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FEATURES

R.I. Spreads its HIE Wings

The Rhode Island Quality Institute (RIQI), a Providence, R.I.-based collaboration of healthcare stakeholders, took on the technical responsibilities for the statewide health information exchange (HIE) system, currentcare, at the end of July 2010.

As early as 2003, RIQI already had taken charge of the governance, policy framework and certain aspects of operations, such as enrollment and financial sustainability. As a "State-designated Entity" for statewide HIE in R.I., the Institute received a federal government grant for $5.2 million for direct spending on an HIE infrastructure, according to Laura Adams, CEO and president of RIQI.

During the summer of 2010, RIQI built a new HIE technology platform, thereby, avoiding numerous and expensive upgrades of an older HIE platform. This newer system allows for greater interoperability, and is capable of integrating with Surescripts to provide patient's medication histories, Adams says.

The InterSystems HealthShare platform, including its Caché database management system and middleware Ensemble component, supports currentcare, according to Gary Christensen, CIO and COO at RIQI. "There's also a web-based presentation layer that runs in real time, so if a clinician queries a patient, the presentation layer will locate the patient's record amassed through the data-sharing process and present that information through the viewer," he says.

Coupled with the InterSystems platform is a QuadraMed statistical matching engine. "Because there's no universal patient identifier, we have to match data based on what information enters the system," including names, addresses, phone numbers and other bits of information, he says.

The matching engine assesses statistical matches for patients. Matches are analyzed in real time for probability that the patient is one in the currentcare database. "Additionally, the system fine-tunes as it learns from the data over time to get better at matching as more data get populated," Christensen notes.

The final moving part of currentcare is a compendium management system from Apelon, which maps the data format from data-sharing partners to the industry-standard formats stored in currentcare. Data sharers may or may not use pure industry standards when storing clinical data, Christensen says.

"The mapping package allows us to keep an industry standard compendium mapped to the data-sharing compendium, which we will have to manage over time as organizations change formats within their systems," he says.

Turning on the data flow

The East Side Clinical Laboratory, located in Cranston, R.I., has jump-started the flow of patient information into currentcare. Once RIQI opened the aggregation aqueduct to collect lab results and medication, one of the organization's goals is to collect clinical data from as many of the state's 1.1 million residents as possible.

The East Side Clinical Laboratory annually assists approximately 240,000 patients, totaling 900,000 annual patient encounters. As a result of East Side Clinical Laboratory's participation, enrolled patients' diagnostic test results are being sent directly into currentcare.

As patients' results are completed, the East Side Clinical Laboratory sends the patient data to a gateway server on its network, which receives a copy of the clinical data to determine if the patient's demographics (including name, address and date of birth) match information from patients already enrolled in currentcare, says Jim Feeney, vice president of IT at the East Side Clinical Laboratory.

HIEs will need patient participation for growth, which will require their consent.

According to RIQI, patient's health information may only be released from currentcare:

- With the consent of the patient;
- In an emergency, to a healthcare provider in order to facilitate treatment; or
- For these purposes in the interest of the public's health.

"If the patient data match information from an enrolled currentcare member, that information is sent to currentcare," he says.

From an IT perspective, Feeney predicts that HIE participation will help close the gaps in patients' medical records. "East Side Clinical provides services for many long-term nursing facilities in the state," he says. "If a patient is in a nursing facility and gets an infection or a critical condition, they could be transferred to a hospital setting, treated there and sent back to his or her long-term nursing provider. There can be a disconnect between those transfers on that patient's medical record.

"Once other organizations begin putting clinical data into currentcare, a provider could examine patients across their medical history to see how they are responding in both the short and long term. It'll be a comprehensive view of the entire medical record," says Feeney.

Getting patients to opt-in

In addition to the East Side Clinical Laboratory, other providers and health systems, such as Lifespan, Care New England, South County Hospital, Blackstone Valley Community Health Center, Quest Diagnostics and Surescripts, have signed agreements with RIQI to submit consented patient information to currentcare in the very near future. Projects to implement these additional data flows are under way now, with most expected to be operational expected before the end of August (as of publication time).

Patients must consent via an opt-in agreement to have their medication history and lab results flow into currentcare. Approximately 155,000 patients have already opted into the system, says Christensen.

The opt-in patient-consent model was the most significant recommendation from the Agency for Healthcare & Research Quality/Rhode Island Health IT Steering Committee to RIQI's board of policies, says Cedric Priebe, MD, CIO and senior vice president of the Care New England Health System.

It was clear early in the policy-making phase that the R.I. clinical community was pushing for an opt-in model so patients could control their participation in the HIE. "Community patient advocates and stakeholders were concerned that an opt-out model could hurt certain patient populations, so we moved toward opt-in consent," Priebe says.

"The strength of the R.I. HIE is that practicing physicians are involved with input," says David Gorelick, MD, an internal medicine specialist at Aquidneck Medical Associates, a Newport, R.I.-based multispecialty group. "You can't reshape healthcare without the practicing physician perspective."

Stakeholders' interests on all sides, including solo providers, multispecialty groups, public advocacy groups, payors and employers, are on RIQI's advisory boards and committees, providing RIQI with advice on opt-in and a variety of other topics, Gorelick says. "They are doing a very good job having everyone have a say so there won't be resistance," he says. "If you exclude any aspect of the healthcare community, someone will be up in arms. But with everyone working together, I think this is going to work."

Although the HIE has begun to collect data from consenting patients, according to Christensen, clinicians might have to wait before accessing information, because a critical mass of data has to be aggregated within the system to be of value to providers. RIQI is working with the R.I. clinical community to determine when to let providers view clinical data, he says.

"Until there's enough data in the system, the likelihood that a provider is going to find records of a patient when the patient walks in the door, and that the patient has data in the database, is very small. But will grow over time," explains Christensen. "The variables of how many patients are enrolled in the program, how many data-sharing partners we have and how long they have been feeding data will come into play."

"You have to sign patients up as well as get labs, imaging companies and pharmacies linked and tested to ensure the system works," Gorelick says. Then clinicians need to be trained and signed up.

"A progression of steps have to occur, and they're in the works," he says.
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