

## Conclusion

It is clear that health IT will play two crucial roles in the sustainability of our system. First, IT will allow health care professionals and patients to share information more readily and to enable health care practitioners to optimize their skills and expertise. Second, the transition of medical records from pen and paper to portable, accessible and interoperable electronic records will reduce costly administration, medical errors and enhance the involvement of patients in their own care.

To realize this vision, investments in health infrastructure must continue and we must address the remaining barriers to widespread adoption in the health system. The benefits of our success go beyond those realized by the health care system. Realizing this vision will create economic value to BC and solutions that can be exported to the world.

To be sustainable, our health care system needs to be innovative. To be innovative, our health system needs leadership. Three things are necessary to achieve this vision:

1. **Create a world class cluster of health IT excellence** that will transform health care systems both in Canada and globally. This cluster of excellence would build upon existing strengths including the British Columbia IT industry that exports to the US and Europe, BC's successful biotech industry, and its world-class health research achievements.
2. **Maintain sustainable government investment in health IT** to support expansion of innovation capacity in the health IT sector and directly link this expansion to a health system strategy to improve efficiency and productivity. Investment needs to ensure that tangible incentives are in place to drive adoption of new information technologies by key stakeholders in the health care system.
3. **Develop a highly skilled health IT workforce** through education and training programs that cross-pollinate expertise from health, health informatics, computer science, and engineering to achieve innovation. Align this workforce with a collaborative network of strategic partners, (including industry, health care providers, academia, and government) to create the culture of innovation in health IT in British Columbia.

The Ivey Centre for Health Innovation and Leadership is uniquely positioned to be a catalyst for the above changes in innovation in Canada.

## About the Centre

The Ivey Centre for Health Innovation and Leadership, established in 2009, is a Centre situated within the Richard Ivey School of Business at The University of Western Ontario – home of the only health-focused MBA in Canada, the “Health Sector MBA”. It is dedicated to being a catalyst for health system innovation in Canada, in four key areas. The Centre:

1. Develops leadership capacity through education programs targeting current and future leaders in the health system,
2. Emphasizes education that equips students to identify, understand, embrace and enable innovation in real business situations through programs like Health Innovation Demonstration Projects and Ivey Consulting Projects (projects that bring students, entrepreneurs, and stakeholder organizations together to solve problems in real time),
3. Empowers health system stakeholders to collaboratively focus on the maximization of human and tangible resources within the system, to overcome innovation and leadership deficits,
4. Supports and disseminates research that establishes the evidence base for innovative health system solutions that are applicable in the context of the Canadian health care system.

For further information on the Centre and how it is changing the culture of innovation in Canada, contact:

The Ivey Centre for Health Innovation and Leadership  
[www.ivey.ca/ichil](http://www.ivey.ca/ichil)

IVEY


Centre for Health  
Innovation and Leadership

# Leveraging Information Technologies To Transform and Sustain British Columbia's Health Care Sector

October 2010

Position Paper

# Leadership



***“To transform health care and make it sustainable, our system must have a robust information technology infrastructure. These investments will improve the quality of patient care and make health care delivery more efficient and effective. The investments can also be a catalyst to create jobs in a globally competitive health information technology industry in BC.”***

## Background

The Ivey Centre for Health Innovation and Leadership, established in 2009, is a Centre situated within the Richard Ivey School of Business at The University of Western Ontario – home of the only health-focused MBA in Canada, the “Health Sector MBA”. The Centre is dedicated to being a catalyst for health system innovation in Canada. Innovation (cultural, procedural and technological) is the key to ensuring a viable and sustainable health system in Canada. Research shows that Canada, with its highly educated population, does quite well when it comes to the creation of new knowledge (i.e., inventions), but a poor job in translating this knowledge into productivity (i.e., innovation adoption).

This paper provides an overview of its new white paper entitled, *Leveraging Information Technologies To Transform and Sustain British Columbia’s Health Care Sector* (K. Kellie Leitch, O. Ont, MD, MBA, FRCS(C), Karin Schnarr, PhD(C), Lou J. Pino, PhD, Anne Snowdon, RN, PhD), and recommends three key action items that will create a long-term, financially sustainable health care system for BC citizens and a competitive advantage in health information technology for our province.

## Health Information Technology Innovation Adoption

Industry has been significantly transformed by information technology. Manufacturers are now connected with global suppliers and customers creating business efficiency, productivity and enhanced product safety. The financial services industry moves trillions of dollars in nanoseconds in a secure and trusted electronic environment. Most of us book all of our travel arrangements including airfare and hotels from our computers at home or at work.

Yet, when we look at health care, we see a system still struggling with the basics of the information age. About 2,000 health care transactions happen every minute of every day in Canada, according to Canada Health Infoway. The information recorded or transmitted contains everything from the mundane to the life-critical, and until just a few years ago, the vast majority of these transactions involved handwritten records. Critical information was filed in hospitals, doctors’ offices and clinics with limited ability to retrieve the information when and where needed. This is starting to change, but change is happening too slowly.

This paper makes the case that there is overwhelming evidence health information technology adoption is critical to the future sustainability of the Canadian health care system. Investments in “health infostructure” is critical to ensure BC’s health system will benefit from a technologically enabled and integrated system. Further, these investments will seed the creation of a domestic health Information technology industry in BC that can serve both the domestic market and export solutions to the world.

The economic focus of this whitepaper entitled, *Leveraging Information Technologies To Transform and Sustain British Columbia’s Health Care Sector* (K. Kellie Leitch, O. Ont, MD, MBA, FRCS(C), Karin Schnarr, PhD(C), Lou J. Pino, PhD, Anne Snowdon, RN, PhD), will highlight and contribute the role of technology in the future of health care delivery, enhance health system sustainability, improve patient care and become an economic engine for BC.

## Health IT in Canada & BC

The term “health infostructure” refers to the development and adoption of modern systems of information and communication technologies in

the Canadian health care system. Unfortunately, health infostructure to support transformation to health IT in Canada is lagging behind other countries such as Italy, Sweden, and the UK who allocate 5 per cent of hospital budgets to information and communication technologies.

Vision is not the issue, nor is access to technology a significant barrier, it is the low rates of adoption of health IT coupled with the high cost of implementation.

In 2005, BC released its eHealth Strategy Framework, which described a long-term vision for implementing health IT. The strategy coupled with significant commitment of funding and coordination across health sector organizations has generated measured progress in BC.

### 2020 - The Health IT Vision for BC

*By 2020, the targeted delivery of specifically designed interventions using health IT for a range of diseases will be commonplace in BC health care. So too will the rapid transmission of patient records and related data through connected and increasingly mobile tools. The capture and use of such data by researchers, with appropriate privacy protections, will help us know how to better target medical interventions. And there will be a vast volume of information and help for British Columbians delivered through new internet-based consumer health solutions.*

## A High Performance Health System

Health information has the potential to create seamless delivery of health care services by digitizing basic health records, using electronic tracking of patient information through the health system, and improving digital communication among health professionals, patients and their family members. In other words, health IT could completely transform the system and contribute greatly to its long-term effectiveness and sustainability.

This paper examined six related benefits to a robust health IT “infostructure”:

1. **Personalized Health Care Management Tools**, which will allow for customized care plans encompassing multiple lines of care.
2. **Public health surveillance**, which will aggregate anonymous data related to disease transmission, helping to save lives by identifying and tracking of outbreaks to support early intervention.
3. **Wellness applications**, which will support a transition from institution-centred to patient-centred applications focusing on health promotion, disease prevention, maintenance and improvement of health status of the individual.
4. **Operations analytics**, which include the analysis of daily behavior of hospitals and other health care facilities to be used to reduce inefficiencies and costs by more effective management of facilities, equipment and the work force.
5. **Clinical research tools** that analyze anonymous aggregated data can accelerate research by identifying patterns in treatment outcomes, environmental, lifestyle, dietary and or genetic factors - thus allowing clinicians to apply the most appropriate therapy customized to each individual.
6. **Remote monitoring and real-time clinical interactions**, which would increase service to the distant under served regions.

