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NOTTINGHAMSHIRE HEALTHCARE NHS
TRUST

Health Informatics Strategy
2013/14 – 2018/19



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1. Executive Summary

The Trust’s Health Informatics Strategy builds on prior strategies and considerable work with the clinical divisions during 2012/13.

The purpose of the Health Informatics Strategy is to ensure the Health Informatics Service has the capability to:

- Align with the clinical and business needs of the Trust
- Able to deliver systems and information that support those needs
- Agile enough to meet the evolving needs of the Trust and the wider NHS
- Assure the Trust through the collection of data and representing it back to clinicians and managers at all levels that we are operating in a safe and efficient manner
- Meet the needs and expectations of our stakeholders including staff, service users, commissioners and the wider health community that we serve.

The Strategy is badged as the “The Information Revolution” and consists of 5 themes set of solid foundations of technology, staff process and policy.

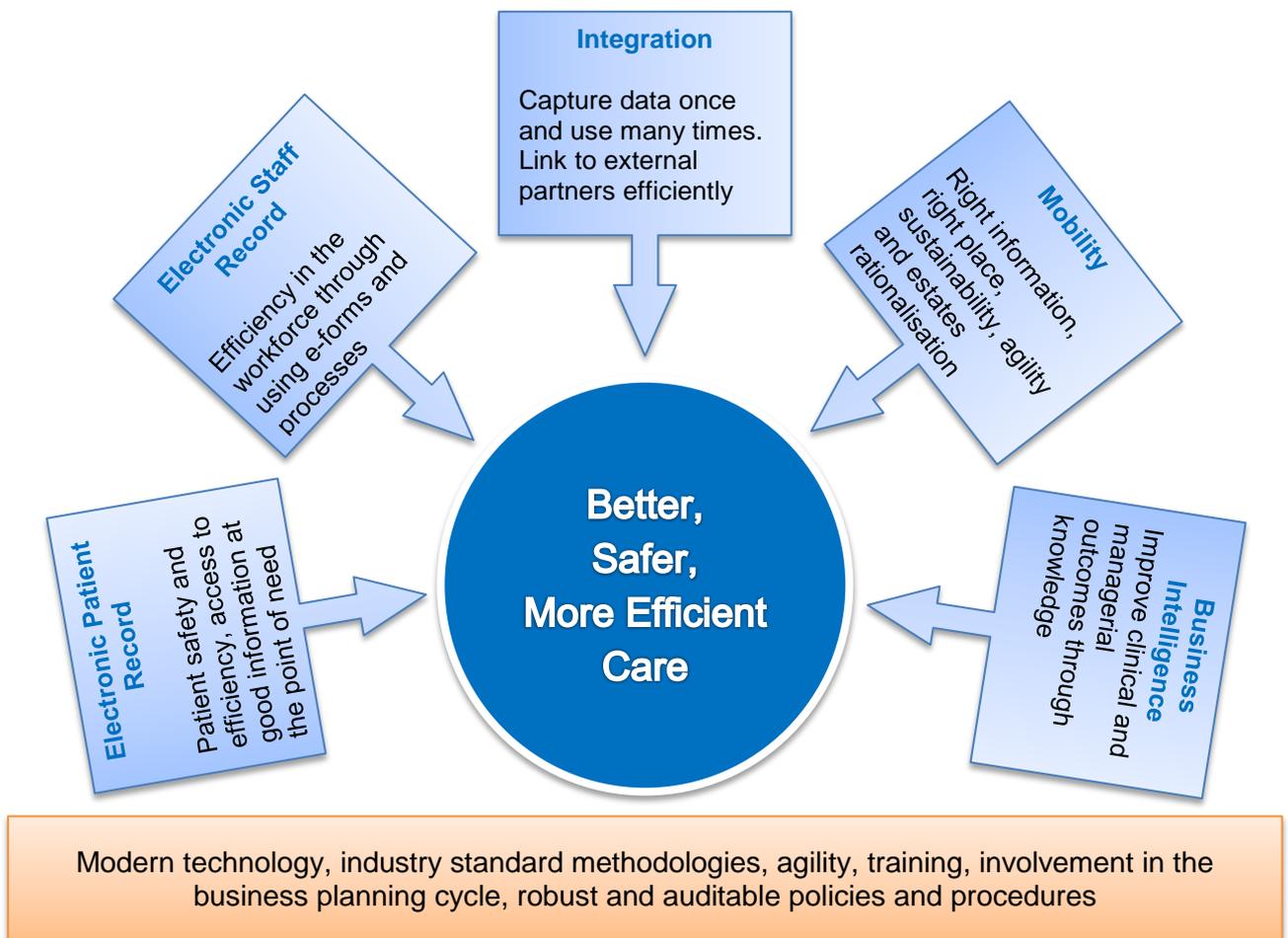


Figure 1.1 The Information Revolution

The strategy, through its 5 themes, with their underpinning foundations, provides the Trust with the ability to compete in a modern healthcare environment.

This environment will need systems and technical services that can be scaled easily, are flexible in delivery and user friendly in application. These systems and services need to be provided in a manner consistent with industry best practice through the use of methodologies such as PRINCE and Information Technology Infrastructure Library (ITIL). They also need to be funded in a manner which makes them sustainable, but with clearly defined and measurable benefits.

The Strategy recognises that systems need to be continually maintained and appropriately (re) procured. This is especially so with the demise of the National Programme for Information Technology (IT) which currently provides a significant proportion of systems to the Trust through community and offender health.

The typical benefits of delivering this Strategy are defined in the body of the document. More will be exposed through the experience of deployment of technology in the Trust and by working with other Trusts to learn from their experiences. The benefits are both in quality of care and the patient/carer experience as well as financial through efficiencies in workforce and estates reduction. Examples of these are:

- Increased safety through having a contemporaneous record available at the point of care
- Assurance at all levels within the Trust through having access to electronic data as a by-product of care delivery to populate a meaningful business intelligence tool
- Productivity gains through more efficient working allowing greater numbers of meaningful contacts with patients from the same number of staff
- Reducing the administrative burden through effective use of back office systems
- Facilitating estate rationalisation through agile technology delivering information systems across our own networks, those of other NHS Trusts and the use of the mobile phone networks.

Financially the strategic cost of deploying the Strategy has been considered in the Long Term financial Model (LTFM). There are some options available should the economic position change, but in many cases the maximum benefits are gained by deploying the programme rather than individual projects within the Strategy.

There are risks to deploying the Strategy. These include the cost and the ability of the Trust to make the organisational and cultural changes necessary to fully release the quality and financial benefits that technology can offer. As such, full project evaluation and benefits realisation methodology will be incorporated within each scheme to maximise the opportunities for continuous review and dissemination of learning and as such, the benefits.

2. Introduction

This document describes a Health Informatics Strategy for the Trust for the period 2013/14 – 2017/18.

2.1 Purpose

The Nottinghamshire Healthcare NHS Trust (referred to as the Trust within this document) Health Informatics Strategy supports and enables the delivery of the overall Vision and Values detailed within the Trust's Integrated Business Plan and is an enabler to ensure the Health Informatics Service has the capability to:

- Align with the clinical and business needs of the Trust
- Able to deliver systems and information that support those needs
- Agile enough to meet the evolving needs of the Trust and the wider NHS
- Assure the Trust through the collection of data and representing it back to clinicians and managers at all levels that we are operating in a safe and efficient manner
- Meet the needs and expectations of our stakeholders including staff, service users, commissioners and the wider health community that we serve.

2.2 High Level Objectives

Our Vision and Values

Nottinghamshire Healthcare is committed to being recognised as the leading national Integrated Healthcare Provider; personally valued, locally relevant, nationally important.

We deliver our vision through our POSITIVE values for the organisation and we will be recognised for our POSITIVE brand;

People: are central to everything we do: we work with people, for people, in partnership.
Openness: we listen to what people tell us, whether we like what we hear or not, and act on the information.
Safe, sound, supportive and sensitive practices show how we respect and value our staff, service users and other stakeholders.
Integrity: we behave honestly in a way that demonstrates our values, we celebrate the good things we do, and learn from our setbacks.
Trust: we are trustworthy, we do what we say, and we say what we can't do.
Innovation: we try new things to be the best in our field.
Value: we value and respect the diversity of our staff, service, users and other stakeholders.
Excellence is our standard, and we enjoy achieving it together.

Based on our vision and values which are focused on improving the lives of people with mental health, physical health or learning disability needs; the Board has agreed seven overarching objectives which map through to the delivery of this strategies aims as follows;

Overarching Objective	Health Informatics Objective	The Informatics Revolution – Priority Actions
<input checked="" type="checkbox"/> We will always be service user and carer focused	To ensure that systems and information is used efficiently, coherently and strategically to support the future clinical and corporate needs of the Trust consistent with forecasts for future business needs	Mobility – with suitable mobile technology staff will have the right information to treat patients wherever they are
<input checked="" type="checkbox"/> We will deliver high quality, safe care across all our services	Maintain, and continue to enhance, the safety ¹ of persona identifiable information whilst facilitating appropriate information sharing to support integration in its widest sense	Electronic Patient Record – An expanded electronic patient record to improve the quality of patient care through improved access to clinical information using modern technology
<input checked="" type="checkbox"/> We will work in effective partnership with others to deliver new models of integrated care	Provide a flexible technology platform that is agile enough to support rapidly changing organisation	Integration – The integration of key systems – joining the dots between various systems both inside the Trust and to key stakeholders and the health and social care community
<input checked="" type="checkbox"/> We will develop Nottinghamshire Healthcare NHS Trust through world class research, development, innovation and excellence in education		
<input checked="" type="checkbox"/> We will be a best practice employer, attracting the best staff from across the country	To provide an Informatics Service that has an appropriately skilled workforce to ensure it is responsive to customer needs	Electronic Staff Record – To improve the quality of employee information and increasing productivity by removing paper processes and streamlining staff management
<input checked="" type="checkbox"/> We will always be a cost effective Trust that adds value	To provide, and maintain, appropriate and “fit for purpose” affordable information systems and the supporting infrastructure which enable and support the provision of high quality services which are sustainable over the long term	Business Intelligence – Implementation of Business Intelligence and Information Management Solution (BORIS) to make better use of the information flowing around the organisation enabling improved planning and decision making
<input checked="" type="checkbox"/> We will deliver our services from quality buildings that people are proud of	Ensure developments and investments incorporate the principles of sustainability and are economically viable with defined benefits	

¹ Safety includes elements of security of access, security of transit and when stored on servers, non-repudiation, and appropriate use and access.

3. Strategic context

To support the Health Informatics Strategy, which is primarily focussed on business delivery there are a number of supplementary strategies which can concentrate on their specific areas whilst this Strategy brings together the business needs and shows how the supporting strategies align with this.

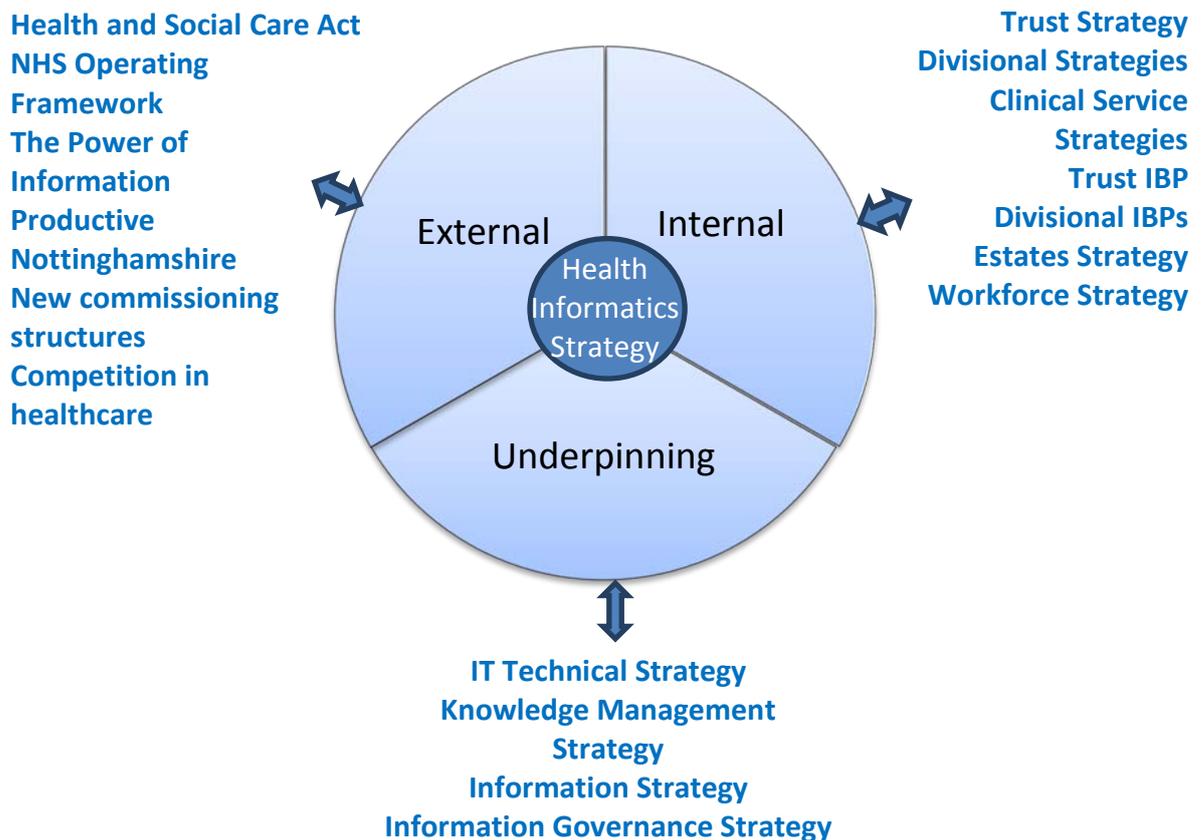


Figure 3.2 Key Driver Relationships

3.1 Statutory and Regulatory

All processing of personal confidential data must be lawful and compliant with the Data Protection Act. At an organisational and an individual employee level we have responsibilities to ensure that we adhere to the principles set out in the Data Protection Act and implement the recommendations contained within the Information Governance Toolkit.

There are four legal bases for processing personal confidential data which meet the common law duty of confidentiality. These are:

- With the consent of the individual concerned. Details concerning consent for direct care are fully explored in chapter 3;
- Through statute, such as the powers to collect confidential data in section 251 of the NHS Act 2006 (see section 6.7) and the powers given to the Information Centre in the Health and Social Care Act 2012 (see sections 1.8, 6.5 and 7.3.4);
- Through a court order, where a judge has ordered that specific and relevant information should be disclosed and to whom; and

- When the processing can be shown to meet the ‘public interest test’, meaning the benefit to the public of processing the information outweighs the public good of maintaining trust in the confidentiality of services and the rights to privacy for the individual concerned.

In addition to having one of these legal bases the processing must also meet the requirements of the Data Protection Act and pass the additional tests in the Human Rights Act. The Trust has in place a Senior Information Risk Owner (SIRO) and an identified Caldicott Guardian.

3.2 National Drivers

In December 2012 the NHS Trust Development Agency (NTDA) published Towards High Quality, Sustainable Services – Planning guidance for NHS Trust Boards 2013/14, which set out the key planning requirements for Trusts in developing an integrated plan. The Plan remains aligned to the commitments in the NHS Constitution and seeks providers to consider how they will improve access by increasing 7/7 provision of services where appropriate and with the roll out of psychological therapies.

There is also a continued and focused emphasis on quality of outcomes and workforce by the development of a National Quality Dashboard and a focus on developing outcome measures that will help inform and reduce variation. It is acknowledged that for mental health and community trusts many of these indicators will need to be developed further and our IT infrastructure needs to be able to support the development and delivery of these outcome measures.

Monitor is the sector regulator for healthcare. As such they will regulate prices, enable services to be provided in an integrated way and safeguard choice and competition. Their main duty will be to protect and promote the interests of people who use health care services by promoting the provision of services which are economic, efficient and effective, and maintains or improves the quality of the services.

The Care Quality Commission (CQC) is the independent regulator of all health and adult social care in England. Its aim is to make sure better, high quality care is provided for everyone, whether that is in hospital, in care homes, in people’s own homes, or elsewhere.

The 3 independent, but complementary external influences drive towards a common aim which is reflected in the Trust’s own Integrated Business Plan (IBP). This presents a forward thinking and innovative approach to meet these challenges. The IBP has ownership by our staff reflected in their personal and team objectives. The IBP is underpinned by robust Divisional and Directorate business plans aligned with these overall ambitions.

The informatics technologies and systems need to support the Trust in meeting these challenges as expressed through the IBP.

3.2.1 The Power of Information

An additional, but specific external influence on our direction of travel is the “Power of Information”. This Department of Health (DH) strategy was released following on from the major changes introduced in the Health and Social Care Act. As such it supports the direction of travel of the Act and has impact on the Trust’s Health Information Strategy. It is further examined in this section.

The Power of Information sets out strategic goals for the collection and use of information in the English health and social care systems. It also addresses the cultural changes needed to make the step change possible. The main aims are:

- Information used to drive integrated care across the entire health and social care sector, both within and between organisations
- Information regarded as a health and care service in its own right for us all – with appropriate support in using information available for those who need it, so that information benefits everyone and helps reduce inequalities
- A change in culture and mind-set, in which our health and care professionals, organisations and systems recognise that information in our own care records is fundamentally about us – so that it becomes normal for us to access our own records easily
- Information recorded once, at our first contact with professional staff, and shared securely between those providing our care – supported by consistent use of information standards that enable data to flow (interoperability) between systems whilst keeping our confidential information safe and secure
- Our electronic care records progressively become the source for core information used to improve our care, improve services and to inform research etc, - reducing bureaucratic data collections and enabling us to measure quality
- A culture of transparency, where access to high-quality, evidence-based information about services and the quality of care held by Government and health and care services is openly and easily available to us all
- An information-led culture where all health and care professionals – and local bodies whose policies influence our health, such as local councils – take responsibility for recording, sharing and using information to improve our care
- The widespread use of modern technology to make health and care services more convenient, accessible and efficient
- An information system built on innovative and integrated solutions and local decision-making, within a framework of national standards that ensure information can move freely, safely, and securely around the system.

These goals are aligned with the Trust’s local Strategy and the wider work done through partnerships across our care spectrum.

3.3 Local Context

Our Strategy is designed to ensure that the Trust can operate as an individual organisation, but contributes and collaborates effectively and efficiently in the local environment and thus gains significant benefit.

We recognise that much of the delivery of care in the Trust will be done by working with partners in the NHS, private and third sector. Examples of this are our collaboration on early onset dementia at The Forest with Barchester (private sector), our IAPT work with Rethink (third sector) and our work to avoid unnecessary delays in discharges in secondary care hospitals (NHS).

Partnerships and “whole system” ways of working are key and we will work across the health and social care system to take forward the following. These are aligned with our service developments and priorities for our clinical divisions.

- Appropriate care of the frail older person
- Integrated care transfers
- Integrated systems for un-planned care
- Assistive technologies
- Accessing information to support integrated care
- Estates
- Connecting Nottinghamshire (technology working outside organisational boundaries)

- Procurement

All have need of informatics input from the Trust and the other partners across Nottinghamshire. Where this input is required it has been agreed that it will be tested against the mantra of “Collaborate, Compete and Concede”. This allows a framework for individual Trusts to determine the best way to engage with the programme, balancing local and collective needs.

3.4 Internal Drivers

Within the Trust this Strategy has to support:

- Changing models of care, both the move from inpatient to community based care across both physical and mental health services and ensures the clinical record is accurate, up-to-date and available at the point of care
- An approach that supports “No Health without mental Health” through allowing Forensic Services, Local Services and Health Partnerships to align services through the use of better information and integration of data
- A mobile workforce that allows meeting of patient needs and expectations for service delivery at appropriate locations; not necessarily on Trust property
- A workforce that consumes information and uses it to inform business and clinical decisions
- An organisation that changes and flexes to meet the demands of the NHS, our commissioners and the elements of competition in the sector with a technology infrastructure that can match this flexibility
- A Trust and a workforce that desires change supported by technology.

Work has been undertaken to reflect our direct stakeholders wants. These are described below:

3.4.1 Service Users want:

- To know how to access Nottinghamshire Healthcare services, find their way and contact those involved in their care
- To learn about their condition, treatment and outcomes
- To make informed decisions about their treatment
- To have confidence in those caring for them
- Information about them to be accurate, complete, secure, and shared as appropriate
- The ability to provide real time feedback to the Trust including by electronic means
- To know that their experience is taken seriously and acted upon by the Trust
- Their mental ill health to be handled like any other health problem, without the stigma that is sometimes evident in society and the Trust
- The ability to build a virtual interactive community with other service users and peer support workers.

3.4.2 Healthcare Professionals want:

- Reliable, fast, efficient technology systems that can be used in the right locations
- Accurate, complete and immediately available information on history, attendances, investigations and interventions, across all agencies, centred on identifiable patients, and available from all clinical locations, within and outside the Trust
- Accurate and supportive e-Prescribing/medicines management system available at the point of need to reduce the risk of harm to patients and improve cost effective prescribing

- Access to information to evaluate the effectiveness of the treatment and care that they give patients including clinical outcome indicators, etc
- Communication with and access to information from other specialists, including support for direct booking, referrals and telemedicine, and inter-agency communication (e.g. Social Services, Local Authority, Multi-Disciplinary Teams (MTDs))
- Integrated care delivery pathways, which include 'real time' decision support.

3.4.3 Managers/Decision makers want:

- Better information to determine what work and what does not including efficiency indicators – Outcomes, Did Not Attend's (DNA's), etc
- Relevant and reliable information to assess the health of the population and meet priorities in healthcare
- Accurate information to support the most effective targeting and use of resources including bed availability, clinic lists, etc
- Sophisticated resource modelling and 'what-if' scenario planning
- Support for office automation, e.g. Word-processing, email, scheduling applications, document sharing/workflow, remote access for flexible working
- Facilities for the electronic storage of documents to reduce paper and hence the cost of storage and processing.

3.4.4 Public (including our membership) want:

- Access to trustworthy information on health and lifestyle to help them take care of their own health, including access to condition-specific information, advice sheets from specialists and information on disease prevention
- Open information about the standards met by the NHS and other agencies involved in the delivery of care including published quality indicators, such as outcome information
- Information to help them influence the shape of health and social care policies and services including access to public documents, such as Trust Board papers, consultation papers.

4. Detailed Objectives

4.1 Where we are now as a Service?

4.1.1 The Health Informatics Service

The Health Informatics Service consists of 5 departments:

Corporate IT

They provide the communications networks – voice and data – as well as the servers and storage and supporting Personal Computers (PCs)/laptops and printers and maintain security.

The Technical Services team runs the Service Desk and the staff that provide new PCs, troubleshoot and repair existing PCs and securely dispose of old equipment.

The Systems team is responsible for the implementation, management, maintenance and security of the Trust's central servers that run the systems and hold the data.

The Networks team develops and manages the overall design of the network, its maintenance and the phone systems; desk based and mobile.

Clinical Systems

They provide support to the IT system, Information Governance and business analysis.

The Systems Administration team provide the physical management of clinical records as well as ensuring that all records in the Trust are held and used in a safe, appropriate and secure manner.

The Business Analysis team review processes in the Trust as part of project work to see how the systems can best support users. They also undertake data flow mapping to ensure the Trust knows what its data is used for and where it is going.

Applied Information

They support the delivery of high quality care by providing information and data analysis across the Trust. They also coordinate the submission of key returns to the Department of Health and our commissioners.

Project and Communications

They consist of 3 teams and support the delivery of Trust goals through leading projects around systems deployment, creating bespoke applications and helping to transition services into the Trust when tenders are successful.

Library and Knowledge Management

They work to underpin the Trust's vision and strategic goals by contributing to the continued professional development of staff. They also support education and research by making available relevant, timely and supportive information to students and researchers. Key skills training is provided to enable staff to research subjects and make the best possible decisions based on the information available.

Work within the Health Informatics Service is undertaken in accordance with best practice including the use of PRINCE 2 and ITIL processes and methodologies. Unless a project is pure technology (e.g. server or network replacement) the Service works alongside and supports Divisional project and change managers to help them utilise the “tool kit” of systems and services that can realise their clinical and business aspirations.

Training in systems and basic skills is provided by the Learning and Development Team who provide a trained and IT literate workforce as well as supporting specific projects within the strategy.

4.1.2 Current use of systems and technology

One of the main outcomes of the previous Strategy was to create considerable debate in the operational divisions about the shape and scope of the future Electronic Patient Record (EPR). This debate has informed the order of which areas are addressed and when. It has also further clarified the sequence of deployments to meet clinical and business needs.

The Electronic Staff Record (ESR) is well used across the Trust. Predominantly this is through manager self-service, but some areas are using employee self-service and the national learning portal. The Trust needs to capitalise on this and other back office systems such as e-Rostering, e-Expenses and e-Procurement to ensure that it retains good management as well as introducing flexibility into the workforce.

Integration of systems has commenced with an integration infrastructure being purchased and the Trust’s first e-Discharge delivered to GPs electronically. This has the dual benefit of addressing our commissioner’s concerns and enhancing the quality of care delivery by making vital information rapidly and universally available.

Mobility, or agile working, has moved from the position of a niche set of deployments in 2011 to a ‘business as usual’ situation. A key consumer of mobility has been Health Partnerships where a solution has been deployed to support SystmOne in the community. This has supported the changing care model as well as slowing cost improvements to be made through reduced travel and increased patient contact time.

Allied with the key clinical system, RiO, an electronic document management system and an electronic Integrated Care Pathway have been developed. There both address shortcoming in current systems and allow a strategic approach for ensuring clear evidence is available to support and substantiate decisions made.

One key element from the prior strategy was to answer the challenge of back office outsourcing, the identified resource gap and then the appropriate technical strategy for the future. An external study has been undertaken with wide ranging recommendations. The main thrust is to retain in house delivery of IT services, put in place a technology strategy to meet that need and close the resource gap. This will allow a flexible and lower cost response to the needs of an agile organisation.

At a technology level the requirements of the business has changed in the past year. Before there was a general principle that systems could be run exclusively over the Trust’s network or would use technologies such as Citrix allow safe use over the Internet or other provider’s networks. Some systems the Trust runs will not allow use of these technologies and some “partner” organisations are unable to offer the flexibility of us using their networks in such an explicit manner. For those reasons the future strategy will see a change in technology platform to support an agile, location independent organisation.

4.2 Where we want to be

4.2.1 A vision

In summary, using all the drivers we need to be heading towards an environment of people, processes and technology that gives patient centric services as described below in Figure 4.1.

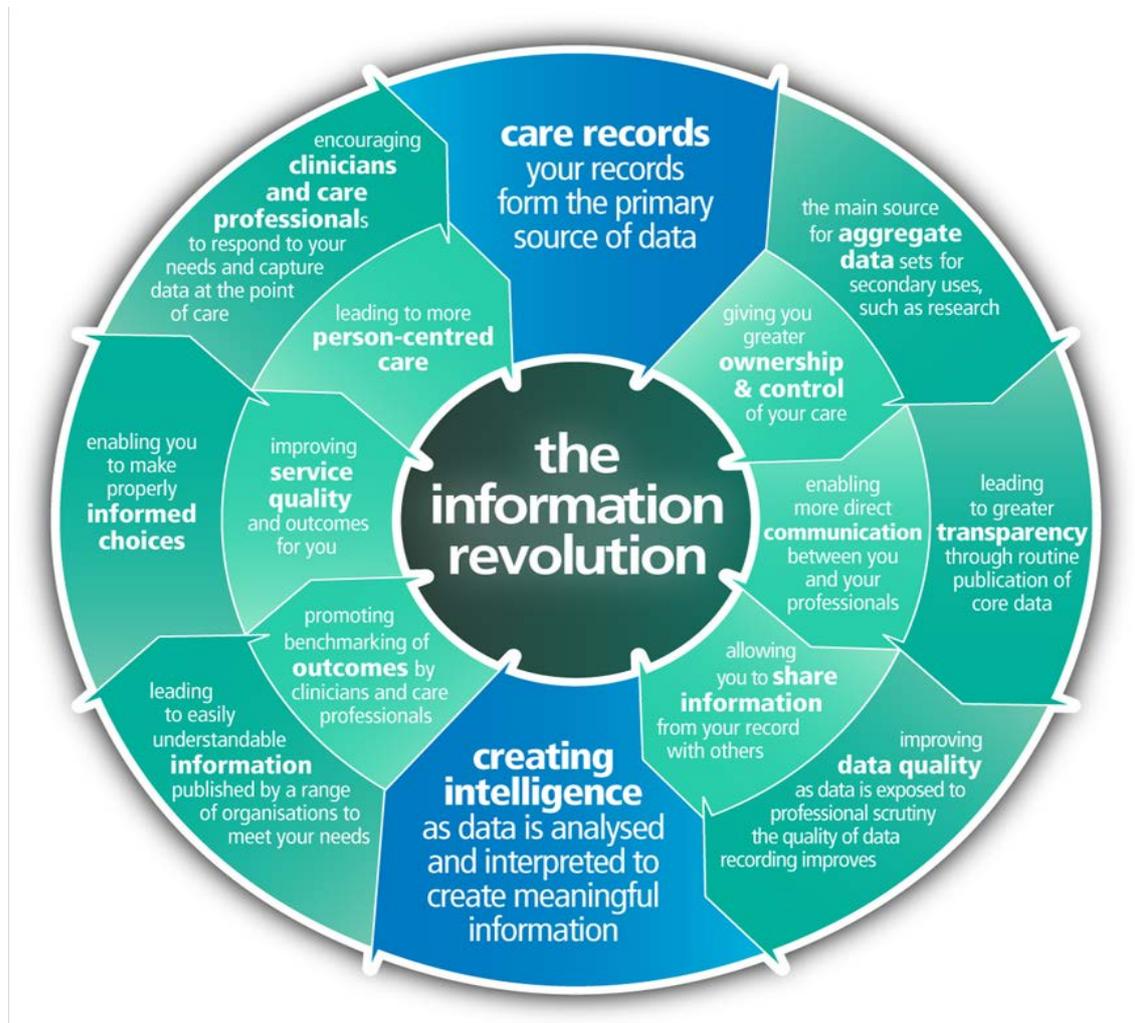


Figure 4.1 The Information Revolution

The Trust will be able to access patient, staff and corporate records in a manner that supports and is consistent with the role of the Trust. Access will be independent of physical location and will be user friendly, timely as well as secure.

Systems will be designed to support delivery of care and the data contained in those systems will be used to support delivery of quality, cost effective care. This data will be accessed either directly through the system or via a business intelligence dashboard supporting good management and clinical decisions.

The technologies used will facilitate the divisions changing the way they do business and provide them with a toolkit by which they can change.

The overall suite of technologies and changes to the way the Trust operates will enable greater assurance of a safe, efficient and quality orientated organisation both internally and to our commissioners and regulators.

The key elements are:

- The Divisions will be supported in their clinical delivery through the core patient administration systems of RiO and TPP SystemOne and other supporting systems with the use of portal technology to present a holistic view of patient information
- Accurate and timely information being available to support decision-making for excellent patient care
- Patients and Service Users will be given access to a summary of their own health record
- The patient's record will be held paper light and electronically wherever possible
- Efficient scheduling of resources
- Service users will have access to social networking other technology to aid their recovery
- Communication with GPs and other providers of health and social care and the Ministry of Justice will be electronic
- Enabling productive and stream-lined back office and management functions
- All locations from which services are delivered will have appropriate access to Trust systems through technical partnerships with other organisations and the use of mobile technology
- Video conferencing will be used for clinical consultation (telemedicine/health), teaching, clinical supervision, community wide MDTs and supporting management processes
- A knowledge driven organisation enabling research and evidential decision making using robust, accurate and resilient data
- Management information will be produced as a by-product of clinical and operational processes
- Exploitation of existing technologies to provide more efficiencies across the organisation. This will include digital dictation, DigiPens and the use of standardised systems such as e-Prescribing.

Underpinning these elements is an available and extremely resilient technical infrastructure facilitating access anywhere and at any time by staff that are accredited to use the information.

The 5 themes cannot stand alone as individual strands. For example mobility is useless without a good EPR and the ability to manage the staff remotely (ESR and systems such as electronic rostering and management of expenses). Otherwise everyone is drawn back to "bricks and mortar" and the advantage of flexible working (reducing travel costs/time and increasing patient contact and the quality of that contact) are lost. Likewise good business intelligence (built on quality data driven by integrated systems) and communications facilitates this sense of being in control whilst working remotely from the rest of your team.

Each theme complements the other to some degree and all are essential for the delivery of many of our service transformation proposals and priority developments across our clinical services. The four major workstreams are identified in Figure 4.2 below:



Figure 4.2 – Inter-relationship with Major Transformation schemes

4.3 Priority Actions

In order to deliver this strategy we will be working to deliver five key goals:

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The 'Information Revolution' Our Priorities for 2013/14

- 1** **An expanded Electronic Patient Record (EPR)** – to improve the quality of patient care through improved access to clinical information using modern technology.
- 2** **Electronic Staff Record (ESR)** – to improve the quality of employee information and increase productivity by cutting out wasteful paper processes and streamlining management.
- 3** **The integration of key systems** – joining the dots between various systems both inside the Trust and to outside stakeholders and the health and social care community. This means that data can be captured once and shared many times.
- 4** **Mobility/agile working** – with suitable mobile technology, staff will have the right information to treat patients wherever they are. Implementation of EPR will allow greater ease of mobile working.
- 5** **New Business Intelligence and Information Management System** – to make better use of the information flowing round the organisation, enabling improved planning and decision making.

4.3.1 Electronic Patient Record

Strategic Driver

The strategic drivers for the Electronic Patient Record (EPR) are patient safety and efficiency.

Patient safety through having the right contemporaneous information, at the right place, at the right time.

Efficiency through not having to look for information that exists on paper in one place is not readily available leading to cancelled or multiple visits.

Quality Innovation Productivity and Performance (QIPP)

The following benefits will be realised from this strategic theme:

Benefit	Type
Reduction in administrative time spent by clinicians	Non cash releasing
Increase in the number of service users seen	Non cash releasing
Enabling changes in the ways clinicians work	Quality
Improve service user's experience by offering a more convenient service and providing better information to increase their confidence	Quality
Job satisfaction for staff by having the right tools to undertake their work	Quality
A work-life balance with flexible working contributes to retention of staff and in recruiting new staff	Quality
Improved capture of data in real-time improves accuracy and hence ability to capture income through payment by results	Income generation
Improved capture of data to support CQUINS payments	Income generation
Provision of the right information in the right place at the right time	Quality
Raise standards of care by facilitating evidence-based decisions and providing support to National Service Frameworks through access to information without return to base	Quality
Access to systems such as RiO, providing a platform for good records management within and across organisations and improved productivity in that information is readily available	Quality

Figure 4.3 Electronic Patient Records (EPR) benefits

Focus

The focus is on capitalising on existing systems, using “helper” applications where these systems lack functionality and deploying/extending systems to support clinical orders and results and medicines management. Standardising the use of systems to facilitate easier integration is important.

Where we are

There is extensive use of RiO and SystmOne functionality across the Trust. The functionality in these systems tends to be used in different ways in different locations.

The main “helper” application is CESA (a SharePoint based document management system working with RiO). This is currently in use in Forensics Services.

e-Prescribing has been deployed in Local Services for substance misuse.

SystemOne is deployed to support physical healthcare across many of the care settings in the Trust; Health Partnerships and Forensics (Rampton and Offender Health).

What will success look like

Short term deliverables

- The key activity will be to bring all care settings up to the same level of utilisation of the RiO and CESA systems
- For SystemOne in Health Partnerships the priority will be the use of the system in a mobile environment allied with greater sharing of information with GPs key elements of SystemOne. They will also increase the use of SystemOne (e.g. bring Sure Start delivery into SystemOne)
- Across all deployments of SystemOne there will also be a move to standardise input to a particular care setting e.g. Offender Health will look to standardise across all prisons
- Other helper applications such as digital dictation will have been trialled and decisions made as to their return on investment before widespread deployment
- Investigation will take place into other input methods for all systems (DigiPens etc) and how best to deploy orders, results and medicines management
- Deployment of results for the acute Trusts providing diagnostic services to us into a single system will be trialled
- Access to the national Summary Care Record
- A theme running through this and subsequent years will be electronic access to evidence to support clinical decisions
- Allied to the EPR is the electronic Integrated Care Pathway (e-ICP) being developed in Rampton Hospital. This is providing an evidence based care pathway. Information is extracted from other systems to feed e-ICP. As this is developed we will keep a watching brief to see if it can be utilised as a portal for the rest of the organisation providing a single view of the information in multiple systems.

Medium term deliverables

- RiO will see an upgrade to Version 7 and increased clinical functionality. This may drive a move from the helper applications to native RiO functionality thus consolidating data into one system rather than in 2 linked systems
- Widespread deployment of results and trials of order communications will be undertaken
- Medicines management will also be trialled and scaled, based on experience from Local Services Substance misuse team e-Prescribing
- SystemOne will see continued utilisation, but is unlikely to have any major upgrades in functionality as it will be running towards the end of the national contract (2016)
- Start to develop clinical and patient portals based on effective information being put into the underpinning clinical systems.

Long term deliverables

The key point in time is mid 2016. At this time both the local RiO and national SystemOne contracts will terminate. This gives the Trust the opportunity to tender for a single system that will deploy into all care settings, subject to a suitable quality standard. This work will commence in 2013/14 as the process of changing systems is a long one. The correct functionality and safety of patient care during the procurement and deployment phases are paramount.

Whilst this is going on then there will be continued development of existing systems and ways of working. It is easier to move to new systems having rationalised the clinical processes and electronic data rather than to do it at the same time.

4.3.2 Electronic Staff Record

Strategic Driver

The strategic driver for this efficiency in the workforce through using electronic systems to replace manual forms and processes.

Quality Innovation Productivity and Performance (QIPP)

The following benefits will be realised from the strategic theme:

Benefit	Type
Reduction in administrative time	Cash releasing
Enabling changes in the ways staff work	Quality
Job satisfaction for staff by having the right tools to undertake their work	Quality
Improved management of staff	Quality
Enabling reductions in estate costs through agile working environments	Cash releasing

Figure 4.4 Electronic Staff Records (ESR) benefits

Focus

The focus is on replacing paper forms and manual processes across a range of systems including the Electronic Staff Record (ESR), finance, procurement, rostering and expenses systems.

What we are

These systems have already been deployed in the Trust. Some like ESR, e-Expenses and e-Procurement are in widespread use. Other such as rostering are in large scale, but limited deployment.

What will success look like

In the short term the next steps are to ensure that functionality in these systems is turned on and utilised to support efficiencies and better management of processes and staff. This is predominantly a training matter to ensure staff can use the functionality that will drive the efficiencies. This may also include the delivery of e-Learning and learning management.

In the medium term, the ESR system is being replaced at a national level in 2014 and this may drive some significant changes in how the system is used and the technology needed to support it.

4.3.3 The Integration of Key Systems

Strategic driver

There are internal and external drivers for this.

Internally data is captured once and reused rather than manually inputting into multiple systems thus improving data quality. This has the consequence of reducing clinical risk as well as improving efficiency. Integration can be used with the EPR to provide automated workflows and thus increase efficiency and reduce risk.

Externally the Trust needs to be able to work effectively along care pathways which involve multiple providers. Integration/interoperability to national standards helps facilitate this.

Quality Innovation Productivity and Performance (QIPP)

The following benefits will be realised from this strategic theme:

Benefit	Type
Provision of the right information in the right place at the right time	Quality
Support the provision of integrated services that overcome the obstacles to delivering a seamless-service across organisational boundaries	Quality
Providing the infrastructure to be able to offer telemedicine and telecare services	Quality
Reduction in administrative time spent by clinicians	Non cash releasing
Increase in the number of service users seen	Non cash releasing
Enabling changes in the ways clinicians work	Non cash releasing
Support marketing clinical services to commissioners through information provision	Income generation

Figure 4.5 Integration benefits

Focus

The focus is on 2 areas. Using the same data electronically in more than one system and proving information (letters and structured data) electronically to health and social partners.

Both of these areas will allow clinical divisions to become more efficient and allow more holistic working with partner agencies thus providing safer, better and more coordinated care to patients.

Where we are

The Trust has built the infrastructure to enable data sharing internally and externally. The first sharing is with GPs for the discharge summary. This sharing is predicated on using the national “Interoperability Tool Kit” as the strategic means for delivery.

What will success look like

Short term deliverables

- The pilot for e-Discharges will be reviewed and improved and the final solution rolled out across all GPs that have systems that can received information electronically. Some of this will be done in conjunction with our NHS secondary care partners in Nottinghamshire where there are efficiencies to be gained

- Once the e-Discharge has been concluded work will commence with clinical teams to determine which other clinical documents can be sent via this manner. This will further increase administration efficiencies
- Investigation as to the potential for real time integration with Health Partnerships SystemOne will be carried out to identify where shared patients exist. This will bring clinical and administrative efficiencies can be achieved as well as improving the patient experience
- Pilot the use of Sunquest ICE to a secondary care diagnostics services for electronic results in line with the rollout plans for the Acute hospitals.

Medium term deliverables

- Replace internal point to point integration links at the time of deploying RiO V7 with a structured interface. This will then allow data to be efficiently shared internally and support areas such as pharmacy and risk reducing data quality issues and gain efficiencies
- Further use of Sunquest ICE to electronically receive results from other secondary care diagnostic services. Trial the use of ICE for electronic order communications for diagnostic tests.

Long term deliverables

Continue to expand integration as the Trust invests and disinvests strategically. Seize the opportunity to support multi provider care pathways.

The change of EPR will be made easier by having an established integration engine in place.

4.3.4 Mobile Working

Strategic driver

The strategic driver for mobility is to ensure that staff have the right information at the right place and at the right time.

This aids the quality of care and management processes.

This also enables rationalisation and reduction in the estate as well as facilitating workforce redesign.

Quality Innovation Productivity and Performance (QIPP)

The following benefits will be realised from this strategic theme:

Benefit	Type
Reduction in Travel Expenses	Cash releasing
Reduction in Travel Time	Cash releasing
Gain additional productivity per week/ per staff member	Cash releasing
Proposed Estates savings	Cash releasing
Reduction in clinical risk – right care, right place, right time, right information	Quality
Improve patient experience/ Raising standard of care	Quality
A work-life balance with flexible working contributes to retention of	Quality

staff and in recruiting new staff	
Remote and mobile access to e-mail and the Intranet will assist with staff communications and thus reducing staff isolation	Quality
Improved management of staff through more effective communications	Quality
Improved capture of data in real-time improves accuracy and hence ability to capture income through payment by results	Income generation
Improved capture of data to support CQUINS payments	Income generation
Enabling service transformation	Quality

Figure 4.6 Mobility benefits

Focus

The focus here is not to use a single technology but to use multiple technologies to allow divisions, departments and teams to alter their way of working.

Key to this is not just the technologies but also the use of systems to ensure information is not tied to “bricks and mortar” locations and the cultural change that needs to take place in managers and their staff.

What we are

The Trust has a range of technologies available to facilitate mobile/agile working:

- Laptops with WiFi and 3G
- Mobile phones/Blackberry
- WiFi networks
- A flexible printing strategy
- Ability to work over N3 securely
- Ability to work over the internet securely, connecting from home or WiFi hot spots
- Community WiFi in partnership with Nottinghamshire public sector organisations

A good example of where this has worked is in the deployment of mobility to Health Partnerships where proven benefits have been seen in efficiency, staff satisfaction and clinical care.

What will success look like

Short term deliverables

- The trust has invested significant resources and funding in order to bring the IT technology and it use up to date
- We are currently rolling out a virtual desktop infrastructure VDI, to align with Windows 7 and office 2010 standard, thus linking into our unified communications strategy
- Working in partnership with NUH and NHIS on community shared Wi-Fi allowing staff to work from additional site’s providing services to a wider community and still be able to access patient records and data
- Research into new and innovative ways of working with technology pushing the areas of mobility by using 3&4G wireless laptops.

Medium term deliverables

- Actively working with university's and technology developers to produce working solutions for the long term delivery of mobile technology
- Investing in Wi-Fi through all of the Trusts properties as well as expanding the community Wi-Fi project
- Replacing costly legacy PBX phone systems with integrated IP Phones, with follow me calls
- Making use of the 54 Video Conferencing facilities around the Trust properties as well as web cam's for one to one meetings from your office, desk and laptop locations.

Long term deliverables

- Looking at providing applications to work on Apple IOS, HTC and other smart devices bringing patient systems and data to work force where ever they are
- Sharing and integration of other public sector data, through Primary Care, Police and local government systems.

Multiple actions are required. Much depends on the divisional business drivers and how HIS supports these using the toolkit of technology and systems outlined above.

Clearly technology will continue to move apace and the Trust needs to invest in appropriate ones. Two key areas that will give significant benefits are:

- *Bring Your Own Device (BYOD)*. This is not so much around staff using their own computers at work. Some will, but many will not. It is more about using the technology to support safe and efficient integration of non Windows devices into our network so that devices can be used which are more appropriate to the clinical setting e.g. iPads for memory clinics or smartphones to replace expensive Blackberry devices.
- *Virtual Desktop*. This technology is important for two reasons. The first is that it brings with it cost reductions (albeit with a relatively long return on investment). The second is that it give much greater flexibility to the delivery of services to Trust staff who are not on the Trust's own network. This will be vital as the Trust acquires more business.

4.3.5 Implementation of Business Intelligence and Information Management Solution (BORIS)

Strategic driver

Business Intelligence is needed to enable the Trust to effectively utilise one of its greatest assets – data – to facilitate good business and clinical decisions.

It will improve managerial processes such as planning, controlling, measuring and monitoring so that the Trust can increase income and/or reduce costs.

It will improve operational processes such as capacity management, identifying bottlenecks and allowing informed change in working practices and the overall workforce.

Quality Innovation Productivity and Performance (QIPP)

The following benefits will be realised from this strategic theme:

Benefit	Type
Ward to board scorecards with a common strategic thread	Quality
Central portal for managers and clinicians to access reports	Quality
Changes to working practice – team and ward level performance can be assessed easily and is actively managed	Quality
Integrated reports with clearly defined indicators assessed for data quality help to provide assurance to the Trust board on performance, quality and safety	Quality
Improved consistency and speed of delivery of current regular reports and ad-hoc analysis	Cost avoidance
Reduced time spent manually entering data into scorecards and reports	Cash releasing
Improved clinical performance through the use of clinical dashboards	Quality
“Live” scorecards allowing up to date reviews of performance	Quality
Improved understanding and management of incidents and complaints	Quality
Improved understanding and management of sickness	Cost avoidance
improved workforce planning	Cost avoidance
Improved workforce performance as a result of up to date information on training etc	Quality
Improved understand and management of incidents and complaints	Quality
Improved achievement of contracted activity plans through wider distribution of live reports	Income generation
Improved clinical performance though the use of clinical dashboards	Quality
Improved integration of physical and mental healthcare as a result of clinicians being able to access a complete view of a patient’s activity	Quality and cost avoidance
Improved consistency and speeds of delivery of current regular reports and ad-hoc analysis	Cost avoidance
Cost reduction as a result of an improved understanding of costs through integration of activity and financial data	Cash releasing

Figure 4.7 Business Intelligence Benefits

Focus

The Trust needs to replace its existing system of reporting with one that generates the data in an automated manner, is more holistic in approach, allows easy comparison of different, but supportive, data sets and provides assurance at all levels across the Trust.

When fully deployed the system will:

- Effectively integrate data from disparate source systems
- Be flexible enough to incorporate data from new sources as they are identified
- Provide interactive dashboard/scorecards that can be tailored to the need of individual services
- Provide alerts to potential risks e.g. patient approaching deadline for 7 – day follow-up

- Provide up to date reports (near real time reports where required)
- Provide an interactive tool which speeds up simple queries
- Integrates the data required for national returns (e.g. Mental Health Minimum Data Sets (MHMDS) and Community dataset) to simplify and speed up submission process.

Where we are

Short term deliverables

- RiO
- Replace existing key reports
- Clinical and operational dashboards
- Quicker ad-hoc analysis
- Live scorecards
- HR & Training dashboard(s)
- Safeguarding (the Trust risk and incident management system)
- Incidents dashboard(s)
- Complaints dashboard(s)
- SystmOne (Health Partnerships)
- Contract activity reports
- Clinical and operational dashboards
- Patient centric view

In the medium term further deployment of data from the finance system will occur, including:

- Finance KPIs
- Financial dashboards
- Service line reporting
- Improved costing

Opportunity will also be taken to investigate the potential for accessing the much more closed and restricted data held within the Offender Health SystmOne instances.

Whilst the majority of the work will be concluded early in the life of the strategy it is recognised that throughout the life of the business intelligence system, the Trust will continue to flex and grow and the system will need to be reconfigured to support those changes. This flexibility has been built into the contract through normal contract variation processes.

4.4 Underpinning technology and service delivery

4.4.1 Strategic driver

In order to achieve our priority actions the Trust needs a technology platform that is resilient, reliable and available across a wide range of physical settings. This technology needs to be fully supported to ensure that it and its users are able to operate efficiently and use the systems to enhance efficiency, quality of delivery and reduce clinical risk.

4.4.2 Where we are

The Trust has a robust infrastructure that offers a business-as-usual service which is reliable, and does so at a very low cost as a result of significant capital investment in the IT infrastructure in past years, but it achieves the low cost by cutting corners.

In our delivery there is poor focus on customers and customer service with inadequate communication with our users. The organisational structure for customer focused delivery is not appropriate for a modern organisation.

This specific section will look at themes rather than years as this is a more meaningful approach.

Service Delivery

National NHS proposals for a formal accreditation scheme for CSU (Commissioning Support Units) are likely to be made mandatory for in-house Health Informatics Services.

Short Term Deliverables

In order to prepare for this and improve the current standard of service delivery, the following actions will take place:

- Commence Implementation of best practice processes based on the IT Infrastructure Library (ITIL) service management methodology
- Re-structuring of the IT service to be more customer focused and centred around ITIL functions (which are themselves customer focused). This will commence in May 2013 with the appointment of the senior management structure and be completed by December 2013 for all staff levels
- Centralising any departmental IT staff to the IT service
- Management of the skills base of the IT service to ensure that the appropriate skills are available as needed for the planned workload; develop and manage skills for all staff in the IT service
- Undertaking a full audit of all IT equipment in the Trust and create and maintain an up to date and accurate asset register; annually check the accuracy of the register by means of physical audit
- Development of the performance management of the service to provide a more critical and outcome-focused view of the performance of the IT service; this will include both regular external benchmarking and user satisfaction reviews
- The separation of development work from operational, business-as-usual work, through effective formal handover, testing and acceptance
- Introduction and maintenance of a service catalogue, starting in October 2013 detailing the services available from IT and the standards achievable.

Medium Term Deliverables

Introduction and agreement with divisions of Service Level Agreements, starting in January 2014, detailing the services provided by the IT service and the standards required.

- Complete the Implementation of best practice processes based on the IT Infrastructure Library (ITIL) service management methodology
- Reviewing and if necessary replacement of the current service desk system in 2014/15 to ensure the availability of a system which will support the IT service effectively
- Centralising any departmental IT staff to the IT service to commence in April 2014.

Long Term Deliverable

On a tri-annual basis, review the options for the provision of IT services in light of the evolution of out-sourced IT services to the NHS, to ensure the Trust continues to obtain the most effective service available to meet its needs.

Delivery of an agile adaptable IT infrastructure

In order to respond to the rapidly changing business requirements of the Trust as it acquires new services, the IT infrastructure needs to be agile and adaptable. To achieve this, the IT service will work within a technology and security envelope acceptable to a healthcare setting that allows flexibility in delivery across care settings.

Short Term Deliverables

- Continue the development of the strategy for the replacement of the legacy analogue telephony systems across the trust
- Examine options for hosting (in-house IP versus 3rd party hosting) or a mix of both)
- Replace analogue systems at Local Services and Corporate sites, based on the support life cycle and cost effectiveness
- Extend the virtualisation of the Trust's desktop and laptop systems. Initially this will be used to provide an IT infrastructure for new services located on sites remote to the corporate network. This will provide the following:
 - Flexibility to take on new staff and their desktop/laptop devices easily and quickly
 - Security to support mobile working using any device (including the potential to permit staff to use their own devices)
 - Flexibility to support home working
 - Enable extension of the expected lifespan of the equipment – to 5 or more years
 - Examine the options for storing the Trust's increasing volumes of data
 - Ensuring adequate capacity for medium term growth be re-investing to extend the life of current NetApp storage technology up to March 2017
 - Examine options for the archiving of information to a more cost effective lower tier than NetApp
 - Examine alternative options for disaster recovery including backup into the cloud, hot standby and third party cold-standby services
 - Operating system and Office Applications software
 - The Trust's current PC and laptop operating system standards are Microsoft Windows XP and Office 2003. Following the changes to the NHS Enterprise Wide agreement in 2011, the Trust was allocated licences to Windows 7 levels for operating systems and 2010 levels for Office and other related products.

In order to obtain best value from this and to support new applications such as the Electronic Patient Record, the Trust will standardise on these levels of software for until the 2016/17 financial year. In order to achieve this, the Trust will migrate its laptops and PCs to Windows 7 and Office 2010 during the 2013/2014 and 2014/2015 financial years.

The strategy for the licensing of Microsoft software was reviewed in March 2013 and a decision made, based on cost-effectiveness to extend the existing perpetual licensing model for a further year. This policy will be reviewed on an annual basis, to take into account changes in Microsoft licensing policies, pricing and the support life-cycle of the applications used by the Trust.

Medium Term Deliverables

Extend the use of virtual desktop technologies to sites on the corporate network. This will be subject to the development of the business case to demonstrate the return on investment.

Re-examine the options for storing the Trust's increasing volumes of data. This will include the following options: replacing the existing storage capacity with either an internally hosted solution or an externally hosted "cloud" solution or a mix of both.

In the 2014/15 financial year, examine options for the replacement or upgrade of the Trusts data network prior to the expiry of the current contract in October 2015. This will include consideration of evolving public sector network alternatives including the successor to the current NHS N3 network.

Provide solutions for service user access to technology and the Internet to aid recovery.

Operating System and Office Applications Software

The licensing policy for Microsoft software will be reviewed on an annual basis, to take into account changes in Microsoft licensing policies, pricing structures and the support life-cycle of the applications used by the Trust.

Long Term Deliverables

The market for a range of secure “Cloud services” to the public sector is likely to have reached maturity by 2017. The Cloud services available are likely to cover the following areas of technology and services:

- Telecommunications services: Unified Communications including voice and data
- Storage and processing of data
- Software as a service
- Desktop as a service
- A comprehensive review of options will take place in conjunction with the review of the provision of IT services. The outcome of this will be one of the following options
- Maintain services in-house, or Outsource to third party, with
- Mix of Cloud and locally hosted technologies
- Locally hosted technologies
- All technologies delivered by Cloud technologies.

Operating System and Office Applications Software

The Trust’s current PC and laptop operating system standards are Microsoft Windows XP and Office 2003. Following the changes to the NHS Enterprise Wide agreement in 2011, the Trust was allocated licences to Windows 7 levels for operating systems and 2010 levels for Office and other related products.

In order to obtain best value from this and to support new applications such as the Electronic Patient Record, the Trust will standardise on these levels of software for until the 2016/17 financial year. In order to achieve this, the Trust will migrate its laptops and PCs to Windows 7 and Office 2010 during the 2013/14 and 2014/15 financial years.

5. Information Governance

Strategic Driver

The strategic driver for Information Governance and the Information Governance Framework is to ensure that patients, carers and staff have confidence that their personal information has the right security measures to protect it from data breach but allowing appropriate access in order to share relevant information.

In order for the Trust to achieve some of the objectives mentioned above Information Governance needs to be seen as an enabler to patient care as well as a protector.

Reduction in information risk and the increase in data quality inline with Monitor, Information Governance Toolkit, the Information Governance Framework along with the requirements of the Data Protection Act.

Quality Innovation Productivity and Performance (QIPP)

The following benefits will be realised from this strategic theme:

Benefit	Type
Security of information providing our patients, carers, staff and commissioners assurance that the Trust has appropriate security measures in place to underpin care delivery.	Assurance
Reduction in information breaches	Security / Reputation
Enabler to the Informatics Revolution	Quality
Assurance to the future partners providing assurance around the tendering	Income Generation
Increase in data quality	Quality
Reduction in clinical risk surrounding information sharing and loss of information	Security / Risk
Increase in the Information Governance Toolkit Returns	Quality / Reputation

Where are we ?

The Trust currently has several groups and committees where information governance is part of the agenda. These are:

- The Strategic Information Governance Group which has representatives from the various directorates along with key staff from Finance, Health Informatics and the Resource.
- Local Services Integrated Governance Group which has representation from the various services within local services along with key staff from corporate services such as Human Resources, Finance, Health Informatics, Pharmacy and Procurement
- Health Informatics and Information Governance Group which has representation from the various services from the Secure Forensic Services including key staff from corporate services such as Health Informatics, Finance,
- Health Partnerships Information Governance Group which has representation from the across the directorate including Health Informatics staff

Each year the Trust completes its IG Toolkit returns providing the Trust Board with evidence that the Trust is compliant with the five elements enabling the Accountable Officer (Chief Executive) the assurance to complete and return the Trusts annual IG Assurance return.

The five elements are; Information Governance Management, Confidentiality and Data Protection Assurance, Information Security Assurance, Clinical Information Assurance and corporate Assurance.

During the financial year 12/13 the Trust achieved a score of 88%, this excludes Offender Health as these were submitted individually scoring between 66% - 70%. This latter score reflects the particular complexities of working in prison services and the lack of previous investment from the predecessor services.

Data Quality and Information risk management are monitored through the Strategic IG Group supported by Data Quality Group. The Trust are part of the NHS benchmarking group/s the comparison from these can highlight data quality issues.

A significant amount of work has been undertaken to gain compliance with the IG Training requirement of 95% of staff undertaking training within each financial year.

What will success look like ?

Patients, carers, stakeholders and staff are mutually confident that the care we deliver is underpinned by robust and appropriate sharing use of information.

The Trust has worked hard to ensure its compliance with the IG Toolkit return/s and assurance declaration further work will provide the Trust will a score between 95% – 100% giving further assurance to potential partners including Offender Healthcare.

There will be a robust Information Risk Framework supporting the Senior Information Risk Owner and risk assessments of the systems will ensure the Trust has a first class service that is fit for purpose and risks are known / mitigated against. The trust will have received full assurance from internal audit reports.

Greater sophistication of staff training on IG and sharing of information will increase the quality of care provided as information will be readily available both internally and externally to the Trust on a need to know basis.

IG and processes will enable future integration of care across the health and social care community assuring our patients, carers and staff that their information will be known to those who need it to support them in the future.

6. Delivery Framework

5.1 Communication and Engagement

Stakeholders will be engaged at all levels in delivering this Strategy.

The main tool for doing this will be through divisional groups for engagement with internal stakeholders and, where appropriate, patient/carer stakeholders. Much of this will be done during the run up to the business case phase. However, individual projects will consider wider stakeholder participation in project boards/teams.

Where appropriate, especially in areas such as patient ownership of the record, use will be made of the Trust's Involvement Centre through the Head of Involvement to gain input.

When working with partner Trusts in Nottinghamshire initial engagement at a technology level will be made through the pan-Nottinghamshire Strategic Alliance Group.

5.2 Assurance, Accountability and Reporting

The existing governance arrangements in the Trust have been revised and enhanced to provide both governance and assurance that the Strategy is delivered as planned and that data is held and used in a safe and appropriate manner.

The following structure is now in the process of being implemented and embedded:

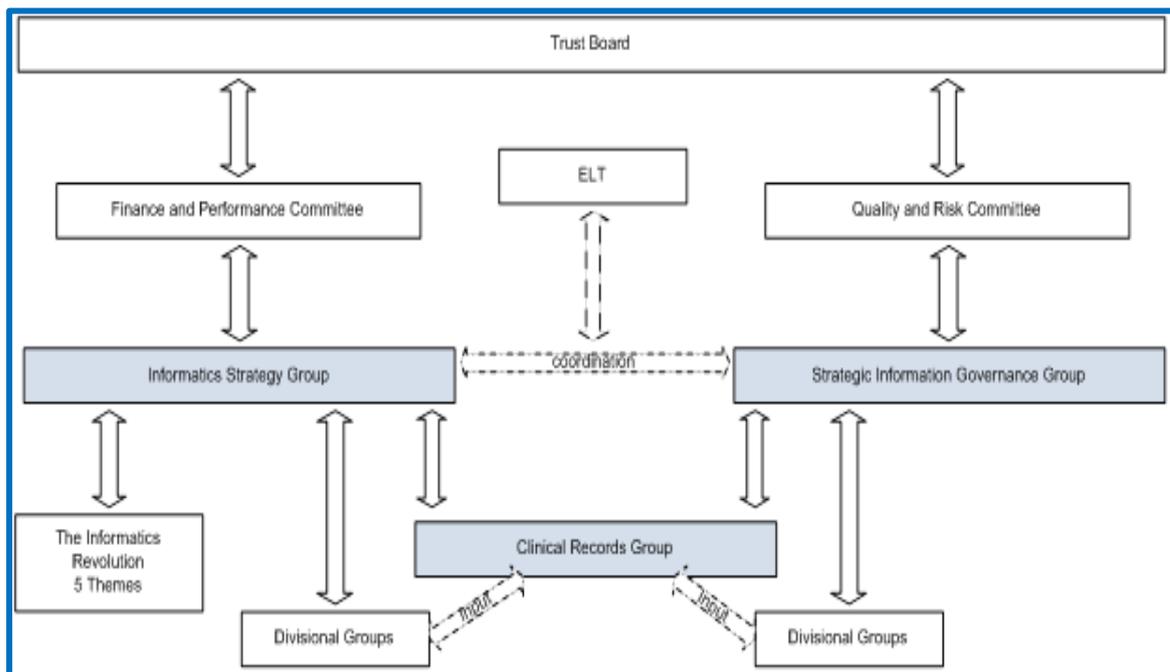


Figure 5.1 Governance Structure

Briefly each of the highlighted groups will have the following functions:

Informatics Strategy Group – to own the Strategy, approval point for business cases, performance manage delivery and benefits realisation, coordinate across divisions and set the annual work plan. In order to perform its role this group will take reports from the project executives for the 5 themes in The Information Revolution.

Strategic Information Governance Group – to ensure that the Trust operates in accordance with best practice in the use and protection of information. It is at this level that the Senior Information Risk Officer (SIRO) and Caldicott Guardian determine and approve policy and gain assurance.

Clinical Records Group – to provide assurance on Clinical Records Management issues and governance surrounding the introduction of electronic clinical records ensuring they meet the needs of clinicians, patients and statutory bodies e.g. CQC.

These groups will not act in isolation but coordinate together.

Additionally the Trust Board will take direct regular updates from the Executive Director responsible for Health Informatics.

5.2.1 Management of Data

The management of data is a vital component of governance. When there is poor management and data quality, with little relevance and the amount held grows out of control, an organisation is exposed to increased costs and reputational issues.

This section highlights the issues and supporting strategies that will be developed to address the specific issues Knowledge Management, Information Management and Information Governance.

Management of data comes in 3 components:

- Integrity - how complete is the data
- Quality - how accurate is the data
- Retention – how long is data kept for and how is it disposed of

Integrity

Integrity of data refers to the completeness and sensibility of the data. It is intrinsically linked to data quality.

Tests for the integrity of data will be made in systems centrally. Errors found will be reported to divisions for action using the methodology outlined in the section below.

Users will also be encouraged to ask questions of the integrity of the data, rather than just trusting what the computer says. Where they have concerns then they will be encouraged to address them with their teams. Much of this integrity checking will come through normal day to day work in the systems or through examining and asking the “what if and why” questions in the business intelligence system.

Quality

Quality of data is a historically difficult area to automate unless everything is inputted from structured data lists which allow gross error and integrity checking. In a mental health and administrative environment this is particularly difficult to apply. This is more structured in the physical healthcare environment.

The diagram below shows how the Trust will create and apply data quality standards. It will assure itself that these standards are adhered to, that the data makes sense and where corrections are needed that they are done. In addition, it will ensure that improvements to data quality are continually made through aspects such as training, systems configuration and, if need be, disciplinary processes.

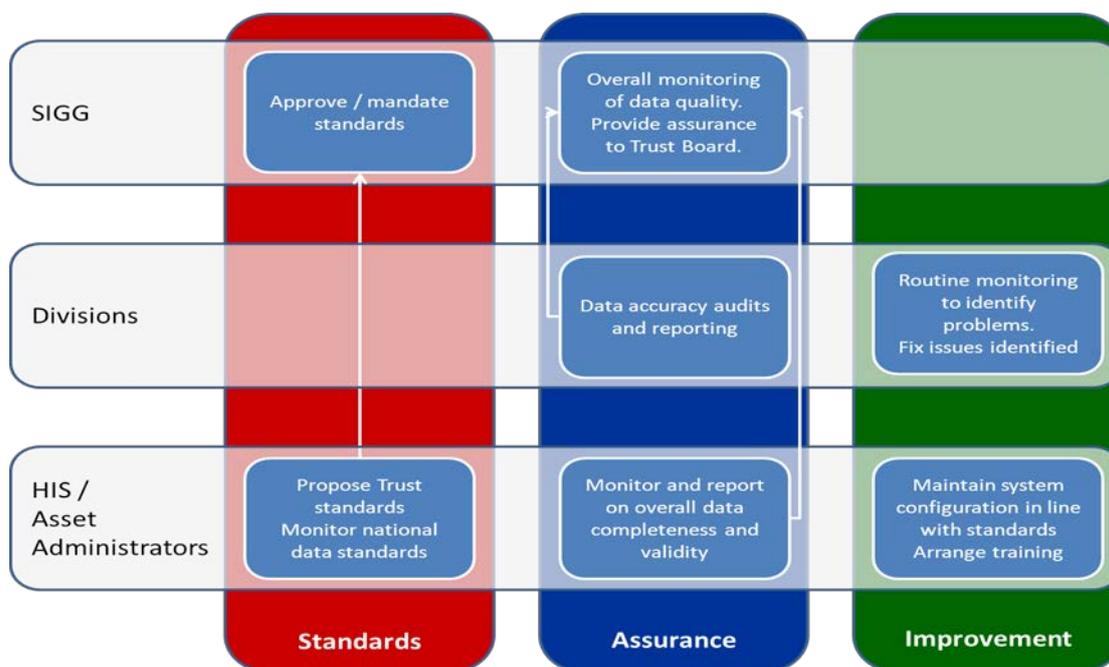


Figure 5.2 Data Quality Methodology

Retention

Retention periods for both clinical and administrative record are recorded in Trust policies. However, it is recognised that outside of the clinical environment and a few specific areas of administrative records application of retention policies is sketchy.

The strategy moving forward is to apply automated metadata to documents when created (e.g. through a document management system) which allows for not only automated retention and disposal but also addresses the issues of privacy marking and access by the public through Freedom of Information (Fol) etc.

5.2.2 Reporting

The Informatics Strategy Group (ISG) is responsible for the oversight, management, development and implementation of the Informatics strategy of Nottinghamshire Healthcare NHS Trust. This ISG will report to the Finance and Performance Committee through which it will report to the Trust Board.

Progress/Risk monitored and escalation to the Board:

- Operational risks reviewed quarterly and reported to Board via SIGG
- Project risks monitored by individual project boards, these are in turn highlighted to ISG and up through ELT and to board level depending on severity.

6. Resources

The financial model for the strategy and its affordability play a significant role. High level consideration of the financial impact of the strategy has been considered but detailed impacts will be reviewed on a case-by-case basis following the process outlined below. In 2012 as a result of a review key principles for funding the HIS services were agreed; a core “business as usual” service and additional services fully funded by requestors for project work and enhancements about the normal level of services.

6.1 Process

The process will align with the best practice of other planning process such as the capital planning and control process. Capital funding and the associated revenue consequences are detailed in individual business cases which are approved via the Capital Planning Board and Information Strategy Group.

6.1.2 Assumptions

One piece of work will have consequences on the need for and viability of delivering other standards of work.

Committing to any one element will have long term implications around continued funding and, potentially, a commitment to a liability when that technology “expires” for the replacement technology/system.

An assurance level will be applied to all elements of that financial model around the certainty of the proposed costs.

The describing of cash releasing benefits and their realisation (hence affordability) belongs to the “owning” division.

6.1.3 High Level Assumptions in LTFM

Realisation of cash releasing benefits will be made by the owning division.

The capital/revenue split is appropriate at the time of planning, but as technology changes then options to deliver with a different split may be possible i.e. replacing the capital of servers and storage with rented cloud technology.

6.1.4 Business Cases

To demonstrate overall value and alignment of the strategic needs a business case will be developed for each major project within the Strategy. These will be presented to the ISG having been owned and created by the division implementing the project (with full HIS input) and internally approved by the division.

To assist in the assessment of the viability of a project an assessment form has been created which is intended to rapidly assess the costs much earlier in the process and inform the full business case.

The Trust’s Short Form Business Case format will be used.

In broad terms the process used to appraise each proposed project considers:

- Strategic context
- The case for change

- Financial and non-financial assessment of the options
- Affordability to the Trust in terms of both capital and annual revenue within the Economic Appraisal
- Lifecycle costs (capital and revenue) over 5 years
- Risks
- Selection and recommendation of the preferred option
- Project Management Arrangements

Where options for delivery are available the ranking of options for each scheme by the measures of Weighted Benefits Score, Lifecycle Costs, Cost per Benefit Point and Risk Score should help in the choice of a preferred option for each scheme.

Similarly, the ranking of schemes by these measures will also help in the prioritisation of schemes since those which achieve the most favourable ranking on all four measures will justify earlier implementation. These prioritised schemes will then form the basis of the affordable Informatics Plan for the coming year.

Where appropriate ISE will make a recommendation to the Finance and Performance Committee and the business case is tabled at the Trust Board for discussion and approval.

6.2 Scaling the Business

The Trust will continue to change in size as business is acquired and divested. The Strategy recognises this and procurements will be made wherever possible and financially sensible that allows for this.

Certain decisions will have to be made that introduce risk but reduce the overall costs of schemes e.g. long term purchase of network links vs initially shorter term clinical service contract awards, but with the potential for extension. This will be a balance that will be discussed and decided on in conjunction with Business Development and Marketing Unit (BDMU) and the business unit during the tender process.

In the event of divestment a decision will be made as to how a technology investment will be either reused or offered for sale/transfer to another organisation. This decision will be made in the light of any legal framework that may apply, especially so around software licences.

6.3 Funding of IT Services

In order to ensure that the Trust obtains best value from its IT service, the commissioning and funding of services has been reviewed during the financial year.

The review confirmed that:

- Core services (the provision of the desktop or laptop, the core infrastructure and the support for these), are to be provided through central funding
- Project-specific work and services beyond the normal day-to-day service are funded by the division or business unit requiring the work.

This will place the cost of the IT alongside the benefits achieved from it and will help tackle the problem of an excessive demand for project resources. This will also enable the following to be achieved:

- Greater flexibility of deployment and management, and enable better value to be obtained from the existing portfolio of equipment

- A strategic approach to the licensing of desktop and laptop software (operating systems and office productivity software), including examining the potential use of Open Source software for some staff
- Upgrade of the Microsoft products for operating system and office productivity as necessary so as always to be within two releases of the most recent release and to always be using software which continues to be supported by Microsoft.

7. Risks

In a Strategy as complex and wide ranging as this, there will be some uncertainty and risk associated with implementation.

Such risks equally apply to other supporting/enabling strategies across the Trust.

The risks are categorised below and are not exhaustive. A more detailed assessment of risk is contained within each business case and it tailored to that particular element of the strategic delivery.

The major risk to delivery of a programme of change such as this strategy is the appetite of the Trust to undertake the change in working practices to drive the benefits of safety, quality and efficiency that give a positive return on the significant investment needed to deliver the strategy.

7.1.1 Organisational

- Organisational structure of Trust and ability to flex to meet demands
- Depth of integration
- Appetite from partners for integration and wider system working
- Changes in regulation, CQC, Monitor, future Legislation
- Competition, choice, contestability of patient services, Any Qualified Provider (AQP)
- Uncertainty over Commissioner support for services
- Effect of SystemOne national contract termination in 2016
- Business growth / income generation
- Effectiveness of Productive Nottinghamshire system to deliver

7.1.2 Operational

- Staff capacity – both HIS and operational divisions to project manage
- Ability to undertake the cultural changes needed with much other change occurring across the NHS at the same time
- Under investment Planning Guidance
- Trust risk appetite
- Information Governance as a barrier rather than an enabler across care settings
- Changes in clinical / service requirements
- Response to consumerism – Bring Your Own Device etc
- Adhering to Government strategies / policies whilst innovating service

7.1.3 Financial

- Economic downturn, pressures to achieve Cost Improvement Plans
- Reducing capital investment programme
- Reducing availability of funding (government or private through FT status)
- Caps or ceilings places on Trusts for CRL (Capital Resource Limits)

- Unknown costs of SystemOne (currently funded by DH)
- Introduction of new staff employment terms and conditions
- Introduction of new financial model for IT services charging/costing
- Continued inflationary pressures IT equipment, systems and the support costs

8. Evaluation and Review

The Health Informatics Strategy forms an integral component for the Trust to deliver its Integrated Business Plan. The Strategy will be converted into an annual delivery plan which will be updated in line with the Trust business planning cycle to deliver high quality services and reflect the expectations and requirements as we become a Foundation Trust.

The evaluation of the success of this strategy will be measured through the delivery of the Trust's seven strategic objectives and the five priority actions contained within their strategy. The delivery plan will be subject to an annual review process with the strategy as a whole being subject to a mid-term review to identify any significant strategic changes.

9. Conclusion

This Strategy sees Nottinghamshire Healthcare NHS Trust deliver over a 5 year period a set of technologies to support the business and facilitate change that will deliver:

An expanded Electronic Patient Record – to improve the quality of patient care through improved access to clinical information using modern technology

Electronic Staff Record – to improve the quality of employee information and increase productivity by removing wasteful paper processes and streamlining staff management

The Integration of Key Systems – joining the dots between various systems both within the Trust and to external stakeholders and the health and social care community

Mobility/Agile Working – with suitable mobile technology staff will have the right information to treat patients wherever they are. Implementation of EPR and ESR will allow greater ease of mobile working

Business Intelligence and Information Management Systems – to make better use of the information flowing around the organisation, enabling improved planning and decision making.

Aligned with a robust governance structure, appropriate financial modelling in the LTFM and vigorous realisation of both cash releasing and quality benefits this becomes affordable.

This is all done in partnership with the Divisions and our external stakeholders as it is only with a joint vision and joint ownership that the Health Informatics Service and this Strategy can enable the Trust to make the changes to meet the demands of the modern NHS.

10. Glossary

AQP	Any Qualified Provider
BDMU	Business Development and Marketing Unit
BHP	Bassetlaw Health Partnerships
BYOD	Bring Your Own Device
CCG	Clinical Commissioning Group
CESA	Central Electronic Storage Area – a Trust developed EDMS
CHLARC	Collaboration for Leadership in Applied Health Research and Care
CSU	Commissioning Support Unit
CfH	Connecting for Health
CHP	County Health Partnerships
COIN	Community of Interest Network (a data network linking our major sites)
CQC	Care Quality Commission
CQUIN	Commissioning for Quality and Innovation
CRL	Capital Resource Unit
DH	Department of Health
DNA	Did Not Attend's
EDMS	Electronic Document Management System
e-IPC	electronic Integrated Care Pathway
EPR	Electronic Patient Record
ESR	Electronic Staff Record
FOI	Freedom of Information
FT	Foundation Trust
HIS	Health Informatics Service
HP	Health Partnerships
HR	Human Resources
IAPT	Improving Access to Psychological Therapies
IBP	Integrated Business Planning
IDG	Informatics Delivery Group
IE	Integration Engine – for moving structured data automatically from system to system when triggered by a defined set of criteria
ISG	Informatics Strategy Group
IG	Information Governance
IM&T	Information Management and Technology
IP	Internet Protocol
IT	Information Technology
ITIL	Information Technology Infrastructure Library – a set of defined best practice processes and procedures for delivering IT services
KPI	Key Performance Indicator
LTFM	Long Term Financial Model
MDT's	Multi-Disciplinary Teams
MHMDS	Mental Health Minimum Data Sets
NHS	National Health Service
NIMM	NHS Infrastructure Maturity Model
NPfIT	National Programme for IT
MDT	Multi-Disciplinary Team
PbR	Payment by Results

PC	Personal Computer
PMO	Programme Management Office
QIPP	Quality, Innovation, Productivity and Prevention
QoS	Quality of Service
SAN	Storage Area Network – A highly available and reliable set of disks where the data created and used by an organization is stored
SHA	Strategic Health Authority
SIRO	Senior Information Risk Officer
SLA	Service Level Agreement – an agreement between two parties as to what is required of the supplier by the customer and how it will be delivered by the supplier
SMS	Short Message Service - text messaging
TCS	Transforming Community Services
UC	Unified Communications – convergence of traditional analogue telephony and IT Systems such as VOIP, video, instant messaging, email and calendars
VOIP	Voice Over Internet Protocol - a means of moving voice conversations digitally across computer networks