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SPECIAL TECHNOLOGY SECTION

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Patient Histories: How Computers Help

Computerized history-taking gives you more details—with less work for you and your staff.

By [Neil Versel](#)

Patients of West Columbia Family Medicine in Lexington, SC, complete their medical histories on the Web, using an interactive computerized interview created by FP Allen R. Wenner, a partner in the group. Computerized history-taking has improved the accuracy of his diagnoses by giving him more complete information, Wenner believes.

Combined with the practice's electronic medical record, the online histories have also improved the efficiency of Wenner's office. As a result, the FP and his two colleagues are each able to see at least 30-35 patients a day with only seven staffers.

"We can keep staff size small because we let the patients do all the work," he says. Taking histories is a repetitive task, and "computers do repetitive tasks very well," adds Wenner, who's also a vice president of PrimetimeMedical Software in Columbia, SC (www.medicalhistory.com). Primetime has developed Wenner's 19-year-old interview program, Instant Medical History, far beyond its original version, broadening its scope and adding specialty-specific questions.

The GreenField Health System, a five-physician internal medicine practice in Portland, OR, is using computerized history software made by Kryptiq (www.kryptiq.com). Rather than fill out a paper form when they come to the office, patients are asked to answer an electronic questionnaire, either at home via the Internet or at a computer kiosk set up in the clinic's waiting room. (Wenner's patients at West Columbia Family Medicine can fill out the Instant Medical History online from home or on a computer tablet at his practice.) If the form is filled out on a Web site, it can be securely accessed by a physician.

Most patients can handle the task. In a January 2003 article on patient-computer interviewing in *Mayo Clinical Proceedings*, family physician John W. Bachman cited numerous studies showing that more than 90 percent of patients are capable of entering the data themselves or with the help of a relative or friend.

"With most patients, traditional interviewing is like piloting a plane without a checklist," observes Bachman, a professor of primary care at the Mayo Foundation in Rochester, MN. "The computer does not replace the clinician but provides a checklist."

Online history-taking improves diagnosis

Long before the World Wide Web, Wenner was touting the benefits of computerized patient histories. When properly designed, this software uses "branch logic," in which answers to basic questions trigger follow-up queries aimed at identifying symptoms to make it easier for the doctor to reach a diagnosis.

In the early 1980s, he recalls, he was treating a woman in her 60s. After five different consultants failed to diagnose her condition, the patient was admitted to the hospital. "A young medical student questioned her for more than an hour," Wenner says. The student's thorough history led to a successful diagnosis of Sjögren's Syndrome, an autoimmune disease.

"Every medical student learns what William Osler said: If you talk to a patient long enough, you'll find out everything you need to make the right diagnosis and treatment decision." Equipped with this insight, Wenner set out to "replicate a medical student" on a computer. His Instant Medical History program debuted in 1985 and continues to be revised.

Wenner maintains that the history-taking software, which costs \$50 per doctor per month, is a huge time-saver for physicians, even if they'd otherwise have nurses take down some of the information. "I can spend the entire patient encounter listening instead of talking and recording data," he says.

With a computerized history-taking program like Wenner's, you can view the patient-entered history online or print it out. If you have an EMR and the correct interface, Instant Medical History will insert the patient-entered data into the right places in your electronic chart. Without such a program, says Wenner, documentation of a patient's history can take longer on an EMR than on paper. Instant Medical History has been interfaced with more than 30 EMRs, he adds.

Kryptiq of Beaverton, OR, recently began offering its own computerized forms, as well as Instant Medical History. It also supplies another program that can populate an EMR with data extracted from a patient-entered history. The company charges \$750 per physician to license its history-taking program, not including the cost of an EMR interface. In March, Kryptiq's product was implemented in Portland's GreenField practice and the 64-doctor multispecialty Westchester Medical Group in White Plains, NY.

Information submitted through the Kryptiq Web portal will be identified in the record as patient-supplied data. "For the first time, we have the complaint in the patient's own voice," says Jill K. Arena, GreenField's chief operating officer.

The large primary care group of the University of California Davis Health System in Sacramento plans to add a history-taking option to its patient Internet portal and set up kiosks in doctors' offices. The group is in discussions with RelayHealth (www.relayhealth.com) to use that firm's new history-taking software. But the changeover won't occur, says Eric Liederman, UC Davis' medical director for clinical information systems, until online history-taking can be integrated with the group's new EMR. "We want the patients to do it in a way that we can take their information and put it in a clinical note," Liederman explains.

Other companies that offer computerized interviewing software include Zmedix (www.zmedix.com/Cleos.html) and MedicalNetSystems (www.medicalnetsystems.com/history_ad).

Online histories are not for everyone

Although studies have shown that most patients are capable of completing online histories, about 10 percent might not be willing to, says Mayo's Bachman. Some patients just don't like using computers, and even some computer-literate patients may feel uneasy about putting their personal medical histories online.

Bachman points out that a computerized history-taking program can't pick up on nonverbal behavior, and using it means a change in workflow. Patients may also make inadvertent errors and supply information that isn't needed, he notes.

But comparing computerized histories with in-person interviews misses the point. "This is like asking what is better for farming—farmers or tractors," says Bachman. "The computer is a tool. It helps greatly in providing information that is forgotten by clinicians and is excellent at obtaining data on socially sensitive issues such as sexual practices, abuse, and chemical dependency. It eliminates the need for Yes and No questions and prepares both the clinician and the patient for the interview.

"On the other hand, the clinician is much better at discriminating what information is important and what is not. And, by observing the patient, the clinician is able to come to conclusions about the patient's health."

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