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Lead Stories

Get me IT, stat!
by KEN SCHACHTER

Modern medicine is engorged with high technology, from diagnostic scans to smart-bomb drugs. Yet when it comes to moving data and work flow, the process is more old-school Dr. Spock than Star Trekian Mr. Spock.

Paper still rules in clinical settings, but the era of the digital doctor and nurse is about to unfold.

When Kristina Krail, chief nursing officer at Long Beach Medical Center, consults her crystal ball, she sees patients' charts migrating from clipboards to wireless networks. "I envision the day when [nurses] will have a Palm in their pocket and they'll all have headphones on," she said. "Nurses will be summoned by patients wirelessly and can communicate with patients and bring bedpans and medication to the room."

Talk to Jeff Schou, director of worldwide health care marketing at Symbol Technologies, and he'll tell you the future is now.

At Evanston Northwestern Healthcare, a hospital affiliated with Northwestern University outside Chicago, Symbol has displaced the traditional button that connects patients to the nurses' station.

Instead, patients can talk directly with their nurse via a wireless network (80211.b and voice over Internet protocol, for the technically inclined) that automatically rings a phone carried by the nurse.

Instead of having to hunt down the nurse and leave the patient awaiting a response, communication is instantaneous, the kind of productivity enhancer that is increasingly important given the worldwide shortage of nurses.

Unhappy patients are one thing, dead patients are another. Technologists also are targeting medical errors in hospitals that one much-quoted study estimated result in 98,000 U.S. deaths per year.

Among the systemic problems cited in a report by the Institute of Medicine of the National Academies were illegible writing in medical records and the inability of several doctors to coordinate a patient's care.

Schou estimates that a 500-bed facility, such as Stony Brook University Hospital, administers 2 million doses of medicine per year.

"You start doing that math. Let's say it's a 1 percent error rate, that's 20,000 errors per year," said Schou.

Enter Symbol's system in which a nurse with a handheld computer scans a barcode on a patient's wristband, scans the medication and scans the caregiver's badge. The wireless network updates the patient's electronic medication record and flags any problems with drug dosage or interactions.

The system serves as a prescription safety net for overburdened nurses, said Schou. "Is it .1 or .001? It allows them to be sure they're giving the right dosage."

Krail said such a system "double checks for incongruent items, things that couldn't possibly go together" and also speeds the process.

Currently, software providers like McKesson provide medical facilities with proprietary barcodes, but the Food and Drug Administration is developing a standard that is expected to drive the market's growth. Adding to the momentum is drug giant Pfizer's announcement that it will begin printing barcodes on individual pill packs used in hospitals.

Krail said those who believe such systems are a way of reducing headcount are mistaken. "There's a misunderstanding that with this automation you can have fewer doctors and nurses taking care of patients," she said. "That's not the case. You have less litigation. The return on investment is realized on improved efficiencies and error avoidance."

Helping to push IT spending is the Leapfrog Group, a consortium of large businesses whose standards are designed to reform the health care industry.

A 2002 survey by PricewaterhouseCoopers and Modern Physician magazine found the number of practices using computers to write prescriptions had doubled to 23.2 percent from 2001, and 30.2 percent tapped computers for clinical protocols, up from 16.2 percent the previous year.

Among Long Island hospitals, the extent of IT penetration varies considerably. Early adopter Stony Brook University Hospital is in the process of upgrading a wireless network it has had for years, while others are just now considering their IT options.

For many IT providers, health care offers niche markets that can be mined. Eight-month-old VoiceBrook Inc., based in Lake Success, specializes in speech recognition. That technology meshes neatly with the work of radiologists who traditionally have used dictation machines in interpreting X-rays, CT scans and ultrasound.

Jacobi Medical Center in the Bronx was spending $850,000 a year to transcribe the radiologists' notes and turnaround took one or two weeks, said Ross Weinstein, president of VoiceBrook.

Weinstein said his company installed a computer-based voice-recognition system for less than $200,000 that provides instant availability of the notes. The company also is developing voice-activated templates that allow doctors and nurses to structure their voice notes.

Expedite Video Conferencing Services Inc. of Westbury offers equipment for telehealth services.In one instance, Woodbury-based Integrated Cardiovasular Therapeutics wanted to see how its new stents would perform in the operating room. Expedite's cameras allowed executives to have a front-row seat for heart surgery, no scrubbing required.

As IT spreads through the industry, medical schools are seeking to prepare future doctors. In Old Westbury, the New York Institute of Technology's New York College of Osteopathic Medicine has begun equipping first- and second-year students with personal digital assistants to access medical information,

maintain schedules and synchronize with personal computers.

At budget time, hospital administrators are left to do a delicate balancing act, given the urgency of spending on other needs.

"The health care industry spends a lot on human resource development," Krail said. "I've got to keep my nurses very current, send them to conferences, buy books, buy journals."

Further, Krail notes, information management systems cost millions of dollars and are notoriously hard to develop.

Still, to outsiders, the question of why technologies like barcode tracking are not ubiquitous in the $1.4 trillion health care industry remains a mystery.

Voicing the prevailing view, Krail said: "If the grocery store industry can do it, how come the hospital industry can't?"