



Introducing the CACDI and Navigating the Common Data Architecture of the Pan-Canadian Health Data Content Framework

October 1, 2024



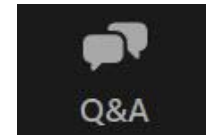
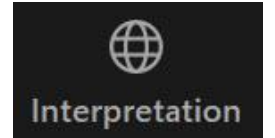
Canada Health Infoway
Inforoute Santé du Canada



Canadian Institute
for Health Information
Institut canadien
d'information sur la santé

Webinar – House Keeping

- This webinar will take place in English with simultaneous French interpretation. To listen to French interpretation, click on the globe icon
- Attendees will be muted by the webinar host
- Ask questions or comments using the Q&A icon
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- This webinar is being recorded and will be made available at a later date.



Introducing our Presenters



Shannon O'Connor

*Manager, Data Standards
Canadian Institute for Health
Information*



Malina Iftimie

*Manager, Enterprise Architecture
and Standards
Canadian Institute for Health
Information*



Land acknowledgement

We would like to acknowledge the lands that we occupy, whether treaty or unceded. We recognize that these lands are home to many diverse First Nations, Inuit and Métis Peoples.

Topics

Launch of new products for Connected Care



Learn about the Pan-Canadian Health Data Content Framework and the Canadian Core Data for Interoperability (CACDI)



Discover how CACDI relates to Canada Health Infoway's CA-Core+ and US Core Data for Interoperability (USCDI)



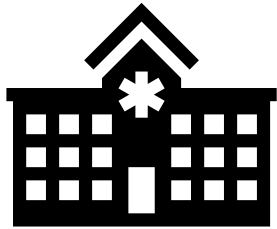
High-level overview of the Common Data Architecture and the Open Review Process



Next Steps

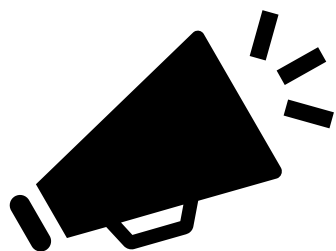


Questions and Answers



Launch of new products for Connected Care

Firsts for Canada: Launched September 26, 2024



First draft of the Pan-Canadian Health Data Content Framework

A person-centered, common health data standard and data architecture used in the capture and delivery of health care and for health system management across all sectors of care.



First draft of the Canadian Core Data for Interoperability (CACDI)

Outlines the data elements that are essential for pan-Canadian health data exchange, for the first time, aligning us more closely with countries like Australia and the United States.

Improving health care for Canadians

Health data that is **not standardized** and **not shared** across digital health systems leads to:

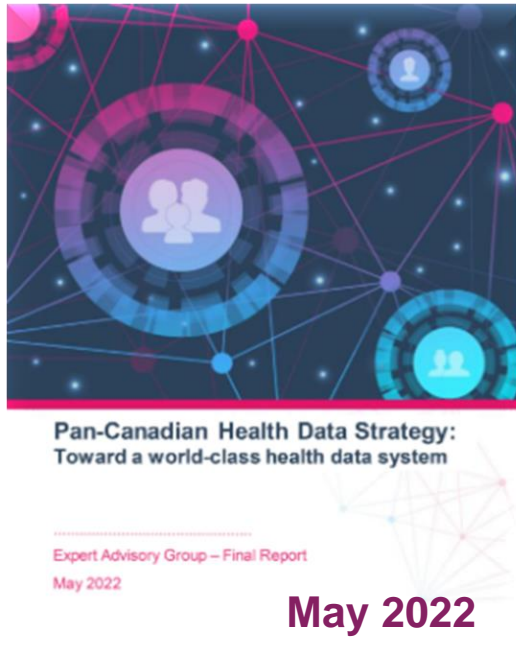
Risk of patient harm! Interoperability Saves Lives

- Fragmented health information about a patient's journey
- Duplicate tests, leading to wasted resources
- Unnecessary administrative burden on care providers
- Care providers who do not have access to necessary patient information at the point of care
- Limited health system performance measurement within and across sectors of care



['This is not just a case, this is a person': Film hopes to prevent patients from falling through cracks | CBC Radio](#)

Standardized data is a key component of interoperability



February 2023 - Working together to Improve health care for Canadians



Government of Canada

Gouvernement du Canada

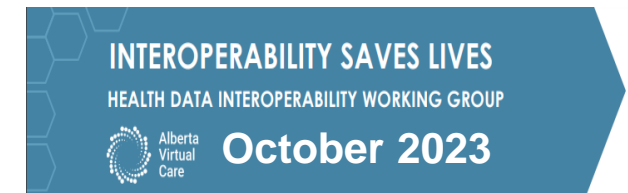


October 2023 – The Pan-Canadian Health Data Charter



Government of Canada

Gouvernement du Canada



ALBERTA VIRTUAL CARE • HEALTH DATA INTEROPERABILITY WORKING GROUP • OCTOBER 2023

Bill C-72 Connected Care for Canadians Act
An Act respecting the interoperability of health information technology and to prohibit data blocking by health information technology vendors



Government of Canada

Gouvernement du Canada

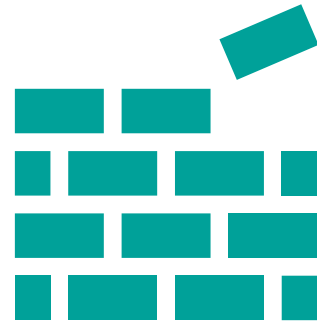
June 2024



Canada Health Infoway
Inforoute Santé du Canada



CIHI and Infoway are working together to modernize health information flows to create a connected health system



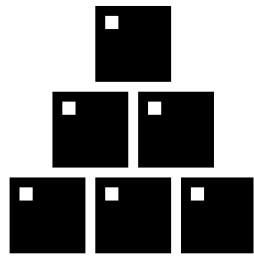
CIHI is building the **What**

Health data content foundation: CIHI is defining the underlying data content and data structure. **One common data content standard AND data architecture for all health-related data in Canada.**



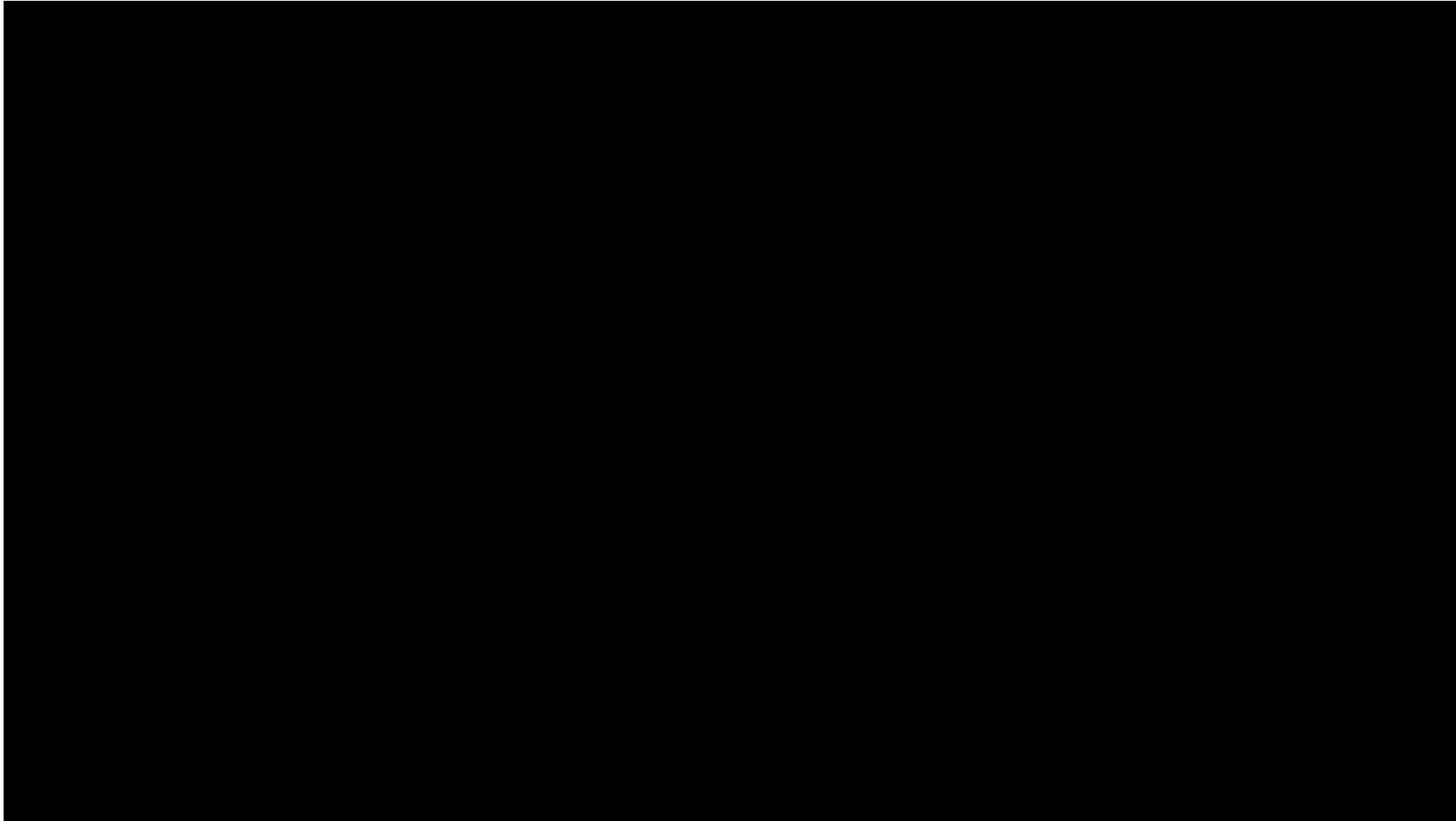
Infoway is building the **How**

Data exchange “transport” standard: Infoway is building the technical exchange standards that enable information to flow between systems.



The Pan-Canadian Health Data Content Framework

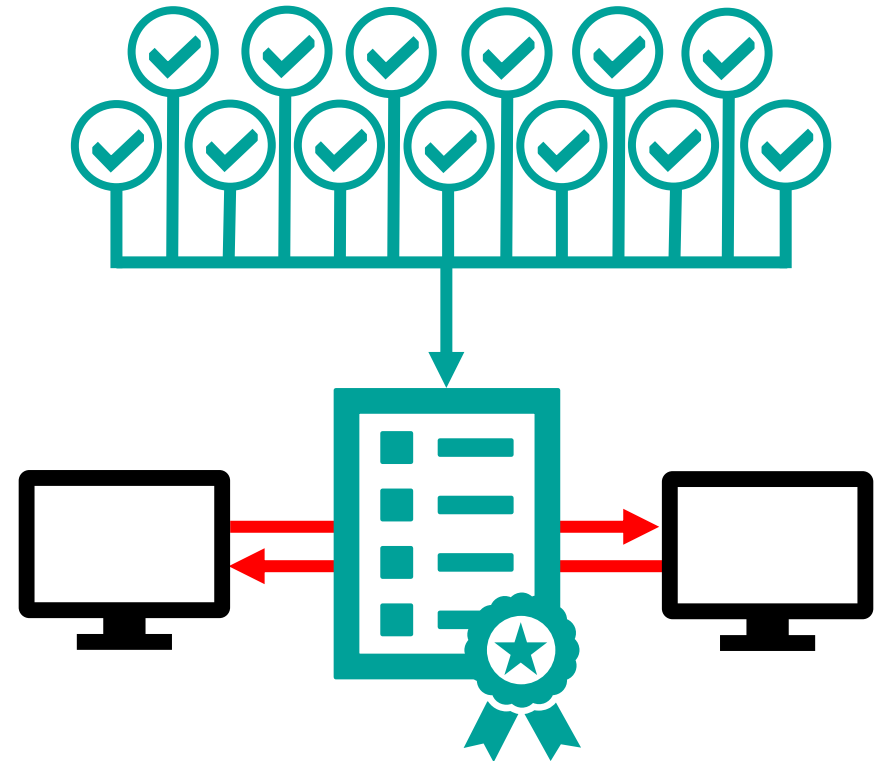
***Message from Dr. Chandi Chandrasena
MD CCFP FCFP | Chief Medical Officer
OntarioMD***



Definition | The Pan-Canadian Health Data Content Framework

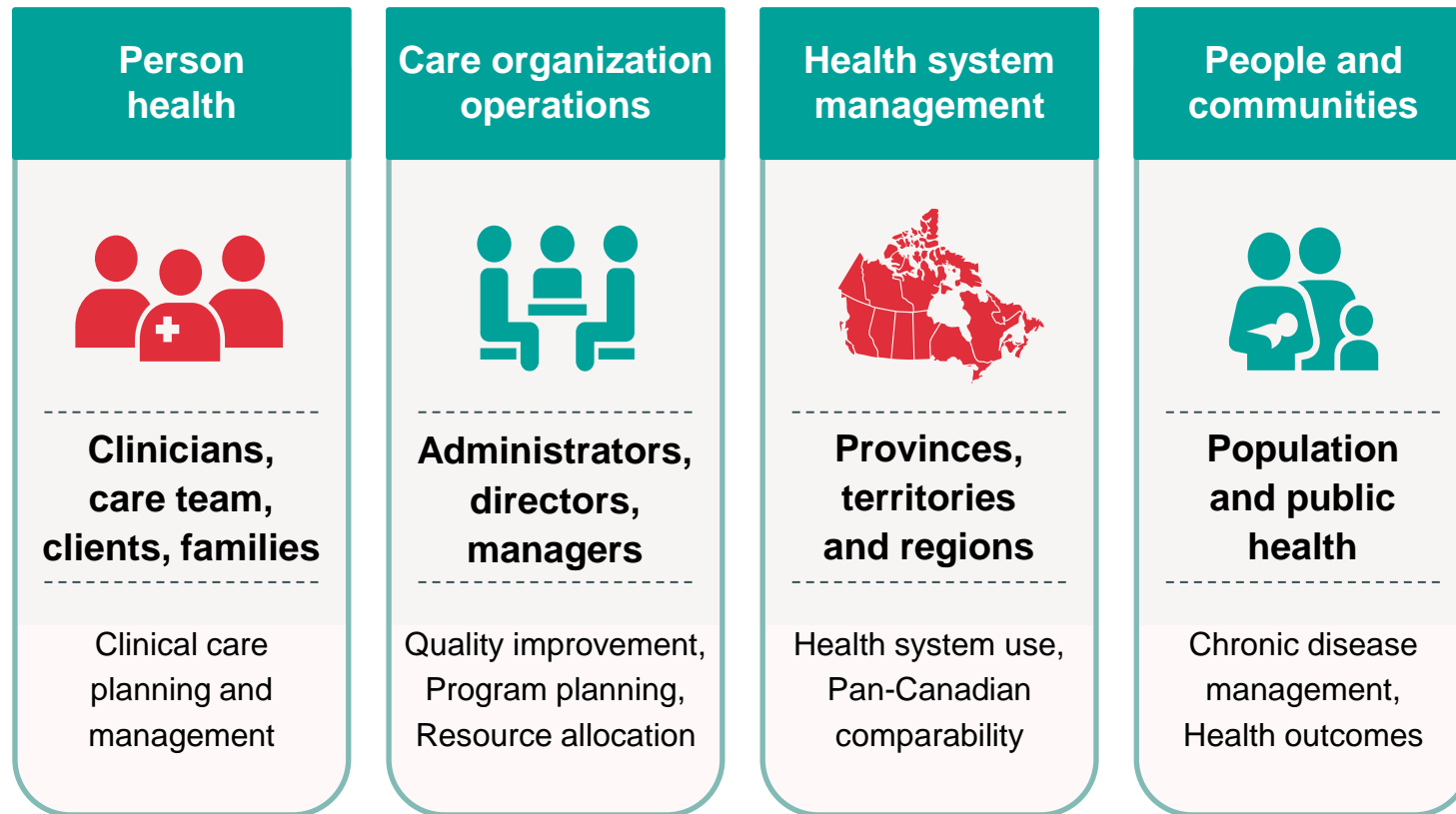
One common data content standard, data architecture and business glossary for all health-related data in Canada

- **Purpose:** To improve data quality and consistency of health data, leading to more trust and use of the data for patient safety.
- **What it does:** Defines and standardizes data to ensure meaningful exchange and interpretation across the health care system to achieve semantic interoperability (same meaning from sender to recipient).
- **Use:** It will be the “source of truth” that will define foundational data for health care delivery and management across all health sectors.



Scope | Pan-Canadian Health Data Content Framework

The Framework provides one data content standard and architecture for all health-related data for **primary and secondary uses**.



Products | Pan Canadian Health Data Content Framework



Data Content Standard

Canadian Core Data for Interoperability (CACDI)

Business Glossary

Business Context Model

Use Cases

Metamodel

Information Model

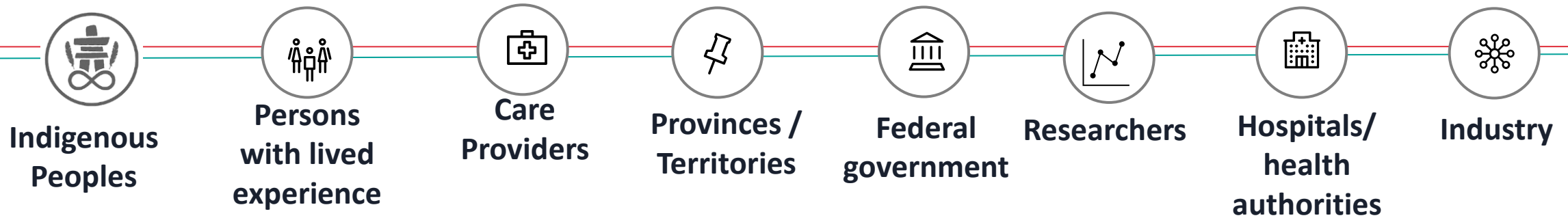
Conceptual Data Model

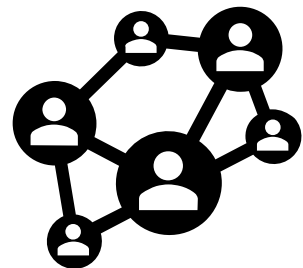
Logical Data Model

Feedback Disposition

A Collaborative Effort

Collaboration from stakeholders spanning the healthcare system is necessary for interoperability advancement and adoption.

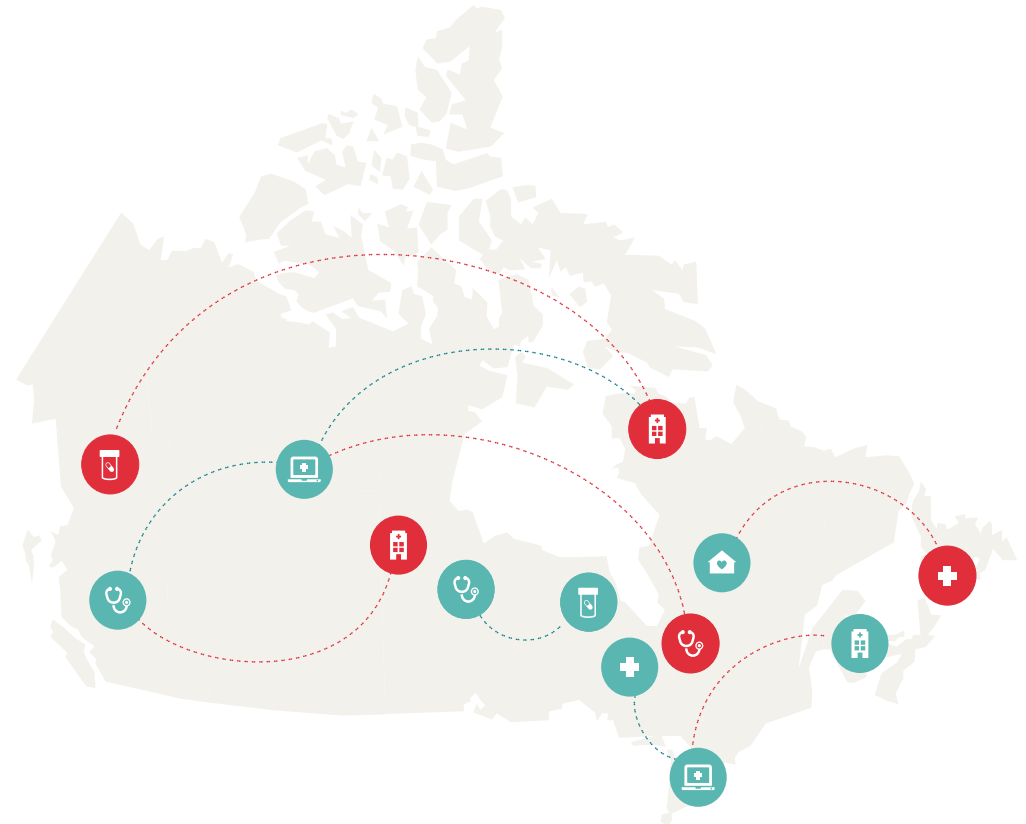




The Canadian Core Data for Interoperability (CACDI)

The Canadian Core Data for Interoperability (CACDI)

A subset of the Pan-Canadian Health Data Content Framework, the CACDI defines a **standardized set of essential health data elements and value sets in the context of a common data architecture** to support interoperability and data exchange across the Canadian health care ecosystem.



Benefits of the CACDI

The CACDI is a standardized set of essential health data categories, data elements, value sets, and data models to enable pan-Canadian, interoperable health data exchange.



Improves patient
experience



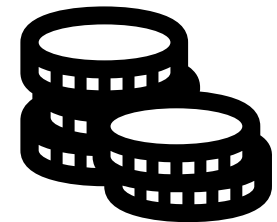
Improves
population and
public health



Improves clinical
decision-making

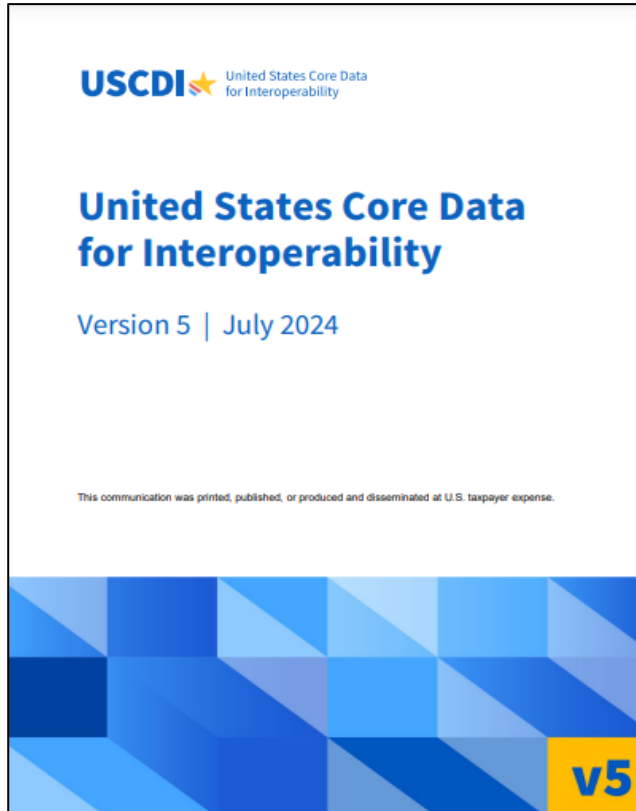


Advances health
equity

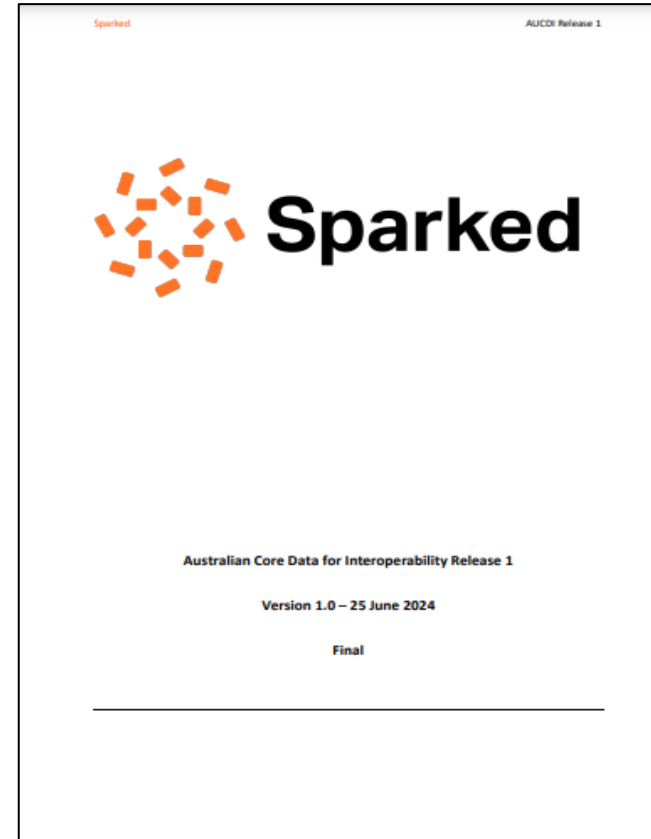


Cost savings to
the health care
system

Drawing from International Examples



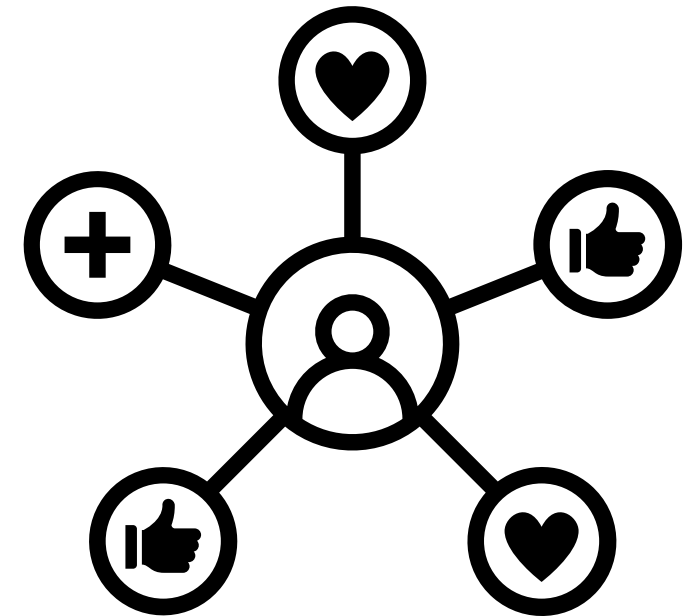
**United States Core Data
for Interoperability
(USCDI)**



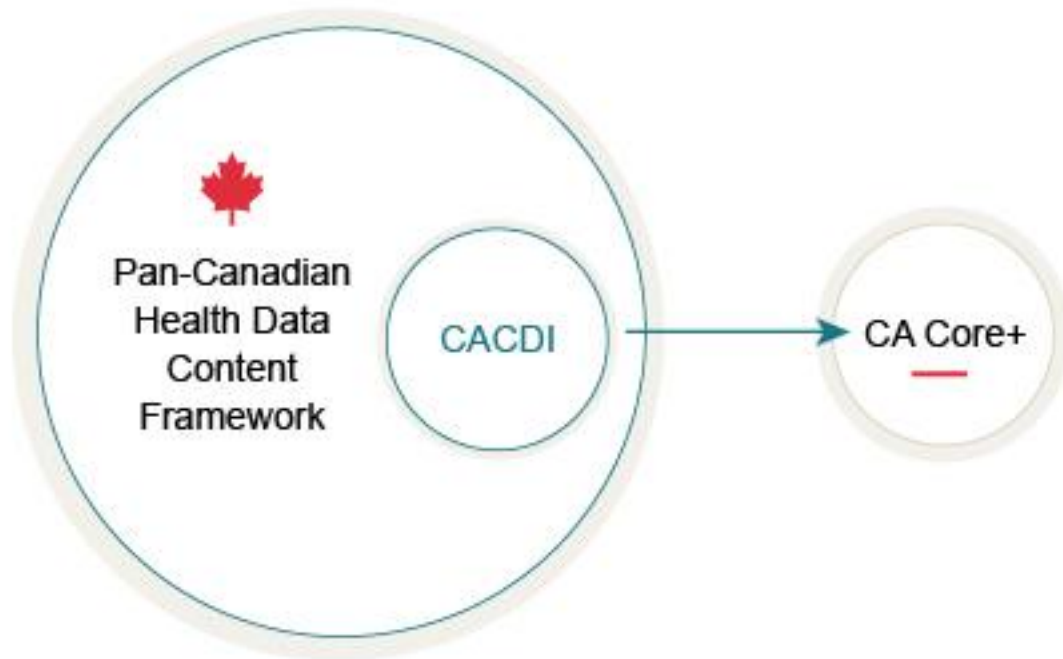
**Australian Core Data for
Interoperability (AUCDI)**

Development Process: Draft CACDI Version 1, September 2024, aligned with CA Core+ v0.3.0

- Co-developed in collaboration with a working group of Co-Contributors
- Developed in alignment with other national and international standards:
 - International Patient Summary (IPS)
 - Pan-Canadian Patient Summary (PS-CA)
 - The United States Core Data for Interoperability (USCDI)
 - The Australian Core Data for Interoperability (AUCDI)
- Data categories and data elements that were considered essential for patient safety were prioritized for inclusion
- Iterative and will continue to expand over time



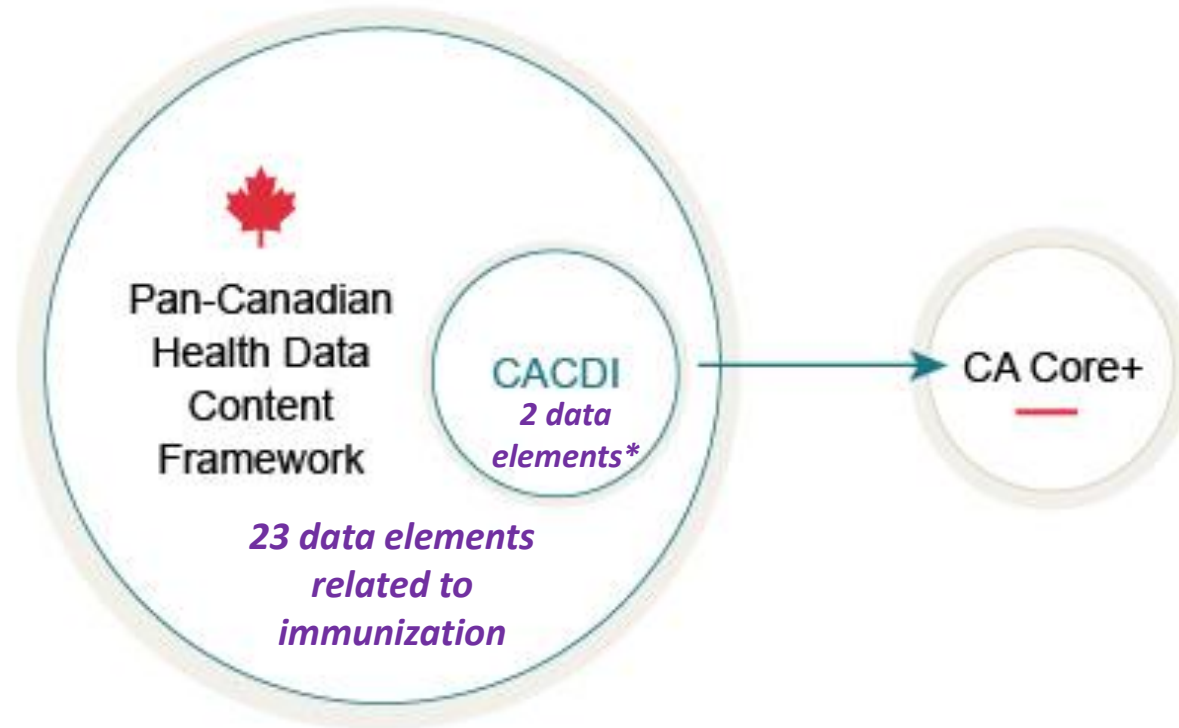
Relationship between the Pan-Canadian Health Data Content Framework, CACDI and CA Core+



Together, the CACDI and CA Core+ work in tandem to facilitate interoperability and data exchange.

- **Pan-Canadian Health Data Content Framework (the “what”)**: A comprehensive set of health information that should be collected and shared in a standardized way across health systems to satisfy a variety of health information needs.
- **Canadian Core Data for Interoperability (the “essential”)**: The minimum data required to support standardized information capture and enable meaningful exchange of health information.
- **CA Core+ (the “how”)**: The technical specification that outline how the CACDI will be exchanged between systems.

The Pan-Canadian Health Data Content Framework, CACDI and CA Core+ In Action: Immunization Example



**Could expand in future iterations of the CACDI.*

- The Pan-Canadian Health Data Content Framework has **23** data elements related to immunization.
- These data elements meet a wide range of health system needs but *not all are essential for interoperable health data exchange.*
- Therefore, only **2** are currently included in Canadian Core Data for Interoperability (CACDI) and CA Core+.

Draft CACDI Version 1, September 2024, aligned with CA Core+ v0.3.0

Person Information

- Person Identifier Value
- Person Identifier Type
- Given Name
- Middle Name
- Surname
- Name Used
- Birth Date

Allergies and Intolerances

- Allergy or Intolerance
- Allergy or Intolerance Reaction

Immunizations

- Immunization
- Immunization Date

Social Determinants of Health (SDOH)

- Service Language
- Indigenous Identity
- Racialized Group

Medication

- Medication
- Medication Dose Value
- Medication Dose Unit of Measure
- Medication Route of Administration
- Medication Timing
- Medication End Date and Time
- Medication Reason

Health Concerns

- Health Concern
- Health Concern Clinical Status

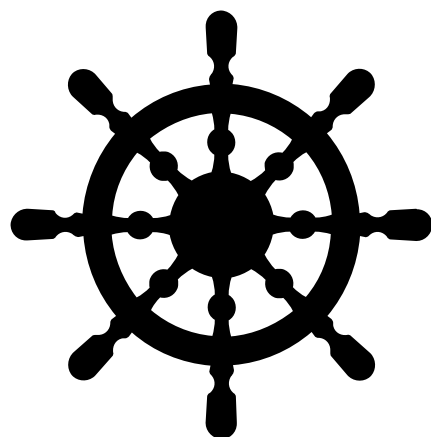
* These data elements are a subset of the Pan-Canadian Health Data Content Framework.

CACDI: What Comes Next?

- Ongoing development will follow an iterative process and include input from a wide range of stakeholders.
- Feedback on draft versions will be sought through an accessible and transparent open review process, including the opportunity to suggest new data categories and data elements.
 - **Current Open Review: Oct. 1st – Nov. 29th**
- Future iterations will continue to be developed in coordination with the Pan-Canadian Health Data Content Framework and CA Core+ and building off international examples.

Future versions:

- ✓ Providers
- ✓ Organization
- ✓ Procedures
- ✓ Vital signs
- ✓ Laboratory
- ✓ Medical imaging
- ✓ Expanded SDOH
- ✓ Pregnancy



Common Data Architecture - Orientation

What is the Common Data Architecture?



Standardized framework that governs how data is structured, exchanged and understood across different systems



Consists of a Common Logical Data Model, a Business Glossary and 5 other supporting products



Essential for semantic interoperability where not only the data itself is shared but its meaning is preserved



Provides the foundation for a more connected, efficient and effective healthcare ecosystem



Covers Data Collection, Data Storage and Data Exchange

Why is Common Data Architecture important?



Definition and
Standardization of
Concepts



Enables Clear
Communication



Technology
Agnostic

Why is Common Data Architecture important? (continued)



Facilitates Accurate
Mappings



Cost-Effective



Supports Data
Governance

Why is Common Data Architecture important? (continued)



Reusability

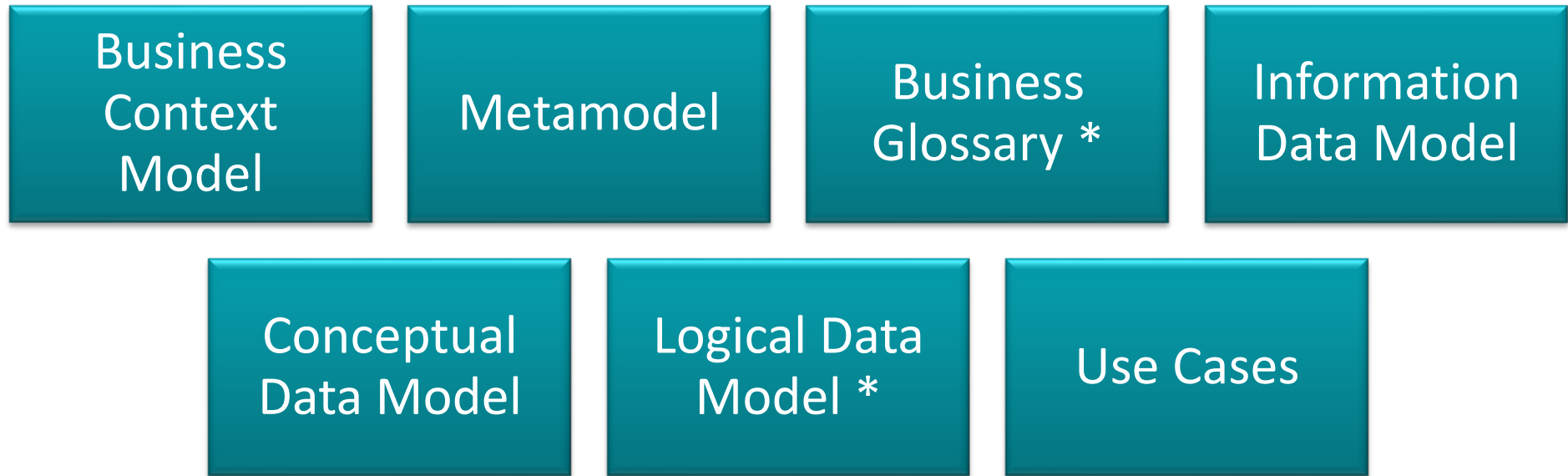


Foundation Architectural
Building Blocks



Regulatory
Requirements

What is in scope for the Data Architecture – September 26 Release?

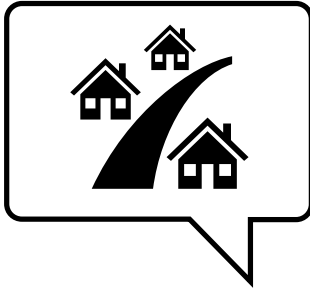


* Key Deliverable

Coming in Future Releases

- Implementation Guide
- Adoption Tools such as: Reference Logical Data Model ready for Erwin or Power Designer
- Reference mappings
- Vendor support


- Comprehensive Regulatory requirements
- Conformance Model beyond FHIR
- Security and Privacy metadata
- Data Quality and Validation Tools



The Pan-Canadian Health Data Content Framework Community on InfoCentral

InfoCentral Home Page

InfoCentral Home | Infoway Website | FAQ | Contact Us | Français

 **Canada Health Infoway** | InfoCentral

Communities | Standards Centre | Tools | Resources | News & Events | Search...

- Join a community of interest**
Find groups by interest area
Get involved
- Communities**
 - Canadian Hospital at Home
 - Cybersecurity
 - Enterprise Imaging
 - Health Analytics
 - HL7 Canada
 - Health Terminologies
- Communities Cont'd**
 - Integrating the Healthcare Enterprise (IHE)
 - International Organization for Standardization (ISO)
 - Medication Management
 - National Nursing Data Standards
 - Pan-Canadian Health Data Content Framework**
 - Public Health Surveillance
 - Pan-Canadian Clinician Community Network
- Working Groups**
 - Building Blocks
 - eReferral
 - FHIR Implementations
 - HL7 Canada Council
 - Patient Summaries
 - Sex and Gender
 - Social Determinants of Health

Observation Code Database on September 30, 2024.

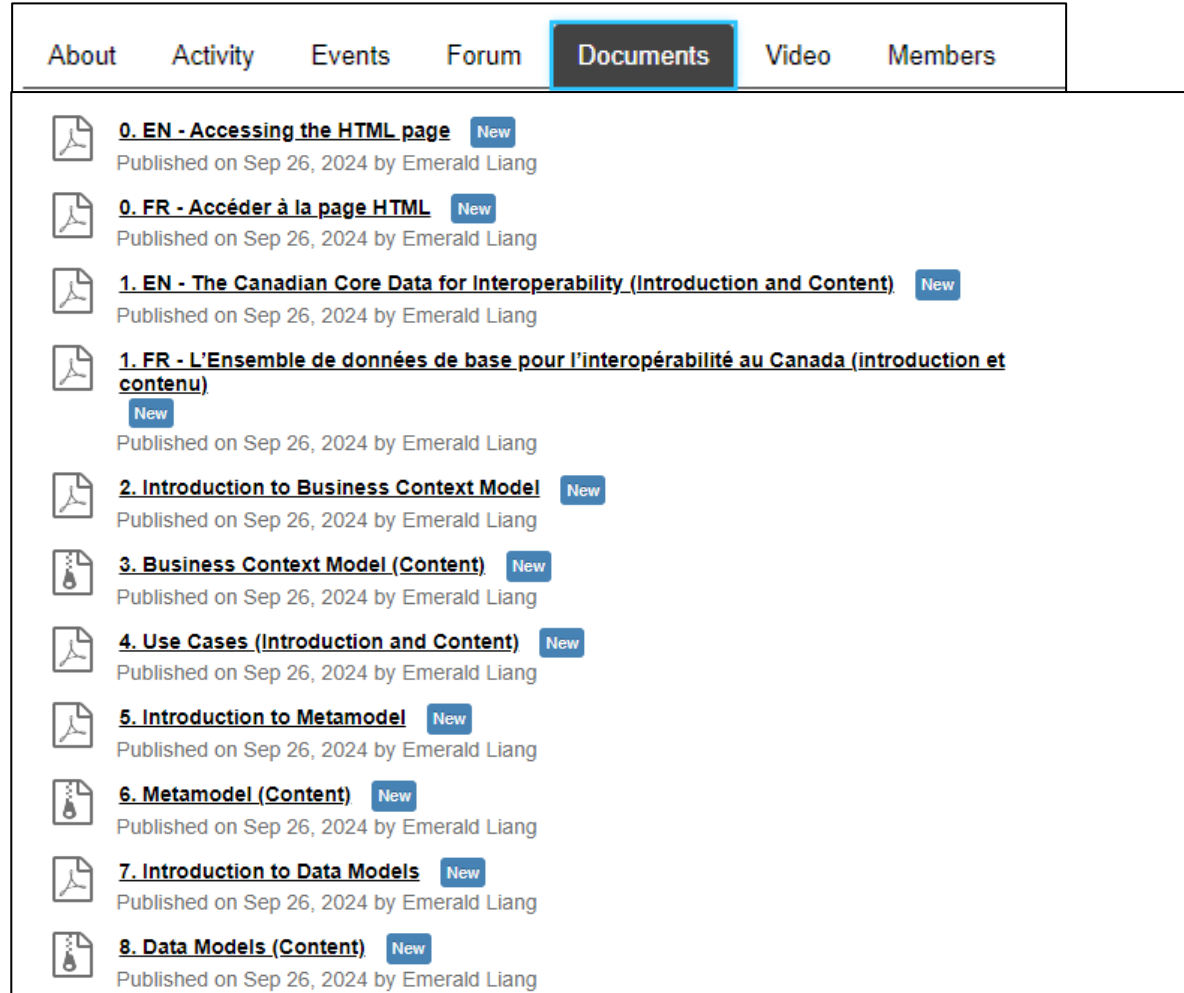
season of IHE Canada Community webinars begin next wee...

session. Join Zoom Mee

Pan-Canadian Health Data Content Framework – InfoCentral Home Page

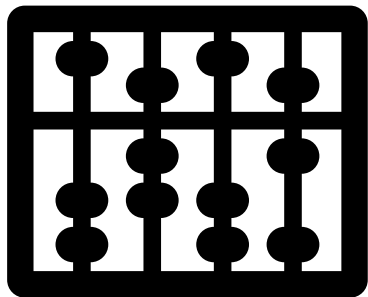
The screenshot shows the InfoCentral Home Page for the Pan-Canadian Health Data Content Framework community. At the top, there is a navigation bar with links for 'InfoCentral Home', 'Infoway Website', 'FAQ', 'Contact Us', and 'Français'. Below this is a main navigation menu with 'Communities' highlighted in red, along with 'Standards Centre', 'Tools', 'Resources', and 'News & Events'. A breadcrumb trail reads 'Home » Communities » Communities Cont'd » Pan-Canadian Health Data Content Framework'. A 'Share this page:' link is also present. The main heading is 'Pan-Canadian Health Data Content Framework' with a 'Community' tag. A 'Hide Group Menu' button is visible above a menu containing 'About', 'Activity', 'Events', 'Forum', 'Documents', 'Video', 'Members', and 'Invites'. The 'About' item is highlighted with a red box. The page content includes a welcome message, a paragraph about updates and resources, a paragraph encouraging engagement and feedback, a paragraph about building the framework, and a section titled 'About Connected Care' which describes the partnership between CIHI and Canada Health Infoway.

Common Data Architecture Deliverables on InfoCentral

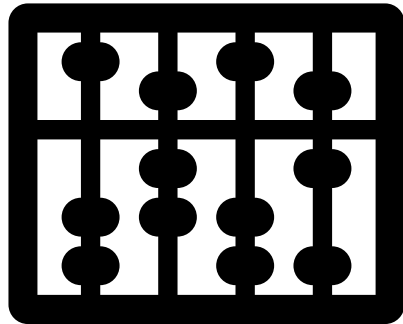


The screenshot displays the 'Documents' section of the InfoCentral website. The navigation menu at the top includes 'About', 'Activity', 'Events', 'Forum', 'Documents' (highlighted), 'Video', and 'Members'. Below the menu, a list of documents is shown, each with a document icon, a title, a 'New' badge, and a publication date and author.

Document Title	Publication Date	Author
0. EN - Accessing the HTML page New	Published on Sep 26, 2024	Emerald Liang
0. FR - Accéder à la page HTML New	Published on Sep 26, 2024	Emerald Liang
1. EN - The Canadian Core Data for Interoperability (Introduction and Content) New	Published on Sep 26, 2024	Emerald Liang
1. FR - L'Ensemble de données de base pour l'interopérabilité au Canada (introduction et contenu) New	Published on Sep 26, 2024	Emerald Liang
2. Introduction to Business Context Model New	Published on Sep 26, 2024	Emerald Liang
3. Business Context Model (Content) New	Published on Sep 26, 2024	Emerald Liang
4. Use Cases (Introduction and Content) New	Published on Sep 26, 2024	Emerald Liang
5. Introduction to Metamodel New	Published on Sep 26, 2024	Emerald Liang
6. Metamodel (Content) New	Published on Sep 26, 2024	Emerald Liang
7. Introduction to Data Models New	Published on Sep 26, 2024	Emerald Liang
8. Data Models (Content) New	Published on Sep 26, 2024	Emerald Liang

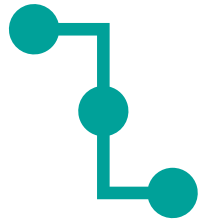


Common Data Architecture - Walkthrough



Common Logical Data Model - Usage

How can implementers leverage the Common Logical Data Model?



Build **mappings** between their data models and Logical Data Model

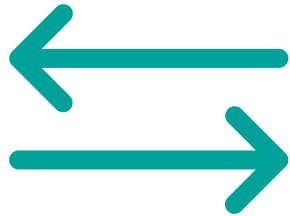


New implementations can align to Logical Data Model **from the beginning**



Use Logical Data Model as a **translation** layer

How can implementers leverage the Common Logical Data Model (continued)?



Use Logical Data Model to structure data to standardize **data exchange**



Use Logical Data Model to **guide and plan system updates** and **enhancements**

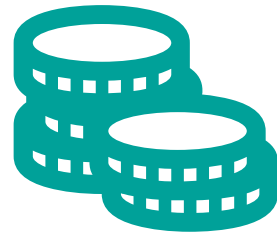


Use Logical Data Model as your **core model** but extend for specific needs

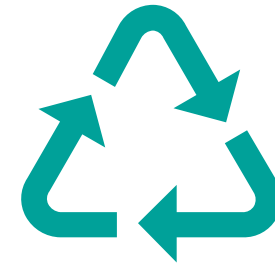
How can implementers leverage the Common Logical Data Model (continued)?



Use Logical Data Model to support
regulatory compliance



Use Logical Data Model to **reduce custom
integration costs**



Use Logical Data Model to enable **same
data reusability** by different systems

Additional Common Logical Data Model Usages



Could be used to **align the healthcare language, concepts** and the **user experience** in clinical systems, across care settings and disciplines



Could be used as part of **education programs**



Tools can be **gradually developed** using Logical Data Model to facilitate adoption, ease interoperability and health system use

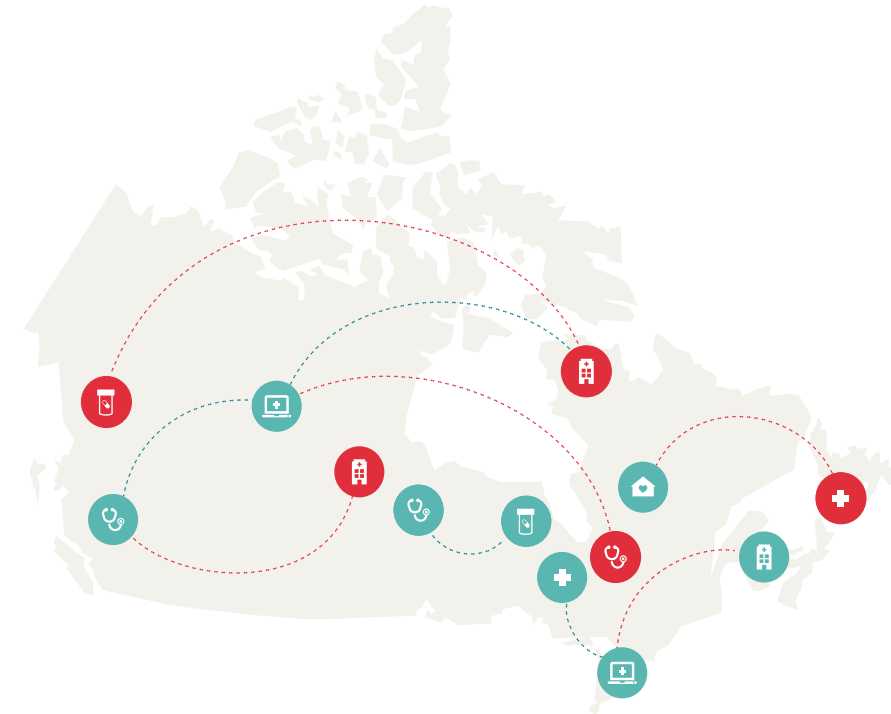


Next Steps

Join the review!

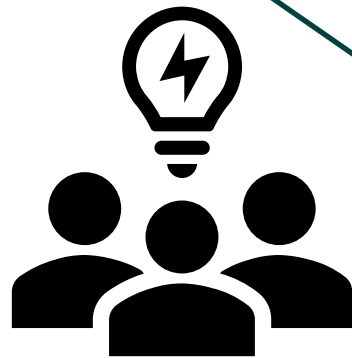
October 1 to November 29 2024

- The Open Review for the Pan-Canadian Health Data Content Framework's CACDI and Common Data Architecture runs from **October 1 to November 29, 2024**
- Join the [Pan-Canadian Health Data Content Framework InfoCentral Community site](#) view and download CACDI and Common Data Architecture products
- Visit the [Pan-Canadian Health Data Content Framework](#) to learn more about the products



Help us shape the future of Connected Care in Canada

Your Feedback is
Important in shaping
the Pan-Canadian
Health Data Content
Framework!





Q&A Session – Any Questions?



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Better data. Better decisions. Healthier Canadians.



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