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 of...”
Automating Patient History Boosts Physician Productivity

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 this 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 average physician intercepts 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 new way of caring for patients. Even today, however, we can use technology to streamline the medical history process and improve the quality and efficiency of care."

For more 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. However, 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 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 Accrued 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 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, rather than one half of 1%," says Wenner. "Such coding support is results.

In addition, software can gather a great quantity of data, 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 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 wonder if their coding services at the point of care, physicians can reduce work, eliminate gaps in the documentation, and thereby increase the number of visits that the patient may receive. "Billing at this level represents an additional $485,000 in revenue for the practice— and it's perfectly ethical and legitimate because it accurately reflects the work really being done by the physicians,” Wenner says. "Such coding support is results.

Improved Documentation "Physicians are being given greater understanding for handling patients with complex conditions simply because data are not being recorded," says Wenner. "However, the software is able to gather some additional data about basic treatments during the patient visit that the physician would not put down due to time constraints. The system only to justify changes is for documentation to be complete and accurate. Through the use of the software, physicians are able to document the complete range of what has transpired during a patient visit. This function ensures that physicians will get paid for their work. When the physician pays for extensive documentation, they are more likely to reimburse for a higher level of services."

Primetime surveys of physicians practices in many settings report that between 70% and 80% in most clinics, including physicians' salaries—is to foster patient participation. "Reimbursement 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.


ProVox Technologies Corp., in Rosknok, 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.

Many EMRs Offered

E 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.


• Datamed Forms & Software Inc., in Deerfield Beach, Fla., markets EMR software called Dr. Notes, 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.

• 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.


• ProVox Technologies Corp., in Rosknok, 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.

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 muele 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 they can serve their patients, and the more money they're going to make."