



- MICHAEL MARTINEAU -

eHealth in Canadian Hospitals: Variations on a Theme

Michael Martineau is a Director of the Branham Group in Ottawa

For over fifteen years Branham Group Inc. has offered insight and advice on various markets to Information and Communication Technology (ICT) vendors worldwide. Eighteen months ago, inspired by a child's comments on the adult world he observed, Branham began a journey that resulted in the first comprehensive national assessment on the use of ICT in Canadian hospitals.

The journey began at the Children's Hospital of Eastern Ontario with Wayne Gudbranson and his son. Sitting in a waiting room in between a series of tests for a possible concussion, Wayne's son queried his father on why the hospital staff seemingly asked for the same information at each encounter with a different service at the hospital. He wondered why the information was not collected once and stored in a computer for subsequent retrieval by others.

Unable to answer his son's questions, Wayne Gudbranson initiated a series of queries that resulted in Branham's decision to launch the "eHealth in Canadian Hospitals Study" and, subsequently, to create a dedicated eHealth practice to track the latest developments in the eHealth market.

Branham's "eHealth in Canadian Hospitals Study" was primarily designed to provide insight into the major ICT spending patterns of Canadian hospitals. The intent was to delve beneath the often quoted "percent of operating budget spent on ICT" figures and to identify broad spending patterns. Specific objectives included:

- Identify and categorize the ICT infrastructure currently in place in Canadian hospitals.
- Identify and categorize near-term ICT spending plans for Canadian hospitals.
- Identify key trends that will impact how Canadian hospitals acquire and deploy ICT.
- Determine whether the services supported by the ICT infrastructure align with the needs of healthcare providers.
- Identify the critical success factors associated with healthcare ICT implementations.

This article explores key findings from the inaugural edition of what will become Branham's annual "eHealth in Canada Study". For various reasons, the first edition focused primarily on Canadian hospitals. Subsequent editions will expand the scope of the study to include other elements of the continuum of care.

Market Size and Opportunities

Total spending by hospitals, Regional Health Authorities and provincial ministries of health is estimated to be between \$1.5B and \$2B for the period 1 April 2005 to 31 March 2006. Although 52% of the healthcare administrators surveyed indicated that their ICT

budgets are increasing, 91% stated that their ICT budgets are insufficient to address a backlog of projects. Supporting this contention, Branham found that healthcare organizations spend approximately 17% of their budgets on new initiatives. In other words, over 80% of healthcare ICT budgets are devoted to maintaining existing infrastructure and applications.

The relatively low proportion of ICT budgets spent on new initiatives translates into approximately \$250M to \$350M in total spending on new eHealth projects for the 2005/2006 fiscal year. This relatively low amount has hampered Canada Health Infoway's efforts to fund new eHealth development. In response, Canada Health Infoway recently increased the percentage it contributes to eligible project expenses from 50% to 75%.

Canada Health Infoway expects to approve between \$275M and \$375M in new projects during the 2005/2006 fiscal year. This level of spending is approximately equal to the total provincial, regional and hospital spending on new eHealth projects during the same period. Consequently, Canada Health Infoway's investment priorities are having a huge impact on provincial eHealth priorities. Not surprisingly, many of the eHealth opportunities over the next few years will align with Canada Health Infoway's priorities, namely Diagnostic Imaging, Drug Information Systems, Laboratory Information Systems, Public Health Surveillance, Electronic Health Records, and Telehealth.

Variations on Common Themes

Political debate in Canada often focuses on what makes one province or region different from the others. While it is possible to extend this same focus on provincial differences to an examination of eHealth, the Branham study found that most differences were largely variations on a number of common themes, including:

- Regionalization
- Electronic Health Records
- Digitizing healthcare processes
- Provincial eHealth strategy
- Patient at the centre of care
- Provincial connectivity

Differences in how the provinces address the various common themes are driven by a myriad of factors including geography, demographics, and economics. The result is distinct provincial eHealth agendas and strategies that reflect local realities while, at the same time, sharing many common elements and approaches. Viewing the differences between provincial eHealth agendas and strategies as variations on common themes provides vendors and policy makers with a framework with which to develop Canadian eHealth strategies and tactics.

Viewing differences between provincial approaches to various aspects of eHealth as variations on common themes is a key message in Braham's first "eHealth in Canada Study". Indeed, Branham chose to highlight this message in the subtitle for the study report: "Variations on a Theme".

Tipping Point

eHealth has reached a "tipping point" beyond which implementation will accelerate rapidly. Although there are certainly many challenges to overcome and risks to be addressed, there is a growing consensus that eHealth can facilitate the transformation of healthcare services delivery in ways not previously possible. eHealth is no longer a question of "Why?" but of "How?"

Electronic Health Records

Driven by concerns about patient safety, the Electronic Health Record (EHR) has emerged as an important means of reducing preventable medical errors by providing quick and ready access to relevant patient information. Although it is not the only eHealth application that will offer significant benefits, every province has or is developing an EHR strategy. This intense focus on the EHR, encouraged by investments from Canada Health Infoway Inc., is driving a variety of activities that will support other eHealth initiatives in addition to the EHR.

Although the term "electronic health record" implies the existence of a single record for each person and a database in which such

Tipping Point: "The concept has been applied to any process in which beyond a certain point, the rate at which the process (chemical, sociological, etc.) proceeds increases dramatically."

wikipedia

records are stored, an electronic health record is actually derived from data stored in multiple systems. Taking this perspective into consideration, an electronic health record initiative is really an enterprise integration project, with the patient and all data associated with that patient as the common integration point and the enterprise consisting of multiple healthcare facilities across the continuum of care.

Providers See the Benefits but Need Help to Transition

In addition to a lack of sufficient funding, Canadian eHealth thought leaders and key decision makers cited slow adoption of eHealth applications by busy healthcare providers as a major impediment to progress. Interestingly, a Branham survey of physicians and nurses who use computers in their day-to-day work found that a significant majority (more than 90%) felt that computers not only improved their productivity but also enhanced patient safety. Clearly, once they made the transition from a



A 4-day intensive course

HEALTH INFORMATICS bootcamp



Introducing key concepts, issues and applications in Applied Health Informatics.

This course is augmented by 30 hours of online lectures.

Spring 2006 – Toronto

WHO SHOULD ATTEND – IT professionals in health organizations · Healthcare providers · Those seeking employment in Health Informatics · College and secondary school teachers

REGISTRATION FEE – \$999

Pre-register at: <http://hi.uwaterloo.ca/bootcamp>
For more information call: 1-800-860-7901

Co-host
Sunnybrook & Women's College
Health Sciences Centre

Host
Waterloo Institute for Health Informatics Research
University of Waterloo



"Although the EHR usage is not the only component of the eHealth architecture, it is one of the most important and urgent ones. Furthermore, it requires an approach to integration, and procurement of basic infrastructure, which is required to support all features of eHealth. Thus, if the province can build the EHR infrastructure, it can likely be extended to support all eHealth scenarios."

BC eHealth Conceptual System Architecture

manual process to one supported by ICT, healthcare providers became enthusiastic proponents of the benefits of integrating ICT into healthcare services delivery. Many respondents indicated that they did not want to revert back to the manual processes they had previously used.

Branham found that the critical success factors for eHealth projects were very similar to those for ICT projects in other industries. The critical difference was the extent to which healthcare providers are engaged in the project.

A joint Accenture - Vanderbilt Centre for Better Health study examined the critical success factors for adoption of IT by clinicians. According to the Vanderbilt researchers, the most important finding of the study was that "... regardless of the formal relationship to the institution, physician engagement and support is a critical variable in the overall success of an implementation." The researchers also commented "What is news from this study is how few people really do this well. But the research showed very clearly that the institutions who took this step into account had a far greater likelihood of success than those who did not."

Branham's healthcare provider study echoes Vanderbilt's contention that "few people really do this well". While the vast majority of respondents offered positive comments about the impact of eHealth on healthcare services delivery, a significant number (68%) stated that they did not feel that healthcare providers were sufficiently engaged in developing their organization's ICT strategy.

Future Vision

In what was perhaps the most thought-provoking aspect of the study, Branham asked leading eHealth thought leaders and key decision makers to dust off their "crystal ball" and offer their perspective on how eHealth will be used to deliver healthcare services in 2015. By combining these various predictions, a composite picture emerges in which:

- The existing "silos" of information and expertise no longer exist.
- "Patients" have become "consumers" of healthcare services and are taking a more active role in their care.
- eHealth technologies are in use across the continuum of care and are an integral, largely "invisible" component in the delivery of nearly all healthcare services.
- Healthcare providers make extensive use of mobile devices to access the information they need, when they need it, wherever they might be located.
- Clinicians are shifting from a mindset of having to remember everything to routinely consulting handheld devices and on-line applications to order tests, review test

results, refine a diagnosis, select the most appropriate care plan, schedule therapy and prescribe medication.

- Healthcare providers no longer need to be in the same room as the person they are treating in order to make a diagnosis or even deliver many aspects of care.
- Genetics, combined with eHealth technologies, is emerging as a means of creating personalized care plans and shifting the focus of care from cure to prevention.

Acknowledgements

The Branham study was made possible by the generous financial support of public and private sector subscribers.

Premier subscribers include:

- Bell Canada
- Emergis
- GE Healthcare
- Industry Canada
- Innovation and Technology Association of PEI
- McKesson Canada
- National Research Council of Canada
- Xenos

Contributing subscribers include:

- Allstream
- Canon
- Novell
- Pfizer
- Siemens Medical

In addition to sponsors making financial contributions, Branham was pleased to have endorsements from national ICT and healthcare associations, including:

- Canadian Advanced Technology Association (CATA)
- Canadian Healthcare Association (CHA)
- Canadian Healthcare Information Technology Trade Association (CHITTA)
- Canadian Medical Association (CMA)
- Canadian Nurses Association (CNA)
- Information Technology Association of Canada (ITAC)

Based in Ottawa, Ontario, Branham Group Inc. is a "Go-to-Market" consulting company servicing the global information technology marketplace. Branham Group assists information technology companies and related institutions in achieving market success through its planning, marketing and partnering services.

