New State-of-the-Art Hospital Implements High Tech Wireless System to Improve Communication, Patient Flow, and Care

Peterborough City Hospital, part of the Peterborough and Stamford Hospitals NHS Foundation Trust, was built to bring together Peterborough District Hospital, Peterborough Maternity Unit, and Edith Cavell Hospital into one centralised facility to address the healthcare needs of the local community.

The goal was to build an up-to-date, flexible facility more suited to modern healthcare. Together with the adjacent mental health unit, known as the Cavell Centre, this now forms the Edith Cavell Healthcare Campus. Peterborough City Hospital, a 612-bed, four-story hospital that each year serves more than one million patients in eastern England, opened to patients in November 2010.

The new unified hospital is nearly triple the size of the three smaller facilities, creating new challenges for efficient communication among staff. It was clear throughout the functional design process that new technology would be needed to streamline communication and facilitate patient care.

As staff prepared for the move into a new, much larger facility, hospital leaders anticipated there would be communication challenges. Besides having to find their way around a new building, staff also had to learn new phone numbers, titles and department names, while still delivering exceptional patient care. Relying on telephones to call a department, find the right person and wait for a response was not going to work. Bleeps were often slow and created inefficiencies.

John Peate, Peterborough’s head of information technology, explained, “Our business relies on making sure patients get the care they need as soon as possible and moving them quickly out of the emergency department (ED) and onto the ward, if they need to be admitted. This makes communication between and from wards to theatres critical.”

Solution

Peterborough City Hospital’s leaders knew their communication needed to be carefully designed to maximise patient care and to match the efficiency created in a new centralised, larger facility. Rowena Barnes, PCH’s chief operating officer at the time of the development, led a cross-functional team to research solutions that would facilitate direct communication between care providers, regardless of their location on the campus.

“It is an immensely complex project,” said Barnes. To ensure easy staff communication, the team selected the Vocera® Communication System that features the lightweight, wearable Vocera Communication Badge. The hospital staff now wears the device to contact any other clinician on site without leaving a patient’s bedside.

“Vocera enables staff to communicate with each other instantly without access to phones and bleeps, making it much more efficient and much better from a patient safety perspective,” said Barnes.
John Ellington, medical equipment manager for the operating theatre, was part of the team that evaluated new communication systems. “In the previous facility, communication wasn’t too bad because it was a small area and fairly easy to manage communication with five theatres,” says Ellington. “But the new hospital has 18 theatres and a huge floor space. You could easily spend 10 to 15 minutes walking around looking for someone.”

Vocera allows one-to-one and one-to-many communication and functions as a phone extension, when needed. With the Vocera Badge, staff can reach each other with the touch of a button and simple voice commands. The hospital strategically deployed 800 Vocera Badges to staff throughout the hospital, all at once, so it could be implemented quickly. The impact on patient care and communication was immediate.

**Results**

“Vocera has made a huge difference to us by giving loads of time back,” says Ellington. He also believes their operating theatre utilisation has gone up by 10-15 percent since they deployed Vocera, because they have faster access to equipment and personnel during and between surgeries.

One ward health care assistant, Nicola Rea, estimates she has gained at least one hour of time a day that can be spent on patient care instead of tracking down colleagues. “If you need one particular person for a phone call or to pick up a patient from recovery, it was quite difficult to find that one person. With Vocera, it’s a lot easier to reach that person directly.” Rea sees the broadcast feature of Vocera as a tremendous benefit. “When you are alone and a patient needs medical assistance, it’s a relief to be able to broadcast for help at the touch of a button.”

To quantify their experiences, the hospital conducted a study of staff and the number of steps they take during the course of a day. They compared those using Vocera with those who were not. The lead ED nurse, Celia Kendrick, explains the results, “Our study showed Vocera saves us a lot of legwork. There were a lot less steps with Vocera—which gives us more time with the patient.”

Peterborough City Hospital also integrated the Vocera system with existing messaging and alert systems at the facility. Integrating Vocera with alert systems has particularly helped the staff improve patient flow from ED admittance through the operating theatre to wards for recovery.

“When oncology patients are admitted to the ED, they use Vocera to immediately text the palliative care team, so they can quicken the process of admissions and help us plan the care,” says Kendrick. “This ensures we don’t interfere with any care plans already in place. Before, you’d have to wait for someone to answer the phone, the person answering the phone would have to go and find the right person... with Vocera you can go straight to the right person and get the answer you need.”

Vocera has proven to be a clinical support tool that allows staff members to focus on what they love the most, patient care.