Bedford NHS Ushers in the Hospital of the Future With Xirrus Wi-Fi

Overview

RECOGNISED AS ONE OF THE COUNTRY'S TOP 40 HOSPITALS for ten successive years, Bedford NHS has over 2,000 staff members and provides a range of services to over 270,000 people living in north and mid-Bedfordshire.

The Solution

THE HOSPITAL BEGAN USING XIRRUS WI-FI ACCESS POINTS (AP) to deploy its first wireless network to enable a Bring Your Own Device strategy (BYOD) throughout its 400-bed, acute district general hospital. The overarching aim is to improve patient care and drive clinical excellence in addition to helping navigate more efficient use of hospital resources.

The wireless deployment enables clinicians and staff to use their own devices from anywhere within the hospital without compromising IT security. It also delivers wireless access and a level of flexibility that opens up possibilities for improved patient care.

Mark Austin, assistant director of clinical information and business intelligence, Bedford Hospital NHS Trust, who led the wireless implementation explains: "The trend among many organisations to allow employees to bring their own laptop, smartphone or tablet device to use at work has begun to make its presence felt in the NHS. Doctors want to use their own iPads from anywhere within the hospital to make it easier for them to access data available to them via the internet.

"We realised that wireless would make it possible for clinicians and other administrative staff to have access to the clinical data they need to be able to work more effectively. For example, doctors can now access patient pathology test results, use electronic Prescribing and Medicines Management (ePMA) or look up x-rays, while doing ward rounds to reduce delays and deliver quicker, better patient outcomes. With many staff already owning the devices, costs saved here can be spent elsewhere."

Bedford Hospital decided to deploy Xirrus Wi-Fi APs that enable both a private wireless network for use by employees. The wireless network can also be used by visiting public sector services, such as the Police or Blood and Transplant staff, and another virtual LAN (VLAN) providing a public-facing SSID for patients and visitors.
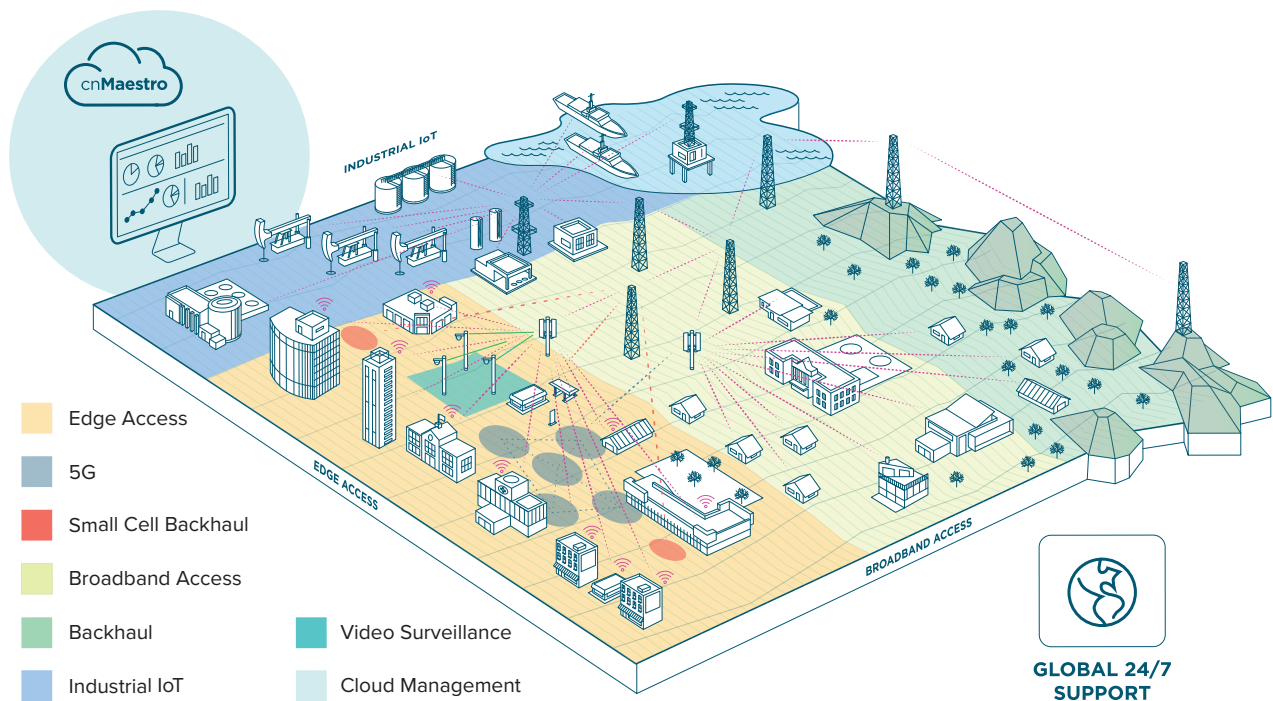
"From a patient perspective, the devices used by consumers have driven people to understand how to use Wi-Fi at home and they expect it elsewhere," says Austin. "Without the restriction of wires and distance there is so much that can be done. With our [Xirrus Wi-Fi] network they can use the same front door as us to access their email and what they want to on their personal devices, but they are kept away from the NHS network and data."

Advantages of Xirrus Wi-Fi

THE BEDFORD HOSPITAL site itself dates back to the Victorian era and some of the wards have 'listed building' status, meaning there is little that can be done to the walls, floors or ceilings to accommodate significant IT infrastructure changes.

"The paradox of wireless is for each wireless access point, you need a wire," says Austin. "So each time you deploy a new one there is more disruption, more cabling, taking down ceiling tiles, cleaning up afterwards, and in these old Victorian buildings there is even the question of planning. The beauty of the Xirrus wireless platform is that fewer wireless points are needed, which in turn reduces the amount of cabling and wiring required throughout the hospital, helping to maintain aesthetic integrity.

"Another area where Xirrus [Wi-Fi] stood out from the crowd was coping with potential interference from older wirelessly-connected devices within the hospital, such as patient monitoring equipment, which is critical to patient care. Because of this we needed to use the 5 GHz frequency range, which is where the Xirrus kit was ideal as it optimises the Wi-Fi connections for those devices operating in both 2.4 GHz and 5 GHz bandwidths."

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The Hospital of the Future, Today

THE CLINICAL USE OF WIRELESS is one of the most visible and obvious uses, but there are other key ways in which Bedford is using the technology to enhance working practices. Pharmacists are also able to use devices that are connected wirelessly to check stocks of particular drugs from wherever they happen to be. Managers and administrators can hold paperless meetings where they have access to patient records, hospital information and all the usual data and files they would work with from their usual desk – helping them to make decisions and deliver action plans more efficiently.

The hospital also needed to allow third parties such as police officers and representatives of other health-related agencies access to the internet while at meetings in the hospital. From social workers to staff from the transplant authority, being able to get online while attending meetings or patient emergencies at Bedford Hospital can mean reduced administrative delays – information is available instantly. Follow-up actions can be logged, stored and circulated in real time, not after hours or even days have elapsed.

Bringing Enhanced Communication Across the Organization

THE ENTIRE WIRELESS DEPLOYMENT took just two months and now nurses are able to move around with devices rather than be chained to PCs on ward stations, be more flexible and boost accuracy by putting notes into systems at a patient's bedside.

But Austin isn't stopping there and believes now the technology is in place there is even more opportunity for Bedford Hospital.

"Looking forward we are thinking more about communication," says Austin. "Trust laptops are set to work with our 3rd party software - Communicator. Some admin staff have already transferred their phones to Communicator, and so have I, so I run my phone calls over wireless, using Wi-Fi for voice. We have presence on this so people can see when other users are busy, and we also want to add location and roll it out further to more employees across the hospital."

The push to deliver healthcare services electronically is never going to be easy with such large NHS organisations. However, Bedford NHS is a shining example of where strides are being made within Trusts, ensuring that technology is improving the healthcare system for clinicians, staff and patients at a local level.