



Nottinghamshire Health Informatics Service

Digital Strategy

2019 – 2024



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Executive Summary

We - Nottinghamshire Health Informatics Service (NHIS) recognise our privileged long-standing position within the local health care economy, which has provided us with the opportunity to be an essential part of the delivery of integration projects across the health and social care organisations within the Nottinghamshire Integrated Care System (ICS) footprint.

In order to ensure we can continue to provide the support to our customers and partners in the most effective way, it's important that we have a clear understanding of the overall strategy of health and social care, both nationally and locally.

The pressures on the health and social care system nationally require radical changes to ensure that the needs of the population can be met. Demand continues to increase, and the pressure is becoming more intense over time. The needs of the population can only be achieved through a change in culture from that of competition to that of collaboration, where services come together to support those needs.

The NHS Long Term Plan sets out the priorities for the next 10 years and includes collaboration as a key element. These priorities focus on patient empowerment - providing the public with information and access to digital services to support their needs and to educate them on how to stay healthy, and ensuring patients get the treatment they need in the place they need it and therefore reducing the need to visit hospital unless it is really necessary.

Locally the ambitions of the Long-Term Plan are to be delivered through the creation of new structures across Nottingham and Nottinghamshire, the Integrated Care System (ICS), the Integrated Care Partnerships (ICP's) and Primary Care Networks (PCN's). This will see a changing landscape and a variation in the way in which our partner organisations work, in particular in the way in which they work together both in health and social care, and even further afield.

Technology and Digital services will play a key role in transforming the way in which care is delivered over the next few years. The introduction of new technology and digital services is only one part of the whole picture of transforming the way in which care is delivered, and we aim to work alongside and support transformation programmes in Nottingham and Nottinghamshire to ensure they make the right choices when it comes to new technology and the strategic fit as part of a wider integrated programme of change. It is imperative that digital maturity across the health and care system increases, ensuring health and care is underpinned by integrated digital solutions to ensure the right people have access to the right information at the right time.

This strategy outlines the national ambitions and how this will play into local changes, how the NHS plan will be delivered and finally the high-level programmes of work that we will be focused on delivering. It aims to support and determine the course of action we require to take in order to help achieve the shared outcomes of our partners and customers, and the local health and care community.

We believe that, by having a shared sense of purpose it will provide a much more unified understanding of how we can support the delivery of our partners and customers strategic requirements and those of the wider Nottinghamshire ICS, Integrated Care Partnerships (ICP's) and the delivery of the ambitions set out in the NHS Long Term Plan.

Introduction

We are entering one of the most revolutionary and exciting times for Digital Technologies and Digital Transformation in the NHS.

The NHS is changing to meet the needs of our aging population and evolving towards a more proactive, preventative approach to healthcare. As the proverb says: “Prevention is better than cure”.

To achieve this there is the need to break down the boundaries between health and social care providers, allowing new models of care to be developed.

The Nottinghamshire ICS. ICP’s and PCN’s will play a key role in these changes.

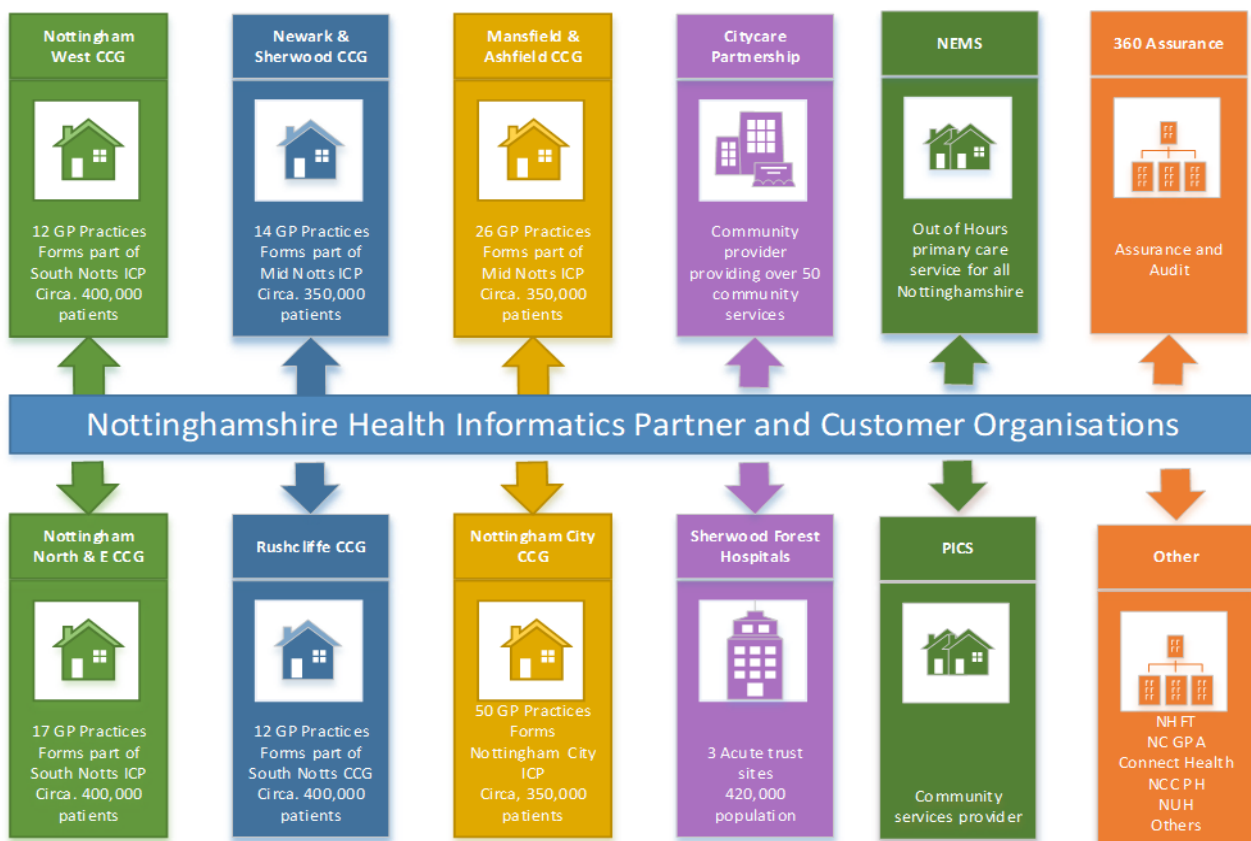
With so many potential technology solutions, systems and applications available, we need to support our partners and customers to make the most of the opportunities available to them and to achieve the ambitions of the new world of health and social care.

Introducing new technology is only one part of the whole picture of transforming services.

Making the right choice when it comes to exploiting existing technology or introducing new technology, ensuring a strategic fit to the wider integrated programme of change is key to this success.

NHIS Partner and Customer Organisations

We support a number of partner and customer organisations that make up the health care landscape within the ICS who will all need to consider how they operate in the new world of health and social care.



Sherwood Forest Hospitals

Sherwood Forest Hospitals NHS Foundation Trust (SFHFT) was formed in 2001, gaining Foundation Trust status in 2007. Sherwood Forest Hospitals is the main acute hospital trust for the local population, providing high quality healthcare for 420,000 people across the area of North and Mid Nottinghamshire, in addition to parts of Derbyshire and Lincolnshire. The trust employs 4,140 members of staff and 700 volunteers working across the hospital sites, King's Mill Hospital, Newark Hospital, Mansfield Community Hospital and Ashfield Health Village.

Each year the trust cares for more than 76,000 inpatients; 30,000-day case patients; 275,000 outpatients; 102,000 emergency department attenders, more than 270,000 people attend outpatient and therapy appointments in the King's Treatment Centre, and more than 3,000 women choose to give birth with the trust.

Mid-Nottinghamshire CCG's

Mid-Nottinghamshire CCG's were formed in April 2018 from the merger of both Mansfield & Ashfield CCG and Newark & Sherwood CCG. Comprising of 41 GP practices Mid Nottinghamshire CCG's are responsible for the commissioning of healthcare on behalf of the people of Mansfield, Ashfield, Newark and Sherwood. The total population served is currently circa 350,000.

Greater Nottinghamshire CCG's

Greater Nottingham CCG's were formed in April 2018 from the merger of Rushcliffe CCG (12 GP Practices), Nottingham West CCG (12 GP Practices), Nottingham North & East CCG (20 GP Practices) and Nottingham City CCG (54 GP Practices). Greater Nottingham CCG's are responsible for the commissioning of healthcare on behalf of the people of Nottingham. The total population served is currently circa 750,000.

2020 will see the merger of all Nottinghamshire CCG's into one CCG, we will need to proactively work with our CCG partners in order to ensure any digital requirements are identified and supported throughout the merger processes.

Nottingham CityCare Partnership

Nottingham CityCare are a provider of community services within the City of Nottingham delivering a range of nursing and healthcare services shaped and developed by the needs of the communities in which they serve. Nottingham CityCare are currently commissioned to deliver more than 50 nursing and healthcare services across Nottingham City Centre.

In January 2019 Nottingham CityCare set out five key ambitions derived from the better use of information and technology from within their organisation and across the health and social care system, which together provides a framework for the organisation as whole including a technology improvement plan. CityCare's key digital technology aims are to improve effectiveness of their clinical teams by enabling flexible mobile access to information at the right time and the integration across health and care.

Customer Organisations

We also provide digital services to several other organisations across Nottinghamshire, including some out of Nottinghamshire services in Leicestershire and Rotherham. Our customer organisations range from GP out of hours providers, community care providers, to NHS auditing services and are outlined below.

- NEMS - Community Benefit Services Limited
- Primary Integrated Community Services (PICS)
- Nottinghamshire Healthcare Foundation Trust
- 360 Assurance
- The Nottingham City GP Alliance
- Connect Health
- Nottingham City Public Health
- Nottinghamshire County Public Health
- FaHRAS Ltd
- Fittleworth Medical Ltd
- NHS England - Nottinghamshire based Pharmacies
- Nottingham University Hospitals

National Strategy

Constraints within NHS funding, combined with a rising demand from an ageing population has put the NHS under huge pressure. The answer is not to just put more funding into existing services. There's a need to change the way in which health and social care work together, removing organisational boundaries and developing new models of care by working collaboratively around the needs of the population.

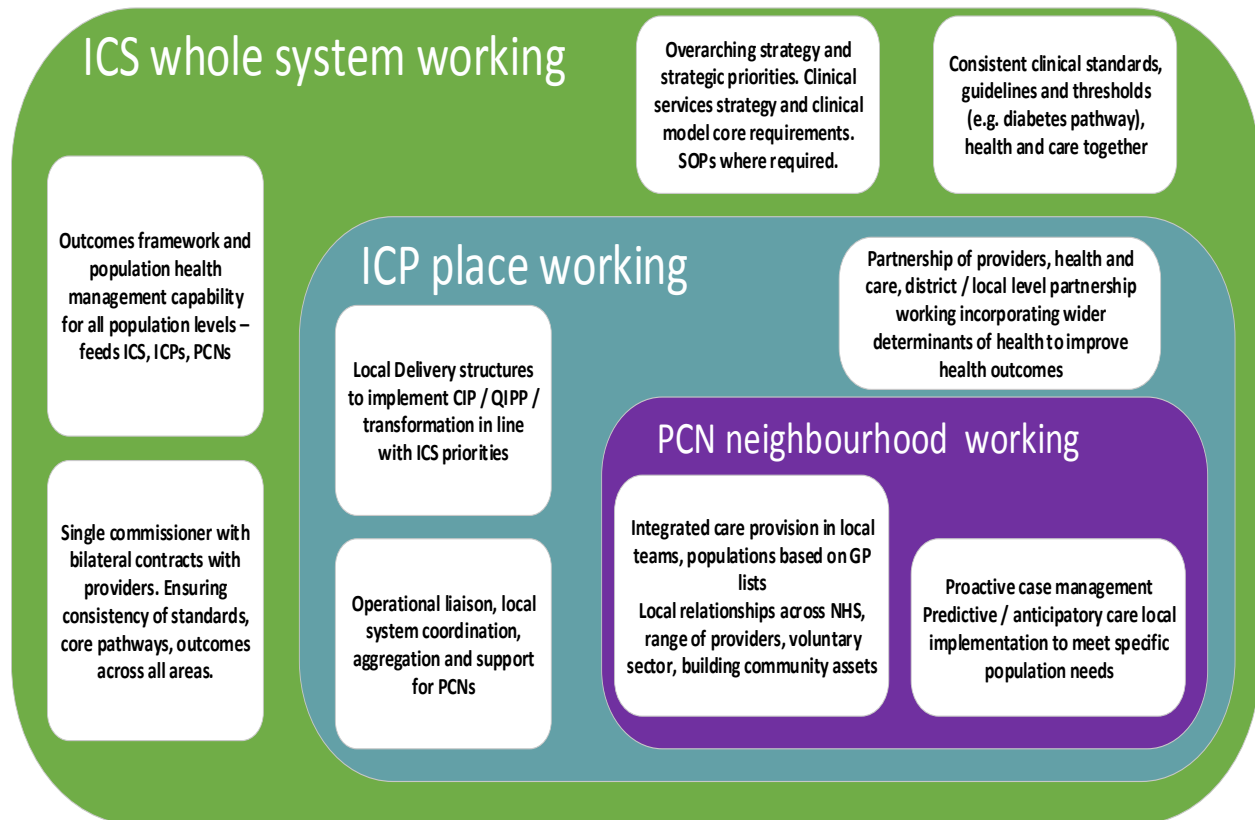
The health and social care environment also needs to give greater priority to the prevention of ill health by working together and with other agencies to tackle the wider determinants of ill health and wellbeing. The five year forward view defined the roadmap for achieving this and across the country all areas developed Sustainability and Transformation Plans (STPs) - which later became Sustainability and Transformation Partnerships. These plans describing how they would implement the NHS Forward View locally. Some STPs then evolved into integrated care systems (ICSs) taking more control of funding and performance with less involvement from national bodies and regulators. There are ten areas of the country that are now ICSs, Nottingham and Nottinghamshire being one of them. ICSs will take the lead in planning and commissioning care for their local populations and providing system leadership.

Integrated Care Partnerships (ICPs) are alliances of health and care providers that work together locally to deliver care by agreeing to collaborate rather than compete. They focus on developing new models of care in their local population by collaborating together and sharing responsibility for how they operate their collective resources for the benefit of local populations. The ICPs will deliver the plans set out by the ICSs in those areas.

Over the last few years GP practices have started to work together collaboratively forming GP federations. Primary Care Networks (PCNs) build on this further by groups of GP practices coming together and having GP registered lists typically serving a local population of 30,000 to 50,000 patients. The purpose of the PCNs is to bring together groups of GP practices, community services, mental health, social care, pharmacies, hospital and voluntary services in local areas. Working together means they can have bigger teams of staff, they can stay open longer, and provide better access to things like ultrasound and patient monitoring.



Working at system, place and neighbourhood population levels: what should happen where (right task for the right population level)



The NHS Long Term plan published in January 2019 set out the ambitions of the NHS over the next ten years, and builds further on the Forward View approach to collaboration and integrated care. It sets out strong ambitions in developing new models of care to improve the quality of patient care and health outcomes. Digital technologies and transformation will play a central role in realising the NHS Long Term Plan, supporting clinicians by providing more accessible information, and enabling transformation. Digitally enabled care has been stated as being mainstream across the NHS to ensure delivery of the NHS Long Term plan.

There is a key emphasis within the NHS Long Term Plan on the improvement of population health. Population health is an approach that aims to improve physical and mental health outcomes, promote wellbeing and reduce health inequalities across an entire population. Previously national policy has focused on the improvement of specific services, whereas population health focuses on the population of an area as a whole. In order to achieve this the NHS needs to move away from a system that only focuses on diagnosing and treating illness towards one that is based on promoting wellbeing and preventing ill health.



NHS Long Term Plan Digital Priorities

- Create straightforward digital access to NHS services, and help patients and their carers manage their health.
- Ensure that clinicians can access and interact with patient records and care plans wherever they are.
- Use decision support and artificial intelligence (AI) to help clinicians in applying best practice, eliminate unwarranted variation across the whole pathway of care, and support patients in managing their health and condition.
- Use predictive techniques to support local health systems to plan care for populations.
- Use intuitive tools to capture data as a by-product of care in ways that empower clinicians and reduce the administrative burden.
- Protect patients' privacy and give them control over their medical record.
- Link clinical, genomic and other data to support the development of new treatments to improve the NHS, making data capture for care available for clinical research, and publish, as open data, aggregate metrics about NHS performance and services.
- Ensure NHS systems and NHS data are secure through implementation of security, monitoring systems and staff education.
- Mandate and rigorously enforce technology standards (as described in the Future of Healthcare) to ensure data is interoperable and accessible.
- Encourage a world leading digital health industry in England with a supportive environment for software developers and innovators.

Local Strategy

It's important to understand the role of each component of the Nottingham and Nottinghamshire Health and Social Care landscape, and how the different digital transformation projects and digital initiatives are supporting the ambitions of the community.

NHIS will continue to play a key role within the established collective bidding process across Nottinghamshire on the development of financial plans and bids (where appropriate) This will support individual partners through identification of the correct funding and support with the application process that will drive improvement of digital maturity and obtain funding to support the ambitions of their strategies.

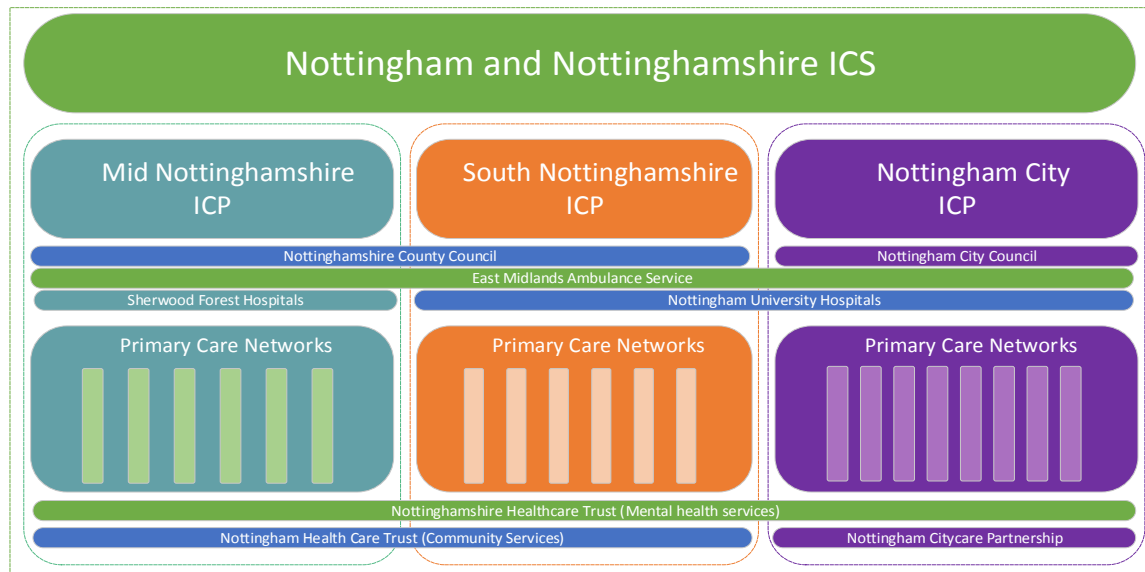
Funding to support the delivery of the digital plans across the ICS is obtained through established governance routes from National sources such as;

- ICS capital allocation
- Estates and Technology Transformation Fund (ETTF)
- Health System Led Investment in Provider Digitisation (HSLI)
- Primary Care Capital IT funding
- Partner & Customer Capital.

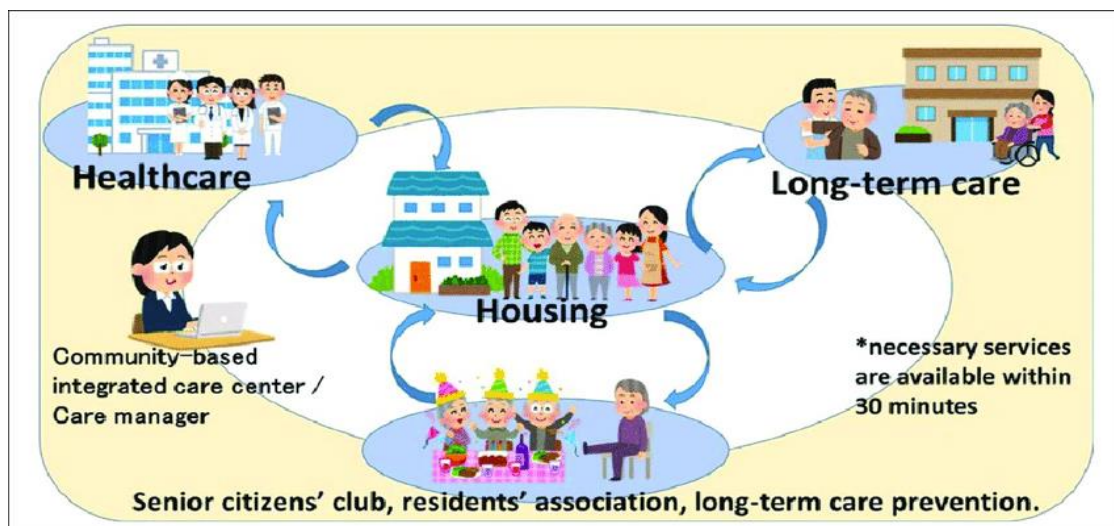
Nottingham and Nottinghamshire Integrated Care System

The overall ICS Vision is defined as:

“Across Nottinghamshire, we seek to both increase the duration of people’s lives and to improve those additional years, allowing people to live longer, happier and more independently into their old age”.



The role of the Nottingham and Nottinghamshire Integrated Care System (ICS) is to bring together multiple health and social care organisations within the Nottingham and Nottinghamshire footprint to maximise the health and wellbeing of the population of Nottinghamshire. The focus is to join up care – removing organisational boundaries, empowering patients to have more opportunities to look after themselves and provide a system that is more proactive in preventing illness. Contributors to health outcomes go way beyond health and therefore by teams coming together and working around the needs of the patient, there is a greater chance of new models of care achieving the needs of the population. It will be very much focused around building of relationships between different teams and collaborating rather than competition between different organisations.



The ICS priorities have been agreed and focuses on the particular needs of our population and the challenges in our system.

ICS Plans & Priorities

- **Prevention** – more action on and improvements in the upstream prevention of avoidable illness and its exacerbations.
- **Proactive care, self-management and personalisation** – Improve support to people at risk of and living with single and multiple long term conditions and disabilities through greater proactive care, self-management and personalisation.
- **Urgent and Emergency Care** – Redesign the urgent and emergency care system, including integrated primary care models, to ensure timely care in the most appropriate setting.
- **Mental Health** – Re-shape and transform services and other interventions so they better respond to the mental health and care needs of the population.
- **Value, resilience and sustainability** – Deliver increase value, resilience and sustainability across the system, including estates.

Technology will play a key role in supporting the delivery of the ICS priorities and ambitions, not only allowing teams to collaborate and communicate about patients and citizens but also to support the public manage their own care. The following outlines the ambitions of the ICS in relation to technology:

Nottingham and Nottinghamshire ICS Technology Ambitions

- *We are exploring the options to hold online patient consultations*
- *We are exploring opportunities for patient-facing digital services*
- *We will be holding an event for local people to help identify what kind of online and digital services would be most useful, and obtain views on experiences of information sharing and technology across health and care*
- *We will roll out plans for more 'mobile working' - reducing the travel time for staff having to attend meetings*

Integrated Care Partnerships

There are three ICP's within Nottinghamshire, Mid Nottinghamshire ICP, South Nottinghamshire ICP and the City of Nottingham ICP. Each of these ICP's will focus on the delivery of the ambitions of the ICS in a particular place.

Mid Nottinghamshire ICP

The Mid Nottinghamshire ICP will focus on delivering the ambitions of the ICS within the Mid Nottinghamshire locality. All organisations are committed to working together and have already agreed that to make a difference to the Mid Nottinghamshire population the focus needs to go wider than just NHS Services and social care. Membership Includes Ashfield District Council, East Midlands Ambulance Service NHS Trust, Mid-

Nottinghamshire GP's, Healthwatch Nottingham and Nottinghamshire, Mansfield and Ashfield CCG, Mansfield District Council, Newark and Sherwood CCG, Newark and Sherwood District Council, Nottinghamshire County Council, Nottinghamshire Healthcare NHS Foundation Trust, Nottingham University Hospitals NHS Trust and Sherwood Forest Hospitals NHS Foundation Trust.

Mid Notts ICP Principles

- Working together for the benefit of the system
- Aligning objectives and incentives to achieve system change
- A cost pressure causes a problem for the system
- A cost saving creates an opportunity for the system
- Openness and transparency and open book approach
- Risks shared and managed
- Contracts to reflect system objectives and incentives delivery and enable transformation

South Notts ICP

The South Nottinghamshire ICP is a partnership of commissioners, health and care providers and local authorities whom are collaborating to join up health and social care services across Broxtowe, Gedling, Rushcliffe and Hucknall (Ashfield). By collaborating the aim is to enable people in South Nottinghamshire to live healthier lives and get the care and treatment they need, in the right place, at the right time. Membership includes the three South Nottinghamshire Clinical Commissioning Groups, local councils, NHS and social care providers and local voluntary and community sector.

City ICP

The Nottingham City ICP will bring together health and care providers and local commissioners to work together to improve services for the population in which they serve, and to make sure that they are sustainable. The City of Nottingham is a unique place that merits special focus on the health of its citizens. It is known that there are many challenges in Nottingham that can only be addressed by the organisations that can have an impact on people's lives really working together. Nottingham City have some of the most demanding health issues in the country and, on top of this, the inequalities between the healthiest neighbourhoods and the unhealthiest are stark. It is also known that Nottingham City ICP have huge strengths to build on and with which to tackle these, not least the uniqueness of Nottingham City as a place and the rich diversity of its population. Membership includes Nottingham City Council, Nottingham CityCare Partnerships, Nottingham City GP Alliance, NHS Nottingham City CCG, Nottingham Community and Voluntary Service (NCVS), Framework, Nottingham City Homes, Nottingham University Hospitals NHS Trust, and Nottinghamshire Healthcare NHS Foundation Trust.

Primary Care Networks

Within Nottinghamshire and Nottingham, there are 20 PCN's. The PCN's will be focused on delivering services around the needs of patients in their areas. There is a key need to ensure that we clearly understand how digital technologies and digital transformation can support the successful operation of the PCN's.

"PCN's will be at the heart of health and care provision; improving the wellbeing of our populations through proactive, accessible, coordinated, and integrated health and care services."

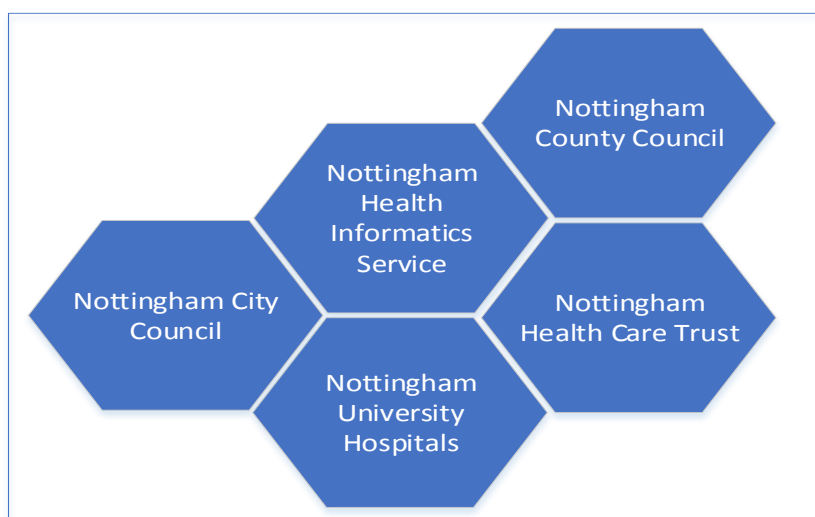
ICP	CCG	PCN	No of Practices	Population
Mid Nottinghamshire - ICP	Mansfield & Ashfield	Ashfield South	8	38,794
		Ashfield North	5	51,705
		Mansfield South	5	46,587
		Mansfield North	8	58,425
		4 PCN's	26 GP practices	195,551
Mid Nottinghamshire - ICP	Newark & Sherwood	Sherwood	7	59,627
		Newark	7	76,147
		2 PCN's	14 GP practices	135,004
Nottingham City - ICP	Nottingham City	1 – Bulwell & Top Valley	8	44,571
		3 – BACHS	12	59,168
		4 – Radford & Mary Potter	6	49,503
		5 Bestwood & Sherwood	8	49,390
		6 - Carlton & Sneinton	8	66,474
		7 - Wollaton	4	36,390
		8 - Clifton & Meadows	5	31,662
		U – university practices	2	51,549
		8 PCN's	53 GP practices	388,707
South Nottinghamshire - ICP	Nottingham North & East	1 – Hucknall	4	36,715
		2 – Arnold & Carlton	3	33,778
		3 – Carlton & Villages	6	40,969
		4 – Lakeside group	4	29,647
		4 PCN's	17 GP practices	141,109
South Nottinghamshire - ICP	Nottingham West	Nottingham West	12	106,473
		1 PCN	12 GP practices	106,473
South Nottinghamshire - ICP	Rushcliffe	Rushcliffe	12	128,389
		1 PCN	12 GP practices	128,389
	ICS - TOTAL:	20 PCN's	134 GP practices	1,095,233 Population

Nottinghamshire Digital Collaboration

The shift in the emphasis both nationally and locally to integrated working and collaboration can only be achieved successfully if the providers of digital services for those organisations also work together collaboratively. The creation of multi-disciplinary teams, which work across organisational boundaries to deliver integrated care will require the seamless provision of digital services across those organisational boundaries. We must enable them to access the required information from the required places at the required time, including the sharing of the pertinent information between those different organisations.

Although some collaborative working has already progressed informally, more formal arrangements for the collaboration of the digital services is required. The three digital service providers for health in Nottingham and Nottinghamshire have therefore come together and agreed to collaborate to support and underpin the ambitions of the Nottingham and Nottinghamshire ICS. This includes Nottinghamshire Health Informatics Services, Nottinghamshire Healthcare Foundation Trust Digital Services and Nottingham University Hospitals Digital Services.

The initial collaboration requirements were focused around the digital service providers of health; however, this is now being extended out to include working where possible the digital service providers for social care and potentially in the future other organisations.



Several initiatives and projects have already been set up between the collaborating organisations, with the commitment to work together for the greater good of the Nottingham and Nottinghamshire ICS.

What will Collaboration mean?

- Working together on projects to create efficiencies within deliverables
- Combined contracts for financial savings
- Improved clinical and user experience
- Supporting patient care across organisational boundaries
- Sharing skills and knowledge
- Do things once
- Optimising across the system
- Additional support – we can help each other

Together we can achieve more...

Our Vision

Our vision is “to help transform care by being an integrated provider of digital services and support, delivering a high-quality professional service that links strategy, innovation and technology for our local health and social care community”.

Or put more simply “transforming care through technology”

We want to bring to life the local integrated care system (ICS) ambitions of a joined up health and social care economy that isn’t constrained by boundaries. A landscape where systems are integrated, allowing professionals to make fully informed choices within a digitally enabled culture that is efficient, safe and secure.

Digital technologies and transformation will also play an important role in supporting our local ICS to reduce avoidable emergency admissions and speed up the hospital discharge process, both of which will reduce the pressure on hospital beds.

We need to deliver transformational initiatives for our partner organisations to enable them to achieve the aspirations of the local ICS.

Our vision will be underpinned by four strategic objectives. Each objective includes key deliverables for the next five years.

Our Objectives

We have agreed four key objectives that outline what we are aiming to achieve.

It’s important to have a clear understanding of what each of the objectives mean, therefore they have each been broken down further in the following section.

Our vision is to help transform care by being an integrated provider of digital services, digital transformation and support, and delivering a high-quality professional service that links strategy, innovation and technology for our local Health and Social care community.

Our Objectives are...



Maintain a proactive relationship with our strategic partners – including those of the wider Integrated Care System (ICS)

Support our partners and customers and partners to achieve the right balance between digital technologies and business requirements



Ensure NHIS have a stable and agile workforce with the capacity, capability and expertise to support integration and system wide digital plans

To maintain safe and secure ICT and ensure the user experience of digital solutions is effortless



Strategic objective 1: Proactive as standard



Maintain a proactive relationship with our strategic partners – including those of the wider Integrated Care System (ICS)

We will maintain our proactive relationships with our partners, customers, suppliers and local health & social care digital service providers, pre-empting system wide requirements and maximising the use of existing technology.

Working alongside local digital providers teams we will ensure all health and social care providers across the ICS including acute, community and mental health settings, reach an acceptable core level of digitisation by 2024

Co-designed around service users

Digital services designed by and with people who use it. By working with the users we can clearly understand their needs and translate these into achievable benefits

Collaboration

Successful digital transformation partnerships are led from all sides; we will encourage collaboration with our partners and customers.

It is essential that we continue to work collaboratively with other digital service providers within the ICS. We have already built strong foundations here, for example we worked together to procure the system wide replacement for the N3 network (HSCN), offering our partners and customers increased value for money. A joint deployment approach has now been adopted and migration over to the new HSCN network is a key deliverable for us during 2019/20.

Digital inclusion

We will support inclusion so that the digital opportunities are open to all who could benefit, supporting ambitions of a digitally enabled population with the tools to access health and care services online.

Strategic objective 2: Balancing digital technologies and business requirements



Support our partners and customers and partners to achieve the right balance between digital technologies and business requirements

The pressures on the NHS are increasing, with staffing levels in short supply, costs on the rise and the increase in care being transferred from secondary care into the community, this makes transforming the current models of care imperative and even more challenging.

Demand is increasing along with patient expectations of how they access health and care services. The NHS Long Term Plan stated that over the next five years, every patient will have the right to online 'digital' GP consultations and redesigned hospital support, reducing the need to attend outpatient appointments.

We will work closely with our strategic partners to develop and achieve these system wide opportunities whilst ensuring value for money.

Best from what we have

We will use business intelligence to support users get the best from their systems, supporting the development of competencies across all users. We will always support our partners and customers with exploiting existing systems where we don't need to procure new ones.

Innovate

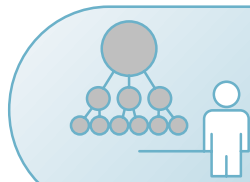
We will always ensure we understand the business problem or requirement, rather than being led by solutions first. We will adopt a bottom up approach to innovation in the delivery of care.

Support the introduction of national and local initiatives

We will support the successful adoption and implementation of the key projects required to drive up the digital maturity of our partners and customers to achieve a more proactive health system.

This will include national standards such as SNOMED CT coding and Fast Healthcare Interoperability Resources (FHIR) as well as the NHS App, which will be the core single point of access for all patient facing digital functionality.

Strategic objective 3: Stable and agile workforce



Ensure NHS have a stable and agile workforce with the capacity, capability and expertise to support integration and system wide digital plans

We will ensure we have a stable and agile workforce with the capacity, capability and expertise to support integration and system wide digital plans.

In December 2018 we implemented a workforce change to ensure our internal organisational structure was fit for purpose and provided a workforce structure capable of dealing with the challenges the NHS face both now and into the future.

We will be transparent with partners, customers and staff regarding our business needs and our forward planning to ensure resourcing requirements are sufficient to support and achieve system wide ambitions.

Contribution

Leading by example to ensure that every individual makes a difference and that all opinions are heard and valued

Ownership

Demonstrating accountability and ownership of the services we provide

Strategic objective 4: Safe, secure and effortless ICT



Digital technology underpins the entire health and care system, it's the lifeblood. When everything is working well it should be invisible, effortless but remain essential.

We will enable technology that's driven by business tasks and processes, so technology is simplified rather than complicated.

Over the next 5 years and beyond, we will support our partners and customers to implement new initiatives such as public facing digital services, mobile digital services and community hubs that meet information governance and cyber security requirements.

Managing digital changes

We will support users of technology with the change management required to get the best out of their systems. We will ensure standardised methods and procedures are used for efficient and prompt handling of all changes, to ensure we maintain control of our digital infrastructure and systems, to minimise the number and impact of any related incidents upon service changes.

Keeping it simple

Simplify user experience by ensuring clear training and policies and processes are in place and communicated to users, speaking in a language our partners and customers understand.

Providing cyber security assurance

Cyber security needs to be at the heart of everything we do. We will support a secure network infrastructure that protects patient data from user carelessness and criminal cyber-attack, ensuring the availability of critical functionality in a system that is now dependent upon digital technologies to function, upgrading and modernising health and care digital systems, decommissioning legacy out of date systems.

Foundations

We have already been taking steps to ensure our partner and customer organisations are in a good strong position in relation to their future digital ambitions, both from an infrastructure perspective and from a digital transformation perspective.

Infrastructure Foundations

Infrastructure is the essential foundation for supporting digital transformation across the health community. A significant amount of progress has already been made in relation to ensuring that the foundations can support the future digital requirements. Through many transitions and mergers, digital technologies have remained as seamless and operable as possible, whilst maintaining many infrastructures and existing designs, which were not always possible to combine. Recently however we have embarked on some of the most ambitious wholesale change to the core digital infrastructure using the key objective of 'resilient, stable and secured infrastructure'. The current achievements have set out to provide solid foundations for moving forward with this strategy.

Initiative	Details
Active Directory	Active Directory (AD) is an overlay infrastructure which allows a user to be recognised, authenticated and logged into their computer and network. A new AD has been created, supporting Windows 10 deployment and providing the foundations for any future collaborations and federations that may be required under the ICS and a modern digital borderless care model that does not recognise the traditional organisational boundaries. This new AD also provides enhanced management and configuration of devices, enhanced software and hardware lifecycle management along with monitoring & reporting as well as the ability to connect to other organisations Active Directories if this is needed.
Datacentre Connectivity	Connectivity to the datacentre has been achieved through completely assured diverse fibre routes from Nottingham and Sheffield to ensure the highest availability of datacentre connectivity. This is supported by nationally hosted firewalls in BT exchanges under a managed service contract for the highest possible assurance. We have also implemented 2 x resilient 1Gbs direct internet connections to the datacentre which support a 10-fold bandwidth increase. Additional Fibre Optic cables have been implemented between CORE1 and CORE2 along with replacement network switches which now support data flows of 200Gbs with the capability of being increased significantly beyond this if required.
Data Centre Environment	Investment has also occurred in relation to the main physical data centre including N+1 (ability to sustain a full component failure) upgraded cooling capacity and a completely separate secondary N+1 resilient UPS capability.
Datacentre Implementation	A new Dell/VMWare VXRail datacentre has been built using state of the art hyperconverged appliances. This sees the consolidation of servers, storage and network further into simplistic building blocks, which can be added to as required, rather than a traditional large investment required



with traditional platforms. The solution provides a true active-active capability at Kings Mill where CORE1 and CORE2 are seamlessly and fully resilient to each other, with no loss of service. In addition to this, working with Nottinghamshire Healthcare Foundation Trust, further offsite resiliency has been provided to operate critical live virtual servers in Duncan MacMillan House which could be accessed from any NHIS site in the event of a catastrophic event. The use of VMWare NSX licensing allows NHIS to seamlessly allow Live IP addresses to co-exist at Kings Mill and Duncan Macmillan House data centres at the same time, which removes the constraints of IP addressing introduced with failover.

Demilitarised Zones

Demilitarised zones are where servers that need to be exposed to N3 or the direct internet reside. These zones have been enhanced in terms of security with a Depth in Defence model incorporating secondary (alternate vendor) firewalls to create a 'sandwich' or 'airgap' approach.

Local Area Network

Significant investment has been made in LAN capabilities, significantly Kings Mill Hospital has implemented a new state of the art Cisco infrastructure based upon the latest Digital Network Architecture. Within GP and Community sites additional switches have been deployed to support the Power over Ethernet requirements for WiFi equipment. However significant replacement is still required to update the remaining infrastructure still in use.

Microsoft Azure Active Directory

The federation of AD to Microsoft Azure Active Directory infrastructure provides the capability for simple single sign on (SSO) access to all Microsoft online applications and the ability to federate in 'the cloud' with other organisations whether local or national. This has been used to allow seamless secure and trusted authentication for the likes of GP practices within Bassetlaw to have secure access to e-Healthscope and the GP Repository for Clinical Care (GPRCC) system.

Microsoft System Centre Configuration Manager (SCCM)

We have exploited the capability of this industry leading tool. By using software distribution points at all locations, builds of new, or upgrades of old devices can be conducted locally onsite and remotely without having to use up bandwidth at the sites. An onsite application catalogue has been created which is continually updated with the latest versions of software and will automate the upgrades in the background or allow users to self-install applications without the need for administrator rights.

Next Generation Firewalls

Cyber Security has been a major focus for all organisations. Security has been enhanced at the borders of our network, including to N3 and to the internet by the introduction of next generation firewalls. These firewalls use Artificial Intelligence and deep packet analysis to determine hidden and emerging threats which are not classically identified. Next generation firewalls have also been positioned in front of the internal datacentre itself for enhanced security.

Public Wi-Fi

At the end of 2017, NHIS became one of the first pilot sites to introduce NHS Wi-Fi, offering free Wi-Fi to the public across all Hospital, GP and Community Sites.

Telephony	We have implemented centralised voice and telephony capabilities using Mitel. We have centralised all voice services to SIP trunks (IP Network) based circuits rather than traditional circuits provided by BT and Virgin Media. This has already led to substantial recurrent savings and enhanced capabilities.
VPN	We have replaced the core VPN solution to ensure compatibility with Windows 10, increased security posturing and options for services such as always on VPN for mobile working models if required.
Wide Area Network (WAN)	The Community of Interest Network (COIN) which connects all the sites across the health community was redesigned and a new implementation conducted. This implementation replaced a number of weak points in the previous long-standing WAN. The implementation although led by us was done in collaboration with Nottinghamshire Healthcare, encompassing all health sites across the health community. The COIN was built on modern standards and delivered a minimum of 10Mbps upstream connectivity to all sites including GP practices.
Wi-Fi	Over the COIN connectivity, there has been the rollout of a common centrally managed W-Fi solution to all sites. This enabled the introduction of a reciprocal Wi-fi solution. Working with the Nottinghamshire Health and Social Care organisations we have enabled each other's Wi-Fi to be published across all sites, allowing mobile or visiting staff to gain access to their own secure network in any health or social care building across Nottinghamshire.

Digital Transformation Foundations

It is essential that steps are taken in the right direction to support future digital requirements of the ICS, ICP's, PCN's and individual organisations. The following outline some of the different initiatives that have been delivered over the past few years to ensure the ambitions can be achieved. The deployment of digital transformation projects does not alone provide digital transformation, it provides the ability to enable digital transformation. The change aspect of deploying any digital transformation project always needs to be considered in order for digital transformation to occur

Initiative	Details
Booking of GP appointments directly from 111	The introduction of the ability for the 111 service to book a patient into appointment slots at their GP practice.
Electronic CGA introduced at Sherwood Forest Hospitals	The Comprehensive Geriatric Assessment is an assessment used for elderly patients. The use of SystmOne within Sherwood Forest Hospitals enables the collection of this information electronically. Due to the use of SystmOne for the collection of this information, it builds on any other CGA information collected by the GP or by Community services and then makes this information viewable to them.
Electronic Communications between Sherwood Forest Hospitals and Notts County Council	A solution implemented between Sherwood Forest Hospitals enables electronic messaging to occur for patients that attend ED – if there are social care packages in place to support patients, and additionally to send requests for social care assessments directly into the social care system to minimise delays.
Electronic Prescription Services	All GP practices now have the ability for patients to nominate a preferred pharmacy, so they are able to request their prescriptions to go directly to their nominated pharmacy.
GP2GP	Enables the electronic transfer of the patients GP record from one practice to another when they register at a new GP practice. This removes the need for practices to send paper records minimising the delays in accessing a medical record when a patient registers with a new GP practice.
GP practices on common systems	All GP practices across Nottinghamshire and Nottingham are on either one of two common GP systems, TPP SystmOne or EMIS Web. This provides greater opportunities for collaborating across PCN's.
Healthcare Portal	The healthcare portal enables key information from multiple organisations to be viewable in one place. The healthcare portal is currently being populated with information from Nottingham University Hospitals and Sherwood Forest Hospitals.
Implementation of MIG	The implementation of Medical Interoperability Gateway (MIG) enables part of patients GP records to be viewable from other health settings. This provides clinicians with the ability to view pertinent information about patients.

Mobile Working	Mobile working enables clinicians to have access to the information they need from multiple locations, rather than having to go back to base to enter information about their patients.
Patient Access to GP Records	All GP practices now provide patients with the ability to have access to their GP record, including the requesting of repeat prescriptions and booking of appointments online.
Referral to Call for Care	Enabling fast track e-referrals for social care support direct from acute clinical systems to support with safe effective discharge.
Unified Communications	Training and change management for the utilisation of Instant Messaging and presence via NHSMail2 platform and the use of Skype for Business.
Use of SystmOne ED within Sherwood Forest Hospitals	The use of SystmOne ED Unit within Sherwood Forest Hospitals enables clinicians within ED to access pertinent information about a patient that is recorded in their GP or Community record. This includes key information in relation to Safeguarding that is now shared over a common system across the health community.

Delivery Plan

The NHS Long Term Plan identifies several initiatives that need to be delivered over the next 5 years. Consideration has been given to each of the initiatives in the NHS Long Term Plan from a digital perspective to understand what we need to achieve over the next few years. Each of the initiatives have been grouped into the following four themes. The mapping of each of these initiatives is included within appendix 1.

Theme	Details
Collaboration	The coming together of the different health and social care organisations with ensure new models of care can be developed that focus around the needs of the patient. New models of care can only be achieved by interoperability being a key component to connect different systems together to support the delivery of patient care.
Digital Maturity	The use of Digital Technologies and Digital Transformation is a key enabler in delivering the NHS plan and ensuring the NHS and social care is the service the public needs it to be. There is a need to increase the Digital Maturity of all partner and customer organisations. This will ensure plans to achieve a paperless NHS are realised, and to ensure that Digital Technologies and Digital Transformation can underpin the delivery of health and social care.
Public Facing Digital Services	In order to move the NHS into a more proactive model whereby factors that influence the health outcomes are effectively managed – patients must be given the opportunity to take control of their health. Patients need to be provided with more information in one place about how they can look after themselves. They also need to be provided with more opportunities when it comes to interfacing with health and social care services.
Supporting patients to be out of Hospital	Ensuring patients are able to receive the care they need in a community setting, their own home or a care home rather than an acute trust.

Infrastructure Roadmap

We have been focused on designing and implementing core Infrastructure capabilities that provides the key requirements of resilient, stable and secure design principles. Whilst doing so we have also ensured the best possible fit for anticipated future demands, requirements and also acknowledging and adopting emerging trends and new technologies in IT (where they enhance and are relevant rather than complicate or are actually unnecessary nice-to-haves) by taking an architectural approach to the requirements and design.

Initiative	Details
Active Directory and Microsoft Azure	We will be extending the use of the newly created Active Directory and Microsoft Azure to solve user issues, especially for those working in multi-disciplinary teams or providing services on behalf of another organisation. Examples of this are the current NUH/SFHFT out of hours stroke team and NHCT/SFHFT MSK Joint Service.
Cloud Management and Backup Tool	We will be looking at the options in relation to a dedicated cloud management and backup tool to support partner and customers use as well as the adoption of Office 365, complete with enhanced data protection and backup capabilities in line with requirements for moving to new modern ways of working.
Datacentre Consolidated Management Suite	The new datacentre comes with a consolidated management suite, which was a major consideration as part of the procurement. This allows for fully automated upgrades to the entire platform from a 'single' click and one pane of glass. As well as a myriad of additional automation, alerting and reporting functionality. In the event of a significant fault or predicted fault the system also calls home to the manufacturer to alert the requirement of potential action.
Directory Manager Implementation	We will be implementing Directory Manager to allow users to manage and reset their own passwords and allow managers to initiate the automatic account creation of required accounts and privileges. Where organisations use ESR, there will be the ability for fully automatic creation and deletion of accounts.
Enhanced Customer Portal	An enhanced Customer Portal is planned to incorporate a single point of access to the various tools and capabilities we plan to offer and grow over the coming years. This single portal will make it easier for us to add additional functionality and is envisioned to become the go-to tool for end users by incorporating the ability to order equipment online via the product catalogue and undertake any form filling required to request new services or connect third-party equipment.
HSCN	The implementation of the new Health and Social Care Network (HSCN) infrastructure, the successor to N3, will provide the capability for all organisations to share the same circuits whilst maintaining organisational network segregation and security. By collaborating as a Local Health Community, significant improvements have been contracted in terms of bandwidth. It will see a minimum of 100Mb connection at each GP practice, it will see an increase in bandwidth at many health centres, an increase in bandwidth at Newark Hospital and

	Mansfield Community Hospital ensuring users are able to consume the next generation of digital services required by the ICS.
Implementation of Splunk	A centralised system logging platform called Splunk is being implemented to consolidate the plethora of new rich data being generated by the modern systems NHIS are implementing. Allowing baseline patterns to be learnt and proactive/reactive reports in relation to security incidents & events triangulated over numerous systems from a single view.
Introduction of a Technical Design Authority	There is an initiative being led by Connected Notts to develop an overriding Technical Design Authority to support the establishment of technical design principles across the ICS. The establishment of this Design Authority will drive an approach to common standards and support the adoption of common and compatible digital capabilities and deliverables.
Mobile Device Management (MDM)	<p>We will be reviewing the use of MDM in line with ongoing requirements to manage and secure smartphones and tablets. Workspace One will be reviewed alongside other application delivery tools. Currently Workspace One (linked to VMware Enterprise Agreement and VDI) is a supported technology and will allow the use of 'per-Application VPN's'. This allows tactical consumption of applications published within the NHIS datacentre without needing a full Virtual Desktop to be presented, giving users access to what they actually require at the right place, right time and via the right device securely.</p> <p>We will work in conjunction with NUH and NHCT to reevaluate this capability in line with wider licencing as well as options to accomplish similar capabilities using Microsoft's RDS and Azures web application capabilities. It is envisaged this capability will solve a number of the inter-organisational working challenges the ICS is uncovering.</p>
Next Generation Firewalls	Next Generation Firewalls will be implemented on each and every NHIS Partner site to allow for greater security segregation and the ability to run secure or protected sections of the network for any third party or high-risk devices at sites, for example connected wall boards.
Office 365 Enablement	We will be working with all partners and customer to look at how each organisation can migrate to using Office 365 online applications and services as existing Office 2010 support expires in October 2020. This represents a significant change in way of working for end users but also many new opportunities for collaboration and improving workflows.
Replacement Service Desk Platform	We will be looking to replace the existing Manage Engine solution used by the Service Desk. An options appraisal is to be conducted looking for a solution that puts the user at the centre of our support model with modern workflows, self-help, online chat and online forms.
Remote Services	We plan to increase our ability to provide more services remotely over the next few years, via a user self-service approach to ensure we can meet the increased volumes and demands on our support teams as more digital services are deployed.



Single Sign on	We will be using application integration with Active Directory to provide a Single Sign on capability for clinicians using multiple applications.
Staff Wi-Fi	A dedicated WiFi SSID will be implemented allowing any member of NHS staff (local or visitor) to access a dedicated WiFi service which allows their personal devices to connect to the internet (only) with a higher grade of service and longer re-registration period than the NHS Wi-Fi service. This will support those staff that use their personal devices to connect to applications such as NHSmail, review Clinical Guidance/Reference Websites & Apps along with support for WiFi Calling if their personal mobile tariff and handset permits without the need to register each day.
Tap and Go in ED	We will be implementing a Virtual Desktop solution in the Emergency Department at Kings Mill Hospital and the Urgent Care Centre at Newark Hospitals, allowing secure 'Tap-n-Go' capabilities for clinicians at the point of care to quickly log in and out with the ability to pick up where they left off quickly from different devices as they move around the department.
Virtual Desktop Environment	We will be developing a new Virtual Desktop infrastructure that will be based upon Windows 10.
Windows 10 Roll out	Roll out has already commenced for Windows 10 across the full NHIS partner and customer estate. All devices will be migrated to Windows 10 by December 2019.
Windows Server 2016 Migrations	A Microsoft Enterprise Agreement was put in place in December 2018 which has provided licensing capabilities for NHIS partner and customer organisations. One component of that licensing is the migration of the server estate onto Windows Server 2016 along with the very latest versions of SQL.

Digital Transformation Roadmap

There is a clear seismic shift in the way health care will be provided in Nottinghamshire that will require quality information and data that helps to empower patients and service users and will improve the quality and outcomes of health and care.

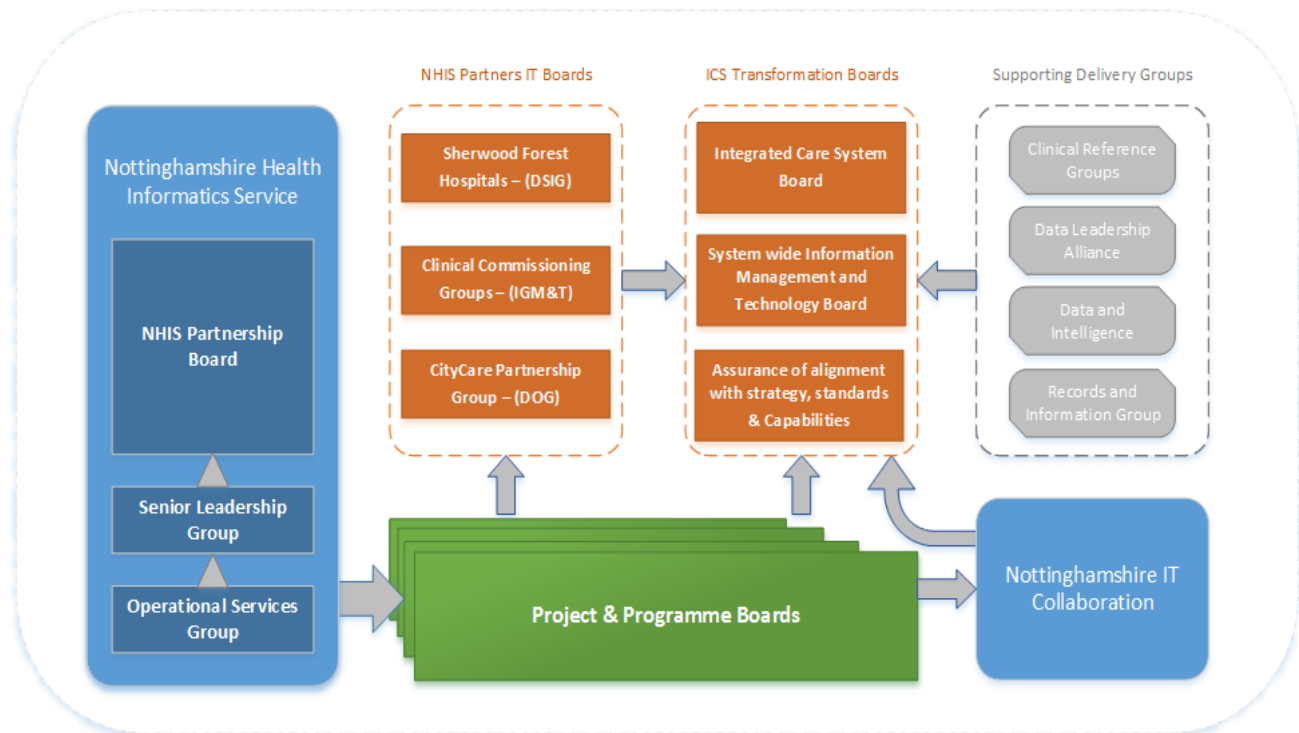
There is a consensus that transformational change is necessary across all settings of care, with organisation sovereignty secondary to digital system wide change, which can only be achieved by health and social care service providers, and their ICT service providers, working closely together.

Initiative	Details
111 Booking into GP Practices	A number of GP practices have enabled 111 to be able to book patients directly into allocated appointment slots. This needs to be extended across the health community to enable 111 to book into all GP practice appointment slots where required.
Acute EPR Deployment	There is a need to increase the digital maturity of the acute trust and additionally support the collaborative working of clinicians across acute trusts, therefore a requirement exists to develop a business case for the deployment of an Electronic Patient Record (EPR) across both Sherwood Forest Hospitals and Nottingham University Hospitals.
Additional training needs	There is a need to ensure users have the right skills for digital Future. Changes in the way users benefit from the use of IT platforms such as Office 365 will mean an increase in training provision and IT Health Checks to assess user's knowledge gaps and adapt as required.
Assistive Technology	Expansion and deployment of assistive technology provision including Telehealth solutions for managing long term conditions, Telecare Solutions to support frail and vulnerable groups to live independent lives, remote Tele-Diagnostics and consultations to for different specialties.
Capacity and Flow	Improvements in system-wide capacity and flow of patients by enabling a real time view of bed capacity across the system and improve patient flow.
CCG merger initiatives	The merger of the Nottinghamshire CCGs will result in a number of potential developments and solutions such as merging folder structures across joined up teams and printing solutions that support the collaboration of the CCGs.
Digital Inclusion	Digital and Social Inclusion will help to reduce the level of digital and social exclusion across Nottingham and Nottinghamshire, by supporting people to get online and become more confident and capable of using digital tools to support their health and care needs.
ED Digitisation	Includes a number of short and longer-term business change and system developments to SystmOne ED/UCC in order to use the system more efficiently by way of changes to operational processes as well as changes to the way the clinical system operates.
Electronic Patient Record	Electronic health records are digital records of a patient's health and care. At present, patients may have several paper and electronic records stored in various settings and the intention is to connect electronic health records across primary, secondary and social care across Nottinghamshire. This would allow people to monitor their own health and could improve patient safety and outcomes and will also aid the

	collection of data for research and inform the commissioning of health and care.
Enterprise Resource Management	Integrate the management of core business processes across the ICS, ICP's and PCN's through the purchase of ERM technologies to deliver efficiencies and effectiveness across a joint workforce by enabling the ICS to efficiently manage and co-ordinate the workloads and the usage of their assets and resources.
ePMA	Electronic Prescribing and Medicines Administration (ePMA) solution will facilitate and enhance communication of prescriptions or medicine orders within Sherwood Forest Hospitals Trust. It will also help with the choice, administration and supply of medicines through knowledge and decision support as well as provide a robust audit trail for the entire medicines use process within the trust.
GP IT Futures	A new GP IT Futures framework designed to create an open, competitive market that will encourage the best technology companies to invest in the NHS in particular GP Clinical systems that meet minimum standards to ensure they can talk to each other across boundaries.
Implementation of upgraded Orion Portal	This will provide the Sherwood Forest Hospital users to have access to an updated Orion Portal which includes MIG and the healthcare portal.
Maternity Solution	Potentially working with NUH to develop a business case to deploy a single maternity solution, which will allow linking into the NHS app to give patients access to their maternity solution.
Population Health Management	Will enable the ICS to understanding health needs, prioritise available resources, and improve health-related outcomes through design, access, utilisation and evaluation of effective and efficient health and social care interventions and pathways of care.
Primary Care Network Developments	Will enable groups of GP practices to work more efficiently and collaboratively through a number of IT developments such as direct booking from 111, clinical System migrations, improvements in Data Quality and changes in circumstances
Public Facing Digital Services	To enable a transformation in the way people experience access to health services by providing digital health tools and services that connect them to the information and services they need.
SFH-NCC	Providing connectivity between Sherwood Forest Hospitals and Nottinghamshire County Council supporting patient flow and avoidable admissions through the electronic sharing of Assessment and discharge Notices.
Winpath Replacement	Working with NUH to deploy a single Laboratory Information System (LIMS) solution across both trusts to support collaborative working and the ability to share results, workload and functions. Inclusion of open standards to ensure opportunities like Artificial Intelligence can be exploited, for image triage.

Governance

Our strategy details our broad ambitions and objectives for the next five years. Over this time our strategy will evolve in line with changes to the wider NHS and social care and local factors. However, through our Senior Leadership Group we will monitor our progress quarterly and report back to Partnership Board. Many of the different projects and programmes delivered as part of the strategy will have their own governance, especially where multiple organisations are the key stakeholders.



Compliance

The lessons learned review of the WannaCry Ransomware Cyber-Attack from February 2018 recommended that all NHS organisations (Trusts) move towards Cyber Essentials PLUS, as recommended by the National Cyber Security Centre (NCSC). The Data Security and Protection Toolkit (DSPT) standard for NHS Trusts has been uplifted to assist organisations to meet this standard by June 2021 and we continue to work with our partners and customers to support their compliance with this mandatory standard.

The updates to the DSPT 2019-20 standards have led to an increase from 100 to 116 compulsory evidence items for NHS trusts. This is due to additional evidence items being added to cover Cyber Essentials, Minimum Cyber Security Standards and key NIS Regulations/Cyber Assurance Framework requirements. The majority of these will require responses from NHIS to support partner compliance.

We maintain our Cyber Essentials certification, which provides reassurance to customers and partners that we have clear picture of cyber security across our organisation. In addition, NHS Digital has been commissioned by NHIS to deliver on-site data security assessments aligned to Cyber Essentials Plus standards across all partners in September 2019.

Business continuity and disaster recovery plans are regularly tested and updated locally and are aligned to our partner and customers plans and the local health and social care community. These include necessary detail

around a response to cyber incidents. We are also working with the local health community to test and align plans across Nottinghamshire public services.

ISO 27001 is a recognised industry standard for maintaining an Information Security Management System and is a mandatory requirement for Digital providers operating within the NHS. The operation of the Information Security Management System is integral to the provision of high quality, secure and responsive Digital Services and we have been certified since March 2017, with the requirement for annual surveillance audits and re-certification in March 2020.

Risk Log

The risks as shown on the next page summarises the risks that we have identified as risks, controls and mitigating actions associated with us delivering upon this digital strategy.

Risk Consequence	Risk Likelihood	Risk Rating	Risk Description	Risk Response/Mitigation	Risk Status
5	2	10	There is a need to ensure there is the appropriate staffing to achieve the initiatives in the NHIS Strategy	Regular planning and working with the trust to ensure resources can be brought in in the appropriate time.	Open
5	2	10	There is a need to ensure there is the appropriate funding to achieve the initiatives in the NHIS Strategy	NHIS have bid for various funding streams in order to ensure successful delivery of projects.	Open
4	3	12	There is a need to ensure there is appropriate engagement with partners and customer	Regular engagement sessions are occurring with all partner organisations	Open
3	2	6	Partners are currently going through refresh of strategies and organisational changes.	Review the strategy when each partner strategies are published.	Open
3	2	6	NHS is currently going through significant organisational change which could have an impact on the ability to deliver their requirements	Continue to engage with partners and use appropriate governance to manage risks and monitor progress.	Open
3	2	6	There are growing requirements for Change Management as a fundamental part of all NHIS Projects	NHIS need to grow the transformation teams in Change Management so that it becomes a fundamental part of everything we do	Open

Cyber Security

“Cyber Security” describes the approach within which accountability, standards, policies and procedures are developed, implemented and maintained to ensure that all types of information used by NHIS, its Partners and Customers, are sourced, held and used appropriately, securely and legally; utilising technology and connectivity to its full advantage to operate within cyberspace.

The increased reliance on the internet has exposed organisations to a host of new risks, Cyber threats are constantly increasing. We operate in an environment where there is an increasing dependency on the infrastructure which provides access to and hosts our critical data information needed to support patient care. A level of confidence and appropriate assurance is therefore needed in relation to the protection of this data and information.

For this reason, cyber-security is a priority for the NHS. A UK cyber-security Strategy was published in 2011, followed by the formation of the Office of Cyber-Security and Information Assurance, which works with other bodies such as the Home Office, Ministry of Defence, Government Communications Head Quarters (GCHQ), Communications electronic security group (CESG), Centre for the protection of the national infrastructure (CPNI) and Network and Information Systems regulations (NIS) to determine priorities for managing security

in cyberspace. This has been underpinned in the NHS by the 2016 National Data Guardian for Health and Care - Review of Data Security undertaken by Dame Fiona Caldicott which sets out ten new data security standards.

A separate Cyber Security Strategy has been produced that focuses on the ten steps defined by the National Cyber Security Centre and provides several commitments that NHIS have made alongside its partners that clearly defined processes and procedures that are consistently followed and embedded so that the associated Cyber security risks can be mitigated.

This strategy is informed by the work of these bodies, by industry best practice and by engagement with security experts from the public and private sectors. It presents a mechanism for implementing proportionate technical and procedural security controls, designed to provide assurance that all information assets will be protected from cyber threats, whilst fully acknowledging the requirement for the organisation to be agile and responsive.

Appendix 1 – Long Term Plan Digital Requirements Scoping

The following looks at each of the Long-Term Plan statements that are digital related, categorises them into themes and identifies what we need to focus delivery on.




NHIS LTP Review
Master.xlsx

Appendix 2 – Glossary of terms

TERM	DEFINITION
Active Directory (AD)	Active Directory (AD) is a Microsoft technology used to manage a user's <u>username and password</u> and other devices on a <u>network</u> . It is a primary feature of Windows Server, an <u>operating system</u> that runs both local and Internet-based <u>servers</u> .
CCG's	Clinical Commissioning Groups are an organisation that are responsible for implementing the commissioning roles as set out in the Health and Social Care Act
IT Collaboration	A group of professionals or teams cooperatively working together, sharing responsibility for problem solving and making decisions to formulate and Carry out plans for shared initiatives
Core 1 & 2	Describes a datacentre known as a core, core 1 and 2, datacentres within the IT infrastructure that home all the equipment required to run IT Networks
Digitally Enabled Care	Technology Enabled Care Services (TECS) utilises technologies such as telehealth, telecare, telemedicine, telecoaching and self-care apps have the potential to transform the way people engage in and control their own healthcare, empowering them to manage it in a way that is right for them.
Digital Technologies	Are electronic tools, systems, devices and resources that generate, store or process data
Digital Transformation	Is the use of new, fast and frequently changing digital technologies to solve problems
Five Year Forward View	The NHS Five Year Forward View was developed by the partner organisations that deliver and oversee health and care services including Care Quality Commission, Public Health England and NHS Improvement
HSCN	HSCN (Health and Social Care Network) provides the underlying network arrangements to help integrate and transform health and social care services by enabling health and social care organisations to access and share information more reliably, flexibly and efficiently.
ICP	Integrated Care Partnerships describes a provider that is responsible for the integrated provision of general practice, wider NHS and Local Authority Services, which enters into an ICP Contract with the commissioners of those services
ICS	Integrated Care System NHS organisations and local councils in England are joining forces to coordinate services around the whole needs of each person. Their aim is that people can live healthier lives and get the care and treatment they need, in the right place, at the right time
Model of Care	Broadly defines the way health services are delivered, it outlines best practice care and services for a person, population group or patient cohort as they progress through the stages of a condition, injury or event
N+1	A technical term that simply means a form of resilience or backup is in place should any single IT system component fail.
N3	N3 is the National Network. The NHS national broadband network linking hospitals, medical centres and GPs in England and Scotland, which replaced NHSnet. It is one of the largest Virtual Private Networks in Europe. N3 underpins the NHS National Programme for IT, the world's largest civilian IT programme.
NHCT	Nottinghamshire Healthcare Foundation Trust – a provider of community and mental health services.

NHIS	Nottinghamshire Health Informatics Service supports over 18,000 users and hundreds of IT systems across Nottinghamshire and is an excellent example of a shared ICT Service
NUH	Nottinghamshire University Hospitals – The main secondary care provider in Nottingham
PCN's	Primary Care Networks that are group of federated GP Practices working together to deliver health and social care to their local neighbourhood communities
STPs	Sustainability and Transformation Partnerships were created to bring local health and care leaders together to plan around the long-term needs of local communities. In some area's STPs have evolved to come 'integrated care systems' (ICS) a new form of even closer collaboration between the NHS and Local Councils
The NHS Long Term Plan	A long-term plan for the NHS as a whole, created by those who know the NHS best – frontline health and care staff, patients and their families and other experts – the long-term plan is ambitious but realistic
VXRail Datacentre	VXRail is a fully integrated hyper-converged appliance that enables a software-defined data centre.
VMWARE	Virtual machine software allows multiple copies of the same operating system or several different operating systems to run in the same x86-based machine, it enables users to install a virtual operating system within an operating system and use them both at the same time.

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