



# The CUR-IT Team (Canadian-US Research in IT)

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## Teams and Local Projects

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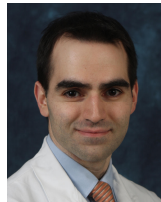
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## The CUR-IT Team : synopsis


### Improving Patient Safety and Chronic Disease Management with a New Generation of Health Information

Our team will combine the resources of three leading health informatic centers (**McGill, Ottawa, Boston**) to develop a new generation of personalized decision support to minimize preventable adverse events and enhance the management of chronic disease. We will integrate methodological advances in computer science, engineering, epidemiology, biostatistics, pharmacogenomics, psychology, management, medicine and rehabilitation sciences into new approaches for health system re-design.

The goal of the Clinical & Health Informatics Research Group (CHIRG) is to create and evaluate new clinical information technologies. By providing a sustainable research and development environment within hospitals, emergency departments, specialty and primary-care clinics, CHIRG will facilitate the effective application of computing and information technologies to clinical care, research, and teaching; and further the missions of improving patient safety, raising the quality of health care, and maximizing the cost-effectiveness of health care delivery.

With the integration of the research and development environment directly into real-world clinical settings, CHIRG will also provide unique benefits to important professional communities. Clinicians will benefit from access to informatics appli-



 This Newsletter is also available online at:

- <http://www.ptsafetyresearch.org/news.htm>
- <http://www.ohri.ca/newsroom/newsstory.asp?ID=194>
- <http://moxxi.mcgill.ca/pdf/CURIT.pdf>





# The CUR-IT Project (Canadian-US Research in IT)

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## Combined Projects

These projects form the basis of an exciting cross border collaborative effort aimed at sharing best practices, accelerating learning, and testing interventions in a variety of populations and settings. This will be accomplished by a series of regular benchmarking activities and meetings, sharing of informatics fellows, and cross fertilization of local projects.

A few of the target areas for initial projects that have been jointly developed and recently funded include:

### Improving pharmacosurveillance

- Evaluating the identification of Adverse Drug Events (ADEs) using stop/change descriptions compared to gold standard surveillance;
- Evaluating the identification of ADEs using Interactive Voice Response Systems (IVRS), Electronic-Prescribing, and administration data based surveillance

### Development of a hospital based Adverse Events Surveillance System

- Comparison of eMethods with gold standard surveillance
- Development of tools to facilitate surveillance
- Development of coding system for hospital based Adverse Events
- Identify synergies with MedMind

### Improving care at hospital discharge using IT

- Automated discharge summary
- Testing medication reconciliation tool
- Interactive Voice Response Systems (IVRS) post-discharge

### Performance management

Using tools to support timely identification of care gaps for Congestive Heart Failure (CHF) patients.

### Patient Asthma Portal

Empowering patients to take responsibility for their care by providing them with access to their asthma health record, tailored asthma education, and ongoing communication with the asthma care team.

ations that are not only customized to their hospital and clinical settings, but also rigorously evaluated in their specific context. Clinical researchers will benefit from accelerated patient recruitment and data collection via the implementation of informatics methods in actual hospitals and clinics, and enjoy subsequent acceleration in the pace and productivity of their research. Patients will, however, be the ultimate beneficiaries of the efforts of CHIRG, as they realize the enhancements in safety and effective care made possible by the introduction of novel and validated informatics applications.

### Local Projects:

- Asthma Decision Support for Physicians;
- Optimizing Cost Effective Antihypertensive Drugs Use;
- Reducing fall-related injuries in vulnerable patients ;
- Evaluation of the safety and benefits of implementing wired vs. wireless electronic prescribing and drug management in the emergency room ;
- Surveillance to optimize management processes for hospital-acquired infections ;
- Medication reconciliation and more : bridging the gap at admission and discharge.

## Ottawa Team



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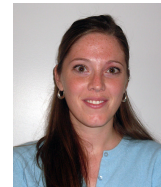
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Clinical Quality and Performance Management is the Ottawa Hospital's department responsible for supporting innovation in health system performance. Our mission is to improve the quality and safety of the health care from the patient's perspective, using information technologies when appropriate. We have strong affiliations to the **Ottawa Hospital Research Institute (OHRI)**, the University of Ottawa, and the Institute for Clinical Evaluative Sciences (ICES). Our group of health services researchers, epidemiologists, statisticians and staff work daily with members of the health care system (including front line providers and senior decision makers) to support their decision making (➔)



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# The CUR-IT Project (Canadian-US Research in IT)

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## Evaluation of anonymization tools

Develop metrics for evaluating the risk of re-identification when health information is disclosed for secondary purposes (e.g., for research), and develop new algorithms to de-identify such datasets.

## Case Study of Interoperable Electronic Health Records (EHRs) in Canada and the US

Identify lessons learned and policy recommendations for future EHR development

## Training of additional highly qualified personnel

in the areas of clinical informatics, data analyses and healthcare delivery quality

and make their jobs more efficient and rewarding. We are actively engaged in training highly qualified personnel through graduate and post-graduate programs administered by the University of Ottawa. We also collaborate with industry partners to adapt their technologies for the healthcare environment and evaluate their effectiveness in improving care.

### Local Projects:

- **Supporting the implementation and use of a knowledge management system suitable for a healthcare environment** : there is often insufficient access to data to make informed decisions. We have implemented a data warehouse, business intelligence software, and other technologies to support access to information in the healthcare context. We are currently supporting initiatives for researchers to access data stripped of personal health information appropriately, as well as an infrastructure to support decision making by hospital managers.
- **The development and evaluation of a Patient Safety Learning System** : adverse events are common in the hospital environment. Reducing their frequency requires detecting them, analyzing their causes, and implementing organizational strategies to reduce them. We have built technologies and approaches to address these priorities. We are currently testing these approaches.
- **The development and evaluation of a Safe and Effective Discharge System** : when patient's leave acute care hospitals, there are often complex care needs required to ensure a rapid return to health. We are building software tools directed at patient education and provider communication to ensure a coordinated and effective discharge process.
- **The administration of uOttawa ICES** : provincial claims data can provide a rich source of information for evaluating the effectiveness of health care delivery. The opening of uOttawa ICES will enable our group to access health care data for the province of Ontario. This will give our group the capacity to evaluate the long term health impact of clinical and policy decisions at our hospital.

## Boston Team



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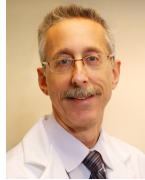


# The CUR-IT Project (Canadian-US Research in IT)

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The Brigham and Women's Hospital's [Center for Patient Safety Research and Practice](http://www.ptsafetyresearch.org) ([www.ptsafetyresearch.org](http://www.ptsafetyresearch.org)) is one of the premier conveners of patient safety scientist investigators. It has an extensive track record of recognition for excellence in making original contributions to advancing the state-of-the-art in building safer healthcare. It has made numerous contributions in the field of creating best safety practices, particularly in the areas of medication safety and reengineering healthcare delivery using and studying advanced information technology tools. A number of the preeminent U.S. patient safety research scientists are part of the Center's team including recognized leaders such as David W. Bates, M.D., MSc. who directs the Center and has been a pioneer in developing and evaluating computerized prescribing, Lucian L. Leape, M.D., a cofounder of the Center, and Dr. David Blumenthal, M.D., M.P.P., who has now gone on to become the National Coordinator for Health Information Technology in the U.S.

Much of the original work developing and evaluating a number of the advanced patient safety tools and concepts has been carried out through the Center and by Center investigators.

### Local Projects:

- Pioneering work examining the scope and magnitude of healthcare patient safety problems.
- Implementing and studying computerized physician order entry (CPOE).
- Results of this landmark study showed a decrease in serious medication errors by 55% and of all medication errors by over 80%.
- Early evaluation of "smart pump" technology that can warn clinicians if a medication dose is too high and thus prevent administration errors.
- Ambulatory adverse drug event analysis.
- Implementing and evaluating barcode technology for reducing errors at the medication dispensing and administration stage.
- Evaluating the impact of electronic health records (EHR's).
- Electronically linking laboratory and pharmacy data to leverage improvements in monitoring and patient outcomes.
- Evaluating the impact of the implementation of a statewide EHR system.
- Pioneering shared online patient health records (PHR's) for improving communication and patient safety.
- Helping to develop national electronic prescribing (e-prescribing) and clinical decision support (CDS) standards.

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## Funding Sources for Common Projects

Canadian Institute of Health Research  
Commonwealth Fund



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