Lessons Learned in Orchestrating a National e-health Movement

Lessons learned

• My first 2,000 days in the job
Don Berwick on health IT as culture change

“It’s better for everyone when health care IT is used meaningfully. ... The question is, if it’s so good, why aren’t we there yet? For everybody? For all the patients, not just the lucky ones in modernized systems? ....”

“The reason is because it’s hard. Moving from paper legacy systems to modern IT is a big change. New hardware, new skills, new attitudes, new assumptions. It’s really a new culture and you don’t get there in one step.”

Source: Don Berwick speaking at meaningful use press conference, July 13, 2010

National e-health initiatives
All about managing change
1. Define the business problem

- Governance
- Health care in Canada
- Health care pressures
- Strengthening health care

Governance of health care in Canada: a shared accountability

- Federal government sets and administers national health care principles
- 13 provincial/territorial governments plan, finance, manage, evaluate health services
- 100+ health regions coordinate care delivery over each geographical area
- 700+ hospitals, 2,500 long-term care facilities manage care
- Some 400,000 general practitioners, specialists, nurses, pharmacists, and other health care professionals deliver care to Canadian patients
Health care in Canada

- $180 billion-plus business
- 60% of cost for hospitals, drugs and physicians
- 70:30 public vs. private funding

Health care pressures

- Aging population
- Rising incidence of chronic disease
- Wait times
- Health care spending
- Sustainability
Strengthening health care

The key elements of the transformation include:

- Patient centred care
- Collaborative teams
- Redesigned business processes to improve access
- Evidence based care
- Relevant data capture and analysis
- Timely feedback and education

Using EHR and EMR systems as catalysts and enablers

Establish a sense of urgency

2. Establish a sense of urgency
Costs

Source: National Health Expenditure Database, Canadian Institute for Health Information.

Focusing on patient safety

- **9-23,000**: Deaths among patients with preventable adverse events
- **1,100,000**: Extra hospital days associated with adverse events
Access to care

<table>
<thead>
<tr>
<th>Per cent</th>
<th>AUS</th>
<th>CAN</th>
<th>FR</th>
<th>GER</th>
<th>NETH</th>
<th>NZ</th>
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<th>SWE</th>
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<tbody>
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<td>Specialist appointment*</td>
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<td>16</td>
<td>22</td>
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<td>31</td>
<td>5</td>
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<td>Elective surgery**</td>
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<tr>
<td>4 months or more</td>
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<td>25</td>
<td>7</td>
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<td>5</td>
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<td>21</td>
<td>22</td>
<td>7</td>
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<td>7</td>
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</tbody>
</table>

* Base: Needed to see specialist in past 2 years.
** Base: Needed elective surgery in past 2 years.

Source: 2010 Commonwealth Fund International Health Policy Survey in Eleven Countries.

The benefits and value of electronic health information technologies

- Reduced wait-times for diagnostic imaging services
- Improved availability of community based health services
- Reduced patient travel time and cost to access services
- Increased patient participation in home care
- Improved interpretation of diagnostic and laboratory results
- Decreased adverse drug events
- Decreased prescription errors
- Increased speed and accuracy in detecting infectious disease outbreaks
- Increased access to integrated patient information
- Reduced duplicate tests and prescriptions
- Reduced physician prescription call-back
- Reduced patient and provider travel costs

Capital cost: $10 billion to $12 billion
Benefits: $6 billion to $7 billion annually
Form a powerful guiding coalition

- First Ministers
- Federal Health Minister
- Federal Finance Ministers
- Deputy Ministers of Health
- Independent Board of Directors
- Key stakeholders

Create a vision and communicate it broadly

- Vision
- Goal
Infoway’s vision

A high quality, sustainable and effective Canadian health care system supported by an infostructure that provides residents of Canada and their health care providers timely, appropriate and secure access to the right information when and where they enter into the health care system. Respect for privacy is fundamental to this vision.

Points of care
**Investment approach**

12 targeted investment programs totalling more than $2.1 billion

**Architecture approach**

- Common architecture accepted by jurisdictions and vendors
- Links local clinical systems with jurisdiction and regional registries and repositories using a data sharing approach
- Serves as a reference model for Infoway investments
- Free and available on the Infoway website

Value created – A common EHR ‘technology investment target’ that was accepted by all jurisdictions and vendors
50% availability goal

- Ambitious target
- Achieved as of March 31, 2011
- Full support from our jurisdictional partners

Empower others to act on the vision
**Infoway approach**

Collaborate with health ministries and other partners
- Co-invest with public sector partners (75:25 formula)
- Leverage investment
- Engage clinicians
- Form strategic alliances with the private sector
- Manage risk and ensure quality solutions
- Measure benefits and adjust
- Provide privacy safeguards
- Strategic investor

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6. Plan for and create short term wins
**Infoway benefit evaluation framework**

The framework articulates the link between the systems in which Infoway invests and the resulting benefits, providing a basis for measurement.

**System quality**
- Functionality
- Performance
- Security

**Information quality**
- Content
- Availability

**Service quality**
- Responsiveness

**Use**
- Use Behavior/Pattern
- Self Reported Use
- Intention to Use

**User Satisfaction**
- Competency
- User Satisfaction
- Ease of Use

**NET BENEFITS**

- **Quality**
  - Patient safety
  - Appropriateness/effectiveness
  - Health outcomes

- **Access**
  - Ability of patients/providers to access services
  - Patient and caregiver
  - Participation

- **Productivity**
  - Efficiency
  - Care coordination
  - Net cost

**Signposts of success**

- Availability of care
- Patient safety
- Quality of care
- Continuity of clinical care
Patient safety

PharmaNet
Drug information system captures every prescription dispensed in British Columbia pharmacies and provides alerts to pharmacists & some physicians.

Similar comprehensive drug information systems being implemented across Canada

In 2010, over 60 million prescriptions via PharmaNet.

When translated to Canada, the emerging evidence indicates:

- Over 32 million significant drug interactions identified in 2010

Current state DIS benefits – $436M in 2010

Breakdown of Generation 2 DIS Benefits at March 2010

- Increased provider productivity 32%
- Improved drug cost management 10%
- Reduction in adverse drug events 20%
- Reduced prescription abuse 16%
- Improved patient compliance 21%
- Reduced prescription abuse 16%
Scope for additional benefits in future

Average productivity gains reported by pharmacists

Overall average
Newer DIS
More mature DIS

Availability of care

Diagnostic imaging across Canada
Clinicians in urban centres can review images of patients in rural areas instantly.

Reduces lag time for diagnosis and need for travel, and lowers health care cost.

76% filmlessness achieved in Canada.

Will generate ~$1 billion/yr in health-system efficiencies once fully implemented.

Productivity increases equivalent to up to 500 additional specialists once investments are complete.

25-30% increase in radiologists’ productivity.

As many as 40 per cent of radiologists report providing services to new or remote sites.

Reduced patient transfers.
DI Systems use and benefits

Optimization of Radiologist capacity, as a result of PACS, has allowed fewer radiologists to cover more sites and greater distances...” Admin. Director DI, Fraser Health Authority, BC

With full implementation, the 25-30% increase in radiologist productivity equates to adding 450-540 radiologists to the system.

Availability of care

Telehealth
Supports the provision of clinical services over long distances.

Investments in telemedicine, telehomecare, and telelearning.

Enables patients to remain in their communities for some or all of their care.

Targeted at northern, remote, rural and aboriginal communities.
Quality of care

Web Synoptic Medical Records
Structured abstract employing key words to record clinically relevant elements, made available electronically for cancer patients developed by Alberta Cancer Board and health region clinicians.

Represents a new standard for clinical care.

Opportunity exists to apply to all surgeries downstream.

In the past, 85% of reports were submitted over one month following the surgery. Now, 91% of surgical reports are submitted through WebSMR within one hour of surgery.

WebSMR reports contain 100% of mandatory data, compared to narrative report types missing 53% of data.

In use for peer-to-peer reviews, quality assurance and teaching best practices.

Functioning synoptic reporting systems now in multiple provinces including Alberta, Manitoba, Ontario, Quebec and Nova Scotia.

Quality of care

Alberta Netcare
Electronic health record which includes demographic, diagnostic imaging, drug, laboratory and hospital data.

More than 22,500 authorized health care providers are active users of the electronic health record.

“Our staff can now focus on better patient care instead of the administrative side of the way the office runs.” Dr. Allen Ausford, Edmonton
Improving the management of chronic disease

Alberta’s CDM registry
EHR-based clinical tool to capture and track key patient information.

Provides timely information to multidisciplinary teams and helps identify patients with diabetes to improve the management of the disease.

Involves patients in their own care regimen.

Generates list of high-risk patients enabling care providers to follow-up proactively.
Registry provides better information on disease prevalence:
• Administrative system indicated only 4.4% of the population in Edmonton has diabetes; the CDM registry shows the prevalence at more than 8%.
• The registry contains data on 14,000 diabetic patients, 63% of whom are in optimal control (compared to the national average of 51%).

Consolidate successes and create more change

7. Consolidate successes and create more change
Desired future state – Clinician
Clinicians can access, modify and manipulate comprehensive health information
- Data that is context-relevant to support clinical decisions
- To plan and manage care with the patient
- Where and when it is needed

Desired future state – Government
All governments place a high priority on a pan-Canadian e-health strategy as a means to broad sustainability and enhancement of the health system for citizens
Prepare to fund
Act to ensure systems are put into action
- Policy
- Incentives
- Legislation / regulation
- Education
Cooperate and collaborate
Desired future state – Public

People demand a more modern, consumer friendly experience in their interactions with the health care system.

Individuals demand convenient access to their health information and expect that it will be available electronically in real-time to support clinical intervention and decision making at any point where they access the health care system in Canada.

This will ensure increased trust, confidence and quality in a sustainable health care system.

Public education campaign

To increase awareness and understanding of importance of electronic health records:
- Targeted advertising
- Web site with detailed information
- Advertising in fall 2010 and spring 2011

Public support and awareness of EHRs is building:
- 90% support with campaign’s target audiences
TV campaign

This spot demonstrates that with EHRs, the doctor can see what medication the patient has been prescribed and provide a better quality of care.

knowingisbetter.ca

Imagine challenges

Identify, trial and advance novel innovations with strong potential to deliver value for clinicians and patients in the short term

Outcomes challenges
- Are judged on results (e.g. number of patient appointments scheduled online)
- More than $1 million in awards
- First outcomes challenge launched May 4, 2011

Ideas challenges
- Seek bold new ideas
- More than $35,000 in awards
- First ideas challenge launched in March 2011

imagineNationchallenge.ca
Formalize the new approach

- Communicate
- Communicate
- Communicate
- Engage

Challenges to overcome

- Project slippage
- Slower than expected clinician uptake
- Adequate funding not available
- Failure to deliver viable, interoperable EHR solutions
- Privacy and security breaches
- Insufficient skilled human resources
- Failure to demonstrate expected benefits
- Need to build social capital
The promise

- Increased patient participation in care
- Well-managed chronic illness
- Improved access to care in remote and rural communities
- Fewer adverse drug events
- Better prescribing practices
- Reduction in duplicate or unnecessary tests
- Reduced wait times
- Saving lives

Thank you