What Interoperability can mean for Continuity of Care

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Purpose

• Define who CIHI is and role within the health care system
• Explain what ‘interoperability’ means
• Examine interoperability for continuity of care using an interRAI client story
• Discuss the opportunities, enablers and challenges of interoperability
• Explore next steps to achieving interoperability
Who is CIHI?
Quick facts

• Created in 1994 to forge a common approach to Canadian health information


• 28 pan-Canadian databases across health sectors

• ISO/IEC 27001:2005 certification for information security management

• Prescribed entity under PHIPA

• 17 board members
  – Representation across Canada
Strategic goals and priorities

1. Be a trusted source of standards and quality data
2. Expand analytical tools to support measurement of health systems
3. Produce actionable analysis and accelerate its adoption
Priority themes and populations

**Themes**
- Patient experience
- Quality and safety
- Outcomes
- Value for money

**Populations**
- Seniors and aging
- Mental health and addictions
- First Nations, Inuit and Métis
- Children and youth
Data standards across the health care system

• Hospitals (HIS)
• Outpatient ambulatory care clinics (Point of care)

• Local/regional/jurisdictional data warehouses

• Provincial EHRs

• Primary care clinics (EMR)

• Home, community & long-term care (Point of care)

• Patient access (PHR)

• MOHs/Colleges/Other sources

• YourHealthSystem
• Reports
• Tools
• Case mix systems

– collect and support through secondary use
What is interoperability?
Interoperability refers to...

“The ability of different information technology systems and software applications to communicate, exchange data, and use the information that has been exchanged…. Interoperability means the ability of health information systems to work together within and across organizational boundaries in order to advance the effective delivery of healthcare for individuals and communities.”

HIMSS
(Healthcare Information and Management Systems Society)
Examples of interoperability standards

• **Terminology/Coding Systems**
  - **ICD-10-CA** – International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Canada
  - **CCI** – Canadian Classification of Health Interventions
  - **SNOMED CT** – Systematized Nomenclature of Medicine – Clinical Terms
  - **ISO 639** – Language Codes and **ISO 3166** – Country Codes

• **Data Exchange/Sharing**
  - **HL7** – Health Level 7 (FHIR, CDA, v3, v2)

• **Domain Specific**
  - **CR** – Pan-Canadian Client Registry
  - **PR** – Pan-Canadian Provider Registry
This enables...
Collect once, use many!

Better healthcare and improved health for Canadians

Health System Use

- **Care to the Individual**
  - Provide direct care to the individual

- **Clinical Program Management**
  - Improve front-line health care programs and services

- **Health System Management**
  - Improve the effectiveness and efficiency of the health care system

- **Public Health**
  - Understand the health of the public and for public health activities

- **Research**
  - Inform health research

Note: Health information is also used to support other uses of information as permitted by law, such as ensuring food safety and complying with regulatory and medical certification requirements.
How does this promote continuity of care?

An example using the interRAI assessment standard
The interRAI Standard

• **Point-of-care collection**
  – New integrated assessment suite
  – Collect once, use many

• **Data in /Information back**
  – Clinical decision support
  – Organizational decision support
Who’s moving forward with the new suite...
Benefits of the new suite

• Each instrument developed for a particular population
• Designed to work together
• Form an integrated health information system

Home care  Long-term care  Community Care  Mental health care
What interRAI interoperability can mean for clients

Information for sharing:
- New caregiver distress
- Worsening functional status
- Pain scale scores
- Increased depression rating scale scores
- Etc.
What interRAI interoperability could have meant for my brother

RAI-Mental Health: completed on 3 separate hospital admissions

Information for sharing:
• Severity of self-harm scale scores
• Risk of harm to others scale scores
• Etc.
The benefit is...

- Enables clinicians and providers in different care settings to
  - Improve continuity of care, and
  - Integrate care/supports for each individual

- Empowers families, advocates and payers to track the progress of participants across settings
What are the enablers and challenges of interoperability?
Overcoming and working with...

- Appreciation of value proposition of sharing standardized data
- Confidence in quality of data
- Enabling legislation/policy
- Strong privacy and security framework
- Consistent use of data exchange standards
- Others?
Who has already started?
New Zealand’s Experience

- Cross country implementation of
  - interRAI CA
  - interRAI CHA
  - interRAI HC
  - interRAI LTCF
- Full HL7 CDA compatibility
Interoperability - The New Zealand Experience

A. Downes, New Zealand National interRAI Software Service Manager
What’s next for Canada and CIHI?
CIHI implementing systems using interoperable data standards

- Hospitals (HIS)
- Outpatient ambulatory care clinics (EMR)
- Primary care clinics (EMR)
- Home, community & long-term care (Point of care)
- Provincial EHRs
- Patient access (PHR)

Data Exchange/Sharing (e.g. web services)

⭐ CIHI Value-Add:
- Data quality & validation
- Case mix and predictive methodologies
- Benchmarks and performance info
Starting with interRAI’s new suite reporting system

**Common Outputs**
- Outcome Scales
- Clinical Assessment Protocols
- Quality Indicators
- Case Mix Systems

**Collection using near real-time interoperable data standards (i.e. HL7 FHIR)**
The data flow...what will it look like?

- **FHIR** – standardizes how to represent the assessment information
- **REST API** – allows different systems to connect
- **CIHI Validations** – to use the same technology enabling data quality in near real-time
What this means for jurisdictions...

- Flow of single assessments
- Can move to organization, regional and Ministry levels at same time submitted to CIHI
We have also been...

- **Raising awareness**
  - Canadian Approve Standard designation (Infoway Standards Collaborative)
  - Coordination of Care Community (Infoway Digital Health Alliance) presentation
  - Pre-Conference workshop in World interRAI Conference, April 2016
  - eHealth interRAI Interoperability Conference Panel, June 2016
  - Canadian Home Care Association Summit concurrent session, October 2016
  - National Nursing Data Standards Symposium, April 2017
  - eHealth: Modernizing CIHI’s Data Flow in the Community Sectors, June 2017
And are looking to...

- **Understand capacity**
  - Scan of existing Canadian and interRAI implementations
  - Vendor survey of HL7 capabilities
  - Talk with clients and stakeholders about their systems (e.g. legacy)

- **Build systems**
  - New interRAI reporting system, 2018
  - Business plan to update acute/ambulatory reporting systems, starting with Integrated Hospital
And partnering to...

- **Build capacity**
  - interRAI Implementation Toolkit – promote interoperability
  - Reach out to Canadian Home Care Association at CHCA conference
  - Canada Health Infoway collaboration, January 2017
  - HSSO and interRAI Working Group to modernize the Personal Health Profile (PHP)

- **Come and see you at the HSSO Achieving Excellence Together Conference!**
What will this mean for Canadians?
Access to standardized, evidence-based information at the right time – facilitating good care.
Questions?
Appendix A: Who’s collecting and submitting interRAI data now (old suite and new suite)

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<thead>
<tr>
<th>Instrument</th>
<th>Implementation</th>
<th>Submission Pending</th>
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<tbody>
<tr>
<td>Continuing Care</td>
<td>★</td>
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<tr>
<td>Home Care</td>
<td>★</td>
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<td>Mental Health</td>
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First Nations

- Implementation: ★