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CASE STUDY

Liberating data improves the patient experience

Caradigm solution helps Milton Keynes A&E department improve clinical workflow

Introduction

It is no secret that A&E departments nationwide are facing challenging times. Indeed, with the media routinely reporting breaches of the 4-hour waiting time target and ambulances queuing to hand over patients, it would seem that some are stretched to breaking point.

The College of Emergency Medicine claims they have become "like warzones", while the Care Quality Commission has admitted that in some parts of England, emergency care is now "out of control". However, at Milton Keynes Hospital NHS Foundation Trust, innovative technology developed with Caradigm is helping to support the hospital in the daily management of these challenges.

The Challenge

Like many NHS acute trusts, Milton Keynes Hospital NHS Foundation Trust has an extremely busy A&E department in which clinicians and other healthcare staff rely on instant access to information in order to care for over 200 daily visits, many with life-threatening injuries or conditions. The winter of 2012 was a particularly challenging period for the team and required new software to be developed at speed, which resulted in hugely improved performance.

However, the department's ageing system for managing patient documentation, episodes and subsequent treatment remained time-consuming and heavily paper-based. Added to which, staff were clinging to legacy technology as a result of the challenges encountered from the now disbanded National Programme for IT.

As a result, patient information was often incomplete and clinicians were losing valuable time better spent caring for patients. The number of locum doctors meant that training on the ageing system had also become a burden.

From a patient's perspective, the quality of care and their experience of the NHS define the purpose of any healthcare system, according to A&E consultant, Dr Vimal Desai. "The imperatives were to develop a system that clinicians could use quickly, simply and that we could develop with practice - and without lots of time consuming IT problems.

Milton Keynes Hospital NHS
NHS Foundation Trust

Customer: Milton Keynes Hospital NHS Foundation Trust (A&E Department)
No. of beds: approximately 400 inpatient beds
No. of employees: 3000
No. of annual inpatients: 53,000
No. of annual outpatients: 258,000
No. of annual patients in A&E: 73,000
Country: United Kingdom
Web Site: www.mkhospital.nhs.uk

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"In addition, the data capture needed to be good enough to ensure that communication to GPs was instant on discharge, that clinical audit and teaching could be enabled, and that clinical coding to inform decision making was as accurate and detailed as possible."

From a clinician's perspective, being a busy A&E with limited resources and intense pressure on staff to provide the best medical care, the department needed to replace its outdated workflow system with a more appropriate, modern IT solution says Jacqui Burnett, Emergency Department Matron.

"The system allows accurate tracking of patients and we are already using it to capture - near real-time - information at the patient's bedside," she says. "This one part of the system alone has changed the way in which we work and helps to keep patients safe. Staff find the system easy to use, it is a useful tool at hand over and teams from outside the department also use the system to track 'decision to admit' times and to predict bed requirements over the next few hours," she adds.

From a hospital manager's perspective, improving quality of care and managing cost is also a challenge, particularly in a busy A&E department. "As budgets are tightened, we must continually look for ways to improve efficiency and ensure that, when patients are seen and treated, we do this in the most efficient way," says chief operating officer at Milton Keynes Hospital, Darren Leech.

The Solution

Recognising the need for a change, Dr Desai therefore asked the Hospital's IT department to come up with a solution - one that a locum or new A&E staff member could learn with minimal training; a clinician could use to perform administrative tasks in seconds rather than minutes; and did not require the Hospital to purchase new software or services.

IT Manager, Craig York, says the ideal solution was to extend the use of Amalga (now known as the Caradigm Intelligence Platform), which the hospital already uses elsewhere to pull together data from multiple source systems in - near real-time - and to provide analytics services and drive workflow.

"It's a flexible platform," he says. "The technology aggregates clinical, financial and operational data. Its flexible nature and ability to rapidly create workflows made it the perfect solution. It meant we were able to respond quickly to our clinicians' requirements with different iterations of the solution and call upon them occasionally to suggest improvements. I believe the result is a robust and well-designed solution.

"The strong collaboration between our A&E and IT staff was a key factor behind the success of this project. Our clinicians are delighted with the simplicity and intuitiveness of the system. All of the required criteria have been met and many benefits and efficiencies achieved."

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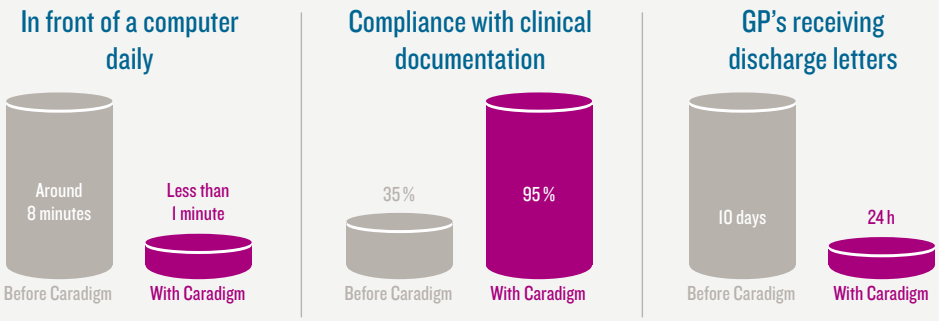
Benefit to clinicians: The initial project was completed within 90 days and the roll-out of the solution has resulted in clinicians spending less than one minute at the computer, compared to about eight minutes in the past - giving them more time to spend with patients. Dr Desai says the rapid development of the new system inspired the highest level of clinical engagement he has ever seen.

"Above all, our clinicians greatly appreciate being able to spend more time with patients and less on mentally exhausting administrative work," he says. "Local GPs have also been highly complimentary about the quality and promptness with which they now receive information about their patients treated in A&E."

The solution has also led to greater compliance, with entry of clinical notes for discharge summaries up from 30 % to 95 %. Consequently, over 90 % of all discharge letters are sent to patients' GPs within 24 hours - either via the National Data Transfer Service (DTS) or via email - a process which previously took around 10 days. Indeed, the use of the DTS means discharge letters can be sent directly to GP practice systems.



Benefit to patients: The solution is a huge leap forward for the Trust and for patient care, according to Richard Craven, VP and Managing Director Europe: "The flexibility of the Caradigm solution means we can quickly adapt the solution as demands change," he says. "In an environment where prompt intervention is vital and often life-saving, it gets the doctor back to the patient, irrespective of the department and specialty."

Benefit to the hospital: Caradigm's solution has reduced the number of admin staff as less manual collation is required. The improved compliance of locum staff, who now use the new system with appropriate training, has also replaced the need to enter data into the system from the notes the following day as with the old manual system.

As well as dramatically reducing the burden on admin staff, the new solution has vastly improved clinical quality data capture. This makes coding much more accurate and helps inform audit, training and planning for the future. Moreover, the clinical site team - whose job it is to ensure adequate flow of patients through the hospital on a day-to-day basis - can now see at a glance the complete picture within A&E at any given time.

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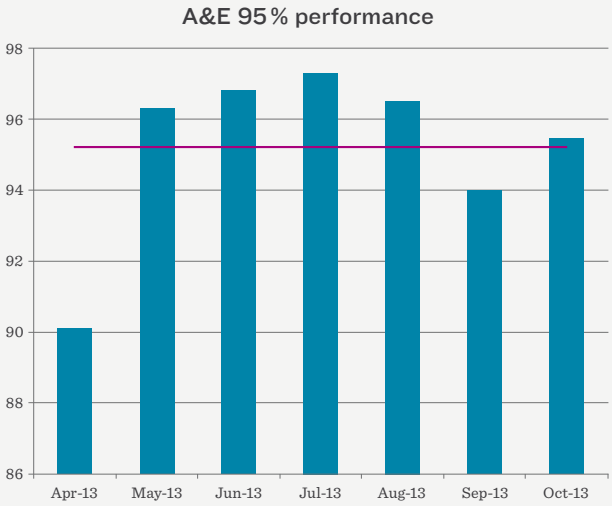
Performance against A&E four hour patient wait target



Stephen Duncan, national head of the Intensive Support Team for emergency care at NHS Interim Management and Support (NHS IMAS) says the system is one of the most user friendly and clinically based solutions he has ever seen. "It was clear to me throughout my time at Milton Keynes that the team are highly responsive in coming up with IT based solutions that are simple and clinically sound.

"The roll out of the system into the medical assessment and ambulatory care units will see further benefits realised and I would not underestimate the value these will bring to the management of the hospital's flow. I have been impressed by their flexibility to change and develop the system in response to clinical colleagues and my advice around best practice for unscheduled care pathways."

Dr Desai concludes: "As well as greatly improving our overall performance in terms of patient care, the solution has enhanced the department's reputation within the healthcare community. We now have lots of visits from our peers around the UK and overseas who are eager to witness what we've achieved."

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