SETTING THE WORLD ON FHIR®

Published by HL7® International, a not-for-profit organization, Fast Healthcare Interoperability Resources (FHIR®) is a standard for exchanging healthcare information electronically.

CASE STUDY

HL7 FHIR®

CANADIAN INSTITUTE FOR HEALTH INFORMATION

Established in 1994, the Canadian Institute for Health Information (CIHI) is an independent, not-for-profit organization that provides essential information on Canada's health systems and the health of Canadians. CIHI provides comparable and actionable data and information used to accelerate improvements in healthcare, health system performance and population health across Canada. CIHI maintains 28 pan-Canadian databases across various health sectors.
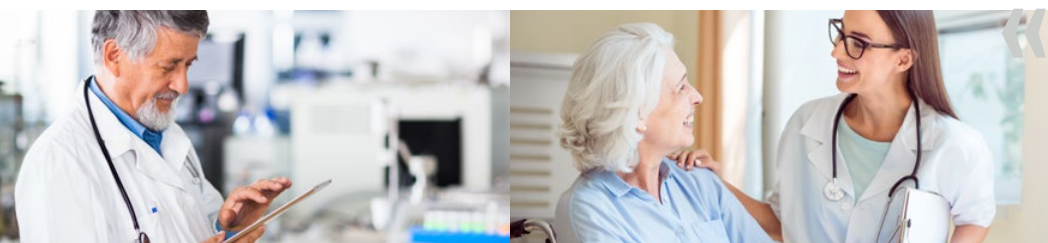
Goal

To facilitate interoperability between healthcare databases so client information can be more easily reported across settings, providing benefits to clients, providers, and the health system as a whole

Opportunity

To use HL7® FHIR® in a near real-time reporting system – the Integrated interRAI™ Reporting System (IRRS) – enabling information to be more readily available to support point-of-care, organizational and system decisions

> **Using HL7® FHIR® in IRRS is one of the early large-scale implementations of the standard in Canada.**
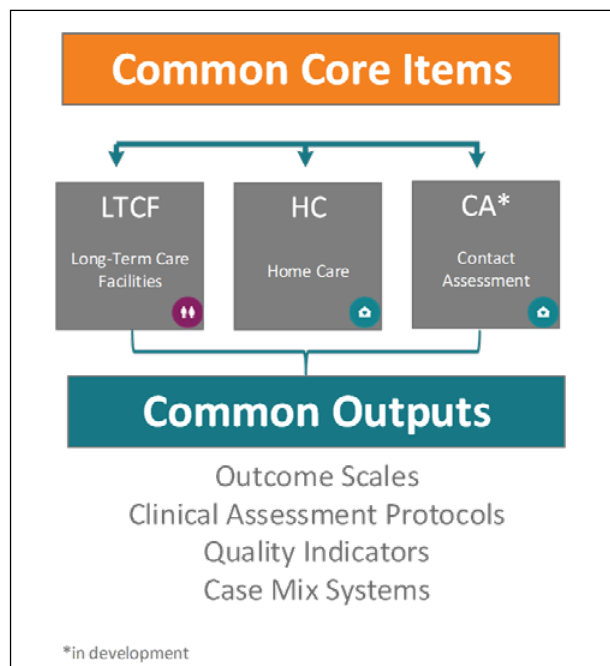>
> —— Finnie Flores, MPH, MAEd, CPHIMS-CA, program consultant, Enterprise Architecture & Standards, CIHI

Project

Three of CIHI's 28 reporting system databases (Continuing Care, Home Care and Ontario Mental Health) use interRAI assessment instruments as the foundation for their respective data collection. The databases were developed separately and at different times though, and use CIHI custom-developed data submission specifications that are not interoperable. interRAI has since released newer versions of the long-term care and home care assessment standards (interRAI LTCF and interRAI HC) as part of an overall integrated assessment

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suite, and they share common standardized language and concepts. By implementing more enhanced and updated interRAI instruments, it became much easier to share health information across the databases, and more importantly for care providers to share information across their systems and sectors, in a consistent and reliable way. The new Integrated interRAI Reporting System, which includes the interRAI LTCF and interRAI HC assessment standards, provided CIHI with an opportunity to promote interoperability while reducing data submission burden for stakeholders, following a "collect once, use many times" approach.

After reviewing and weighing the options and considerations for data exchange standards, the team decided to adopt the HL7 FHIR standard for IRRS. Several reasons led to choosing HL7 FHIR including: it was evolutionary from existing standards, it greatly improved implementation capabilities through adoption of industry technology standards (e.g. REST APIs, XML, JSON, Messaging/Documents, etc.), and its open license arrangement removed barriers to adoption and implementation.

Progress

Two jurisdictions in Canada (New Brunswick and Saskatchewan) are submitting near real time data to IRRS. Four other jurisdictions are expected to go live with IRRS data submission in early 2022. Additionally, CIHI is collaborating with international colleagues to leverage the work done on implementing interRAI in FHIR, which will ultimately promote data integration from various healthcare sectors, providing benefits to clients, providers, and the health system as a whole.

"Access to open source FHIR reference implementation frameworks greatly shortened the implementation timeframe and allowed our technical team to concentrate on business-specific logic without worrying about proper serialization/marshalling of FHIR messages."

— Ross Shnaper, technical lead, Data Acquisition Products, CIHI

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