

Connecting with **Technology**

From patient e-mail to virtual visits and e-scripts, technological advances are changing the practice of medicine—even for technophobic physicians.

IT WOULD BE A SAFE BET THAT NOT many of the physicians in the United States majored in computer science or information technology (IT) while in college. In fact, many doctors could probably be classified as technophobic—or least techno-wary—in how they have managed the communications function in their practices.

But a technological tidal wave is gathering momentum in the health-care industry that is affecting practices everywhere. Just as the corporate world became increasingly wired in the last decade, e-business is branching out into e-health, whether physicians like it or not.

According to a recent survey by the [Healthcare Information and Management Systems Society \(HIMSS\)](#), a Chicago-based association for health-care information technol-

ogy professionals, nearly all physician offices have at least one desktop or laptop computer, and the majority reported having an Internet connection in their practice.

Several other surveys have indicated that patients would like to use e-mail more with their doctors, and advancements in technological devices and software have made inroads into e-prescribing, which avoids the prescription pad and eliminates prescription errors due to handwriting illegibility.

Although physicians and hospitals are relying more on electronic means to communicate internally and keep records, physicians have been somewhat reluctant to embrace IT, citing concerns over privacy, security, and reimbursement. Even though physicians have the Internet in their offices, the HIMSS survey found only 20 percent of them are using e-mail to communicate with patients about medical concerns. But that percentage, while small, does offer proof that the number joining the e-bandwagon is growing.



HIPAA standards finalized
Feeding some of doctors' reluctance to forge ahead into electronic communications may have been a desire to wait until [Health Insurance Portability and Accountability Act \(HIPAA\)](#) privacy and security standards were finalized. After more than four years of comment and revision, Health and Human Services Secretary Tommy Thompson announced the adoption of the [HIPAA Security Final Rule](#) in February 2003, with an effective date of April 21. Health insurers, providers, and health-care clearinghouses covered by the standards have two years to comply. Small health plans will have an extra year.

In announcing the rules, Thompson said the national standards required under HIPAA will "...help safeguard confidential health information as the industry increasingly relies on computers for processing health-care transactions."

But some health-care providers, patients, and insurers have been developing electronic communication tools right along as the HIPAA rules were evolving. In fact,

several organizations, such as [MyDocOnline](#), [MDhub](#), and [RelayHealth](#) have emerged to make the transition into e-communication as HIPAA-compliant and painless as possible for physicians and patients. Undoubtedly, more will spring up.

One internist who believes there is a place for e-communication between physicians and patients, but draws a strict line on the types of those communications, is Jerry Spitz, MD, in Hartford, Connecticut. While he believes patients, physicians, and office staff all benefit from e-mail's putting an end to the frustration of "phone tag," he doesn't think physicians should dispense medical care via the computer.

"Using e-mail has some wonderful advantages," says Spitz. "It's wonderful for the hearing-impaired and it has probably reduced liability because it eliminates translation problems and accents. One person isn't hearing the message and writing it down for someone else." He adds that patients can contact their doctors whenever it is convenient for them, and in large cities or for patients across state lines, it eliminates the long-

On-line Communication Options

These are the current main options for physicians considering adding e-communication to their practices:

- **A regular e-mail account.** This is not recommended because the communication is not encrypted or authenticated and is not consistent with HIPAA and eRisk-compliant services. Using this type of e-mail communication increases liability exposure.
- **Medem.** (www.medem.com) This Web service, started by the American Medical Association and other major medical societies, includes a variety of HIPAA and eRisk-compliant services, including physician Web sites and the capability of on-line consultation, with a third-party credit card service that allows patients to pay physicians. Doctors have a "no charge" option they can use for simple issues and follow-up questions, or at their discretion.
- **RelayHealth.** (www.relayhealth.com) This company also offers a full range of services, including the webVisit, and it allows for reimbursement by health insurance companies. Individual practices pay \$49.95 per month for the service, and medical groups, hospitals, and health networks are offered a group rate. In some cases, health plans are opting to subsidize physician subscriptions.
- **MDhub.** (www.MDhub.com) Begun by a practicing physician, this service offers an Internet nonemergency messaging center for every physician in the United States. It is free to physicians and patients and is supported by revenue from *The Little Blue Book*.
- **MyDocOnline.** (www.mydoconline.com) Acquired by Aventis Pharmaceuticals in 2000, this service provides patients and physicians a secure e-communication channel. Patients pay a yearly subscription fee to use the service (\$30 for individuals) and physicians pay a monthly subscription fee (\$50 on average). ■

distance call. "Those nickels can add up when you're on hold."

However, Spitz doesn't believe physicians should practice medicine via the Internet: "I'm staying away from on-line visits. I don't want to go there.

"I feel very strongly that the e-health-care visit could be dangerous for the patient with increasing liability for the doctor," says Spitz. "With an on-line consultation, you do not have the ability to ask a follow-up question, you lack the ability to sense the tone in the patient's voice. You can't get a sense of the patient's concern, for say, how bad the pain is."

Spitz says he hasn't seen any studies on the quality of care in on-line visits. "That's a real shame. This is medicine. It should be the first thing you do. First find out: Does it work; is it accurate?"

With these concerns in mind, Spitz and his wife, Laura Engel, the publishers of *The Little Blue Book* physician telephone directories, launched **MDhub**, an Internet nonemergency messaging center for physicians and patients. Because of the physician database his company already has, MDhub gives patients the ability to send e-mail messages to some 380,000 physicians in the United States. Since most of these physicians aren't using on-line communication, the message arrives as a fax; physician offices that are on line can respond via e-mail, while those who aren't on line reply by phone. The service is marketed for prescription renewals, appointments, refer-

als, and X-ray and lab results and boasts of saving staff time spent answering phones and writing down messages.

MDhub is free to patients and physicians; it is supported by the revenue of *The Little Blue Book*. Spitz says approximately 4,200 patients a day are sending messages to their doctors via MDhub, and about 15,000 physicians have requested information about the service.

On the other hand, Elva Dreisbach, MD, an internist with HealthCare Partners in Torrance, California, who treats a panel of about 2,000 adult patients, has been using the Internet for a wider range of communications for more than two years and is enthusiastic about its potential beyond refills and test results.

"The e-mails range from requests for lab results, referrals, and appointments, to medical questions, webVisits and prescription refills," according to Dreisbach. "This saves my medical assistant and me time. I hate playing phone tag with patients. You don't have to leave a trail of multiple phone messages to handle a single problem. This allows them to contact me whenever they have a question, and I can respond when I have a break in the office routine or after I finish seeing patients. The system can be used from any computer, so I don't have to be in the office."

Dreisbach says the feedback from her patients is excellent because they like having another way to communicate with her.

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She adds that her patients don't feel desperate if they can't come into the office because they can get answers by e-mail, decreasing the number of unnecessary office visits, and freeing up her schedule for patients who really need to be seen. She says patients feel more confident in their ability to manage their own health. If the problem is serious, she says she directs them to the appropriate medical help and urges patients to come in or follow up if her e-mail recommendations do not result in improvement or if symptoms change.

Dreisbach uses a service called [RelayHealth](#), which bills itself as the "premier provider of Web-based doc-

Jerry Spitz, MD of Hartford, Connecticut believes in the power of e-mail to end telephone tag—he even launched MDhub, a nonemergency Internet messaging center for physicians. But he wants to avoid on-line visits. "With an on-line consultation, you do not have the ability to ask a follow-up question, you lack the ability to sense the tone in the patient's voice."

tor-patient communication services and pioneer of the webVisit doctor/patient consultation and the e-Script electronic prescribing service."

RelayHealth began in 1999 as California-based Healinx Corporation, changing its name in 2002. RelayHealth is available to individual practices for a monthly fee of \$49.95. Medical groups, hospitals, and health networks receive a lower group rate.

The company has about 6,000 clinical users, 5,000 of which are physicians, according to Eric Zimmerman, the senior vice president of marketing.

Reimbursement addressed RelayHealth launched e-health into the area of reimbursement, which was a major concern of physicians. "Physicians were reluctant [to get into on-line visits] in part because of their

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concern over uncompensated care. There was the feeling, "This is going to be similar to the phone call," says Zimmerman. "RelayHealth brought payers to the table."

Stumbling blocks to compensation, according to Zimmerman, were physicians' discomfort with charging patients directly and patients' expectation of having insurance as a payment mechanism. In order to get insurers to pay, RelayHealth clinically structured the interaction between doctors and patients.

"The webVisit is a semi-structured interaction that results in a concise note to the doctor that serves as a subjective assessment. The patient supplies complete information so a clinician can understand," Zimmerman says, adding that the webVisit is not appropriate for any condition that requires a physical exam. "This is not for acute situations. It is for ongoing, chronic, low-acuity conditions such as seasonal allergies and low back pain."

One of the webVisit's advantages over regular e-mail, Zimmerman says, is that simple text messages either provide too little information for the physician, who then must say, "Come in, I need to see you," or too much, with a patient sending three or more pages of text, leaving the physician to think, "What do I do with all this?"

RelayHealth takes care of the claim submission to the payer, collects the co-pay from the patient, and sends the fee payment to the physician, and obtains a transaction fee from the insurer. Zimmerman says the market price for the average webVisit is about \$25 to \$30, with the typical patient co-pay about \$5.

The company recently released the results of a study evaluating the impact

of RelayHealth and webVisit on physician and patient satisfaction and health-care costs. Investigators at the University of California at Berkeley and Stanford University surveyed 282 physicians, 3,688 patients, and a matched control group. More than 90 percent of the highest-volume user physicians were satisfied with the service, with 93 percent of them saying they would continue using the service in their practices.

Patients also approved of the service, with two-thirds of the patients rating the quality of their webVisit highly, a percentage that rose to 87 percent when the physician responded by the next business morning. The company reports that the survey also showed overall cost of care decreased dramatically. Compared to the matched control group, patients using RelayHealth saw statistical and significant reductions in total health-care spending, including spending associated with office visits and more costly care such as emergency room visits.

Does that mean providing on-line consultations might reduce billable office hours, something that wouldn't exactly please physicians? "That would be a valid concern," Zimmerman says, "but more than half of the physicians surveyed said they actually preferred webVisits to office visits for nonurgent medical issues." He says they found the webVisit still allowed them to earn income, but freed time in their schedules for more acute cases and reduced the number of call-backs at the end of the day.

Another service offering on-line health visits is [MyDocOnline](#), a subsidiary of Aventis Pharmaceuticals based in Round Rock, Texas. The Medical Clinic of North Texas was one

of the first organizations to utilize the company's [Online Doctor Visits \(ODV\)](#) early this year. MyDocOnline does no insurance billing or fee collection; patients are fully responsible for the fee associated with the physician's on-line consultation.

Many physicians may be most familiar with [Medem](#), a Web service started several years ago by the American Medical Association and other national medical societies, which offers physicians free Web sites, secure messaging, patient appointment reminders, and more recently, Online Consultation (OC).

Medem's OC relies on the patient to pay for services, noting that a national Medem survey shows physicians believe five to 10 patients a week would use the fee-based OC. Possible reasons cited for patient willingness to pay include out-of-pocket costs for office visits such as lost wages, co-payment, gas, and parking, in addition to inconvenience, and employer and child-care issues.

Medem was instrumental in an initiative to standardize the e-health business when it partnered with some 30 mal-practice insurers to form the [eRisk Working Group for Healthcare](#). The group came up with guidelines to meet national liability carrier and HIPAA standards to help ensure that physicians who follow the standards have a legal foundation if they are sued because of their Web-based practice recommendations. The full guidelines are available on the Medem Web site (www.medem.com) and address:

- **SECURITY** Communications need to be secure, with provisions for authentication and encryption.
- **AUTHENTICATION** The provider must take reasonable steps to verify the identity of the correspondent and ensure

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that recipients of information are authorized to receive it.

- **CONFIDENTIALITY** Practices must protect patient privacy and guard against unauthorized use of patient information.
- **INFORMED CONSENT** Prior to starting on-line communication, informed consent should be obtained from the patient regarding the appropriate use and limits of e-mail communication.
- **LICENSING JURISDICTION** On-line interactions with a patient are subject to requirements of state licensure. On-line communication with a patient outside of the state in which the physician holds a license may subject the physician to increased risk.
- **AUTHORITATIVE INFORMATION** Web sites and on-line communication of a promotional nature may subject physicians to increased liability. Misleading or deceptive claims increase this liability.

Professional liability carrier SCPIE, one of the companies represented in the eRisk Working Group, suggests that after patients have read and signed an e-mail contract, and it is filed in their records, the physician may want to provide a pocket-sized summary of the contract's important points. The card could be laminated for patients' wallets or affixed to the back of a physician's business card for easy reference.

E-mail guidelines might include such suggestions as:

- E-mail is not for emergencies.
- Be concise. Come in for an appointment if the issue is complex.
- Key in the topic of the e-mail in the subject line.
- All e-mail will be filed in your record.
- Office staff may receive and read your messages.

Electronic prescribing

The other developing area of e-health is in medication prescription. Most of the on-line services are for prescription refills only, whereas "e-prescribing" refers to technology that replaces the handwritten prescription with an electronic transmission directly to a pharmacy, which usually arrives in the form of a fax. The technology uses handheld devices, such as personal digital assistants (PDAs) or desktop computer software.

Massachusetts health-care organizations and technology advocates discussed the topic at the E-prescribing and Mobile Computing Conference in Boston in February. Medco Health Solutions surveyed 73 Boston-area physicians and found that while only 13 percent are currently using e-prescribing, 78 percent believe within the next seven years more than half of all medications will be prescribed using e-prescribing technology.

One physician who currently uses the technology is Michael Gilchrist, MD, a Chelmsford, Massachusetts pediatrician. He has been using **PocketScript** technology on his handheld PDA for a year and a half.

"The biggest boon is to patient safety," says Gilchrist. "If I prescribe something a patient is allergic to or that will interact with another medication, it alerts me. If a drug is restricted, the technology won't let me e-prescribe because it has to be handwritten."

Gilchrist says the software program he uses also has all the insurance providers for all of his patients, as well as the formularies, built in.

Patrice Bavaro, the director of point-of-care product development for **Medco Health**, says her company partners with technology organizations to provide the information on patients

who have Medco as their pharmacy benefit manager. "It is definitely picking up speed with physicians," she says. "E-prescribing allows a doctor to make a more informed decision because the information provided, with patients' consent, includes their entire drug history [from other physicians the patient may be seeing]. Patients are usually seeing more than one doctor."

Although many of the variables are still shifting into place, e-prescribing and e-visits are making headway with physicians. Most people in the e-health industry are confident that, while older physicians may resist changing, younger ones are more comfortable with IT, assuring the steady growth of cyber medicine. ■

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