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March 15, 2002

Automating Patient History Boosts Physician Productivity

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Taking a medical history is, for most physicians, the essence of being a medical doctor and the core of the physician-patient relationship. It's a medical skill that physicians learn as students, and for many physicians, it is more symbolic of their profession than the stethoscope. Taking a medical history has always involved certain variables, such as the complexity of the disease or condition, the mental acuity of the patient, and the physician's time. The time factor is affected by the method (dictation, electronic, or pen) that a physician uses to record the medical history.

Using technology to shorten the time required to take a medical history and produce a standardized record that facilitates coding would seem to make a lot of sense. But many physicians are reluctant to substitute traditional ways of practicing medicine for the efficiencies offered by today's technology.

Fostering Improvement

One company seeking to transform that reluctance is Primetime Medical Software, in Columbia, S.C., which markets the Instant Medical History, software designed

to gather the medical history before the patient sees the doctor. The IMH (at www.medicalhistory.com) was developed in part by Allen R. Wenner, MD, a family practitioner in West Columbia, S.C.

"My goal was to design a clinical software system that would work in the real environment of a physician's practice," says Wenner. "The software has more than 22,000 questions that center around 1,700 patient complaints. It can write a history on any problem seen in a typical physician's office, and no two histories are alike." Wenner is a practicing clinician at West Columbia Family Medicine, a four-physician primary care practice; and vice president of clinical applications design for Primetime.

Asking Questions

Wenner got the idea for the IMH in the mid-1980s, when he saw a patient for whom he could not determine a diagnosis. "I asked five colleagues to consult, and they couldn't figure out the patient's problem either," he says. "Then I sent the patient to the medical school at the University of South Carolina, where I am an assistant clinical professor of family

medicine. The physicians there diagnosed her as having Sjogren syndrome, a disease of the immune system. I realized that they were able to determine her condition because all of the medical school clinicians—the medical students, residents, and attending doctors—had the time to spend asking her the right questions, while I did not.

"As a result of this experience, I looked for interview software to use in my practice," Wenner continues. "None existed, so I challenged my partner to help me develop software to improve health care quality. I reasoned that by helping private practitioners access medical histories, they could better diagnose both difficult and routine patients."

Wenner also was driven to develop the software in response to an inconsistent pattern of information gathering he noticed in his own practice. "I discovered an inconsistency in the amount of patient information I gathered on Monday mornings versus Friday afternoons," he says. "After studying my practice patterns, I found out that on Friday afternoons, I asked an average of four questions, while on Monday mornings I asked an average

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of 13 questions for the same presenting complaint. The reason was simple: On Friday afternoons I was tired, and on Monday mornings I was fresh." In seeking consistency, thoroughness, and standardization of his patient information, Wenner realized that having software that collects data directly from patients would help to achieve this goal.

Regaining Lost Time

Physicians are taught in medical school to listen to their patients. Wenner has taken that truism one step further by having the computer "listen" to patients in a very directed way based on their chief complaint. "One study revealed that the aver-

physician the information that the patients really want to make sure the physician has. What's more, it allows the physician to get to the heart of what their patients' complaints and issues really are."

Benefits Accrue

In Wenner's practice, patients are given a laptop computer when they enter the waiting room and are asked to enter requested data on a touch screen. Involving patients in this way not only allows them to make productive use of their time while they are waiting to see their doctor, it also improves the accuracy of the information in the medical record, Wenner says. "We found that by having

patient are accomplished within 12 minutes, notes Wenner. "By using the software, I am able to have a conversation with the patient rather than rushing out to dictate information obtained from the exam or worrying about even remembering all of it," says Wenner.

But access to data may be the most important benefit. "Physicians need more data on their patients' conditions," Wenner asserts. "If we get that data from the patients, we can better diagnose and treat them because we know the essential facts and are free to listen. Medical histories comprise about 70% of the medical record, and having the patient enter the history not only ensures that the information is complete, it also eliminates transcription and helps save time spent dictating and charting."

Still, the system is not perfect. "The gold standard of information gathering is the thorough clinical interview conducted by an experienced clinician," Wenner says. "Software will never replace that. In addition, software can gather a great quantity of information, but some of it is extraneous. Gathering information this way is also time consuming for patients: It usually takes them about two and a half times longer than it would take me to enter the same amount of data. In addition, about one in seven patients has difficulty using the interview software."

Return on Investment

Despite these downsides, the IMH improves the business of medicine, Wenner contends. Using the software, a primary care physician who sees 25 patients a day can save four minutes on each patient visit for a total of 100 minutes saved per day, he notes. If the physician uses such time savings to add five more patients per day at an average charge of \$50 per visit, he or she would

earn \$5,000 in additional revenue each month, or an additional \$60,000 a year.

"Such time savings are possible because all the physician has to do is edit the information that the patient has already entered," Wenner explains. "Typically, physicians must dictate records as part of their work flow. But the physician using automated medical history software does not need to spend time outside the exam room dictating the history." Automated medical history software cuts dictation time by 60%, saving about \$1,200 per physician per month, or \$14,400 a year, Wenner says.

"Overall practice efficiency increases because the physician is documenting services at the point of care," he notes. In the first 12 months, the system reduces personnel costs by about 30% and eliminates the rework required on claims by about 1.7 full-time equivalent employees per physician, Wenner says.

Another benefit of on-the-spot documentation is that it allows for a more complete record of visit information, an important requirement for Medicare reimbursement. Many physicians undercode their services due to lack of documentation or out of fear of a Medicare fraud and abuse audit, losing potential revenue in the process.

Improved Documentation

"Physicians are being grossly underpaid for handling patients with complex conditions simply because data are not being recorded," says Wenner. "However, the software is able to document additional data about basic treatments during the patient visit that the physician would never put down due to time constraints. The only way to justify charges is for documentation to be clear and complete; through the use of the software, physicians are able to document the full range of what has transpired during a patient visit. This function ensures that physicians will get paid for their work. When third-party payers see extensive documentation, they are more likely to reimburse for a higher level of services."

Primetime surveys of physician practices indicate that physicians have raised the number of "level four" (the higher reimbursement) codes from 14% to 42% of all submissions on difficult, complicated patients.

Many EMRs Offered

Many software programs exist for creating electronic medical records (EMRs) and for gathering medical histories. Some of the companies offering such programs include the following.

- Primetime Medical Software, in Columbia, S.C., provides more information on the Instant Medical History software discussed in this article at <http://www.medicalhistory.com>.
- Datamed Forms & Software Inc., in Deerfield Beach, Fla., markets EMR software called Dr. Notes. The EMR data are gathered by nurses and front-office staff. More information is available at www.drnotes.com.
- 21st Century Eloquence Inc., in West Palm Beach, Fla., markets the Eloquent Physician, EMR software. Physicians enter data into the system using either voice activation or a keyboard and mouse. More information is available at www.eloquentphysician.com.
- Qmeda Inc., in Arden, N.C., has a patient-based medical information system designed to help physicians and staff gather patient information. The EMR is not patient-generated, and report modules cover specialized areas (such as breast examinations) as well as procedure-specific modules (such as cardiac catheterization). More information is available at www.qmeda.com.
- Physician Micro Systems Inc., in Seattle, offers EMR software called Practice Partner Patient Records. Its EMRs are not based on patient-generated data. PMSI offers other software applications aimed at appointment scheduling and billing. More information is available at www.pmsi.com.
- ProVox Technologies Corp., in Roanoke, Va., provides a speech recognition-based system called TalkNotes that physicians can use to build an EMR by dictating into customized modules. More information is available at www.provox.com.

"Billing at this level represents an additional \$48,000 in revenue for the practice—and it's perfectly ethical and legitimate because it accurately reflects the work really being done by the physicians," observes Wenner. "Such coding support is particularly important in documenting the treatment of complex patients with multiple problems."

By having the patient help to create the electronic record, physicians can reap significant cost savings as well. "Redoing work, creating referral letters, and typing dictation all produce tremendous labor costs," Wenner says. "The only way we can displace the current health care labor costs—which run between 70% and 80% in most clinics, including physicians' salaries—is to foster patient participation."

Some physicians are not ready to allow patients to participate in creating their medical record. But Wenner asserts that many of these physicians will see the value in such systems after they see the

increases in practice profitability that can be achieved. "We've demonstrated a revenue increase of \$20,000 per physician per month, and 7% of charges are no longer missed," he says. "Those are powerful results."

"Currently, only about 3% of physicians have a working electronic record," Wenner adds. "Furthermore, very few have electronic records that operate at the point of care. Rather, they have automated charting systems in which they dictate information that is stored electronically. This is like having a mule team pull a train car. Let's start using the real train engines."

"It's clear that technology is coming to the exam room," Wenner continues. "The sooner physicians adopt information technology, the happier they're going to be in their practice, the better care they are going to give their patients, and the more money they're going to make."

—Edited by Paula Grant, in Lincoln, Va. More information on physician practice strategies is available at MDOptions.com.

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West Columbia Family Medicine

age physician interrupts the patient 23 seconds after the interview begins," Wenner says. "Because of time constraints, physicians feel they need to cut to the quick of what's wrong. We've lost that art of interviewing because of a bankruptcy of time. However, we can use technology to streamline the medical history process and improve the quality and efficiency of care."

For most physicians, having a computer take the medical history seems almost counterintuitive because the process involves the interaction of patient and computer, not patient and physician. Even so, the benefits of the process accrue to both the patient and the physician, says Wenner. "Our software empowers patients," he explains. "It allows patients to give to their

patients enter their own demographics, we cut the error rate from 10% to less than one half of 1%," he says. "Patients know how to spell their name correctly, where they live, their Social Security number, and their birth date, so they don't make mistakes entering those data."

In addition, Wenner's patients have become accustomed to having real-time electronic processing of information in the exam room. "Some patients don't pay any attention to the process, but about 80% follow what I do right on the screen as I talk to them. They serve as a check on the accuracy of the information."

The software also improves physician efficiency. Editing the patient history, recording the findings, and examining the