

Technology in the Physician's Office

Like a lot of young doctors Jodie Escobedo, MD, of Santa Monica, Calif., is casually fluent in a language of computer-speak that may be Greek to some older physicians.

But she still knows how to speak the language her patients need to hear.

“After working in a practice with an electronic medical record for five years, my skills at communicating with patients are, if anything, better because I spend less time filling out forms,” she said. “My eye contact with patients is just as good as it is using a paper chart.

“Instead of holding a chart, I hold my laptop,” she said. “It’s not like sitting in front of a stationary desk top computer, so you still have eye contact with the patient. I’m on the web all the time with my patients and I haven’t had any complaints about that.”

Escobedo is among a vanguard of American doctors who are fully committed to the vision of an electronic medical record and who insist that having a “third person” in the exam room in the form of a computer need not interfere with the doctor-patient relationship—and may do a lot to improve it.

That’s a conviction backed up by recent health information technology and communication research at Kaiser Permanente showing that when used properly the presence of a computer enhances, rather than detracts from, the interaction between doctor and patient.

“We found that patients were on average more satisfied after the computers were installed, and felt that their physicians were more familiar with their medical history,” said physician researcher John Hsu, M.D., of Kaiser Permanente. “Patients also felt that they better understood what happened during the visit, and what their options were. At the same time we found that the computer did not crowd-out time for patient concerns, especially for psychosocial issues.”

A Good Listener is a Good Listener

At Peak Health Medical Group, Dr. Escobedo and colleagues carry compact tablet-style laptop computers in and out of the exam room; Escobedo says she likes to share the screen with her patients.

“We’re a group of four family physicians that began practicing together five years ago and right from the start we figured we would go electronic,” she said. “We all believe in the promise of medical error reduction that an EMR offers, so when we opened our doors we bought a computer system off the shelf and have been paperless ever since.”

Today, the group is preparing to convert to a newer, faster system custom designed by one of Escobedo’s physician colleagues. “Our practice is so varied—we see kids, adults and elderly, we do procedures and treat chronic conditions—that we customized our current system to the breaking point. And we still needed more.”

Clearly, she is a believer in the future of EMR, so it’s fair to say she’s biased. And she acknowledges that the electronic presence is so pervasive at Peak that she isn’t likely to encounter any Luddites among her patients.

“Nobody would come to us who had a problem with computers,” she said. “Or else they wouldn’t come back a second time. But we haven’t had any complaints. Even my elderly patients appreciate it.”

But Escobedo’s conviction that computerization of medical practice need not interfere with the doctor-patient relationship—and may even do much to improve it—is shared by other techno-enthusiastic physicians.

“Whether you are using a paper chart or a computer screen, you have to engage the patient,” said Les Wilson, MD, of Wilson Family Medicine, in Tallahassee, Florida, who described an EMR system not unlike that used by Escobedo and colleagues.

“I can swivel the computer screen around and show patients part of their medical record,” Dr. Wilson said. “That really helps engage the patient, and I think having an effective EMR system in practice can actually attract patients to you as a provider.

“Technology isn’t going to impair the doctor-patient interaction,” he added. “If you are good listener, you will be a good listener whether you are in the paper world or the world of technology.”

Formal research by health communication experts on the effect of computerization on doctor-patient interactions is relatively new, but appears to confirm Dr. Wilson’s intuition as well as the relatively benign effect of computerization.

Two studies were published last year looking at how introduction of Kaiser Permanente’s EMR system (known as KP HealthConnect, a customized version of the EPIC

software system) changed communication between doctors and patients.

“The computer creates an opportunity for enhanced communication with the patient, when the physician is familiar and comfortable with the computer system, and uses it to share information with patients,” said Dr. Hsu, lead investigator for Kaiser Permanente in the study.

“But we also saw examples where it doesn’t happen automatically,” he said. “It’s not like you plug in the computer and everyone gets it right away.”

One study published in the *Journal of the American Medical Informatics Association* (March 31, 2005) reported results from questionnaires completed by 313 patients after primary care visits with eight different physicians at three time periods: two months before, one month after and seven months after the introduction of computers. Questionnaires measured patient satisfaction across three separate domains: satisfaction with visit components; comprehension of the visit; and perceptions of the physician’s use of the computer.

Compared with baseline levels, overall patient satisfaction with visits increased seven-months after the introduction of computers, as did satisfaction with physicians’ familiarity with patients, communication about medical issues, and comprehension of decisions made during the visit.

The Computer Doesn’t Make for a Crowd

Especially important, Hsu said, was the finding that the computer did not “crowd out” discussion between doctor and patient of psychosocial issues in the patient’s life. That’s

important, because one issue addressed in the patient questionnaire was whether the increased amount of medical information provided by computer might decrease the time available for other matters of importance to the patient.

“Imagine you are a patient with back pain, but you also are concerned about stress at work and the effect it is having on your marriage,” Dr. Hsu says. “You want to be able to bring both of those up, even as the computer is providing a lot more information about improving the care of your medical issues. So it was good that patients felt their medical issues were being addressed without crowding out other matters of concern.”

A second report appearing in the *Journal of General Internal Medicine* was a qualitative analysis using videotapes of regularly scheduled primary care visits by 54 patients to nine different physicians, again at three separate times: two months before, one month after, and seven months after introduction of computers.

The study found that the introduction of computers in the exam room affected the visual, verbal, and “postural connection”—the way physicians and patients were facing, or not facing, each other—in four separate domains: visit organization, verbal and nonverbal behavior, computer navigation and mastery, and spatial organization of the exam room.

Interestingly, the study appears to bear out Dr. Wilson’s assertion that a physician with good communication skills prior to computerization is likely to be a good communicator afterward, just as the poor skills of another physician are likely to be exacerbated by computer technology. For instance, in two of those domains—visit organization and

verbal and nonverbal behavior—physician behaviors that either facilitated or inhibited communication *before* introduction of the computer were amplified afterward (see sidebar).

Some specific behaviors appear especially conducive to maintaining a good relationship with patients even while the modem is humming. Kaiser's research suggests that the practice of sharing the computer screen with patients—described by Dr. Escobedo and Dr. Wilson—is one good one. Some other observed behaviors that appear to enhance interaction between doctor and patient include the following:

- Describing what you are doing when typing or reviewing data, and especially avoid periods of silence
- Maintaining intermittent eye contact with the patient when using the computer
- Avoiding sitting with one's back to the patient when using the computer
- Using the clinical information on the computer screen as a teaching tool

Kaiser's research was confined to outpatient settings, so it remains unclear whether the presence of PCs might be more obtrusive on the hospital floor, where it could be easier for physicians and staff to use computers to “escape” from the demands of face-to-face care.

The latter potential was described by Steven J. Angelo, MD, in a piquant editorial in *JAMA* (March 13, 2002) recalling a Christmas Eve night when the computers went down on the floor of an intensive care unit. It is a vignette of everything that can go wrong when the computer comes between the doctor and the patient.

Arriving back at the nursing unit after making his rounds, Dr. Angelo found the station deserted.

“As I stroll down the hallway on my way to the radiology department, I discover where everyone has gone—they have all migrated to their patients' bedsides,” he writes. “I notice another nurse performing orthostatics, the weary intern checking a patient for Chvostek sign, and the cardiologist, back in his patient's room, reviewing a new electrocardiogram while carefully asking about any new symptoms overnight.”

Then, a half-hour later, the computer system is running again, and “like moths to a light bulb,” physicians and staff eagerly return to their computer screens to check their patients' numbers.

“There is a palpable sense of relief,” Dr. Angelo writes, “but for me there is melancholy, because for a brief moment, I saw what true patient care could be like, without technology's oftentimes distracting presence.”

Pushing Paper Technology As Far as It Can Go

But for believers in EMR like Dr. Escobedo, the digital revolution in medicine is not likely to disrupt the relationship with her patients any more than countless other technological marvels have done.

“It's important to remember that written charts are a technology and a relatively recent innovation,” she said. “But we've pushed paper to the point where it can't keep up with all the information we have.

“It isn’t the patients who have the problem with EMR,” she said. “It’s the doctors. But we shouldn’t be afraid to try something new, and we can’t sit still. I fully expect that when I’m ready to retire, the practice of medicine is going to look like nothing like when I started.”