HL7 Plenary
EHR In Canada

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Creating Healthy Connections
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Agenda

- Canada Health Infoway
- What is the EHR and Its Benefits
- Architecture and Standards Agenda
- Infoway Standards Collaborative
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.

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.

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.
The **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 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.
Electronic Health Records

The Benefits – Access, Quality and Productivity

Access
- Access to services
- Patient and caregiver participation

Quality
- Patient safety
- Provider effectiveness & appropriateness of care
- Health outcomes

Productivity
- Provider efficiency
- Coordination of Care
- Net Costs

Infoway Electronic Health Record

- Increased volume of service provision
- Access to previously unavailable services
- Improved timeliness of DI services
- Increased patient awareness and adherence to care plans

- Reduced medication errors and adverse drug events
- Reduced readmission rates
- Improved efficiency of recovery
- Reduced patient transfers
- Improved access to information
- Improved timeliness of service delivery - pharmacists, public health, referring physicians, radiologists
- Improved vaccination rates
- Improved outbreak detection and intervention

- Improved Radiology Technologist and Radiologist efficiency
- Reduced Pharmacist and Lab technician callbacks
- Reduced time to take medication history or assess patient
- Improved clinician workflow
- Improved information sharing among different providers
- Efficient management of outbreaks
- Reduced unnecessary events: radiology, lab tests, vaccinations
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Strategic Investment Programs

- End-user Adoption and Setting the Future Direction
- Healthcare Applications and Innovation Projects
- The Electronic Health Record
- Registries and Domain Repositories
- Architecture and Standards

Innovation & Adoption - $60m

- Telehealth $120m
- Public Health Surveillance $100m

Interoperable EHR - $175m

- Registries $134m
- Drug Systems $185m
- Laboratory Systems $150m
- Diagnostic Imaging $280m

Infostructure - $25m

- Chronic Disease
- Cancer
- Primary Care
- Patient Safety
- Wait Times
- Mental Health
- ...etc

Projects:
- Healthcare Applications and Innovation Projects
- Telehealth $120m
- Public Health Surveillance $100m
- Chronic Disease
- Cancer
- Primary Care
- Patient Safety
- Mental Health
- ...etc

Total Invested:
- Telehealth $120m
- Public Health Surveillance $100m
- Chronic Disease
- Cancer
- Primary Care
- Patient Safety
- Mental Health
- ...etc

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A Common Blueprint and Standards

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.
Key EHRS Architecture Concepts

EHR SOLUTION (EHRS)

EHR INFOSTRUCTURE (EHRI)

Ancillary Data & Services

Health Information Data Warehouse

EHR Data & Services

Registries Data & Services

Longitudinal Record Services

Health Information Access Layer

Point of Service Application

Point of Service Application

EHR Viewer
Interoperable EHR Solutions: Key Architectural Requirements

Standards-based Solutions

- Standardized Architecture
- Standardized Interfaces
- Standardized Data Structures
- Standardized Data Vocabularies (encoding rules)
- Standardized Functional Behaviour
Where are standards implemented?

**JURISDICTIONAL INFOSTRUCTURE**

- **Registries Data & Services**
  - Client Registry
  - Provider Registry
  - Location Registry
  - Terminology Registry

- **Ancillary Data & Services**
  - Outbreak Management
  - PHS Reporting

- **EHR Data & Services**
  - Shared Health Record
  - Drug Information
  - Diagnostic Imaging
  - Laboratory

- **JURISDICTIONAL INFOSTRUCTURE**
  - Ancillary Data & Services
  - EHR Data & Services
  - Ancillary Data & Services
  - EHR Data & Services

- **Longitudinal Record Services**
  - Business Rules
  - EHR Index
  - Message Structures
  - Normalization Rules

- **Common Services**
  - Security Mgmt Data
  - Privacy Data
  - Configuration

- **EHR IP Data**
  - Hospital, LTC, CCC, EPR
  - Physician Office EMR
  - Physician/Provider
  - EHR Viewer

- **IP “Put”**
  - EHR IP

- **IP “List”**
  - EHR IP

- **IP “Get”**
  - EHR IP

- **IP “List”**
  - EHR IP

- **IP “Get”**
  - EHR IP

**POINT OF SERVICE**

- **Physician Office EMR**
  - Radiologist
  - Lab Clinician
  - Physician/Provider
  - Physician/Provider

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Standards-based Solutions

Why Standards?

- They facilitate information exchange; are a critical foundation for EHR
- They create opportunity for future cost reduction as vendors and systems converge on pan-Canadian and international standards
- They ease effort required for replication

Mandatory Investment Eligibility Requirements

- Compliance to standards (infrastructure, architecture)
- Initiatives must comply with existing guidelines or standards adopted by Infoway

Infoway’s role is to set standards and requirements for robust, interoperable products and outcomes
Principles for Establishing Pan-Canadian EHRS Standards

- Infoway has created Principles for Establishing pan-Canadian EHRS Standards to provide guidance in the adoption of standards-based solutions.
- 11 Principles – accessible via the Infoway Knowledge Way
  - Business-driven
  - Adoption of existing standards where ever possible
  - Establishment of pan-Canadian EHR standards is coordinated via an open, transparent and inclusive Stakeholder Collaboration Process as defined by our stakeholders
- [http://knowledge.infoway-inforoute.ca](http://knowledge.infoway-inforoute.ca)
EHR Infostructure: Standards-based Connectivity

**Architecture Standards**
- EHRS Blueprint
- EHR Use Cases
- EHR Data Model
- EHR Services Model
- EHR Interoperability Profiles
- Terminology Standards Strategy
- Terminology implemented in data messaging standards

**Data Messaging Standards**
- Client Registry (ready for use)
- Provider Registry (ready for use)
- Pharmacy CeRx (ready for use)
- Laboratory (in development)
- Diagnostic Imaging/Teleradiology (ready for use)
- iEHR Clinical Messaging (in development)
- iEHR Technical Standards (in planning)
- Public Health Surveillance Standards
Services of the Standards Collaborative

Standards Development
- Strategy
- Development
- Standards lifecycle process governance
- Project management
- Artifacts deliverables
- Solutions compliance
- Adoption
- Benefits evaluation

Education, Training & Implementation Support
- Promotion of standards
- Training artifacts
- Artifacts repository
- General standards training
- Training and education for specific standards
- Implementation support for standards

Maintenance and Conformance
- Ongoing standards sustainability and relevance
- Support SDO standards maintenance processes
- Conformance strategy, governance, promotion
- Adherence to conformance criteria (certification) via our partner the eHealth Collaboratory

SDO Secretariat & Liaison
- Govern and manage SDO affiliates
- Formal and informal liaisons to SDOs, HISCs
- Membership
- Communications
- Plan and deliver events related to standards
- Distribution and rights management

Simple, Open and Transparent Governance

Integrated & Coordinated Pan-Canadian Services
Thank you!

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