Electronic Health Records: Useful Tools or High-Tech Headache?

The answer may depend on getting nurses to the design table.

In 2004 President George W. Bush announced an initiative to establish an electronic health record (EHR) for all Americans within 10 years and created the position of the National Health Information Technology Coordinator to facilitate the change from paper-based record keeping. Despite this commitment, progress toward meeting the goal has been slow.

The concept of EHRs is nearly 30 years old, but other industries have outpaced health care in developing such systems, says Elaine Slocumb, PhD, RN, assistant professor at the College of Nursing, University of South Florida in Tampa and coauthor of one of the few studies on nurses’ experiences with EHRs. “The cashiers at Wal-Mart have more information about their customers at their fingertips than we have about our patients.”

The U.S. health care system has been slow to embrace advanced information technologies for a number of reasons, including the high cost of initial installation and security and privacy concerns, according to an article by Bostrom and colleagues in the January–February 2006 issue of *Computers, Informatics, Nursing*.

According to a 2006 study by Blumenthal and colleagues called *Health Information Technology in the United States: The Information Base for Progress*, an analysis of multiple surveys of EHR use showed only 17% to 24% of physicians in ambulatory facilities use EHRs to some extent. In inpatient settings, approximately 5% of hospitals are thought to have a computerized physician order entry system, which the study’s authors call, because of the surveys’ differing definitions of an EHR, the best indicator of the extent of EHR adoption.

Despite the slow pace, EHRs may well be universal within the decade. Their benefits—improved safety, quality, and overall efficiency of care—are often touted, but their ability to reduce nurses’ workload and streamline job functions is less certain.

In a study by Moody and colleagues (of which Slocumb was a coauthor) in the November–December 2004 issue of *Computers, Informatics, Nursing*, 96 of the 100 nurses questioned at a large Magnet hospital reported that they felt comfortable with the facility’s EHR system. However, only 44 felt that the system in use at that time was “optimally functional,” and 61 reported frustration with having multiple EHR systems, such as handheld units at the bedside as well as terminals at the nurses’ station. The major problems reported were being interrupted when entering data (n = 54) and the inconvenience of EHR documentation at the bedside in crowded patient rooms (n = 44). Fifty-four nurses first recorded information on paper and then transferred it to the EHR—thereby duplicating their work. Nearly two-thirds (n = 64) said they did not think that the system had decreased their workload.
However, 81 of the nurses felt that the EHR system was more of “a help than a hindrance” to their work. Three-quarters indicated that EHRs improved documentation and ultimately would have a positive effect on patient care.

“The software and hardware vendors still think they need to create a product for physicians and not for nurses,” says Slocumb, “when most of the work in inpatient settings involves nurses.” Consequently, nurses frequently devise methods to get around systems that are cumbersome or difficult to use.

A design role for nurses? “We know from research that there are a number of things we can do to bring nurses along and get them involved in the development and implementation process, and then they are more likely to accept electronic systems,” says Patricia C. Dykes, DNSc, RN, senior nurse informatician at Partners HealthCare in Boston.

“The first thing is to select a high-quality system,” says Dykes, who is also chairperson of the Healthcare Information and Management Systems Society’s Nursing Informatics Committee. “If nurses are involved in the selection of the system and in the very beginning stages of implementation, they can use their expertise with workflow and clinical processes to influence the success of the system.”

Providence Health System in Oregon has taken that approach in setting up an EHR system at its seven main facilities. Nurses are involved in all facets of the implementation, including the design and building of the system, says Ruth Schleyer, MSN, RN-BC, regional director of nursing informatics. “If nursing staff aren’t personally involved in any of the project teams, we engage them in usability testing. This way we are designing something that will meet their needs when they actually use it.”

Dykes contends that one important element of a system’s success is the institution’s recognition of what nurses can contribute to its design and implementation. “At Partners,” she says, “we built our own electronic administration medication record, and nurses, physicians, pharmacists—all of the stakeholders—were heavily involved in the process from the very beginning. That makes a huge difference as to whether a system is accepted when it’s finally rolled out.”

When the Mountain States Health Alliance, an integrated health care delivery group based in Tennessee, with 11 hospitals and 13 outpatient sites, decided to institute an EHR system, nurses were involved from the start. They are currently two years into a five-year project that will result in a paperless organization.

“We knew from the start that input from nurses can help vendors increase the viability of their products,” says Sandy Savage, project manager for EHRs. “We have a team of 27 RNs, so there is a lot RN input. They participate in every aspect of this project.”

So far, the system’s foundation has been implemented, which included changing inpatient medication delivery to an electronic bar-code system. There is always a learning curve, Savage points out. “You are never going to satisfy everyone, and when we moved to bar-coded medication, that learning curve kicked in and there was some resistance,” she says. “But when you explain how this system can improve patient care, it’s just not logical not to want to help patients. People don’t like to change, but once they get beyond the change and see the benefit, it becomes habit. Now when we have [computer] downtime and everyone has to go back to paper, they really miss the electronic system.”

As people become increasingly “connected,” whether through cell phones, personal digital assistants, e-mail, or the Internet, the idea of an electronic record-keeping system may be less intimidating. Younger users are also more adept. “We don’t have any problems with new graduates,” says Providence Health’s Schleyer. “Their computer skills are way ahead of the others’. And more nurses are using computers in other facets of their life, even if they haven’t used them in the workplace. That definitely helps them to adjust.”

—Roxanne Nelson, BSN, RN

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