AVAILABLE, TAILORED AND CLOSER: ENABLING HEALTH AND HEALTHCARE THROUGH ICT

FINAL PROGRAM

February 21 – 23, 2013

Inn at Laurel Point,

Victoria, BC Canada

An international conference addressing Information Technology and Communications in Health (ITCH) presented by the School of Health Information Science, University of Victoria, Canada
We would like to thank the following sponsors

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Leslie Wood, School of Health Information Science, University of Victoria, Victoria, BC
GENERAL INFORMATION

The language of the conference is English. The conference sessions will take place at the Inn at Laurel Point, 680 Montreal Street, Victoria, BC Canada. There is no smoking allowed inside any public buildings in Victoria. The Inn at Laurel Point, including balconies, is a non-smoking property and the only designated place to smoke is outside the entrance of the hotel. An ashtray is available in that area.

Business Centre
The Inn at Laurel Point Business Centre is located in the Marble Lobby across from the Boutique. Guests will find 2 PCs, a laser printer and a USB port/memory card reader. Guests may access the computers at a cost of $0.49 per minute or print documents at a cost of $0.50 per page. Payment can be made with most major credit cards (minimum $3 purchase) or guests may purchase $5 and $10 access cards from the Front Desk. Please contact the Front Desk for assistance with other business services such as FAX, photocopy, and courier services.

All guestrooms have complimentary wireless Internet. There is complimentary Wi-Fi throughout the hotel.

Conference Badges
Please wear your name badge at all times to ensure admittance to the Opening Reception, conference sessions, and the Gala dinner.

Proceedings
A copy of the proceedings on CD-ROM is in your delegate bag. A hardbound volume of the formally submitted manuscripts, entitle “Enabling Health and Healthcare through ICT” can be purchased at the Registration Desk for $30.00. This is volume 183 in the Studies in Health Technology and Information series published by IOS Press and indexed by Medline. Copies of the 2011 Proceedings will be available for $15.

Student Posters
Judging of the student posters will take place between 1:00 – 5:00 pm Thursday, February 21, 2013, in the Terrace Room of the Inn at Laurel Point. The winners will be announced that evening. The prize money has been donated by Ian Cummins from ehealth Ontario.

Non-student Posters
The practitioner (non-student) posters are on display in the Terrace Room until 2:00 p.m. Saturday.

Conference Registration and Information Desk
Registration Desk staff are available to assist you with information and to sell bound Proceedings of the conference and West Coast Gala Dinner tickets. They can also answer your questions about Victoria. The Registration Desk will be open throughout the conference.

Opening Reception
The opening wine and cheese reception will take place in the Terrace Room Thursday, February 21st between 5:00 – 8:00 pm (the bar closes at 7:15) after the student poster judging. At this time delegates are encouraged to view the student and practitioner posters.
West Coast Gala Dinner
Join us for a relaxing evening Saturday, February 23rd starting with a cash bar at 6:30 pm followed at 7:00 pm by a bountiful gourmet West Coast buffet to tantalize your taste buds. There are sign-up sheets for dinner seating at the conference Registration Desk.

West Coast Gala Tickets
If your registration includes a ticket for the West Coast Gala, it is included with your nametag. If you do not wish to use your ticket, please return it to the Registration Desk so we may give it to one of our volunteers.

Currency
If you need to exchange currency, please ask the hotel registration desk for directions to the nearest bank.

Job Posting Board
Delegates are welcome to post job advertisements on the job posting board located near the Registration Desk. These advertisements may not be printed on anything larger than letter paper.

Contact Information

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Transportation

Shuttle to the Victoria International Airport
The Akal Airporter shuttle bus services all downtown hotels. You must make reservations. Check with your hotel registration desk. You can arrange for this service even though you may not be staying at a hotel. The shuttle leaves every hour and costs approximately $21.00. The Airporter telephone number is (250) 386-2525. A taxicab, which can carry up to four people, costs approximately $65.00.

Bus Transportation to Vancouver International Airport/Downtown Vancouver
Pacific Coach Lines has routes between downtown Victoria, Vancouver airport and downtown Vancouver. The buses have priority loading on the ferries and travel time is approximately 3.5 hours. For information call 1-800-661-1725.

Ferries to Vancouver
BC Ferries, which have a sailing time of 1 hour and 35 minutes, travel between Tsawwassen (39 Km south of Vancouver) and Swartz Bay (32 Km north of Victoria). This is the recommended route for those travelling to and from Victoria by car. Daily sailings in February are between 7:00 am and 9:00 pm, on the odd hour. The fare is $14.85 for each driver or adult passenger. A car costs $49.25. For information call 1-888-223-3779.
**FINAL CONFERENCE PROGRAM**

**Thursday, February 21, 2013**
(Note: Abstracts for workshops begin on page 13)

**8:30 am**  Registration for workshops
Main lobby

**9:00 am**  Concurrent Workshops

*Accelerating Consumer Health Solutions for Patients, Families and Caregivers*
Jennifer Zelmer, Fraser Ratchford, and Chad Leaver, Canada Health Infoway, Canada

*Computerisation in General Practice: Lessons for Canada from the UK and Australia*
Nicola Shaw, Health Informatics Institute, Canada
Mike Bainbridge, University of Victoria, Canada

*Health Information Systems Safety and Usability Workshop*
Elizabeth Borycki and Andre Kushniruk, University of Victoria, Canada
Christian Nohr, Aalborg University, Denmark
James Anderson, Purdue University, USA

*Social Media and Health Care Leadership: Separating the Wheat from the Chaff*
Donald Juzwishin, Alberta Health Services, Canada

*Evaluating Quality of Life for Health Information Technologies*
Karen Courtney, University of Victoria, Canada
Scott R. Beach, University of Pittsburgh, USA

**10:15 am**  Break
Main lobby

**10:30 am**  Workshops (cont’d)

**Noon - 1:00 pm**  Lunch Buffet
Terrace Room
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<tr>
<th>Time</th>
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<tr>
<td>1:00 pm</td>
<td><strong>Student Poster Judging</strong></td>
<td>Terrace Room</td>
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<td>4:00 pm</td>
<td>Closed to public and registrants</td>
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<tr>
<td>1:00 pm</td>
<td>** Concurrent Workshops**</td>
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<td></td>
<td><strong>Ontology-Driven Configuration of Electronic Health Records Systems</strong></td>
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<td>John Chelsom, City University, UK</td>
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<td><strong>Lessons from Complexity Science for the Future of eHealth</strong></td>
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<td>Dominic Covvey, National Institutes of Health Informatics, Canada</td>
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<td><strong>Medication-related CDS Functions Usability Features: from Literature to the Design and Evaluation</strong></td>
<td>Spirit C</td>
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<td>Romaric Marcilly, Régis Beuscart and Marie-Catherine Beuscart-Zephir, Univ Lille Nord de France, France</td>
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<td><strong>Will Regulation Inhibit Health Information Technology’s Enabling Potential?</strong></td>
<td>Harbour Room</td>
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<td>Jos Aarts, Erasmus University, The Netherlands</td>
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<td>Elizabeth Borycki and Andre Kushniruk, University of Victoria, Canada</td>
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<td>Eric Eisenstein, Duke University Medical Center, USA</td>
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<tr>
<td>2:30 pm</td>
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<td>2:45 pm</td>
<td><strong>Workshops (cont’d)</strong></td>
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<td>5:00 pm</td>
<td><strong>Registration</strong></td>
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<td>5:00 pm</td>
<td><strong>Opening Reception</strong></td>
<td>Terrace Room</td>
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Friday, February 22, 2013

8:00 a.m.     Registration and continental breakfast     Main lobby

8:30 a.m.     The Conference Chair, Abdul Roudsari, will introduce
               Mary Ellen Purkis, Dean of Human and Social
               Development, University of Victoria
               Opening remarks by Mary Ellen Purkis, and introduction of
               keynote speaker

8:45 a.m.     James Coward Lecture     Spirit Rooms
               Speaker: Professor John Fox,
               Department of Engineering Science, Oxford University
               Department of Academic Oncology, UCL and Royal Free
               Hospital, UK
               "Open Access, Open Source and Openclinical:
               Sharing Knowledge for Clinical Decision Making"

9:45 a.m.     Break     Terrace Room

10:15 a.m.    Concurrent Sessions

Electronic Health Records     Clinician-Led Development of Electronic Health Records Systems
                           Naveed Dogar, City University, UK
                           Implications of the Mature Personal Health Record for the
                           Empowered Consumer
                           Mowafa Househ, National Guard Health Affairs, Saudi
                           Arabia
                           Applying the Clinical Adoption Framework to Evaluate the
                           Impact of an Ambulatory Electronic Medical Record
                           Colin Partridge, University of Victoria, Canada
                           Role of Healthcare Information Technology in Handoffs
                           Ross Koppel, University of Pennsylvania, USA
<table>
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<th>Title</th>
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<tbody>
<tr>
<td>Telecare, Telemedicine and Telelaboratory</td>
<td>TeMaD System: Telecare for Managing Diabetes in Saudi Arabia</td>
<td>Abdul Roudsari, University of Victoria, Canada</td>
<td>Spirit C,D</td>
<td>10:15 – 12:15</td>
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<td>Telecardiology on Vancouver Island: Imagination to Implementation</td>
<td>Trent Horwood, Vancouver Island Health Authority, Canada</td>
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<td>Developing a Strategy for Studying Critical Thinking in a Nurse Telehealth Setting: A Participatory Approach</td>
<td>Danica Tuden, HealthlinkBC, Canada</td>
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<td>A “Realist Review” Approach to e-Health: The Case of Type 2 Diabetes in Youth</td>
<td>Marilyne Hebert, University of Calgary, Canada</td>
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<td>Designing the Community Multi-user Health Kiosk</td>
<td>Julie McMillan, Carnegie Mellon University, USA</td>
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<td>Public Health Informatics</td>
<td>Public Reporting of Hospital Infection Rates: Ranking the States on Credibility and User Friendliness</td>
<td>David Birnbaum, Applied Epidemiology, Canada</td>
<td>Harbour Room</td>
<td>10:15 – 12:15</td>
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<td>Methodological Approaches to Comparing Information about Bicycle Accidents Internationally: A Case Study Involving Canada and Germany</td>
<td>Christian Juhra, University Hospital Muenster, Germany</td>
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<td>The Development of a Standardized Software Platform to Support Provincial Population-Based Cancer Outcomes Units for Multiple Tumour Sites: OaSIS - Outcomes and Surveillance Integration System</td>
<td>Jonn Wu, BC Cancer Agency, Canada</td>
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12:15 – 1:15

Lunch

If weather permits, take a short stroll in the garden.
### 1:15 – 2:45 Concurrent Sessions

**Clinical Decision Support**

*Neuroanatomical Basis for Recognition Primed Decision Making*

Darren Hudson, University of Alberta, Canada

*Use of Knowledge Discovery Techniques to Understand Nurse Practitioner Practice Patterns and Their Integration into a Healthcare System*

Alex Kuo, University of Victoria, Canada

*Decision Support for Evidence-Based Pharmacotherapy Detects Adherence Problems but does not Impact Medication Use*

Jan Willis, Duke University Medical Center, USA

**Human Computer Interaction**

*Information Accountability and Usability: Are There Any Connections?*

Andre Kushniruk, University of Victoria, Canada

*A Review of Healthcare Information System Usability and Safety*

Simon Minshall, University of Victoria, Canada

*Commercial versus In-Situ Usability Testing of Healthcare Information Systems: Towards “Public” Usability Testing in Healthcare Organizations*

Andre Kushniruk, University of Victoria, Canada

**Patient Safety, Medical Errors & Quality Management**

*Design and Implementation of Synoptic Operative Report Template Using Interoperable Standards*

Wilfred Bonney, Capital District Health Authority, Canada

*Clinician Variations in Data Trust and Use*

Karen Courtney, University of Victoria, Canada

*Processing Medical Reports to Automatically Populate Ontologies*

Paulo Quaresma, FCT/UNL, Portugal

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**Friday cont’d**

2:45 – 3:15  Break  Lobby
3:15 – 4:45 Concurrent Sessions

Health Modeling
A Complex Adaptive Systems Perspective of Health Information Technology Implementation
Craig Kuziemsky, University of Ottawa, Canada

A Systems Theory Classification of EMR Hazards: Preliminary Results
Fieran Mason-Blakley, University of Victoria, Canada

Benefits of a Clinical Planning and Coordination Module: A Simulation Study
Sanne Jensen, Aalborg University, Denmark

Mobile Technologies and Telehealth
Issues and Considerations for Healthcare Consumers Using Mobile Applications
Elizabeth Borycki, University of Victoria, Canada

The Introduction and Evaluation of Mobile Devices to Improve Access to Patient Records: A Catalyst for Innovation and Collaboration at BCCA
Jonn Wu, BC Cancer Agency, Canada
John Waldron, Provincial Health Services Authority, Canada

Moving Mobile: Using an Open-Sourced Framework to Enable a Web-Based Health Application on Touch Devices
Joseph Lindsay, University of Victoria, Canada

The Use of Social Media in Healthcare: Organizational, Clinical, and Patient Perspectives
Mowafa Househ, National Guard Health Affairs, Saudi Arabia

Evaluation
POND4Kids: A Global Web-based Database for Pediatric Hematology and Oncology Outcome Evaluation and Collaboration
Yuri Quintana, St. Jude Children's Research Hospital, USA

Knowledge Translation in eHealth: Building a Virtual Community
Jes Bassi, University of Victoria, Canada

Complex Interventions in Healthcare and Health Informatics: A Scoping Review
Julie Kim, University of Victoria, Canada

There is free time during Friday evening to network, relax, and tour the City of Victoria.
Saturday, February 23, 2013

8:00  Registration and continental breakfast  Lobby

8:30  Introduction of Keynote Speaker by Abdul Roudsari  Spirit Rooms

8:45 – 9:45  **Steven Huesing Lecture**  Spirit Rooms

Speaker: James J. Cimino, MD, FACMI, FACP
Chief, Laboratory for Informatics Development
NIH Clinical Center and US National Library of Medicine
"Informatics Research toward the Solution-Oriented Medical Record"

9:45 – 10:15  Break  Terrace Room

10:15 – 12:15 Concurrent Sessions

**Electronic Health Records**

*Computerisation in General Practice: Lessons for Canada from the UK and Australia*
Nicola Shaw, Health Informatics Institute, Canada
Michael Bainbridge, University of Victoria, Canada

*A Systemic Approach to an Electronic Health Record Implementation*
Bogdan Motoc, Alberta Health Services, Canada

*Challenges in Data Quality Assurance for Electronic Health Records*
Omid Shabestari, University of Victoria, Canada

*A Scoping Review on Health Records for Child-in-Care*
Cori Thompson, University of Victoria, Canada

*Application of the Technological Pedagogical Content Knowledge Framework in Integrating an Educational EMR into Health Informatics Education*
Jes Bassi, University of Victoria, Canada
**Consumer Informatics**

*The PLU Problem: Are We Designing Personal eHealth for People Like Us?*
Paul Turner, University of Tasmania, Australia

*Islamic E-Health: Definition, Applications, and Challenges*
Mowafa Househ, National Guard Health Affairs, Saudi Arabia

*A User-Centred Methodology for Designing an Online Social Network to Motivate Health Behaviour Change*
Noreen Kamal, University of British Columbia, Canada

*Social Media and Patient Self-Management: Not All Sites are Created Equal*
Paul Turner, University of Tasmania, Australia

*Empowering Saudi Patients: How do Saudi Health Websites Compare to International Health Websites?*
Mowafa Househ, National Guard Health Affairs, Saudi Arabia

**Human Computer Interaction**

*Integrating Human Factors in an International Research Project: Lessons Learned from the PSIP Project*
Romaric Marcilly, Univ Lille Nord de France, France

*Usability Inspection to Improve an Electronic Provincial Medication Repository*
Nicole Kitson, University of Victoria, Canada

*The Long and Twisting Path: An Efficiency Evaluation of an Electronic Whiteboard System*
Rasmus Rasmussen, Roskilde University, Denmark

*Applying Usability Methods to Identify Health Literacy Issues: An Example Using a Personal Health Record*
Helen Monkman, University of Victoria, Canada

12:15 – 1:15

**Lunch**

Terrace Room
1:15 – 2:45 Concurrent Sessions

**Clinical Decision Support Systems**
- *Analysis of Continuous Oxygen Saturation Data for Accurate Representation of Retinal Exposure to Oxygen in the Preterm Infant*
  Carolyn McGregor, UOIT, Canada
- *Tailoring Decision Support to Suit User Needs: A Diagnostic Imaging Example*
  Janessa Griffith, University of Victoria, Canada
- *Supporting Cystic Fibrosis with ICT*
  Paul Turner, University of Tasmania, Australia

**Ontologies, Trust and Standards**
- *The Social Act of Electronic Medication Prescribing*
  Jos Aarts, Erasmus University Rotterdam, The Netherlands
- *Improving Decision Quality in Healthcare with an Error Prevention Model (EPM)*
  David Chio, University of Victoria, Canada
- *Software as a Medical Device: Regulatory Critical Issues*
  Marie-Catherine Beuscort-Zephir, EVALAB / CIC-T 807, France

2:45 – 3:15 Break

3:15 – 4:45 Concurrent Sessions

**Nursing Informatics**
- *Developing National Level Informatics Competencies for Undergraduate Nurses: Methodological Approaches from Australia and Canada*
  Elizabeth Borycki, University of Victoria, Canada
- *What Nurses are Talking About: Content and Community Within a Nursing Online Forum*
  Kathleen Abrahamson, Western Kentucky University, USA
- *A Framework for Leveling Informatics Content Across Four Years of a Bachelor of Science in Nursing (BSN) Curriculum*
  Noreen Frisch, University of Victoria, Canada
- *Patient Safety Perspectives: The Impact of CPOE on Nursing Workflow*
  Mowafa Househ, National Guard Health Affairs, Saudi Arabia
Consumer Informatics

Taming Mental–Health-Focused Popular Literature: A Crazy Idea?
Meredith Nahm, Duke Translational Medicine Institute, USA

Considerations for Personal Health Record Procurement
Helen Monkman, University of Victoria, Canada

An Initial, Qualitative Investigation of Patient-Centered Education in Dentistry
Marc Clayton, University of Pittsburgh Center for Dental Informatics, USA

Tailored Care Management with Patient-Centered Web-Based Portal in Primary Health Care: Sustaining a Relational Context
James Ronan, University of Victoria, Canada

Healthcare Modeling and Simulation

Developing a Multivariate Electronic Medical Record Integration Model for Primary Health Care
Francis Lau, University of Victoria, Canada
Mary Lesperance, University of Victoria, Canada

Towards Assessing the Socio-Economic Impact of VPH Models
Karl Stroetmann, Empirica Communication & Technology Research, Germany

The Use of Discrete-Event Simulation Modeling to Compare Handwritten and Electronic Prescribing Systems
Karim Keshavjee, InfoClin, Canada

A Model of Collaborative Agency and Common Ground
Craig Kuziemsky, University of Ottawa, Canada

6:30
Cash bar pre-dinner reception
Lobby

7:00
West Coast Gala Dinner and Closing Remarks
Terrace Room
**WORKSHOP ABSTRACTS**

*Accelerating Consumer Health Solutions for Patients, Families and Caregivers*

Jennifer Zelmer, Senior Vice-President, Clinical Adoption and Innovation, Canada Health Infoway
Fraser Ratchford Group Program Director, Consumer Health and Innovation, Canada Health Infoway
Chad A. Leaver, Benefits Realization Leader, Canada Health Infoway

**Workshop Description**

Interest in Consumer Health Solutions (CHSs) is rapidly expanding globally, due to the potential to improve patient access to health services, impact patient-provider interaction, transform the patient experience and contribute to improved patient outcomes. Canadians indicate that they are most interested in using particular types of CHS, such as requesting prescription renewals, viewing laboratory test results, making appointments, or consulting with healthcare providers securely online. According to recent surveys, however, relatively few currently have access to such services.

In this workshop, facilitators will share the latest research in the area, as well as applied experiences from the field, in order to inform interactive dialogue amongst workshop participants. It will commence with an overview of the findings from recent qualitative and quantitative research about Canadians’ expectations and current experience with CHS, as well as global experience with the use of CHS and their outcomes. A discussion grounded in the practical experiences of Canadian leaders in this area will follow, along with an interactive workshop exercise on accelerating the use of CHS.

Participants will also explore the application of Canada Health Infoway’s Benefits Evaluation Framework to consumer health solutions in a way that supports the evaluation of the benefits of solutions across the continuum of implementation, adoption and benefits realization. This will include a discussion of an array of indicator domains and measurement approaches that can be used by stakeholders and the research community in the implementation, adoption and evaluation of consumer health solutions.

**Learning Objectives:**

- Provide an overview of experiences with CHS in Canada and abroad, drawing on implementation and outcomes experiences from innovators in the field.
- Engage participants in an interactive workshop exercise on accelerating the effective use of CHS in Canada.
- Explore the application of a health informatics benefits evaluation framework to CHS, in the context of different projects and evaluation approaches.
Computerisation in General Practice: Lessons for Canada from the UK and Australia

Nicola T. Shaw, Health Informatics Institute & Algoma University, Sault Ste. Marie, On Canada
Mike Bainbridge, University of Victoria, Victoria, BC Canada

Shaw and Bainbridge have been working in the area of general practice computerisation for many years. Initially both from England, they have worked extensively in other countries with Shaw now working primarily in Canada and Bainbridge in Australia. Consequently, they have a wealth of experience and knowledge to draw upon in terms of what works in this area as well as what doesn’t. Together, based on work that Shaw previously completed with Kidd, they have identified nine key issues that Canada must address or they feel we are doomed to repeat the same failures already seen in the UK and Australia.

These nine issues are:

1. Education, Training & Support
2. Common Data Model
3. Clinical Coding
4. Information Exchange/Interoperability
5. Business Case
6. Data Validation & Verification Procedures
7. System Support
8. Security & Confidentiality
9. Research

This workshop will provide an overview of each of these issues. Shaw and Bainbridge will draw upon their experiences to provide examples of where there have been significant failures due to this specific area and they will highlight current activities taking place worldwide that are addressing the issue.

Shaw is the Scientific Director of the Health Informatics Institute in northern Ontario, Canada and the ESRI Canada Research Chair in Health Informatics. She also holds academic appointments with Algoma University, the Northern Ontario School of Medicine, the University of Ontario Institute of Technology, Lakehead University, Laurentian University, the University of Alberta and the University of Victoria.

Bainbridge is the Programme Clinical Lead (e-health Implementation) with the National E-Health Transition Authority (NEHTA) in Sydney, Australia. He holds an adjunct academic appointment with the University of Victoria, Canada and is the Clinical Architect and Director for ASE Consulting Pty. Ltd. (Australia).
Health Information Systems Safety and Usability Workshop
Elizabeth M Borycki and Andre Kushniruk, University of Victoria, Victoria, BC Canada.
Christian Nohr, Aalborg University, Aalborg, Denmark.
James Anderson, Purdue University, Lafayette, Indiana, USA

The workshop goal is to familiarize participants with health information systems safety and human aspects of health informatics related to the design, evaluation and deployment of usable, useful and safe health information systems.

It has become increasingly recognized that ensuring the safety and usability of health information systems (such as the electronic health records, electronic medical records) is a key to successful and error free system implementation and use. Usability can be defined as a measure of how effective, efficient, safe, easy to learn and enjoyable to use a system is. Technology-induced errors refer to errors resulting from the design and implementation of technology that are typically only identified during use of information technology under complex work situations. Successful design, implementation and deployment of healthcare information systems is dependent on careful consideration of usability and reduction of usability problems that may lead to technology-induced error. This includes the study of the impact of systems on healthcare workers’ cognition and workflow as well as consideration of interrelated social factors related to successful technology deployment. Indeed, the field of health informatics is littered with examples of systems and projects that have failed in large part due to lack of consideration of human-computer interaction and more specifically the relation between usability and safety.

In this workshop a practical framework for improving the safety and usability of healthcare systems will be presented. In particular the application of methods from the emerging fields of usability engineering and simulations will be described and demonstrated. This includes study of human computer-computer interaction in the design of a range of health informatics applications and consideration of low-cost rapid usability engineering methods. These methods, which can be deployed in any setting at a minimal cost, can provide powerful input into evaluating, and improving system usability, usefulness and safety. Approaches to the design and evaluation of systems that are safe and that reduce human error will be discussed, including recent use of portals for both health professionals and citizens to report errors that may have resulted from poor usability.

Social Media and Health Care Leadership: Separating the Wheat from the Chaff
Don Juzwishin, Director Health Technology Assessment and Innovation, Alberta Health Services, AB Canada

This is a highly interactive hands on experiential learning opportunity, for participants who want hands on exposure, to a wide range of social media with the purpose of identifying the strengths and weaknesses of each and how to assess the validity and value of their content. We will examine blogs, wikis, RSS, social networks, mashups, podcasts, microblogging, and folksonomies. Participants will be encouraged to identify other forms of emerging social media and we will explore approaches for assessing them. The goal of the workshop is to provide participants with an understanding and tools to assess the value and trustworthiness of different forms of social media.
Learning Objectives:

- Participants will become familiar with the challenges and opportunities in social media for health care leadership
- Participants will become familiar with the scope, strengths and weaknesses of each of the social media techniques
- Participants will apply tools, checklists and frameworks to help them assess the trustworthiness and value of social media techniques

Resource: Each participant will be provided with a copy of “Social Media and Health Care Leadership: Implications, Issues and Opportunities”.

Hands on experience: A limited number of computers will be available in the classroom with WIFI access however if you don’t want to be disappointed please bring along your own notebook or tablet.

Evaluating Quality of Life for Health Information Technologies
Karen Courtney, University of Victoria, Victoria, BC Canada
Scott R. Beach, University of Pittsburgh, Pittsburgh, PA USA

When assessing the effects of health information technologies, quality of life is often recognized as a valuable outcome. Despite the desirability of increasing or maintaining quality of life for end users, quality of life is often inconsistently evaluated. Evaluations may contain a generic quality of life measure, such as the Short Form Health Survey (SF-36) or condition-specific measures such as the Arthritis Impact Measurement Scale (AIMS) for arthritis. However, broad instruments may not be sensitive enough to capture the effects specific to a particular condition. Condition-specific measures may limit generalizations across studies. Missing from most quality of life evaluation plans are instruments that are specific to the information technology being evaluated. Without this information, it may be difficult to understand what interactions with the technology are affecting a user’s quality of life. As a consequence, subsequent designs may inadvertently alter the very technology interactions that were effective in improving or maintaining a user’s quality of life.

The Quality of Life Technology Engineering Research Center (QoLT ERC) has proposed that the planned evaluation of health information technologies should include a three pronged approach to measuring quality of life effects. This approach recommends using 1) a generic measure for comparability across populations, settings and technologies; 2) a condition-specific measure for sensitivity to disease or condition-specific effects; and 3) a technology-specific measure for sensitivity to effects of the technology being used.

In this workshop, we will discuss the application of this evaluation model to a diverse array of health information technologies under development by the QoLT ERC. We will encourage participants to explore how this evaluation model could be applied to health information technologies within their own practices or research programs.

After attending this workshop, participants will be able to:

- Describe standard, broad quality of life instruments typically used in research
- Identify condition-specific quality of life instruments
- Design technology-specific quality of life instruments
- Create a customized health information technology evaluation plan based on this evaluation model
Ontology-Driven Configuration of Electronic Health Records Systems

John Chelsom, Centre for Health Informatics, City University, London, UK

This workshop shows how an Electronic Health Record (EHR) system can be configured entirely using an ontology model that mirrors the ISO-13606 and HL7 CDA standards.

The topics to be covered are:

- Open source, open standards for clinical information systems
- Clinician-driven EHR development
- The ontology-driven EHR
- Tools for ontology development
- Configuring the EHR data dictionary
- Form-based clinical data entry
- Summaries and visualisation of clinical data
- Clinical correspondence

Attendees will each receive a USB stick containing a fully functional, open source, EHR system (cityEHR) which can be run directly from the USB, without any local installation. All the techniques for ontology-driven modelling that are demonstrated in the workshop can be run using the cityEHR.

Lessons from Complexity Science for the Future of eHealth

Dominic Covvey, National Institutes of Health Informatics, Canada

Introducing ehealth into our health system is a world-class challenge. Right now we are investing heavily in ehealth. This increases the risk that we are pursuing a rate of change that our health system cannot safely attain, especially given a limited complement of competent informatics human resources, the possible underestimation of needed effort and investment, and our understanding of the complexity of the health system. This could set the stage for failure. One challenge for informatics solutions is that healthcare delivery systems are complex adaptive systems. To appreciate the implications of this, we will explore the nature of complexity and what it implies for developing, introducing and managing informatics interventions. In particular, we will question the current assumption that health care is a linear, non-interacting, predictable system and we will explore how complexity impacts our interventions. Then we will provide aides that will better equip us to deal with the challenges we face.

On completing this tutorial, participants will be able to:

- Understand the nature of complex adaptive systems and incorporate the lessons of Complexity Theory into their work.
- Conceptualize and implement new approaches to planning, development, implementation, management, and budgeting that are sensitive to the true nature of complex adaptive systems.
- Avoid the dead ends, traps, and failure modes that derive from our misconstruing health care as a linear, predictable system.
- Refocus their further study so as to more deeply appreciate and be able to apply Complexity Theory to their work.
Medication-related CDS Functions Usability Features: From Literature to the Design and Evaluation

Romaric Marcilly, Régis Beuscart and Marie-Catherine Beuscart-Zephir, Univ Lille Nord De France, France

Evidence that problems with Computerized Clinical Decision Support (CDS) system can pose a risk to patient safety is emerging although such systems are central to improving safety and quality of services. Safety considerations should also be at forefront of design, development, and evaluation of such systems. Currently, systematic patient safety evidence-based design is not common practice. Some initiatives tend to provide this kind of requirements for interface design, e.g. for the presentation of health data or for electronic patient record systems. But further work in this area is needed in terms of building an evidence-based of good (and bad) usability aspects that will assist in the design, development and evaluation of safe and usable software.

The aim of this workshop is to support the construction of a draft of a grid of medication-related CDS functions usability features and to make it meaningful and easy to apply in the frame of CDS system design and evaluation process (e.g. User-Centered Design process). With this aim in view, one requires taxonomy of those features balanced according to their potential impact in terms of usage and patient safety.

For this purpose, following Cochrane requirements, a systematic review of the literature on that topic has been performed on 5518 papers retrieved in Medline, Science Direct and Ergonomics Abstracts databases for screening. About 40 papers were kept for analysis. Its results will be presented at the beginning of the workshop and then will be discussed with the participants: is the literature exhaustive? What may be the biases and how to handle them? How to contextualize those results in the design/evaluation process? Etc. To support the discussion, cognitive ergonomics methods to extract expert knowledge will be used. For instance, as experts in the field, participants will be invited to participate in a card sorting to generate -online during the session – a first taxonomy of the usability features that will compose the grid. The results of this taxonomy can thus be directly discussed, enriched, modified with all the participants to lead to a first draft at the end of the session.

Will Regulation Inhibit Health Information Technology’s Enabling Potential?

Jos Aarts, Erasmus University, The Netherlands
Elizabeth Borycki and Andre Kushniruk, University of Victoria, Canada
Eric Eisenstein, Duke University Medical Center, USA

The Institute of Medicine’s report ‘Health IT and Patient Safety: Building Safer Systems for Better Care’ has become an impetus for policy makers seeking to consider whether and how HIT should be regulated. This report cites poor usability, poor workflow integration and complex data interfaces as potential threats to patient safety and makes a number of recommendations for policy makers that include the mandatory reporting and oversight of patient safety issues. Although the report makes general recommendations, the precise details for how regulation would occur are lacking, allowing HIT industry representatives to claim that regulation will inhibit innovation and lead to higher costs for products.
One concern is that the IOM report goes beyond the boundaries of traditional pharmaceutical and device regulation by explicitly recognizing that HIT is a component within a complex sociotechnical system that includes both the HIT technology and its clinical users. This definition is important because current medical device regulation focuses on approved product use; whereas, the IOM definition may lead to a blurring of distinctions between HIT uses that are and are not officially approved by regulators. Clearly, we do not know whether and how policy makers in different jurisdictions and countries will decide to regulate HIT. However, we do know that the mode of regulation may have significant implication (both positive and negative) for the development and deployment of these technologies at a jurisdictional, country and global level.

This workshop will bring together experts in HIT safety regulation, usability, ethnographic, sociotechnical, and economic analysis. The objective is to apply these different perspectives to the problem of regulation in a manner that does not inhibit the enabling potential of HIT. In particular, we will highlight potential impacts of HIT regulation on the delivery of healthcare and personal health. In line with the ITCH 2013 themes, we will address the implications of regulation for HIT Availability both in traditional and alternative delivery mechanism, HIT Tailoring to conform to the unique needs of specific patients and groups, and HIT Closeness through eHealth and mHealth applications. Following short presentations by our subject matter experts, we will engage attendees in a discussion of HIT regulation through a series of case studies that demonstrate key components in an integrated HIT regulatory framework.

Thank you for attending ITCH 2013