# The brave new world of electronic communications

## Hi-tech veterans describe the strategies that make up for fewer face-to-face interactions

**by Judi Hasson**

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Just last winter, the hospitalists at University Hospital in Ann Arbor, Mich., wrote down patient orders the old-fashioned way, scribbling them onto three-ply carbon paper and distributing them to nurses, pharmacists, and X-ray and lab technicians.

Now, the hospital has come of age by adopting a computer physician order entry (CPOE) system. Instead of carbon copies, the hospitalists use desktop or laptop computers to order drugs and tests online.

The CPOE system, implemented last April, has received an overwhelmingly positive response from physicians and physician assistants. But it has required some readjustment and fine-tuning.

Within two weeks of the system going live, for example, nurses at the Ann Arbor center were calling meetings to discuss some of the fallout from the new system. The problem? Because communication had been largely automated, their interactions with physicians had been sharply curtailed.

In the past, nurses paged doctors, who would then call back to discuss drug orders and other requests. After the new system went live, however, physicians who received a text page would simply fill the order at the closest computer. Because physicians no longer had to return calls before placing an electronic order, the nurses complained that they were no longer sure whether orders were being filled.

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>
> **–Sandeep Sachdeva, MD
> Swedish Medical Center**

While the snags that the hospital encountered were relatively minor, they illustrate an overlooked reality of high-tech systems. While the technology can boost efficiency and improve patient safety, it can also change the way hospital personnel —physicians, nurses, case managers and social workers—interact around patient care.

**Less physical presence**

Robert Wachter, MD, chief of the division of hospital medicine at the University of California, San Francisco

(UCSF), knows firsthand about the communication challenges that can result from implementing high-tech systems. The 500-bed UCSF Medical Center has implemented an electronic medical record (EMR).

"The computer has a remarkable ability to decrease the practical necessity of physical presence in health care," Dr. Wachter explains. "A lot of interactions between doctors and nurses occurred when doctors sat at a desk at the nurse's station to write notes. Now doctors can be in a separate room five floors away."

He says there is no doubt that the electronic system has improved care and made information "more accessible to more people." At the same time, case managers and nurses have found themselves wanting more information to be sure they know what doctors are thinking. Because the EMR may have led to fewer informal conversations, hospital staff frequently feel they need more details from physicians about patients, as well as a forum for passing on requests from family members.

In a posting on his Wachter's World blog last fall, Dr. Wachter discussed the need to make the EMR more like Facebook, creating an interactive communication board allowing hospitalists and nurses to bridge gaps when they are not able to meet face-to-face. "Some EMR vendors are beginning to work on such a tool," he says.

To complement UCSF's electronic record, he adds, the hospital has added a sign-out system that is distinct from hospitalists' day-to-day notes.

"In it, housestaff and others go beyond the usual description of the patient's key problems," Dr. Wachter explains. "They include 'if/then' statements and other practical information that allow a wide variety of caregivers to pick up patients from colleagues without losing too much ground."

David Grossman, MD, a hospitalist and emergency physician at the Louis A. Johnson VA Medical Center in Clarksburg, W.Va., is another veteran of CPOE and EMR. His experience has convinced him of the value of incorporating non-template notes.

Dr. Grossman says that he asks nurses to use a consistent portion of their notes to express concerns about patients, and that physicians need a section for "free text" notes to outline why a requested order was not made or why an alternative was chosen.

"This isn't as personal as a return phone call," Dr. Grossman says, "but it keeps everyone on the same electronic page."

**Callback etiquette**

At the University of Michigan, hospitalist Paul Grant, MD, says that it took some time and training to get used to the new system.

"Verbal orders are highly discouraged and basically forbidden," he points out. "The only time physicians can use them are during emergencies such as codes or if a physician is on home call and without access to a computer." (See "Is it a good idea to ban verbal orders?" below.) As a result, he adds, "the rollout of CPOE has led to us to reinforce proper paging etiquette."

Nurses now are to include their name, pager number and callback number with all pages so physicians can easily reach the nurse to discuss patient issues, if warranted. However, Dr. Grant points out, the hospital didn't implement a specific protocol suggesting that doctors acknowledge a nurse's request.

"The nurses become aware of new orders very quickly once entered in our CPOE system," he says. "Thus a callback is often not needed."

Sandeep Sachdeva, MD, a hospitalist at Seattle's Swedish Medical Center, where two of the three campus hospitals are now wired for electronic documentation, says nurses now typically request orders through text pages. He adds that he lets common sense guide him when deciding whether to follow up a text request with an actual discussion.

**A generation gap**

Dr. Sachdeva admits that the two-line text pages he receives can leave out some details he needs for context. A nurse may page him with a request for a nausea medication, for instance, but he says that doesn't let him know what caused the nausea. Was it after eating or after taking a medication? That sometimes requires more e-mails or a call to the nurse.

"This requires change both ways where the nurses need to be more specific about raising concerns, as opposed to being generic," he says. "We may need an evolution in terms of the language required for getting attention and signaling urgency."

When it comes to relying on face-to-face communications with other physicians and with nurses, Nasrollah Ghahramani, MD, says that he's noticed a generation gap.

Dr. Ghahramani, a transplant nephrologist who studied provider stress with CPOE at Penn State Hershey Medical Center in Hershey, Pa., says that while older attendings still talk face-to-face to request and report consultations, housestaff tend to rely more on electronic ordering and documentation for consults.

The implementation of CPOE seems to have also, he says, resulted in less frequent direct communication between housestaff and nurses. "Many of our housestaff might be on a floor for two months in a row and not know the nurses' names," says Dr. Ghahramani, pointing out that residents often rely only on free-text order entry and text pages. "It has led to a more mechanistic approach to communications, and as a clinical educator, I think that's concerning."

**Enhanced communication**

Peter Lindenauer, MD, MSc, medical director of clinical decision support and quality informatics at Baystate Medical Center in Springfield, Mass., says that while hospitals experience "growing pains" with new CPOE and EMR technology, he doesn't buy the notion "that the introduction of electronic medical records will lead to diminished or poor communications." In fact, he adds, "Communication is enhanced through technologies such as CPOE, EMR and text messaging."

That enhancement comes from both solving issues of legibility—"Try reading the handwritten notes of orthopedic surgeons," says Dr. Lindenauer—and of structure.

"Structuring the ordering conversation reduces the possibility of miscommunication," he points out. "An order for metoporolol 50 mg po bid comes through the same, regardless of the physician."

And far from being too mechanistic, Dr. Lindenauer says, the practice of physicians communicating with each other and with nurses through text messages has important benefits. "The traditional numeric paging systems required an immediate callback," he points out. "Text messaging allows the care team to communicate often without creating the same type of forced interruption."

**Making physicians more visible**

Physicians and nurses may have an easier time integrating CPOE and EMR into their workday when the building where they work—and all of its systems— have been designed with technology in mind. That's the case at Banner Gateway Hospital in Gilbert, Ariz., which has been completely wired since it opened in September 2007.

John Rooney, MD, medical director of Banner Gateway's hospitalist program, explains that the hospital contains integrated work stations in which groups of computers are available to both physicians and nurses. In addition, doctors typically enter patient notes on computer stations placed in the halls outside patient rooms.

"It actually makes us more accessible vs. going into your little doctor-dictating room and doing charts that way," Dr. Rooney points out. "You're more visible, which promotes collegiality."

And because the hospital is relatively small—176 beds—the staff still regularly rub shoulders. "We're small enough that, one way or the other, you still have the opportunity for face-to-face conversation,"

he says. “Most of the time, we end up seeing each other on rounds.”

**A new, electronic culture**

Dr. Rooney also points out that new care models have sprung up, alongside the hospital’s high-tech systems. He holds multidisciplinary rounds, for example, as often as possible. Those rounds, which are always attended by a charge nurse and often by social workers, case managers and pharmacists, provide ample opportunities for face-to-face communication. Instead of leaving nurses confused about whether or not he’s filled orders, Dr. Rooney says that often “the nurses are putting orders in as I’m rounding with them.”

As physicians and nurses find new ways to navigate communications, Dr. Ghahramani at Penn State Hershey Medical Center says they will “build a culture” around the new technology. “It’s just like when the car was invented,” he points out. “Now we have a driving culture and etiquette.”

For hospitals that are wired, that culture includes not only major issues like finding complementary modes of communication, he says, but minor points like not using computer workstations or mobile computer carts as coffee holders or storage for sheets and lab coats.

“We still need to develop the etiquette around computerized order entry and the electronic record system,” Dr. Ghahramani says.

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## Is it a good idea to ban verbal orders?

As part of the computer physician order entry system at the Louis A. Johnson VA Medical Center in Clarksburg, W.Va., verbal orders are pretty much verboten, except in emergencies. A potential rationale behind that ban might be to reduce the risk of miscommunicating dosages or drug names.

But a prior method of “reading back” explicit verbal orders to the physician addressed that problem, according to David Grossman, MD, who serves as both a hospitalist and an ED physician at the center. Instead, he says, the disruptive closing and opening of electronic charts for multi-tasking physicians may predispose them to another type of medical error: entering orders on the wrong patient.

Dr. Grossman agrees that much of the time, it’s good policy to insist that physicians enter all orders, particularly when they are initiating orders on a patient they are following. The problem, however, is with what he calls “reactive ordering,” when another provider—a nurse, pharmacist or respiratory therapist—calls to request an order that Dr. Grossman cannot verbally tell them to issue but has to enter himself.

Because that often happens while he’s busy with another patient, he runs the risk of opening multiple electronic charts and “getting mixed up writing notes or, even worse, orders.” Such calls are particularly problematic when he is covering the entire hospital at night and dealing with patients in the ED.

The irony, he says, is that in many cases, the person on the other line already has that patient’s record open and “probably knows better than myself what needs to be done” in terms of ordering a new therapy or correcting a previous order. “By rigidly sticking to the rule,” Dr. Grossman explains, “we could be setting ourselves up for making more errors. While discouraging verbal orders is probably appropriate, outlawing them, I think, is overkill.”

During times when he just can’t enter orders, he says that nurses will leave sticky notes on his computer monitor to let him know what orders they need. Or ED nurses will take calls about orders from floor nurses and triage those messages for him—which he admits is “probably not the best use of your nursing staff.”

To avoid the crunch of phoned-in orders, Dr. Grossman says that he’ll call around to the different wards when he’s not busy to see if nurses have orders queued up and waiting for him to enter. “The opportunity to discuss patients with each nurse on the phone allows nuance that you can’t get in a sticky note or text message,” he says. But the ability to batch orders, he adds, still doesn’t solve the problem of orders that need to be filled “in real time. It’s still a work in progress.”

## Losing the “art” of dictation

While high-tech systems are leading some hospitals to re-examine the way nurses and physicians communicate, there may also be some significant effects on physician-to physician communication.

“Hospitalists say that by typing in notes, we’re losing personalities,” says Sandeep Sachdeva, MD, a hospitalist who’s become adept at electronic documentation at Seattle’s Swedish Medical Center.

In the past, he says, “if you looked at the handwriting and the way that people would write their notes—particularly how they’d dictate H&Ps—you could pick up on their personalities.” That was particularly true of physicians “who like to be loquacious and editorialize in their assessment and plan.”

Now, however, Dr. Sachdeva sees a lot more specialists who don’t like to type. “They’re putting in just two or three lines of notes,” he says. And much of the H&P information is now being packaged in templates that dramatically cut down on the amount of free text. Those templates work well, he points out, for patients with a relatively straightforward assessment. “But for an old school doc, it takes away from the ‘art’ of dictation. Any kind of expansiveness is being lost.”

That’s fine for physicians who are what Dr. Sachdeva calls minimalists in terms of documentation. But curious internists “who still get hung up on details,” he says, “need to know that these systems will slow you down when you’re typing.” (He counts himself among the “incorrigibly verbose.”)

One problem with one-word assessments and three-word plans, he says, is that it’s hard to divine a physician’s thought process.

Physicians who tend to include more details are particularly helpful for non-medical personnel, he says—including “your defense team. It shows that the doctor really thought it through and looked at the differential.”

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