



The relationship between  
**Electronic Health Records and Patient Safety**  
Future Directions for Canada: A Summary

## Summary

Improving patient safety is a leading driver of investment in healthcare information technology around the world. There is recognition that incomplete information, handwriting errors, and many other consequences of Canada's largely paper-based health system are simply unacceptable.

***"Productivity in the healthcare system cannot increase without patient safety first being assured. A key benefit to establishing an EHR system is a corresponding increase in patient safety."***

*Philip Hassen*

Evidence of the patient safety problem is abundant. The Canadian Adverse Events Study showed 7.5% of patients admitted to acute care hospitals in Canada had one or more adverse events (Baker & Norton, 2004). During 32% of ER visits, missing information delays care (Stiell et al., 2004). Less than half of the people targeted receive recommended cervical cancer screening, flu vaccinations and beta-blocker therapy (Katz et al., 2004). Canadian data on patient safety in the community is limited, but evidence of communication breakdown, adverse events following discharge, and incomplete information demonstrate the significant challenges which clinicians face in providing safe, effective care.

The joint Canada Health Infoway and Canadian Patient Safety Institute initiative, "Realizing Opportunities. Promoting Patient Safety." explored prospects and directions for healthcare IT to address such issues. The findings, however, revealed that few of the potential benefits have been well demonstrated and significant challenges do exist. The initiative began with an environmental review consisting of a literature scan of over 300 publications and interviews with 28 key stakeholders, including policy-makers, researchers, and clinicians.



A roundtable discussion of Canadian and international leaders in patient safety and the application of EHRs was held to identify initiatives that could be undertaken to advance both agendas. Presentations from Dr. David Bates (Partners Healthcare), Dr. Nikki Shaw (iCARE, University of Alberta), Dr. Dean Sittig (Northwest Permanente), Dr. Robert Jenders (Cedars-Sinai) and Dr. Mike Bainbridge (NHS Connecting for Health), and discussion moderated by Dr. Bill Ghali (University of Calgary) raised a number of critical issues and opportunities for action. Attendees discussed strategies for stakeholder engagement, developing a supportive policy environment, and future investment in research and system development.

For *Infoway*, an organization with the mandate to foster the development of the pan-Canadian Electronic Health Record, and CPSI, an organization with the mandate to promote leading practices and raise awareness about patient safety, the resounding message from this initiative is that there is more work to be undertaken in Canada to reap the patient safety benefits of having an integrated EHR system in its health-care system.

The priority issues identified were reducing medication errors and improving the flow of information across transitions of care (continuity of care).

*“The computerized physician order entry (CPOE) is the most effective intervention for improving medication safety. The benefits of electronic drug ordering systems include: allowing for dosage selection from menus; decreased reliance on handwritten prescriptions; and the availability of information such as relevant laboratories and guided dose algorithms. Such systems allow for concurrent checks for drug/allergy and drug/drug interactions.”*

Dr. David Bates

*“The pan-Canadian EHR is fundamentally about improving the flow of information across care settings; it’s about giving clinicians and patients the right information at the right time and in the right place. Eliminating information gaps is central to improving safety.”*

Dr. Sarah Muttitt



With the objective of making some near-term progress, *Infoway* and CPSI are leveraging current activities in these areas, including research opportunities through CIHR, standards and architecture, investments in the EHR including drug information systems, and evaluation activities.

*“The Canadian Patient Safety Institute and partners currently have more than 600 teams across Canada working towards measuring patient safety as part of the Safer Healthcare Now! initiative. An EHR system would make this task easier by offering access to records and information.”*

*Philip Hassen*

In the future, Canada has the opportunity to build upon Canadian and international successes; directly apply available tools and models such as standardized Clinical Decision Support, to optimize core data for Electronic Health Records; and leverage implementation guidelines and toolkits to enable the level of functionality and interoperability across the continuum of care so as to fully realize the impact of EHRs on patient safety.

There is significant momentum in Canada moving the EHR agenda forward; however, there is need for additional investment in order to fully realize the true potential of EHRs.

*“We’ve seen tremendous growth in the number of electronic health record initiatives that are delivering enhanced patient care, shorter wait times and a more productive healthcare system for Canadians. While this growth is encouraging, momentum must be maintained so we can capitalize on the efficiencies generated through electronic health initiatives as our population continues to age and grow.”*

*Richard Alvarez, President and CEO, Canada Health Infoway*



## Would you like to learn more?

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The journal article is available at:

<http://www.longwoods.com/product.php?productid=19507&cat=524&page=1>

The complete report is available at:

<http://www.infoway-inforoute.ca/Admin/Upload/Dev/Document/EHR-Patient%20Safety%20Report.pdf>

### Presentations given at the roundtable event by:

Dr. David Bates

[http://www.infoway-inforoute.ca/Admin/Upload/Dev/Document/PatientSafetyRoundtable\\_Bates.pdf](http://www.infoway-inforoute.ca/Admin/Upload/Dev/Document/PatientSafetyRoundtable_Bates.pdf)

Dean Sittig, PhD

[http://www.infoway-inforoute.ca/Admin/Upload/Dev/Document/PatientSafetyRoundtable\\_Sittitg.pdf](http://www.infoway-inforoute.ca/Admin/Upload/Dev/Document/PatientSafetyRoundtable_Sittitg.pdf)

Dr. Mike Bainbridge

[http://www.infoway-inforoute.ca/Admin/Upload/Dev/Document/PatientSafetyRoundtable\\_Bainbridge.pdf](http://www.infoway-inforoute.ca/Admin/Upload/Dev/Document/PatientSafetyRoundtable_Bainbridge.pdf)

Dr. Nicola Shaw

[http://www.infoway-inforoute.ca/Admin/Upload/Dev/Document/PatientSafetyRoundtable\\_Shaw.pdf](http://www.infoway-inforoute.ca/Admin/Upload/Dev/Document/PatientSafetyRoundtable_Shaw.pdf)

The WHO (*presented by Dr. Bates*)

[http://www.infoway-inforoute.ca/Admin/Upload/Dev/Document/PatientSafetyRoundtable\\_WHOBates.pdf](http://www.infoway-inforoute.ca/Admin/Upload/Dev/Document/PatientSafetyRoundtable_WHOBates.pdf)

