



# A Vision for Health Information Systems in Canada: Harnessing the Full Potential of the EHR

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# The Vision

Canada will become “a nation in which complete, accessible and comprehensive information will support improved knowledge and decision making, whether those decisions involve the overall structure and functioning of the health system, treatment or care of an individual.”

— The Honourable Allan Rock, Minister of Health, February 1998

# Research

Research on health services and policy, population and public health depends heavily on the **ready availability of large volumes of existing data about people**. Such data include health surveys; hospital, physician and laboratory records; provincial and federal billing and registration data; birth and death certificates; vital statistics; socio-demographic data; and, employment records.

— “Case Studies Involving Secondary Use of Personal Information in Health Research”  
Canadian Institutes of Health Research,  
December 2001

# Canada has recognized the importance of information

- **Harnessing information is the key to progress.** Policies and practices that promote the use of information will make health care better, safer and more efficient
- Governments in Canada are spending **billions of dollars** on information technology
- The Government of Canada's total investment in EHR systems stands at **\$1.6 billion to date**
- Some experts have estimated the total cost of **implementing EHRs Canada-wide at over \$10 billion**

# An example: Kaiser Permanente

- 8.7 million members, 14,000 physicians, 40 billion in revenues
- Integrated system with extensive EHR/EMR and consumer systems
- Reduction in ER visits, pharmaceutical, lab and imaging, LOS
- 57% reduction in the rate of medication error in one hospital
- 30% reduction in elderly patients with high-risk medications with drug-drug interaction alerts in one region
- Over \$70 million in annual operating savings, additional revenue, \$70+ million capital cost avoidance
- Investment of more than \$4 billion

**...benefits being realized**

# Establishing a formal focus on health system uses of EHR data in Canada

- The need to include “secondary use” of information was identified as a **priority issue** at the Health Information Summit in Kananaskis, January 2008
- Endorsement of the **Conference of Deputy Ministers** to advance the HSU agenda
- Pan-Canadian collaboration to address **strategic and technical aspects**

# Health system use (HSU) of data

The goal is to effectively use information to support the delivery of high quality patient care and improved management of the health system



**Health System Use** is the use of health information for purposes beyond direct patient care, including *clinical program management, health system management, population health surveillance and research*, all of which lead to improved patient care and health outcomes

# Categories of use

## DIRECT PATIENT CARE AND IMPROVED HEALTH OUTCOMES

### Clinical Program Mgmt (inc. QI and DS)

Use of data for direct management of health services and programs including quality improvement and decision support (program level)

**Example:**

*Using data on post-surgical mortality within a hospital to target further investigations and quality improvement efforts*

### Health System Management

Use of data to manage health system performance including analyses, planning, and monitoring, for example

**Example:**

*Using data to aid in setting volume targets for cardiac surgery within a province or region*

### Surveillance (Pop. Health and Health Services)

Use of data for population health services surveillance

**Example:**

*Using ER, primary care, and prescription drug data to detect influenza cases and potential outbreaks on a real-time basis*

### Research

Use of data for research

**Example:**

*Use of data to strengthen medical and health research, such as identifying cures, treatments and important breakthroughs*

Health System Use

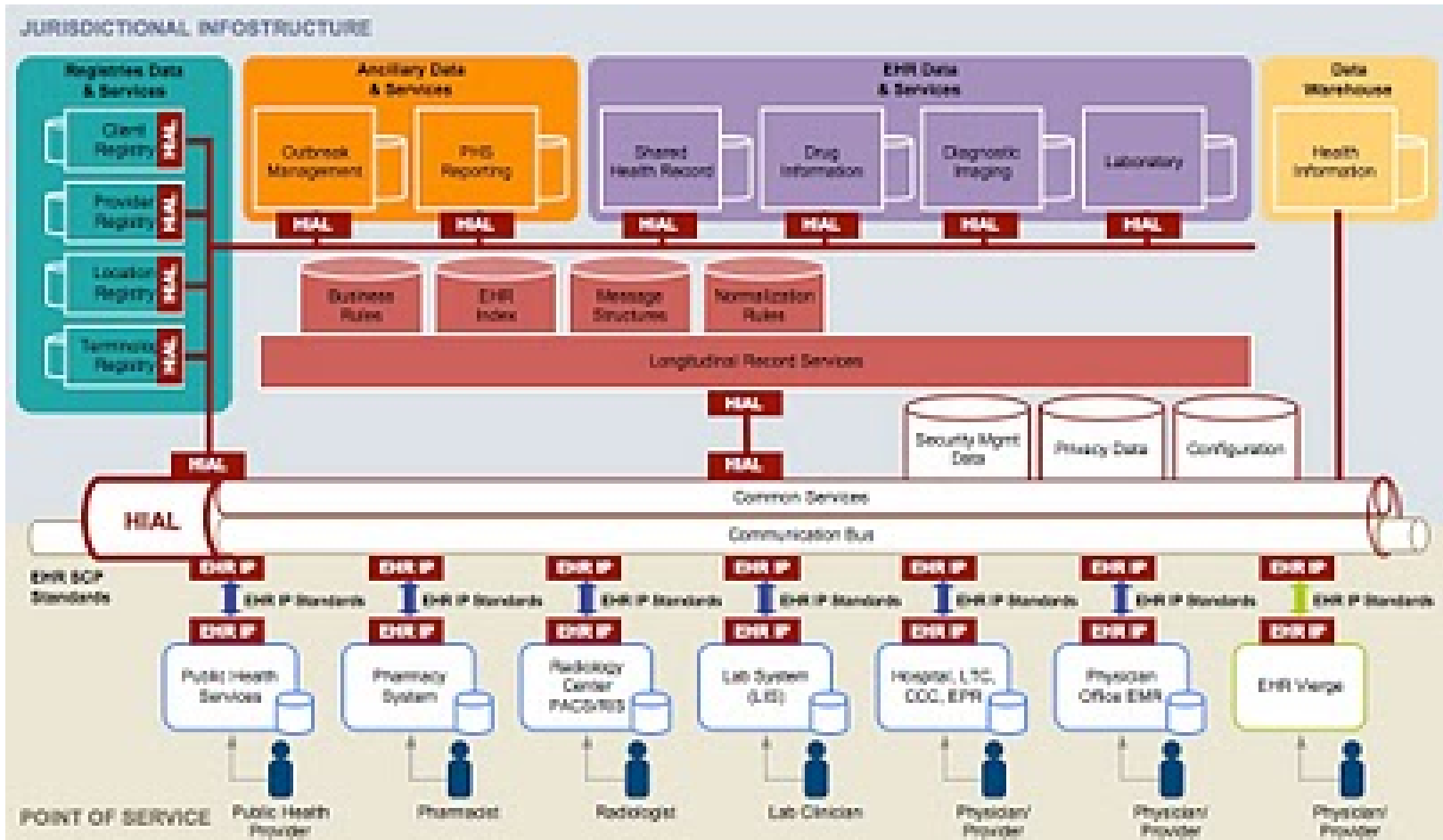
Mostly pseudonymised/anonymised data

# The technical aspects

## 5-Part Technical Strategy

1. Define the business requirements
2. Seize existing investment opportunities
3. Support jurisdictions in current and future efforts
4. Develop the required standards
5. Get the technical architecture right

# Requisite Architecture Slide you cannot read



# Architectural principles

- Build on point of care systems and minimize duplication
- Coded or structured data
- Ability to link, query and extract record level data
- Standardized concepts, data models, data definitions and minimum data sets
- Privacy and security best practices

**...securing access to usable data in an efficient and acceptable way**

# Some early and important steps

- Articulating a more detailed **vision and value proposition**
- Developing best practices for **de-identification**
- Sharing information through a **knowledge exchange network**
- Reviewing **governance of standards** that support HSU at the pan-Canadian level
- Developing **data content standards** in key areas (e.g. primary health care—EMRs)

# If only it were so simple!

## Strategic and policy considerations

- Public and provider concerns
- Privacy
- The role of the patient and consent
- Governance: oversight to the use of data
- Framework for evaluating the benefits and risks including the risk associated with not getting it right



# Engaging stakeholders

- Focus groups with the public and physicians
- Public polling
- Understanding concerns
- Developing a compelling value proposition and messaging



# Privacy, Confidentiality and Security

- **Active collaboration** with relevant groups across Canada (e.g., FPT privacy groups)
- **Adherence to privacy laws** in operationalizing the vision
- Privacy, confidentiality and security are **key considerations** in all work

# The Road Ahead

- A long term agenda—  
will take years
- A phased and focussed  
effort
- Stakeholder engagement
- Collaborative effort

