The Holy Grail of Healthcare – One Patient, One Record

Orion Health Case Study

Single aggregation point for patient health information province-wide offers significant business and clinical benefits, from the health system level to the frontline circle of care.

The Newfoundland and Labrador Centre for Health Information (NLCHI) is a provincial crown agency that supports the development of data and technical standards, maintains key health databases, prepares and distributes health reports, and supports and carries out applied health research and benefits evaluations.

In collaboration with the Provincial Government, the province's four regional health authorities and Canada Health Infoway, NLCHI is also responsible for the development, implementation, adoption and ongoing governance of initiatives to support the transformation of healthcare province-wide. To date, these have included, the Pharmacy Network, the provincial Client and Provider Registries, the first provincial Picture Archiving & Communications System (PACS) and most recently an Electronic Health Record (EHR).

A Pan-Canadian EHR

Through the efforts of Canada Health Infoway, it has become widely accepted that the Holy Grail in Canadian healthcare is a pan-Canadian EHR – a single, secure and comprehensive health record for each citizen that is accessible by any authorized care provider across the country who is part of a patient's circle of care.

NLCHI is now well on its way to meeting that goal within Newfoundland and Labrador, through the implementation of HEALTHe Newfoundland and Labrador (HEALTHe NL). HEALTHe NL is a provincial electronic health record based on the pan-Canadian EHR vision described in the Infoway EHRS Blueprint.

When fully implemented, the EHR will provide a single, consolidated repository for a broad spectrum of patient information, including: drug prescription and medication records; lab test results, such as from blood tests; medical images and radiology reports; care plans and discharge summaries; clinical and mental health reports; and much more.

Through this multi-year initiative, HEALTHe NL will improve information access and decision-making by authorized clinicians, thereby enhancing patient care and safety.

Orion Health Best Fit for EHR Blueprint

Fundamental to the HEALTHe NL strategy and the implementation of a province-wide EHR was the need for a networked infrastructure that would allow patient data to be pulled from multiple, disparate systems, stored in a secure, central database and easily accessed by care providers such as physicians, nurses, allied health professionals and other care coordinators.

As the result of an RFP exercise and due diligence based on the Province's public procurement process, NLCHI chose Orion Health to provide that infrastructure. The solution would be based on an Orion Health technology stack consisting of Orion Health's Clinical Data Repository, Clinical Portal and Rhapsody Integration Engine.

The RFP core evaluation team included representatives from areas of expertise inside and outside NLCHI, such as technical architecture, privacy & security, clinical, standards and change management. "Orion Health met the requirements we specified in the RFP, including technical, business, clinical and cost," reports Ian Hodder, Provincial Manager, eHealth Clinical Adoption, Clinical Information Programs, NL Centre for Health Information.

Extensive experience with EHR projects and best practices across Canada and around the world made Orion Health a natural choice and allowed them to serve as 'trusted advisors' to NLCHI throughout the HEALTHe NL project.

Pharmacy Network – A Major Milestone

A major milestone achieved along the HEALTHe NL implementation pathway was the 2013 go-live of the Pharmacy Network, which, when fully adopted, will connect the province's nearly 200 community and hospital-based pharmacies to a single, centralized Drug Information System (DIS) and create a database of patient medication profiles.

The Orion Health Clinical Portal (a.k.a. "HEALTHe NL Viewer") gives authorized users – primarily pharmacists and healthcare professionals in regional health facilities and community practices – Web-based access to the patient medication database.

"The Orion Health team was extremely effective at resolving any technical challenges we had and implementing the HEALTHe NL Viewer without impacting the ongoing, everyday Pharmacy Network operation," states Hodder.

The HEALTHe NL Viewer has been operational for just over one year, and the network contains medication profiles for nearly 300,000 of the Province's 514,000 citizens. Although the gathering of quantitative results has only just begun, the main benefits are showing up in emergency departments and in mental health settings.

"By using the Viewer to access a patient's medication profile before prescribing medication, emergency room physicians and nurses, for example, can quickly verify what drugs a patient may already be on, thereby reducing the chance of an adverse drug event," says Hodder, who reports that as of January 31, 2015, there were 552 signed-in users of the Viewer, with nurses representing 77% of users and with the lion's share of usage by the Emergency and Medicine departments.

Moving forward with HEALTHe NL

"HEALTHe NL will ultimately incorporate, and allow clinicians across the province to access and share, patient data from multiple data sources and systems throughout the province's four regional health authorities.," states Hodder.

The EHR is based on Orion Health's Clinical Data Repository (CDR) and accessed via the web-based HEALTHe NL Viewer. Using the Viewer from anywhere they have Internet access, users will be able to quickly and easily access an extensive array of results and reports resulting from documented patient encounters. Patient information is pulled from other systems by Orion Health's Rhapsody Integration Engine, which normalizes the various data formats and stores the data in the EHR. This data includes, for example:

- medication profiles and histories
- lab test results
- medical images and radiology reports
- discharge summaries
- clinical reports

Change Management Key to Successful Rollout

Rolling out a provincial EHR is a significant undertaking, requiring a lot of work to build awareness of the potential benefits amongst stakeholders, health system partners and end users and to encourage and support adoption across the province. To this end, NLCHI has been conducting comprehensive communications and change management programs targeting both primary and acute care and has established a fully equipped provincial service desk to provide Tier 1 and Tier 2 EHR user support.

Although NLCHI is conducting these programs largely on its own, based on expertise they have been developing in house, they are using Orion Health to train the NLCHI trainers, who in turn train EHR end users.

"We've been dealing with the same Orion Health team here onsite in Newfoundland & Labrador since 2010, all of whom have been fantastic to work with," states Hodder. "It's a small, agile team that has been extremely effective at understanding our environment, both clinically and technically, and fine-tuning their EHR solution to meet our jurisdictional needs."

On the Road to Healthcare Reform

For Newfoundland & Labrador, the HEALTHe NL EHR will be the aggregation point for all patient data and provide the single, consolidated "one patient, one record" view. A wide range of benefits is expected, from the health system level to the front line.

At the system level, a reduction in duplicate testing, such as labs and medical imaging, will help to reduce healthcare costs. Closer to the front line, improvements are expected to fall into three categories: 1) inter-professional collaboration and communications for better patient care; 2) clinician decision-making; and 3) patient safety.

Citing one example, Hodder says, "We have already seen cases where the collaboration between an ER physician and a community pharmacist has been more proactive, effective and timely because the HEALTHe NL Viewer allows them both to see what is going on with their patient."

In addition to earlier initiatives such as Client and Provider Registries and Telehealth that are now being integrated into the EHR context, there will be other information that clinicians will want to share at a provincial level.

"I believe the HEALTHe NL Viewer, powered by Orion Health technology, will be a key enabler to facilitate better healthcare in our province," concludes Hodder.

"The technology we now have in place allows us to create a more patient-centric healthcare environment," says Mike Barron, CEO, Newfoundland and Labrador Centre for Health Information. "The enhanced access to quality health information supports timely and more informed health care decision-making across our healthcare system."

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