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Focus on eHealth

eHealth going mainstream

Hospitals implementing advanced systems
 By Michael Martineau, Branham Group

When asked to picture a physician, most people imagine a person in a white lab coat, carrying a stethoscope and a medical chart. Yet, less than 200 years ago, the prestigious *Times* of London confidently forecast that general use of the stethoscope, a new invention at the time, was "extremely doubtful because its beneficial application requires much time and gives a good bit of trouble."

The *Times* was wrong about stethoscopes, and some people are making similar predictions about eHealth, which seeks to digitize patient records and make them securely accessible to doctors, nurses, therapists and pharmacists anywhere, anytime. However, like the *Times*, those people too are incorrect. eHealth is gaining ground and is certainly a technology that is here to stay.

This was borne out by the Branham Group's 2006 "eHealth in Canada" study. eHealth is steadily moving into the mainstream of day-to-day healthcare services delivery and is becoming as synonymous with healthcare as the stethoscope. Branham's research, based on exclusive interviews with eHealth leaders across Canada, found the majority of hospitals in Canada have already put in place core clinical and administrative systems and are now turning their attention to advanced clinical applications such as electronic charting, online prescribing and bedside medication verification.

In addition, after years of painfully slow progress, Branham found an accelerated adoption of eHealth by family physicians in many parts of the country. While the deployment of an electronic health record for all Canada is still several years away, there's definite progress towards making this vision a reality, Branham's research found.

Benefits outweigh costs

One of the hurdles is cost, said Don Newsham, CEO of COACH, Canada's Health Informatics Association, but the expense is far outweighed by the benefits, to patients in terms of access to better and faster health care, and to the system in terms of streamlining and making better use of resources.

COACH was founded in 1975 when the concept of digital imaging and the Internet was a science-fiction dream. Since then it has grown, both in membership, to more than 900, and in scope, becoming an industry-wide community of healthcare providers, administrators, technicians and vendors with a vision to taking health informatics mainstream. Through networking, education and other programs and services, COACH members are helping to build capacity in the healthcare system and to realize the benefits of eHealth.

"The story needing to be told is really all about the benefit to the public's health, but the irony is that the public thinks it's already here," he said. "We think because we're on a computer file at the video store or when we order pizza that our health records are also like that—but they're not yet."

The industry is making progress towards e-enabling the system, he said, but some consensus-building still needs to be done at the political level.

"I think we have to get the message out so that people are advocating for it, which will raise its profile politically," he said. "Computer systems cost money. But the issue is not only whether the system saves or costs money. It's about the benefit good health information provides to that community of doctors, nurses, pharmacists and other clinicians. Correct, consistent data that is always available will save lives, save time and save money. It will allow for better coordinated care and help reduce wait times.

Better data delivered in real time also means fewer errors in treating patients, he said. "We want to enable a care team to deliver better care using the tools for access to health records," he said.

Savings, not cost

While the price tag for eHealth, estimated by COACH to be \$10 billion, is often cited as its biggest hurdle, taken in context the full investment is \$10 billion over 10 years, and that is a fraction of the \$142 billion annually spent on health across Canada now. Health costs are already 10.4 per cent of our GDP and in seven of 10 provinces, publicly funded health spending is on track to consume more than half of total revenue by the year 2022.

Add in an ageing population and a population growing overall by 634,000 people in the last two years and it's not hard to see why issues such as patient safety, wait times, public health threats and limited healthcare access in remote and rural communities are driving Canada's quest to transform its healthcare system.

"Research estimates that once fully implemented, eHealth will save about \$7 billion a year across the system," said Richard Alvarez, CEO of Canada Health Infoway, a federally-funded organization created in 2001 to bring together provincial and territorial governments on the issue.

Those savings can in turn be spent on infrastructure, equipment and, of course, more doctors, nurses and health care professionals.

Also with eHealth, doctors won't have to spend time looking for misplaced X-Rays and they won't be waiting for lab reports or fumbling for charts or waiting for a workstation to free up, because they'll have wireless access on their handheld devices.

Implementing the change is no small task, however. Many radiologists, for example, are still working with film even as digital imaging technology is being phased into facilities across Canada. And physicians who dictate their analysis are being ushered towards voice recognition software to speed up and digitize data for easier access.

"You want to ensure that we're talking about the same things in the same language, that a lab result looks the same from system to system, place to place," said Shelagh Maloney, COACH Chair and President. "Some of these challenges are not going to be resolved overnight and they're not going to be easy to

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"What eHealth is all about is improving the clinician's ability to make better care decisions with all the information available at their fingertips. It's comprehensive, clear and available when they need it," Maloney said.

The essential information that they need to get online? Medication profiles, lab reports and diagnostic images, to start.

Longer-term goals

Future expansion might see patient and family histories and other relevant data included, especially as technologies such as RFID tags are integrated into the system. About half of healthcare centres interviewed by Branham say they're moving toward RFID in the next 24 months, with the balance saying they are waiting on price drops.

With RFID and computerized physician order entry, doctors' prescriptions can be sent wirelessly to the pharmacy and immediate flags are raised if there are conflicts or treatment questions. Digital data also eliminates prescription errors due to factors such as poor or hurried handwriting, and the system can also issue alerts if medication is not administered in a timely fashion by an authorized caregiver.

Hospitals are already getting on track with wireless and Branham Group's research shows about half of healthcare organizations allow use of wireless by patients and staff, while another 20 per cent allow use by staff only. Wi-Fi opens doors for Voice over IP telephony, cutting costs with 70 per cent of hospitals saying they are already on board or will be.

eHealth projects cost money, but the funding is flowing. "Our budget is about \$1.2 billion, and we've approved about \$736 million on 180 projects across Canada to implement eHealth initiatives," Alvarez said. One example is Prince Edward Island, where the province expects to have all health records online and accessible by the end of 2007.

"We're seeing both large and small provinces across the country embrace the benefits of innovative technology to improve healthcare," he said.

Private-sector progress

The private healthcare sector is adopting digitization because it makes sense from both business and customer-service points of view. A case in point is Siemens Hearing Instruments, a division of the massive German-based corporation whose 460,800 employees in 190 countries invent, design and manufacture a diverse range of products from cellphones to turbines.

Siemens' iScan technology eliminates paper and reduces wait times for patients requiring hearing aids.

Long a leader in the hearing aid field, the shells of Siemens' digital hearing aids are custom designed for each patient.

"No ear canal is the same, like fingerprints," said Chris Auty, Director of Marketing, Siemens Hearing Instruments. "Before, the audiologist would have to send a cast of the patient's ear canal to us with the paperwork and we'd scan it, make the shell for the hearing aid and then send it back."

Now, he said, audiologists have a small box which creates a digital 3D scan of the impression which can then be digitally transmitted to Siemens, to make the shell. This shaves days off the waiting time.

It's also a boon to patients who may have to travel several hours to get to an audiologist in their area. If the shell breaks it can be easily reordered and shipped out directly.

The paperless order system also ensures the patient's preferences for the hearing aid—completely in-the-canal or external—and other electronic options are recorded.

"Sometimes people would order something via paper only to find out that we couldn't provide that combination," Auty said. But with fully digitized processing, providers can log in to Siemens' Web site and check the order status, availability and warranty for their device, in addition to other customer-specific information.

Distributed data

Central to this eHealth movement is distributing the data out to the people who require it. "It doesn't matter where they are, healthcare providers need access to patient data," said CeCe Bowman, Novell's healthcare industry marketing manager. "They may not be inside the four walls of the hospital, or even their office, when they are paged."

Accessing patient data from any device—desktop, laptop or handheld—anytime is the key, she said, regardless of the system the hospital is using.

"It means not having to remember 15-20 passwords for each facility," she said, pointing to Bridgepoint Health, the Toronto chronic-care facility with 1,200 employees.

Bridgepoint Health consulted with Novell to make its technology solutions transparent to users and quickly get the right information in the hands of the right people. As such, the portal is familiar and accessible, and combines many clinical applications into one sign-on using the Novell suite of Security and Identity products. The Novell solution also provides secure log-on into the new MyBridgepoint portal, giving users fast access to a number of applications such as hospital administration, finance, calendars and e-mail.

"A lot of clinical applications out there are Microsoft-centric," she said. "Our solutions are technology agnostic, very valuable for those proprietary and mixed environments. The solutions are flexible and because of that, are configurable based on the policies designed by the organization. With a full Identity Management solution implemented, single day start and single day stop is now possible. Meaning, when an employee starts on the first day, they are ready to work with all access in place on day one. When an employee no longer works for the organization, the access to the network, all downstream applications, and even badge/facility access is removed with a single action."

With the benefits clearly articulated and being proven daily, the realization of a comprehensive eHealth system across Canada is inevitable. The price tag is merely an investment which will generate substantial returns in both monetary and human capital.

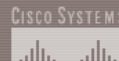
As experience and the surveys show, the deployment of basic eHealth systems—lab reports, images and medication profiles—is well underway. The next horizon—that of integrating patient charts, medical histories, medication confirmations—is also progressing rapidly.

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