Warrington and Halton Hospitals NHS
NHS Foundation Trust

Information Technology

From PCs and Paper to Electronic Records

IT Strategy 2016-2020

Amendment History

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1. Introduction

Continual change is required from the acute sector to tackle continuing and increasing challenges. NHS foundation trusts (FTs) are providing the widest ever range of services to patients in order to protect their health and wellbeing.

However Monitor, the health regulator, has warned trusts of the continuing need to improve how they operate - including making radical changes to how care is delivered - if they are to actively manage the intense pressure they are under from an increased demand for care and a worst in a generation financial position.

Monitor's analysis of Trusts' performance between April 2015 and June 2015 shows that England's 151 FTs (the majority of NHS providers) missed a number of national waiting times targets, including in A&E, for routine operations and some cancer treatments. Trusts also struggled to deal with an increase in demand for diagnostic tests, partly due to staff shortages and ineffectively organised services.

For the second successive financial year, the sector has recorded a deficit (-£445m) in the first quarter. Trusts have cited higher than expected pay costs, including over-reliance on expensive agency staff - as being the primary cause of this deficit.

Dr David Bennett, Chief Executive at Monitor, has said:

'Trusts are working hard to provide patients with quality care. However, today's figures reiterate that the sector is under massive pressure and must change to counter it. The NHS simply can no longer afford operationally and financially to operate in the way it has been and must act now to deliver the substantial efficiency gains required to ensure patients get the services they need.'

Within Warrington we recognise that radical and lasting change is required. As part of this change we have made a commitment that, by 2018, there would be "fully interoperable electronic health records so that patient's records are paperless".

This move is supported by a Government commitment in Personalised Health and Care 2020 that 'all patient and care records will be digital, interoperable and real-time by 2020'.

Radically new care delivery models supported by new payment arrangements which are value and outcome based are driving the need for change to meet the pressures in performance both financially and organisationally. This requires information to flow more effectively across health and care to support the delivery of direct patient care. In recent years the patient demographic is evolving rapidly. Providers of health and social care are facing a population with ever more complex needs. These needs often cross multiple boundaries of the existing care model. Experience has shown that the interfaces between the services required is an area of risk. Where information does not effectively flow between services there is at best the risk of duplication leading to waste. At worse patients may be 'lost' in the system which will likely lead to higher admission rates to secondary care, as well as poorer outcomes.

In addition, the Trust has a new duty to share information for care introduced by the Health and Social Care (Safety and Quality) Act 2015. As part of this, patient's record arrangements for integrated care working have to work effectively.

This strategy builds on the investment from 2014 to 2016 to achieve the ambition of being paper-free at the point of care to promote integration.

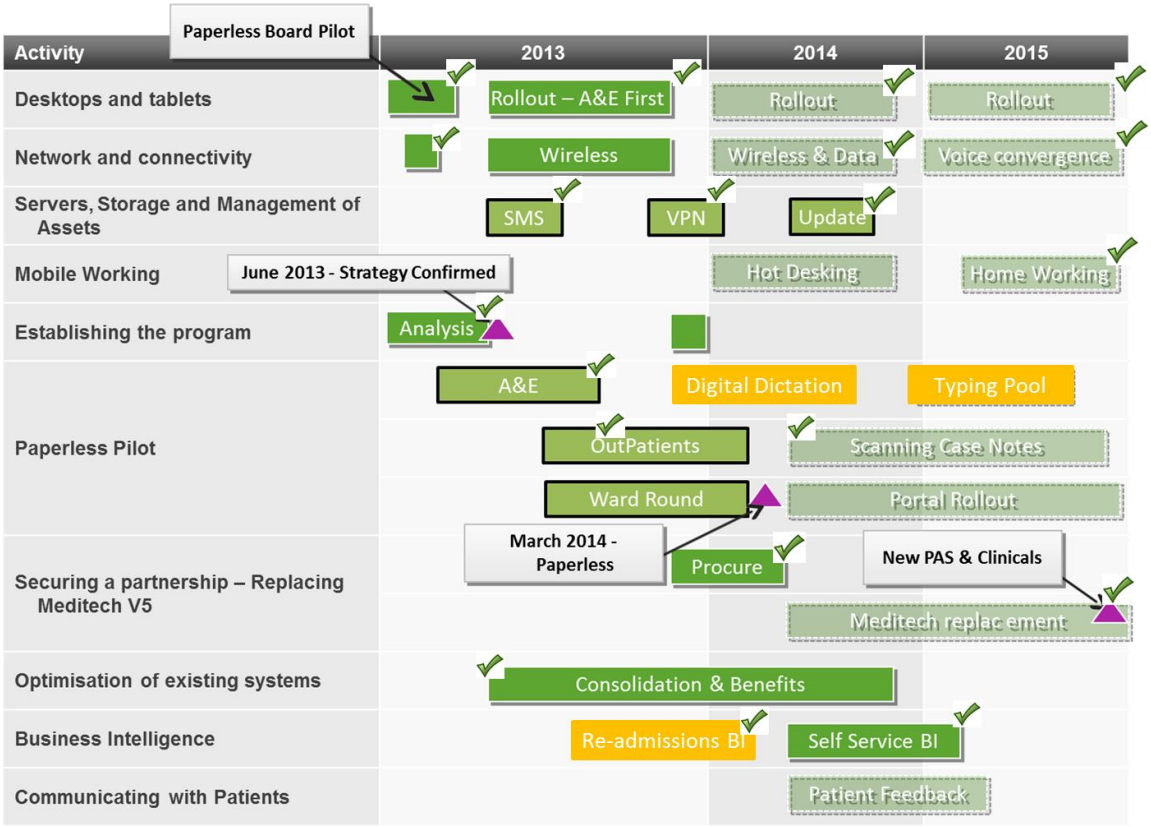
2. Current position

In May 2013, as part of the 2013-16 IMT Strategy, Warrington and Halton NHS Foundation Trust embarked on a 3 tier approach to the programme of work to set out the starting point for the tools, systems and culture we need to deliver. This created a clear portfolio of work outlining a return on investment which everyone understands, has contributed toward, and is committed to delivering.

The 2013-2016 strategy contributed to enhancing the Trust Transformation programme by establishing 3 work streams in the following way.

Connecting people with information as we move from PCs to Tablets	Move to paperless by implementing an EPR to replacing paper with electronic notes to support quality care	Consolidate down and optimise our current systems with new ways of working and investing benefits to reduce our costs

Successful delivery of this programme has created the right culture for change and the trust now has the essential systems and infrastructure to reduce our overall operating budget as part of the trust 5 year plan.



A new index will rate NHS providers' technological maturity and will eventually be part of the statutory regulatory regime.

Based on the European HiMSS EMR (Health Information Management Systems Society Electronic Medical Record) adoption model, a UK digital maturity index is set to be published later in 2016.

When assessing our investment over the last 3 years against the European HIMSS model the trust benchmarks at stage 3.

EMR Adoption Model[SM]

Stage	Cumulative Capabilities
Stage 7	Complete EMR, CCD transactions to share data; Data warehousing; Data continuity with ED, ambulatory, OP
Stage 6	Physician documentation (structured templates), full CDSS (variance & compliance), Closed loop medication admin.
Stage 5	Full R-PACS
Stage 4	CPOE, Clinical Decision Support (clinical protocols)
Stage 3	Nursing/clinical documentation (flow sheets), CDSS (error checking), PACS available outside Radiology
Stage 2	CDR, Controlled Medical Vocabulary, CDS, may have Document Imaging; HIE capable
Stage 1	Ancillaries - Lab, Rad, Pharmacy - All Installed
Stage 0	All Three Ancillaries Not Installed

This strategy will enable the trust to build on this position and realistically achieve a successful transition through stage 4, 5 and 6. Reaching further stages will be a result of focus, clear direction and a steadfast commitment from leadership. Stage 6 organisations have established clear improvement goals.

Completion of the ambition to become paperless and move between maturity levels is challenging, requires commitment and takes time and investment. Activities undertaken include procuring the necessary software and hardware technologies from the market, finding a way to pay for it, ensuring that the systems can hold and transfer data to our legally-defined standards and effecting the business change and training to embrace and using the technologies and move away from managing clinical workflows with paper and whiteboards.

Most projects have delivered and to maximise our collective chances of achieving the 2020 ambition, we need to continue on this journey now, building on the plans or in some cases, starting work for the first time on new initiatives.

In this strategy we set out:

- A set of initial work streams that will complete outstanding work into 16/17 and beyond.
- Additional products required for our patients and staff including expected timescales and essential funding requirements.
- The steps for developing the right skills and structure for our Informatics service with a crystal-clear picture of how we support the move from paper and fixed PC's toward paperless and mobility enabling progress through the HiMMS stages of maturity.
- How we can optimise our investment to secure a return on the investment.

3. The drivers for change

There are 3 main drivers for change

1 The increasing demand of our patients to sustainably meet their care needs.
2 The move by the commissioning bodies to care in the community models and the need to access patient records across the Local Health Economy.
3 The demand from the DoH and Monitor to complete the rollout of the electronic Patient Record to achieve paper-free records

Sustainably meeting our patient's needs.

Our response to this demand is our vision for every patient to be able to the following (and more) -

1 register directly from GP demographics accessed through the NHS Spine
2 order prescriptions electronically

3 access apps and digital tools to mobile our staff away from desks
4 communicate with their health care professionals online or via video link rather than via a time consuming face to face consultation and view and take control of their full health record through a single online portal.

Access to patient records across the Local Health Economy

The current model of delivery of healthcare has remained broadly static over recent years whilst the pattern of demand and need has changed around us. It is widely accepted that the growing health and social care needs of the increasing number of elderly frail patients with complex requirements can no longer be met by continuing to work in traditional silos. In addition changing medical technology is now allowing much of what once required hospital care to be delivered much closer to the patient.

For our patients with long term conditions such as diabetes or asthma; devices, skin sensors or clothes which monitor health will be able to upload directly into patients' records through this platform.

For the first time in the Trust, all health care professionals have direct access to the summary care record which will also be extended by March 2016 to include information on whether a patient has a learning disability or dementia.

This strategy allows us to continue planning immediately on an economic model looking at the investment required to maximise the benefits of our technology. There will be a need for more investment in this space.

Complete the rollout of the electronic Patient Record to achieve paper-free records

By April 2016 Health services must produce a delivery plan to demonstrate how they will increase their use of digital services and become paper-free at the point of care.

Furthermore, current Health Secretary Jeremy Hunt recently noted that data sharing and transparency are not the only ways technology will underpin NHS reform in what he calls 'Patient Power 2.0' where the NHS encourage patients to use developing technologies to work in partnership with health care professionals to manage their own health.

Properly funded and well implemented healthcare IT is an inevitable force for good. Underachievement of our pathways results in large 7 figure sums of inefficiency and potential fines.

As an example - cancer physicians state that between 10 per cent and 15 per cent of appointments are cancelled because they cannot access diagnostic results in real time.

The evidence for digital helping to keep patients safer is clear cut.

Further examples include over Christmas 2015 an additional 44 adhoc clinics and pull and prep 142 additional sets of records that we did not know about some of which were not available for clinic. Electronic systems remove the need for pulling and prepping clinics.

We are at this stage of having selected and implemented the Phase 1 technological solutions. This strategy allows us to continue planning immediately on an economic model looking at the investment required to maximise the benefits of our technology. There will be a need for more investment in this space.

We have learnt that a lot of investment – capital, time, staff hours – will be needed to bring in the changes, and that a lot of disinvestment – of 'traditional' ways of doing things – will be required to generate the promised savings. This change will undoubtedly produce challenges, both from service users and service providers. Clarity of visions and leadership as well as effective communication will be required.

3. Principles for change

Clinical Engagement

It should be no surprise to see this at the top of the list. Change that is clinically led and clearly seen as for the benefit of patients is far more likely to be successful than change that is driven externally. Suffice it to say that clinicians are the end users of digital health platforms and adoption starts and end in their hands. Our most successful projects have involve working with clinicians on major IT initiatives and being engaged from day one makes a mission defining difference. Their feedback is invaluable and their ability to champion a solution across their peer network cannot be overlooked.

Patient Engagement

Enhancing patients' abilities to be proactive in their care will redefine how we deliver our services and enhance the clinician patient relationship in novel and meaningful ways. This is again critical for sustainability and will enhance our benefit return.

Product Localisation

Configuring systems to match our needs is of the utmost importance to invest time learning about end users at a system by system level preferably through frontline observations and stakeholders engagements. This way a solution can be localised and better benefit its users. We will need more resources to support application development.

Tangible Benefits

In too many cases claims are made about benefits which simply are not tangible. We will want to see intangible benefits related to user experience and service quality which leads to tangible cash releasing benefits. Such an approach demonstrates the holistic thought process of a solution provider.

Support

Poor support or data quality costs the trust money and reputation. Investing in system support coupled with continuous learning for our staff is critical to success. Moving from paper to electronic patient record is likely to requir**e the need for 24/7 ePR support**.

In addition, a network of 'Expert Users' needs to established to ensure that the clincians have access to support in their local areas. This requires a new role to be established and included in the appropriate job descriptions.

4. The Future State

We are going to continue to take the Trusts I.T. and Information service from being good to being great. That means great in the eyes of our current and potential clinical users.

Most organisations invest in 5 areas – Service Desk, Infrastructure (Networks and PC devices), Applications, Business Intelligence and Innovation & Change.

We will address these 5 areas and will contribute to the Trust Transformation programme by continuing to invest in 3 work streams linked to our QPS framework set out in the 2013 – 2015 strategy:

1.1

Connecting people with information as we move from PCs to Tablets	Move to paperless by implementing an EPR to replacing paper with electronic notes to support quality care	Consolidate down and optimise our current systems with new ways of working and investing benefits to reduce our costs

4.1 Connecting people

4.1.1 User devices

The trust needs mobile technology infrastructure shared across sites and with local providers to lower costs and increase efficiency for our staff.

Our strategy for a mixed economy for hardware includes fixed desktops, whilst also incorporating Workstations On Wheels (WOW's) for ward areas, handheld PCs/tablets for mobile working and smartphones.

Whilst, for some tasks, the fixed PC remains of value, we will continue work towards freeing staff from their desks, with the eventual goal to be a mobile device for each member of staff, appropriate to the range of tasks to be performed.

The positive experiences of laptops and mobile devices continue to improve. The benefits of these devices include; mobility, flexibility and improving data capture so we can recover the costs of our activity. In relation to tablets, these are not being used extensively in clinical areas, with concerns expressed over security, maturity and battery life. Contrasting experiences of WOW's were reported with the devices used mainly for their mobility and to enable the use of computers at the bedside.

As the mobile applications start to proliferate out we will see the shift from WOW's and PCs to mobile devices. The appropriate device required by an individual staff member will likely vary according to their role.

Pledge

We will continue to centrally fund and purchase PC and Tablet infrastructure to ensure standardisation and value for money.

We will build on the success of the maternity and midwifery tablet rollout by equipping all our consultants with their own tablet so providing access to the medical record and patient information both on and off site. This will enable new flexible ways of working such as virtual ward rounds which will speed up discharge times and allowing consultants with information to support their patients remotely at all times.

4.1.2 Network, Video and VoIP.

Security is paramount: through our logs and in our news we see a steady increase of the recorded incidents of attempts at unauthorised access. At the same time we need to switch gears as software starts being provided as a service outside our firewalls. In addition contractors, patients and families needing connectivity is becoming normal and expected.

We have to meet these two challenges without losing security. Identity is at the core of security. We need to know who is connecting and how we can improve their experience without losing security. Investing in Open Radius Servers will create an environment for NHS staff, contractors, patients and families to roam and connect through NHS WiFi.

Pledge

We will continue to build from strong foundations, putting security first but extending the infrastructure beyond the walls of just our staff and our buildings by investing in Open Radius Servers, firewalls and increasing the speed and ease of connectivity.

4.1.3 Patient WiFi

Current position

In 2014 the trust implemented a new WiFi, providing mobility to its staff for the first time. We need to extend the current networks that exist as requests for Wi-Fi access are increasing for non-trust devices which the above don't really account for on mass scale rollout.

The main requests fall into the following groups

1: Trust Staff – Personal Device – Internet Access Only (plus trust email)

This would likely accommodate most of the requests we get as a lot of staff just want to use their device for internet and email. No involvement from the Network team would be needed for people to connect.

This could have an impact on our 10Mbps separate internet connection from BT which is also used for remote access

2: Other NHS Staff - NHS Device – Internet/N3 and Trust Resources

This is the most difficult to accommodate. We need to provide access to the internet via N3 whilst also filtering for security and misuse. Authentication methods can be difficult as no trust desktop account.

3: Guest Access – Any Device – Internet Only

We will explore third party provision but using our infrastructure. We can provide patient access similar to Hotels, guests would be prompted to register on a portal page, which is a legal requirement. Access would be via separate internet connection with some basic filtering for security. Bandwidth limitations would also be implemented. Further research needed with third parties to gather more information.

Pledge

We will fund patient access to our WiFi and increase internet connection speed from 10Mpbs

4.1.4 Server infrastructure

Medical informatics is the largest growth area in the industry. Led by the paperless agenda, genome analysis and the need for Business Intelligence at the patient level, performance is improving by harnessing the processing of the data through open stack software like VMWare to make medical information available to support patient decision making. Shortage of storage and server hardware will hamper this. Continual investment is essential to ensure we maintain high performance, high availability of our infrastructure.

The number of systems we have to support has grown from XXX in 2010 to XXX in 2015.

At the same time we will explore options to move services off site and out into the cloud. Services such as NHS Mail 2 offer the opportunity to move the risk around arability and storage away from the trust.

Pledge

We will move away where possible from trust hosted services, with the start of this being the hosting of Lorenzo by CSC and then quickly following will be the migration to NHS Mail 2.

Continual annual investment in server and storage will have to continue to meet the growing demand on local hosting to prevent compromising our current systems.

Outsourcing these services may be acceptable when our local circumstances are stable. However if the environment is constantly subject to change then we risk become static, a slave to external agencies and unable to respond rapidly. We thus become stagnant; we therefore have no plans to outsource at the moment.

4.2 Improving Quality

In many ways the path for our journey through the maturity level is set for us.

Achievement of Stage 4 on the maturity model requires us to deliver electronic prescribing. Lorenzo IPPMA (Inpatient Prescribing and Patient Medication Administration is already on our roadmap for 2016.

The Trust is already 'film free' (via PACS) so Stage 5 is addressed.

Implementation of a clinically focussed document management and retrieval system for legacy paper case notes and for paper based information that is not easily captured digitally leads the Trust to Stage 6 and good data warehousing and Business Intelligence for stage 7.

Achievement of level 7 is within reach over the next 2 years, placing us at the forefront of maturity across the UK and throughout wider Europe.

This journey, started by the implementation of Lorenzo, requires the Trust to make the most of our commercial commitment moving forward to to complete Phase 2 of the ePR rollout.

5.2.1 Electronic Prescribing

Current systems for prescribing and administration of medicines in UK hospitals are based on a model established over 40 years ago. Since then medications used have grown in number and complexity, with a resulting potential for greater risk to patients.

Electronic prescribing (e-Prescribing) systems, where the supply, ordering, and patient administration of medicines is supported by electronic systems, offer the opportunity to address such problems, as well as to support a robust audit trail and enable potential innovations in the medicines use process. Most notably it enables a step change in patient safety around medicines prescribing and administration – one of the areas currently high on the Trust's Risk Register.

A growing number of hospitals in the UK have introduced e-Prescribing systems, and the earliest adopters have had e-Prescribing successfully in use for over a decade.

A major motivation to implementing Lorenzo is to access an integrated ePrescribing module as part of the electronic clinical record. Lorenzo's IPPMA module will be available as part of our commercial commitment to complete the phase 2 rollout of additional Lorenzo functionality. Current information is that Lorenzo IPPMA will be likely included as part of the HSCIC RPA (Revised Product Agreement) and will therefore not involve the Trust in additional software licence costs.

To achieve successful rollout e-Prescribing (IPPMA) must be understood in the context of the whole medicines use process, not as just about prescribing or exclusively of relevance to prescribers. Nurses use e-Prescribing systems to administer medicines, and pharmacists to review orders and manage the supply of medicines. Beyond these central stakeholders – doctors, nurses and pharmacists – are many other healthcare

professionals who are potential users of e-Prescribing if and when they need to review a patient's medication.

Introducing e-Prescribing systems improve the safety of medicines use and reduce the current and unacceptable levels of adverse drug events (ADEs). There are, however, other motivations. At the organisation level these may include generating new management data on medicines use, establishing and maintaining formularies, and the opportunity to redesign aspects of the medicines use process and establish new practices.

Pledge

We will build a strong and committed multi-disciplinary team to lead an ePrescribing project. Doctors, nurses and pharmacists must work together with other healthcare professionals and managers to prepare the ePrescribing implementation. The project will require the active support of senior managers and senior clinical leaders, who must be briefed to ensure that they understand the challenges of ePrescribing, the changes it will bring and the benefits.

5.2.2 Document management and structured forms

A strategic end–to end digital case note solution, e-enabling currently mainly paper-centric processes and facilitating service re-design will enable the Trust to digitise, securely manage and store existing physical case notes from both offsite and onsite storage (Bulk and On-demand scanning).

The solution will enable the digitisation of newly received or generated paper (Day forward) in line with statutory regulatory compliance whilst enabling any user to quickly locate the case note and contained records.

A separate investment case will review the benefits of a digital case note solution across the Trust including the implementation and optimisation of technology, process design and change management services, support for scanning operations including external bureau services (offsite scanning) and business transformation consultancy to assist the Trust realise the identified benefits.

Pledge

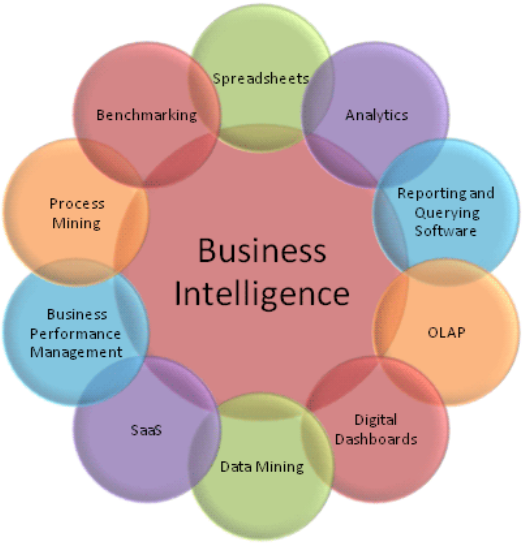
We will build on the EDRMS proof of concept completed in 2014 to the benefit to the trust and work with senior clinicians throughout 2016/17 to approve and adopt the change.

5.2.3 Data warehouse and Business Intelligence.

Business intelligence (BI) is used to suport better decision making process and making more informed strategies.

BI is a challenging issue for all industries. The healthcare sector is no different. In fact, there is an added burden of analysing patient's sensitive data which is governed by strict privacy rules apart from the general financial information.

We will therefore continue to invest in our Information Governance structures and monitory training programme whilst using information in the following ways:



Accurate data guarantees benefits in the form of:

- Reduction in administrative costs as repeat and manual processes to calculate wait times and pathway targets can be removed
- Boost in reimbursement rates as we are paid for the work we do
- Betterment of efficiency process as we benchmark ourselves against the best
- Improving patient's satisfaction as clinical decisions are taken sooner

There are basically three types of data which is of interest to healthcare - financial, clinical and operational. Within this data, a number of other parts of data comes into play. It is here that the task of BI self-service tools comes into play to consolidate this information into one version of the truth. They help in proper analysis of health data by clinical and operational management which in turn helps in making strategic decisions.

Attainment of self service BI will put the trust maturity at level 7.

Pledge

Whilst aiming for level 7 maturity we will invest in self-service BI tools along with additional 2 Information staff who can also create applications to provide analytics and intellect to the new clinical units.

5.2.4 Data Warehouse

Data warehousing is a methodological approach for organising and managing our data to provide a single trustworthy, consistent, integrated data foundation from our many applications and systems.

Importance

Effective and resilient data warehousing is must for any organisation. It will be impossible for Clinical Business Units of any size to make intelligent decisions without good information and data. It enables the competitive advantage. Data warehousing is essentially tells about our patients and provides the relationships and it is foundation for Business Intelligence (BI).

Data Warehouse Design

Building a data warehouse requires addressing the following technical and non-technical issues.

- Determine the trust and business unit goals and objectives
- Identification of various requirements
- Identify the tool for data warehousing and presentation of the data
- Develop the methods for end user accessing the information, including both reporting and analysis.

Primary Goal

The primary goal of any data warehouse is to integrate data from disparate sources into a centralized store, where that data can be used across the enterprise for decision support.

Pledge

We currently have two data warehouse staff. The size of this team needs to increase to maintain the service and it is proposed to recruit another two members to deal with workload additional Clinical Business Units will demand. These skilled staff can also be used to as a development team to develop our mobile apps to present the data.

5.2.5 Business Intelligence (BI)

Information involves interpreting facts, identifying the relation between them and find the more abstract meaning. Each characteristic, such as customer, store, date could serve as predicate in queries.

Data warehousing emphasizes organizing, standardizing and formatting facts in such a way that we can derive information from them. BI is then concerned about acting on that information.

5.2.6 Integration

The need to integrate the Trust's systems is essential, ensuring good data quality, preventing duplication of processes and supporting electronic, integrated care pathways as the patient moves through the different parts of the trust and the wider economy.

Currently the trust relies on expensive external support for this service so the plan is to recruit and retain an additional member of staff to support and develop system interfaces.

This is a service we can build upon and charge outward to the wider health economy.

5.3 Optimisation and Benefits

Changing to be successful doesn't stop: technology can speed up the rapid transformation , bring about a step change in quality and no more so when organisations utilises the automation power of systems to remove location, introduce standardisation, retain memory and remove unnecessary process steps. Over the last 3 years the trust has shifted quarter of a mile but we need a team to continue the radical change we can achieve who are also flexible to use the additional functionality we can adopt to complete our journey.

Pledge

We will put in place a structure and team who will continually optimise the use of our technology footprint to make the organisations more safe and sustainable.

5.3.1 AED

The improvement in AED are many and over the next 2 years we will be able to -

- Create a mobile app to capture disposal and patient Observation will ensure all patients observations are carried out within 15 minutes of triage and improve the clinical utilisation within the department.

- Capture additional pathways electronically in CDC forms to improve audit.

- Adopt electronic prescribing to remove prescribing on CAS card especially as we start using the medication list out of summary care record into Lorenzo

- Send electronic referral to teams out of ED to save time communicating as will reviewing past medical history on admission pulled from our data warehouse

- Increase the richness of our information, condition of the patient and the treatment they receive, so the recording of comorbidities and associated income reflects the treatment the patient receives.

- Process the estimated date of discharge around length of stay averages correctly on the Wards allowing the AED coordinators to place patients without the need for length bed referral process, reducing the reliance on bed managers.

5.3.2 Inpatient

- Improve clinical noting for the wards, common text configured to save clinical time typing.

- VTE performed by non medical prescriber removing clinicians from pre-op Water low forms

- Introduce risk stratification against patterns and patients.

- Always events built into the ward e-Whiteboard to prompt staff when the patient has not had appropriate assessments and treatment given - e.g. water, pain relief, etc. and understand what they are.

- AKIs and infection control lists in ICE Alerts for fast tracking patients.

All these improvement will save considerable time as reducing adverse events which will in turn likely lead to reduced length of stay, a lower incidence of adverse events, a higher level of patient satisfaction and a reduced level of complaints and litigation.

ICE referrals changes to turn off auto accept allowing electronic triage rather than paper, including ICE to remove ICE and capture better

5.3.4 Outpatients

- Fully automated digitised process.

- Service orders electronic - remove paper, tracking safely etc

5.3.5 Maternity

- Code against free text to intently, assess and evaluate risk and cost benefits of care to reduce claims and improve practice

- Global trigger tool highlighting near misses and areas of good practice

6 Benefits of change

Whilst each project requires formal business case approval, as soon as we automate pathways and process flow the patients of Warrington will see immediate benefits.

Achieving Stage 7 will:

- Highlight pre-existing condition for children, frail and the elderly and build these into all new plans providing an opportunity for secure the correct income for the care we provide;
- Provide immediate access to pre-existing medicine formulary through an electronic selection so we maintain control of our drug expense;
- Prohibit discharges without a discharge letter for all patients, avoiding expense contractual fines;
- Lower the number of tests required by beginning to make information about previous tests available reducing the demand and increasing costs placed on our diagnostic services;
- Offer Patient choice to appointments so we reduce the DNA rates;
- Eliminate multiple patient care plans existing which extends patients stay;
- Require all patients to have structured pre-op and admission notes to cover an patients dependent needs so we can plan the discharge earlier;
- Ensure all complaints and incident reviews have access to an effective medical notes without the need for paper;
- Reduce the amount of estate rebuild costs as part of the estate strategy.

By enacting these pledges, and others over time, we will be able to lower costs for everyone and give back a suggested 1 to 2.4 ratio against any investment and provide clinicians more control over their patients' health care.

We are already committed to realising £22m of cash releasing savings from phase 1 and phase 2 of Lorenzo and the EDRMS business case identifies over £8m of cash releasing savings over the next 10 years.

Pledge

We currently have two data business change members with the skills to develop and deliver on this massive investment. We will continue with investment in our people and the skills they require.

7 Staffing Structure

The Trust is made up of a complex group of teams and the department struggles to meet all needs of all teams and departments. Introducing 9 new Clinical Business Units will bring more demand from the technology and information systems and services. Investment in our people is therefore critical to ensure we maintain business as usual whilst driving forward improvements within the trust. Investment is required in 3 key areas -

1. The scale of IMT led cultural change required - bringing about an information driven decision making organisation across the Clinical Business Units and therefore the trust - is considerable. Currently the data quality contained within our current systems has to improve and our investment within our Information and Data Warehouse team has to increase as demand rises.

2. Just one part-time programmer can transform our slow, manual paper processes and create a fully automated eSVL process. To optimise our investment and building on this success necessitates a dedicated motivated set of individuals to design, create, drive and reinforce new mobile and e-enabled processes through development of applications.

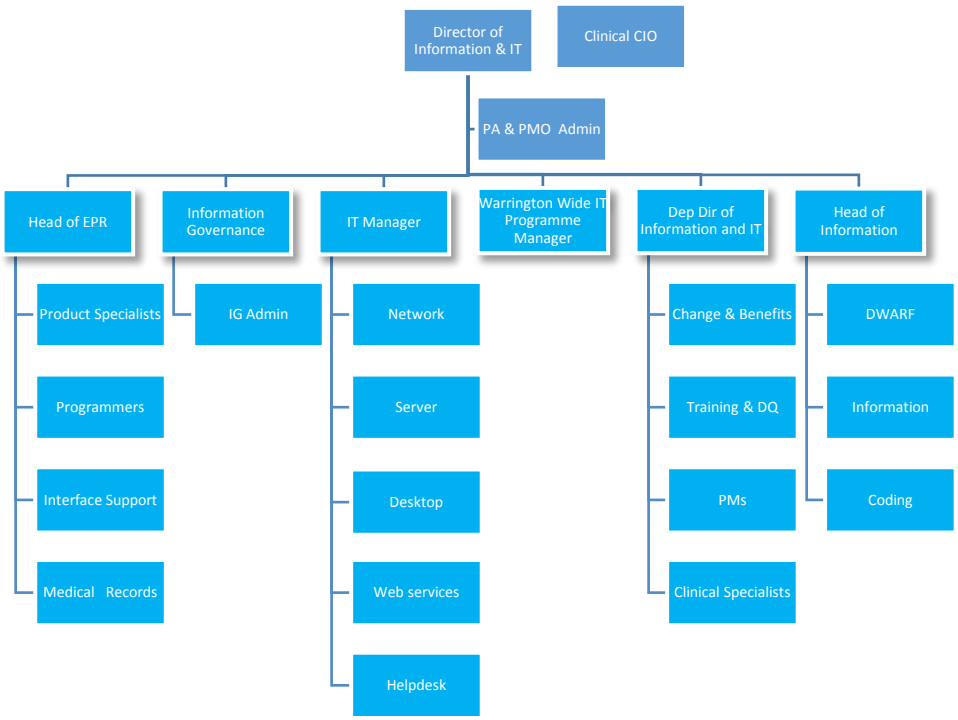
3. As we now operate with new modern fit for purpose systems, these continue to be improved and new functionality made available. An ePR Manager is required to lead the product specialist team as we continue to utilise the extensive system management capabilities to meet the need for testing and continual optimisation of new functionality to keep the trust safe the trust and benefiting from new ways of working.

4. 24/7 ePR support will be required as the patient record moves from paper to electronic. If a clinician or nurse is struggling to access vital patient information such as drug allergies for care plans they need access to immediate help and advice. An change to the traditional support arrangement is now essential, with a multi-layer approach of super users offering local first line support to end users, backed up by second line helpdesk support and third line supplier support. The options for delivery either through shift work or delivered by a 3rd party organisation will be explored throughout 2016.

5. Integration is key to delivering the electronic patient record and the wider electronic interaction with the health economy. It is expected for the trust to send GP letters electronically, along with other clinical documentation and to adopt the use of the NHS Number from the NHS Spine. The Trust currently do not have the skills to provide this critical role in house and expand the connectivity of systems across the 250 separate databases we currently operate. It is proposed that we recruit a Integration Manager to oversee the topology and management of this essential function.

Obviously these new roles place increasing burden on the financial pressures of the Trust. It is therefore proposed these costs are met through the current IMT allocation or through allocation of funds to appropriate project business cases.

It is proposed we recruit an additional data warehouse manager, two programmers to build apps to move the data nearer the end user and patient so exploiting our mobility investment and a Head of EPR to manage the continual system upgrades alongside managing the safe transition from paper to paperless with EDRMS. In addition we need to appoint an Integration Manager and provide the resources to support a 24/7 ePR support service. The role of the Chief Clinical Information Officer (CCIO) and Deputy CCIO will continue to be funded through allocation to appropriate project funds.



8 Cost

	16/17	17/18	18/19	19/20
Infrastructure				
PC/Desktop Refresh	240	240	240	240
Network	320	320	320	320
Server	200	200	200	200
	760	**760**	**760**	**760**
Systems				
Lorenzo Phase 2	178	178	178	178
IPPMA	1052			
EDRMS	416	1155	1155	1155
Theatres	700			
Integration	86	86	86	86
	2,432	**1,419**	**1,419**	**1,419**
Staffing				
Head of ePR	56	56	56	56
Programmers	70	70	70	70
Data Warehouse	40	40	40	40
Integration Manager	60	60	60	60
24*7 support & SuperUsers	140	140	140	140
	366	**366**	**366**	**366**
TOTAL	**3,558**	**2,545**	**2,545**	**2,545**

Costs are in 000's and subject to VAT.

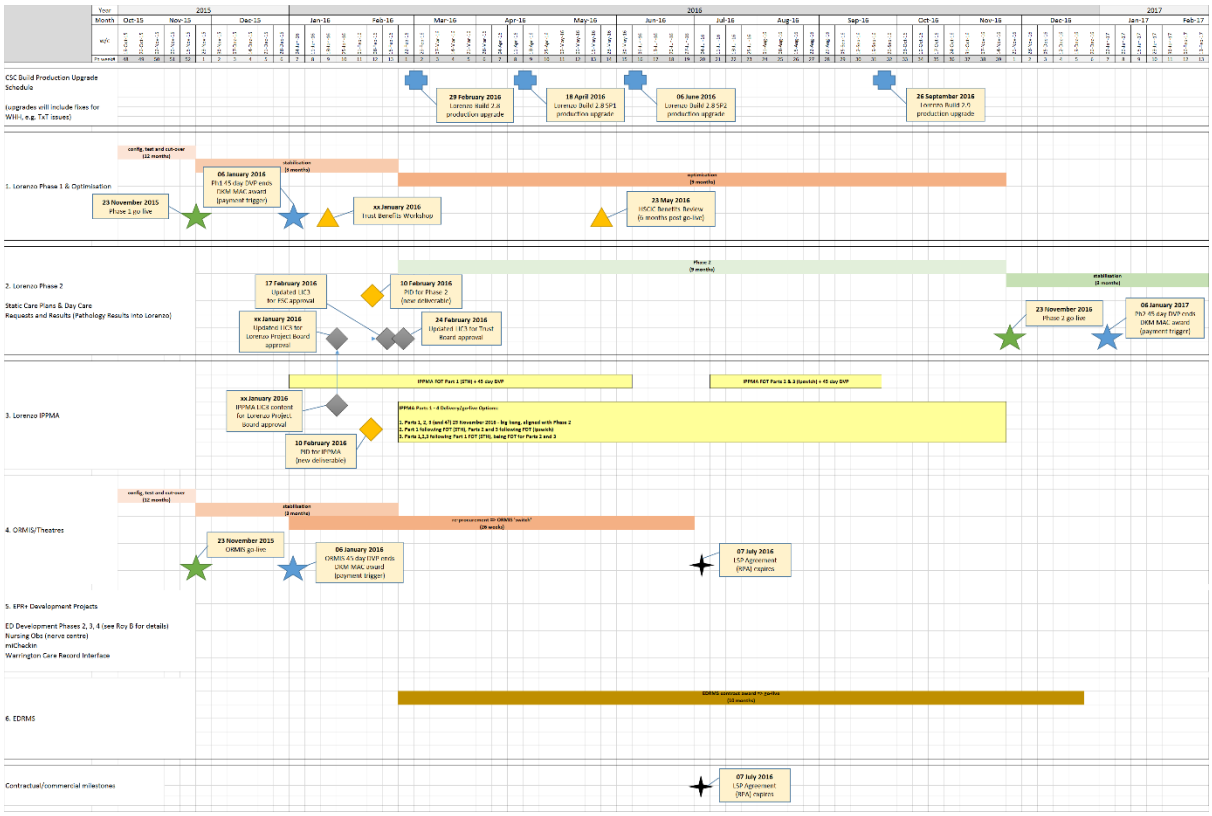
All of these costs can be met in the following ways -

The staffing costs are met through the saving against previous Meditech licence fees, resulting in a return of £544,000 to the trust.

The infrastructure and System costs are built into the 10 year capital programme.

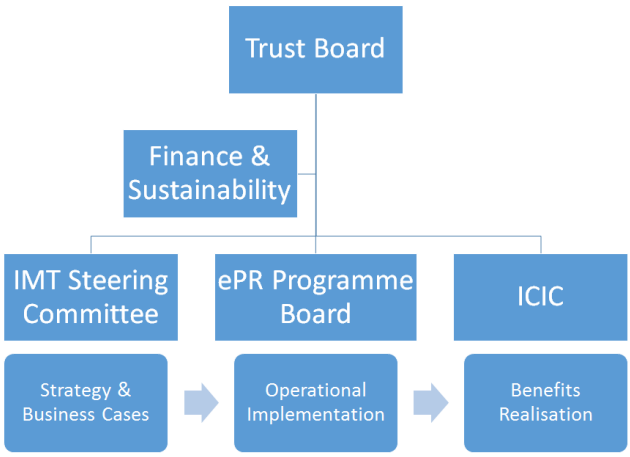
9 How will progress be monitored

9.1 Plan



9.2 Governance

Current governance arrangements will continue, with the IMT Steering Committee driving through strategic initiatives, the Lorenzo Programme Board (renamed Programme Board) monitoring implementation and the ICIC leading on the benefits.



10 Conclusion

Achievement of the digital strategy is essential for trust sustainability, compliance with CCG initiatives and achievement of legislative duties. This strategy sets out an affordable programme of work, building on the previous IMT strategies and outlines through a series of pledges the activities that have to be undertaken to transition the trust from a implementation phase into a benefits led business as usual model.