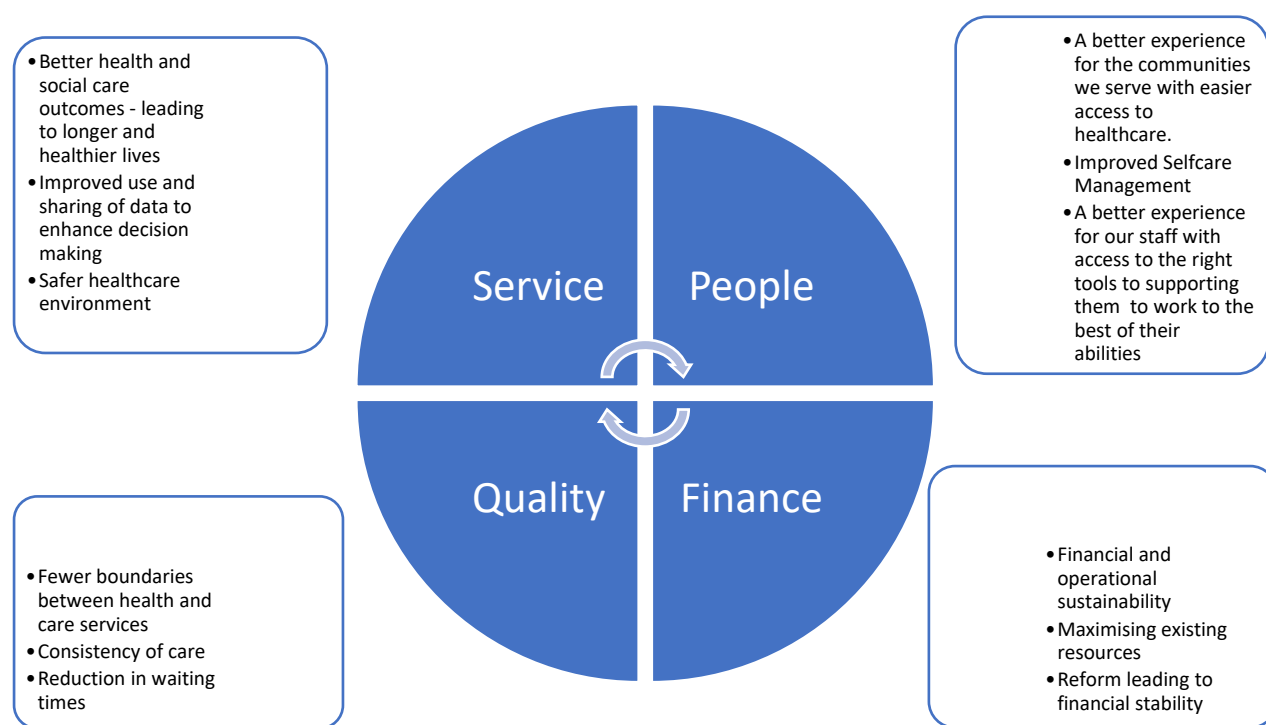NHS Ayrshire & Arran   Ayrshire and Arran NHS Board

Vision

In Healthcare Digital solutions represent a huge opportunity to improve the quality of service and patient care. The needs of patients can be met more quickly and easily with service delivery improved. By maximising the use of data and technology, Ayrshire and Arran can emerge stronger post COVID in our recovery plan, be more resilient to the uncertainties ahead and deliver transformed services across the whole system.

This strategy describes how NHS Ayrshire & Arran will exploit digital technology to improve health and care, enable staff to work to the best of their abilities and support financial sustainability.

Linked to our four pillars, the goal is to modernise services in line with the Caring for Ayrshire agenda. To do this will require universal adoption of connected data and for relevant information to be accessible to all who need to see it – citizens, clinicians, care providers and analysts. In turn, those electronic datasets need to be safe, secure, accessible, and reliable.

- Better health and social care outcomes - leading to longer and healthier lives
- Improved use and sharing of data to enhance decision making
- Safer healthcare environment

- A better experience for the communities we serve with easier access to healthcare.
- Improved Selfcare Management
- A better experience for our staff with access to the right tools to supporting them to work to the best of their abilities

Service **People**

Quality **Finance**

- Fewer boundaries between health and care services
- Consistency of care
- Reduction in waiting times

- Financial and operational sustainability
- Maximising existing resources
- Reform leading to financial stability

The effective use of digital solutions to support reform is paramount to drive effective change and efficiency as well as improving health and social care outcomes. As we go forward Digital needs to be at the centre of all clinical and support activity throughout the health and social care environments delivering both reform and collaboration.

The effective and widespread application of digital technologies allows clinicians to collaborate, interact with patients on a virtual basis and be effective regardless of location or time of day. These technological solutions actively contribute towards better outcomes for the people of Ayrshire and Arran through an improvement in the visibility and effectiveness of patient interaction and clinical data.

In Ayrshire and Arran our ambition is to provide a digital environment that supports and transforms the way our staff work, underpinned by systems that are secure, performant, resilient and available wherever they are.

Drivers for increasing the use of digital in health and care

There are a number of local and national strategies which closely align with this digital strategy and to which the digital strategy can make a significant contribution to


Scotland's Digital Health & Care Strategy

The principal aim of Scotland's Health and Social Care Digital Strategy 2018 was to improve patient outcomes through the better coordination of delivery and care. At the core of this aim was the intention not only to give citizens the opportunity to make their experience and use of services more accessible and interactive, but also to empower them to better manage their health and wellbeing, support independent living and gain access to services through digital means.

This is designed to enable a digital ecosystem where existing clinical systems can participate through accessing the data and services presented by the platform and become the system of record. The 'national digital platform' is key to transforming health and social care and for patient care to become more person-centred.

This new strategy closely aligns and supports the idea of a single platform for joined up whole system healthcare services.

Caring for Ayrshire

Our strategic ambition of the Caring for Ayrshire programme is informed by a shared understanding with our partnerships of the change needed locally, regionally and nationally to develop health, care and wellbeing for the benefit of our communities. This vision ensures that we deliver on our commitment to the expectations of key legislation and plans with our partnerships.
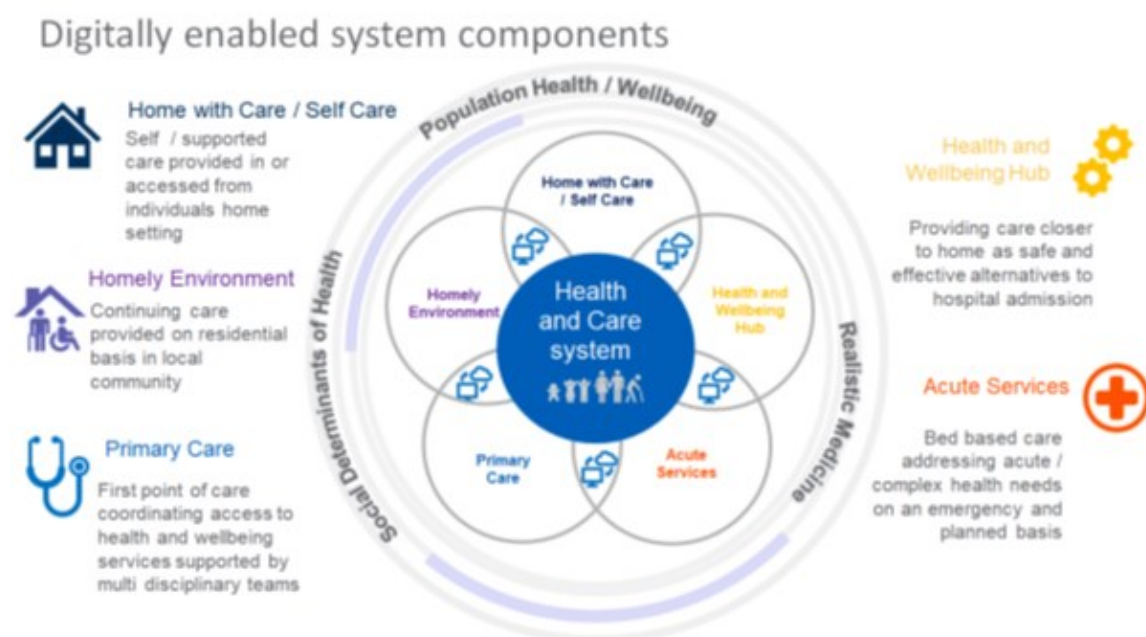
Ambitions

How we deliver excellent healthcare services requires a clear platform eco-system approach.
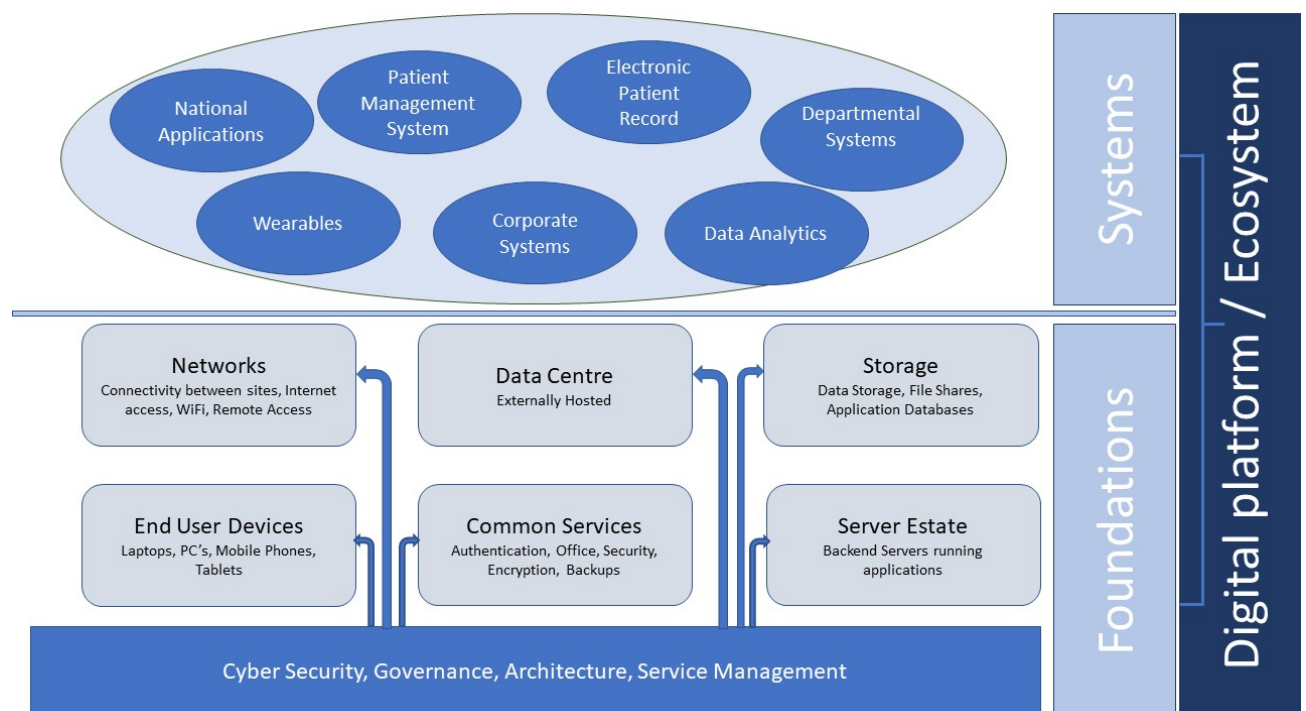
Foundations

These are the underpinning requirements of a digital ecosystem. Delivery of excellent foundation delivery to reform are essential.

In delivery of excellent foundations upon which to deliver this strategy we will.

- Redesign our networks to ensure fast reliable connectivity, pervasive WiFi across all Ayrshire and Arran and key partners sites.
- Source alternative shared data centre, server and storage facilities to align with the national cloud first strategies. This approach will provide resilient access to systems, flexible approaches to our data and storage requirements and increased security of systems
- Redevelop our end user device policies and invest in wider access to up-to-date devices, which are best suited to the needs of the user. Diversity and wider access for our staff will be key.
- We will continue to deploy the national Office 365 platform to provide our collaboration platform, authentication, and security services.

Digital Health and Care Systems

We will continue to align closely with the Once for Scotland approach to use of national systems as well as the regional work undertaken to date. In addition we will

- Review and develop an application roadmap in order to consolidate and plan for better use of fewer systems.
- Ensure that all applications integrate and align to support the single patient record. This will reduce duplication, improve performance and ensure accuracy of data.
- The overall strategy is to provide fewer flexible applications that allow the relevant information to be available where and when it is needed. The increasing use of cloud-based applications will allow us to agile in our adoption of new solutions.

Cyber Security

Our increased usage of digital technology requires us to have a mature and deliberate approach to cyber security. We will ensure

- Adherence to best guidance from The National Cyber Security Centre (NCSC)
- Work with National Services Scotland (NSS) on once for Scotland approach and solutions
- Strive to continue improvement of the Network and Information Systems Directive (NISD) Audit output
- Continue to update solutions to best protect NHS Ayrshire & Arran

Benefits

The delivery of excellent digital services in healthcare is not the end goal. The key aims of this strategy are to provide transformational change in the form of:

- Improved safety as patients are mapped throughout their entire journey
- Single patient records for all disciplines means continuity of care is delivered
- Transform our live patient care with insightful, accurate and up to date data; live bed management tools
- Improved collaboration and data sharing across the entire system making the Board future ready for the National Care Service
- Support delivery of our current reform programmes, including right sizing the workforce, rightsizing the bed footprint (right patient / right place), electronic patient record and distributed working.
- Streamlining operational processes, including increasing clinical/nursing time to care and improving the productivity operational areas.
- Releasing time to care as live note taking and integrated monitoring is captured electronically
- Improving care outcomes as waits are reduced with integrated pharmacy and diagnostics.
- Joined up platforms with Primary Care.

- Discharge planning and access to a single record will support system partners in accessing patient information.

Data

Working closely with all relevant stakeholders towards a single electronic source of patient information and delivering the following benefits:

- Expand and maximise the use of Digital applications to capture all clinical data sets required to build and configure a complete Electronic Patient Record.
- Remove the reliance on paper records and provide a collated digital source of patient information which is accessible by all relevant staff to improve patient care.
- Providing accurate, up-to-date, and complete information about patients at the point of care
- Enabling quick access to patient records for more coordinated and efficient care
- Helping clinicians more effectively diagnose patients and provide safer care.
- Better use of data to plan health care services.

Collaboration

Partnership working will be essential to delivery of this strategy and realising the full benefits. By working in collaboration with strategic partners and regional health boards and nationally we will adhere to the Once for Scotland principles.

We will continue to engage with clinical leaders to further develop new technical solutions to improve patient care ensuring a consistent and streamlined approach across regions resulting in improved data outputs.

Collaboration with local partners will be key across delivery of shared systems and data, streamlining local care.

Technology Enabled Care

The New National Digital Health and Care Strategy, the Strategic Ambitions of "Caring for Ayrshire" and the Covid Remobilisation and Recovery Plans incorporate many aspects of Technology Enabled Care (TEC) which will assist in the recovery and transformation of services in the future.

With a strong approach to TEC, services will be able to provide people not just the "right person, in the right place and at the right time" but offer patient choice in when how and where their healthcare is accessed including asynchronous options, group consultations, remote consultations, supported self-management, education, primary prevention programmes and remote health monitoring. This will also support people to remain independent at home and reduce their need for unplanned admission to hospital.

Workforce Development

Investment in technology requires equal investment in our staff, and in their ability to get the best out of the digital technologies and data deployed.

We live in a digital age, and digital technologies are threaded through how we think, connect with others, communicate, and behave. Our aim is to become a digitally mature organisation where technology is used by all employees to work, learn, and deliver services differently.

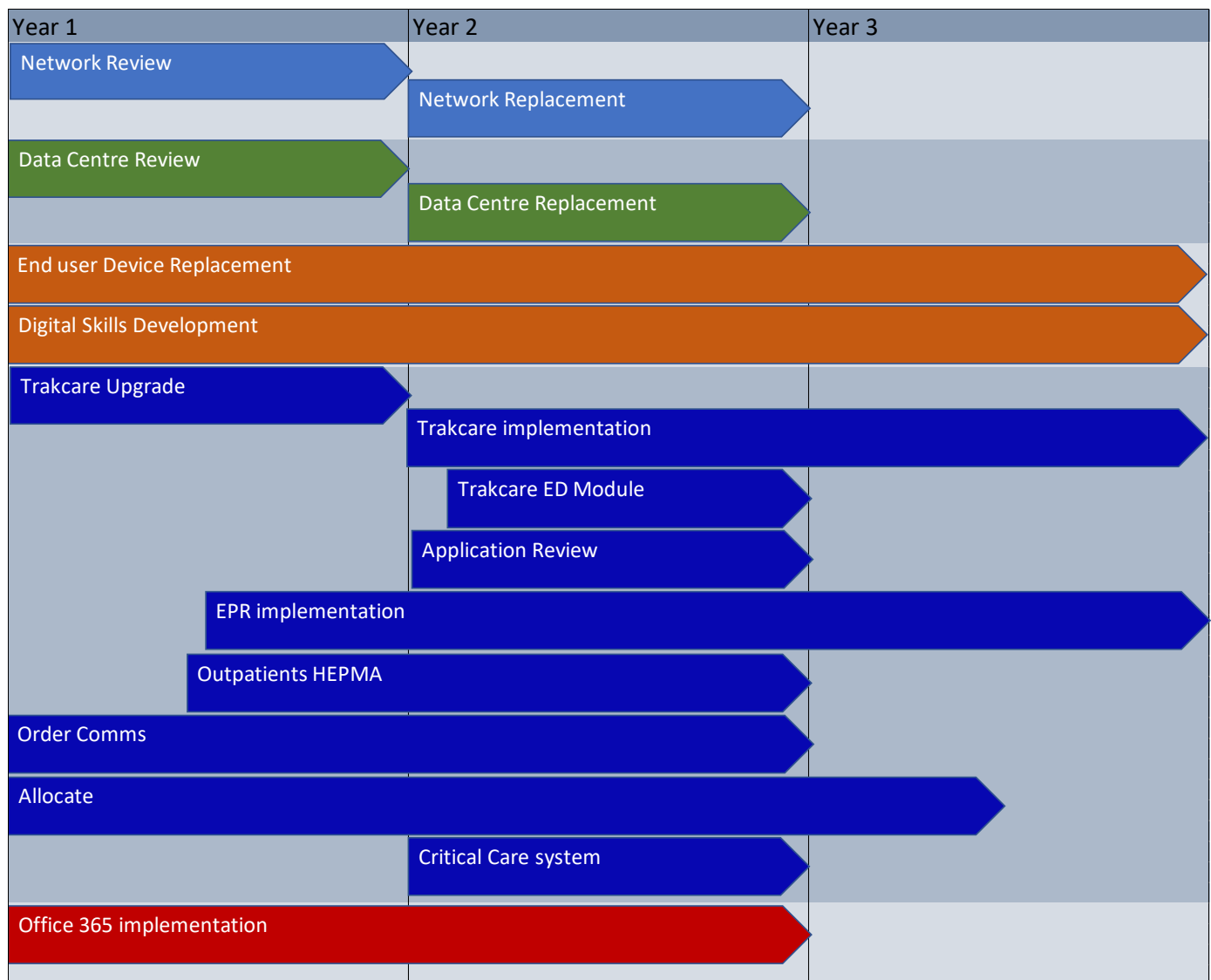This strategy supports our digital skills work which ensures that:

- All staff have the confidence and competence to work digitally
- Digital skills are a crucial part of recruitment and workforce development
- NHS Ayrshire & Arran gets best value from its technology investments

Our successful Digital Champions network will continue to play a critical part in supporting us to build those digital skills and deploy sustainable change across the system.

Delivery

Roadmap

A 3-year plan to deliver this strategy has been developed:

Year 1	Year 2	Year 3
Network Review		
	Network Replacement	
Data Centre Review		
	Data Centre Replacement	
End user Device Replacement		
Digital Skills Development		
Trakcare Upgrade		
	Trakcare implementation	
	Trakcare ED Module	
	Application Review	
EPR implementation		
Outpatients HEPMA		
Order Comms		
Allocate		
	Critical Care system	
Office 365 implementation		

1 - NHS Ayrshire & Arran's digital strategy roadmap is consistent with "a single national digital platform for Scotland". This provides the benefits of better regional and national working, enabling a common look and feel as well as a more efficient service for clinicians and patients alike and improved continuity of care.

Evaluating the implementation

This programme of strategic work will be driven by a Strategic Digital Delivery Group. This delivery group will report into Corporate Management team with governance scrutiny of strategic delivery and strategic risks reported through Board governance structures.

The continual evaluation of the implementation of our strategy will be conducted using two analytic tools as described below:

Digital Health & Care Scotland (DHCS) Digital Maturity Assessment

DHCS undertake digital maturity assessments across health and social care in Scotland and these are focused on the following objectives:

- To better understand digital maturity of services across the sectors to better support local, regional, and national planning, integration, collaboration, and improvement.

- To target future support and investment to ensure that the necessary leadership, culture, skills, capability, and infrastructure are in place to enable progress and improvement.

- It is intended to complement other digital maturity assessments developed by Scottish Government Digital Directorate, Local Government Digital Office, Scottish Council of Voluntary Organisations (SCVO) and other parties.

- To consider digital maturity in the context of health and social integration while recognising that delivery of digital services is currently the separate responsibility of NHS Boards and Local Authorities.

Following the assessment carried out in 2019, in which NHS Ayrshire & Arran participated, the next assessment is planned for 2023 and this will act as a benchmark for our readiness to adopt the changes outlined in this strategy.

HIMMS EMRAM

The HIMSS Analytics Electronic Medical Record Adoption Model (EMRAM) incorporates methodology and algorithms to automatically score hospitals around the world relative to their Electronic Medical Records (EMR) capabilities. This eight-stage (0-7) model measures the adoption and utilisation of electronic medical record (EMR) functions. This tool also measures clinical outcomes, patient engagement and clinician use of EMR technology and will be a useful benchmark as our organisation moves closer to achieving a paperless environment that harnesses technology to support optimised patient care.