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Welcome to FastForward

Mobile Medicine

Welcome to the third issue of Nortel FastForward online, the webzine highlighting topics that are important to you, both as businesspeople and as citizens of the world. This month we report on subjects ranging from wireless technology and healthcare to the ways in which children consume technology (and how that varies from how their parents use the same technology). We also take a look at the rise of WiMAX and the changing face of what's being called the "Mideast's answer to Silicon Valley." We hope you'll enjoy FastForward and benefit from the ideas you'll see here.

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By Eric Butterman, [July 2006](#)

How a hospital in New Zealand is using wireless technology to change patient care for the better.

There's no question that hospitals have some of the most sophisticated technological equipment in the world. Doctors can now hook a few wires to a patient and monitor virtually every signal in his or her body. But what happens if you're elsewhere in the hospital and need a reading from that monitor? Or you need the patient's paper chart or the opinion of a specialist who's somewhere else in the building?

A wireless local area network (WLAN) could solve many of these problems. Unfortunately, hospitals have been reluctant to try WLANs because they've been afraid the networks would interfere with medical equipment, lose connections, or pose risks to the security of medical records. But Nortel is quelling those fears with its WLAN solutions for the health-care market. One such health-care provider is in New Zealand.

Building the WLAN

The construction of the new Christchurch Women's Hospital by New Zealand's Canterbury District Health Board presented a unique opportunity to find technological solutions to long-standing concerns over in-building hospital communications. New Zealand has 21 District Health Boards; each provides government-funded health services to a specific region. The Canterbury District Health Board serves the area on the South Island of New Zealand around Christchurch. They work to decrease the disparity between health-care services received by the general population and by Maori natives. Christchurch Women's Hospital is the largest tertiary, teaching, and research hospital on New Zealand's South Island and serves over 35,600 inpatients each year.

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director of Nortel New Zealand.

Nortel's implementation included data and Voice over Wireless LAN (VoWLAN), and it will eventually include 360 wireless access points. Nortel's "thin" wireless access point design means a larger number of access points can be deployed across a wider area, all at lower cost. The extensive network allows hospital workers to access important patient information on the go, instead of having to retrieve files from a fixed point. Kerry Varcoe, telecommunications and operation manager for the health board, estimates that the wireless technology can cut the average worker's daily walking routes from 13 kilometers (8 miles) down to just 3 (1.8 miles). To put that in perspective, since it takes the average person an hour to walk 3 miles (4.8 km), that's nearly an extra two hours the worker gets back to give to patients.

Seeing the Benefits

The wireless network also enables doctors and nurses to view electronic records and charts without having to sift through endless stacks of paper. Doctors can instantly record information that they would normally have to write down. They no longer need to carry pens or remember where they put a clipboard—info is now instantly available via wireless devices. Varcoe says the new system and extensive network of access points mean reliable campus-wide coverage. "Now we have coverage in complicated areas, like right by elevators," he says.

Varcoe also says the wireless network has not interfered with medical devices, such as ventilators or other electronic equipment, as doctors had feared. Varcoe says the WLAN systems have caused no equipment malfunctions to date. "We understand where the fear comes from," he says, "but this hasn't been an issue." According to Spray, now that the health board has learned how to set up the system, installing it in other hospitals will be much easier. "We'll be able to halve the time it takes in the future and be better able to have fixed prices for varying hospital infrastructures," he says.

In the future, the system can also be expanded to keep track of both employees and thousands of pieces of equipment as they move throughout the hospital. Previously, when hospitals tried to log equipment, it could prove expensive and error-prone. When RFID tags are used to mark these pieces of equipment, the network can easily track their exact location.

As for today, the staff at Christchurch Women's Hospital is experiencing the benefits of advanced technology. "Medical staff are seeing how much time it saves them and how nice it is to be off their pagers," Varcoe says. "They wish they had made the change sooner." He predicts patients will see the ultimate benefit in better care and lower costs. "It's a situation where everyone can benefit," he says.

Eric Butterman is a New York-based technology and business writer. He has written for *Inc.*, *Media Business*, and numerous other publications.

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