

# Health Data MANAGEMENT

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## Simplifying the Rollout of Multiple Wireless Apps

**M**any hospitals have a variety of wireless networks, each of which supports a different application, such as telemetry, Voice over Internet Protocol telephones, facilities management and two-way radios for police and fire personnel.

But a growing number of organizations are installing "dual-use" wireless networks that can support a long list of applications. Among the pioneers are Comer Children's Hospital in Chicago and Memphis-based Baptist Memorial Health Care. These next-generation networks offer the potential to reduce infrastructure costs—and simplify planning—as hospitals implement more wireless applications.

When Comer opened in February 2005, its infrastructure included a dual-use wireless network that supported multiple applications at varying frequencies. Johnson Controls Inc. of Milwaukee, the facilities management vendor for the 155-bed hospital, also was the wireless network supplier in an alliance with InnerWireless Inc. of Richardson, Texas.

"It made a lot of sense for the vendor putting in the building controls to also put in the wireless delivery

system at the same time," says Eric Yablonka, vice president and CIO of the University of Chicago Hospitals and Health System, the parent company of Comer.

At the new children's hospital, radios, pagers, nurse telephones, patient/guest cellular services, bedside registration, and outpatient registration and scheduling all are handled on a single, enterprisewide wireless network. Further applications, Yablonka adds, likely will include new computerized physician order entry; a clinical data repository; pharmacy and radiology information systems; infusion pumps; and equipment locating systems.

In addition, much of the university health system's flagship Bernard A. Mitchell Hospital has been retrofitted with the dual-use network.

Yablonka calls the network a "single distribution system" and lauds it for helping to manage the total cost of ownership of various applications and equipment.

For instance, he expects a quick return on investment from a locating

system by better management of expensive equipment, such as IV poles, stretchers, wheelchairs and medical devices. Further, the wireless telephones have raised nurse satisfaction.

"Johnson Controls and InnerWireless are on to something," he adds. "Looking for convergent solutions is worth doing and this is the time."



### Different place, same solution

Another technology pioneer, Baptist Memorial Health Care, is phasing in dual-use wireless networks at its six largest hospitals.

The hospitals have been using separate wireless networks for such applications as telemetry, Internet phones and two-way radios.

Each hospital is implementing a clinical information system from San Francisco-based McKesson

Corp. The new system will run on dual-use networks from Johnson Controls and InnerWireless.

The hospitals also will use these networks to support some facilities management services. And existing wireless devices will migrate to the new network as needed.

The six hospitals each originally expected to deploy a conventional 802.11 wireless network to support the McKesson applications, says Keith Scarbrough, administrative director of technical services. "But Johnson Controls' dual-use network supports frequencies from 400 megahertz to 2.4 gigahertz," he notes. "This enables us to migrate existing wireless networks to the Johnson Controls infrastructure over time as components fail or we need better coverage."

For instance, the hospitals must support a new frequency for police and fire two-way radios. Rather than retrofit the existing network, the hospitals will migrate the radios to their new dual-use networks.

Further, each hospital's Internet telephone network was not designed to be enterprisewide, and its reception was not always optimal.

"It's very difficult to teach someone that the phones only work in certain places," Scarbrough says. By switching to the new dual-use networks for the telephones, "we'll be able to use phones anywhere, even in staircases and elevators."

When Baptist Memorial started reviewing wireless network options to support the clinical information system, executives initially dismissed turning to Johnson Controls. "We believed there would be three or four

major technical problems," Scarbrough recalls. "But they showed us solutions. We were very skeptical but changed our minds."

For instance, wireless networks in clinical areas—with access points above tiled ceilings—can bring infection control problems. That's because when access points need to be fixed, moved or replaced, tiles

**"Looking for convergent solutions is worth doing and this is the time."**

have to be taken off and dust and other contaminants can drop into a room.

#### **No calls for containment**

Johnson Controls proposed putting access points inside sealed cabinets easily accessible without removing tiles. As a result, the hospital does not have to call for a "containment cart" to seal off a section of a room every time an access point needs to be tweaked or replaced.

"We don't have an infection control issue because the access points are self-contained," Scarbrough explains. "And no containment cart saves time and money."

#### **Long sales cycles**

Since forming the alliance with InnerWireless, Johnson Controls

has signed contracts with about 30 health care organizations, says Hugh Hudson, director of wireless business development.

Along the way, the vendors have learned that while opportunity exists, particularly in the hospital market, sales cycles are long.

That's because enterprisewide networks touch every area of a hospital and all these areas have their own priorities—and budgets.

"We have to bring all these people together and get the organization's C-level executives to give us visible support," Hudson says.

But the sales cycle can take up to a year. A hospital a year away from putting in an electronic medical records system, for instance, won't want to talk about a wireless network for the first six months, Hudson contends.

Dual-use wireless networks are an efficient way to support data, voice, paging and telemetry applications if an organization can make some behavioral changes, contends Carlo Gagliardi, a senior network consultant with the ACS Health-care consulting unit of Affiliated Computer Services of Dallas.

"This idea is definitely going to go places, but only if units within an organization can work out having to share the network with each other."

That's a dead-on observation, says Hudson of Johnson Controls. "The alliances that need to come together are not only among the various departments of a hospital, but also among the vendors that support those various departments."

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