New Era Awaits In Paperless Medicine

National network of patient records promises efficiency, fewer errors, but raises privacy concerns

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ALBANY -- Imagine you go to the emergency room one evening complaining of mild chest pain. Tests results are inconclusive, leaving doctors unsure whether to order invasive testing or chalk up your discomfort to something like acid reflux. They call your primary care doctor at home. She logs on to a Web site where she can see the picture of an EKG that was just performed. She notices significant differences from a previous EKG, also available online. It could be the first sign of heart trouble, she decides, and urges the hospital to perform a catheterization.

Then, imagine the doctor leaves her home computer to take a phone call. Her teenage son sits down and searches the name of his ex-girlfriend. Her medical record reveals not only does she have herpes, but she has just found out she's pregnant.

This hypothetical anecdote illustrates the promise and pitfalls of the new frontier of e-medicine. It's years away, but a vast electronic medical network promises to save money, improve diagnoses and treatments -- and greatly reduce errors. A 1999 report by the Institute of Medicine, a nonprofit organization that's part of the National Academies, found that each year as many as 98,000 Americans die in hospitals because of preventable medical errors.

A national network also could help unlock the mysteries behind diseases such as cancer and heart disease, giving public health researchers access to a vast quantity of data about patient health, from birth to death.

The forces leading the e-medicine movement, like a Hudson Valley physicians' network and a Troy-based health care group, are acutely aware that they have to address the public's privacy and confidentiality concerns as they move forward. private sector is usually credited with embracing innovation, but in the world of electronic medical records, the federal government leads the way. Department of Veterans Affairs hospitals began moving to paperless records in the 1980s.

Yet staffers who developed the system were told to stop working on it by administrators worried about cost, according to Dr. Lawrence Flesh, the VA's chief medical officer for the region that includes Stratton VA Medical Center.

"They continued to work covertly," Flesh recalled. "And then, when it was ready, they announced it directly to some congressional staffers here in Albany in 1982. They were so impressed, everyone agreed this was the way to go."

That early innovation has kept the VA ahead of the curve: Medical records for veterans are fully computerized today, and available at each clinic and hospital.

Necessity drove another local health care group toward e-medicine. The nonprofit Northeast Health includes Samaritan Hospital in Troy, Albany Memorial Hospital, Eddy Cohoes Rehabilitation Center in Cohoes, plus four assisted-living residences, three nursing homes and seven clinics.

Patients -- and their records -- move regularly. If a resident at a nursing home suffers a stroke, he might go from a hospital to a rehab center and then back to the nursing home. Getting his medical record to travel with him is unwieldy, and expensive.

So Northeast Health has built an online infrastructure, which offers doctors and nurses information such as patient history, current prescriptions, discharge orders and prior and current lab results, including images from MRIs and ultrasounds.

Physicians and nurses use the system to order lab tests and medications. Computerized prescriptions are the easiest way to reduce errors, studies show, because built-in rules identify problematic interactions between drugs, and potential drug allergies. Another effort toward electronic medical records is coalescing in the Hudson Valley. The Taconic Health Information Network and Community in Wappingers Falls is bringing e-medicine to 2,300 private doctors.

"Eighty percent of health care happens at small doctors' practices and community hospitals," said Dr. John Blair, CEO of the Taconic Independent Practice Association. "We want what the Mayo Clinics have, but we don't have billions of dollars."

So Taconic is building a network doctors can tap into through subscription fees -- no more than $500 to $600 a month, Blair said. His approach is unique nationally: Most similar efforts have been driven by research hospitals or physicians' groups with hundreds of members.

Taconic's network is also easy to hook into. Interoperability is the buzzword as the local records systems begin to slowly push toward a national grid.

"What makes this so neat is that it can easily be built upon," said Dave Oliker, president and CEO of Schenectady-based MVP Health Care, which is partnering with Taconic.

Beyond reducing errors, digital medicine could let doctors look for patterns. Blair noted an estimated 20 percent of diabetics are undiagnosed because the obvious tests may not show the condition. But other tests, if looked at side by side, could lead to a diagnosis.

Such a broad search for undiagnosed conditions isn't possible in a paper world. "It won't take 10 nurses working around the clock to look at 2,000 charts to find them," Blair said.

E-medicine has already fueled ambitious research. Stratton's acting chief of staff, Dr. Barbara Bates, is part of a team using the VA system to study how patients fare after amputations of toes, feet and legs.

"It would have been absolutely impossible to do the study 10 years ago," Bates said. To build public support, clear safeguards for patient confidentiality are critical, said Mary Ann Baily, an economist at the Hastings Center, a nonprofit bioethics research center in Garrison.

What the public may not realize is that e-medicine is a huge step forward in guarding patient privacy, she said. "We have had no privacy or confidentiality in the past," said Baily.

Baily and other experts tick off all the problems with the current system -- anyone can flip through a paper chart and leave no trace: nurses, clerks or the custodian.

Baily recalled a friend who was having difficulty accessing her own medical records. "So she just put on a white coat, and they let her in," she said. "No questions asked."

The biggest privacy horror of them all? Fax machines. "Stacks of paper build up in offices every day that all sorts of people look at," Blair said.

Safeguards are in place to address e-privacy concerns. Systems have quick "time-outs," meaning users have to log on with their password regularly to continue to view data. It's likely, for example, that the teenager mentioned earlier would not be able to snoop into his girlfriend's record without being prompted to enter his mother's password.

Computers in the Samaritan Hospital emergency room have a nifty built-in security feature. They're in a cabinet that remains open only if pressure is put on it by someone typing. So when a nurse or doctor walks away from the machine, it automatically closes.

Stratton VA officials say they periodically conduct security tours, looking to see if any computer monitors are facing doors and windows where they can be viewed by the general public.

In addition, e-medicine advocates say, electronic records are governed by the Health Insurance Portability and Accountability Act, the federal law to protect patient privacy. Previously, doctors were guided by ethical principles, not legal standards.

The most critical safeguard? E-medicine systems follow who looks at the data.

"It tracks every single person," said Dr. Patricia Hale, chief medical informatics officer at Glens Falls Hospital, which is well on its way toward paperless records. "The time, the place, which computer, which piece of information, not just that you looked at lab results -- but which lab results."

The prospect of a national medical database does create some new gray areas. Let's say a young man tells his family doctor that he snorts cocaine once or twice a month. A decade later, with his partying days years behind him, would he want to still see "cocaine user" as part of his permanent record?

It likely would be. "It's the right, and even the obligation, of a physician to document something that affects the health of the patient," Hale said.

That's not to say everything must go into a chart. A patient may confide in her doctor why she feels stressed, for example. But Hale won't write down that the woman's husband is having an affair, or that her son is doing drugs. Instead, she'll just note "family stress." Cost remains the e-medicine's biggest barrier. Software is expensive. So are laptops, hand-held computers and flat-screen monitors. Then there's the bill for training staff, plus the inevitable loss of productivity during transition.

Northeast Health has invested at least $5 million over the past five years in electronic records.

Administrators know those investments will eventually pay for themselves, but hospitals have plenty of other priorities.

Glens Falls, for example, is raising more than $21 million to build a new hospital wing. "They're restricting really useful projects because of what they need to fund the new building," Hale said. "It's a huge issue."

Washington may not be much help.

In April, the Bush administration appointed Dr. David Brailer as the nation's health care information technology czar, a new position. But a few weeks ago, Congress failed to approve $50 million that Brailer sought as seed funding to help build a national health data exchange.

Some technology improvements are being underwritten by private health plans and big employers, which offer premiums for adopting measures that clearly boost quality to hospitals or doctors' groups.

"If they think they can save $3 per patient a month by investing 50 cents, they'll

invest," said Blair.