

Strategic Transformation Programme

Using technology to deliver better healthcare



The journey towards a national Electronic Patient Record has taken longer than originally expected and has sometimes proved testing for those involved. The first moves towards this key objective began in 2003, when the initial National Programme for IT contracts were placed, while CSC became involved at the start of 2004. There were some rather optimistic predictions about the likely speed of roll-out and the National Programme has been criticised for not delivering exactly to plan. Yet, quietly and effectively, a group of early adopter NHS Trusts have been steadily engaged in making the vision of a unified EPR a reality, and this document tells the story of one such trust: University Hospitals of Morecambe Bay NHS Foundation Trust (UHMBT).

A guiding vision

UHMBT is an early adopter for the use of Lorenzo because its senior doctors and management team have a deep and long-standing belief in the importance of an Electronic Patient Record (EPR) as a key factor both in delivering better patient care and achieving much higher levels of operational efficiency. Long before the National Programme for IT (NPfIT) was announced, the Trust was already exploring options for developing its own system, looking at best practice solutions on the market at the time and preparing to move forward on its own account. In other words, there was no need for change to be imposed from the outside: UHMBT was already convinced of the necessity for an effective EPR.

This strategic vision has always been rooted in the operational realities of the area. UHMBT has five widely separated sites and serves a catchment area of more than 1000 square miles. In this beautiful but wild and rural area, travel is neither quick nor simple. Paper records could be held at any one of the five locations at any given moment. That made it difficult for clinicians to access the most up to date patient information at the point of treatment, not just for emergency cases but also for clinics. Senior medical staff, therefore, had been looking for a better way to manage patient-related data for many years.

In addition to this, Trust leadership was extremely anxious to build up a closer and more integrated relationship with other care providers, and in particular, with General Practitioners, both for improved patient care and also for long-term commercial reasons, as explained by Patrick McGahon, Director of Service and Commercial Development. "One of our critical goals is to maintain the level of GP referrals," he says, "because that is where our business comes from. Potential changes to commissioning will make this more important still. We may have to compete with private sector providers, who tend to be

good at administration and are thus easy to work with. The customer care aspects of Lorenzo are critical: excellent GP communication is one key way of differentiating ourselves and we saw a close connection with GP systems as a key goal for our own change project."

The Trust has stayed engaged because Lorenzo remains the best and most effective way to realise its own vision. Clinicians at UHMBT have believed for more than a decade that an electronic patient record is the key component in a health strategy that will improve safety, drive better and more secure treatment, save time and resources (for patients as well as clinicians) and permit the integration of all stakeholders, working together across the region. That is a vision worth fighting for, and that is why UHMBT leadership at all levels have been so determined to make Lorenzo work for them.

The right choice

UHMBT has its own agenda, but it also has to cope with the realities of the NHS as it is today and is likely to develop into the future. For a start, there is a more or less continuous need for change, as successive waves of organisational reform drive large-scale restructuring and targeted improvements to operational efficiency. At the same time, there is an absolute requirement to deliver the best possible patient care and constantly improving health outcomes, all within strictly limited budgets.

In addition to these basic realities, UHMBT also wishes to enhance the overall patient experience from initial contact, through all the stages of the care it provides, leading to a smooth and effective hand-over back to the GP or community service. That explains why, despite all the inevitable controversy that has dogged the NPfIT over the years, there remains a basic requirement for an integrated IT system, capable of communicating with other systems, to manage all patient activities. This system needs to

possess deep clinical functionality as well as the ability to manage the efficient flow of patients from GP referral or emergency admission through its clinics and wards, while accurately reporting progress and performance.

Right from the outset, Lorenzo was designed to provide this powerful combination of rich, secure patient information, flexible tools to plan care, manage waiting lists, schedule clinics, and optimise bed occupancy, and functionality to request and report tests, and safely prescribe medications. What this also means is that by efficiently planning clinics and associated treatments with all the relevant patient information available at the point of consultation, doctors and nurses either in the outpatient clinic or at the bedside can spend more time directly delivering patient care, in a quality interaction with the patient. In this way, Lorenzo actually increases 'front-line' staffing.

Getting started

UHMBT worked from the start with CSC as their implementation partner and one important characteristic of the project is the way that Trust leadership, UHMBT informatics, clinicians within the Trust, GPs, the application provider and CSC have worked as a high-performing, integrated team. A shared vision, respect for each other's professional capabilities and strong governance have made this alliance work effectively.

The project was always designed to deliver its benefits in stages, and there have been a number of important achievements over the past three years. It began with a

limited pilot release in October 2008 at Furness General Hospital, with a focus on clinical documentation, together with request and results of radiology tests. These functions were later extended to the surgical wards at Furness during 2009. After careful preparation during the winter of 2009 to 2010, the Care Management functionality of Lorenzo then went live across the Trust in Spring 2010, at which point the existing Patient Administration System (PAS) was turned off.

At each stage, the implementation team took care to move step by step, with full pilots leading to wider roll-outs, ensuring that potential disruption to existing systems could be contained, with lessons learned quickly and updates made as fast as possible. Lorenzo now manages all inpatient and outpatient activity throughout the Trust, including waiting lists, referral management, patient alerts, patient lists, and a full suite of operational and statutory reports. Its clinical content is also delivered as forms, templates and clinical documents, as well as specific functionality to support Trust activities, such as requesting and results.

Learning the lessons

Throughout the project, the key issues faced have been more to do with culture and working practice than anything else. Technical development was needed, of course, and Trust clinicians took a full part in this, working alongside software developers to build real-world experience gained on medical wards into new versions of the application. And yet, the most important factor in the entire project has been change itself.

The Trust has stayed engaged because Lorenzo remains the best and most effective way to realise its own vision



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Dr. Shahedal Bari



Clinicians and managers alike realised that introducing a consistent electronic patient record would impact on every aspect of how staff throughout the Trust worked.

- Junior doctors would be obliged to follow consistent, standardised care pathways and learn how to do things according to best practice.
- Other clinicians would need to learn not just basic computer skills, but also the disciplines needed to update records for themselves.
- Non-compliant practices would need to be revised and security would be given an even higher level of importance than before.

The UHMBT management team understood that they were engaged in a process of fundamental culture and behaviour change, and that is always a tough and drawn-out process. They also knew that, as early adopters, they would be acting as pioneers, learning sometimes painful lessons that will make future implementations faster and simpler, not just in UHMBT but across the entire NHS.

Driving forward

In spring of 2010, 3500 users at five locations moved over to the new Care Management system, with deployment taking place at the same time as final steps towards the achievement of Foundation Trust status. Steve Fairclough,

Head of Informatics at UHMBT throughout the Lorenzo project, is very clear about the experience.

“The organisation rose to the challenge of using a new capability in main administrative areas very well,” he says, “but we also expected a lot of disruption - and we got it.” The project team was well prepared and carried out rapid root cause analysis on virtually every problem that was reported. The results were enlightening. “The system tended to be blamed for everything that went wrong in the organisation, although we established that, for a high proportion of the issues reported, the cause was actually poor process or user interaction with the system,” he concluded. “We had to request some software fixes but for the most part it was about fixing data with scripts, then retraining users. This is all part of a complex system deployment and its importance shouldn’t be underestimated.”

By the end of the year, the roll-out issues were for the most part a distant memory. Foundation Trust status had been reached, the technology platform was stable and the entire organisation was facing the future with a positive attitude. So what made the difference?

What the clinicians think

Dr. Colin Brown, consultant physician and gastroenterologist, and a consultant at UHMBT for 15 years, sums up the changes that are taking place. “I see Lorenzo as essentially being about making clinical care better and safer,” he says. “When clinicians looked at the



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system in depth during late 2009 and early 2010, there was a lot of enthusiasm. People felt good about the strategic direction of the project and were excited by this. Our only concern was how to move it forward faster.”

Since the bedding-down of the new functionality in Lorenzo launched since mid-2010, there has been a real sea-change in the attitudes of users, as they have come to appreciate the clinical benefits that Lorenzo can deliver.

Dr Brown commented: “It started with being able to see old and recent clinic letters, for those vulnerable sick patients admitted on the Medical Assessment Unit. There was great clinical value, especially when the hospital notes were not available at that time, to fully appreciate active clinical problems for patients and the relevant clinical background information. Next came discharge letters, which have always caused problems.” There is a national contractual requirement for hospitals to issue a discharge letter, explaining treatment given and recommendations for the future, to GPs within twenty four hours. In fact, this deadline was being missed more often than met and on one site discharge letters were sometimes very much in arrears.

Lorenzo makes it simple to produce discharge letters in a largely automated manner. As any patient goes through a treatment process within the Trust, relevant data such as clinical problems, diagnoses and important test results, can be routinely captured within Lorenzo, and embedded within an ‘Immediate Discharge Summary’ (IDS) letter. The system then generates the letter with this data and the discharging clinician checks information and adds any supplementary narrative that may be required. At this

point the discharge letter is simply saved and, when the patient is discharged formally, the letter is automatically sent electronically to the patient’s GP in a secure encrypted manner. In the future, the To Take Out (TTO) and inpatient prescribing modules will dovetail with the current IDS letter capability, thus completing a safer and more accurate discharge process for patients.

As Dr. Brown says: “Use of this functionality has gone through the roof, reaching 80% within weeks. Junior doctors, in particular, have taken to it instantly and GPs simply love it. This has transformed the service we deliver.” The term often used by clinicians for the explosive take-off of discharge letters is ‘going viral’. From an initial one site trial, it spread across the entire Trust at high speed, as users heard about its benefits and demanded the right to get involved. From 20 letters a month at go live, the system now delivers 2500 a month, which shows how clinicians are now voting with their feet and moving onto Lorenzo of their own will.

This kind of development means that clinicians are now driving the project forward. They have come to see very clearly how Lorenzo functionality leads to practical improvements in patient care, while also making better use of their own time.

Dr. Richard Neary, consultant biochemist and clinical lead for a number of services has his own take on this. “Lorenzo will potentially make a big difference in outpatient clinics.” He says. “To manage a clinic effectively, it is essential that patient records should be ready and available for the clinic, which is not always feasible in a multi-site Trust such as ours. In the future, however, Lorenzo will enable immediate access to records wherever in the Trust the clinician needs the information. This includes a full range of test results and the status of investigations that are pending: that is certainly not always the case today.”

As Lorenzo delivers a significant history of written documentation, such as outpatient clinic letters, formal inpatient letters and GP referral letters going back three years, and with the addition now of immediate discharge summary letters, the system is eliminating many of the traditional paper record-related issues. As Dr. Neary notes: “You can now access up to date and relevant information via Lorenzo and manage clinics much more effectively.” A huge amount of time and resource is wasted in the NHS every year through records problems related to outpatient clinics. Lorenzo will save a significant amount of time, which means that more time can be devoted to effective frontline care, as less is being spent on retrieving, collating and hand-delivering patient information.

Dr. Shahedal Bari, Consultant Respiratory Physician, underlines the importance of the benefits being delivered now. “You can manage your clinics in real time now,” he says. “Lorenzo allows you to see who is there, who has cancelled, who remains to be seen, so you can control your own time efficiently and give a much better service. In future there will be no need to hunt for case notes in a pile of paper: Lorenzo pushes it onto your screen just when you need it.”

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Tony Halsall, Chief Executive



Solving the problems

No-one at UHMBT denies that there have been significant issues related to the entire Lorenzo project, but there is impressive unanimity about their conclusions as to why, and what should be done about them.

“Everyone needs some computer skills now,” comments Dr. Bari. “This wasn’t the case in the past and some people still don’t see why they need to do it.” He identifies training as a key requirement, but also points out that aspects of traditional organisational hierarchy must be altered in order to get the best use of clinical work. “We may have only one or two PCs in a ward,” he says. “Staff must get used to sharing these resources, no matter whether they are a consultant or a ward nurse. It’s a behavioural issue that must be addressed.” Dr. Brown endorses this view: “People have a finite capacity for change, and they buy-into success. It’s all about the value. If the value is high, and the time needed isn’t too different, then it will happen fairly quickly.”

Dr. Neary notes that: “Putting Lorenzo on top of existing processes has shown up the existing underlying weaknesses. We can now see more clearly than before where we have design issues in processes and training. These need to be put right to gain all the benefits- but that would always have been necessary, with or without Lorenzo.”

Delivering long-term benefits

The key to making any electronic patient record is full support from the clinical community. At UHMBT there has been a major change in attitudes, driven by clear awareness of how Lorenzo leads to patient care benefits. These are being appreciated by everyone involved in GP relationships and clinic management, but the benefits are now being extended still further: the Infection Prevention Nurses (IPN) have also taken the initiative to use Lorenzo as the key to better care.

Lorna Pritt, Infection Prevention Nurse Specialist, explains. “The existing paper methods we used were extremely time-consuming. We had to pick up lab results every day, come back to the office, write a paper care plan, file it at whichever site we were using as a base and then try to keep track of problems by sending paper notes through the internal mail system.” Inevitably, the IPN team found they were playing catch-up, reacting to problems as patients carrying infections came into hospital without being flagged up in advance, or left without being treated. This is a potential problem for the entire Trust.

If a patient with an infection is admitted to a general ward because their condition has not been identified early enough, this can put other patients at risk of cross infection. By contrast, if the condition is identified on admission, the patient can be isolated during their stay, which greatly reduces the possibility of cross infection and also means that appropriate treatment can be commenced in a more timely manner.

The arrival of Lorenzo proved the catalyst for transformational change. As Lorna Pritt says: “We were very frustrated with the existing system and wanted to see if we could use Lorenzo to make an electronic version of our paper records. We soon found it was possible to drive most data automatically onto the record, cutting out the need for entering the same data over and over again. This saved time and also cut out the number of errors in the system.”

The new IPN approach went live on 10 October 2010 and in about a month had completely replaced the old system. “We now have shared patient lists,” says Lorna Pritt, “with patient alerts delivered early enough for us to intervene quickly and prevent problems, rather than just treading water while we search for information. Attitudes have completely turned around because it has made our lives so much easier.”

IPN is just one example of new functionality introduced because of user demand for clinical content. Others include cystoscopy, endoscopy, tissue viability, physiotherapy, cardiac rehab, operations notes and dietetics, with urology, ENT, and lung clinic being added in the very near-term. 22 key activities are either being handled by Lorenzo now or will be in the next few months. Further clinical content is being requested by clinicians and deployed to reflect this pull-demand.

In the rest of 2011, further modules will be rolled-out across the Trust, covering emergency care, electronic prescribing and pathology requests and results. The benefits are clearly understood:

- Electronic prescribing will automatically flag up any concerns, such as allergies or incompatible medication, greatly improving patient safety. The new approach will also standardise the prescribing and dispensing of drugs, ensuring that best practice is used consistently, while ensuring better value for money in procurement and use of medications.
- The emergency care system will ensure that high quality data is available to clinicians treating sick patients when time and accurate diagnosis are vital.
- The pathology requests and results functionality will further improve the efficiency and better management of patient care by ensuring that tests take place in a timely fashion and are dovetailed with clinics and other care activities.

Without additional overhead on the business the Trust now collects more data than the previous system, related to the same volume of patient activities. This is not just used to improve patient outcomes but, by further analysis from an operational administration perspective, has allowed the Trust to launch performance improvement initiatives. The Trust is now able to use Lorenzo as a strategic tool for advancing critically important outcomes, such as:

- Reduced length of patient stay: using better data to work out how to compress time spent in hospital, saving money and improving outcomes.
- More efficient collection and use of clinical data about patients, leading to better diagnoses, better treatments and infection control, resulting in improved outcomes.
- Enhanced communication with other stakeholders involved in delivery of patient care, covering primary and community care organisations.

Lorenzo provides the platform for achieving these critically important strategic goals. It is now the key to a better future for the Trust, the other health stakeholders in the region and the many patients treated every year.



Tony Halsall, Chief Executive

THE VISION BECOMES REALITY

Tony Halsall, Chief Executive, has been a driving force for change throughout the past decade. "We did not see this as a technology project but as a transformational change project," he says. "We knew there was going to be short-term pain so we had to ensure that there would also be long-term gain. Changing the way we deal with patients is a huge vision. The idea of this being the biggest contribution to patient safety this century is the key."

Governance has been at the heart of project implementation, with the Board being kept extremely well-informed at all times, and different Board members taking a hands-on role in key aspects of the project. "It was very refreshing to see members so engaged," Tony comments. "We had non-execs coming in at weekends to watch as system tests were carried out. This is good for morale and it also keeps everyone on their toes."

As for the future, Tony has two important observations: "By working closely with GP networks, we are now close to having a single patient record for the region around both primary and acute care. That is a huge contribution to improving patient services and it must be supported." And the second point? "We have now moved from Trust 'push' to clinician 'pull' as they understand the benefits more clearly and want more of them. That's the key to future success."

The last word goes to Dr. Colin Brown. He says: "Safety, quality, good experience for patients and value for money are the four top priorities for the NHS and Lorenzo delivers on all of them. The key requirement is to talk to doctors and nurses and encourage them to make Lorenzo a vehicle for treating patients better. We need this to go through the entire NHS."

It's been a difficult path at times, but the enthusiasm within the Trust is clear. There is no turning back as UHMBT continues to show the rest of the NHS exactly why Lorenzo is the key to a better future.

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