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Robots, electronic records and hand-held devices streamline care but hinder bedside manner, some say



Bret Anderson, a registered nurse at the University of Maryland Medical Center, demonstrates how to use a Motion C5 tablet. The wireless devices display patient information for hospital personnel.

PHOTOS BY CHIAKIKAWAJIRI [SUN PHOTOGRAPHER]

Nurses cast wary eye on high-tech advances



Harriet the robot delivers medication in locked compartments to departments in the hospital, even traveling on elevators without human aid.

BY SINDYA N. BHANOO
[SUN REPORTER]

One nurse is pushing a computer on wheels into a patient's room; another is meeting up with Harriet, a robot that has arrived bearing medications. In a pleasant female voice, Harriet is repeatedly saying, "Your deliveries are here."

One floor down, another nurse at the University of Maryland Medical Center is writing patient notes onto a clipboard-size computer. And throughout the hospital, nurses and others are making the switch to online prescriptions.

The equipment relies on wireless connections available since 2001, and the transition to electronic health records began almost four years ago. Prescription orders were the latest conversion, with the majority of the hospital online by last Tuesday.

"With anything, it's a change in work flow and processes. The more you do it, the more confident you get with it," said Anna Schoenbaum, project manager for nursing informatics at the center.

Steadily, hospitals around the state and the country are moving toward technology-heavy systems for managing patient care. Yet as this use of technology grows, nurses say they have been overwhelmed with documentation, much of it requiring them to sit in front of a computer screen.

Some are counting on a flow of sophisticated new hardware or software to streamline their tasks. For now, they are [Please see NURSING, 4A]

Devices seen as a help, hassle

NURSING [From Page 1A]

juggling the demands with patients' expectations for a traditional presence at their bedsides.

Charlene Breckenridge, a transplant patient at the medical center, sees a lot of technology around her in the intensive care unit. She received a double-lung transplant that requires constant monitoring. Even in circumstances where recording vital signs is, in fact, vital, she longs for more personal attention.

"I'd prefer more checking on my comfort than a lot of paper and computer work on vitals," she wrote in a note, prevented from speaking by a ventilator that controls her breathing. Breckenridge, 59, who has worked in health care, said hospitals offered more of that 10 years ago.

Nurses remain the main point of contact for the patient, overseeing medications, meals and other aspects of personal care. Despite that role, nurses spend less than half their time working directly with patients, one study found.

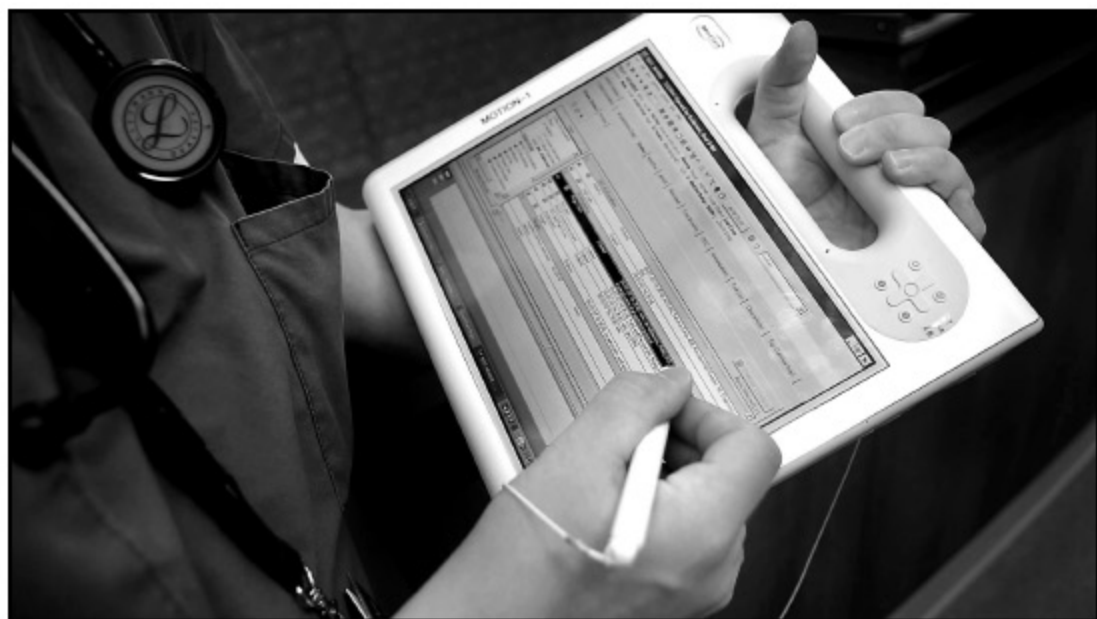
At a recent American Nurses Association town hall meeting in Baltimore, nurse after nurse expressed concerns that cumbersome technology gets in the way of fulfilling the mission.

"I didn't become a nurse to be chained to documentation," Patricia A. Abbot, an assistant professor at the Johns Hopkins School of Nursing, said at the meeting.

On top of those demands, nurses are stretched thin by a shortage that is expected to worsen. Maryland hospitals need 2,340 more nurses to be fully staffed, the state hospital association reported this month. Nationwide, hospitals are understaffed by 6 percent, according to the American Hospital Association.

"You end up spending 30 minutes doing documentation for one patient on some systems," said Ronnie Ursin, former nursing director at the Acute Medical Suburban Hospital in Bethesda. He called the input "tedious," and some systems, clunky. Ursin recently resigned to begin doctoral studies in nursing practice.

Often, nurses said, they enter the same data twice, into a medical-record software program and then a prescription ordering sys-



The Motion C5 device helps hospital personnel monitor patient information, allowing them to document vital signs, medications, plan of care and test results.

CHIAKI KAWAJIRI [SUN PHOTOGRAPHER]

tem. They said software programs need to be simplified and better integrated with one another, requiring a single log-in rather than several.

There is a need for patient care models that are more efficient and effective, said Peggy Neidlinger, a 30-year nursing veteran and clinical systems manager at Johns Hopkins Hospital. She said powerful, user-friendly technology can help nurses manage patients faster and better.

Ursin noted that computers can prevent errors resulting from illegible handwriting or lost paperwork. Prescription-ordering software also warns if someone improperly alters a dose or prescribes medications that can react with others or cause allergies.

Computerized prescription systems designed to prevent errors were found to improve accuracy by as much as 55 percent, according to eHealth Initiative, a nonprofit organization promoting safety through technology.

The adoption of electronic health records is at an early stage. A quarter of U.S. hospitals had such systems in place in 2006, according to the Healthcare Information and Management Systems Society. The Maryland Hospital Association was unable to provide state data.

"Historically, medical records were quite loose and undisciplined in quality and type," said Dr. Peter B. Angood, vice president and chief patient safety officer for the Joint Commission, which accredits health care organizations. For quality-control and legal reasons, rules have been tightened.

"If it's not documented, then the care is considered not provided," he added. The requirements for careful documentation "will not go away," but the use of technology might improve the stress on health care providers, he said.

Health care technology compa-

nies such as Cerner Corp., Meditech and Intel Corp. hope to gain from the lucrative market. Intel's Digital Health Group has devoted nearly 10 years to researching technology for nurses to manage patients.

Ethnographers in the Digital Health Group, including Monique Lambert, observe how nurses actually spend their workshifts. Starting in February 2006, Lambert and her team shadowed hundreds of nurses for more than 600 hours, tracking their actions minute by minute. It was her tally that found nurses spend less than half their time in direct patient care.

Complicating the transition is a large baby-boomer faction of nurses who have worked for decades without computer technology. "It is easier for the younger generation because it comes naturally to them," said Hopkins' Neidlinger.

Hopkins nurse Monica Wilt, 31, is deft as she logs into a prescription-ordering system, pulling up a list of her patients to see who needs medication.

She loves the software. "For people really familiar with computers, this is all very intuitive," she said.

Colleague Rosmond Lynch, who has 23 years of nursing experience, was not so quick to embrace changes. "At first I was scared and anxious. It seemed easier to glance at papers than the computer," Lynch said. But with training and support, Lynch said she welcomed technology as an aid rather than a hindrance.

"Nurses don't care about technology," said Lambert. "They want the technology to do something for them. By understanding as a whole what nurses want, the technology can be designed around those wants."

Intel's latest solution is the Motion C5, made in partnership with Motion Computing. The three-pound wireless computing

device can be wiped clean with disinfectant and tolerates spills and being dropped.

Wireless tablets like this one might soon replace the computers on wheels and let nurses chart patient information and view prescription orders in a more mobile fashion. Nurses at the medical center began testing several of the devices this month.

Rick Willbourne, 24, a University of Maryland surgical nurse, was enthusiastic. "It lets us take care of things right away," he said.

"I get called in different directions all day long," he added. "And something like this makes patient care more safe and fast."

Schoenbaum, the center's nursing informatics project manager, said her goal is "to bridge the gap between technology and the clinicians."

She said people have adjusted "really well" during the transition. "Nurses are very adaptable. They take on a challenge."

Anne Anderson, who has 23 years of experience, is a cardiologist nurse whose duties include caring for Breckenridge, the double-lung transplant patient. Her daily routine also involves greeting Harriet, the robot that delivers medications.

"Even with technology everywhere, patient care is still the main thing in nursing," said Anderson, who is 55.

When Breckenridge wrote a note to alert caregivers that her breathing had become inhibited, Anderson swiftly made sure the woman had her inhaler to ease the wheezing. Although machines constantly monitor breathing rate and oxygen levels, it was the nurse's stethoscope and her one-on-one communication that spotted the wheezing.

"Computers can't replace us; they just help us do our job better," she said. "They can't make the judgment calls that we do."

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The making of “Nurses cast weary eyes on high-tech advances” by Sindya Bhanoo

My editor asked me to attend a local American Nurses Association meeting, where I found that patient care technology was an issue on the mind of many nurses - the good, the bad and the ugly aspects of it. As hospitals incorporate electronic medical records and online prescription ordering systems, nurses are thrilled, but also apprehensive of the sometimes clunky systems that are more effort than they are worth. After picking up this string from the meeting, I visited area hospitals to learn how nurses, and patients, were carrying on in a high-tech world. The story ran as the centerpiece on 1A a few weeks after my internship ended.

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