

## A Matter of Record(s)

*Sure, turning patients' folders into electronic files will bring efficiencies to health care. But it's what you do with the digital data that really counts.*

By [John Buntin](#) | April 1, 2009

Ron Stollings believes in electronic health records, as both a family physician and a state legislator. Two years ago, he and the three doctors he practices with invested \$210,000 in an EHR system for their clinic in Madison, West Virginia, something that fewer than one in five small practices nationwide has done. Instead of relying on paper notes tucked into manila folders, Stollings and his partners can call up vital information about patients on their computers. Moreover, as a first-term senator in the West Virginia legislature, Stollings is pushing for a small surcharge on insurance claims that could help fund a statewide "health information exchange," something that would allow doctors and hospitals to swap electronic versions of the medical information they possess.

Although Stollings believes that bringing online access to a patient's medical data "is the right thing to do," he admits that the impact of electronic health records on his own practice has been modest. "Our office moves a lot smoother. We're not dragging these charts from one desk to the other," he says. "But I'm not sure it has changed the way I practice medicine."

Eighty miles east of Madison, Sarah Chouinard has had a very different experience. Four years ago, the Clay Primary Health Care Center, a federally qualified community health clinic where she works as a physician, adopted a free, open-source EHR system, one the federal Indian Health Service had developed. In doing so, the Clay clinic joined an ambitious and unusual effort, led by the West Virginia Department of Health and Human Resources, to equip all state-run health care facilities and other clinics with open-source EHRs. In the process, Chouinard and her colleagues also completely changed the way they worked. In the pre-EHR days, the clinic's physicians had to wait until patients decided to come in to the office in order to take their blood pressure or check on how their diabetes was doing. "'I can only treat you if you're here' had always been my motto," Chouinard says of the way she used to practice medicine. EHRs

have helped turn that dynamic upside down. "Now, we're running reports on everyone in our system who has a diagnosis of diabetes or everybody who has a diagnosis of high blood pressure, and then calling them to say, "Where are you? We need you in here. We haven't checked your blood pressure or done your diabetic labs." Chouinard estimates that she now spends half of her time interacting with patients that clinic staff have identified as needing proactive care. The results have been impressive: a significant increase in the number of diabetic patients whose blood sugar is under control, a sharp increase in the number of children referred to obesity counseling, better health outcomes and, for the state, lower costs for the many Medicaid recipients treated at the clinic.

For years, health policy experts have expected great things from electronic health records — better coordination of care, fewer medical errors, more productive physicians. Yet like the paperless office, EHRs never seemed to fulfill their promise. In part, that's because so few physicians have put the systems in place.

That's about to change. Thanks to the recent federal stimulus bill, the federal government is preparing to invest nearly \$20 billion in health IT. The vast majority of this money — some \$17 billion — will flow directly to physicians and hospitals through the Medicare and Medicaid programs. Starting in 2011, physicians who treat Medicaid or Medicare patients and who adopt certified EHRs will be eligible for a payment of up to \$65,000; likewise, hospitals and health centers will be eligible for an infusion of up to \$11 million of federal cash to set up an EHR system and use it.

That's the carrot. There's also a stick. Physicians who fail to adopt EHRs by 2015 will miss out on federal subsidies. In fact, the following year they will receive reduced Medicare payments as a penalty. To qualify for federal subsidies, providers will also have to demonstrate that they are using their EHRs in what the stimulus legislation describes as a "meaningful" fashion. Physicians will be required to collect and report clinical quality measurements and write prescriptions electronically. They'll also have to show that their EHR systems are connected to other networks in a way that improves the quality of care and promotes care coordination.

To assist with this, the federal stimulus package sets aside \$2 billion for, among other initiatives, grants to states or state-designated entities. States that submit grant proposals in the next two years are eligible for full federal funding. Thereafter, states will have to put up money for a federal match, which becomes less generous over time.

State officials will have another reason to move quickly on EHRs, as well — political pressure. With incentives for both states and providers aligned in the right direction, powerful lobbies such as the state medical associations are likely to shift their positions on EHRs from one of ambivalence to outright promotion.

Health IT boosters believe that EHRs could save as much as \$80 billion a year — nearly enough to cover the \$100 billion tab of covering the uninsured. But the experiences of physicians such as Stollings and Chouinard suggest a more complicated story. In one setting — Stollings' — EHRs simply automated the status quo. In the other, they transformed a clinic's approach to its patients. The outcome of the Obama administration's \$20 billion gamble on EHRs will depend in large part on whether government can encourage the latter rather than the former.

Ron Stollings will be taking his seat for opening day of West Virginia's 2009 legislative session in a few hours, but at 8 o'clock on a chilly morning he is an hour's drive away from the state capitol in Charleston. He is making patient rounds at Boone Memorial Hospital, an aging 25-bed facility at the edge of West Virginia's coal country. Boone does have electronic health records. What it lacks is a way to exchange information electronically with other practices or hospitals. That's a problem because many patients are transferred from Boone to larger hospitals in Charleston and then back to Boone in the course of their treatment.

On this particular morning, Stollings' first patient is Mrs. Gore, a 93-year-old woman who's just been transferred back to Boone Memorial from a Charleston hospital. For Mrs. Gore, the inability of the two hospitals to exchange records electronically already has had consequences. During her recent stay in Charleston, hospital staff concluded that Ms. Gore was incapable of making medical decisions on her own. When Stollings enters her room, Mrs. Gore, who

has been a longtime patient of his, recognizes him at once and greets him warmly.

"Do you think you can eat on your own, Mrs. Gore?" the doctor asks. "Should we take that feeding tube they put in in Charleston out of you?"

"Yes, sir, I can," she answers. "I don't like that nasty old feeding tube."

So far, so lucid. Had the hospital in Charleston held ready access to Mrs. Gore's records at Boone Memorial (or from her primary-care physician), they might have reached a different conclusion about her mental capacities. But because they declared her to be mentally incompetent, Stollings now must choose which of her relatives should make decisions for her. Just as Stollings begins to ask Mrs. Gore more questions about her preferences, a loud noise sends Stollings into the room next door. The oxygen mask on one of the two patients there has popped loose.

"Are you in any pain?" Stollings asks the wheezing man in the far bed. A conversation about the patient's condition ensues. Upon leaving the room, Stollings tells one of the nurses, "He's got spreading prostate cancer." Stollings sits down at the nursing station and pulls the paper chart. Then he places a call to the next of kin to discuss helping the patient draw up a medical directive that would spare him from undergoing extreme resuscitation procedures.

This is what the practice of medicine looks like in a small rural hospital. Boone Memorial has had EHRs for five years. What's striking is how little the advent of the new technology affects the way most doctors there treat patients. Physicians can access X-rays and lab reports from off-site, but that's about it.

The problem is that EHRs are like cars — most useful when there are roads to drive on. In a health-IT context, those roads are called "health information exchanges." Only three states — Delaware, Utah and Vermont — currently have statewide HIEs that almost every provider can tap into. West Virginia will take steps to join their ranks this fall when the West Virginia Health Information Network (WHIN) rolls out an exchange that will allow subscribers to receive lab reports and referrals electronically. Physicians whose EHR systems are certified as interoperable will be able to hook into the exchange directly. Physicians who don't will log on through a Web portal, which will allow them to receive lab reports

electronically and use secure messaging for referrals. "The goal," says the network's executive director, Sallie Milam, "is to help the entire health system become more efficient by eliminating some paper from the system and delivering information electronically." Milam's hope is that providers — doctors, hospitals, clinics — will subscribe to the service, thus underwriting a five-year operating budget of \$40 million.

This won't be an easy goal to reach. Nationwide, regional health information exchanges have struggled to create sustainable business models. Some, such as the exchange run by the Regenstrief Institute in Indianapolis, have succeeded. Most others have not.

Stollings and other state legislators would like to see the West Virginia health exchange available statewide. To help, Stollings and other physician-legislators introduced a bill modeled on a Vermont law that would levy a fee of less than 1 percent on insurance commissions paid throughout the state. Stollings would like to see some of that money go to WHIN. One of the most important players, the state's secretary for health, Margaret Walker, opposes attempts to build a single network. She would prefer to see a series of interoperable networks, one of which would be run by the state Medicaid program. "If there is only one health information exchange, and Medicaid doesn't own it," Walker says, "then how would we control it?"

Yet without grants or state support, the question of whether health information exchanges can support themselves remains an open one. These sorts of disputes are the kind that explain why Boone Memorial Hospital has only tenuous electronic connections to the wider world.

Because EHRs are currently used by so few health care providers, they often are seen as something too new to be part of the mainstream. But that view is wrong. One of the most successful EHR systems is the U.S. Department of Veterans Affairs' VistA, whose origins date back to the early 1980s. Health experts credit VistA with helping to transform the VA into an extensive, high-quality, low-cost health care system. In 2005, the Community Health Network of West Virginia, a group of nonprofit health clinics that included Sarah Chouinard's employer, Primary Care Systems, received a grant to adapt VistA to a community health

clinic setting. VistA is free, open-source software that can be tweaked by tech-savvy end-users. Because of her previous experience using an EHR system in California, Chouinard was brought on as the project's medical director.

The West Virginia team found adapting VistA to be tough going. The VA system, which was geared toward managing patients in hospitals and institutions, didn't have many of the modules that Chouinard's clinic, which treats families in a walk-in clinic setting, needed. Fortunately, Chouinard and her colleagues soon found a variant of VistA in the federal Indian Health Service, a \$3.3 billion agency that offers health care to the nearly 2 million American Indians and Alaska natives living on or near reservations. The Indian Health Service system was designed to manage chronic conditions such as diabetes, obesity, high cholesterol and hypertension — conditions that are epidemic on Indian reservations, as well as in states such as West Virginia.

"Not to disparage other systems, but our primary driver was to improve patient-based care," says Dr. Theresa Cullen, chief information officer for the IHS. "That's why West Virginia was attracted to us." Officials were particularly impressed by the Service's public health focus. Not only does the agency use its data to monitor quality and coordinate care, it's also begun to model future health care needs for its current population of patients. For instance, data from the health records may indicate that a significant percentage of young adults in a community are obese. "What happens," she asks, "when these obese people become 50 and they get diabetes and hypertension?" With the right data, states can begin to answer these questions. Having the data, Cullen suggests, would allow states to determine which interventions offer the best return on investment.

Having data helps in more basic ways. Heart disease is among the most serious health problems in New York City — 65,000 New Yorkers die of it each year. In an effort to attack the particularly high incidence of the disease in three specific areas of the city, the New York City Department of Health and Mental Hygiene is offering a free EHR system to any practice in the city where more than 10 percent of the patients are uninsured or on Medicaid and where the practice is willing to put \$4,000 into the city's quality improvement fund. Physicians in the three target areas forgo the usual EHR fee and also receive support for hardware upgrades and technical assistance. The system is specifically designed to

encourage preventive care and promote more efficient clinical practices that ultimately should be more effective at managing chronic illnesses.

Even though acceptance of the offer is far from complete, the city is seeing a difference. The system encourages practices to tap the data within the EHRs to focus on improving health outcomes, and it has an automatic quality measurement that routinely pushes aggregated data from clinics and practices back to the city health department. "The simple act of being able to say, "Give me a list of all the patients who have high blood pressure that isn't under good control — that simple act is really transformative," says Dr. Farzad Mostashari, New York's assistant commissioner for health.

The city is now preparing to pay doctors to collect detailed information on patients' health status and offering cash bonuses to doctors who meet city goals. "We have to give the practices the support they need and the training they need to achieve that," says Mostashari. "You know, right now if you get your patients immunized or not, it doesn't make a difference. You get paid the same and it's more work." True reform will come, Mostashari says, when that changes.

And that is what is beginning to happen in Chouinard's West Virginia clinic. The transition from paper records to the EHR system from IHS was not a particularly smooth one. Clinic productivity dropped sharply for about three months, an experience that is typical for practices adopting EHRs. Even after the clinic's physicians and staff got used to the system, there were still frustrations. Unlike commercial EHR systems, which typically feature slick note-taking applications, this one has a very basic graphical system.

But Chouinard quickly realized, as Mostashari has, that it isn't the technology per se that is important. What is important is that the electronic record system can change the way physicians think about patients. Where once Chouinard had seen her patients as individuals with specific problems, she now sees them as members of a larger group. On a recent Tuesday, for instance, the clinic was full of diabetic patients whom clinic staff had identified as needing eye exams. The clinic had recruited an optometrist to come in for the day to treat everyone. While patients sat with their eyes dilated in preparation for the eye exam, Chouinard and her colleagues conducted diabetic foot exams.

Since EHRs have been implemented in Chouinard's clinic, the number of diabetic patients whose blood-sugar level is considered "under control" (based on medical guidelines) has increased from 59 percent to 79 percent. In addition, the percentage of obese children referred to counseling increased from a mere 8 percent to 100 percent.

None of these changes would have happened without the initial investment in EHRs, says Chouinard. But when practitioners and policy makers focus primarily on health IT, they miss the most important part. "The biggest mistake people make with health IT projects is they see them as IT projects," says Mostashari. "If you want to get value out of IT projects, you've got to know what you want to achieve and drive toward it every minute of every day. For us, that's saving lives."

### **Money Machine**

If EHRs haven't transformed the way Ron Stollings practices medicine, it has changed the way he bills for it. By helping him better document procedures at his private clinic, Stollings' EHR system has dramatically improved what physicians call "charge capture," meaning the EHR prompts him to bill for procedures he once overlooked. According to Stollings, the clinic's EHR "has clearly shifted most of my cases up to level four" — a more serious case categorization that results in higher billing. The Clay clinic has seen similar revenue increases.

Stollings' practice hasn't paid off the \$210,000 investment in EHR yet, but the billing has clearly generated more income for Stollings and his partners. It's hard to begrudge a rural family practice additional revenues. But if Stollings' experience with EHRs proves to be typical, policy makers who hope health IT will save money and improve public health will likely be disappointed. — J.B