

## Rhode Island Monthly—September 2011

### Going Digital by Jennifer Swanson

Advocates say developing medical information technology can change the health care system for the better. Rhode Island is about to find out if they're right.

A man experiencing chest pain walks into a hospital emergency department seeking care. During standard questioning by the ER staff regarding his medical history, the patient reveals he suffered a prior heart attack. As he is being evaluated, an electrocardiogram reveals an elevated ST segment, which, in some cases, indicates a heart attack. The hospital staff can't access the patient's paper medical records, but they are convinced enough he is having a second heart attack to administer a clot-busting drug in an effort to save his life. The problem is, it wasn't a heart attack; his chest pain was a result of a raging infection in his pancreas. In the absence of a healthy, fully functioning pancreas, the clot-buster had an adverse affect and blew a vessel in his brain. The man spent two weeks fighting for his life in intensive care and another year relearning how to speak.

"Here's a patient that if they'd just had the records from the primary care doctor down the road or the specialist, both of whom had an old EKG on file, they could have said, 'That ST segment has been elevated for two years. Okay, so it's not [a heart attack].' That information could have prevented a horrific experience for that patient," says Laura Adams.

It's this sort of systematic malfunction that motivates Adams in her work as president and CEO of the Rhode Island Quality Institute (RIQI), a nonprofit organization that is facilitating the progression and adoption of medical information technology in Rhode Island. In the ten years since RIQI was established by then-Rhode Island Attorney General Sheldon Whitehouse, the state has emerged as a national frontrunner in the medical IT field.

One of RIQI's earliest initiatives began with a pilot program and fewer than forty local physicians who agreed to implement electronic prescribing in their respective practices. The program aimed to improve patient safety and overall efficiency by directly linking doctors to pharmacies via a secure electronic prescription network. The aim was spot-on and the idea took.

Known today as Surescripts, that electronic network is commonplace both locally and nationally. In 2009, Rhode Island was recognized as the first state in the nation to connect all of its retail pharmacies for e-prescribing, and the results of a 2011 Health Information Technology (HIT) survey from the Rhode Island Department of Health indicate that the use of HIT — including e-prescribing and electronic health records — by state-licensed physicians has increased 12 percent in the last two years.

As innovative as the e-prescription network is, it's but a pixel in the big picture for RIQI. Strides have been made on other major initiatives as well, including one in particular that, if fully realized, could change the way patients' health information is accessed, stored and recorded: Currentcare.

Currentcare is Rhode Island's burgeoning health information exchange, or HIE — an opt-in electronic network that will serve as a virtual information hub for doctors, hospitals and other medical service providers throughout the state. With a patient's consent, participating health care providers will be able to submit and share patient health information — everything from basic medical history to lab orders and X-rays — in real-time through a secure electronic network. In the absence of such a network, Adams says health care providers rely on slower, and sometimes less accurate, means of communication including fax, courier or phone calls.

In addition to making health care more efficient for patients and providers, HIE advocates say there is another universal benefit to digital records and an electronic exchange: money. RIQI says Currentcare will not only benefit the community by minimizing communication breakdowns, it will remediate wasteful spending which Adams says is "choking" the modern health care system.

Adams tells the story of another patient who, several weeks after undergoing a cardiac catheterization at a Rhode Island hospital, returned to the facility because he was experiencing chest pain. The hospital wanted to

review the test results, but couldn't locate them. Their solution? Repeat the procedure.

"It's one thing to poke you and run another lab test. It's quite another thing to jab and run dye through your cardiac vessel," says Adams. "First of all, the cost of that is outrageous, and it's life threatening." Preventable hospital readmissions are equally, if not more, responsible for the rising cost of health care as the duplication of tests and lab work. Rhode Island, says Adams, is particularly guilty on this front. "We know that one in five of our Medicare patients in Rhode Island ends up right back in the hospital thirty days after they've been there. Now we know that part of this is they get discharged and their primary care doctor never knew they were there," she says. In those instances, medications don't get reconciled, instructions aren't understood or followed properly and patients often don't schedule follow-up visits in a timely fashion. Adam says it's critical for these patients to follow up with their primary care doctor within seven days of a discharge.

In an effort to address this failure, a notification system will be activated through the HIE by the end of September that will notify doctors enrolled with Currentcare in real-time when a patient in their care is discharged from a hospital.

Another notable consumer benefit: HIEs will eliminate the need for patients to pay for copies of their own medical records if and when they decide to change physicians. Depending on the length and nature of a patient's medical history, the cost associated with copying page upon page of documents can be substantial. It's a common practice Adams believes is wrong. "Medical records belong to the patient, not a facility that can hold them hostage," she says.

Few would disagree that there's nothing cheap about the health care system, and that includes initiatives to fix it. Through a combination of federal grants and private funds, Adams estimates \$10–\$11 million has been invested in Rhode Island's health information exchange to date. The investment into RIQI's complete portfolio of work is in the \$27 million range, she says. On a national level, the federal government has pledged billions to promote the adoption of health information technology programs through the American Recovery and Reinvestment Act. The money is not only funding organizations like RIQI, it's being used as an incentive to bring health care providers on board. Eligible providers — such as doctors and hospitals — who can demonstrate they've implemented HIT to "meaningful use" standards as outlined by the federal government can receive financial incentives up to \$63,750.

In the long run, Adams says the investment is "miniscule" based on the potential return. Referencing a "conservative" analysis conducted by Boston Consulting for RIQI, the return was \$108 million based on a \$6 million spend. "And that's if we don't add any ability to do quality improvement, if we don't add gains we would get from better public health, pandemic and bioterrorism detection, and those kinds of things."

Because Currentcare is an opt-in system, it cannot begin to meet RIQI's expectations without widespread acceptance by patients. And regardless of the benefits RIQI touts are possible, not everyone is convinced. For some, the notion of having their personal health information out there in the virtual stratosphere for anyone to access has something of a Big Brother foulness to it. To convince skeptics, Adams compares Currentcare data to online personal banking. "You can certainly access your information, but other people can't crawl around in your bank account and write checks," she says.

As an added security, patients have the option of selecting the level of their enrollment, the most restrictive of which permits HIE information to be accessed only in the event of an emergency. Patients can also choose to hand-select which data-sharing partners can access their information, or they can open the information to all health care participants. Adams adds that state law prohibits employers from digging through a patient's medical information. "We hire people to try to penetrate the system, to deliberately try to hack into the system to see whatever weaknesses they can find in that system. We are paying people to try and find the chinks in the armor all the time."

At the end of July, 162,000-plus patients had consented to participate in the exchange. Helping to enlist those patients are 359 health care service providers — which include hospitals, doctors' offices, long-term care facilities, visiting nurse agencies and laboratories — that have signed letters of agreement to become enrollment partners.

RIQI achieved a major milestone in April when Currentcare opened its proverbial gates for the first time and began accepting patient data from East Side Clinical Laboratory. East Side Labs serves 240,000 patients

annually, and the information exchange will equip participating health care providers with electronic access to the diagnostic test results of enrolled patients. Although Currentcare began accepting data in April, the information highway is still only a one-way street. RIQI says there is not enough data in the HIE yet to make opening the portal worthwhile.

But more information is on its way. Three additional data-sharing partners — Care New England labs, South County Hospital labs and Surescripts — were expected to begin flowing information into Currentcare by August, as was a local physician's office. Using the Polaris EpiChart electronic health record system — one of nearly 600 such systems available to local physicians — this doctor's office will begin flowing continuity of care documents into the HIE. Lifespan labs are expected to follow suit by October, and Quest Diagnostics is expected to follow shortly behind.

"We need to awaken people to the fact that, as is, this system is working badly, but we can make it better," says Adams.

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