

A state-of-the-art IT infrastructure at The Connecticut Hospice has improved both productivity and the quality of patient care.
By Robert L. Mitchell

WHEN THE CONNECTICUT HOSPICE INC. began planning in 1999 to move 175 staffers and 52 patients at its headquarters to a new building, CIO Marcel Blanchet began rethinking IT and how it could enhance health care.

In June, the Branford, Conn.-based nonprofit hospital and support organization for the terminally ill moved into a new state-of-the-art "smart hospital" that gives patients bedside access to the Internet, videoconferencing and custom programming from a new video studio. And behind the scenes, the revamped IT infrastructure is improving staff productivity while cutting operating costs.

The project shows how a series of infrastructure changes can have a significant impact on operations. But for the hospice, "the No. 1 reason [for the project] was quality of patient care," says Blanchet, who also supports 75 home-care nurses, who attend to more than 400 patients per day.

The new IT infrastructure includes handheld computers that can access and update information remotely using a modem, or via an 802.11b wireless LAN within the hospital.

In the initial pilot, in-hospital nurses have access to patient records, e-mail and word processing, but Blanchet also plans to automate clinical record

forms, which nurses still fill out by hand. "Right now, the nurses are feeling pain. Standing between them and getting things done is this pile of paper," he says.

"[The new system] certainly improves patient care," says Tara Green, director of nursing, hospital administrator and a pilot user at the hospice. "[Nurses] spend less time doing paperwork and more time being with patients."

Another large part of the hospice's mission is training, counseling and education. Staffers at headquarters and in four remote offices now have access to desktop videoconferencing, streaming video for training, and desktop-accessible voice mail.

Redesign From the Ground Up

Blanchet and his staff started from scratch after the hospice purchased a three-story office building. With a \$250,000 budget for the LAN and telephony plumbing, Blanchet installed a fiber-optic backbone with Catalyst 3500 Series 100Base-T Ethernet switches from Cisco Systems Inc. He also ran coaxial cable to each station to support video.

A 256K bit/sec. frame-relay network connects the hospital to the remote offices, and two T1 lines provide access to the Internet. Blanchet also tossed his old routers from Birmingham, Ala.-based Wellfleet Communications Inc. in favor of Cisco Catalyst 2600

Better
CARE,
Lower
COST

series units. "We did some comparisons, and Cisco was much faster and more reliable," he says.

The wireless LAN has been more problematic. The initial configuration included Intel Corp.'s Pro/Wireless 2011 hubs and PC LAN adapters for the personal digital assistants.

"We need to put [wireless hubs] in walls and closets so they're hidden," Blanchet says, "[but] we just weren't getting the coverage [we needed] from the units."

He then tested a Cisco Aironet 340 hub and was able to transfer files 1,000 feet from the hub with just 20% signal strength. Then, at the last minute, Compaq Computer Corp. offered to donate several WL 410 hubs, WL 110 PC cards and integration services. "Compaq was one of the few high-tech companies from whom we got an overwhelming response," says Blanchet, who was still testing the new units at press time.

The hospice is using Windows CE-based Mobile-Pro palmtops from Sacramento, Calif.-based NEC Computers Inc. in its pilot, as well as several iPaq Pocket PCs donated by Compaq. Blanchet plans to make the final choice and roll out 24 handheld systems for in-hospital use in August.

Home-care nurses are part of a pilot of a new clinical records system based on Atlanta-based Patient

Care Technologies Inc.'s Home Care Manager system. The nurses can download clinical information and update data remotely by dial-up connection or locally over the wireless LAN. The system, which runs on an Oracle Corp. database, will eventually feed patient information to the hospital's back-end billing and patient information system, which is a custom application running on a Sun SPARCstation.

Blanchet is considering using the system for in-hospital nurses as well, but right now, he says it's important to just get them equipped with word pro-



The No. 1 reason [for the project] was quality of patient care.

MARCEL BLANCHET (BELOW), CIO,
THE CONNECTICUT HOSPICE

cessing capabilities and Telnet connections into the patient information system.

So far, Green is impressed with the new system. "You don't have to get out to the chart rack to do your charting," she says. "It allows you to stay at the bedside with the patient, which is what we live for here."

The hospice has also streamlined its printing and fax functions. It replaced an assortment of PC- and network-attached printers with networked, high-speed printer/copiers from Tokyo-based Konica Corp., which Blanchet says will reduce his maintenance and supply costs by 10% to 20%. And the hospital replaced many of its stand-alone fax machines with Repartee, a fax server from Seattle-based Active Voice Inc. that sends faxes and routes incoming fax images to users' Microsoft Outlook mailboxes.

Getting the Picture

The hospice allocated \$80,000 for the new IP-based videoconferencing system, which replaces an ISDN-based system for staff conferencing. (A few ISDN lines will remain as part of a system that allows family members to set up a videoconference with a patient at any Kinko's Inc. store, Blanchet says.) The new system includes monitor-mounted ViaVideo cameras from Milpitas, Calif.-based Polycom Inc. at each desktop, and TV-mounted ViewStations for conference room meetings or patient use.

One stumbling block to a full system rollout is that many of the PCs don't have the Universal Serial Bus ports the cameras require. Blanchet has budgeted \$75,000 to replace one-third of the Pentium II-class machines this year.

The conferencing system makes good economic sense, Blanchet says. "We have five satellite offices. If we do a videoconference, that means we have 20 people who do not have to travel 80 miles one way," he says. With 35 to 40 people per week involved in meetings, the system will quickly pay for itself in saved time and travel expenses, he says.

The benefits of the new IT infrastructure have added up, according to Blanchet. Staffers no longer have to leave their offices to send and receive faxes or to start large copy jobs. Peripheral maintenance costs and support headaches have been reduced as well. With more staff meetings online, remote users are more productive. And with the full rollout of the wireless LAN, nurses will spend less time updating records from handwritten notes and more time with patients.

Much of the nearly \$500,000 budget for IT improvements went toward the unavoidable expense of the move. Still, Blanchet says he has tried to quantify the benefits to management. "We try to check everything, from [reduced] energy costs to the actual efficiency and well-being of the employee," he explains.

But the hospice also puts a high value on employee morale because of the environment. "We try to give them the time and tools to do their job more efficiently so they can spend more time with the patient and have more time for themselves when they're away from the patient," Blanchet says. "We'd rather not have them working after 5 and come in stressed-out talking to patients who are dying." ▀

MOREONLINE

For more on the security precautions The Connecticut Hospice took to protect its wireless LAN, visit our Web site. www.computerworld.com/hospice



TRACY WROLL