

# IM&T

*Information Management and Technology*

## *Strategic Plan*

*2010 to 2014*



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## **CONTENTS**

<b>Executive Summary.....</b>	<b>5</b>
<b>The key drivers behind this strategy .....</b>	<b>9</b>
<b>IM&amp;T Management.....</b>	<b>14</b>
Current Position .....	14
Where we are heading.....	16
The NHS Infrastructure Maturity Model.....	16
Our Aspiration as a Department.....	21
<b>Infrastructure Management .....</b>	<b>22</b>
Project 1 – COIN (Community of Interest Network).....	22
Project 2 – Server Virtualisation .....	24
Use of Mobile Technology .....	25
Introduction of Wireless Technologies .....	26
NHS Bolton Computing to be Greener.....	26
Desktop Software.....	27
SharePoint.....	27
IP Telephony .....	29
Active Directory .....	29
General Practice IT.....	30
Video Conferencing.....	30
Development of New Health Centres.....	31
Responding to Technical Evolution.....	31
<b>Information Governance .....</b>	<b>33</b>
Information Governance Toolkit.....	33
Information Security .....	35
Registration Authority.....	36
Data Quality .....	37
Data Protection and Confidentiality .....	38
Training Services .....	39
Freedom of Information .....	40
Document Control and Records Management.....	40
Pseudonymisation of Patient Data .....	40
Information Governance – Milestone Plan.....	42

**Providing Business Intelligence..... 43**

    Improving Business Intelligence ..... 43

    Clinical Dashboards..... 45

    Business Intelligence – Milestone Plan..... 47

**Delivering Systems to Enable Service Transformation ..... 48**

    Addressing the Requirements of Provider Services..... 48

    Lorenzo Regional Care ..... 53

    Summary Care Record ..... 55

    Electronic Prescription Service ..... 56

    PACS (Picture Archiving and Communications Systems) ..... 57

    General Practice Systems..... 58

    GP to GP Record Transfer ..... 59

    Electronic Transfer of Discharge Summaries and other Clinical Correspondence ..... 60

    Bed Management Systems ..... 61

    Adastra ..... 62

    Child Health System (HSW 2000)..... 62

    Map of Medicine ..... 63

    Enabling Service Transformation – Milestone Plan ..... 66

**Appendix 1 - Delivering This Challenging Plan ..... 67**

**Appendix 2 - IM&T Outputs Mapped to NHS Bolton Strategic Goals ..... 70**

**Appendix 3 – Outline costs for delivering this plan..... 73**

**Appendix 4 - Glossary of Terms ..... 75**

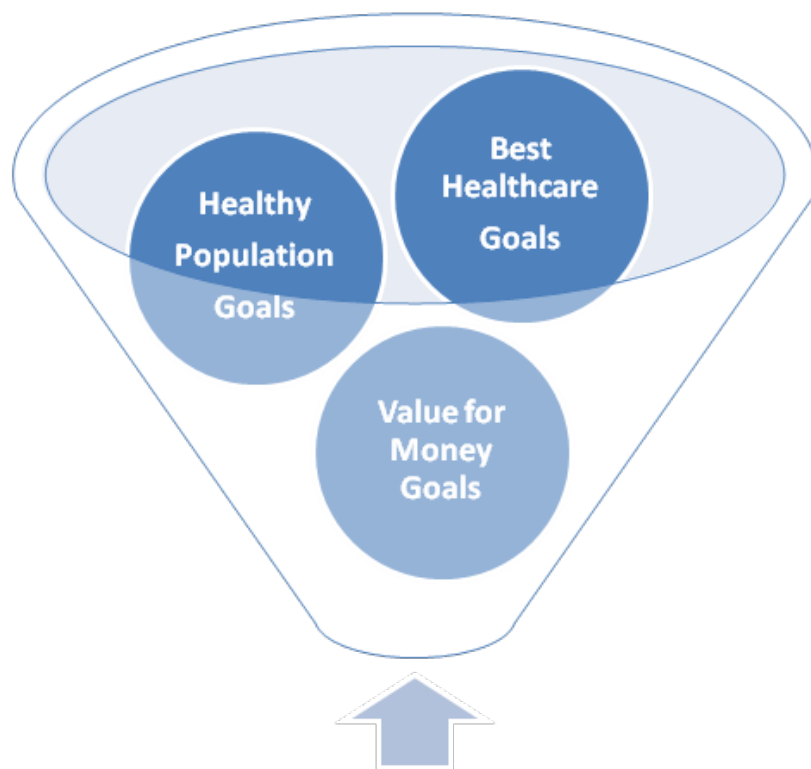
## ***Executive Summary***

The Big Bolton Health Plan 2009 to 2014 has a triple aim of:

- Having a Healthy Population
- Providing the Best Health Care
- Delivering Value for money

The plan describes 9 goals to be achieved through 36 detailed work streams.

The plan recognises that along with others, Information Management and Technology is a key underpinning enabler.



## **Information Management and Technology**

It is important that the delivery of the Strategic Plan for NHS Bolton is not compromised because of gaps in IM&T services. This new IM&T plan sets out a SMART programme of work which, when delivered, will bring about significant improvements in the way we work as an organisation and the way we deliver front line clinical services.

The diagram on the following page shows the key areas that this strategic plan will focus on, leading up to 2014.



## IM&T Management

Central to the delivery of this strategic plan is the need to improve the way IM&T systems and services are delivered. The IM&T programme has grown significantly and continues to develop at a time when financial growth will become constrained. This means that we need to find smarter ways of working and doing more within the same resource envelope. With this in mind during the early part of 2010 a full review of all of our services will be undertaken against the NIMM (NHS Infrastructure Maturity Model) with a view to becoming more effective and efficient.

## Infrastructure Management

In the same way that effective IM&T Management is at the heart of delivering a fit for purpose IM&T function, infrastructure management is at the heart of delivering reliable and usable IT systems. This plan sets out a programme of work that will enable the delivery of key strategic and clinical information systems. In addition to architecting a truly resilient network and server farm environment, this plan will introduce technologies that will improve the way we communicate, collaborate and share information both clinical and non clinical.

## Information Governance

Information Governance is the framework that brings together standards and best practice that apply to the handling of information. Each year NHS Bolton is required to comply with the National Information Governance standards. It does this by undertaking a self assessment against the standards and putting in place improvement plans to address any gaps. Over the last year there has been much emphasis on improving Information Security.

This strategic plan describes how we will continue to develop information security standards and how it is very much a responsibility of all staff within the organisation. This plan also describes other key aspects of Information Governance that will underpin the safe delivery of integrated care records.

**Providing Business Intelligence**

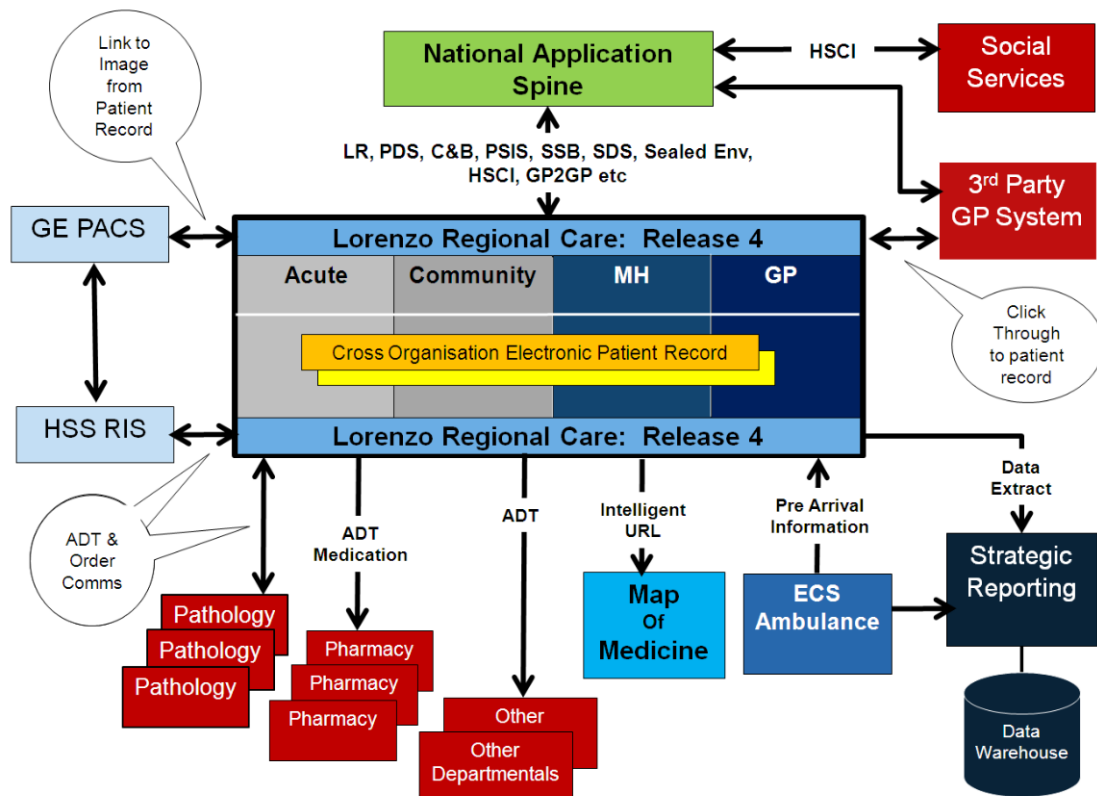
Our aim is to establish systems and processes to make sure that information is collected as a bi-product of operational systems. Rather than increasing the burden of data collection, the intention is to prevent duplication of effort whilst adding value by providing increased reporting and business intelligence capability. This is consistent with central Government requirements to reduce the burden of data collection by 30%.

This plan describes how we aim to deliver data warehousing and visualisation technologies and provide timely business intelligence systems through portal technologies such as Microsoft SharePoint.

**Delivering Systems To Enable Service Transformation**

This programme of work will deliver for NHS Bolton a range of integrated clinical information systems, at the heart of which is Lorenzo Regional Care.

The diagram below gives a high level overview of how the service will be structured.



The delivery of this model will take approximately 4 years to complete. NHS Bolton will be taking the first release of Lorenzo Regional Care in September 2010. As functionality is released to the NHS we will begin to build a fully integrated NHS Care Records Service

available at the point of care whether that is in the patients home; in general practice; within a hospital environment or other care settings such as intermediate care.

We have not underestimated the work involved in delivering this programme and recognise that we have significant challenges ahead in bring about this transformational change.

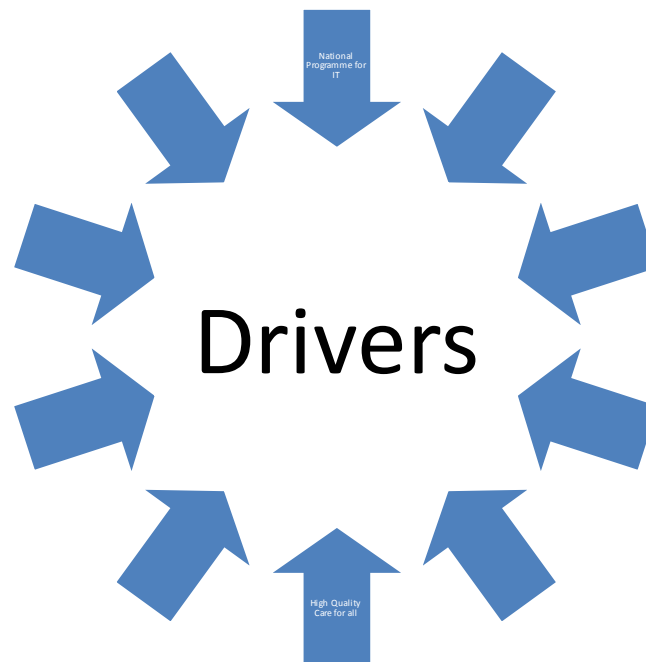
**Our vision for the end of 2014 is to have:**

- A completely resilient and cost effective Network and Server Architecture with the latest technologies in place to 'plan out' the risk of IM&T disasters occurring and to respond rapidly to the demands of NHS Bolton.
- Improved significantly our Carbon Foot print by becoming smarter about the technologies that we deploy.
- Established secure wireless network points in all of our clinical locations providing greater flexibility and enabling improvements in the way staff work and deliver care.
- Deployed mobile devices to those clinical teams that need them to support direct patient care and to improve the patient experience and outcomes.
- Made a leap from managing fragmented paper based systems to a state where Electronic Patient Records are truly integrated and available across organisational boundaries.
- Established Summary Care Records for all patients who would like one.
- Put in place technologies to support the redesign and documentation of at least 75% of Care Pathways with the aim of generating savings to be re-invested in improving the care of people in Bolton.
- Established systems to 'deliver' timely business intelligence to managers and clinicians through the introduction of new Data ware house and visualisation technologies.
- Made significant improvements in the way IM&T services are delivered and managed through a programme of systematic improvements driven by standards set out in the NHS Infrastructure Maturity Model.
- Ensured that we maintain compliance against the requirements of the National Information Governance standards.

## ***The key drivers behind this strategy***

In meeting our Vision for 2014, we will be supporting the delivery of the Strategic Plan for NHS Bolton.

However, there are a number of other drivers that we have taken account of when developing this plan. These drivers, although not exhaustive, are shown and described below:



### ***National Programme for IT***

Delivering 21<sup>st</sup> Century IT Support for the NHS identified IT as a key enabler to delivering the NHS Plan, out of which the National Programme for IT (NPfIT) was born.

One of the key aims of the National Programme for IT is to develop an electronic patient record for every patient in England which is securely accessible wherever and whenever required.

The National Programme for IT, has a number of deliverables which include:

- Integrated Care Records Service
- An Electronic prescription service
- Electronic Booking of appointments, known as Choose and Book
- Underpinning IT Infrastructure (N3 – New National Network)
- Medical Imaging Software (PACS – Picture Archiving and Communications System)

- Performance Management of Primary Care (QMAS – Quality Management and Analysis System)
- Central Email and Directory Service (NHSMail)

This plan sets out work that we have already commenced and plans we have in place to deliver some key clinical information systems.

### ***The NHS Plan***

The NHS Plan sets out a strategy of modernisation for the NHS and aims to deliver a health service that is fit for the 21<sup>st</sup> Century, with services designed around the needs of the patients.

The NHS Plan aims to provide prompt, convenient, high quality services from a range of providers that patients will be able to choose from. In order to achieve this, our IM&T systems must be capable of crossing organisational boundaries whilst at the same time remaining secure in order to protect the patients right to confidentiality.

### ***The NHS Operating Framework and the National Local Ownership Programme.***

The NHS Operating Framework for 2009/10 outlined the need for informatics planning with Board level ownership and support to deliver information enabled service transformation. The guidance was clear that informatics planning should not be a stand-alone activity but should be an integral part of service transformation planning.

During 2007, David Nicholson announced the NPfIT Local Ownership Programme (NLOP), which dissolved the 5 clusters and devolved responsibility for the delivery of the programme to the ten English NHS Strategic Health Authorities. Under the NPfIT Local Ownership Programme the commissioning Chief Executive is the Senior Responsible Officer for the National Programme for IT within the local health community.

It is intended that this plan will respond to changing requirements outlined within the operating framework and will be amended accordingly on an annual basis.

### ***World Class Commissioning***

World class commissioning will be the key vehicle for delivering a world leading NHS, equipped to tackle the challenges of the 21st century.

People are living longer, their lifestyles and health aspirations are changing, and the nature of public health and disease is evolving.

By developing a more strategic, long-term and community focused approach to commissioning services, where commissioners and health and care professionals work together to deliver improved local health outcomes, world class commissioning will enable the NHS to meet the changing needs of the population and deliver a service which is clinically-driven, patient-centred and responsive to local needs.

In his interim review, Lord Darzi drew out four overarching themes for the NHS over the next 10 years. He described the vision of a health and care system that is fair, personalised, effective and safe. World class commissioning will be central to achieving this vision.

It is clear that timely business intelligence will need to be at the heart of supporting commissioning decisions in Bolton as will be the requirement to have in place fully integrated records available at the point of care.

### ***A Patient-Led NHS***

Commissioning a Patient-Led NHS introduced change for PCTs with a clear distinction between the commissioning of services and their direct provision. This model is reflected in the configuration of the NHS Bolton with a greater separation between its commissioning and provider services.

Making use of information systems and technology becomes essential if we are to ensure that appropriate and effective models of care are commissioned and provided for the population in Bolton, requiring:

- Understanding of the health needs of the population served
- Modelling and forecasting the demand for and delivery of services
- Understanding the impact on reducing demand for secondary care and the relationship between primary and secondary care (e.g., referral patterns and activity volumes)
- Information to support Practice Based Commissioning
- Performance management through contracts with all providers, including the independent sector
- Performance management and monitoring of the delivery of targets and quality indicators
- Delivery of clinically effective services

### ***High Quality Care For All***

'High Quality Care for All' sets a new foundation for a health service that empowers staff and gives patients choice. It describes how healthcare will be personalised and fair, will include the most effective treatments within a safe system, and will help patients to stay healthy.

This report sets out a vision of an NHS 'that gives patients more information and choice, works in partnership and has quality of care at its heart'.

This vision is structured around four main themes:

- high-quality care for patients and the public – an NHS that works in partnership to prevent ill health, providing care that is personal, effective and safe
- quality at the heart of everything we do – high-quality care throughout the NHS
- freedom to focus on quality – putting frontline staff in control

- high-quality work in the NHS – supporting staff to deliver high-quality care.

### ***Transforming Community Services***

NHS Bolton is underway with achieving a state of readiness for the separation of the Commissioning and Provider functions. The IM&T department has already produced and agreed a Service Level Agreement which outlines the IM&T Services that will be provided together with the associated costs.

In developing this new strategy the Provider Committee have been consulted and have adopted this strategy as fit for purpose for achieving their business requirements

### ***Health Informatics Review***

Lord Darzi's NHS Next Stage Review highlights the challenge of 'health in an age of information and connectivity' The need for information is a recurring theme throughout the report. Patients and the public need information to make choices and clinicians, researchers, planners, managers and regulators need it to improve services.

The review outlines the informatics requirements of the NHS Next Stage Review, including the information technology, processes, analytical tools and techniques, governance and skills needed.

The report considers a number of important issues which have been considered in designing this plan and its programme of work, examples would include:

- Increasing confidence in systems deployed, confidence for clinicians and the public that they are secure.
- Improving the use of information and ensuring that data quality is good
- The development of useful Clinical Dashboards for clinicians and information portals for staff.

The above has been accounted for in the development of this strategic plan.

### ***Our Health, Our Care, Our Say***

The Department of Health white paper 'Our health, our care, our say' recognises how the alignment of health and social care and better integration and co-ordinated joint working by PCTs and local authorities could improve services delivered to patients, their carers and the public, that is tailored to individual need.

It introduces the concept of an integrated health and social care record by 2010. Although the details of this shared record have not yet been established, NHS Bolton will work with its partners to gain a fuller understanding of the benefits of this integration and to identify ways in which this provision can be improved and IM&T plans strategically aligned to support pathways of care across organisational boundaries.

***QIPP (Quality Innovation, Productivity and Prevention)***

*QIPP needs to become woven into the NHS's DNA, and efficiencies come from the avoidable use of NHS resources, effective partnerships and best practice.*

*(Mike Farah, Chief Executive, NHS North West)*

*In response to the QIPP agenda, NHS Northwest has set out a strategic informatics framework designed to offer significant benefits to support improving Quality, encouraging Innovation, increasing Productivity and enabling Prevention.*

*The framework sets out the top ten ways to contribute to QIPP using Information Technology.*

- *Map of Medicine*
- *Care Records including electronic prescribing*
- *Mobile working*
- *Working with partners*
- *Voice to text*
- *Collaboration tools*
- *Patient Services*
- *Telehealth/telecare*
- *Data to Intelligence*
- *Technology management*

*Consideration has been given to these areas in developing this strategic plan.*

## IM&T Management

The range of services provided by the IM&T department at NHS Bolton is large and varied. It is therefore extremely important that appropriate standards and controls are implemented that govern how these services are delivered.

### Current Position

Over the years the department has seen standards evolve in a wide range of areas including:

- Information Security (ISO27001)
- Project Management (PRINCE2)
- Programme Management (MSP)
- ITIL (Information Technology Infrastructure Library)
- NIMM (National Infrastructure Maturity Model)

The above are just a few of the standards and controls that are being adopted to ensure that we deliver a 'fit for purpose' service.

### Service Delivery and Service Management

During 2008 we were receiving a number of complaints from staff who felt that the overall quality of service being provided by both first and second line teams was not in line with local expectations.

We have listened carefully to the concerns raised and responded by introducing new systems, processes and procedures in line with ITIL best practice to ensure that we are much more responsive to the demands of users.

We now:

- Monitor call volumes and response times
- Answer 80% of all calls within 30 seconds
- Answer 95% of all calls made to the department.
- Record detailed notes of all fixes applied to each device on our asset management system in order to inform visiting engineers of previous problems and fixes applied.
- Monitor and respond to electronic feedback from customers in order to inform our programme of continuous improvement.



### ***Project and Programme Management***

This has been a rapidly expanding area for the IM&T department over recent years as the number of projects managed has grown.

Standards such as PRINCE2 and MSP (Managing Successful Programmes) are used across the department to take forward some of our larger and more strategic projects such as Lorenzo Regional Care and the Summary Care Record.

The department now has 12 staff members who have either achieved PRINCE2 Foundation or Full Practitioner status. These skills are necessary when working with our Local Service Provider CSC (Computer Science Corporation) in implementing NPfIT systems.

### ***Information Security***

The IM&T department has a dedicated Information Security Officer who has led us through the challenges given to us by the department of health to improve the security of personal or patient identifiable data.

There have been various measures introduced to significantly improve the security of data and systems, these have included:

- Encryption of Laptops, also extended to desktop PCs
- Implementation of an Encrypted email solution to protection necessary data transfers containing personal information.
- Limitations on devices that can connect to USB ports, encrypted memory sticks have also been introduced.
- Encryption of Blackberries

Work has also commenced on supporting information asset owners in developing business continuity plans as well as the provision of regular training sessions offering best practice guidance for all staff.

## Where we are heading

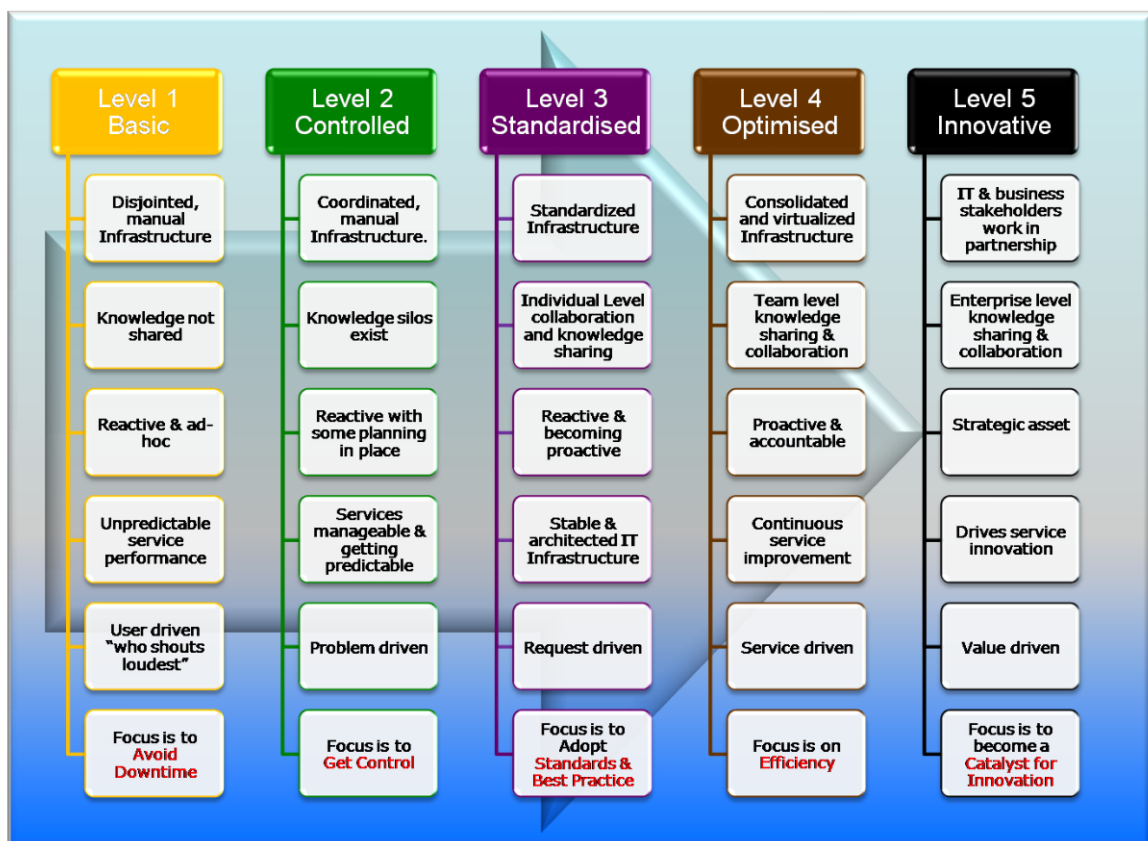
The IM&T department aims to develop a culture of learning and continuous improvement. This serves two purposes, firstly it benefits the organisation in that we are more able to respond to the changing requirements of the organisation and secondly it provides an environment in which staff can develop and nurture their own careers within IM&T.

In order to build this culture, we should be challenging ourselves, our methods, approaches and attitudes and striving to achieve excellence.

We intend to take advantage of the standards outlined with the ITIL (Information Technology Infrastructure Library) and the NIMM (NHS Infrastructure Maturity Model) to build a 21<sup>st</sup> Century IM&T department delivering 21<sup>st</sup> Century services.

The NIMM will become the catalyst for change within the department. The NIMM has five capability maturity levels as shown below:

## The NHS Infrastructure Maturity Model



Our target is to achieve level 5 status by the end of 2014 but in doing so we need to understand where we are falling short. By February 2010, a full review of our capabilities against the NIMM will have been undertaken.

The NIMM uses two Taxonomies, business and technology, which will be used in the self assessment.

## **Business**



### ***Governance***

We will undertake an assessment of how well the IT infrastructure is governed and how this fits into the overall governance structure for IT.

### ***Procurement***

We will undertake an assessment of how effective the procurement of infrastructure products & services is and how well we manage our suppliers.

### ***Financial Management***

We will consider how the business value of IT infrastructure is evaluated and how well TCO and ROI are understood. We will also review our approach to benefits realisation, business case development and gaining organisational ownership of IM&T projects.

### ***Business Alignment***

In this area we assess the alignment between the business needs and the IT infrastructure. In doing so we will consider how stakeholders from the business are represented in the needs analysis for developing new infrastructure services. We will then go on to consider the key performance indicators in place to measure how well the IT Infrastructure is aligned to the business goals.

### ***People & Skills***

This area will focus on improving our capacity and capability. We will assess whether the teams delivering the supporting infrastructure services have the right skills and are being

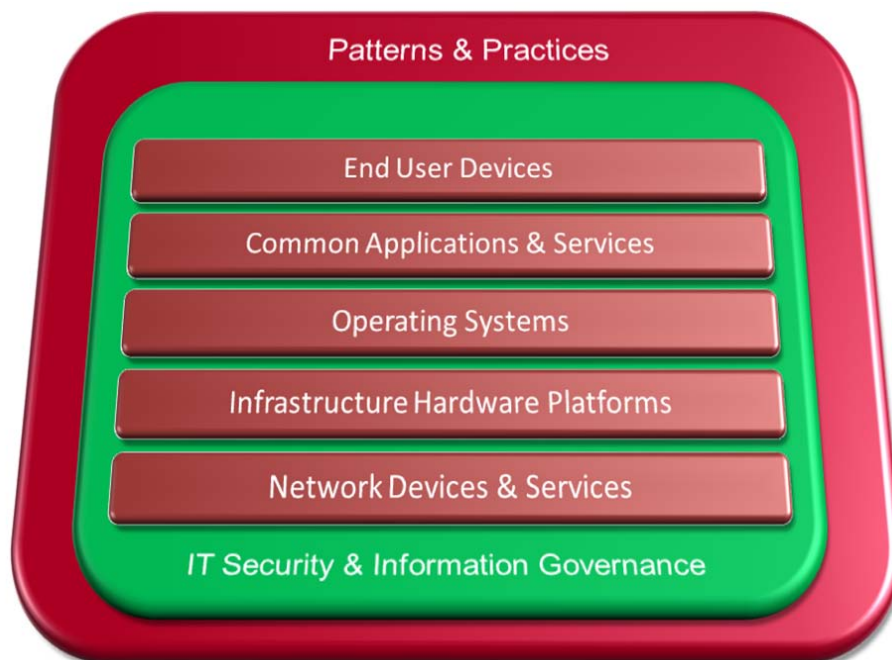
used in the most effective way. Where gaps are identified these will be addressed in order that we can improve and become more effective in delivering IM&T services.

### ***Principles, Standards, Procedures & Guidelines***

We will undertake an assessment of the administrative principles, standards, procedures and guidelines that are in place to support the delivery of infrastructure services. We will look at the automation of processes to reduce costs and improve quality and how we measure this improvement. Consideration will also be given to how we make use of best practice tools such as, TOGAF, MSP, Prince2 and Management of Risk.

### **Technology**

The second Taxonomy that we will assess ourselves against is Technology. There are seven categories in the technology taxonomy of the NIMM, these are detailed below:



### ***Patterns & Practices***

In this area we will review the use of best practices, such as the ITIL framework, to create and deliver infrastructure services. We will review our approach to:

- Availability Management
- Change Management
- Configuration Management
- Release Management
- Problem and Incident Management
- Service Desk Management

- Capacity Planning and Management
- IT Service Continuity Management
- Service Monitoring
- End User Provisioning
- Software Asset Management
- Patch Management
- Testing

### ***IT Security and Information Governance***

We will review and make improvements to technology, relating to authentication and access controls to both systems and information. The scope will include:

- LAN, WAN and Remote access security policies
- Directory of Services
- Single Sign on
- Identity management
- Data security
- End point security
- Antivirus and Malware Protection

### ***End User Devices***

A review will be undertaken of our approach to delivering end user devices e.g. PCs, Laptops, Thin Client Devices, PDAs etc. Clear guidance should be in place as to which devices should be deployed and how this device should be configured. In doing so we will need to consider a number of factors such as what the device will be used for, the usability of the device, the total cost of ownership and the impact on the security of information held.

### ***Common Applications and Services***

This assessment will help us understand how we can deliver a better a range of 'Common Applications and Services' In particular we will focus our attention on:

- Electronic messaging
- Calendaring and Scheduling
- Unified communications
- Collaboration
- Knowledge Management
- Remote User Access
- Electronic Software Distribution
- Enterprise Content Management
- Enterprise Search
- File and Print Services

### ***Operating Systems***

We will undertake a review and aim to standardise on a number of operating systems, this review will encompass:

- PC Operating Systems
- Operating system configuration management
- PC applications virtualisation
- Operating system virtualisation
- Server provisioning

### ***Infrastructure Hardware Platforms***

A review will be undertaken against the NIMM of our approach to the management of hardware platforms used to deliver IM&T services. The review will encompass:

- Server Consolidation
- Server Virtualisation
- Storage Virtualisation
- Data storage management
- Power and Cooling
- Infrastructure Hardware Configuration Management

### ***Network Devices and Services***

During this part of the review we intend to look at the management and provision of devices and services that provide networking capabilities, in particular the review will focus on:

- Wireless LAN and PAN
- Fixed LAN
- Local Network Services e.g. VoIP, email, printing, SharePoint Services and Intranet
- Standards pertaining to network cabling
- LAN Configuration Management
- Network Security.

## **Our Aspiration as a Department**

***We aspire to fit the following organisational definition:***

***“Organisations at level 5 will have a dynamic infrastructure recognised as the catalyst for technical innovation. The executive team and other senior stakeholders recognise the strategic value that their IT infrastructure provides in helping them to achieve their stated goals efficiently.***

***Costs are fully predictable; there is a close partnership culture between executive, business stakeholders, users and IT.***

***Collaboration is viewed as a core infrastructure service that enables knowledge sharing between users across traditional organisational boundaries. Mobile users have ‘near on-site’ levels of service and capability regardless of device and location.***

***Processes are fully automated, often incorporated into the technology itself, allowing IT to be aligned and managed according to the business needs.***

***There is a programme of investments in innovative technology yielding specific, rapid and measurable benefits for the business. There is a culture of innovation, working in partnership with stakeholders across the organisation.***

***A document detailing the collaboration and knowledge sharing strategy exists that is embedded in the business strategy. Framework and tools enable learning before, during and after projects. Organisational knowledge is easy to find, easy to retrieve and re-use, it is constantly refreshed and distilled. Relevant knowledge is pushed to those that want it.***

***The IT infrastructure is seen as being secure, open and able to stimulate new ideas. There are no hard-wired inhibitors enabling the business to engage with specialist and niche organisations to develop new ways of working in order to meet long term and strategic objectives.”***

### **MILESTONE 01**

***By June 2010 a full review against the NIMM will have been completed with improvements plans in place across the IM&T department.***

### **MILESTONE 02**

***NIMM level 5 to be achieved by June 2014***

## Infrastructure Management

The NIMM will be a catalyst for modernising the IM&T Management functions of the department and will also drive a number of changes to the design of our technical architecture.

During 2008 we commenced a two stage review of our Network and Server Infrastructure.

It was clear from this review that we needed to make improvements in order to address a range of issues which included:

- A limited ability to protect business continuity which is critically important in all areas of NHS Bolton business.
- Limited resilience on both our Network Infrastructure and our server farms
- A need to proactively grow our technical capability to meet both the current and future needs of the organisation
- A need to have a clear disaster recovery strategy and an ability to minimise system and service down time.



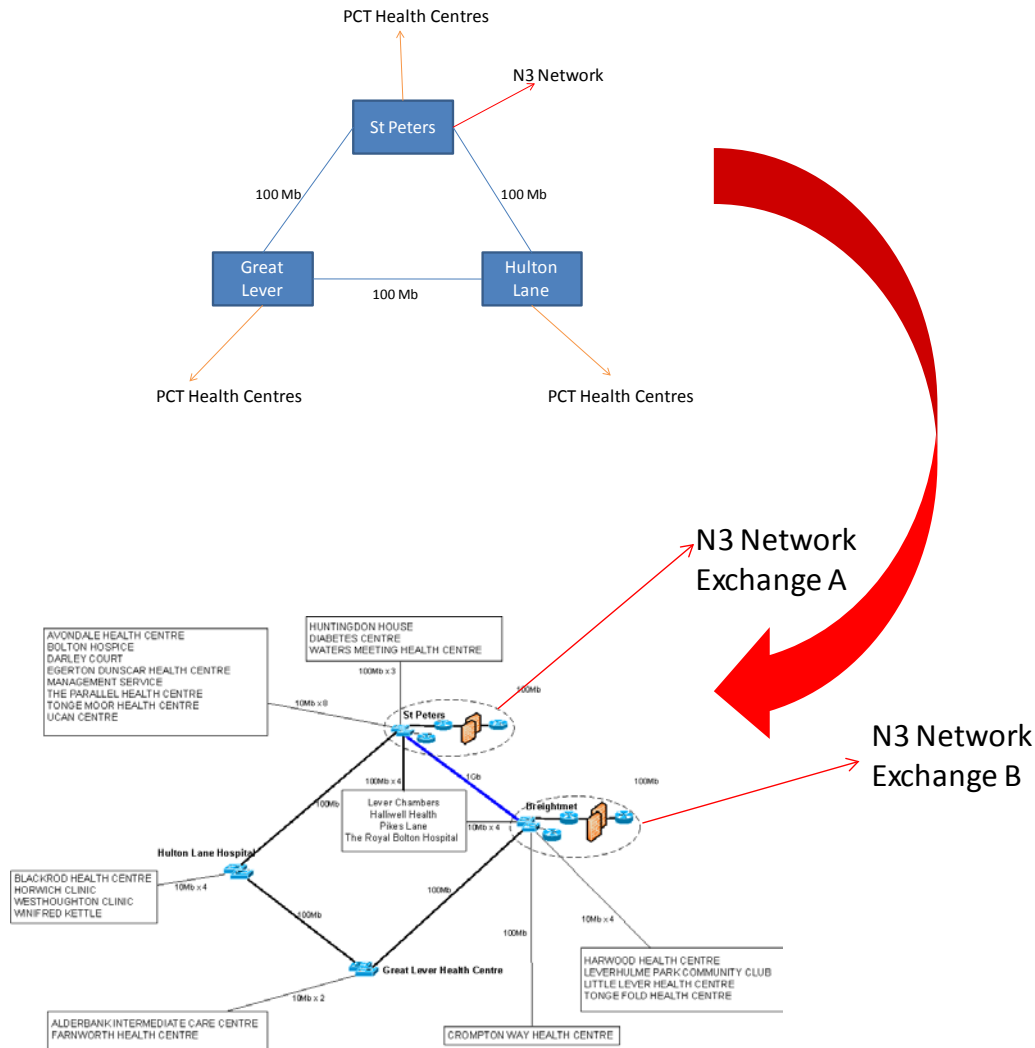
From this review, two key projects were born that are planned to be completed in 2010.

### Project 1 – COIN (Community of Interest Network)

NHS Bolton has approved a project to re-procure our existing COIN and 'design out' critical areas of risk such as:

- Having two N3 connections from the same building, terminating at the same exchange which if failed would remove access of National applications for all staff connected to the COIN
- No secondary back-up lines in our Health Centres
- Increasing performance issues for GP who have their own N3 connection operating from NHS Bolton premises.

The diagrams below provides a view of what we are moving from and what we are moving to.



Benefits to be delivered

- Continuity of access to National Services and applications by provisioning two N3 connections to separate exchanges.
- Continuity of access to NHS Bolton provided applications and services by introducing a second network link to all Health Centres.
- Improved resilience and security for GP practices connected to the COIN. NHS Bolton security policies and patches can be better managed and deployed.
- Enables GP Practices to join our IP Telephony system offering financial saving to both NHS Bolton and GP Practices.
- Allows us to introduce new technology to significantly reduce landline to mobile calls.
- Introduces revenue savings over the existing COIN

- Provides the necessary infrastructure required to support new clinical systems such as LRC

**MILESTONE 03**  
 Completion of the coin is expected to be achieved in March 2010.

**Project 2 – Server Virtualisation**

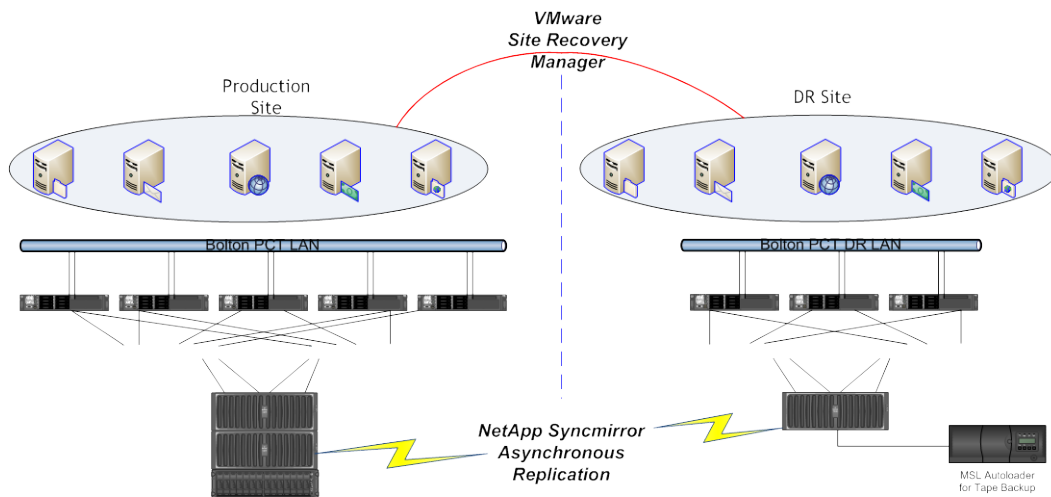
Since the production of the 2006 IM&T Strategic Plan the Server Farm at NHS Bolton has grown significantly as the organisation has expanded its range of services and functions.

This has had a significant impact, in that the main server room at St Peters House has reached its capacity. In response to this we established a second server farm at the new Brightmet Health Centre in order to introduce some degree of resilience and mitigate against other risks, in particular power and cooling. The Growth of the organisation has also presented challenges to us in meeting the demands for storage with limited resources.

Having considered the journey ahead of us, a more proactive and less reactive approach is to be adopted to ensure that we have a reliable server architecture that will complement our COIN, and deliver for NHS Bolton a truly scalable infrastructure to underpin our systems and services.

In September 2009 the NHS Bolton Management Team approved a scheme to re-build our server farms using ‘Virtualisation’ Technologies.

The diagram below provides a high level view of the proposal that was presented.



Benefits to be delivered

- Protecting Business Continuity
  - This solution aligns itself to our vision to ‘design out’ risk
  - Designed to ensure that system unavailability does not occur

- Enables an ability to rapidly switch between the main production site to the DR site.
- Provides us with the ability to test system failover and practice DR recovery procedures.
- Storage is no longer seen as a risk.
- The system is expected to meet our requirements for a minimum of 3 to 5 years and is scalable to address growth.
- In addition to underpinning the business of NHS Bolton, this will enable the delivery of some key strategic projects including:
  - Lorenzo Regional Care (24 Hours access required)
  - Data warehouse and business intelligence systems
  - Deployment of SharePoint as a strategic collaboration tool
- Enables us to meet our IM&T SLA agreement with Provider Services.
- Improves IM&T Productivity, in that it takes approximately 1 hour to commission a server compared with 20 hours under the current configuration
- We will see an 83% reduction in power and cooling costs supporting our drive to become a 'greener' organisation
- There will be a greater ROI (Return on Investment) in that there will be a better utilisation of memory, processor power and storage compared with traditional servers where all of these components are attached.

#### **MILESTONE 04**

**Completion of server virtualisation is planned for March 2010**

### **Use of Mobile Technology**

Under the section 'Enabling Reform' we describe the Lorenzo Regional Care project as our central clinical information system.

It is also acknowledged that the deployment of this system will occur in stages with the Care Management module expected to be deployed in October 2010. Shortly after the deployment of Care Management, clinical functionality will begin to be made available, requiring us to have mobile technologies in place to support clinical teams in updating the records of patient who are seen outside of NHS Bolton premises.

These technologies need to be identified and available to support deployment from November 2010. In identifying solutions our team of Technicians will work alongside colleagues across the Greater Manchester SHA footprint to ensure we take advantage of economies of scale and have a robust business case that underpins a decision to invest.

### Benefits to be delivered

- Improved access to information to support quality of care and better outcomes
- Productivity improvements, less of a requirement for clinicians to return to base.
- Reduces the risk of paper records becoming lost.

## **MILESTONE 05**

### **Mobile solutions to be identified by November 2010**

### **Introduction of Wireless Technologies**

NHS Bolton has begun testing wireless technologies and is currently determining the best solutions to put in place that will support our longer term requirement.

It is planned that by November 2010, wireless technologies will be in place across all of our Health Centres and other buildings such as St Peters House and Huntingdon where appropriate.

### Benefits to be delivered

- Supports the increased use of mobile devices as Lorenzo Regional Care is deployed
- Provides greater flexibility and enables clinicians to hot-desk more freely.
- Provides an improved service for managers to access network and system resources whilst away from their normal place of work.

## **MILESTONE 06**

### **Wireless technology in place by November 2010**

### **NHS Bolton Computing to be Greener**

NHS Bolton is looking to reduce the total cost of ownership for IM&T whilst not impacting on the quality of service it delivers.

There are various ways in which this can be achieved that will be pursued throughout the life of this strategy:

- Virtualisation of our server farm will immediately bring power, cooling and emission savings. Power and cooling costs alone will be reduced by 83%
- NHS Bolton will continue to pursue its strategy of introducing 'Thin Client' Citrix devices where appropriate as these not only last longer than PCs, they fail less frequently and use less power.

- NHS Bolton has introduced technology to enable remote fixing of problems from within the IM&T department. This means less travelling for engineers, a reduction in fuel use and emissions and, importantly, a faster resolution for users.

**MILESTONE 07**

Over the life of this strategy, we will aim to reduce the number of printers in use by 50%, encouraging users to share resources, and print less.

**MILESTONE 08**

NHS Bolton will continue to encourage those GP practices that have not yet transferred to a hosted solution to do so by the end of 2010.

## Desktop Software

Following the recent introduction of a new ITIL Software Management System in 2008, we have been focussing on building a full database of all IM&T assets. This system has been at the heart of a number of changes we have been making to improve our service management and service delivery standards. The next stage for us is to ensure that we have in place a standard desktop software build across all PCs, Laptops and 'Thin Client' devices in NHS Bolton.

### Benefits to be delivered

- Improved levels of technical support, not having to remember multiple ways of doing things.
- Trainer's knowledge becomes focussed on one set of applications resulting in a better experience for the end user.

**MILESTONE 09**

Office 2007 is to be deployed across all personal computers and thin client devices by the end of 2009.

**MILESTONE 10**

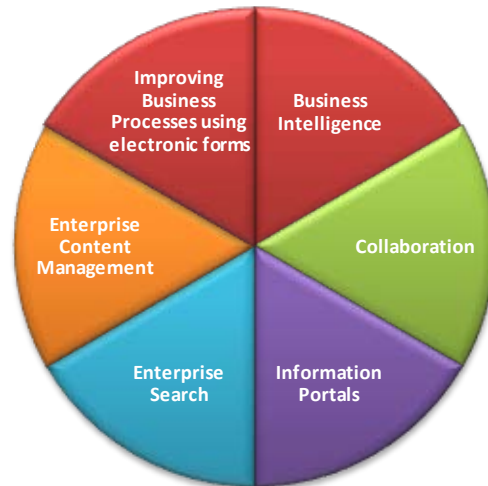
Windows 7 to be deployed across all PCS and Thin Client devices by the end of 2010

## SharePoint

Microsoft SharePoint when deployed alongside Office 2007 will provide a range of valuable capabilities that will help improve our effectiveness by accelerating shared business processes, and facilitating information-sharing across boundaries for a better business insight.

SharePoint is already being used to provide the visualisation layer for the clinical dashboard pilot that was initiated in 2009. Additionally SharePoint is to become the visualisation layer for business intelligence systems that will begin to be deployed in the early months of 2010. (See the section headed 'Providing Business Intelligence')

The diagram overleaf provides a summary of the functionality within SharePoint that we intend to exploit over the life of the new strategy.



In implementing SharePoint we will be responding to one of the requirements outlined within the Health Informatics Review. (Section 7.3 – Information to Empower Staff)

*“The NHS Next Stage Review highlights the need to support NHS staff in delivering first class quality of care through education and training and through access to knowledge and information. Currently, NHS staff access many different internal information and IT systems to do their job. This wastes time searching between systems for relevant information.”*

It is intended that by implementing SharePoint, we will support improvements in this area.

SharePoint will provide functionality to:

- Improve internal communications
- Deliver reliable information and business intelligence
- Improve the ability of staff to collaborate more effectively
- Deliver productivity benefits.

#### **MILESTONE 11**

SharePoint delivered to the desktop of all staff by June 2010

#### **MILESTONE 12**

Business Intelligence reports start to become available via Share point from June 2010.

#### **MILESTONE 13**

The use of Share point for internal collaboration commences in June 2010.

## IP Telephony

The IM&T Strategic Plan (2006 to 2008) identified the opportunity to use our data network to carry telephone calls, and stated that we would implement this across all sites within a 2 year period.

This was achieved, and since implementing this solution, NHS Bolton has benefited from the savings that it brings.

We further acknowledge that we have yet to tap into wider functionality now available to us as a result of our investment to date.

Over the next year we will investigate further how IP Telephony can support the delivery of increased productivity, whilst delivering further cost reduction opportunities.

### **MILESTONE 14**

**Report outlining wider benefits that can be delivered from the IP Telephony project to be produced by April 2010**

## Active Directory

Active Directory is a central component of the Windows platform and provides the means to manage the identities and relationships that make up network environments.

At the time of producing this report, a review of its security and usage is currently underway which will inform our wider development and improvement plans.

At this early stage, we have acknowledged that we need to improve the accuracy of the 'User Data' held and will be introducing software that will force users to review and amend, where appropriate, their personal information.

By taking this simple step we will very quickly develop a full and accurate directory of every user, including key information such as:

*Name*

*Job Title*

*Location*

*Telephone Number*

*Mobile Number*

This valuable information will then be searchable through a SharePoint portal and via the IP telephones that every staff member now has access to.

### **MILESTONE 15**

**Implement the recommendations of the Audit Review during 2010**

### **MILESTONE 16**

**Introduce Smart Software to link Active Directory to SharePoint and IP Telephony systems**

## General Practice IT

NHS Bolton has a responsibility under the GMS contract to ensure that its IT infrastructure and clinical systems continue to remain fit for purpose.

NHS Bolton takes this responsibility seriously and seeks to ensure that a more pro-active approach is taken to the management of IT across its 56 practices.

With this in mind a full review of the IT Infrastructure across all practices will be conducted and where equipment needs to be replaced, it will be.

All general practice IT assets will be added to our service management system in order to inform future investment planning decisions and to provide a better overall IT service to our system users.

### Benefits to be delivered

- Systems are replaced before and not when they fail.
- A sound infrastructure will be in place to support NPfIT systems and services.
- Clinicians will be more inspired to adopt new technology in order to support better care and to improve outcomes.

### **MILESTONE 17**

Review of all practice hardware to be completed by the end of February 2010

### **MILESTONE 18**

All practice assets including configuration to be recorded on the service management system by March 2010

### **MILESTONE 19**

Investment plan for 2010/11 to be developed and implemented by December 2010

## Video Conferencing

Video conferencing facilities if implemented correctly present NHS Bolton with opportunities to reduce business expenses whilst at the same time increasing productivity. With advances in technology, video conferencing is becoming increasingly accessible to everyone, it is no longer confined to a boardroom function.

Many senior managers spend a great deal of their time in meetings which may not always be productive. Video Conferencing could provide NHS Bolton with the opportunity to release some of the non productive time to be used more effectively.

In considering the case for Video Conferencing we will not only cover the corporate opportunities and benefits, but those that can be attributed to clinical care i.e. remote diagnosis.

**MILESTONE 20**

The business case for Video Conferencing to be tested by June 2010

**Development of New Health Centres**

Over recent years the IM&T department has played a key role in enabling the transfer and establishment of services across into new state of the art Health Centres including Brightmet, Crompton and Waters Meeting Health Centres.

During 2011, the IM&T Department will be heavily engaged in supporting the delivery of the new DTC (Diagnostic and Treatment Centre) currently planned to be open in February 2012.

Additionally, a number of other new Health Centres have been prioritised subject to funding agreements. These are:

- Avondale
- Farnworth
- Great Lever
- Little Lever
- Horwich
- West Houghton

Should these schemes be given the go-ahead the IM&T department will ensure that all IT Infrastructure and systems are in place to support both clinical and back office functions.

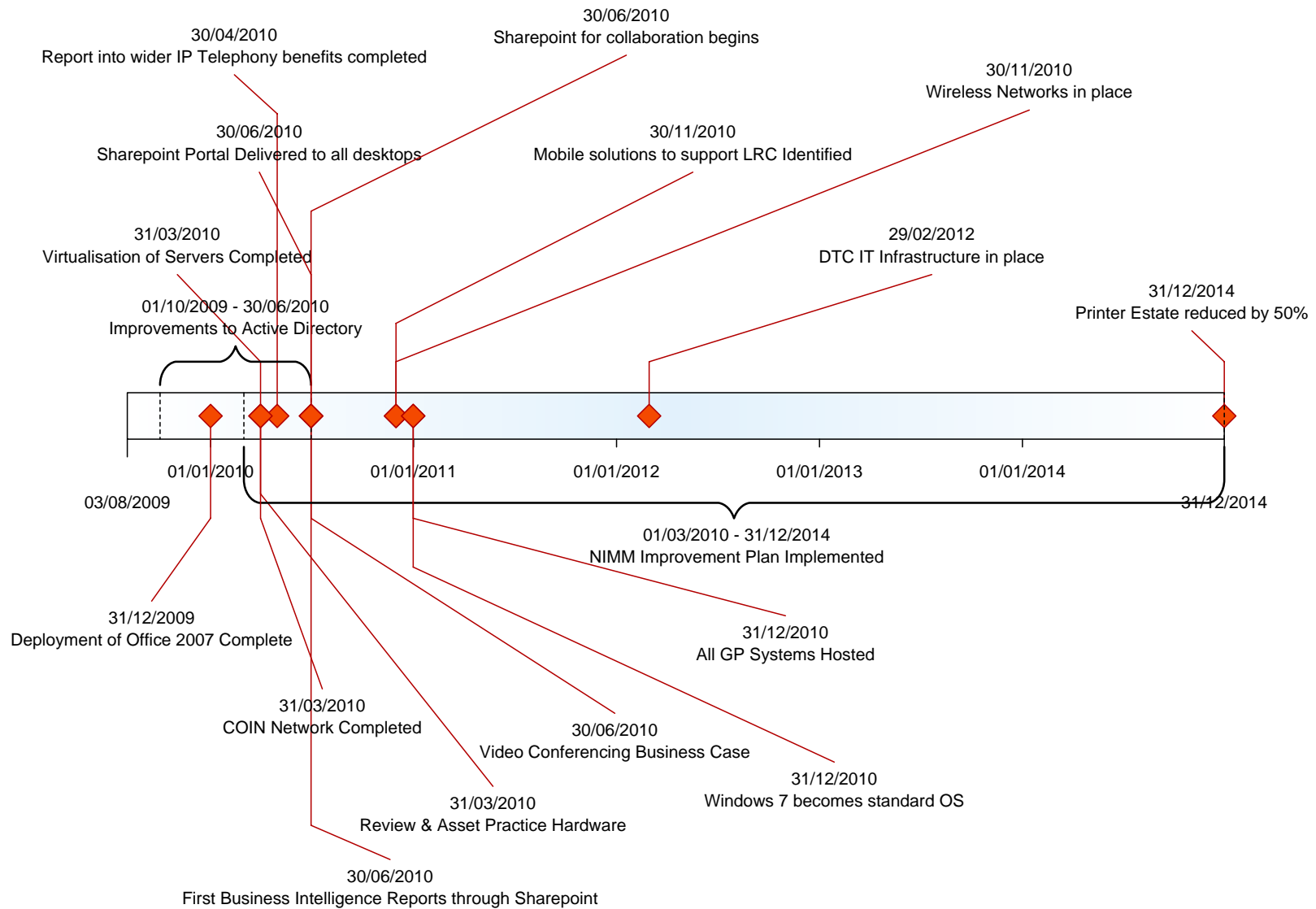
**MILESTONE 21**

IT Infrastructure work in place and tested for the DTC by February 2012

**Responding to Technical Evolution**

Whilst implementing this Infrastructure Plan we will develop and maintain an awareness of how technology in the industry is developing and the strategic, operational or cost saving opportunities that could be realised for NHS Bolton an example of which would be 'Cloud Computing', providing 'software as a service' set to be one of the biggest developments that could transform some of the functions of IM&T department globally.

### Infrastructure Management – Milestone Plan



## Information Governance

### Information Governance Toolkit

Information Governance is the way by which the NHS handles all of its information, in particular the personal and sensitive information of patients and employees. It provides a framework to ensure that personal information is dealt with legally, securely, efficiently and effectively, in order to deliver the best possible care.

The Information Governance framework brings together standards and best practice that apply to the handling of information. The Framework has four fundamental aims:

- To support the provision of high quality care by promoting the effective and appropriate use of information.
- To encourage responsible staff to work closely together, preventing duplication of effort and enabling more efficient use of resources.
- To develop support arrangements and provide staff with appropriate tools and support to enable them to discharge their responsibilities to consistently high standards.
- To enable organisations to understand their own performance and manage improvements in a systematic and effective way.



The framework currently encompasses the following:

- Data Protection Act 1998
- Freedom of Information Act 2000
- The Confidentiality Code of Practice
- Records Management
- Information Quality Assurance
- Information Security
- Information Governance Management

Each year, trusts across England are required to undertake an assessment against the National Information Governance Toolkit and each year new requirements are added in order to ensure that trusts have a programme of continuous improvement.

The tool kit has focused on the following areas for the last two assessments:

- Clinical Information Assurance
- Confidentiality and Data Protection Assurance
- Corporate Information Assurance
- Information Governance Management

- Information Security Assurance
- Secondary Use Assurance

The table below provides the scores of the final assessment that was achieved in March 2009 and the base-line assessment score achieved following the 2009/10 additions.

Area Tested	Final Results 2008/09	Interim Results 2009/10
Clinical Information Assurance	50% Amber	58% Amber
Confidentiality and Data Protection Assurance	73% Green	73% Green
Corporate Information Assurance	100% Green	91% Green
Information Governance Management	88% Green	71% Green
Information Security Assurance	73% Green	69% Amber
Secondary Use Assurance	71% Green	71% Green

Work is underway to improve in particular, the scores for ‘Clinical Information Assurance’ and ‘Information Security Assurance’. In March 2010 a final assessment will be conducted to assure ourselves that the areas where weaknesses have been identified have been addressed.

It is clear from the requirements that ‘Information Security’ has been very much in the spot light. The toolkit made it clear that we needed to have in place a ‘Senior Information Risk Owner’ (SIRO), who operated a board level and was ultimately responsible for all information risks across the PCT and in general practice. The Director of Finance carries this responsibility.

In addition to the creation of the SIRO, there is also a requirement to establish a network of ‘Information Asset Owners’ (IAO) who will undertake the day to day responsibilities associated with the security, protection and management of data.

The IM&T department will co-ordinate the establishment and training of all Information Asset Owners.

**MILESTONE 22**  
 Improvements put in place and the final 2009/10 assessment completed by March 2010

**MILESTONE 23**  
 Information Asset Owners identified and trained by March 2010.

In addition to having to meet the requirements outlined within the National Information Governance Tool Kit, the Information Governance Team will continue to support NHS Bolton in the areas outlined below.

## **Information Security**

NHS Bolton takes the security of its data very seriously. During 2009 we responded to the requirements outlined by the Department of Health resulting from some high profile data losses experienced by other organisations.

NHS Bolton has introduced a range of measure to improve how we protect data, in particular, personal or patient identifiable data.

These measures included:

- Encryption of Laptops (extended to include Desktop PCs).
- The introduction of Encrypted memory sticks.
- The introduction of 'Port Control' to manage who is able to copy data onto removable media.
- Encryption of mobile devices such as Blackberries.
- A process for testing and automating the deployment of Windows updates.
- Enforcing of password changes on PCs, Laptops and Blackberries.
- Locking of Laptops that have not connected to the PCT network within 30 days for security updates.
- Email Encryption to protect the transfer of confidential data.

In September 2008, following the appointment of an Information Security Officer NHS Bolton approved its first Information Security Strategy.

The strategy sets out a range of broad objectives:

- The Trust will ensure there is a systematic and planned approach to the management of information security by establishing an Information Security Management System (ISMS) in line with ISO27001.
- The effectiveness of the ISMS will be continually improved through the use of audit results, analysis of incidents, corrective and preventive actions and management reviews.
- All important information assets will be identified and appropriately managed and protected. Any protection applied will be based on formally documented risk assessments, to ensure that it is commensurate with the value of the asset and the perceived threats.

- Actual and potential information security related incidents will be recorded and responded to in a timely and appropriate manner; findings will be fed into the ISMS to ensure continued and ongoing improvements.
- Steps will be taken to ensure that internal and external transfers of confidential information are conducted in a secure and safe manner, this will include, for example, encryption of emails and removable media holding personal information.
- All staff, contractors and other relevant parties will be made aware of the trusts requirements for information security.
- The trust will promote a culture of information security awareness.
- Procedures will be established to ensure that information security requirements are addressed during the commissioning of new services and/or systems.
- Business continuity plans will be developed across all services to ensure the PCT is able to continue with its core business functions in the event of a failure or loss of systems or services. Appropriate procedures will be developed to ensure the timely recovery or replacement of information systems and services. The plans will be regularly tested and revised.
- Systems and services will be regularly audited against information security related policies and procedures. The results of such audits will be fed into the ISMS to ensure continued and ongoing improvement.

#### **MILESTONE 24**

Over the life of this strategy, NHS Bolton will develop and implement plans to ensure that the objectives detailed above are met and that Information Security becomes a responsibility of every individual working in NHS Bolton

### **Registration Authority**

NHS Bolton has well established procedures in place to manage access to NPfIT applications and systems. The NHS Bolton Registration Authority is responsible for registering and verifying the identity of NHS staff who need to use the NHS Care Records Service and related IT systems and services, including:

- Summary Care Record
- IPM
- Choose and Book
- Electronic Prescription Service
- Map of Medicine

Whilst this service continues its 'Business as Usual' activities, work has commenced to prepare for the impact that will result from the introduction of Lorenzo Regional Care in 2010.

Additionally in order to meet key requirements set out within the Health Care Records guarantee, NHS Bolton will be introducing the concept of 'Legitimate Relationships' which will only enable those people who need to see an individuals health record to have access to it, and only to the information that they need.

#### **MILESTONE 25**

Support the implementation of Lorenzo Regional Care in 2010

#### **MILESTONE 26**

To review and respond to resource requirements as the work load increases to ensure that we can still deliver a 'Fit For Purpose' service. Review to be completed by January 2010.

### **Data Quality**

Data Quality is important to NHS Bolton as there are clear links with improving patient safety, patient care and achieving better outcomes.

NHS Bolton believes that high quality information should be accurate, up-to-date, and free from duplication and confusion.

Over the years much work has been achieved to improve Data Quality across a range of systems:

- The achievement of IM&T DES Data Accreditation Standards in general practice
- De-duplication of records across all systems
- Population of all clinical records with the NHS Number
- The use of the NHS Number on all patient correspondence (*The National Patient Safety Agency for example, has highlighted patient misidentification as a major cause of clinical risk*).
- Improvements and consistency in the way data is coded.

Although this work is underway, it is fragmented in its delivery. There is no clear Data Quality Strategy within the organisation, no real way of measuring improvements or providing assurance that improvements are being made. It is also clear that some systems have fallen off the radar.

#### Benefits of Data Quality

High quality data will improve the patients' experience of the NHS:

- Patients will receive better, safer care from the NHS if the information held about them on the NHS Care Records Service is accurate, up-to-date and readily available.

- High quality data means that wherever and whenever a patient requires care, the clinicians caring for them will have access to a complete, accurate and up-to-date record.

NHS staff will see real benefits:

- Having high quality information available means NHS staff can have a greater level of confidence that they are advising patients about the best care for them on the basis of accurate, up-to-date, complete information.
- Quality data on demand, means NHS staff can spend more time treating patients and less time searching, waiting for and checking patient information.

The NHS as a whole will also benefit:

- Better quality demographic and clinical information, compiled and collected to common standards means the NHS will benefit from increased efficiency of its people
- The NHS will also be able to measure successfully and plan future capacity needs more effectively.

## **MILESTONE 27**

**To develop an organisational data quality implementation strategy by May 2010**

### **Data Protection and Confidentiality**

All staff within NHS Bolton have a duty to comply with the Data Protection and Confidentiality Policy which was revised in September 2008.

The policy describes the 8 principles of good practice within which NHS Bolton staff will work.

Regular training sessions are provided to staff covering the following areas:

- Personal responsibilities
- Confidentiality of personal information
- NHS Bolton Policies and Procedures to be aware of
- Compliance with the Data Protection Principles
- Individuals rights
- Good practice guidelines covering security and confidentiality
- Who to contact to get advice on Data Security and Confidentiality issues.

**MILESTONE 28**

Over the life of this strategy we will continue to develop the knowledge and understanding of Data Protection and Confidentiality and respond accordingly to changes in legislation.

**Training Services**

The IM&T department delivers a wide range of training courses and services to staff around NHS Bolton.

Courses currently being delivered include:

- Clinical Systems Training
- Presentation Skills
- E-KSF (Reviewer & Reviewee)
- Data Protection and Confidentiality
- Information Security
- Wide range of courses that focus on the use of MS Office applications.

It is intended that we will continue to provide these courses whilst demand remains high.

Over the next few years the demands on the training team will be significant as we take forward some key projects including:

- Office 2007
- SharePoint
- Lorenzo Regional Care

Office 2007 and SharePoint will provide staff with a range of tools that will increase their ability to work more efficiently and collaborate better, using improved document management systems.

Lorenzo Regional Care will have a significant impact on the IM&T Department in 2010 as we will need to train over 2000 staff members over the summer period. During the following 3 to 4 years, as we take forward more advanced functionality, we will need to strengthen our ability to meet the training requirements that will arise.

**MILESTONE 29**

All staff using IPM to be training in the functionality of LRC by September 2010

**MILESTONE 30**

Office 2007 training courses to be converted by November 2009

**MILESTONE 31**

SharePoint training courses available from June 2010

**MILESTONE 32**

Review of training course portfolio to be undertaken by July 2010

**Freedom of Information**

NHS Bolton responds to over 250 FOI requests per year. Each year we see an increase in the number of requests that we receive. The IM&T department will continue to co-ordinate the returns to the requester.

In order to meet the requirements of the act, NHS Bolton is required to publish information held by setting up and maintaining a 'Publication Scheme'

It is intended that a review of this scheme will be undertaken in order to address some of the impact that is felt from an increasing number of requests.

**MILESTONE 33**

FOI Publication scheme to be reviewed and developed by December 2010

**Document Control and Records Management**

NHS Bolton has established a range of policies and practices that it expects all staff to follow when creating, using, retaining and disposing of records. These policies are available from the current FOI Publication Scheme.

The IM&T department will continue to support and advise staff on best practice and the implication that could result in not following best practice.

**MILESTONE 34**

During the life of the strategy we intend to run a new programme of awareness and education events covering Document Control and Records Management.

**Pseudonymisation of Patient Data**

Guidance has recently been produced to NHS Organisations which has enabled us to prepare a plan based on a local assessment of where we sit on the maturity model.

The maturity model tests a series of elements:

- Policies and procedures for approving access to identifiable data
- Flows of identifiable data and repositories
- Users of identifiable data
- Organisational awareness and training of usage and IG

- Data Management
- Pseudonymisation functionality
- New Safe Haven and back office functionality
- Access control functionality
- User Registration, staff vetting and authorisation for local systems
- End user applications
- Business Process changes
- Log and Audit trails for access to identifiable data.

The model has 5 levels of conformance.

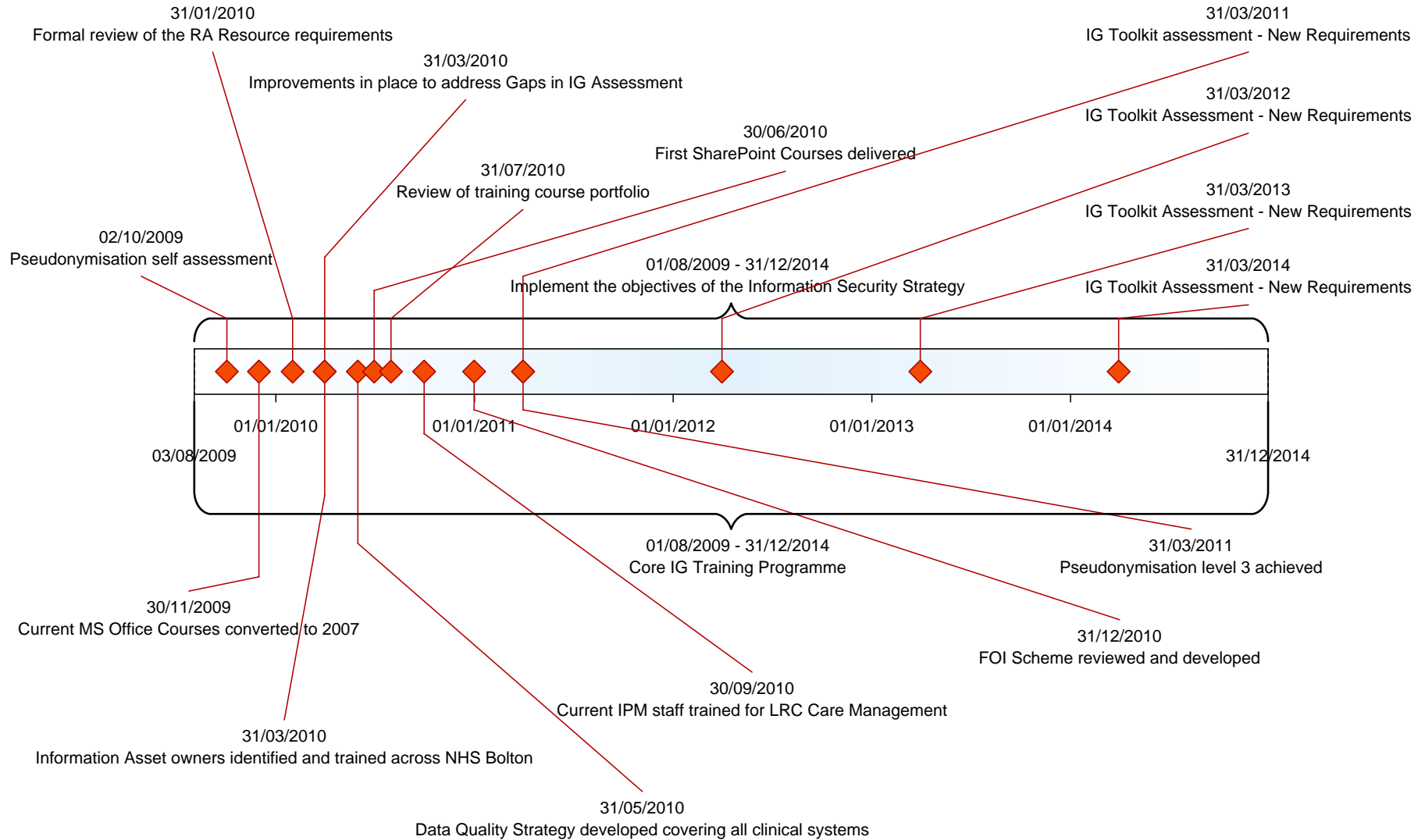
**MILESTONE 35**

Assessment to be completed by the 2nd October 2009

**MILESTONE 36**

Scoring state 2 (Level 3 Compliance) to be achieved by March 2011

### Information Governance – Milestone Plan



## Providing Business Intelligence

The Health Informatics Review describes the need to deliver good quality, timely information presented clearly to those who need it.

The review also highlighted how important information is to supporting a wide range of research, planning and management activities. Through the NHS Care Records Service, we can collect operational data and make this available for many other purposes that assist in improving the quality, efficiency and effectiveness of care, subject to appropriate confidentiality and consent procedures.



### Improving Business Intelligence

*“The importance of information in the healthcare sector cannot be stressed enough. Only by creating processes for reliable data transfer and systems for analysis can we accurately ascertain the effectiveness and efficiency for each speciality”*

**(Professor Darzi, Chair of Surgery, Imperial College London.)**

Business Intelligence is about getting the right information to the right people at the right time, in the most effective format. The provision of intelligence and transparent information to all staff, managers, patients, partners and clinicians that require it, is of paramount importance. Intelligence and information needs to be managed at a level that is able to cope with any future changes and reconfigurations of organisational form. The NHS Operating Framework 2010/11 expects PCTs to agree their future structures by March 2010. The outcome of this process will determine how information and intelligence is made available to the respective parts of the organisation in the future. Any business intelligence developments which commence in the interim must be fluid enough to ensure compliance with any future business requirements.

The PCT has already gone through a certain amount of organisation change since the previous IM&T strategy was produced. Intelligence requirements are now more developed and more easily identifiable than was previously the case. Transforming Community Services and World Class Commissioning clearly identified the need to have a robust information model to underpin the delivery of these programmes of work. Intelligence provision is fundamental to the organisations ability to understand its business, understand the efficiency and effectiveness of services that are both commissioned and provided, and enable clinicians to manage their patients whilst having access to the most up to date/real time and reliable data.

Much of the current information produced for NHS Bolton comes from the Information Services department. The department supports the monitoring and intelligence needs of the entire organisation. This currently involves the use of a number of different information systems, some of which are part of the national suite of solutions, however, there are also those which have been locally developed, where the national solutions are not sufficient or unavailable. This leads to difficulties in a number of ways, ranging from inconsistent outputs, lack of data quality, lack of data standards, unclear ownership etc. It is crucial that as far as possible, the output from these systems is brought together under standard processes in order that maximum benefit is gained from the system and the data capture.

The aim within NHS Bolton is to ensure that data is only captured and reported once on the principle of "getting it right first time", with clear and simple actions and only very limited manual intervention. The aim should be to avoid waste in the form of time and money spent on duplicated recording, cleansing data, interfacing between different information systems, matching and consolidating data from multiple databases and developing or maintaining multiple and often out of date systems. This will help to reduce the burden of administration as well as helping to ensure more accurate, reliable and timely data. This is consistent with the central Government requirements to reduce the burden of data collection by 30%.

Analysis and the interpretation of data needs to be made available to support a range of different approaches by different users, whether this be provision of ad-hoc query based analysis, the regular production of specified indicators, modelling, benchmarking, etc, and needs to focus on both strategic priorities and also operational business requirements. We need to ensure that business intelligence needs for all users can be served in a timely and efficient manner.

A framework for the provision of a robust Intelligence service needs to be developed around the following key themes:

- Data Collection
- Data Management
- Analysis
- Interpretation in context
- Communication of messages
- Engagement with users

Each theme will require careful design, adequate resource and quality assurance processes to enable the output to be fit for purpose.

### **Data Warehouse**

As a first step to providing a solution to this, the IM&T and Information Services departments have been working together with a strategic partner to review current data gathering processes, national reporting requirements and strategic and operational business intelligence requirements for NHS Bolton. A solution to the current lack of data warehouse provision has been sought and will begin implementation during early January 2010. This will be a long term project, which will continually evolve as the intelligence needs of the organisation and the organisation form and culture develop.

By de-fragmenting the capture and analysis of data, NHS Bolton will become better equipped to make more confident decisions.

- MILESTONE 37**  
Data Warehouse and Business Intelligence solution commence implementation January 2010
- MILESTONE 38**  
Ongoing identification and delivery of business intelligence requirements throughout the life of this strategy.
- MILESTONE 39**  
Development of an Information/Intelligence Framework Summer 2010

### Clinical Dashboards

*“NHS clinicians are dependent upon good quality information and data to make sure they are providing the right services to patients. They must have appropriate access to data whenever they need it, in a usable format. The provision of a clinical dashboard will improve the clinical team’s ability to focus on improving the quality of care locally. It will provide NHS clinicians with good quality information that will help them make sure that they are providing the right services to patients. It will give them appropriate access to data, whenever needed, in a usable format and will present them with meaningful clinical indicators, defined by local teams, in an immediate and impactful way.”*  
**(Health Informatics Review 2008)**

NHS Bolton was one of a small number of pilot sites selected to test this concept.



The picture above is an example of one of the screens that allows clinicians to review their patient activity and drill down to patient-level information including any disease registers that they may be on. This enables clinicians to deliver more pro-active care for their patients. The Clinical Dashboard was developed by Clinicians for Clinicians and contains relevant, timely data to inform potential improvements to the quality of Patient care.

This project has been piloted in a small number of practices and is delivering a range of benefits.

#### The Benefits Anticipated

- To Reduce multiple urgent care attendances.
- To reduce the number of admissions to the Royal Bolton Hospitals NHS Foundation Trust that are discharged under 24 hours.
- To reduce the number of 'touch points' to reach appropriate care, faster treatment through better proactive care.
- Reduced length of stay.
- Drives the use of the NHS Number.
- Practices can see immediately who is on their disease registers and their activity in order to provide better pro-active care.
- Better Management Information for clinical teams.

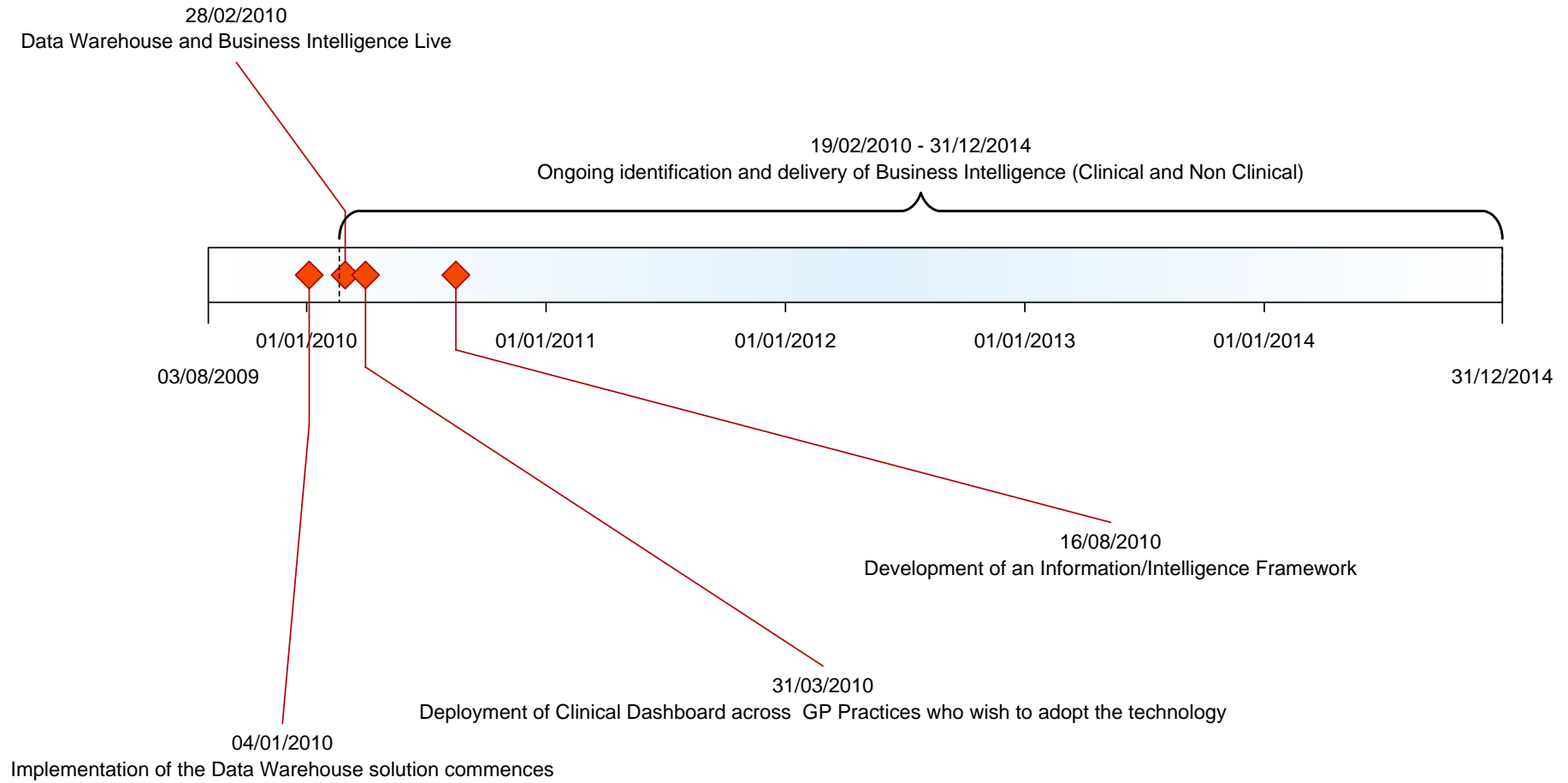
#### **MILESTONE 40**

Deploy the Clinical Dashboard across all practices who express an interest by March 2010

#### **MILESTONE 41**

Throughout the life of this strategy, we will build upon this learning and look for other opportunities to deliver Clinical Dashboards on the back of other Clinical Systems such as Lorenzo Regional Care.

### Business Intelligence – Milestone Plan



## Delivering Systems to Enable Service Transformation

NHS Bolton remains committed to delivering a fully integrated NHS Care Record for all patients. The delivery mechanism for archiving this is the National Programme for IT (NPFIT).

Over the last few years significant progress has been made in a number of areas which provides us with a good foundation on which to move forward.

Since the National Programme for IT commenced the Bolton Health Economy has advanced/completed the implementation of a number of key systems or enabling projects including;



- Deployment of PACS within the Hospital Trust providing access to PCT provided services.
- Choose and Book and Patient Choice (By the end of December 2009, the Hospital Trust aims to ensure that all services are directly bookable).
- The Electronic Transmission of Prescriptions (NHS Bolton became an early adopter of ETP Release 1)
- The Summary Care Record (NHS Bolton was the first PCT in the country to implement the Summary Care Record for its population).
- The Implementation of IPM (Lorenzo across nearly all NHS Bolton Services).
- The Implementation of IPM (LE2.2 across the Royal Bolton Hospitals Foundation Trust).
- GP System of Choice.
- IM&T Directed Enhanced Service (72% of practices signed up).
- GP2GP Record transfer.
- Map of Medicine.

Over the next 4 years work will continue to bring together these initiatives to form a fully integrated NHS Care Record.

### Addressing the Requirements of Provider Services

A significant part of this strategic plan will be to provide a range of services and systems that will enable Provider Services to enhance the provision of care whilst reducing costs and increasing productivity. In discussions with Provider Services their senior team have set out

a catalogue of IM&T requirements that will enable them to provide the most cost effective patient centred care.

The table below outlines the requirements and when we expect that they will be delivered.

Theme	Requirement	Approach
Business and Clinical Intelligence	It is acknowledged that the level of investment in the NHS is not expected to grow beyond inflation over the coming years. This means that services will need to be more productive, and innovative and will need much richer business and clinical intelligence to monitor productivity, clinical quality and outcomes and to demonstrate to the Commissioners that they provide a competitive, value for money service for the people of Bolton.	Business Intelligence systems and processes in NHS Bolton have been limited in the past. NHS Bolton has already let a contract for the delivery of a new Data Warehouse and BI system that will be capable of joining various datasets to provide rich business and clinical intelligence. Work is advanced with the first outputs expected in March 2010. The information Services team will be producing by summer 2010 an information/intelligence framework which will be used to support the future requirements of Provider Services.
Integrated Clinical Records at the Point of Care	Access to integrated clinical records across sites is key to addressing clinical risk and protecting patient confidentiality. It has been acknowledged that without an electronic solution, provider services are constrained in that they cannot maximise the utilisation of their estate and workforce. Additionally, significant costs are being incurred transporting paper based records.	NHS Bolton has signed up to implementing Lorenzo Regional Care which when deployed across the Health Economy will provide a fully integrated record available at the point of care. NHS Bolton goes live with LRC in October 2010 with the Acute Trust taking the application in October 2011. It is at this point when we will be able to begin the share clinical records electronically using LRC. There may be opportunities to consider some interim solutions for a small number of services but this would be limited as the IM&T department is not

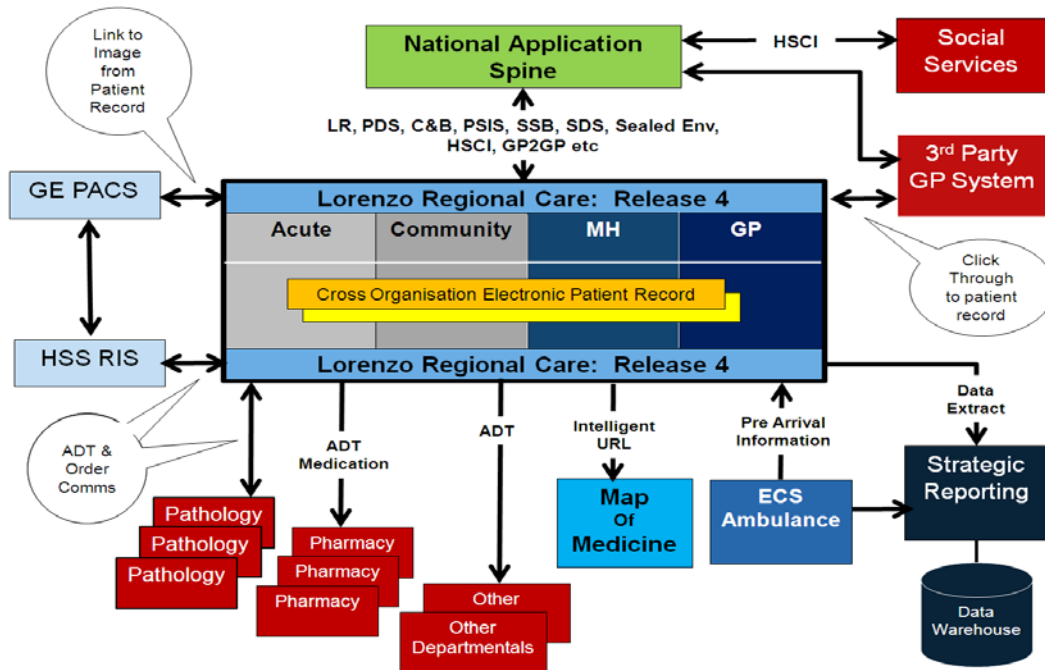
		<p>resourced to deliver both interim and strategic solutions concurrently.</p>
<p>System Integration in advance of LRC</p>	<p>It has been acknowledged that Provider Services wishes to see some urgent progress in the following areas:</p> <p>Electronic transfer of discharge correspondence</p> <p>Electronic transfer of records to secondary care providers</p> <p>Implementation of Extramed</p> <p>Further deployment of the Summary Care Record and patient alert systems</p> <p>PACS implementation and access across the NHS and private sector providers.</p>	<p>LRC will ultimately provide a window into this information. In the interim work has already progressing and is advancing well in most of the areas:</p> <p><u>Electronic Transfer of Discharge Correspondence</u></p> <p>The SHA are procuring a solution for use across Greater Manchester which will allow all discharge summaries whether from the hospitals or from community based services to be electronically sent to GPs. This is expected to be delivered in 2010.</p> <p><u>Electronic Transfer of records to secondary care providers</u></p> <p>In order to mitigate against the real risk of patient notes going missing we are aiming to commence a pilot project in one of our services around March/April 2010.</p> <p><u>Implementation of Extramed (Bed Management)</u></p> <p>Good progress has already been made in this area. NHS Bolton has worked with the RBH Trust to implement a Health Economy bed and capacity management system. The project is expected to complete in Spring 2010. It is unclear at this stage until the re-scoping of LRC has been completed</p>

		<p>whether this may become a long term solution for the Bolton Health Economy.</p> <p><u>Further Deployment of the Summary Care Record</u></p> <p>Due to a significant increase in the number of patients that now have a Summary Care Record, plans are being developed to give access to the SCR to a wider range of services as we have been able to clearly identify some significant patient safety benefits.</p> <p><u>PACS Implementation</u></p> <p>Following the approval of our business case in February, work is now advancing which will see the delivery of a community PACS solution enabling the electronic transfer of images across NHS and private sector organisations. We are expecting that within Lorenzo there will be click through functionality to be able to view PACs images whilst reviewing a patients record.</p>
<p>Systems to support productivity</p>	<p>A range of systems/innovations have been identified that Provider Services would wish to be pursued. These include:</p> <p>Business Intelligence (Integrated productive and quality outcomes by service, teams and individuals)</p> <p>Provider Services Business Dashboard</p> <p>Hand held technology for use by clinicians</p>	<p>During 2010, the Information Services Team will be developing an Information/Intelligence Framework and in doing so will focus on the first two bullet points.</p> <p>During 2010 NHS Bolton will begin to procure handheld devices to work with key strategic systems such as Lorenzo Regional Care and the Summary Care Record.</p>

	<p>Implementation of Tele-health systems across District Nursing</p> <p>Expansion of IC Net for Infection Control</p> <p>Real Time system developed for the management of estate utilisation and reporting of utilisation.</p>	<p>NHS Bolton has already successfully piloted a number of tele-health systems. During 2010/11 we will aim to identify solutions that will enable the service to become more cost effective and productive and will support the services in developing the case for investment.</p> <p>The Expansion of ICNet has now been approved and licences are currently being procured.</p> <p>During 2010 discussions will take place with the estates department to consider available technologies that will provide the capability to give management reporting on capacity utilisation.</p>
<p>A service that is value for money</p>	<p>IM&amp;T is seen as a key enabler to underpinning the business and clinical strategic management of Provider Services. An improved alignment of technology and the benefits it can bring is required.</p>	<p>The IM&amp;T department recognises that in order for benefits to be delivered a greater alignment between People, Processes and Technology has to be achieved. The delivery of LRC has resulted in a significant shift in approach to technology delivery. Over the coming years our team of analysts will continue to work closely with services and service management to deliver solutions that are aligned to and enhance business and service processes.</p>

## Lorenzo Regional Care

The model below provides a simplistic view of what will be delivered. Core to this model is the deployment of Lorenzo Regional Care which will come to NHS Bolton in 2010 and the Royal Bolton Hospitals NHS Foundation Trust in 2011. Planning, engagement and current state process mapping has already commenced and will continue throughout 2009.



The first stage of this project will be to implement care management currently expected to be delivered on the 18<sup>th</sup> October 2010. Once the Royal Bolton Hospitals NHS Foundation Trust has implemented Lorenzo Regional Care in 2011 we will begin to benefit from shared care records.

### Expected Benefits of a Fully Integrated NHS Care Record

#### Benefits for Patients and the Public

- Better access to their health care records, so that they can be more informed when looking after their own health.
- Less repetition of assessment information.
- Making information more easily available for diagnosis, leading to quicker treatment and fewer delays.
- Improved confidentiality.
- Greater safety as a result of a reduction in drug transcribing errors.

### Benefits for NHS Staff

- Easier to access up-to-date information, 24 hours a day, seven days a week to enable efficient diagnosis and treatment.
- Fewer lost records and test results.
- The ability to access the patient's health care records in more than one place at a time.
- Better and easier communication and referrals between care professionals.
- Knowing which other care providers are involved in a patient's care.
- Reduced administration and duplication.
- The ability to assess the potential for possible conflicts in treatment.
- Early detection of disease clusters or outbreaks.
- Decision support for clinicians.

### Benefits for the NHS

- Improvements in the quality of information and the confidence of patients.
- Efficient delivery of safe, high quality care.
- Cost and time savings from cutting down the amount of paper stored.
- Better quality data for planning, audit, fraud detection, research and performance management.

#### **MILESTONE 42**

Care Management to be implemented across all services currently using IPM by the 18<sup>th</sup> October 2010

#### **MILESTONE 43**

Clinical Documentation deployment to commence in the 1st quarter of 2011

#### **MILESTONE 44**

Royal Bolton Hospitals NHS Foundation Trust to have implemented LRC Care Management in 2011

## Summary Care Record

The Summary Care Record will enable a summary of clinical data including current and past medication, allergies and bad reactions to drugs to be recorded on a central NHS Care Records database, that can be securely accessed by clinicians with a legitimate reason for doing so. The Summary Care Record is initially being populated from clinical systems in General Practice but in time this will be expanded to include other hospital and community based clinical information systems and possibly information from social care systems to support for example the Single Assessment and the Common Assessment Processes.

NHS Bolton has already made significant progress in implementing the Summary Care Record across the Health Community.

NHS Bolton was privileged to become the first organisation in England to commence the implementation of the Summary Care Record and pave the way for fast followers.

Summary Care Records exist in Bolton for approximately 36% of the population. Plans are in place to ensure that by December 2009 over 50% of the population will have a Summary Care Record.

Within Bolton the Summary Care Record is accessed in a number of areas including:

- A&E
- Hospital Pharmacy
- NHS Bolton Out of Hours Service
- NHS Bolton Walk In Centre

During 2008, NHS Bolton also successfully piloted with CfH and BT a mobile solution providing access to the Summary Care Record via a mobile device. These devices were deployed to district nurses attached to practices that had uploaded patient records to ensure that maximum benefit could be realised.

A full benefits evaluation and lessons learnt exercise was undertaken after project closure.

As a result of this work the benefits of shared records was clearly highlighted with the Bolton Health Economy being keen to explore the deployment of mobile devices as it takes forward the implementation of Lorenzo Regional Care.

### Benefits of the Summary Care Record

As an early adopter we were able to test a range of benefits. The following are some of the benefits that were tested during the project.

- A reduction in medication errors and adverse drug reactions.
- Supports clinical assessment of patients with urgent and emergency care needs.
- Supports the delivery of high quality care where patient communication/language is a barrier.

- Improved communication of key data that will support integrated planning and delivery of care plans across different providers of care – particularly patients with long term conditions.
- Enables better patient management.
- Supports safer care through the reduction in medication errors and adverse drug reactions.

**MILESTONE 45**

50% of the Bolton population with a summary care record by the end of December 2009

**MILESTONE 46**

By the end of 2010 over 80% of patients to have a Summary Care Record

## Electronic Prescription Service

NHS Bolton was one of the early adopter sites to begin implementing the electronic transmission of prescriptions.

The Electronic Prescribing programme is facilitating the development and delivery of systems to improve patient safety by reducing prescribing and administration errors.

e-Prescribing systems will support the whole medicines use process: they will enable medications (and other prescribed therapies) to be managed electronically at every stage, from prescribing through to supply and administration.

e-Prescribing should also facilitate wider improvements in prescribing and administration processes, including reductions in paperwork, improved audit trails for medication and enhanced communication (for example, between hospital departments and pharmacies).

Almost all Practices and Pharmacies in Bolton have already been 'technically enabled' through the deployment of release 1 of the project. Work has now commenced on preparing for the implementation of release 2.

### Benefits for Patients

- A more convenient service with a reduction in trips to the GP practice just to collect, or request a paper prescription - particularly for patients receiving repeat medication.
- Greater freedom of choice for patients, making it simpler for them to use a dispensing contractor convenient to them.
- A reduction in pharmacy waiting times as dispensers will have the opportunity to prepare prescriptions in advance of the patient's arrival.

### Benefits for Prescribers

- An expected reduction in workload generated by patients requesting and collecting individual prescriptions and the ability to make wider use of the repeat dispensing service.
- After reviewing electronic prescriptions on screen, prescribers can either sign electronic prescriptions individually or select multiple electronic prescriptions to sign. This is likely to result in a reduction in workload and make the prescribing process more efficient.
- Prescribers will also have the ability to cancel electronic prescriptions at any point up until they are dispensed, and to record the reason they were cancelled.
- Where currently a GP practice operates a prescription collection service, staff will no longer need to sort (or post) prescriptions saving both time and resources.

### Benefits for Dispensing Staff

- It will free dispensing staff from the work associated with re-keying prescription information and, because some electronic prescriptions may be received prior to the patient arriving, will also give them scope to streamline workflow by preparing medications in advance. It can also help them to manage stock control more effectively and order out-of-stock items in a timely manner.
- The introduction of new processes such as nomination will also mean that dispensing contractors currently offering prescription collection services will no longer be required to physically collect prescriptions for patients who have nominated them.
- In order to claim payment for prescription items dispensed, dispensers currently have to post large volumes of paper prescriptions to the reimbursement agency at the end of each month. Over time, dispensers will be able to manage the submission of reimbursement endorsements electronically. This will reduce the volume of paper that needs to be sorted and posted at the end of each month.

### **MILESTONE 47**

**EPS Release 2 to be fully implemented by June 2011**

### **PACS (Picture Archiving and Communications Systems)**

In 2007 NHS Bolton commissioned additional capacity from the independent sector to provide direct access to imaging for GPs and community service specialists. The services operated and continue to operate within a two weeks' time window. However, having images burnt to CDs and posted or transported to referring clinicians has negated many of the benefits that PACS systems were intended to secure.

The business need for NHS Bolton is to implement a means of storage, retrieval and transfer of diagnostic images and reports for clinicians that have a legitimate patient relationship,

and to enable clinicians involved with the care and treatment of a patient to access and review that patient's images and reports, whenever and wherever they practice e.g.

- Across all settings – primary, intermediate, secondary and tertiary, together with other providers of care to NHS-funded patients, including independent sector treatment providers
- Within all locations used by the NHS across Greater Manchester, enabling appropriate data sharing between clinicians involved in the delivery of care to Bolton patients

It is intended that, in the short term, the delivery of a Community Based PACS system will be achieved by extending access to the PACS solution implemented at the Royal Bolton Hospitals NHS Foundation Trust.

### Benefits

- PACS images can be shared easily and quickly wherever needed.
- Enables wider collaboration beyond traditional boundaries in diagnosis, planning and delivery of care
- Far more timely access to the images when actually needed (i.e. real-time) than at some later point
- Images are more secure and there is a reduced chance of images being lost.
- Improved levels of patient safety resulting from the above
- Offers a range of opportunity benefits
  - Shorter care pathways
  - Faster diagnosis
  - Better outcomes
  - Better patient experience.

### **MILESTONE 48** **Community PACS to be live by March 2010**

### **General Practice Systems**

A number of years ago NHS Bolton agreed a strategy to deploy to as many practices as possible a preferred GP system with the aim of having a single product in Bolton.

This was an ambitious plan but one which we believed would enable us to provide a greater level of service and support to general practice.

71% of practices in Bolton now use Vision 3.0 from In Practice systems.

NHS Bolton still believes that the business case and benefits outlined at the start of this project remain true but also recognises that GP Systems of Choice has changed the focus a little.

Under GP Systems of Choice practices are protected from having to migrate away from their current system and would not be expected to migrate more than once in any given 3 year period.

NHS Bolton is keen to ensure that the systems being used by practices are fit for purpose and will be engaging with all practices during 2010 to satisfy itself that practices are happy with the services they receive from NHS Bolton and the suppliers with which it holds contracts.

Over the coming years as Lorenzo Regional Care is deployed we will see much greater integration between GP systems with those used in other parts of the Health Economy. In order to achieve this and deliver benefits to both clinicians and patients we will work more closely with clinicians across all parts of the health economy including GPs within general practice.

#### **MILESTONE 49**

Commence review in March 2010 of GP Clinical Systems

#### **MILESTONE 50**

Practice migrations for 2010/11 identified in April 2010

#### **MILESTONE 51**

Clinical reference group in place in April 2010 to inform the development of Integrated Care Records for the Bolton Health Economy.

### **GP to GP Record Transfer**

Much of the work to implement GP to GP Record transfer has been supplier led with little input from NHS Bolton.

Current statistics demonstrate that enablement and training has been provided to a large percentage of practices.

During 2010, NHS Bolton will ensure that all practices with enabled systems are utilising the functionality.

In order to facilitate this, the team of Data Quality Facilitators within NHS Bolton will be working with the practices to develop internal systems, processes and data quality standards.

It is planned that there will be widespread usage of GP to GP Record transfer by the end of 2010/11.

### Benefits of GP to GP Record Transfer

- The patient's new GP will have knowledge of the patient's current medication, drug interactions, current problems and past medical history, resulting in enhanced patient safety and more focused consultations from day one.
- There will be fewer transcribing errors and omissions because the need to key in information from paper records will be massively reduced.
- Allergies and Adverse Drug Reactions are flagged for review for new patients, resulting in safer prescribing of new drugs after a GP2GP patient record transfer.
- GP2GP allows the NHS to preserve the usability of rich data accumulated in patient records, such as history of blood results for diabetics, rather than losing it every time a patient moves between practices. This means fewer requests for duplicate lab tests.
- Administrative support teams will have to spend less time processing incoming patient records due to the richness of the information available electronically.

#### **MILESTONE 52**

**GP to GP Record transfer to be used across all practices by the end of December 2010**

### **Electronic Transfer of Discharge Summaries and other Clinical Correspondence**

Over the last year NHS Bolton has been working closely with the Royal Bolton Hospitals NHS Foundation Trust to improve the transfer of clinical correspondence to GPs.

During 2009, we established systems and processes to deliver electronic radiology reports into the patients clinical records held with their GP.

Before the end of 2009, all GPs in Bolton will be receiving Electronic Discharge letters for all in and out patients. It is further intended that during 2010, GPs will be able to request tests electronically and have the results of those tests delivered back to them electronically in order that they can be attached to their record.

Further work will also be completed to ensure that practices are able to audit which reports have been requested that do not have a returned report. This will ensure that patients do not slip through the net and that we continue to mitigate against patient safety risks.

It is important to note that the proposals set out above are short-term, interim solutions that will be superseded as interoperability is achieved between GP systems and Lorenzo Regional Care.

#### **MILESTONE 53**

**Work to be completed for all Practices wishing to receive electronic discharge summaries by January 2010**

**MILESTONE 54**

Electronic Ordering of Tests and delivery of results to be in place by July 2010.

**MILESTONE 55**

Integration between GP systems and Lorenzo Regional Care to be in place by 2012

**Bed Management Systems**

There is an acute awareness across the Commissioner Arm and the Providers that the uncertainty caused by unpredictable availability of bed capacity results in frustration for patients, carers, family and staff alike.

By helping busy staff to save time and effort on paper work and telephone calls, electronic capacity management can capture reliable and up-to-date information on admissions, discharges, transfers and delays 24 hours a day, 7 days a week. A good bed management system would have the capability of showing not only when there is bed or non bed based capacity, but also when capacity is likely to be available based on up to date length of stay information.

During the winter months, experience has shown that patient demand requires effective capacity management. Having an electronic system across the Health Economy that can assess capacity against demand will support better patient care and the delivery of more effective care pathways. By seeing demand in advance, services can be forewarned and become more proactive in how they manage patient demand.

The Royal Bolton Hospital Trust implemented the Extramed bed management system in December 2008 as an interim product ahead of functionality offered in the Lorenzo Regional Care solution. NHS Bolton is currently working together with the trust to extend the current product into community based services which include:

- BCU
- Minerva Day
- Darley Court
- Winifred Kettle
- Alderbank
- Firwood

It is currently expected that the first stages of this project will be live in November 2009.

It is planned that, once the Bolton Health Economy is using Lorenzo Regional Care and the 'Advanced Bed Management functionality' has been released to us, that we will adopt this. The current expectation is that this will become available in 2011/12.

## Benefits

- Support the achievement the 98% A&E target on a consistent basis, ensuring patients receive quality care within 4 hours of attending the A&E and Walk in Centre (WIC) departments.
- Reduce the length of stay in acute and intermediate care settings for normal and complex patient journeys.
- Provide a reliable patient flow management system which will also create efficiency in staff resources. The current system for patient flow is reliant on staff providing manual updates on spreadsheets, via e-mails or by several members of staff having a responsibility to make telephone calls at random request. Out of hours on call senior manager duties will also benefit from a system that is consistent 24/7.
- Provide real time and accurate information around bed utilisation, occupancy and capacity as a health economy. There will be visual context for meeting the specific needs of patients from admission to discharge and readmission.

### **MILESTONE 56**

Extramed Bed Management to be implemented in November 2009

### **MILESTONE 57**

During 2011/12 the Health Economy will review the 'Advanced Bed Management' functionality available in Lorenzo Regional Care, and develop plans to migrate.

## **Adastra**

Adastra is a Clinical Information system used by our 'Out of Hours' service and the NHS Bolton Walk-in centre at Lever Chambers.

The system is currently integrated with the 'Summary Care Record' and feeds electronic messages to GP systems and to remote systems in use by the GP attending an 'Out of Hours' call.

Within Release 2 of Lorenzo Regional Care 'Emergency Care' functionality will become available at which time a review of the future of Adastra will be undertaken.

### **MILESTONE 58**

During 2010/11 we will review 'Emergency Care Functionality' within Lorenzo Regional Care and determine whether there is strategic gain in adopting this and moving away from Adastra.

## **Child Health System (HSW 2000)**

During the early part of 2009 NHS Bolton undertook a review of the current Child Health HSW 2000 system to determine whether there would be strategic gain from migrating to the LSP (Local Service Providers) interim system. The LSP interim solution is in fact the same

product that NHS Bolton currently use and as such we gave considerable attention not only to the possible gains but also to the risks.

Having completed a business case, we determined that the product had a number of issues that needed to be resolved before we were prepared to migrate.

By transferring to the LSP interim system, we will be strategically placed to take the Child Health Functionality available in release 4 of Lorenzo Regional Care.

Since completing our initial business case, we understand that a number of the issues we highlighted have now been resolved and as such intend to review the business case again during 2009/10.

#### **MILESTONE 59**

During 2009/10, we will review the issues that resulted in us deciding not to take the LSP Interim solution. If these have been addressed it is expected that a migration could occur in 2010/11.

#### **MILESTONE 60**

Migration to LRC Child Health Functionality currently expected to take place in 2012/13

## **Map of Medicine**

Clinical Pathway development and standardisation is a key strategic priority of NHS Bolton, as one of 8 high level aims in our 5 year strategic plan.

Map of Medicine (MoM) has been designed to allow clinicians to navigate through a broad knowledge base to reach the information they require in order to support the delivery of care. It organises medical knowledge into pathways detailing treatment options and implications at each stage.

MoM is provided to the NHS by Connecting for Health (CfH) as part of the National Programme for Information Technology (NPfIT) and has been designed so that it can be adapted to reflect local health care pathways. It provides, in a single solution, nationally accredited clinical guidelines that effectively support and build upon best clinical practice.

NHS Bolton is keen to begin to use the Map to support the documentation of its care pathways and to support clinicians in their decision making and improve outcomes of care and the overall patient experience.

It is acknowledged that presently the Map is in the main a 'stand-alone' system. Our local experience, particularly when implementing the Summary Care Record, has shown that there is a greater uptake of systems and system functionality when they are integrated. It is clearly the intention of the LSP to deliver an intelligent link between Lorenzo Regional Care and the Map of Medicine .

### Benefits

- Patients

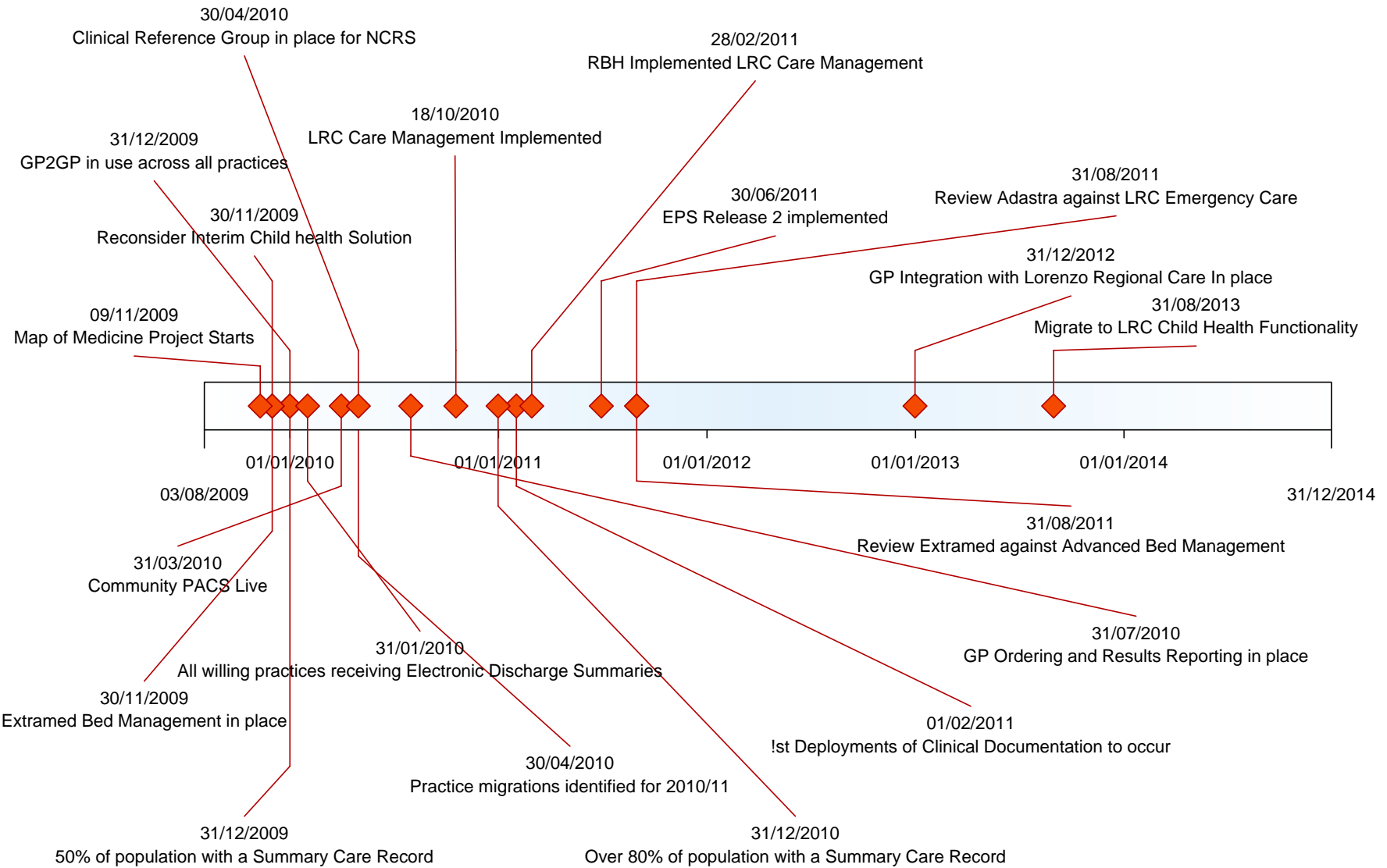
- Patients will be able to receive an increased amount of higher quality information on their patient pathway from the clinician to inform and re-assure them, increasing their confidence and engagement with the management of their condition. Evidence suggests that patients cope better and recover more quickly when they are in control.
- Patients are able to review non-MoM advice and guidance given by clinicians against a standardised, approved, online tool.
- Patients will be able to compare their local pathway received from the clinician against national best practice allowing them to identify any differences moving towards standardised healthcare.
- Patients will benefit from best care outcomes by utilising Evidence Based Care, where the Clinician can utilise the best evidence available to support the care needs of the Patient.
- Clinicians
  - An increase in the confidence of Staff in treating patients as they can be assured they are following approved guidelines for treatment and facilitating clinical effectiveness, which maximises positive treatment outcomes for patients
  - An increase in readily available information to be used during clinical supervision and continual professional development (CPD) with staff, meaning that staff members can better keep abreast of developments in approved treatments facilitating patients accessing the best care available.
  - Increases the level of review applied to local care pathways against national recommended standards, ensuring the best service possible is delivered to the patient.
  - An increase of approved, reliable information that a clinician has access to, allowing the most up to date treatment processes to be administered improving the service delivered to patients.
  - Supports a move towards improving clinical governance and quality standards
  - The communication gap between clinical and non clinical staff can be improved
  - Clinician's confidence will be increased when dealing with conditions outside of their normal areas of expertise/knowledge
  - There will be better provision of the latest evidence based treatments ensuring best practice, better quality and improved care outcomes
  - Improved knowledge to clinicians including locums will be provided, ensuring local pathways and protocols are followed

- A more coordinated and managed approach will be introduced into the organisation for reviewing, developing, agreeing and documenting pathways and other clinical knowledge

**MILESTONE 61**

Map of Medicine project commences in November 2009.

### Enabling Service Transformation – Milestone Plan



## ***Appendix 1 - Delivering This Challenging Plan***

This plan contains a significant programme of work designed to underpin the business functions and services provided by NHS Bolton.

The successful delivery of the plan is linked to a number of key requirements including, but not limited to:

1. Nationally procured systems being delivered on time.
2. Local capacity and capability.
3. Strong clinical engagement and ownership.
4. Effective Programme Governance.
5. The availability of key skills including Project Management, Programme Management and Business Transformational Change.
6. The IM&T department developing smarter ways of working, and becoming more effective.
7. Appropriate levels of funding.
8. Effective risk and issue management.
9. Strong benefits management.

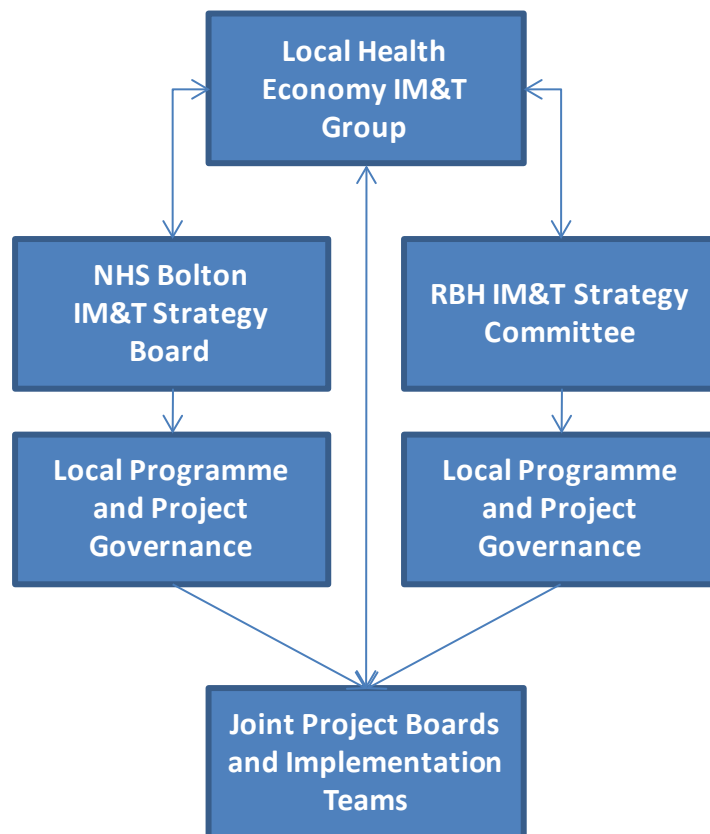
Over the last few years, the IM&T department has grown in line with the requirements of our expanding programme. This growth has not been solely limited to numbers of staff but takes account of newly acquired skills and responsibilities that have been absorbed across the team. Over the last 18 months we have made improvements in the areas of

- Service Management and Service Delivery
- Project and Programme Management
- Information Security Management
- Business Analysis and supporting transformational change

In order to meet the demands of this programme we need to ensure that we have both the capacity to deliver and also the capability. A further challenge to us will be to deliver this plan with limited financial growth, in effect this means smarter ways of working and doing more with our current resource envelope. It is with this in mind that a review of IM&T Management using the NIMM (NHS Infrastructure Maturity Model) features as a key element of this strategic plan.

### Overseeing the Delivery of This Strategic Plan

The diagram below offers a high level review of the governance arrangements in place that will be used to review progress and support strategic development.



The governance arrangements above recognise that key elements of this plan need to be taken forward as a Health Economy and are not just restricted to NHS Bolton.

### Checkpoint Reviews

This plan covers 5 years and much can change in that time. During the life of this plan, annual reviews will be undertaken to ensure that it remains fit for purpose and takes account of any new national or local requirements. These reviews will be overseen by the IM&T Strategy Board and agreed by the PCT Management team. Any significant changes to the strategic direction outlined within this plan will be brought back to the PCT Board for consideration.

### Gaining Clinical Ownership

Much of what this plan aims to deliver will impact front line services. This impact will be positive and will provide a range of benefits that will improve care outcomes, reduce clinical risk, improve the patient journey and enable us to innovate.

This programme can only be achieved by working in partnership with clinicians and involving them closely in delivering these systems.

As we take this programme forward, we will be engaging with key stakeholder groups to support us in the delivery of this transformational change programme.

## **Appendix 2 - IM&T Outputs Mapped to NHS Bolton Strategic Goals**

The table overleaf attempts to map some of the key outputs from the IM&T Strategic plan to the 9 goals outlined within the NHS Bolton Strategic Plan. (The Big Bolton health Plan 2009 to 2014)

The 9 goals are as follows:

<b>Goal</b>	<b>Description</b>
1	Reduce the gap between Bolton and England average life expectancy by 43%
2	Reduce the all-age, all-cause mortality rate in our most deprived quintile by 15%
3	Increase the number of people reporting good and fairly good health by 2% to meet the national average
4	Provide health services where and when people want them, as measured by 90% of Bolton people within one and a half miles of a new hub Health Centre
5	Reduce the error and defect rates in health services as measured by a reduction of Hospital Standardised Mortality Ratio at Royal Bolton Hospital by 31% from an index of 124 to 85
6	Increase user satisfaction with health services as measured by health questions in Citizens Panel survey from 81% to 85%.
7	Document clinically agreed care pathways covering 75% of all patient journeys.
8	Review 20% of budget annually for a systematic re-investment programme.
9	Strengthen our organisation by accreditation and review (as measured by Comprehensive Area Assessment score of 4* (or highest) and attaining World Class Commissioning level 4).

IM&T OUTPUTS	STRATEGIC GOALS								
	Goal 1	Goal 2	Goal 3	Goal 4	Goal 5	Goal 6	Goal 7	Goal 8	Goal 9
Robust Infrastructure	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mobile systems	✓	✓	✓	✓	✓		✓		✓
Wireless Technologies		✓	✓	✓	✓				✓
SharePoint	✓	✓	✓		✓	✓			✓
Video Conferencing									
Information Governance Programme	✓	✓	✓	✓	✓	✓	✓	✓	✓
Business and Clinical intelligence	✓	✓	✓		✓	✓	✓	✓	✓
Lorenzo Regional Care	✓	✓	✓	✓	✓		✓		✓
Summary Care Records	✓	✓	✓	✓	✓	✓			✓

IM&T OUTPUTS	STRATEGIC GOALS								
	Goal 1	Goal 2	Goal 3	Goal 4	Goal 5	Goal 6	Goal 7	Goal 8	Goal 9
Electronic Prescription Service	✓	✓		✓	✓				✓
PACS				✓					
GP Systems development	✓	✓	✓	✓	✓		✓		✓
Electronic Transfer of discharge summaries and clinical docs	✓	✓		✓	✓				✓
Health Economy Bed Management				✓					✓
Child health Systems			✓						✓
Map of Medicine	✓		✓	✓	✓		✓	✓	✓

### ***Appendix 3 – Outline costs for delivering this plan***

The spreadsheet overleaf provides a summary analysis of the costs associated with the implementation of this strategic plan.

Most of the 61 Milestones will be achieved from within recurrent resources. The financial model identifies where there is a requirement for funding over and above current resources levels for the IM&T department.

It can be seen that much of the funding for the projects outlined has already been secured. However there are areas where additional investment will be required, the source of which at this stage remains to be identified.

Estimated Costs of implementing this strategic plan

	Project	2009/10	2010/11	2011/12	2012/13	2013/14	Totals	Funded From	Funding approved	Comments
IM&T Management	NIMM	0	10000	10000	10000	10000	40000	IM&T Budget	N/A	
Infrastructure Management	COIN	933030	131544	131544	131544	131544	1459206	NW Sector/IM&T Budget	Yes	
	Server Virtualisation	249000	10000	10000	10000	10000	289000	Capital Programme/IM&T Budget	Yes	
	Mobile Technology	0	250000	250000	40000	150000	690000	To be agreed	No	Estimated costs
	Wireless Technology	0	50000	50000			100000	To be agreed	No	Estimated costs
	General Practice IT	100000	200000	150000	150000	150000	750000	Capital Programme/IM&T Budget	Partial	Budget costs
	Video Conferencing	0	50000	10000	10000	10000	80000	To be agreed	No	Budget costs
	Infrastructure Replacement	100000	100000	100000	100000	100000	500000	Capital Programme/IM&T Budget	Partial	Budget costs
Information Governance	Registration Authority	0	10000	0	0	0	10000	NW Sector	Yes	Additional pressure costs
	Training	0	40000	0	0	0	40000	NW Sector/IM&T Budget	Yes	
Providing Business Intelligence	Data Warehouse and BI System	280000	10000	10000	10000	10000	320000	NW Sector/IM&T/Informatio Budgets	Yes	
	Clinical Dashboard	0	0	0	0	0	0	CfH Funded	N/A	
Delivering systems to enable service transformation	Lorenzo Regional Care	319000	283000	291000	200000	200000	1293000	NW Sector	Partial	Years 2012 to 2014 to be approved
	Summary Care Record	150000	100000	0	0	0	250000	NW Sector Funding	Partial	2010/11 subject to business case
	Electronic Prescription Service	30000	70000	0	0	0	100000	NW Sector Funding	Yes	
	Community PACS	260000	10000	10000	10000	10000	300000	NW Sector Funding/IM&T Budget	Yes	
	Bed Management Extramed	60000	27000	27000	27000	27000	168000	PCT Funded	Yes	
	Child Health HSW 2000	70000	70000	70000	70000	70000	350000	IM&T Budget	Yes	
	Map of Medicine	60000	60000	50000	0	0	170000	NW Sector Funding	Yes	
<b>Totals</b>		<b>£2,611,030.00</b>	<b>£1,481,544.00</b>	<b>£1,169,544.00</b>	<b>£768,544.00</b>	<b>£878,544.00</b>	<b>£6,909,206.00</b>			

## ***Appendix 4 - Glossary of Terms***

A&E	Accident and Emergency
ALW	Ashton Leigh and Wigan PCT
BCU	Bolton Community Unit
BRAHM LIFT	Bolton Rochdale and Heywood and Middleton Local Improvement Financial Trust
CITRIX DEVICES	Diskless devices used to deliver software applications to the user's desktop. All software is run from servers and documents are stored on a Storage Area Network.
CfH	Connecting for Health
COIN	Community of Interest Network
CONTACT	National NHS Email Service
CPD	Continuous professional development
CSC	Computer Science Corporation
DES	Directed Enhanced Service
DNA	Did not attend
DPA	Data Protection Act
DTC	Diagnostic and Treatment Centre
DQF	Data Quality Facilitator
ECDL	European Computer Driving Licence
EKSF	Electronic Knowledge and Skills Framework
EPS	Electronic Prescription Service
ETP	Electronic Transmission of Prescriptions
FOI	Freedom of Information Act
GMS	General Medical Services
GP	General Practitioner
GPSOC	GP Systems of Choice
IAO	Information Asset Owner
ICAT	Integrated Clinical Assessment and Treatment Centre

ICRS	Integrated Care Records Service
ICT	Information Communications Technology
IM&T	Information Management and Technology
IPM	iSoft Patient Manager
IPT	IP Telephony (Merging of Voice and Data Networks)
ISIP	Integrated Service Improvement Plan
ISMS	Information Security Management System
IP	Internet Protocol
IT	Information Technology
ITIL	Information Technology Infrastructure Library
LAN	Local Area Network
LDP	Local Delivery Plan
LIFT	Local Improvement Financial Trust
LORENZO	Clinical System in use within Community based services
LRC	Lorenzo Regional Care
LSP	Local Service Provider
MIQUEST	Data Analysis Tool
MoM	Map of Medicine
MSP	Managing Successful Programmes
N3	New National Network (NHS Private Network)
NeLH	National Electronic Library for Health
NIMM	NHS Infrastructure Maturity Model
NHS	National Health Service
NLOP	National Local Ownership Programme
NPfIT	National Programme for Information Technology
NSF	National Service Framework
OASIS	Open Access Strategic Information System

OOH	Out of hours
PACS	Picture Archiving and Communications System
PAN	Personal Area Network
PBC	Practice Based Commissioning
PCT	Primary Care Trust
PDA	Personal Digital Assistant (Palm top)
PRIMIS	Primary Care Information Service
PRINCE2	Project Management Methodology used to manage IT projects.
RBH	Royal Bolton Hospitals NHS Foundation Trust
QIPP	Quality, Innovation, Productivity, Prevention
QMAS	Quality Management and Analysis System
QOF	Quality and Outcomes Framework
READ CODE	Clinical Code Set
ROI	Return on Investment
SAN	Storage Area Network
SCR	Summary Care Record
SHA	Strategic Health Authority
SIRO	Senior Information Risk Owner
SLA	Service Level Agreement
SMART	Specific Measurable Achievable Realistic and Time Bound
SNOMED	Clinical Code set to replace Read Codes
SUS	Secondary Uses Service
TCO	Total Cost of Ownership
TCS	Transforming Community Services
TOGAF	The Open Group Architecture Framework
VISION	PCT's preferred clinical system in General Practice
VoIP	Voice over Internet Protocol
WAN	Wide Area Network

WIC

Walk-in Centre