Canada Health Infoway

EHR's in the Canadian Context

June 7, 2005

Mike Sheridan, COO

Canada Health Infoway

Healthcare Renewal In Canada

National Healthcare Priorities

A 10-year Plan to Strengthen Healthcare (2004)

- Improving access

- Wait time reduction

- Health human resources

- Home care

- Primary care reform

- National pharmaceuticals strategy

- Public health

- Health innovation

- Aboriginal health

- Accountability

The evidence demonstrates that an interoperable pan-Canadian electronic health record will significantly reduce the number of deaths and injuries due to medical errors

Booz Allen Hamilton, EHR ROI, March 2005

Canada Health Infoway
Inforoute Santé du Canada

Healthcare Renewal In Canada

National Healthcare Priorities

Attempting to Address Canada's Healthcare Challenges

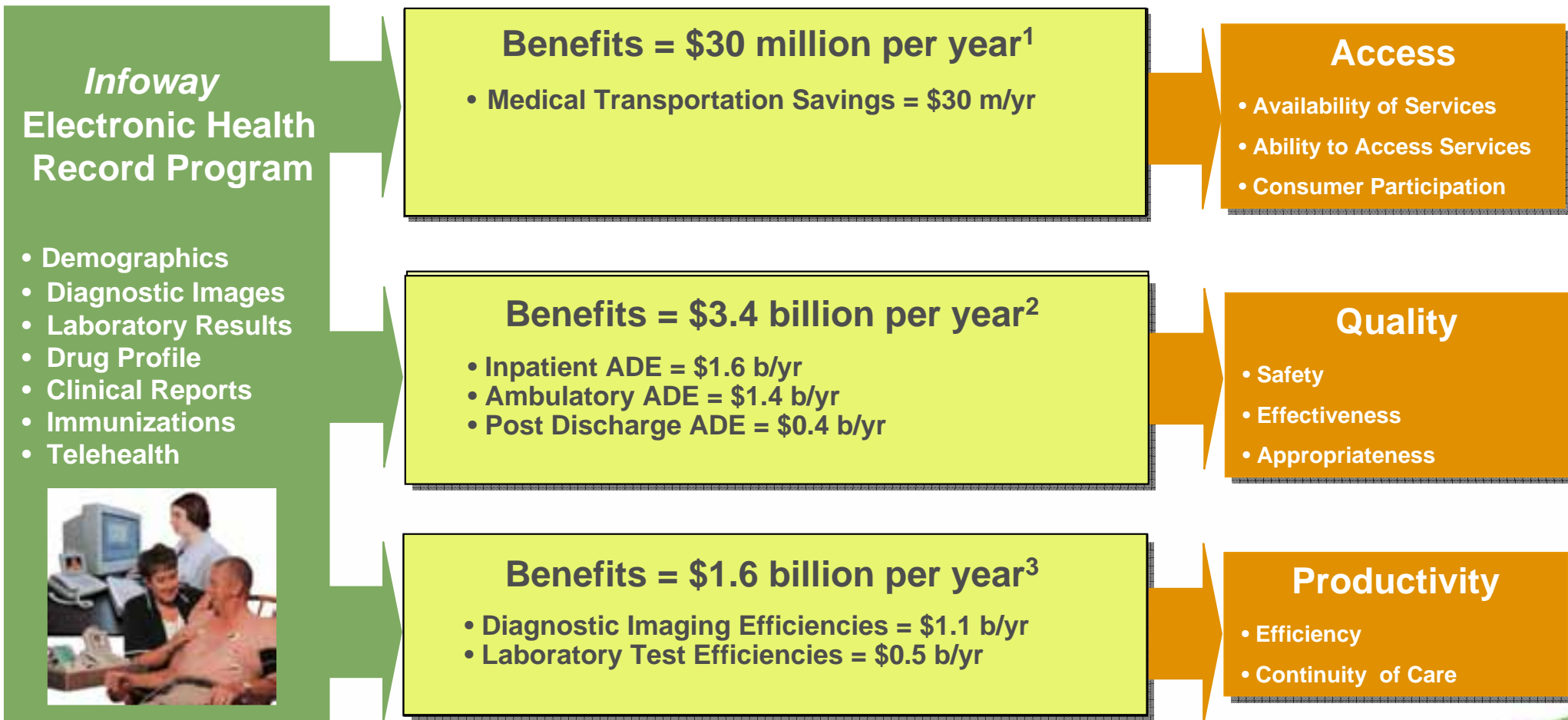| For Every ….	…. in Canada
1000 hospital admissions	75 people will suffer an Adverse Event
1000 patients with an ambulatory encounter	20 people will suffer a serious Adverse Drug Event
1000 patients discharged from hospital	90 people will suffer a serious Adverse Drug Event with the drugs received on discharge
1000 Laboratory tests performed	up to 150 will be unnecessary (range 50-150)
1000 Emergency Department visits	320 patients had an information gap identified, resulting in an average increased stay of 1.2 hours
Study of 168 traditional medical records	81% lacked the information required for patient care decisions
1000 women at risk of cervical cancer	300-400 are not screened
1000 Canadians recommended for influenza protection	370-430 are not vaccinated

Canada Health Infoway / Inforoute Santé du Canada

Electronic Health Records

The Benefits of Electronic Health Records and *Infoway's* Priorities

Infoway Electronic Health Record Program

- Demographics
- Diagnostic Images
- Laboratory Results
- Drug Profile
- Clinical Reports
- Immunizations
- Telehealth

Benefits = $30 million per year[1]

- Medical Transportation Savings = $30 m/yr

Access

- Availability of Services
- Ability to Access Services
- Consumer Participation

Benefits = $3.4 billion per year[2]

- Inpatient ADE = $1.6 b/yr
- Ambulatory ADE = $1.4 b/yr
- Post Discharge ADE = $0.4 b/yr

Quality

- Safety
- Effectiveness
- Appropriateness

Benefits = $1.6 billion per year[3]

- Diagnostic Imaging Efficiencies = $1.1 b/yr
- Laboratory Test Efficiencies = $0.5 b/yr

Productivity

- Efficiency
- Continuity of Care

Sources
1. Health Canada – Telehealth Evaluation
2. Booz Allen Hamilton – EHR ROI Model
3. Courtyard Group – DI ROI Model

4

Canada Health Infoway Inforoute Santé du Canada

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.

Shared Governance Facilitates Collaboration

Canada Health Infoway is an independent not-for-profit organization, whose Members are Canada's 14 federal, provincial and territorial Deputy Ministers of Health.

Vision

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

Goal

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

Canada Health Infoway / Inforoute Santé du Canada

Canada Health Infoway

The Strategic Investor Role

Funder	Strategic Investor	Intervener	Developer
"Fund & ignore"	*"Invest, advise & monitor"*	*"Work alongside & take over if needed"*	*"Write code & build modules"*
- Grants funding - Is uninvolved in project execution - Checks on status of phase-based deliverables	- **Invests with Partners** - **Involved in project planning** - **Monitors progress of projects and quality of deliverables** Gated funding approach allows management of risk	- Invests with partner - Involved with partner in planning, and execution - Ensures success through ongoing, active participation or intervention when something goes wrong	- Invests independently - Engages potential partners in needs analysis and testing - Aims for speed and success by working without a partner or on behalf of a future partner

Infoway also provides leadership in setting the strategic direction and standards for EHR deployment across Canada

Canada Health Infoway | Inforoute Santé du Canada

Nine Strategic Investment Programs

End user Adoption and Setting the Future Direction

Innovation & Adoption - $60m

The Electronic Health Record

Interoperable EHR - $175m

Domain Repositories and Healthcare Applications

| Drug Information Systems $185m | Laboratory Information Systems $150m | Diagnostic Imaging Systems $220m | Public Health Systems $100m | Telehealth $150m |

Cross Program Components

Client, Provider and Location Registries - $110m

Architecture and Standards

Infostructure - $25m

Canada Health Infoway   Inforoute Santé du Canada

Canada Health Infoway

Bringing Shared Accountability to the Health ICT Investment

The Canada Health Infoway model provides

- **National Agenda** – leveraging what is in place in all jurisdictions through a "network of networks".

- **Shared Governance** – joint governance of large shared investment in a pan-Canadian electronic health record system.

- **Collaboration** – an environment that facilitates participate together as partners.

- **Shared Capitalization** – on a shared investment between Infoway and the jurisdictions.

- **Managed Financial Risk** – minimizes the financial risk of very large ICT investments through joint planning procurements, standards and gated funding.

- **Direct Business Benefits** – an investment model that demands the benefits realized from every project.

- **Pan-Canadian Interoperability** – common architecture and internationally accepted interoperability profiles and standards that ensure interoperability.

Canada Inforoute
Health Santé
Infoway du Canada

Seven Business Strategies

Targeted Programs

Leveraged Investment

Collaboration with Health Ministries and Other Partners

Joint Investments with Public Sector Partners

Focus on End-Users

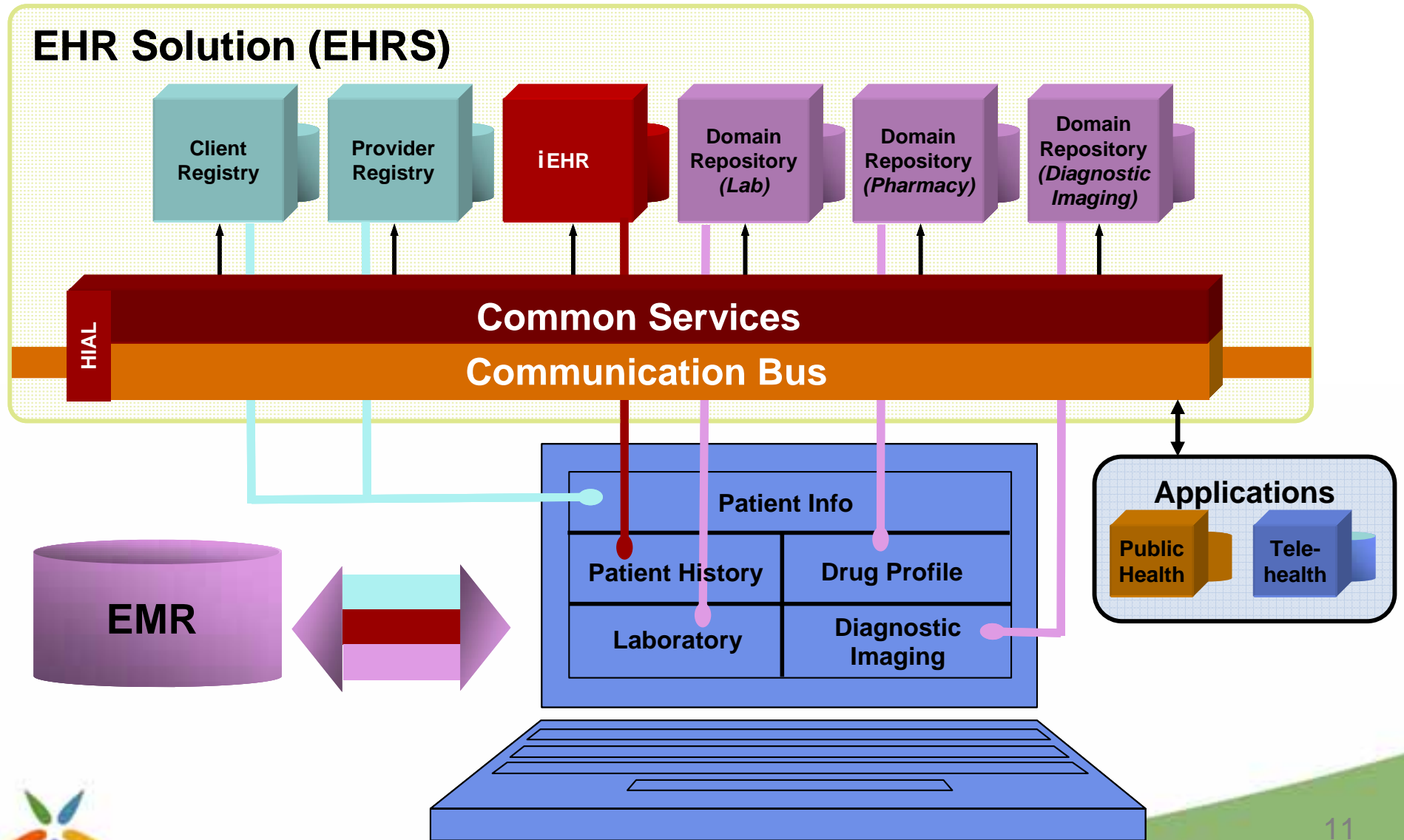**Alliances with the Private Sector**

Measure Benefits and Adjust

Canada Health Infoway
Inforoute Santé du Canada

Key Definition: EHR

EHR

An Electronic Health Record (EHR) provides each individual in Canada with a secure and private lifetime record of their key health history and care within the health system. The record is available electronically to authorized health care providers and the individual anywhere, anytime in support of high quality care.

This record is designed to facilitate the sharing of data – across the continuum of care, across healthcare delivery organizations and across geographies.

Canada Health Infoway   Inforoute Santé du Canada

Healthcare Provider's View of EHR

What Canadians Think About EHRs

Overall, 85% of Canadians support the development of electronic health records, a very high level of endorsement

Specifically, Canadians strongly believe that electronic health records will improve the ability of healthcare providers to provide quality care

Canadians say the following will make them feel more comfortable about electronic health records

• Find out when and who accessed record	**71%**
• Serious criminal offense for unauthorized access	**64%**
• Clear and accessible privacy policy	**61%**
• Ability to access, verify and correct record	**57%**
• Supported by their doctor	**57%**

The Privacy Challenges for Interoperable EHR Solutions

Ensure solutions support privacy and IT security requirements and features between multiple sites and persons

- Consent representation and mechanisms

- Authentication and authorization techniques

- Role based security and privacy

- Contextual access criteria to data

- Trust models between systems

Enabling will be based on

- Use of Privacy Enhancing Technologies and Security Technologies

Appropriate use of IT will make personal health information stored in an EHR secure and private, while increasing the ability to have authorized access to share data for treatment

Canada Health Infoway   Inforoute Santé du Canada

Infoway Privacy Initiatives

Developing the conceptual architecture for privacy, security and consent in support of the interoperable EHR

- Consultations with a broad group of stakeholders
    - Providers of care
    - Health ministries and health regions
    - Privacy commissioners
    - Vendors
    - Experts

Advisory Commission on Information and Emerging Technologies (ACIET)

- Input on privacy and confidentiality policy framework
- Consent management architecture and costing

Privacy in our project investments

- Privacy impact assessments
- Privacy audits

Canada Health Infoway   Inforoute Santé du Canada

Moving Forward …

If properly secured EHR systems offer the potential of increased privacy and confidentiality

- Automate audit and alert capabilities

- Limit who can access what, when

- Automated consent validation and management

- Limit modification of EHR data to authorized personnel

Technology exists today to enforce privacy principles

Designing privacy into the solution will enhance

- Adoption

- Trust

Canada Health Infoway Inforoute Santé du Canada

Challenges:

- **Progress has been slower than planned**

- **Ability of some jurisdictions to support several programs**

- **Adoption / Acceptance by healthcare professionals**

- **Capitalization insufficient to achieve all objectives**

Canada Health Infoway   Inforoute Santé du Canada