



Health and
Social Care

Digital Vision and Strategy Summary

HSC Northern Ireland
2022-2030



Navigation Guide



Foreword



Our Digital Strategy sets out an ambitious agenda for our organisations over the next decade. We are at the start of what is an exciting, yet challenging, digital transformation journey that will see us make major investments to deliver a better quality of care to the people of Northern Ireland.

Dan West

Chief Digital Information Officer, Northern Ireland Department of Health

Our Health and Social Care (HSC) Digital Strategy has been developed on the back of two major events – firstly, the conclusion of our five-year [eHealth and Care Strategy \(2016\)](#) and secondly, the emergence and impact of the COVID-19 pandemic.

The eHealth and Care Strategy was developed to supplement the [Health and Wellbeing 2026 - Delivering Together](#) and set out a plan to transform the way we deliver health and social care services across Northern Ireland. It defined many of the foundations that we stand on as an organisation today and many of its objectives have already been achieved.

The COVID-19 pandemic is the most significant health event of the past century and has had an unprecedented impact on global health and social care systems, including our own here in Northern Ireland. Our system has been tested in ways we had not experienced before and we are proud of the role that digital has played in supporting our dedicated and tireless teams and the population of Northern Ireland, to continue to deliver and access critical services during this period.

In June 2021 we set out to establish a new strategic direction for digital that could further sharpen our focus and attention on how we use the resources and tools at our disposal to continue to deliver better outcomes in health and social care. In the process of developing this digital strategy we have engaged with our people and our population to understand their expectations and priorities for digital. I want to thank everyone that participated for the time and careful attention they have given to support this vital exercise. The result of this engagement is a digital strategy that we are confident can deliver our shared digital ambition to “deliver digital health and care services, putting people at the heart of everything we do”.

Our new strategic roadmap sets out a three-phased approach for digital transformation; we must focus on implementing a series of foundational technologies including [encompass](#) – our regional digital care record system, NIPACS+(delivering a single enterprise imaging solution for HSC) and NILIMS (regional Laboratory Information Management System). The encompass programme is our most ambitious digital investment to date and will fundamentally transform our digital capability, enhancing collaboration between staff and ultimately improving the care pathways that we are able to deliver and moving us closer to working as one system.

Foreword (cont.)

Beyond Implementation

As we progress through our digital journey and successfully embed digital foundations like encompass, we will begin to turn our attention to making the best use of our tools and products to meet the emerging challenges in our health and social care system. This focus will help us to deliver tangible improvements in our use of digital services and find new ways to work with our partners to serve the people of Northern Ireland.

As our digital transformation matures - we will begin to invest more resources into innovation so that we remain ready to participate in the development and application of next wave of digital capabilities. This innovation will ensure we maintain a continuous improvement approach that ensures we improve our digital health and care services over the long term.

This is an ambitious journey and we recognise the importance of our people who are at the heart of everything we do and will remain our greatest asset as we build a digital future – that’s why this digital strategy also outlines how we will invest in the future digital skills and capabilities of our people and support our current digital staff to further their careers with HSC and attract new digital talent. We will deliver integrated and intuitive systems that make jobs and interactions with HSC easier and safer for our people and make use of digital tools to integrate services including primary and integrated care, hospital services, community services, mental health and social care to deliver joined up patient journeys and care continuity. The sustainability of our health and care service relies on the education and mobilisation of citizens to help them to live better and healthier lives. We will our people and the Northern Ireland population to co-produce solutions that meet this challenge, empowering people to manage their wellness and health care. We have laid out a whole-system strategy and made commitments to collaborate with our partners across sectors.

Thank you for taking time to read our HSC Digital Strategy, we look forward to continued engagement with you as we commence this next phase of our digital journey. Together we will deliver the quality of digital services that the people of Northern Ireland have asked for and deserve.



Dan West
Chief Digital Information Officer,
Northern Ireland Department of Health

Introduction (1/2)

In Northern Ireland, we have set out on an ambitious journey of transformation in how we deliver health and social care services for our population. As we move forward, the role of digital in achieving the ambitions set out in our Delivering Together strategy will come increasingly into focus, alongside pursuing our 'Once for NI' agenda for a more regional view of digital, data and technology.

Our new Digital Strategy (available from [Digital Strategy - HSC Northern Ireland 2022 - 2030](#) | [Department of Health \(health-ni.gov.uk\)](#)) together with our three supporting strategies outline how we will rise to the challenge of delivering the digital transformation needed to improve health and care outcomes incrementally, alongside standardisation of our services and co-ordinated regional management as part of our own parallel transformation journey. Our three supporting strategies around Data, Innovation and Cyber Security outline our priorities in each of these areas to help deliver the strategic outcomes outlined in the 'parent' Digital Strategy.

DATA



To realise our Digital Strategy, our supporting 'child' strategies set the direction of travel for data, cyber security and innovation allowing us to have an integrated response to digital transformation.



CYBER SECURITY



INNOVATION



Together these strategies realise our ambition *to design, develop and deliver digital services that support everyone to get the best care, support health and social care staff at work by streamlining information sharing across systems and optimising the use of data to improve the safety, quality and experience of care.*

Introduction (2/2)

The uptake of digital services due to lifestyle changes and in response to COVID-19 tells us that the public are ready and willing to accept service digitalisation. As part of our digital roadmap, we will focus on integrated digital services and systems that will improve information sharing, consistency and access to joined up care across providers.



Success for our population looks like:

consistent reliable services that enable our population to have greater control and visibility over their health and care, as well as better interaction with HSC



Success for our people looks like: integrated systems and time saving solutions, alongside reliable and accessible data for better outcomes



Success for HSC looks like: digital services and products support a system response to improving care pathways – including enabling the population to manage their own health and care more autonomously

Each of our supporting strategies below will reinforce the overall aims of the Digital Strategy, expanding on and working in tandem to deliver the overarching strategic outcomes.



Data Strategy

Our Data Strategy, will make HSCNI a data and insight driven organisation that improves people's lives through the use of data. Our core aims will be to ensure that data collection is carefully managed, improve our analytics and data visualisation capabilities, create transparency through data insight and support the generation of population health insights to drive actionable insight. We will establish the new Health and Social Care Data Institute.



Cyber Security Strategy

Our Cyber Security Strategy, will strengthen the cyber security controls and resilience of Northern Ireland Health and Social Care services against an evolving threat landscape. Our core aims will be to improve collaboration and resilience between HSCNI organisations, maximise security investments, and enhance cyber security through balancing of clinical and technology risk management.



Innovation Strategy

Our Innovation Strategy, will position HSCNI as a place that excels at encouraging and harnessing digital innovation in order to improve the delivery of services and the health and wellbeing of the population of Northern Ireland. Our core aims will be to establish a coherent approach and pathway for digital innovation in health and social care through a Digital Innovation Hub.



Our Vision for the Future

Our ambition and what this means for our population, our people
and our partners

Our Digital Vision

Making lives better for the people of Northern Ireland, using digital to transform the way we deliver health, care and wellbeing services

Our Digital Vision

Insight-Driven Care

Staff will have access to data and dashboards on-demand, with information stored in the same place for evidenced based decision making

Digitally Led

Mobile working and online access will be driven by digitally enabled processes and operations

World Class Digital Infrastructure

Staff will have access to innovative solutions and flagship programs, underpinned by secure cyber processes.

Fast Paced and Responsive

We will be agile, adaptive and innovative, utilising fusion teams alongside hubs for innovation and delivery.

Digital Touchpoints

Patients will be able to live more independently for longer, with digital solutions and technologies that help them feel connected.

Streamlined Care Journeys

Joined up & integrated processes will make healthcare journeys more efficient, leading to reducing delays and waiting lists.

Personalised Treatment Journeys

Patients will have access to personalised treatment plans that individualise and improve their care

Cutting edge diagnostic and treatment solutions

Innovation and research partnerships will deliver improved diagnostics and access to new treatments.

To strengthen the cyber security controls and resilience of Northern Ireland Health and Social Care services against an evolving threat landscape

Our Cyber vision

To make HSCNI a data and insight driven organisation that improves people's lives through the use of data

Our Data vision

To position HSCNI as a place that excels at encouraging and harnessing digital innovation in order to improve the delivery of services and the health and wellbeing of the population of Northern Ireland.

Our Innovation vision

Mission and Principles

While our vision outlines our ambition, our mission (including those of our supporting strategies) focuses on how we plan to deliver. It communicates our direction of travel over the next 8 years and the principles that will guide us.

To design, develop and deliver digital services that support everyone to get the best care. Support our people at work by streamlining information sharing across systems and optimising the use of data to improve the safety, quality and experience of care.

Our Digital Mission

Our Digital Principles

- | | |
|--|---|
|  <p>Caring and effective
ensuring quality and safety, with people at the heart of everything we deliver</p> |  <p>Connected
systems, data, processes, and people for a streamlined and standardised approach</p> |
|  <p>Data driven
delivering an evidence-based approach to decision-making, driven by better data and analysis capabilities</p> |  <p>Secure
implementing systems that are safe and secure, meeting the standards and expectations of those we serve</p> |
|  <p>Continuously improving
striving to deliver better services and integrate learning from across sectors</p> |  <p>Cost effective
putting the right tools and systems in the right places at the right time to ensure efficiency and value for money</p> |

To promote the efficiency and stability of Northern Ireland Health and Social Care Services through robust cyber security capabilities and expertise, collaboration and information sharing, with comprehensive oversight

Our Cyber Mission

To make health and care data easily available to all citizens, staff and policy makers, facilitated and governed by a new Health and Social Care Data Institute (HSCDI).

Our Data Mission

To establish the Innovation Hub as a centre of excellence for scoping, prioritising, piloting and scaling the innovation in digital health products, services and processes.

Our Innovation Mission

What will this mean for our population?



The digital strategy has been developed to reflect the voices of our population throughout. We will provide example stories to show how digital will enable improved population and staff experiences, health and well being outcomes and efficiency.

John's journey (below) reflects and summarises how health and care will change for us all through the implementation of the digital strategy.



Meet John...

John is 85 years old and has recently been discharged from hospital following a fall at home. John wants to stay in his own home and will be supported to live there by the community based multi-disciplinary team (MDT) and his family.



"It is really good that when different HSC people come to the house to visit that I don't have to repeat my story and details. It feels like they know me" – **John**



"Being able to add notes to Dad's patient portal about my concerns and being able to send text messages to his carers means I feel connected" – **Niamh, John's daughter**



"John receives care that is well informed and up to date with his current condition, . I can review his all care information is so I am aware of the MDT input" – **Isla, Community Nurse**



"John has really benefitted from the care plan we drew up together to ensure he remains socially connected and as independent as possible. I have assisted him to join a number of groups remotely twice a week so he doesn't need to travel or feel isolated " – **Aaron, John's Social Worker**



"John's risk of hospital readmission is lowered because any issues are escalated to me quickly by the team via the portal and I can track changes in his condition by accessing details about all the care John is receiving in one place." – **Erin, John's GP**

What will this mean for our people ?



Our digital strategy has been developed in partnership with our people , who will be using our new systems and services on the frontline. The perspectives below reflect and summarise impacts on different people across our health and social care ecosystem, with respect to the initiatives and programmes included in the digital strategy document.



Hospital based Nurses/AHPs/Social Care staff

"I no longer need to rely on a patient's paper records as they are now easy to access from our devices – we feel safe with the systems and processes that are in place to record and share important information about our patients with colleagues and other parts of the care system. We have better handovers between shifts as we no longer need to pass paper between us – the way we manage medicines administration is so much more effective and our dashboards and monitoring systems make it easier to tackle problems quickly."



Medical Consultants

"When I am on call and get called in to the operating theatre, I am able to access the patient's key information quickly and easily before I leave home. This enables me to give advance instructions or place orders and be well informed when I arrive so I don't waste valuable time getting up to speed. All of the necessary reports and forms can be done digitally and shared with my colleagues on the wards – this allows us all to be informed and provide the best care for our patients. I can follow up with patients virtually via video consultation to check on their progress after surgery."



Community Nurses / AHPs / Social Care staff

"I can access the data and information I need when I am completing home visits and have real time access to my patient's health record. My patients regularly have check-ins with their GP through the online patient portal and are more actively engaged in the management of their health. This makes my job easier and helps me see more patients during the day, while also allowing me to work flexibly around my other commitments."



Operational and Administrative staff

"I have the data and tools needed to make real-time decisions as well as proactively manage resources. Through the digital workplace, I can access our shared systems, which makes it easier to collaborate with my team from anywhere. I work with fewer systems, but they still allow me to complete all of my tasks – I have been able to access training and support when new systems are implemented and have even had the chance to train my colleagues as a Digital Champion for my department."



Digital and IT staff

"I can clearly see the value of my work and how it is improving health and social care services – I have a pathway to progress within the organisation and am able to continue developing my skills in areas that our organisation is prioritising. I am building my knowledge and expertise whilst ensuring that myself and my team keep critical IT systems up and running. I feel empowered to innovate and implement new solutions alongside clinicians to deliver better care for people."



External partners

"We understand what our HSC partners need from us and have better knowledge of their systems and how they are working. We work more seamlessly as a unit and we feel more involved in helping HSC to achieve their health outcomes. We have developed strong relationships with our partners in supporting health and social care and are trusted advisors that can share our specialist expertise whenever needed"

Our partnership approach

Our Ecosystem Partners

To ensure successful digital transformation, we must also work with those who use our digital services and tools. Establishing strong, ongoing partnerships with these groups will provide mutual benefits and as such we will outline a number of commitments that we will make to our partners, as well as our expectations of them to support our digital agenda. We have provided a summary of our partnerships and the initiatives we will create and foster in this section.



Our Population

Summary: The people that use our services are central to everything that we do in HSC – our vision is based on providing digital health and care services to enable better processes, support improved care pathways and ultimately, deliver better outcomes for all.



Our People

Summary: Our staff are the lifeblood of the health and social care services we deliver – they are also often the primary user of the digital tools and products we deliver. Our obligation to them is that tools are fit-for-purpose and designed with user experience in mind.



Universities, Higher & Further Education

Summary: HEIs and Further Education Institutes are a vital research and innovation partner and an important partner in teaching and developing the next generation of health and social care professionals. We will rely on them to replicate our digital advancements in their courses.



Arms-Length Bodies (ALBs)

Summary: ALBs are a key partner in our delivery of quality care and will be an important source of expertise and insight in our digital transformation. We will rely on them to provide input and feedback.



Digital Suppliers

Summary: We will rely on suppliers to support us in delivering strategic and technology programmes, bringing their industry expertise to complement that of our in-house delivery teams. We will ensure we have an effective supplier management approach to support this.



Sector Partners

Summary: We will work with third parties such as public sector care providers to drive seamless patient journeys and greater alignment across health and care in Northern Ireland. We will also work with partners in the public sector to deliver improved health outcomes.



Delivering our Ambition

How we plan to deliver our strategies

Our Transformation Journey

Ecosystem challenges

Our care ecosystem has never been more in need of digital intervention and we face a number of challenges that we must seek to address. The COVID-19 pandemic has accelerated regional digital adoption, however despite the accelerated response it has also left us with lessons we must take on board. We acknowledge these challenges as we move forward.

COVID – The HSC workforce are fatigued from the pandemic and we need to give them breathing room

Pace of change – We need to ensure we take our people with us on our transformation journey, providing the right support at the right time

Affordability – We need to secure a long term budget position for continued portfolio level investment

Transformation bottlenecks in Trusts – We need to manage the current waiting list backlogs and encourage tech integration

Culture – We need to help our people understand that our portfolio is a stimulus for transformation and not just about IT

Talent – We need to address our resourcing challenges by recruiting and retaining staffing levels and attracting new talent

Our COVID response

COVID-19 has had a compounding impact on challenges that we have faced for a number of years and has created an additional strain on an already overstretched health and social care system. However, the pandemic has also highlighted the positive impact that digital can play in delivering health and social care services – and we must identify opportunities to build on the momentum of digital adoption and delivery of services developed during the pandemic. Our digital landscape is complex and understanding our current challenges has informed the creation of six strategic outcomes as overarching aims for our transformation.



COVIDCare NI



Public COVID Dashboard



Shielding Registry



Test Registry



StopCOVID NI



Contact Tracing Platform



Digital Self Trace



Public Health Intelligence Platform



Vaccine Management Platform



COVID Certification Service



COVID Domestic Certification



Monoclonal Antibodies Platform

Six strategic outcomes

Our strategic outcomes will act as overarching aims for our transformation. They have been developed with stakeholders from across the HSC ecosystem and represent the end state we are seeking to achieve. While only the digital strategic outcomes are shown here (expanded in the full Digital Strategy document), specific data, cyber and innovation strategy outcomes can be found in the relevant extended documents.

The diagram below summarises our overarching strategic outcomes for the eight year span of the digital strategy. Each supporting strategy on data, cyber and innovation contains a subset of outcomes that help achieve the overarching aims described below.



Digital will provide the population of Northern Ireland greater visibility and control over treatment and care journeys



Digital solutions will put quality and safety at the heart of all new processes, systems and ways of working across health and care pathways



Effective and joined up care through systems integration and streamlined information flows



Digital will enable health and social care professionals and staff to work more efficiently and collaboratively across standardised systems



Intelligent use of data will optimise performance and harness population health insights, whilst ensuring robust data protection standards



Digital will support the acceleration of research and innovation to gradually embrace system leading disruptive and cutting edge solutions

Our Supporting Functions

Each of our supporting strategies outlines a commitment to build a novel delivery function - key to helping us to achieve our overall transformation. The delivery functions are summarised below.

Cyber Operations Centre

The strategic outcomes of the cyber strategy reflect the cyber assessment framework, enabling us to target cyber security from multiple angles and provide layered security systems with built-in redundancy and regulatory compliance. They will be delivered via the implementation of a cybersecurity operations centre – sitting within BSO ITS – to centralise and manage predictive, preventative and responsive measures to secure our digital systems

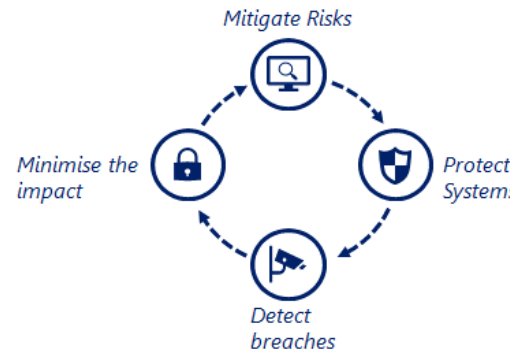


Diagram 1: Our 360° Cyber Approach

The HSC Data Institute

The Data strategy outlines our commitment to build and deliver a data institute for HSCNI (HSCDI), which will centralise data management at HSC and act on the need to reduce duplication of effort, deliver improvements to the analyst environment and ensure better co-ordination of resources. All together, this will enable us to optimise our usage of data and better leverage and expand data skillsets that exist within HSCNI.



Diagram 2: The HSCDI

The HSC Innovation Hub

Our innovation strategy describes how we will design and implement an innovation hub for HSC, which will be instrumental to changing the way in which we encourage and facilitate innovation in our system. We will achieve this via the introduction of a standardised innovation pathway, centralisation of oversight and responsibility alongside clear and transparent governance.

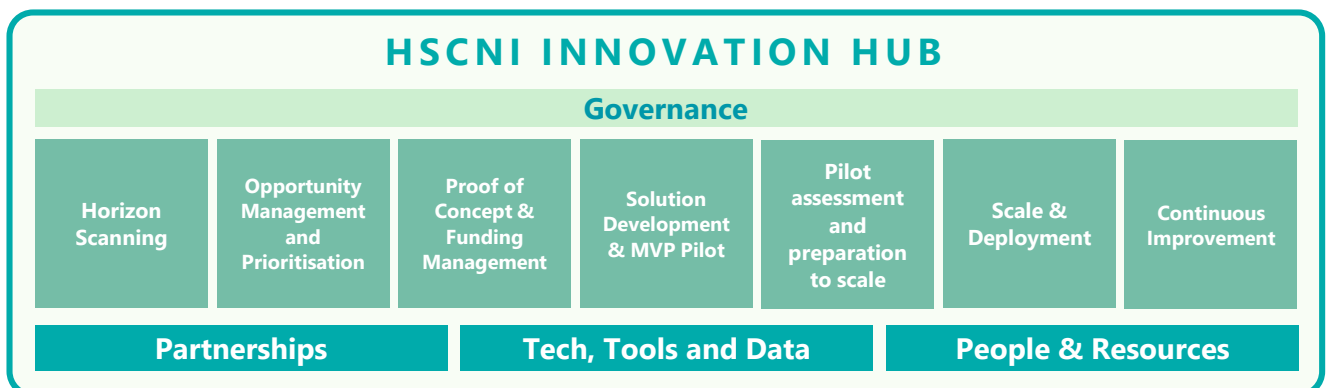


Diagram 3: The HSC Innovation Hub

Our Transformation Roadmap

Our strategic roadmap sets out our direction of travel, and will allow us to target our effort and resources more effectively over the next ten years. Three key phases will mark our transformation, with a focus on implementation of key initiatives in the first phase, maturing into optimisation of the new processes we have put in place, and finally innovating to deliver further improvements.

Our Transformation Roadmap



We invest our time and resources in implementing the key initiatives and programmes that will transform health and care services in Northern Ireland. This phase will also look to address a number of the capability and enabling requirements that will support implementation and set HSC up for the future phases. By focussing our short term efforts in this way, we will lay the foundations for delivering future service transformation.

We invest our time and resources in making best use of the transformational technologies, data and systems that we have implemented. The lessons and momentum gathered during the 'Implementing' phase is advanced. When our focus on developing new capabilities such as:

- lean process design
- service design
- data analytics

We invest our time and resources in new and exciting technologies and initiatives. In this phase, we have the right skills, capabilities and enablers to embrace new technologies and ideas. Test and scale where appropriate across our digital portfolio. We will continue to implement and optimise solutions, building on our history of successful digital transformation and a strong change culture.

Estimated effort levels over time

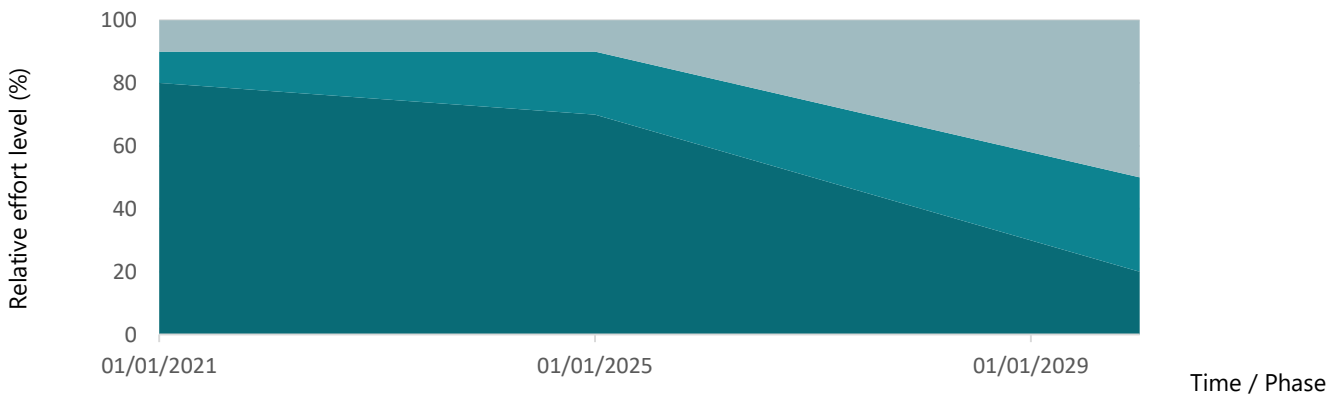


Diagram 4: How we will focus our resources in each phase

Our Ambitious Portfolio

Our digital vision will be delivered via an ambitious portfolio of key programmes, supported by smaller parallel initiatives. These major programs will be the focus of our strategy implementation alongside development of skills and enabling capabilities.

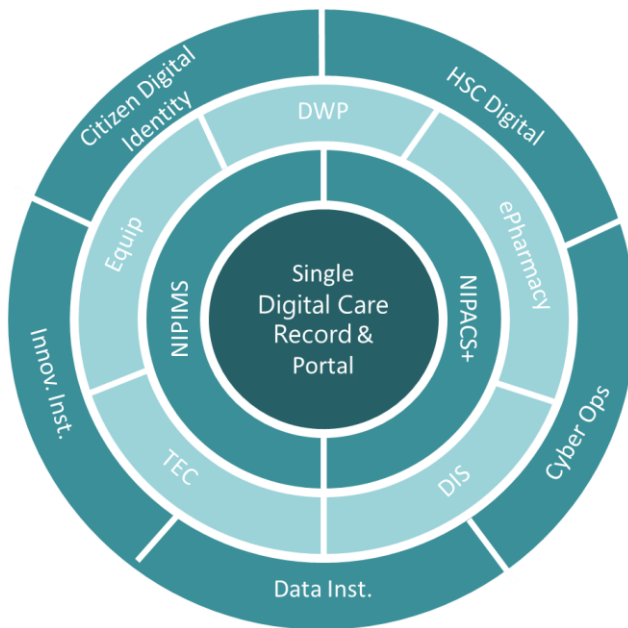


Diagram 5: Our priority programmes and supporting initiatives for the delivery of our digital vision

- Encompass will deliver a new digital care record for every citizen, acting as the basis for our digital transformation and changing the way that care is delivered across NI.
- Transforming the way that we manage our clinical data, NIPIMS, NILIMS and NIPACS+ will deliver a single enterprise imaging solution and laboratory information management system to improve quality and safety of care
- The next layer of digital systems will help to digitalise our workforce and back office administration, including electronic prescriptions
- Built on top of our new systems and services, our new delivery hubs will centralise decision making and responsibility to accelerate our transformation

How will we deliver?

OUR PORTFOLIO PIPELINE

Our digital portfolio will focus on implementing a series of foundational technologies including encompass – our regional digital care record system. The encompass programme is our most ambitious digital investment to date and will fundamentally transform our digital capability, enhancing collaboration between clinicians, and ultimately improving care pathways, and moving us closer to working as one system. Our digital portfolio will drive forward our 'Once for NI' approach through changes in care pathways and increased system coordination.

DIGITAL DELIVERY CENTRE

Our Digital Delivery Centre will comprise a multi-skilled agile team, who can drive the delivery of smaller programmes and projects that do not share the same resource requirements as programmes in the wider portfolio. This means that smaller projects can be implemented as part of a more streamlined process that reduces excess administration. This will help us to deliver rapid transformation and innovation and capitalise on the momentum gained during COVID-19, to address problems in new ways.

Preparing for our Transformation

VISION
MISSION
OUTCOMES
CAPABILITIES
ENABLERS

Our digital transformation is more than just a portfolio of programmes. It's a culture shift and change in the way that we think and operate – starting with the people and processes that are central to everything we do at HSC

Building our digital capabilities

To realise our digital ambitions and deliver our strategic outcomes, we must build and scale digital capabilities across our organisation, investing in [six core capabilities](#) that will underpin everything we do.

Patient engagement	Digitally skilled workforce	Emerging technologies
Systems integration & cyber security	Innovation and digital agility	Data driven care and insights

We need to support our people and build new skills so that we can enable our population to control and personalise health journeys, develop our staff's knowledge and skills to use systems confidently, evaluate and invest in emerging technologies, integrate our systems for better security and collaboration, develop new ways of working through innovation, and put data and insight at the centre of our decision making. We also need to empower patients to take an active role in their health and care, promoting self-service and delivering incremental efficiency for the HSC alongside improved patient outcomes.

Enabling our digital transformation

A successful digital transformation relies on many things, from the leaders of the organisation through to the infrastructure that supports it. Establishing these foundational enablers is a critical component of our digital strategy and will enable us to deliver on our stated vision and mission for HSC. Our digital enablers cut across everything we do and make the delivery of successful change possible.

Our four categories of enablers outline the priority areas that we will focus on building over the lifetime of this strategy.

Leadership and Digital Culture

Developing a culture that embraces digital and data, starting with our senior leaders. Adopting a 'digital-by-default' mindset to solve problems and develop new care models and ways of working.

Digital Talent

Attracting, recruiting, and retaining digital professionals who feel empowered to deliver programmes. Developing new pathways that allow our digital staff to progress with us.

Management and Governance

Creating greater transparency in how we manage and govern digital transformation, providing robust management of our plans and budgets to ensure successful delivery of programmes and projects.

Infrastructure and Programmes

Providing the infrastructure and tools that our people need to work effectively. Maintaining reliability and safety of systems, ensuring they are accessible at all times.

Document Review

The Digital Strategy provides a direction of travel and a delivery roadmap for digital health and care over the next eight years. However, it is crucial that our approach remains up to date, relevant and responsive to our dynamic health and care landscape. For this reason, we must seek to review achievements against our goals and objectives at three-year intervals, addressing new priorities and altering our direction of travel as required.

The diagram below explains our approach to the continued review and revision of our digital strategy. Note that this is illustrative and non-exhaustive, with potential for more frequent review if required.

