E-Health Priorities, Markets, & Opportunities in Canada

e-Health European Mission
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Canadian Society of Telehealth
Overview

- Background & Rationale
- Current e-Health Priorities in Canada
- Top Potential e-Health Market Opportunities in Canada
- Potential Target Markets in the Risk Management Space
- Possible Incentives That May Attract Companies
- From Concept to Market
- Important Federal Contacts and Coordinates
- Canadian Companies / Organizations Interested in Collaboration / Markets
Current Landscape

Population of Canada
32,207,113
(July 2003 est.)

Land Area
9,976,140 sq km

90% Rural Remote
Health Spending in Canada - 2006

- $148 Billion (CDN)
- 10.3% of GDP
- $4,548 Per Person

Glenda Yeates – President & CEO, Canadian Institute for Health Information ("CIHI") – Presentation, Dec. 2006
Existing & Ongoing Challenges within Health Delivery

- Geography
- Aging population
- Shortage of health professionals
- Inequitable distribution of health professionals
- Patient safety
- Increasing prevalence of public health threats
- Limited integration
- Fragmented funding
- Budget constraints
- Language barriers

Source – e-HI Deliverable: E. Igras – e-Health Business Opportunities: An Exploratory Study of e-Health Applications and Markets
Province of Alberta

Population of Alberta
3,236,309
(April 2005 est.)

Land Area
639,987 sq km

Source: Government of Alberta
Health Regions in Alberta

<table>
<thead>
<tr>
<th>Health Region</th>
<th>Region # on Map of Alberta</th>
<th>Population*</th>
<th>% of Alberta Population</th>
<th># of Videoconference Sites</th>
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</thead>
<tbody>
<tr>
<td>Chinook</td>
<td>R1</td>
<td>152,636</td>
<td>4.9</td>
<td>8</td>
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<tr>
<td>Palliser</td>
<td>R2</td>
<td>98,074</td>
<td>3.1</td>
<td>9</td>
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<tr>
<td>Calgary</td>
<td>R3</td>
<td>1,122,303</td>
<td>35.9</td>
<td>34</td>
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<tr>
<td>David Thompson</td>
<td>R4</td>
<td>286,211</td>
<td>9.2</td>
<td>27</td>
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<tr>
<td>East Central</td>
<td>R5</td>
<td>109,981</td>
<td>3.5</td>
<td>10</td>
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<tr>
<td>Capital Health</td>
<td>R6</td>
<td>978,048</td>
<td>31.3</td>
<td>28</td>
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<tr>
<td>Aspen</td>
<td>R7</td>
<td>176,580</td>
<td>5.7</td>
<td>18</td>
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<tr>
<td>Peace Country</td>
<td>R8</td>
<td>130,848</td>
<td>4.2</td>
<td>24</td>
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<tr>
<td>Northern Lights</td>
<td>R9</td>
<td>69,063</td>
<td>2.2</td>
<td>16</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>3,123,744</strong></td>
<td><strong>100</strong></td>
<td><strong>174</strong></td>
</tr>
</tbody>
</table>

* Population listed as of April 1, 2003, except R3 & R4, which were updated December 1, 2003

Source: Government of Alberta, 2004
Alberta Ministries Strategic Priorities
2005 - 08

1. Health system innovation
   “To deliver the best possible care with the resources available will require foresight, collaboration and partnerships, and strategic investments. The following areas identify opportunities for investments to fill service gaps now, and to find better ways to deliver services in the future.”

2. Strengthen public health risk management capabilities
   “Albertans want to know that their health system is prepared and able to protect them from risks to their health. Recent events such as the outbreak of avian influenza, SARS and West Nile virus as well as a potential pandemic have reinforced the importance of strong public health programs. Albertans are partners in this effort.”
Goals

Key strategies for managing public health risks include:

- Primary health care
- Promotion and prevention
- Community care
  - Continuing care
  - Mental health
  - Aboriginal health
  - Youth addictions treatment and prevention
- Access
- Pharmaceuticals and new medical technology
- Innovative Information Systems
- Health workforce recruitment and retention
- Cross-Ministry Initiatives
- Protect Albertans against communicable diseases
- Protect Albertans from environmental health risks
Examples of e-Health Technology
Examples of e-Health Technology
Background - Rationale
Health Drivers and Technology

- Access to care
- Quality of care: timeliness & appropriateness of care
- Efficient use of resources: hospital beds and care providers
- Capacity building for rural health care providers
- Continuity of care from tertiary level facilities to care in rural communities
- Outreach to all communities
- Economic development for rural communities
- Leading edge Research, job creation, economic development
Background - Rationale

Health Drivers and Technology

- Desire for lower-cost user friendly technologies for e-health and telehealth applications
- Need for high quality, image-intensive
- Need of high speed data transfer
- Need for high capacity visualization, computation and shared data storage and repositories
Key Trends in Health

- Electronic medical & health records
- Mobile, low-cost and efficient health care & surveillance
- Wellness and responsibility for health
- Primary health care; community care; home care
- Web and portal approaches (i.e. Internet)
- Team e-care; continuity of e-care
- Patient safety and quality of care
- Policy conformance
- Demand for, and access to, quality information at time of need
- Informed decision making at the point of care
- Best practice and evidence base frameworks
- Business plans for health care
Key Trends in Technology

- Networked and shared technologies
  - New Computer and Systems Architectures
- Standards conformance
- Bandwidth and storage capacity
- Technology Bundling and Convergence
- Third generation and evolving technologies
- Sensor technologies
- Open source
- Interoperability
- Shared carrier approaches (i.e. cable, IP, ISDN, satellite, microwaves, wireless)
- Business plans for industry
Emerging Global Shifts and Trends in Healthcare

- Emphasis on data sharing and collaboration among health service providers.
- Increased need for privacy and security solutions
- Increased need for interoperable solutions
- Increased integration of care
- Increased need for solutions that focus on health promotion and maintenance, disease prevention, and personalized care.
- Increased consumer involvement
- Increased resources
- Increased use of point of service systems and decision support tools
- Increased use of telematic solutions

Source – e-HI Deliverable: E. Igras – e-Health Business Opportunities: An Exploratory Study of e-Health Applications and Markets
Current e-Health Priority Areas

- Registries
- Interoperable Electronic Health Records
- Diagnostic Imaging Systems
- Drug Information Systems
- Laboratory Information Systems
- Public Health Surveillance
- Telehealth
- Innovation and Adoption
- Infostructure

Source – e-HI Deliverable: E. Igras – e-Health Business Opportunities: An Exploratory Study of e-Health Applications and Markets
Emerging e-Health Applications

- Electronic Health Record solutions.
- ePrescribing systems.
- eBooking / eScheduling systems.
- Integrated Practice Management systems that include the Booking, Computerized Physician Order Entry, Electronic Medical Record and Billing components.
- Biometric and patient monitoring tools using AmI (Ambient Intelligence) technology integrated with Personal Health Record.
- Bioinformatics and genomic applications.
- Mobile healthcare applications.
- Telemedicine and telehealth systems integrated with the Electronic Health Record solutions.
- Voice Recognition systems.
- Voice over IP systems.
- RFID (Radio-frequency Identification) applications.
- Knowledge management tools.
- Population health systems.

Source – e-HI Deliverable: E. Igras – e-Health Business Opportunities: An Exploratory Study of e-Health Applications and Markets
Top Potential e-Health Market Opportunities in Canada

- PACS (Picture Archiving and Communication Systems)
- Systems providing largest impact on clinical care i.e., Pharmacy; Laboratory and Medical Imaging
- Telehealth/Telemedicine
- Front-end portals
- Voice recognition (particularly in Medical Imaging).

Source – e-HI Deliverable: E. Igras – e-Health Business Opportunities: An Exploratory Study of e-Health Applications and Markets
Potential Target Markets in the Risk Management Space


http://www.intellectuk.org/publications/reports/default.asp#healthcare
Ongoing Challenges for e-Health Implementation

- Privacy and security
- Standardization and inoperability
- Integration with service delivery technology
- Suitability
- Technology acceptance
- Safety
- Sustainability
- Education
- Training

Source – e-HI Deliverable: E. Igras – e-Health Business Opportunities: An Exploratory Study of e-Health Applications and Markets
Common Factors for Success for both Health and eHealth

- Vision and goals
- Strong leadership and stakeholder engagement
- Proven strategies
- Sustainability
- Resources and capacity
- Alignment with health programs
- Involvement of multiple stakeholders
- Purpose and scope

- Compliance with policy and legislation
- Tangible value
- Access and integration
- Long-term relationship
- Research and innovation
- Standards and interoperability
- Infrastructure

Source – e-HI Deliverable: E. Igras – e-Health Business Opportunities: An Exploratory Study of e-Health Applications and Markets
Possible Incentives That May Attract Companies

- Aid for development, transfer, application, and diffusion of innovative technologies through partnerships
- Support for continued leading edge research and development activities, as well as joint ventures;
- Establishment of Centres of Excellence;
- Improvement of the degree of skill, productivity, and/or employment capability of workers.

Source – e-HI Deliverable: E. Igras – e-Health Business Opportunities: An Exploratory Study of e-Health Applications and Markets
ROI Certainty

Driving New Products to Market

Discovery

GATE 1

Idea Screen

Scoping

GATE 2

Business Case

GATE 3

Development

GATE 4

Testing & Validation

GATE 5

Launch

Go To Development

Go To Testing

Go To Launch

Post-Launch Review

Value Chain

Concept

- Labs
- R&D (αβ)
  - e.g. Robotics, Visualization, Virtual Reality

Simulated Care Environment

- Prototype Testing
- Proof of Concept
- Conformance Testing
  - e.g. EMR/EHR, Smart Camera

Field Trial

- Corporate Wellness – Physical Activity Monitor
  - e.g. Prescription Alert Device, Smart Camera Device, Telementoring

Commercialization

Applied

SUPPORT FUNCTIONS

- Infrastructure
- Policy Development
- Educational Institutions
- Funding Agencies
- Trade Associations, Econ. Dev. Organizations

Source – e-Health Industry Project Archives; B. Powell/P. Jennett
Small Business Membership (25)  
< 100 employees *within Alberta*

- Canadian Sleep Institute  
- Clarity.ca Inc.  
- Clinicare Corporation  
- CoSync Consulting Corp.  
- Dynastream Innovations Inc.  
- EcDev Solutions Ltd.  
- Elluminate Inc.  
- EMIS Inc.  
- FactMinder Inc.  
- Filbitron West  
- Great Big Solutions Ltd.  
- hit (formerly Tietokone Consulting Inc.)  
- IRIS Systems Inc.  
- Med Access Inc.  
- Meta4hand Inc.  
- Microquest Inc.  
- National Medical Solutions Inc.  
- Nightingale Informatix Corporation  
- NT Consulting  
- Practice Solutions Software Inc.  
- Stratavera Partners  
- Teilhard Technologies  
- Tiberon Information Architects  
- TkMC  
- TRACfast Healthcare Solutions  
- XSensor Technology Corporation

Small Business Membership (17)  
< 100 employees *outside Alberta*

- Bankix Systems Ltd.  
- Branham Group Inc.  
- Campana Systems Inc.  
- Coronaria Feedback Oy  
- Digital Group of Telehealth Companies  
- Even Technologies Inc.  
- Handshake VR Inc.  
- Identita Technologies Inc.  
- Integrating Solutions Inc.  
- KATSI Canada Inc.  
- MedShare  
- Momentum Healthcare Inc.  
- PHD Medical  
- Sonic Foundry Inc.  
- VaaSah Inc.  
- Xact Solutions Group, Inc.

Corporate Membership (10)  
> 100 employees

- AGFA HealthCare (AGFA Inc.)  
- Axia Net Media Corporation  
- Bell Mobility Inc.  
- CGI  
- Lifeline Systems Canada Inc.  
- Pfizer Canada Inc.  
- Siemens Canada Limited  
- Sony of Canada Ltd.  
- Stryker Canada  
- Telus Communications Inc.
Important Federal Contacts & Coordinates

- **Canada Health Infoway** - [www.infoway-inforoute.ca](http://www.infoway-inforoute.ca)
  - Richard Alvarez, President CEO
- **COACH (Canada’s Health informatics Association)** - [www.coachorg.com](http://www.coachorg.com)
  - Shelagh Maloney, President
- **CHITTA (Canadian Health Information Technology Trade Association – Health Division of ITAC)** - [www.chitta.ca](http://www.chitta.ca)
  - Steven Huesing, CEO
- **CADTH (Canadian Agency on Drugs & Technologies in Health)** - [www.cadth.ca](http://www.cadth.ca)
  - Jill Sanders, President & CEO
- **CST (Canadian Society of Telehealth)** - [www.cst-sct.org](http://www.cst-sct.org)
  - Laurie Poole, President
- **CIHI (Canadian Institute for Health Information)** – [www.cihi.ca](http://www.cihi.ca)
  - Glenda Yeates, President & CEO
- **Canadian Health Network (Public Health Agency of Canada)** – [www.canadian-health-network.ca](http://www.canadian-health-network.ca)
## Canadian Companies / Organizations Interested in Collaboration / Markets

<table>
<thead>
<tr>
<th>Firm / Organization</th>
<th>Product</th>
<th>Contact / Website</th>
</tr>
</thead>
</table>
| LibreStream Technologies Inc. | Telehealth Mobile Video Collaboration System (MVCS) | Raif Richardson  
Raif.richardson@librestream.com  
www.librestream.com |
| Digital Group of Telehealth Companies | Products & Services for Public, Private, and Telehealth Sales & Services | Wayne Bell, CEO  
wbell@digitalgrp.com  
www.digitalgrp.com |
| Alcatel-Lucent Canada | TAFETA Project – Assisted Living Experimental Apartment  
Vital Signs Monitoring Architecture | Ross Koui  
ross.koui@alcatel-lucent.com  
www.tafeta.ca  
www.brytech.com |
| Health Innovation and Information Technology Centre (“HiiTeC”), University of Calgary | Enablers of Knowledge Sharing and Innovation Development | Brandon Powell  
bdpowell@ucalgary.ca |
| Red Engine Inc. | Management of Risk and Practice Data for Dental Implants:  
- Market Entry (insurance Provider Underwriting Sectors)  
- Clinical Research Centres  
- Interface With Implant Companies Product to Provide Data | Tom Ogarenko  
tom@redengine.com  
www.redengine.com |
## Canadian Companies / Organizations Interested in Collaboration / Markets Cont’d.

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<thead>
<tr>
<th>Firm / Organization</th>
<th>Product</th>
<th>Contact / Website</th>
</tr>
</thead>
</table>
| Information and Communication Technology Edmonton ICT Development | Edmonton and Alberta ICT Firms                                          | Neil Kaarsemaker, Manager Industry Cluster Development  
|                                                           |                                                                         | nkaarsemaker@edmonton.com  
|                                                           |                                                                         | www.digitalsolutionsalliance.com                                               |
| TRLabs & NEWT                                             | Network for Emerging Wireless Technologies                              | info@newt.trlabs.ca                                                             |
| iCARE – University of Alberta & Capital Health Region    |                                                                        | shoo.lee@capitalhealth.ca  
|                                                           |                                                                         | nicola.shaw@cha.ca                                                            |
| Ward of the 21st Century                                   | Living Lab                                                              | William Ghali - wghali@ucalgary.ca  
|                                                           |                                                                        | Barry Baylis - baylis@ucalgary.ca                                             |
|                                                           |                                                                        | Shandra Kimpton - shandra.kimpton@calgaryhealthregion.ca                      |
| Alberta Health Ministry – Electronic Health Records       |                                                                        | Betty Loree – betty.lore@gov.ab.ca                                             |
| CORONARIA Impact OY                                       |                                                                        | Matti Koivu - matti.koivu@coronaria.fi  
|                                                           |                                                                        | www.coronariaimpact.fi                                                       |
| The County Council of Norrbotten                          | Future Competence Centre for Telemedicine – Lulea University of Technology | Per-Olof Egnell  
Summary

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Questions and Discussion

Thank you

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