



Annual Review Breakfast with the Chiefs Toronto, Ontario

June 7, 2006
Richard Alvarez, President and CEO

The Monster of the Swamp - the elusive EHR!

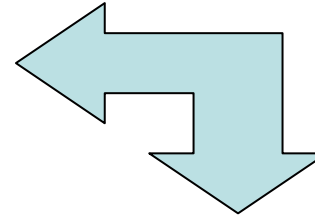


The Swamp



Last Year, In Canada

- **35 million Diagnostic Images**
- **440 million Laboratory Tests**
- **2.8 million Inpatient hospitalizations**
- **382 million Prescriptions filled**
- **3.4 million Vioxx Prescriptions in 2003 for patients that had to be contacted in 2004**
- **322 million office-based physicians visits - 94% resulting in handwritten paper records**
- **60,000 physicians faced 1.8 million new medical papers in 20,000 journals and 300,000 clinical trials**



About 2,000 health care transactions per minute, many quite complex, and all requiring documentation and information flow

**Information is the Lifeblood of our
Healthcare System!**

In spite of spectacular advances in medicine, the foundation of healthcare delivery is still primarily paper-based



“The most remarkable feature about twenty-first century medicine is that we hold it together with nineteenth century paperwork.”

US Secretary Tommy G. Thompson, Washington, D.C., May 6, 2004.

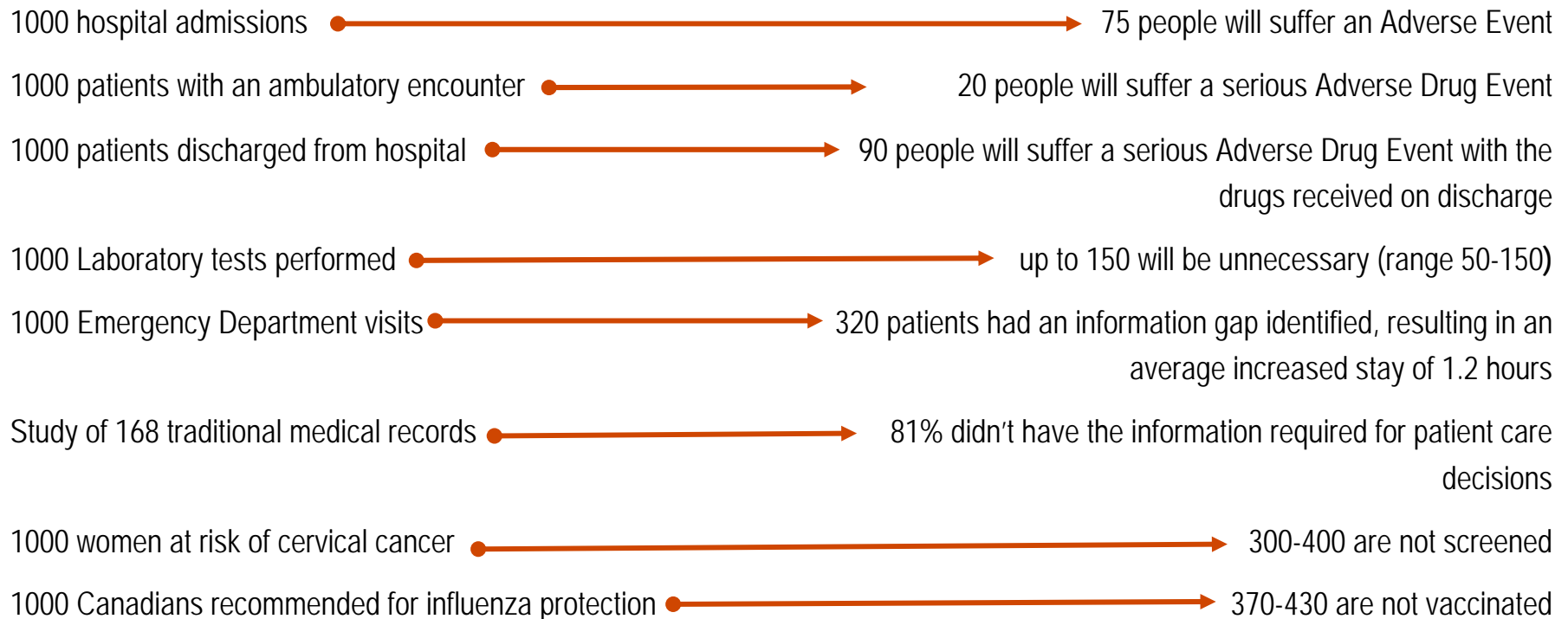
How has our dependence on 19th century paper records impacted our ability to meet the challenges of 21st century health care?

Electronic Health Records

Healthcare In Canada – The Challenges

For Every

.... in Canada



Up to our Proverbial Elbows



Recognizing the Need for Electronic Health Records



QUALITY



ACCESS

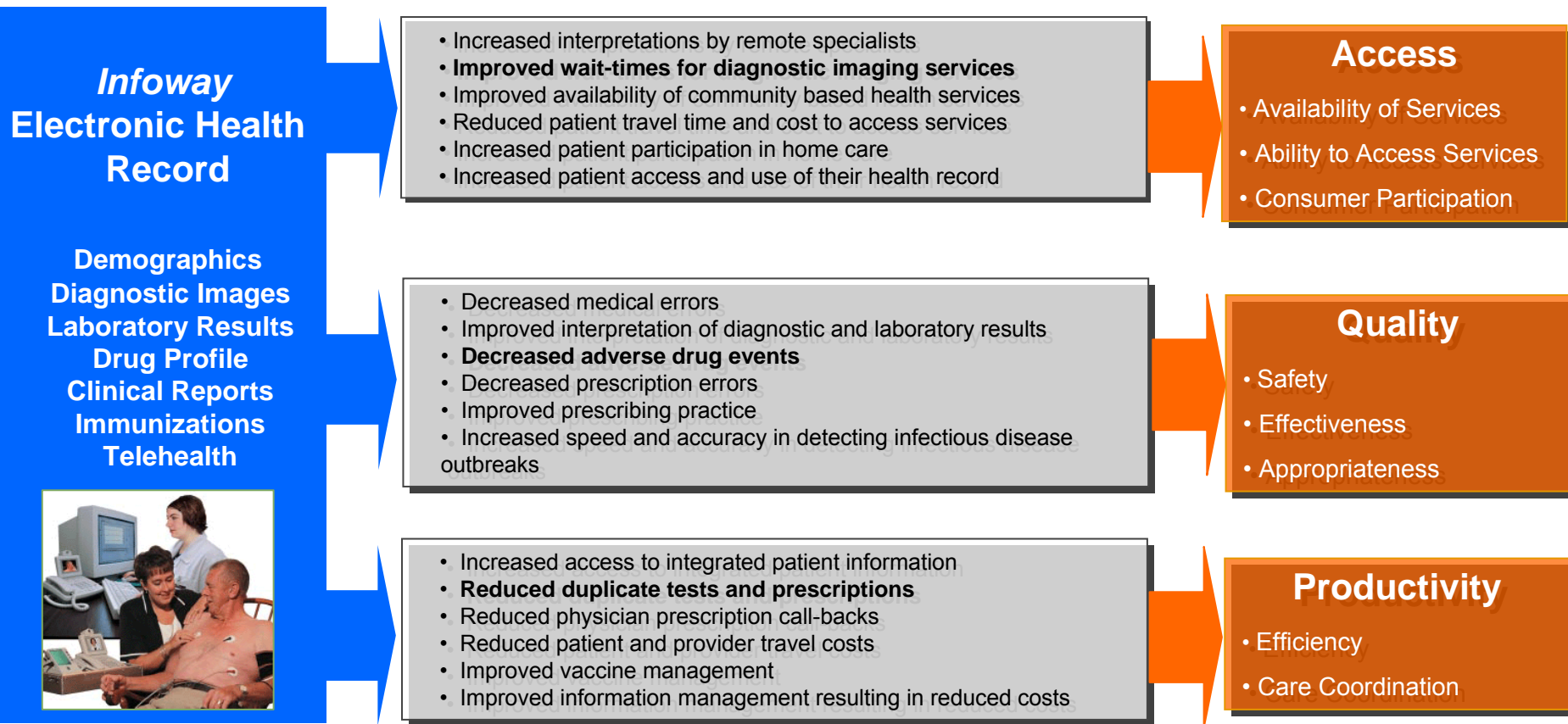


PRODUCTIVITY



Electronic Health Records

The Benefits



Booz Allen Hamilton have identified benefits exceeding \$6 billion annually that could be realized from the Infoway EHR investment



Electronic Health Records

Healthcare in Canada – the Priorities

- Improving access
- Wait time reduction
- Health human resources
- Home care
- Primary care reform
- National pharmaceuticals strategy
- Public health
- Health innovation
- Aboriginal health
- Accountability

Ten Year Plan to Strengthen Health Care (2004)

“..... First Ministers agree to accelerate the development and implementation of the electronic health record, including e-prescribing. To this end, First Ministers commit to work with Canada Health Infoway to realize the vision of the electronic health record through an ambitious plan and associated investment.....”

This is the complex and rapidly changing environment into which *Infoway* has been challenged to introduce the electronic health record

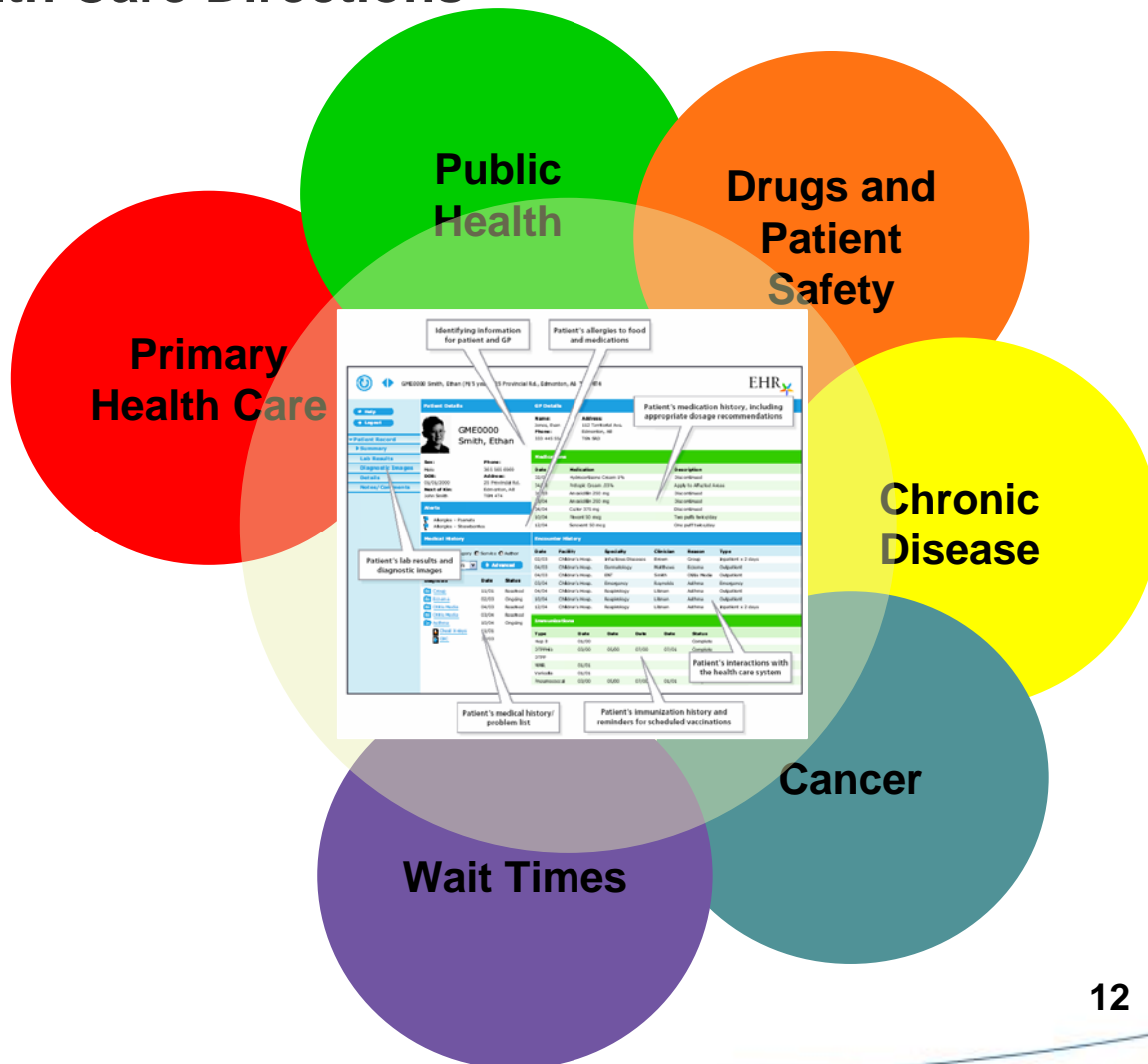


Electronic Health Records

Supporting National Health Care Directions

Electronic health record systems can help improve patient health outcomes, decrease duplication, error and costs; and reduce waits. Without electronic health records, national directions to improve primary health care, public health, drugs drug and patient safety, chronic diseases, cancer and wait times will not be successful.

Electronic health record systems form the foundation for a health information and communications infrastructure that can enable modern health care delivery.



Electronic Health Records

Electronic Health Records in Canada

- Electronic health records give authorized providers rapid access to their patients' complete, up-to-date health information

An Electronic Health Record (EHR) is a secure and private lifetime record of an individual's key health history and care. It creates significant value, providing a longitudinal view of clinical information. The record is available electronically to authorized health care providers and the individual anywhere and anytime in the support of care

- A network of interoperable electronic health record solutions is being implemented in Canada – one that links clinics, hospitals, pharmacies and other points of care
- Will help improve Canadians' access to health services, enhance the quality of care and patient safety, and assist the healthcare system to become more efficient and effective.



EHR 

GME0000 Smith, Ethan (M/5 years) 25 Provincial Rd., Edmonton, AB T6M 4T4

Help

Logout

▼ Patient Record

- ▶ Summary
- Lab Results
- Diagnostic Images
- Details
- Notes/Comments

Patient Details



GME0000 Smith, Ethan

Sex: Male
DOB: 01/01/2000
Next of Kin: John Smith

Phone: 365 565 6969
Address: 25 Provincial Rd. Edmonton, AB T6M 4T4

Alerts

- Allergies - Peanuts
- Allergies - Strawberries

GP Details

Name: Jones, Evan
Phone: 333 445 5555

Address: 112 Tarrkofal Ave. Edmonton, AB T6N 5R3

Medications

Date	Medication	Description
02/03	Hydrocortisone Cream 1%	Discontinued
04/03	Protopic Cream .03%	Apply to Affected Areas
03/03	Amoxicillin 250 mg	Discontinued
03/04	Amoxicillin 250 mg	Discontinued
04/04	Coclor 375 mg	Discontinued
10/04	Flovent 50 mcg	Two puffs twice/day
12/04	Sarvent 50 mcg	One puff twice/day

Medical History

Category Service Author

Advanced

Category	Date	Status
Croup	11/01	Resolved
Eczema	02/03	Ongoing
Otitis Media	04/03	Resolved
Otitis Media	03/04	Resolved
Asthma	10/04	Ongoing
Chest X-rays	11/01	
CBC	03/03	

Encounter History

Date	Facility	Specialty	Clinician	Reason	Type
02/03	Children's Hosp.	Infectious Diseases	Brown	Croup	Inpatient x 2 days
04/03	Children's Hosp.	Dermatology	Matthews	Eczema	Outpatient
04/03	Children's Hosp.	ENT	Smith	Otitis Media	Outpatient
03/04	Children's Hosp.	Emergency	Reynolds	Asthma	Emergency
04/04	Children's Hosp.	Respirology	Litman	Asthma	Outpatient
10/04	Children's Hosp.	Respirology	Litman	Asthma	Outpatient
12/04	Children's Hosp.	Respirology	Litman	Asthma	Inpatient x 2 days

Immunizations

Type	Date	Date	Date	Date	Status
Hep B	01/00				Complete
DTPPHib	03/00	05/00	07/00	07/01	Complete
DTPP					
MMR	01/01				
Varicella	01/01				
Pneumococcal	03/00	05/00	07/00	01/01	

Identifying information for patient and GP

Patient's allergies to food and medications

Patient's medication history, including appropriate dosage recommendations

Patient's lab results and diagnostic images

Patient's medical history/ problem list

Patient's immunization history and reminders for scheduled vaccinations

Patient's interactions with the health care system

The Drainage begins



Canada Health Infoway

- **Mission**

- To foster and accelerate the development and adoption of electronic health information systems with compatible standards and communications technologies on a pan-Canadian basis, with tangible benefits to Canadians. To build on existing initiatives and pursue collaborative relationships in pursuit of its mission.

- **Goal**

- *Infoway's* plan is to have an interoperable electronic health record in place across 50 per cent of Canada (by population) by the end of 2009.

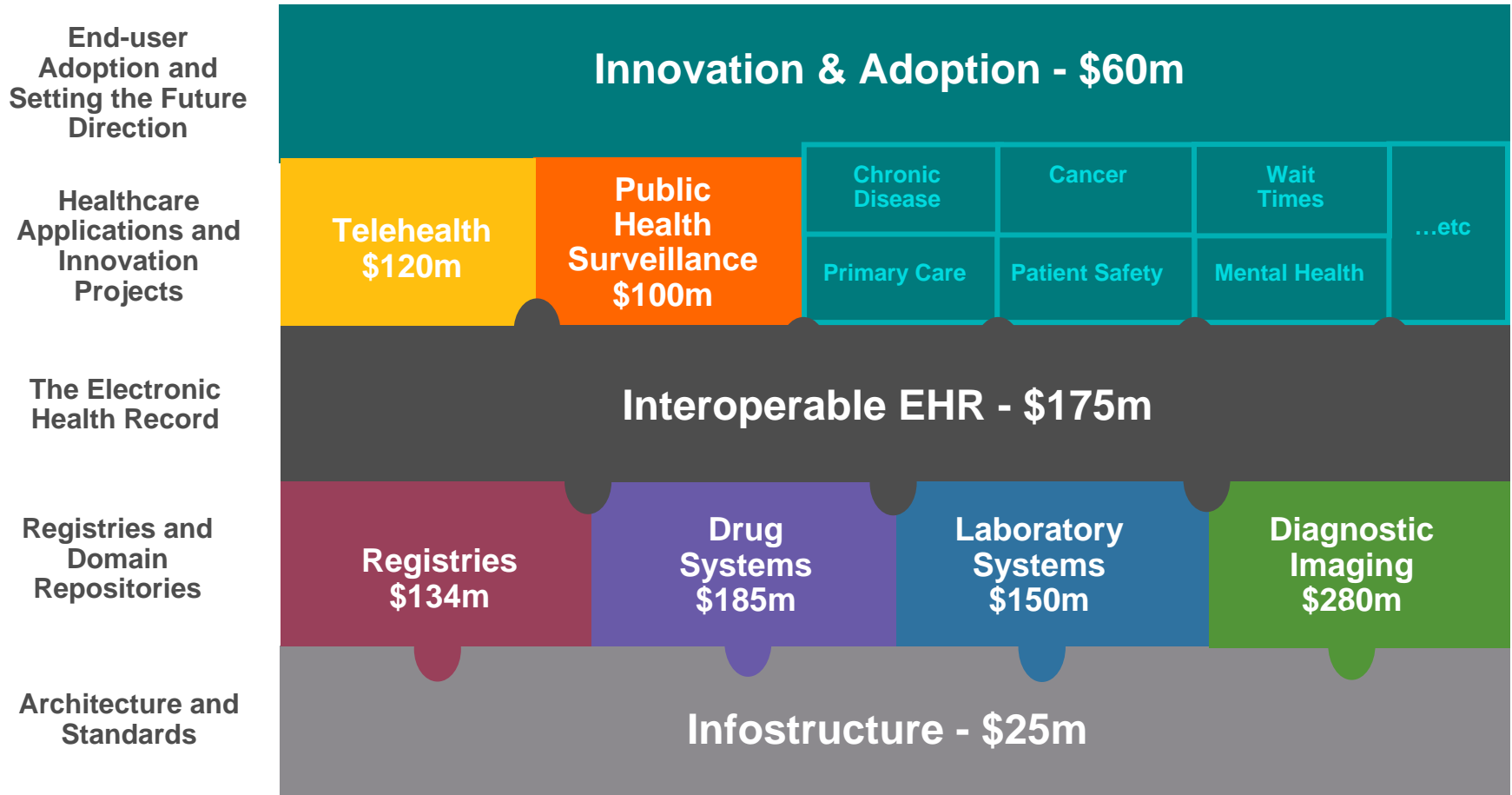


Infoway Strategies

- ▶ **Targeted Investment Programs** - focused on nine strategic investment programs
- ▶ **Collaboration with Health Ministries and Other Partners** - joint planning with health ministries and other parties to ensure alignment
- ▶ **Co-Invest with Public Sector Partners** - share the investment in projects with our public sector partners
- ▶ **Leveraged Investment** - invest in solutions that can be replicated across the country
- ▶ **Form Strategic Alliances with the Private Sector** - form strategic alliances with the private sector to implement standards-based commercial solutions that reduce cost and risk
- ▶ **Manage Risk and Ensure Quality Solutions** – work with both public and private sectors to proactively manage project risk and implement quality solutions
- ▶ **Focus on End-User Acceptance** - early and ongoing focus on end-users to gain acceptance and adoption
- ▶ **Measure Benefits and Adjust** - continually measure the benefits achieved against those planned and make the necessary adjustments



Strategic Investment Programs



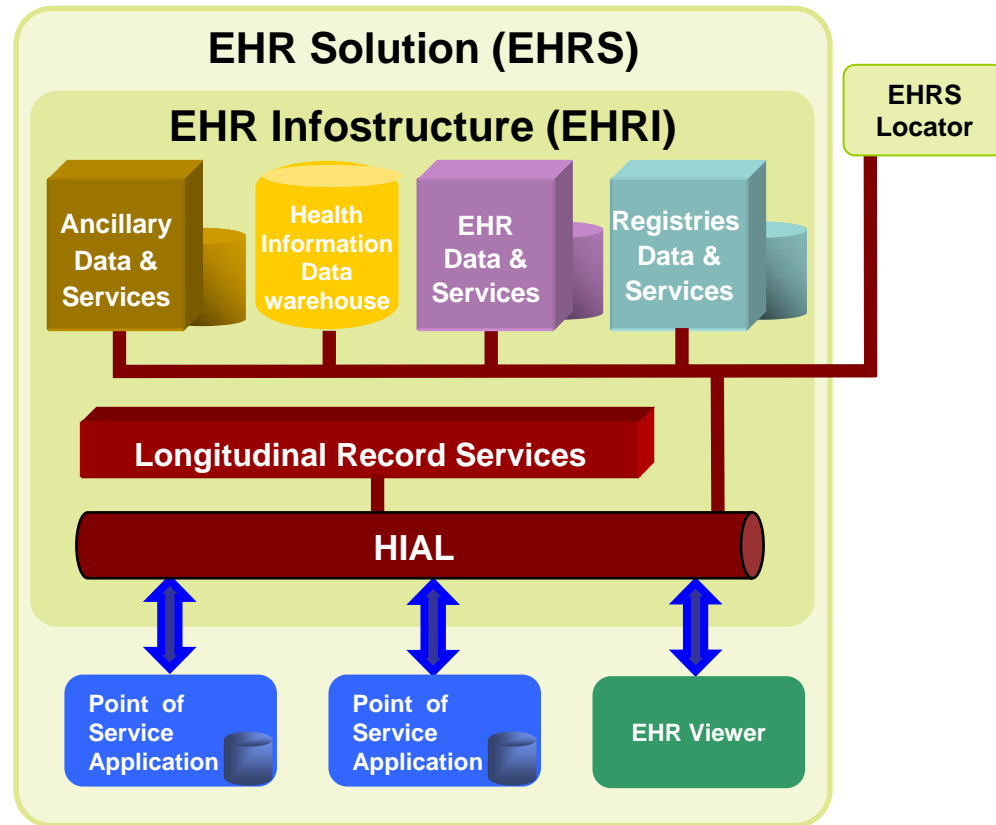
Infoway Architecture

A Common Blueprint

Infoway's electronic health record strategy is founded upon an architecture that integrates local clinical systems with jurisdiction and regional registries and repositories.

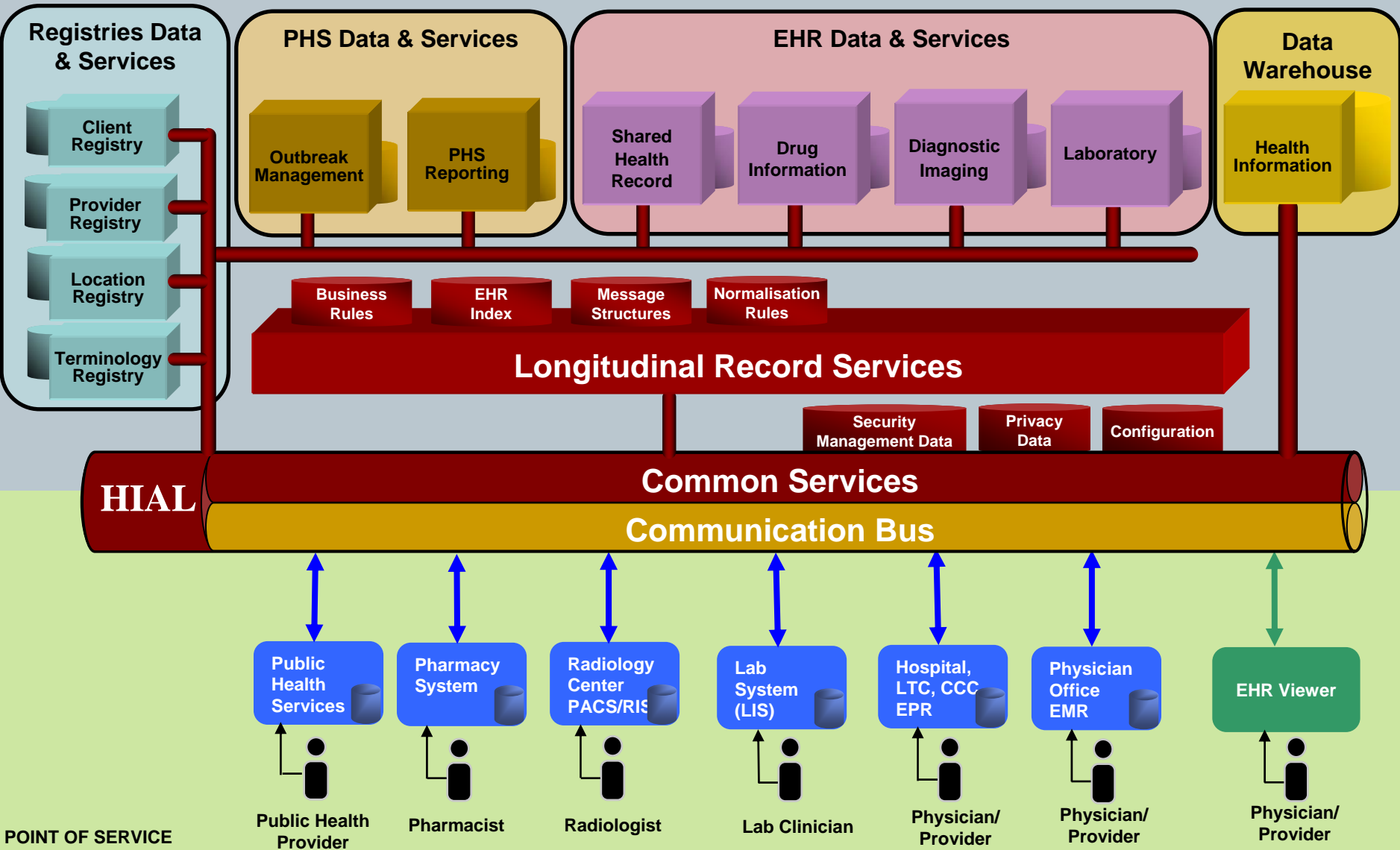
Each of *Infoway's* nine investment programs is targeted toward implementing the common architecture across Canada through a series of linked jurisdiction networks.

The architecture serves as a national reference model to ensure that jurisdiction solutions are interoperable and *Infoway's* investments are appropriate.



EHR: Conceptual Architecture

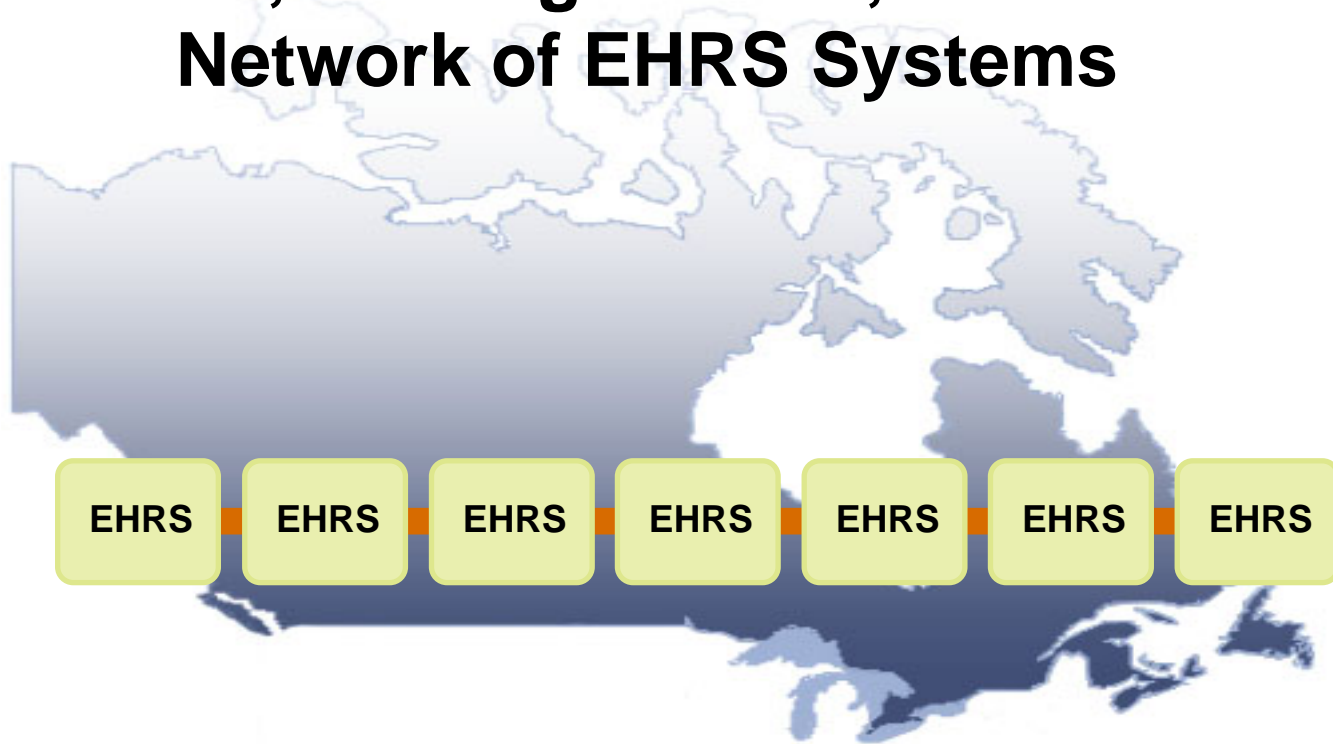
JURISDICTIONAL INFOSTRUCTURE



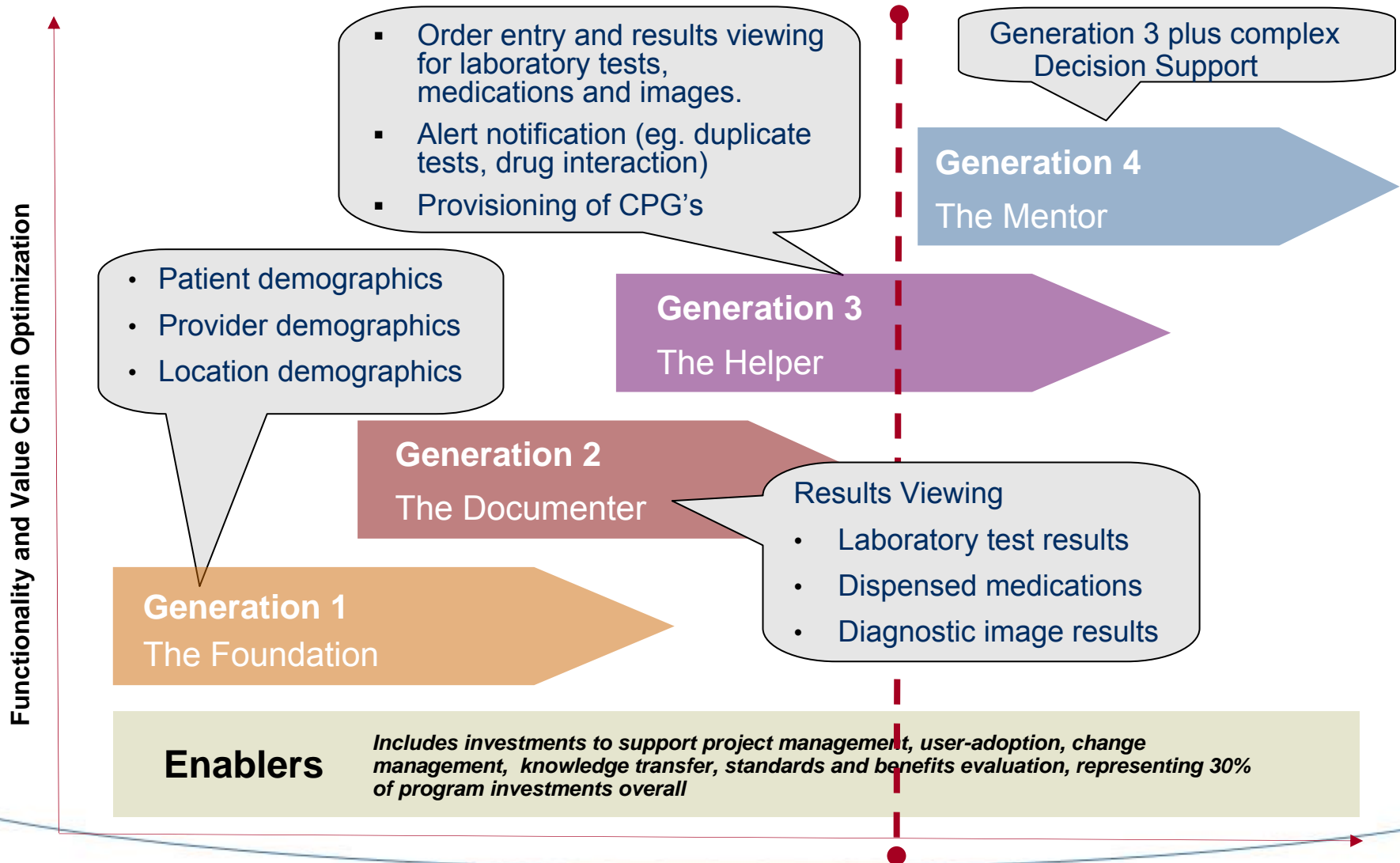
Electronic Health Records

Linked Jurisdiction Networks

Distributed, Message-based, Peer-to-Peer Network of EHRs Systems

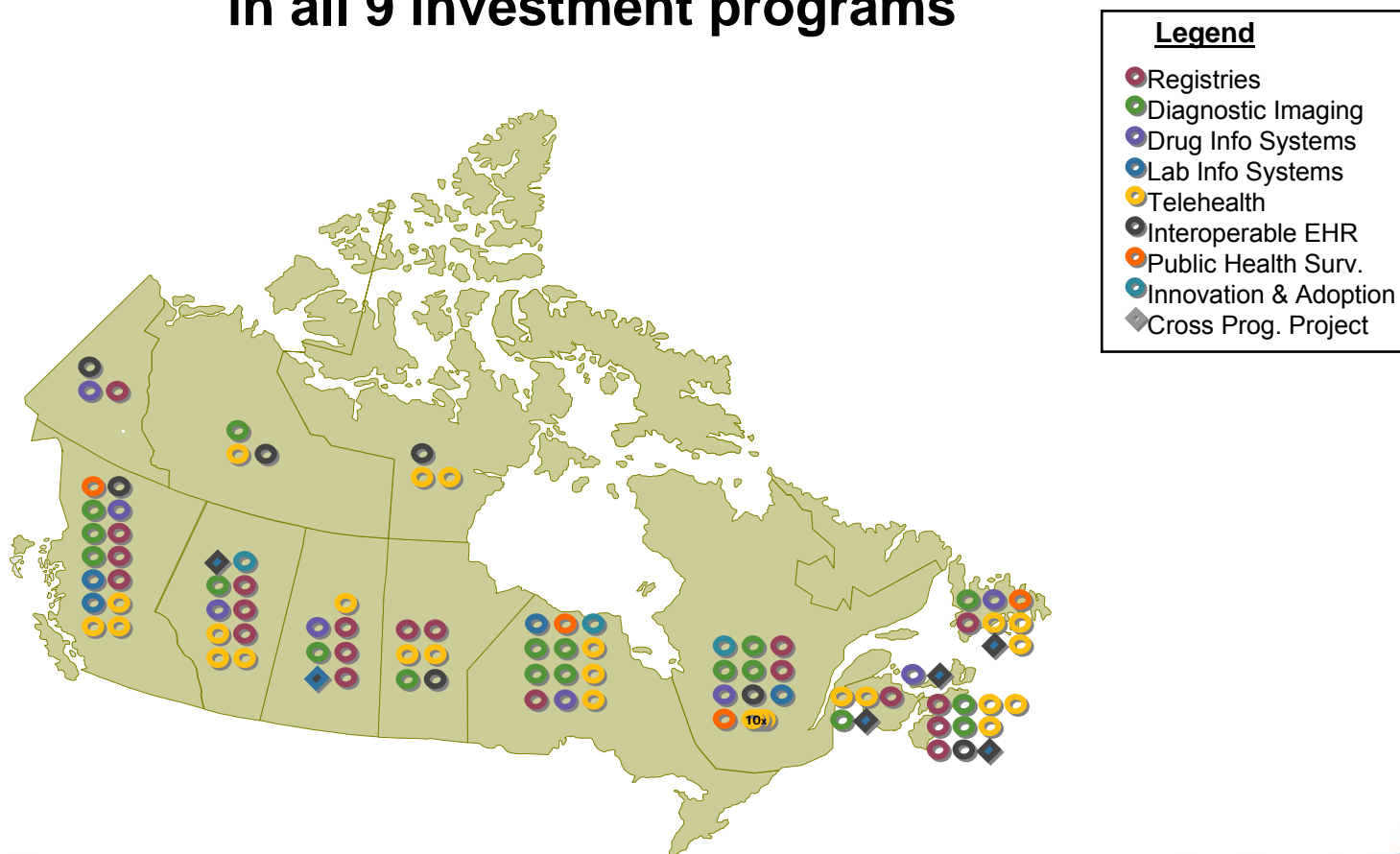


Evolution of EHR



Infoway Projects Coast to Coast

163 active & completed projects valued at **\$702 million**
in all 9 investment programs



Significant Progress in the Past 2 Years

March 2004 = \$125 M

		WEST				ON	QC	EAST				TERRITORIES		
		BC	AB	SK	MB			NB	NS	PE	NL	YK	NT	NU
INVESTMENT PROGRAMS	Telehealth													
	iEHR													
	Laboratory													
	Drug		●	▲		▲								
	DI	●				●								
	Provider Reg.	●	●	●	●									
	Client Reg.		●							■	●			

March 2006 = \$704 M

		WEST				ON	QC	EAST				TERRITORIES		
		BC	AB	SK	MB			NB	NS	PE	NL	YK	NT	NU
INVESTMENT PROGRAMS	Public Health	▲				▲	▲	▲	▲	▲	▲			
	Telehealth	▲	●	●	●	▲	●	●	●	▲	▲			▲
	iEHR	▲	●	▲	▲	▲	▲●	▲	▲	●	▲	▲	▲	▲
	Laboratory	●	●	▲	▲	●	▲	▲	▲	●	▲	▲	▲	▲
	Drug	▲	●	●	▲	●	▲		▲	●	●	▲	▲	▲
	DI	■●	●	▲	●	▲●■	●	●	●	■	●	▲	▲	▲
	Provider Reg.	■	■	■	■		▲	▲	▲	▲	▲	▲	▲	▲
	Client Reg.	●	■●	●	●	●	●	▲	▲	■	■	▲	▲	▲

▲ Phase 0/1 Projects ● Phase 2 Projects ■ Completed



All at Different Stages of Progression

Canada-wide Public Health Surveillance

All 14 provincial, territorial and federal governments agreed to adopt a single Public Health Surveillance solution to ensure efficient inter-working among their systems. A vendor has been selected and development is on track in 2006/7. B.C. is managing procurement of the components required for rollout across the country,

British Columbia: Leveraging Past Investments for an EHR

BC is extremely well positioned to implement With significant past investments DI, lab, drug, and hospital information systems BC will quickly implementing an electronic health record across the province.

Alberta: netCare Alberta-bound

Alberta is leveraging Capital Health's netCare viewer for province-wide use in iEHR and Lab information systems.

Saskatchewan: Checks Med Safety

Drug prescribing has become safer, with one of the first provincial systems covering "all drugs, all people."

Quebec: Networking 62 Hospitals

The McGill - Montreal RUIS repositories for diagnostic imaging system will be the largest in Canada. They will benefit almost two-thirds of Quebecers by networking 62 institutions and the major private clinics, performing a total of 6.1 million imaging exams a year .

Manitoba: Telehealth Calling

Manitoba has doubled its network from 26 to 43 sites, providing access to health care services to 10 northern First Nations and 7 Franco-Manitoban communities throughout the province

Ontario: Keeping Tabs on Labs

The first of nearly 200 hospitals and community labs are going "live" in 2006, providing on-line viewing of Lab results through links with hospitals and 10,000 doctors' offices.

Newfoundland & Labrador: Province-wide eProgress

The province-wide Drug Information System underway supports e-prescribing, providing better access for physicians and pharmacists to residents' complete medical information.

Nova Scotia: Farewell to Film

Almost 100% filmless - medical professionals in Nova Scotia's hospitals will be able to access patients' complete lab results, images and patient history from anywhere in the province by 2006/7.

PEI: Island-Wide iEHR

By the end of 2007, PEI's clinicians will be able to see a patient's lab results, medication and diagnostic images on on-screen, from anywhere on the island.



Leveraging the EHR for Innovative Health Care

Quebec MSSS

Infoway's investment in electronic patient evaluation and service planning solutions will optimize quality and continuity of care for vulnerable populations.

British Columbia Ministry of Health Newfoundland & Labrador's Eastern Health

Infoway's planned investment in pilots for province-wide adverse events reporting, analysis and management will support improved quality of care and patient safety.

Sherbourne Health Centre

Infoway's planned investment in remote electronic records for a Health Bus serving the inner city will improve primary care services for the homeless and underhoused.

Sault Ste Marie

Infoway's planned investment to link primary care providers and pharmacists will improve the quality of care.

Vancouver Island Health Authority

Infoway's investment in EHR-based clinical decision support tools to optimize care within the network of Mental Health & Addictions Services (MHAS).

Scarborough Hospital

Infoway's planned investment in Electronic self-entry (by patients) of patient history in emergency department (ED) using touch-screen kiosks will facilitate faster ED throughput.

Alberta Capital/Calgary Health Regions

Infoway's investment to extend Alberta's iEHR and chronic disease management solutions to primary care teams will support more coordinated management of diabetes, hypertension and other related conditions.

Grand River Hospital

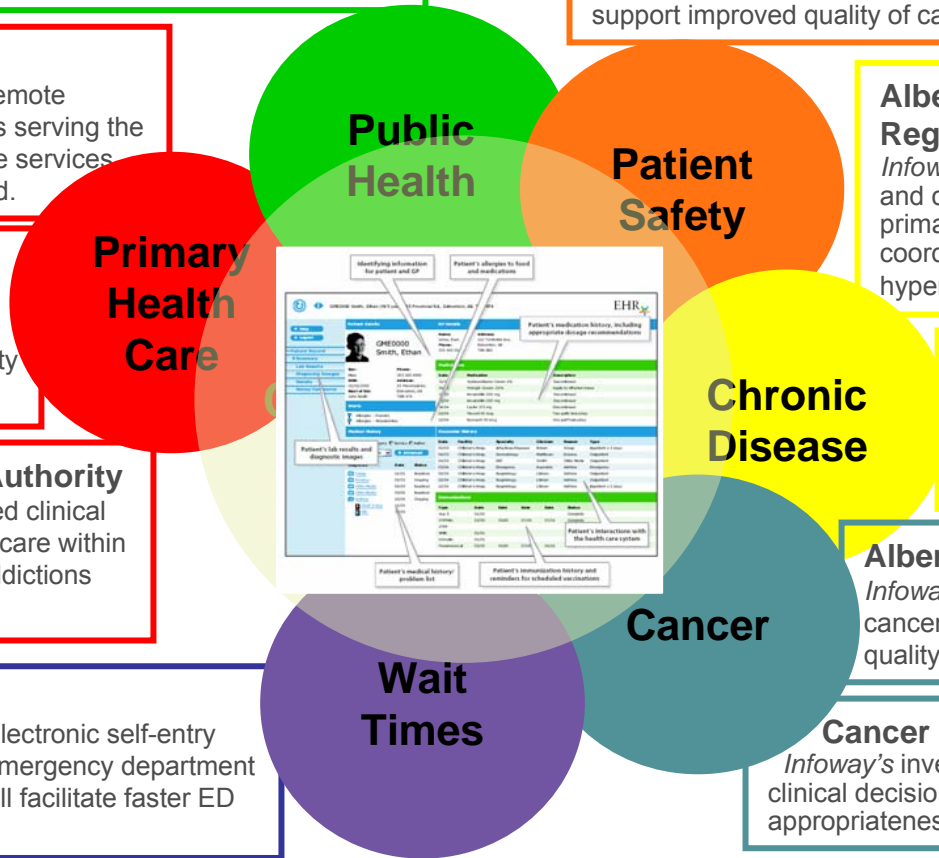
Infoway's planned investment in a patient portal will provide access to health information for cancer and renal patients.

Alberta Cancer Board

Infoway's investment in synoptic reporting for cancer surgery will improve data collection and quality surgical management of cancer patients.

Cancer Care Ontario

Infoway's investment in computerized order entry and clinical decision support will improve accuracy and appropriateness of systemic therapy for cancer patients.



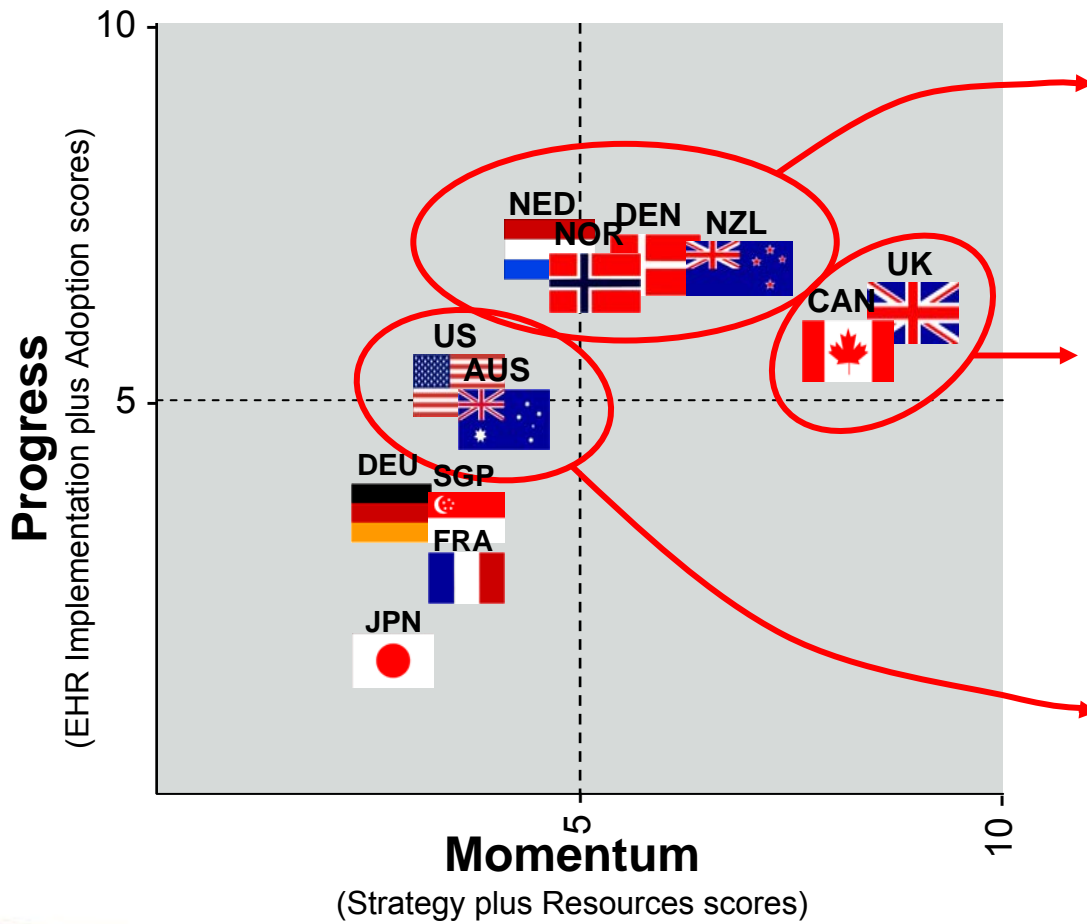
Adding Value at Every Step

- Joint Governance
- Joint Planning (Rolling 3 years)
- Predictable Funding
- Common Solutions Architecture
- Common ICT Standards
- Common Procurement
- Common Solutions
- National Pricing
- Shared Services
- Knowledge Sharing
- Global leaders – exporting expertise



The Global Scene

The International Milieu



A number of nations have made significant e-health progress, with widespread EMR adoption, electronic communication and data sharing (e.g. lab results). However their future momentum is hindered by the lack of comprehensive strategies and/or funding for achieving a nationwide EHR.

Canada and the UK lag slightly behind some others in EHR progress – New Zealand, Denmark, Norway and the Netherlands. However, both Canada and the UK have strong focussed national strategies and significant resource commitments to provide these nations the momentum to become the global leaders in the next 3 years.

The US and Australia currently lack momentum towards an EHR. Both have national strategies but currently lack the funding to successfully execute the strategy. With funding both could quickly join the leading nations.



ONTARIO

“We believe investing in e-Health – using information technology to manage health, arrange, deliver and account for care, and manage the health care system – will do the most to improve all attributes of a high-performing health system”.

Ontario Health Quality Council, 2006 first annual report



ONTARIO

- Ontario e-Health Strategy finalized by June 2006
- LHIN e-Health Leads Council established in February 2006
- Ministry funding provided to LHINs for the development of LHIN-specific e-Health Strategic Plans. Plans to include:
 - A current state assessment
 - LHIN e-Health Initiative Prioritization and Resource Allocation
 - Communication Strategy
- Alignment of LHIN e-Health strategies to provincial strategy to be completed June to October 2006
- Smart Systems for Health - re-vitalized Board



ON Infoway Investments

- Client Registry – in implementation
- Diagnostic Imaging
 - Successful completion of Thames Valley initiative
 - Implementation underway for Southwestern Ontario, Toronto East Network (TEN) and Pan Northern Ontario PACS Project
 - TEN team in joint procurement of DI/PACS with SK and QC
- Drug - ED Drug Profile Viewer fully deployed in all ON hospitals by fall 2006 (over 100 sites installed to date)
- Lab - first JLIS in Canada
 - system is operational



ON Infoway Investments (cont'd)

- Public Health Surveillance
 - Planning project near completion
 - Implementation this fiscal year
- Telehealth – Integration planning nearing completion
 - Ontario Telehealth Network (OTN) established
 - Further telehealth investments targeted for this fiscal year
- Innovation and Adoption
 - The eHealth Collaboratory (with Global Centre for e-Health Innovation at UHN)
 - Expansion of chemotherapy CPOE (Cancer Care Ontario)
 - Numerous ON initiatives to be approved by end of Q2



ONTARIO

- A provincial e-Health strategy is a key milestone to moving the agenda forward
- Broad based support and collaboration among healthcare leaders in ON is crucial to success



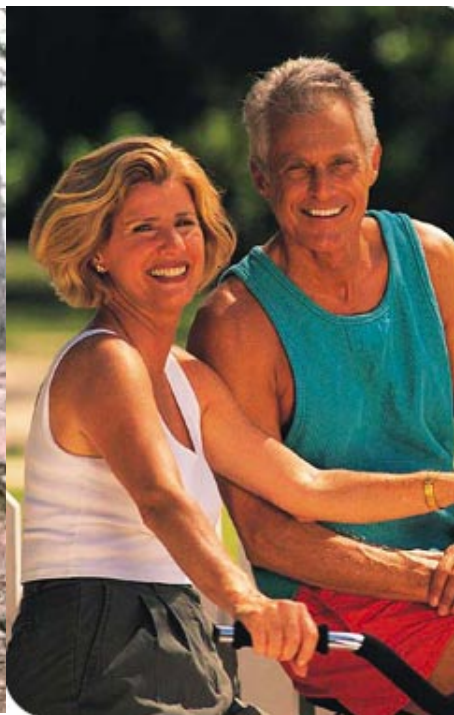
Monsters to watch out for



Challenges

- Physician automation
- Adoption and acceptance by healthcare professionals
- Ability of some jurisdictions to support several programs as priorities
- Privacy
- Human Resources: capacity and capability
- Interoperability
- Vendors
- Capitalization





Thank you

