eHealth tools

by Gary Folker

Patient-centric care drives technology purchases

Editor Note: Technology tools are fundamental to maximizing efficient delivery of services and nowhere is this more evident than in Canada's healthcare sector. Innovations abound to assist doctors, pharmacists, hospitals… the full range of caregivers… to provide excellent, informed care, and to do so to even more patients. Understanding the technology and how it will be used is key to a successful procurement. Buying smart is the challenge for every procurement organization but doing so – making a "good buy" – may even leave more money available to put towards other areas of demand.

CANADA HEALTH INFOWAY estimates that at any given time there are approximately one billion medical appointments and tests being requisitioned and tracked across the country. Most of this booking and tracking is done manually – on paper, over the phone and via fax. Infoway points out in its *Vision 2015: Advancing Canada's Next Generation of Healthcare* that this underscores the need for "a new approach to help lower costs, speed up access, and lessen the incidence of inappropriate decisions stemming from a lack of 'available' information."

The search for this new approach is prompting a shift from provider-centric to patient-centric service delivery. In the past, health records were filed away in medical offices to be accessed only by a patient's doctor. While it was once sufficient to have physicians act as sole custodians of this information, today such provider-centric management is no longer practical. An aging, ailing population is placing a greater burden on providers – a reality exacerbated by a shortage of family doctors. The result is that patients today typically are looked after by different practitioners at various points of care: walk-in clinics, emergency rooms, specialists' offices.

The patient information once kept within the doctor's office is now increasingly valuable outside it. This is the essence of the patient-centric model: having patient information available wherever care is being provided – GP's office, hospital triage, pharmacist's dispensary, even the patient's home.

There are widespread efforts to put in place the systems and infrastructure supporting this model of care. At the national public level, Canada Health Infoway is spearheading development of an interoperable electronic health record (iEHR) for every person in Canada, meaning that multiple care providers can access and update the record. An iEHR is a vital factor in the patient-centric equation because the EHR is where each patient 'lives.' It is the touch-point for all of his or her providers across the healthcare continuum. It is the hub where other health systems and applications converge. It is a valuable repository of demographic information. And, properly managed, it is an up-to-the-minute status report on the health of its owner.

Most provinces have begun implementing iEHR technology in different forms, whether it be electronic medical records, diagnostic-imaging repositories, or client and provider registries. While Alberta is generally recognized as the leader in this regard – its Netcare initiative aimed to have an EHR in place for every Albertan by January 2008 – a number of other provinces are stepping forward with concrete plans for iEHR implementations. Quebec, for example, has just announced it will build the Dossier de Santé Électronique du Québec (DSE). The DSE will provide citizens in the province with a lifelong EHR and make it available to 55,000 authorized practitioners at key points of care. New Brunswick is integrating four components – an iEHR, client registry, provider registry, and a provincial diagnostic imaging repository – as part of its One Patient One Record (OPOR) system. And British Columbia is moving ahead on final contract negotiations with the six IT vendors who will deliver provincially-approved electronic medical records (EMRs) to BC physicians.

EMR adoption is central to most EHR efforts because EMRs are used by the doctors in whose offices patient records largely reside. It's estimated 70 percent of people who enter the healthcare system do so through their primary care provider's office. The push for EMRs is doubly important considering that only about 23 percent of Canadian doctors use them. This compares poorly with other countries such as, the Netherlands with 98 percent EMR adoption.

Physicians cite lack of IT knowledge and support as key barriers to adoption. These barriers have prompted the emergence of the ASP-based EMR. The ASP – application service provider – is a service-delivery model that, successfully implemented in industries ranging from transportation to payroll administration, has now become an attractive option for physicians adopting EMRs. An ASP makes the EMR software available as a service. Rather than purchase the EMR as an in-house or 'stand-alone' system, physicians subscribe to the software on a pay-by-month basis and receive it through a secure intranet. The software vendor looks after medical and billing compliance, upgrades, training, and technical support.

While ASPs and stand-alone systems each have their supporters and opponents, advocates of the ASP model point out that, through its Web-based service delivery, it naturally supports more connected, patient-centric care.

One such advocate is Dr. Richard Tytus, a GP in Hamilton, Ontario and Assistant Clinical Professor at McMaster University. An EMR user for about 10 years, he migrated to an ASP-based clinical management system that was launched in Ontario in 2005 and is one of the six solutions selected by BC. In Ontario, the system – built by xwave – is currently the only ASP of 16 provincially-approved EMRs; in BC, all six of the solutions on offer are ASPs.

The ASP delivery model was a compelling factor in Richard Tytus' decision on which system to adopt. "Being able to access patient information outside your office is huge," he says. "I used to stay an average of one to two hours longer every night to do charting. Now I walk out with my last patient, because not only can I do charting electronically during patient exams but – the solution being an

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ASP – I can also do it at home." He adds, "I was able to review patient charts while on a medical conference in Bermuda. That kind of connectivity is a powerful enabler."

Connectivity is ultimately what drives patient-centric care; only through connected systems can patient information be sent to where it's needed. Connectivity also enables practitioners to better share the burden of care. This sharing is becoming increasingly important in the area of chronic-disease management (CDM). Between 2001 and 2006, the number of Canadians aged 65 and over increased by 11.5 percent. Almost half of these senior citizens are being treated for five or more chronic conditions, from cardiovascular disease and cancer to diabetes and asthma. An estimated 80 percent of physician visits are related to chronic disease.

An EMR on its own is a significant enabler in CDM. The xwave system, for example, includes patient encounter forms specific to people who have asthma or diabetes or who want to quit smoking. It also provides automatic disease-screening reminders, and it alerts physicians to potentially harmful drug interactions, which is important for patients taking more than one prescription medicine.

Dr. Tytus, himself a former pharmacist, points to the current statistic that 25 percent of hospitalized Canadians over 50 are in fact admitted because of 'drug misadventures.' Moreover, medication compliance rates for prescription drugs drop to an average of 50 percent a year after the medicine is prescribed. For some disease states such as high cholesterol, only 70 percent of prescriptions are filled.

"Doctors often don't know the prescriptions aren't filled," Tytus says, "yet are basing subsequent diagnosis and treatment on the fact that the medication is being taken."

Hence his own efforts to develop a solution called the Passport to Health. Also an ASP, Passport to Health increases the involvement of community pharmacists in healthcare delivery and most notably, in CDM. The solution gives pharmacists, "the gatekeepers of the medication profile," controlled access to patient records contained in the EMR, enabling pharmacists to monitor patients more actively. Soon to be piloted in the Hamilton region, the solution aims to improve treatment outcomes while better distributing patient care.

This level of system integration is presenting other opportunities for patient-centric service: Web portals that allow patients to monitor and manage their conditions at home; wireless technology that equips bedside practitioners with hands free communication; wait-list registries that enable providers to share near real-time information on patients awaiting medical procedures. Wait-times in particular have been singled out as a healthcare priority, given the overall increased demand for procedures and the fact that the time spent waiting for one will largely determine its effectiveness.

Underpinning all these innovations is a concerted focus on patient information. It is what propels most EHR efforts across Canada. And while we may not quite be on track with Infoway's 2009 goal of 50 percent – a progress report in *Vision: 2015* estimates coverage will in fact be 47 percent – one thing is certain: these efforts need to continue. ⌁

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