Draft Pan-Canadian Health Data Content Framework

Data Content Standard

Version 1, September 2024

(for review and reference only, not an official version)

Canadian Institute for Health Information

Institut canadien d'information sur la santé

As CIHI works toward better health for all people in Canada, we acknowledge that we live and work on the traditional territories of First Nations, Inuit and Métis Peoples. Our work is grounded in cultural safety and humility, respectful engagement and Indigenous-driven processes and partnerships.

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- Health Canada
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If you have any questions, or if you would like to participate in our consultations or provide feedback, you can email us at connectedcare@cihi.ca.

Introduction to the Pan-Canadian Health Data Content Framework

Overview

Canada's health data landscape is complex and fragmented. Historically, the digitization of health data (having a way to capture data electronically) has been a priority, but sharing this data (e.g., among facilities, organizations and health systems) has not been a focus. As such, the information that exists cannot be shared due to a lack of standardization in data collection and a lack of communication between different health care systems.

To address this challenge, the Canadian Institute for Health Information (CIHI) developed the Pan-Canadian Health Data Content Framework, which defines, standardizes and models the health data required to enable connected care in Canada.

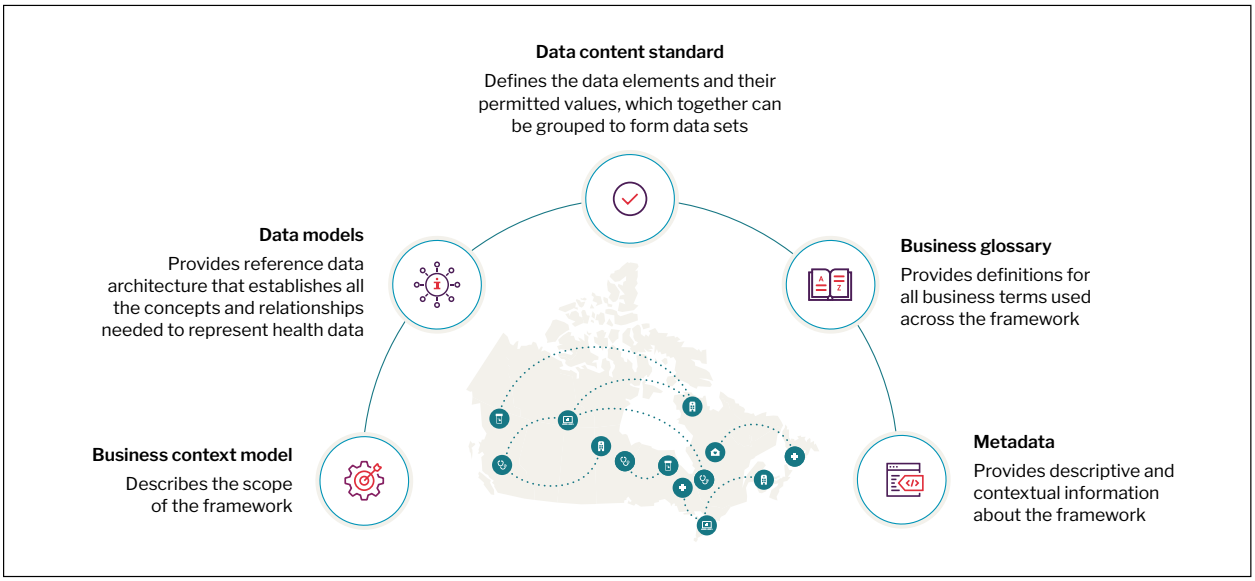
As part of Health Canada's Working Together to Improve Health Care for Canadians Plan, Canada Health Infoway (Infoway) is implementing the Shared Pan-Canadian Interoperability Roadmap. This roadmap envisions modern, person-centric health care that is digitally connected and privacy-protected by design. In support of achieving connected care, CIHI and Infoway are working together to modernize information flow as set out in the roadmap. This collaboration has 3 goals:

- To enable the uninterrupted exchange of timely and accessible health information;
- To ensure that data carries the same meaning between health care providers and clinical systems across Canada; and
- Most importantly, to ensure that data benefits patients.

This strategic partnership is instrumental in fulfilling Health Canada's overarching strategy to enhance the accessibility and effectiveness of health care services for all.

In light of CIHI's commitment to connected care, the development of the Pan-Canadian Health Data Content Framework is an innovative initiative designed to standardize and model person-centric health data across Canada. This comprehensive framework packages a series of individual products (see the figure below) that ensure health system technology developers can align their technical solutions with foundational health concepts. The initial focus is on health data captured in primary health care settings, and there are plans for future versions to include data from hospitals, emergency departments, long-term care facilities and other health domains.

Figure Pan-Canadian Health Data Content Framework



Core guiding principles

CIHI has adopted a set of core guiding principles to ensure that the Pan-Canadian Health Data Content Framework is person-centric, inclusive and collaboratively developed, and that it is underpinned by high-quality data stewardship, strong governance and widespread interoperability:

Person-centric with a multi-user design: Meet the needs of diverse users, ensuring accessibility and benefit for health care providers, patients and administrators.

Inclusive: Ensure everyone can participate and benefit by considering the needs of under-represented and underserved populations or groups.

Iteratively developed: Continuously improve and refine the Pan-Canadian Health Data Content Framework through feedback and adaptation to emerging needs.

Collaborative through broad stakeholder participation: Engage a wide range of stakeholders to ensure the Pan-Canadian Health Data Content Framework is comprehensive, well-informed and reflective of diverse perspectives.

Managed with strong data governance: Maintain data integrity and reliability through clear policies and procedures for accurate, consistent and secure data management.

Integrated with cohesive data stewardship for high data quality: Facilitate seamless data integration across systems, ensuring responsible and effective data management throughout its life cycle.

Driven for multiple uses and the reuse of data: Design the Pan-Canadian Health Data Content Framework to support various applications, maximizing data value and promoting innovative uses.

Pan-Canadian and interoperable across systems: Ensure interoperability across different provinces, territories and health care systems — supporting national data harmonization — and alignment with international standards.

Data content standard

The data content standard (one of the deliverables of the Pan-Canadian Health Data Content Framework), specifies the data elements and value sets to be used to ensure accuracy, compatibility, uniformity and consistency in how health data is collected, interpreted and exchanged.

This data content standard intends to capture the data that is required for connected clinical practice and for patient access to their own records.

This initial version of the data content standard lays the foundation for subsequent refinements and advancements for a modernized and interoperable health system.

The standard aims to incorporate a person-centred approach. The intended audiences include individuals with lived and living experience, people and communities, health care providers, governing bodies, organizational leaders, researchers and technical users involved in health data management, as well as members of the public who would like to know more about the data content standard.

The standard leveraged several source documents during the development, including the following:

- **Canada:** Patient Summary Canada, Pan-Canadian Primary Health Care EMR Minimum Data Set, Screening for Poverty And Related Social Determinants to Improve Knowledge of and Access to Resources (SPARK) tool, Alliance for Healthier Communities
- **International:** International Patient Summary (ISO 27269)
- **Other jurisdictions:** Australian Core Data for Interoperability, United States' Core Data for Interoperability, United Kingdom's Professional Record Standards Body

Scope

The data content standard aims to reflect comprehensive, coordinated and integrated care provided by interdisciplinary teams to address population health, health promotion and disease prevention, chronic disease management and community health.

The initial scope of the data content standard includes the following categories:

- Person Information
- Allergies and Intolerances
- Immunization
- Medication
- Social Determinants of Health (SDOH)
- Health Concerns

The next iteration will expand the standard with a focus on these additional data categories:

- Care Team
- Family History
- Laboratory
- Medical Imaging
- Organization Information
- Procedures
- Social History
- SDOH (including gender, sex and sexual orientation)
- Vital Signs

Future iterations will include categories such as the following:

- About Me
- Care Coordination and Referrals
- Clinical Notes
- Clinical Tests
- Cross Border
- Developmental Health
- Encounter Information
- Functional Status
- Health Coverage
- Integrated Care Plan

- Legal Information
- Medical Devices and Equipment
- Mental Health
- Nutrition and Diet
- Physical Health
- Reproductive Health
- Research Participation
- Services Provided

The Draft Canadian Core Data for Interoperability (CACDI) Version 1, September 2024, aligned with CA Core+ v0.3.0 (for review and reference only, not an official version) is a subset of CIHI's Pan-Canadian Health Data Content Framework. The CACDI aims to define a standardized set of essential health data elements and associated value sets in the context of a common architecture to support interoperability and data exchange across the Canadian health care ecosystem. The development of the Pan-Canadian Health Data Content Framework and the CACDI will be done in coordination to support a wide range of health data needs, paving the way for ongoing improvements and refinements in the health data ecosystem. Draft CACDI Version 1 data elements are presented in Table 1.

Table 1 Summary of the Draft Pan-Canadian Health Data Content Framework Version 1 categories and Draft CACDI Version 1 data elements

Framework category	CACDI data elements
Person Information	• Person Identifier Type • Person Identifier Value • Given Name • Middle Name • Surname • Name Used • Birth Date
Allergies and Intolerances	• Allergy or Intolerance • Allergy or Intolerance Reaction
Immunization	• Immunization • Immunization Date

Framework category	CACDI data elements
Medication	• Medication • Medication Dose Value • Medication Dose Unit of Measure • Medication Route of Administration • Medication Timing • Medication End Date and Time • Medication Reason
Social Determinants of Health (SDOH)	• Service Language • Indigenous Identity • Racialized Group
Health Concerns	• Health Concern(s) • Health Concern Clinical Status

Note
See Appendix A for a list of all CACDI data elements, including the metadata elements.

Guidance for the reader

The Draft Pan-Canadian Health Data Content Framework, Version 1, including this data content standard, is for review and reference only and is not an official version.

The data content standard includes the following:

- **Data element:** A distinct unit of information that represents a specific attribute or characteristic in a data set
- **Value set:** A defined set of permitted values, along with their codes and definitions, assigned to a data element
- **Maturity levels:** A maturity model (see Table 2) was designed to transparently document the readiness of artifacts in the Pan-Canadian Health Data Content Framework, including data elements, value sets and data architecture components. The maturity model facilitates tracking the evolution of these artifacts over time, enabling continuous refinement and enhancement based on feedback and emerging needs. The maturity of the Pan-Canadian Health Data Content Framework's deliverables will be re-evaluated with each version release.

Table 2 Maturity model

Stage of maturity	Definition
Future development	Coming soon
0: In development	Artifact is a work in progress
1: Draft	Artifact incorporates input from experts
2: Proposed	Artifact has been through at least one round of open public review
3: Ready for use	Artifact is ready for implementation

The following tables provide detailed lists of data elements, definitions, recommended code systems and value sets. The data content standard includes the information that may be collected in one setting (e.g., primary health care clinic), as well as the information that a provider may expect to receive electronically from other providers (e.g., pharmacists, specialists). Value set examples represent display names; further information on codes and concepts is available through the value set hyperlink. Pan-Canadian value sets referenced from the Terminology Gateway may also be found with the same value set name on the Terminology Server.

The table rows that are blue (and that contain an asterisk) indicate that the data may be entered by a person at the point of care (front end); the table rows that are white (that do not contain an asterisk) indicate that the data is derived from other sources at the back end (e.g., machine-generated). Information that is entered at the front end may be entered by a patient (e.g., self-administered questionnaire), an administrator or a provider. Whether the data is front end or back end will vary depending on the administrative and clinical flows of the health care setting, as well as the technical solutions in use.

The table legend is as follows:

- Blue rows with an asterisk represent front-end data.
- White rows without an asterisk represent back-end data.
- Data element names followed by (Essential) indicate that these are components of the CACDI.
- “n/a” within the tables means “not applicable.”

Person Information

The following data elements pertain to administrative information about a person receiving care or other health-related services.

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Person Identifier Type* (Essential)	The category associated with the identifier value (e.g., jurisdictional health number, medical record number)	2: Proposed	IdentifierType (HL7)	• Jurisdictional health number • Medical record number • Passport number	1: Draft
Person Identifier Value* (Essential)	The alphanumeric value and/or number of the health identifier (e.g., A789010, 123456)	2: Proposed	n/a	n/a	n/a
Person Identifier Assigner (Essential)	The legal entity/organization (e.g., Veterans Affairs Canada, Ministry of Health Saskatchewan) responsible for assigning the person identifier	2: Proposed	ClientIdentifierAssigningAuthorityCode (SNOMED CT CA)	• Veterans Affairs Canada • Ministry of Health Saskatchewan • Ministry of Health and Social Services Quebec	2: Proposed
Person Identifier Period (Essential)	The start and end date for the identifier	2: Proposed	n/a	n/a	n/a
Name Type (Essential)	The use of the person's name (e.g., usual, official, old)	2: Proposed	NameUse (HL7)	• Usual • Official • Nickname • Temp	2: Proposed
Name Period	The time period when this name is/was valid	2: Proposed	n/a	n/a	n/a
Given Name* (Essential)	The person's first name as indicated on their government-issued identification (e.g., health card, driver's licence, passport) **Additional guidance** Given Name may be a person's usual name and is captured under Name Used.	2: Proposed	n/a	n/a	n/a

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Middle Name* (Essential)	The person's middle name as indicated on their government-issued identification (e.g., health card, driver's licence, passport)	2: Proposed	n/a	n/a	n/a
Surname* (Essential)	The person's last name as indicated on their government-issued identification (e.g., health card, driver's licence, passport)	2: Proposed	n/a	n/a	n/a
Name Used* (Essential)	The name specified by the person that should be used in the context of health care. Refers to the usual name used by the person when addressing or referencing them and is obtained when a patient informs you what name they use. Examples include nicknames, middle names, language-specific alternatives (e.g., Bill, William, Guillaume, Guillermo) and names that affirm gender identity. **Additional guidance** When implemented, Name Used will be a name with Name Type = usual.	2: Proposed	n/a	n/a	n/a
Personal Pronouns*	A pronoun is a linguistic tool used to refer to people instead of using their name, a noun or noun phrase. Gender pronouns are third-person pronouns that may reference a person's gender identity (e.g., he, she, they) and that may be a part of their gender expression. **Additional guidance** A pan-Canadian value set is in development based on B.C.'s Gender, Sex and Sexual Orientation (GSSO) Health Information Standard and Guidance.	2: Proposed	PersonalPronouns ConceptCode (LOINC, HL7)	• He/him • They/them • Ze/zir • Prefer not to answer • No information	1: Draft

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Previous Given Name*	The first name the person formerly went by **Additional guidance** Previous Given Name is a first name with Name Type = old.	2: Proposed	n/a	n/a	n/a
Previous Surname*	The last name the person formerly went by **Additional guidance** Previous Surname is a last name with Name Type = old.	2: Proposed	n/a	n/a	n/a
Birth Date* (Essential)	The year, month and day the person was born	2: Proposed	n/a	n/a	n/a
Date of Death*	The date the person was confirmed to be deceased based on death determination	2: Proposed	n/a	n/a	n/a
Person Address Information*	Detailed information about the person's address, including the use (e.g., home, work), type (e.g., physical, postal), street, city, province/territory, postal code, country and period (i.e., the start and end date/time of the person's current or historical address information) **Additional guidance** Within the Pan-Canadian Health Data Content Framework, "address" represents a data element that includes the subcomponents referenced in the definition above.	2: Proposed	AddressUse (HL7)	• Home • Work • Old/incorrect	2: Proposed
			AddressType (HL7)	• Postal • Physical • Postal and physical	2: Proposed
No Fixed Address Flag*	An indicator that the person has no fixed address (e.g., unhoused, unsheltered, living in a shelter)	2: Proposed	n/a	n/a	n/a

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Person Telecom Information*	Detailed information about the person's telecommunication details, including the system (e.g., email, phone), value, use (e.g., home, work), rank (e.g., use home number first) and period (i.e., the time period in which the communication method is in use) **Additional guidance** Within the Pan-Canadian Health Data Content Framework, "telecommunication information" represents a data element that includes the subcomponents referenced in the definition above.	2: Proposed	ContactPointSystem (HL7)	• Phone • Fax • Email	2: Proposed
			ContactPointUse (HL7)	• Home • Work • Old	2: Proposed
Contact Surname*	The contact's last name as indicated on their government-issued identification (e.g., health card, driver's licence, passport)	2: Proposed	n/a	n/a	n/a
Contact Given Name*	The contact's first name as indicated on their government-issued identification (e.g., health card, driver's licence, passport)	2: Proposed	n/a	n/a	n/a
Contact Relationship Type*	The contact's relationship to this person (e.g., mother, spouse, step-sibling)	2: Proposed	v3-PersonalRelationshipRoleType (HL7)	• Adopted daughter • Paternal grandfather • Mother	2: Proposed
Contact Relationship Role*	The contact's role within the circle of care (e.g., next of kin, caregiver, emergency contact)	2: Proposed	relatedperson-relationshiptype (HL7)	• Emergency contact • Next of kin • Guardian	2: Proposed
Contact Period	The time period when this contact is/was valid in their respective role to this person	2: Proposed	n/a	n/a	n/a

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Contact Address Information*	Detailed information about the contact's address, including the use (e.g., home, work), type (e.g., physical, postal), street, city, province/territory, postal code, country and period (i.e., the start and end date/time of the person's current or historical address information) **Additional guidance** Within the Pan-Canadian Health Data Content Framework, "address" represents a data element that includes the subcomponents referenced in the definition above.	2: Proposed	AddressUse (HL7)	• Home • Work • Old/incorrect	2: Proposed
			AddressType (HL7)	• Postal • Physical • Postal and physical	2: Proposed
Contact Telecom Information*	Detailed information about the contact's telecommunication details, including the system (e.g., email, phone), value, use (e.g., home, work), rank (e.g., use home number first) and period (i.e., the time period in which the communication method is in use) **Additional guidance** Within the Pan-Canadian Health Data Content Framework, "telecommunication information" represents a data element that includes the subcomponents referenced in the definition above.	2: Proposed	ContactPointSystem (HL7)	• Phone • Fax • Email	2: Proposed
			ContactPointUse (HL7)	• Home • Work • Old	2: Proposed
Ongoing Primary Care Provider Status Flag*	An indicator of whether the person has a regular primary health care provider or organization where they receive care	2: Proposed	n/a	n/a	n/a

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Ongoing Primary Care Provider Period	The time period when this person is/was receiving care from this primary care provider or organization	2: Proposed	n/a	n/a	n/a
Ongoing Primary Care Provider Surname*	The primary care provider's last name as indicated on their regulatory college registration	2: Proposed	n/a	n/a	n/a
Ongoing Primary Care Provider Given Name*	The primary care provider's first name as indicated on their regulatory college registration	2: Proposed	n/a	n/a	n/a
Ongoing Primary Care Provider Address Information*	Detailed information about the ongoing primary care provider's address, including the use (e.g., home, work), type (e.g., physical, postal), street, city, province/territory, postal code, country and period (i.e., the start and end date/time of the person's current or historical address information) **Additional guidance** Within the Pan-Canadian Health Data Content Framework, "address" represents a data element that includes the subcomponents referenced in the definition above.	2: Proposed	AddressUse (HL7)	• Home • Work • Old/incorrect	2: Proposed
			AddressType (HL7)	• Postal • Physical • Postal and physical	2: Proposed

Allergies and Intolerances

The following data elements pertain to information about a person's allergies and/or intolerances and their reactions to substances.

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
No Active Allergy or Intolerance Flag*	An indicator of the absence of any active allergies or intolerances **Additional guidance** This data element is intended to support patient safety as part of clinical care.	2: Proposed	n/a	n/a	n/a
Allergy or Intolerance* (Essential)	The pharmaceutical or biologic product or substance (e.g., peanut) to which the person has an allergy or intolerance	2: Proposed	PharmaceuticalBiologicProductAndSubstanceCode (SNOMED CT CA)	• Bee venom • Dairy sauce • Dog dander	2: Proposed
Allergy or Intolerance Clinical Status*	The status of the allergy or intolerance (e.g., active, inactive, resolved)	2: Proposed	AllergyIntoleranceClinicalStatusCodes (HL7)	• Active • Inactive • Resolved	2: Proposed
Allergy or Intolerance Verification Status*	The confirmation status of the risk of reaction to the identified product or substance	2: Proposed	AllergyIntoleranceVerificationStatus (HL7)	• Unconfirmed • Confirmed • Entered in error	2: Proposed
Allergy or Intolerance Category	The classification of the pharmaceutical, biologic product, or substance (e.g., food, medication, environment) to which the person has the allergy or intolerance	2: Proposed	AllergyIntoleranceCategory (HL7)	• Food • Medication • Environment • Biologic	2: Proposed
Allergy or Intolerance Substance*	The specific substance (e.g., Ara h 2) considered to be responsible for the allergy or intolerance reaction	2: Proposed	SubstanceCode (SNOMED CT CA)	• 1-naththylamine • Blood group antibody Fy5 • Whole milk	2: Proposed
Allergy or Intolerance Type*	The underlying physiological mechanism for the reaction risk (e.g., allergy, intolerance)	2: Proposed	AllergyIntoleranceType (HL7)	• Allergy • Intolerance	2: Proposed
Allergy or Intolerance Onset*	The estimated or actual date when the allergy or intolerance was identified	2: Proposed	n/a	n/a	n/a

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Allergy or Intolerance Exposure Route*	The route by which the person was exposed to the substance	2: Proposed	RouteOfAdministration (SNOMED CT CA)	• Cutaneous route • Dental route • Gastrostomy route	2: Proposed
Allergy or Intolerance Reaction Risk*	Estimate of the potential clinical harm, or seriousness, of the reaction to the identified substance (e.g., low risk, high risk, unable to assess risk)	2: Proposed	AllergyIntolerance Criticality (HL7)	• Low risk • High risk • Unable to assess risk	2: Proposed
Allergy or Intolerance Date of Resolution	The estimated or actual date that the allergy or intolerance was resolved or went into remission	2: Proposed	n/a	n/a	n/a
Allergy or Intolerance Reaction* (Essential)	The person's reaction as a result of exposure to the identified pharmaceutical, biologic product, or substance	2: Proposed	Pan-Canadian Health Concern Value Set (PHCVS) (SNOMED CT CA)	• Photoallergic dermatitis • Allergic bronchitis • Peanut-induced anaphylaxis	2: Proposed
Allergy or Intolerance Reaction Description*	A text description of the reaction, including details of the manifestation	2: Proposed	n/a	n/a	n/a
Allergy or Intolerance Reaction Severity*	The provider's assessment of the severity of the reaction (e.g., mild, moderate, severe)	2: Proposed	AllergyIntolerance Severity (HL7)	• Mild • Moderate • Severe	2: Proposed
Allergy or Intolerance Reaction Date of Onset*	The estimated or actual date when a reaction began	2: Proposed	n/a	n/a	n/a
Allergy or Intolerance Reaction Date of Last Occurrence*	The estimated or actual date of the last known reaction	2: Proposed	n/a	n/a	n/a

Immunization

The following data elements pertain to information about the record of vaccine administration.

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Immunization Guideline Name	The name of the immunization protocol, including the dosing guide and schedule (e.g., hepatitis A immunization guide)	2: Proposed	n/a	n/a	n/a
Immunization Guideline Authority	The authority responsible for publishing the guidelines (e.g., Health Canada, Public Health Agency of Canada)	2: Proposed	n/a	n/a	n/a
Immunization Guideline Target Disease	The vaccine-preventable disease being targeted by the immunization	2: Proposed	VaccinePreventable DiseaseCode (SNOMED CT CA)	• Measles • Lyme disease • Typhoid fever	2: Proposed
Immunization Reporting Source*	The source of information reporting the immunization event (e.g., person, provider)	1: Draft	Immunizationreporting sourcecode (SNOMED CT CA)	• Computer record of patient • Health care professional • Person	1: Draft
Immunization* (Essential)	The immunizing agent identified through its trade name or generic name **Additional guidance** VaccineAdministeredTradeNameCode and PassiveAdministeredImmunizing AgentCode will be used to document an immunization event, while Vaccine HistoricalNameCode and PassiveHistorical ImmunizingAgentCode can be used to record historical immunizations or when the specific immunization details are not known. The pan-Canadian recommended value sets are integrated in the National Vaccine Catalogue, which can be referenced for mapping to additional fields.	2: Proposed	VaccineAdministered TradeNameCode (SNOMED CT CA)	• Inf Xanaflu API • LZV ZOSTAVAX II MC • MMR-Var ProQuad Merck	2: Proposed
			VaccineHistorical NameCode (SNOMED CT CA)	• Pneu-C-7 pneumococcal conjugate 7-valent unspecified • COVID-19 whole inactivated virus unspecified • Inf influenza unspecified	2: Proposed
			PassiveAdministered ImmunizingAgentCode (SNOMED CT CA)	• BAtx BAT Cang • CMVIg Cytogam KIB • HBIg HepaGam B KIB	2: Proposed
			PassiveHistorical ImmunizingAgentCode (SNOMED CT CA)	• CMVIg Cytogam CSL • DAtx Diphtheria antitoxin IOI • HBIg HepaGam B Cang	2: Proposed

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Immunization Expiration Date	The expiration date of the immunization product	2: Proposed	n/a	n/a	n/a
Immunization Manufacturer	The name of the immunization manufacturer	2: Proposed	ImmunizationMarketAuthorizationHolderCode (SNOMED CT CA)	• AstraZeneca Canada Inc. • Baxter Corporation • GlaxoSmithKline Inc.	1: Draft
Immunization Lot Number*	The lot number of the immunization product	2: Proposed	n/a	n/a	n/a
Immunization Series Doses	The recommended number of doses for heightened immunity against the target disease	2: Proposed	n/a	n/a	n/a
Immunization Dose Number*	The dose number within a series (e.g., dose 1 of 2 for shingles immunization)	2: Proposed	n/a	n/a	n/a
Immunization Subpotent Reason*	The reason why the dose is considered to be subpotent	2: Proposed	To be developed	To be developed	Future development
Immunization Reason*	The reason why the immunization product was administered (e.g., routine immunization, high-risk immunization)	2: Proposed	ActImmunizationReason (SNOMED CT CA)	• High-risk immunization • Routine immunization	2: Proposed
Immunization Reason Not Performed*	The reason the immunization event was not performed	2: Proposed	ActNoImmunizationReason (SNOMED CT CA)	• Anaphylaxis to previous dose or a constituent of this vaccine • Guillain-Barré syndrome developed within 0 to 8 weeks of previous immunization • Known immunity confirmed by lab result	2: Proposed
Immunization Dose Volume*	The dose volume of the immunization product being administered	2: Proposed	n/a	n/a	n/a
Immunization Dose Unit of Measure*	The unit of measure for the immunization dose (e.g., mL, mg, mcg)	2: Proposed	PrescriptionDoseQuantityUnit (SNOMED CT CA, UCUM)	• mL • mg • mcg	2: Proposed

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Immunization Route of Administration*	The path by which the immunization product is taken in to or contacts the body (e.g., oral, intramuscular)	2: Proposed	ImmunizationRoute OfAdministrationCode (SNOMED CT CA)	• Infiltrate: INFL • Intradermal: ID • Intramuscular: IM	1: Draft
Immunization Site*	The anatomical site where the immunizing agent was administered (e.g., right deltoid muscle)	2: Proposed	Immunization AdministrationAnatomical SiteCode (SNOMED CT CA)	• Right arm • Left deltoid muscle • Mouth	1: Draft
Immunization Date (Essential)	The date the immunization was administered, refused or deferred	2: Proposed	n/a	n/a	n/a
Immunization Status*	The current status of the immunization event (e.g., completed, entered in error, not done)	2: Proposed	ImmunizationStatusCodes (HL7)	• Completed • Entered in error • Not done	2: Proposed
Immunization Education Note*	The documentation of education and/or resources provided to the person or guardian at the time of immunization administration	2: Proposed	n/a	n/a	n/a
Immunization Supporting Documents*	Additional documents that provide further information about a person's immunization record (e.g., a record from a previous provider or public health unit)	2: Proposed	n/a	n/a	n/a
Immunization Reaction*	The type of immunization reaction (e.g., rash, fever, anaphylaxis)	2: Proposed	Pan-Canadian Health Concern Value Set (PHCVS) (SNOMED CT CA)	• Vaccination site rash • Post vaccination fever • Anaphylaxis	1: Draft
Immunization Reaction Date and Time*	The date and time of the reaction to the immunization	2: Proposed	n/a	n/a	n/a
Immunization Reaction Reporter	The individual who reported a reaction to an immunization (e.g., provider, person)	2: Proposed	n/a	n/a	n/a

Medication

The following data elements pertain to information about prescribed and non-prescribed medications, vitamins, herbal preparations and over-the-counter medications consumed (see Appendix B for data sets related to medication statement, prescription/order and medication administration).

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Medication* (Essential)	The medication name or code (e.g., brand, generic, ingredient) **Additional guidance** The Canadian Clinical Drug Data Set (CCDD) is the recommended interchange terminology between clinical system knowledge bases, such as an electronic medical record (EMR) knowledge base and a pharmacy management system knowledge base. Mapping is currently supported for several knowledge bases, including First Data Bank, Oracle-Cerner, Vigilance Santé and Drugbank. The alternate value set PharmaceuticalBiologicProductAndSubstanceCode can be used for the international use case where a medication is not available in Canada and therefore does not appear in the recommended pan-Canadian value sets. WhoAtcUvIps (ATC) is the recommended supporting classification for reporting and analysis. If the code does not exist in the local EMR (i.e., not on formulary), the medication name will be entered as free text.	2: Proposed	Canadian Clinical Drug Data Set (CCDD)	• Acetaminophen • Acetaminophen 160 mg chewable tablet • Children's Tylenol Chewables (acetaminophen 160 mg chewable tablet) McNeil Consumer Healthcare Division of Johnson & Johnson Inc.	2: Proposed
			HealthCanadaNatural ProductNumber (HCNPN)	• Melatonin 3 mg • Cod liver oil gummy • Cyctek Shan Zhu Yu powder	2: Proposed
			Alternate WhoAtcUvIps (ATC)	• Epinephrine • Oxyquinoline • Magnesium oxide	2: Proposed
			Alternate PharmaceuticalBiologic ProductAndSubstance Code (SNOMED CT CA)	• (+)-delta-cadinene synthase • 1,1,2-trichloroethane • 1,2-dichloroethane	2: Proposed

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Medication Expiry Date*	The expiration date of the medication	2: Proposed	n/a	n/a	n/a
Medication Manufacturer	The manufacturer of the medication	2: Proposed	n/a	n/a	n/a
Medication Lot Number*	The lot number of the medication	2: Proposed	n/a	n/a	n/a
Medication Form*	The physical form (e.g., liquid, tablet) of the pharmacological agent	2: Proposed	PrescriptionDrugForm (HL7, SNOMED CT CA)	• Aerosol • Chewable tablet • Cream	2: Proposed
Medication Ingredients	A list of substances that — alone or in combination with 1 or more other ingredients — produce the intended activity of a medicinal product **Additional guidance** The alternate value set DrugOrMedicamentSubstanceCode (SNOMED CT CA) can be used for the international use case where the medication or substance is not available in Canada and therefore does not appear in the recommended pan-Canadian value set.	2: Proposed	Therapeutic Moiety™ (CCDD)	• Acetaminophen and caffeine • Acetylsalicylic acid • Amoxicillin	2: Proposed
			Alternate DrugOrMedicament SubstanceCode (SNOMED CT CA)	• Coagulation factor IX • Epinephrine • Fentanyl	2: Proposed
Medication Active Ingredient Flag	An indicator that the ingredient is an active ingredient (i.e., has a therapeutic action)	2: Proposed	n/a	n/a	n/a
Medication Dose Value* (Essential)	The prescribed quantity of medication to be taken for each administration (e.g., 50)	2: Proposed	n/a	n/a	n/a
Medication Dose Unit of Measure* (Essential)	The unit of measure for the medication dose (e.g., mg, IU, capsule[s])	2: Proposed	PrescriptionDose QuantityUnit (SNOMED CT CA, UCUM)	• Capsule(s) • Drop(s) • mg	2: Proposed

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Prescribed Medication Dose Type*	The kind of dose or rate specified (e.g., whether it is an ordered or calculated dose)	2: Proposed	To be developed	To be developed	Future development
Medication Ingredient Strength Value*	The quantity of the ingredient present in the medication (e.g., 50)	2: Proposed	n/a	n/a	n/a
Medication Ingredient Strength Unit of Measure*	The unit of measure for the medication ingredient (e.g., mg, mL, IU)	2: Proposed	x_DrugUnitsOfMeasure (UCUM)	• Gram • Millilitre • International unit	2: Proposed
Medication Route of Administration* (Essential)	The path by which the pharmaceutical product is taken in to or contacts the body (e.g., oral, intramuscular)	2: Proposed	RouteOfAdministration (SNOMED CT CA, UCUM)	• Buccal route • Epidural route • Ileostomy route	2: Proposed
Medication Timing* (Essential)	The frequency and timing of the medication to be taken (e.g., BID, TID, QD)	2: Proposed	To be developed	To be developed	Future development
Medication Dosage as Needed Flag*	An indicator of whether the medication is or was taken on an as-needed basis	2: Proposed	n/a	n/a	n/a
Medication Duration Value*	The value of the duration for which the medication will be taken (e.g., 10)	2: Proposed	n/a	n/a	n/a
Medication Duration Unit of Time*	The unit of time for the medication duration (e.g., minutes, days, weeks)	2: Proposed	x_TimeUnitsOfMeasure (UCUM)	• Day(s) • Minute(s) • Year(s)	1: Draft
Medication Total Quantity Value*	The total numerical quantity of medication requested or dispensed (e.g., 100)	2: Proposed	n/a	n/a	n/a

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Medication Total Quantity Unit of Measure*	The unit of measure for the total numerical quantity of medication requested or dispensed (e.g., tablet[s], mL)	2: Proposed	PrescriptionDose QuantityUnit (SNOMED CT CA, UCUM)	• Capsule(s) • Drop(s) • mg	2: Proposed
Medication Repeats*	The number of refills/repeats associated with the prescription	2: Proposed	n/a	n/a	n/a
Medication Usage Start Date and Time*	The date and time the person is supposed to start the medication	2: Proposed	n/a	n/a	n/a
Prescribed Medication No Substitution Flag*	An indicator that no substitutions can be made for the requested medication	2: Proposed	n/a	n/a	n/a
Medication End Date and Time* (Essential)	The date and time the medication was stopped, if available	2: Proposed	n/a	n/a	n/a
Medication Dosage Instructions*	Instructions for the person on how to take the medication (e.g., with meals), or warnings regarding the medication (e.g., may cause drowsiness) **Additional guidance** Further development is planned for dosage instructions to reflect various prescribing needs.	2: Proposed	n/a	n/a	n/a
Medication Reason* (Essential)	The sign, symptom or health condition that the medication is or was prescribed to improve or treat	2: Proposed	Pan-Canadian Health Concern Value Set (PHCVS) (SNOMED CT CA)	• Bacterial sepsis • Pneumonia and influenza • Pain of joint of knee	2: Proposed
Medication Request Intent*	Indicates whether the request is a proposal, plan or original order	2: Proposed	medicationrequest-intent (HL7)	• Proposal • Plan • Order	2: Proposed

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Medication Notes*	Note(s) associated with the medication statement, prescription or administration **Additional guidance** Limited use and exceptional medications can be included in instructions to the pharmacy as part of the medication note.	2: Proposed	n/a	n/a	n/a
Medication Supporting Information*	Information to support the medication statement, prescription or administration	2: Proposed	n/a	n/a	n/a
Medication Request Authored on Date	The date that the medication request was made	2: Proposed	n/a	n/a	n/a
Medication Request Status*	The status of the medication request (e.g., active, completed)	2: Proposed	medicationrequest-status (HL7)	• Active • On hold • Cancelled	2: Proposed
Medication Request Status Reason*	The reason for the current status of the medication request (e.g., try another treatment first, drug level too high, allergy)	2: Proposed	To be developed	To be developed	Future development
Medication Administration and/or Statement Request	A reference to the medication request that the medication administration and/or statement is associated with	2: Proposed	n/a	n/a	n/a
Medication Administration Body Site*	The body site where the medication was administered	2: Proposed	PrescriptionAdministration Site (SNOMED CT CA, HL7)	• Affected area • Both eyes • Forehead	2: Proposed
Medication Administration Status*	The status of the medication administration (e.g., completed, in progress, on hold)	2: Proposed	MedicationAdministration StatusCodes (HL7)	• In progress • Not done • Completed	2: Proposed

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Medication Administration Status Reason*	A code indicating the reason why the medication administration was not performed	2: Proposed	To be developed	To be developed	Future development
Medication Administration Date and Time*	The date and time when the medication was administered	2: Proposed	n/a	n/a	n/a
Medication Statement Date and Time*	The date and time when the medication statement was obtained by the information source	2: Proposed	n/a	n/a	n/a
Medication Usage Status*	The status of each medication the person is taking or has taken (e.g., active, completed, entered in error)	2: Proposed	medication-statement-status (HL7)	• Active • Completed • Entered in error	2: Proposed
Medication Usage Status Reason*	The reason for the current status of each medication the person is taking or has taken (e.g., drug not taken, treatment stopped)	2: Proposed	To be developed	To be developed	Future development
Medication Incident Description*	An event or circumstance related to medication that could have resulted or did result in unnecessary harm to the patient (e.g., prescription, administration)	2: Proposed	n/a	n/a	n/a
No Active Medications Flag*	An indicator that the person reports not currently taking any medications, including prescribed and/or over-the-counter products **Additional guidance** This data element is intended to support patient safety as part of clinical care.	2: Proposed	n/a	n/a	n/a
Medication Reconciliation Complete Flag*	An indicator that medication reconciliation has been completed **Additional guidance** This data element is intended to support patient safety as part of clinical care.	2: Proposed	n/a	n/a	n/a

Social Determinants of Health (SDOH)

The following data elements pertain to a detailed assessment of a person's needs related to the social determinants of health, including social and demographic information. The SDOH data elements in this category were leveraged from the questions in Upstream Lab's Screening for Poverty And Related Social Determinants to Improve Knowledge of and Access to Resources (SPARK) tool. For a copy of the SPARK tool, please visit Upstream Lab's website.

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Service Language* (Essential)	The person's preferred language of service	2: Proposed	To be developed	• n/a	0: In development
Indigenous Identity* (Essential)	The person's self-identification as First Nations, Inuk/Inuit and/or Métis **Additional guidance** Implementation of the Indigenous identity data standard should include data governance agreements, engagement with Indigenous groups and processes related to culturally safe and appropriate data collection. The Indigenous identity data standard is a minimum data collection standard. More granular information on specific populations and/or Nations within each category may be collected, as long as consistency is maintained by having these subcategories roll up to the minimum standard for reporting.	2: Proposed	IndigenousIdentityCode (SNOMED CT CA, HL7)	• First Nations • Inuk/Inuit • Métis	2: Proposed
Born in Canada Status*	An indicator of whether the person was born in Canada	2: Proposed	To be developed	n/a	n/a
Time Since Arrival in Canada*	The length of time since the person arrived in Canada	2: Proposed	To be developed	n/a	n/a

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Ethnicity*	A multi-dimensional concept referring to community belonging and a shared cultural group membership. It is related to socio-demographic characteristics, including language, religion, geographic origin, nationality, cultural traditions, ancestry and migration history.	2: Proposed	To be developed	n/a	0: In development
Racialized Group* (Essential)	A social construct used to judge and categorize people based on perceived differences in physical appearance in ways that create and maintain power differentials within social hierarchies. There is no scientifically supported biological basis for discrete racial groups. Due to the inherent complexity of race identity, a person's association with a racialized group is through self-identification. **Additional guidance** The collection of race-based data should involve community engagement to mitigate the risk of harm to individuals and communities, and to ensure the safe and appropriate use of the data. Individuals can select all racialized group categories that apply. The race-based data standard is a minimum data collection standard. More granular information on specific populations within each category may be collected, as long as consistency is maintained by having these subcategories roll up to the minimum standard for reporting.	2: Proposed	RacializedGroupCode (SNOMED CT CA, HL7)	• East Asian • Indigenous • Latin American	2: Proposed

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Religious or Spiritual Affiliations*	The person's religious or spiritual beliefs and/or practices	2: Proposed	To be developed	n/a	0: In development
Gender Used*	Represents the gender identity that a person wishes to have recorded on legal documents or for the purposes of interactions with official agencies (e.g., driver's licence) **Additional guidance** Gender Used is intended to replace the historic concept of administrative gender. A pan-Canadian value set is in development based on B.C.'s Gender, Sex and Sexual Orientation (GSSO) Health Information Standard and Guidance.	2: Proposed	GenderUsedConceptCode (SNOMED CT CA, HL7)	• Woman/girl • Man/boy • Nonbinary • Unknown • No information	1: Draft
Gender Identity*	An individual's personal experience of being a woman, man, nonbinary or how the person prefers to self-describe. People may identify with more than one gender identity or use different gender identities in different settings. **Additional guidance** Indigenous Gender Identity as a separate data element is being considered for future development with First Nations, Inuit and Métis stakeholders. A pan-Canadian value set is in development based on B.C.'s Gender, Sex and Sexual Orientation (GSSO) Health Information Standard and Guidance.	2: Proposed	GenderIdentityConceptCode (SNOMED CT CA, HL7)	• Woman/girl • Nonbinary • Transman • Prefer not to answer	1: Draft

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Sex at Birth*	The sex of a person at birth, which is a clinical finding usually determined by a clinician based on phenotypic (e.g., genitals, gonads), physiologic (e.g., hormone levels) and/or genetic characteristics **Additional guidance** A pan-Canadian value set is in development based on B.C.'s Gender, Sex and Sexual Orientation (GSSO) Health Information Standard and Guidance.	2: Proposed	SexAtBirthConceptCode (SNOMED CT CA, HL7)	• Male • Intersex • Indeterminate • Prefer not to answer	1: Draft
Recorded Sex or Gender*	Refers to the documented sex or gender of an individual used for clinical, official or legal purposes where only 1 data field for sex and gender is available, and where it is the value found in the local system and/or historical documentation **Additional guidance** This data element is for legacy systems that have historically conflated sex and gender as concepts. In time, with increased use and accuracy of the collection of sex and gender as separate concepts, this data element will be retired. This data element name may vary across jurisdictions and may also be called "Health Services Sex or Gender Marker," "Administrative Gender or Sex," "Legal Gender or Sex," "Recorded Gender or Sex," "Documented Gender or Sex," etc. A pan-Canadian value set is in development based on B.C.'s Gender, Sex and Sexual Orientation (GSSO) Health Information Standard and Guidance.	2: Proposed	HealthServicesSexOrGenderConceptCode (LOINC, HL7)	• F • M • X • Unknown • No information	1: Draft

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Sexual Orientation*	Refers to how a person describes their sexuality or "who a person can be romantically or physically attracted to" **Additional guidance** A pan-Canadian value set is in development based on B.C.'s Gender, Sex and Sexual Orientation (GSSO) Health Information Standard and Guidance.	2: Proposed	SexualOrientationConceptCode (SNOMED CT, HL7)	• Heterosexual • Gay • Undecided • Prefer not to answer	1: Draft
Sex Parameter for Clinical Use*	A parameter that provides guidance on how a recipient should apply settings or reference ranges that are derived from observable information such as an organ inventory, recent hormone lab tests, genetic testing, menstrual status or obstetric history **Additional guidance** A pan-Canadian value set is in development based on B.C.'s Gender, Sex and Sexual Orientation (GSSO) Health Information Standard and Guidance.	2: Proposed	SexParameterForClinicalUseConceptCode (HL7)	• Apply female-typical setting or reference range • Apply male-typical setting or reference range • Apply specified setting or reference range • Unknown • No information	1: Draft
Social Supports*	The actual or perceived availability of family, friends, neighbours and/or community that a person can confide in or rely on to feel more socially connected and secure	2: Proposed	To be developed	n/a	0: In development
Relationship Status*	The person's legal marital, common-law or union status	2: Proposed	To be developed	n/a	0: In development
Education Level*	The person's highest level of education obtained	2: Proposed	To be developed	n/a	0: In development
Employment Status*	The person's current employment status	2: Proposed	To be developed	n/a	0: In development
Household Income*	The sum of the total incomes of all members of a household	2: Proposed	To be developed	n/a	0: In development

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Financial Stability*	Information about a person's ability to pay for their household's basic needs (e.g., food, water, housing, clothing)	2: Proposed	To be developed	n/a	0: In development
Housing Stability*	The person's current housing situation (e.g., housed, unhoused)	2: Proposed	To be developed	n/a	0: In development
Household Composition*	Information about who the person lives with (e.g., parents, children, spouse)	2: Proposed	To be developed	n/a	0: In development
Housing Condition*	The physical infrastructure of the residence (e.g., overcrowding, leaking roof, no bath/ shower, no flushing toilet)	2: Proposed	To be developed	n/a	0: In development
Access to Food*	The person's ability to access or afford food over the past 12 months	2: Proposed	To be developed	n/a	0: In development
Access to Medication*	The person's ability to access or afford medicine over the past 12 months	2: Proposed	To be developed	n/a	0: In development
Access to Internet*	The person's ability to access or afford the internet over the past 12 months	2: Proposed	To be developed	n/a	0: In development
Access to a Phone*	The person's ability to access or afford a telephone over the past 12 months	2: Proposed	To be developed	n/a	0: In development
Access to Transportation*	The person's ability to access or afford public or private transportation over the past 12 months	2: Proposed	To be developed	n/a	0: In development
Access to Utilities*	The person's ability to access or afford utilities over the past 12 months (e.g., heat, electricity, water)	2: Proposed	To be developed	n/a	0: In development
Access to Child Care*	The person's ability to access or afford child care over the past 12 months	2: Proposed	To be developed	n/a	0: In development
Experience With Interpersonal Violence*	The person's experience with interpersonal violence (e.g., physical, sexual or emotional abuse; economic control; isolation or other kinds of coercive behaviour)	1: Draft	To be developed	n/a	0: In development
Legal History*	The person's experiences with the judicial system (e.g., has spent time in a correctional facility, is involved in legal proceedings)	2: Proposed	To be developed	n/a	0: In development

Health Concerns

The following data elements pertain to the identification of the nature, cause or manifestation of a person's condition, situation or problem.

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Health Concern Reporting Source*	The source of information reporting the health concern (e.g., person, provider)	1: Draft	n/a	n/a	n/a
Health Concern(s)* (Essential)	Code(s) representing active and historical health-related conditions or issues requiring attention **Additional guidance** ICD-10-CA is the recommended supporting classification. ICD-9-CM currently supports historical implementations for physician billing and is not recommended for new implementers as it is no longer maintained.	2: Proposed	Pan-Canadian Health Concern Value Set (PHCVS) (SNOMED CT CA)	• Bacterial sepsis • Pneumonia and influenza • Pain of joint of knee	2: Proposed
			Alternate ICD-9-CM	• Septicaemia, other specified septicaemias • Influenza, with pneumonia • Other and unspecified disorder of joint, pain in joint	2: Proposed
			Alternate ICD-10-CA	• Other specified sepsis • Influenza with pneumonia, virus not identified • Pain in joint, lower leg	2: Proposed
Health Concern Body Site*	The anatomical site where the health concern is reported (e.g., right deltoid muscle)	2: Proposed	AnatomicalOrAcquiredBodyStructureCode (SNOMED CT CA)	• Abdominal aorta structure • Abnormal cell • Acquired body structure	2: Proposed
Health Concern Severity*	The subjective assessment of the severity of the condition	2: Proposed	SeverityCode (SNOMED CT CA)	• Fatal • Life-threatening severity • Mild	2: Proposed
Health Concern Evidence*	A code indicating a manifestation or a symptom that led to the reporting of the health concern	2: Proposed	To be developed	To be developed	Future development

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Health Concern Date of Onset*	The estimated or actual date that the health concern or condition started	2: Proposed	n/a	n/a	n/a
Health Concern Date of Resolution*	The estimated or actual date that the health concern or condition subsided or resolved	2: Proposed	n/a	n/a	n/a
Health Concern Date of Diagnosis*	The estimated or actual date of diagnosis of the health concern	2: Proposed	n/a	n/a	n/a
Health Concern Clinical Status* (Essential)	The current status of the health concern or condition (e.g., active, resolved)	2: Proposed	ConditionClinical StatusCodes (HL7)	• Active • Recurrence • Relapse	2: Proposed
Health Concern Category*	Indicates whether the health concern is a problem list item or an encounter diagnosis A problem list item is an item on a problem list that can be managed over time and can be expressed by a provider (e.g., physician, nurse), person or related person. An encounter diagnosis is a point-in-time diagnosis by a provider (e.g., physician, nurse) in the context of an encounter.	2: Proposed	ConditionCategoryCodes (HL7)	• Problem list item • Encounter diagnosis	2: Proposed
Health Concern Verification Status*	The verification status of the condition (e.g., confirmed, differential)	2: Proposed	ConditionVerification Status (HL7)	• Unconfirmed • Provisional • Differential	2: Proposed
Health Concern Supporting Documents*	Documents or resources that provide context and/or supporting evidence related to a health concern or diagnosis (e.g., scan results)	2: Proposed	n/a	n/a	n/a

Appendix A: Canadian Core Data for Interoperability data elements and supporting architecture

The following tables contain all the data elements that are required to support collection and exchange of essential health data. This list includes metadata elements and concepts that provide additional context for understanding and implementation.

A model of all CACDI elements can be accessed through https://infocentral.infoway-inforoute.ca/en/collaboration/communities-2/pancanadian-health-data-content-framework-2.

Person Information

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Person Identifier Type*	The category associated with the identifier value (e.g., jurisdictional health number, medical record number, passport number)	2: Proposed	IdentifierType (HL7)	• Jurisdictional health number • Medical record number • Passport number	1: Draft
Person Identifier Value*	The alphanumeric value and/or number of the health identifier (e.g., A789010, 123456)	2: Proposed	n/a	n/a	n/a
Person Identifier Assigner	The legal entity/organization (e.g., Veterans Affairs Canada, Ministry of Health Saskatchewan) responsible for assigning the person identifier	2: Proposed	ClientIdentifierAssigningAuthorityCode (SNOMED CT CA)	• Veterans Affairs Canada • Ministry of Health Saskatchewan • Ministry of Health and Social Services Quebec	2: Proposed
Person Identifier System	Establishes the namespace for the value (i.e., an absolute URL that describes a set of values that are unique)	1: Draft	n/a	n/a	n/a
Person Identifier Period	The start and end date for the identifier	2: Proposed	n/a	n/a	n/a

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Name Type	The use of the person's name (e.g., usual, official, old)	2: Proposed	NameUse (HL7)	• Usual • Official • Nickname • Temp	2: Proposed
Given Name*	The person's first name as indicated on their government-issued identification (e.g., health card, driver's licence, passport) **Additional guidance** Given Name may be a person's usual name and is captured under Name Used.	2: Proposed	n/a	n/a	n/a
Middle Name*	The person's middle name as indicated on their government-issued identification (e.g., health card, driver's licence, passport)	2: Proposed	n/a	n/a	n/a
Surname*	The person's last name as indicated on their government-issued identification (e.g., health card, driver's licence, passport)	2: Proposed	n/a	n/a	n/a
Name Used*	The name specified by the person that should be used in the context of health care. Refers to the usual name used by the person when addressing or referencing them and is obtained when a patient informs you what name they use. Examples include nicknames, middle names, language-specific alternatives (e.g., Bill, William, Guillaume, Guillermo) and names that affirm gender identity. **Additional guidance** When implemented, Name Used will be a name with Name Type = usual.	2: Proposed	n/a	n/a	n/a
Birth Date*	The year, month and day the person was born	2: Proposed	n/a	n/a	

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Effective Date and Time	The first date and time at which the information specified is documented as valid	1: Draft	n/a	n/a	n/a
Expiry Date and Time	The last date and time by which the information specified is documented as valid	1: Draft	n/a	n/a	n/a
Party Role Relationship Type	A classification of Party Role Relationships that a Party Role can participate in	1: Draft	Supporting architecture	• Is sister of • Is managed by • Is contact for	0: In development
Party Role Type Code	A classification of roles that Parties can fulfill	1: Draft	Supporting architecture	• Patient • Provider • Primary care organization	0: In development
Party Type Code	The classification of a Party as a Person, Organization or Party Group	1: Draft	Supporting architecture	• Person • Organization • Party Group	0: In development

Allergies and Intolerances

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Allergy or Intolerance*	The pharmaceutical or biologic product or substance (e.g., peanut) to which the person has an allergy or intolerance	2: Proposed	PharmaceuticalBiologicProductAndSubstanceCode (SNOMED CT CA)	• Bee venom • Dairy sauce • Dog dander	2: Proposed
Allergy or Intolerance Reaction*	The person's reaction as a result of exposure to the identified pharmaceutical, biologic product, or substance	2: Proposed	Pan-Canadian Health Concern Value Set (PHCVS) (SNOMED CT CA)	• Photoallergic dermatitis • Allergic bronchitis • Peanut-induced anaphylaxis	2: Proposed

Immunization

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Immunization Reporting Source*	The source of information reporting the immunization event (e.g., person, provider)	1: Draft	ImmunizationReportingSourceCode (SNOMED CT CA)	• Computer record of patient • Health care professional • Person	1: Draft
Immunization*	The immunizing agent identified through its trade name or generic name **Additional guidance** VaccineAdministeredTradeName-Code and PassiveAdministered-ImmunizingAgentCode will be used to document an immunization event, while VaccineHistorical-NameCode and PassiveHistorical-ImmunizingAgentCode can be used for recording historical immunizations or when the specific immunization details are not known. The Pan-Canadian recommended value sets are integrated within the National Vaccine Catalogue, which can be referenced for mapping to additional fields.	2: Proposed	VaccineAdministeredTradeNameCode (SNOMED CT CA)	• Inf Xanaflu API • LZV ZOSTAVAX II MC • MMR-Var ProQuad Merck	2: Proposed
			VaccineHistoricalNameCode (SNOMED CT CA)	• Pneu-C-7 pneumococcal conjugate 7-valent unspecified • COVID-19 whole inactivated virus unspecified • Inf influenza unspecified	2: Proposed
			PassiveAdministeredImmunizingAgentCode (SNOMED CT CA)	• BAtx BAT Cang • CMVIg Cytogam KIB • HBIg HepaGam B KIB	2: Proposed
			PassiveHistoricalImmunizingAgentCode (SNOMED CT CA)	• CMVIg Cytogam CSL • DAtx Diphtheria antitoxin IOI • HBIg HepaGam B Cang	2: Proposed
Immunization Date	The date the immunization was administered, refused or deferred	2: Proposed	n/a	n/a	n/a

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Event Start Date and Time	The date and time that a health service event starts	2: Proposed	n/a	n/a	n/a
Health Service Event Type	The categorization of the health service event	1: Draft	Supporting architecture	• Immunization • Oral surgery	0: In development
Party Role Type Code	A classification of roles that Parties can fulfill	1: Draft	Supporting architecture	• Patient • Provider • Primary care organization	0: In development
Party Type Code	The classification of a Party as a Person, Organization or Party Group	1: Draft	Supporting architecture	• Person • Organization • Party Group	0: In development

Medication

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Medication*	The medicinal name or code (e.g., brand, generic, ingredient) **Additional guidance** The Canadian Clinical Drug Data Set (CCDD) is the recommended interchange terminology between clinical system knowledge bases, such as an EMR knowledge base and a pharmacy management system knowledge base. Mapping is currently supported for several knowledge bases, including the First Data Bank, Oracle-Cerner, Vigilance Santé and Drugbank. The alternate value set Pharmaceutical-BiologicProductAndSubstanceCode can be used for the international use case where a medication is not available in Canada and therefore does not appear in the recommended pan-Canadian value sets. WhoAtcUvIp (ATC) is the recommended supporting classification for reporting and analysis. If the code does not exist in the local EMR (i.e., not on-formulary), the medication name will be entered as free text.	2: Proposed	Canadian Clinical Drug Data Set (CCDD)	• Acetaminophen • Acetaminophen 160 mg chewable tablet • Children's Tylenol Chewables (acetaminophen 160 mg chewable tablet) McNeil Consumer Healthcare Division of Johnson & Johnson Inc.	2: Proposed
			HealthCanadaNatural ProductNumber (HCNPN)	• Melatonin 3 mg • Cod liver oil gummy • Cyctek Shan Zhu Yu powder	2: Proposed
			Alternate WhoAtcUvIps (ATC)	• Epinephrine • Oxyquinoline • Magnesium oxide	2: Proposed
			Alternate PharmaceuticalBiologic ProductAndSubstanceCode (SNOMED CT CA)	• (+)-delta-cadinene synthase • 1,1,2-trichloroethane • 1,2-dichloroethane	2: Proposed
Medication Dose Value*	The prescribed quantity of medication to be taken for each administration (e.g., 50)	2: Proposed	n/a	n/a	n/a

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Medication Dose Unit of Measure*	The unit of measure for the medication dose (e.g., mg, IU, capsule[s])	2: Proposed	PrescriptionDoseQuantity Unit (SNOMED CT CA, UCUM)	• Capsule(s) • Drop(s) • mg	2: Proposed
Medication Route of Administration*	The path by which the pharmaceutical product is taken in to or contacts the body (e.g., oral, intramuscular)	2: Proposed	RouteOfAdministration (SNOMED CT CA)	• Buccal route • Epidural route • Ileostomy route	2: Proposed
Medication Timing*	The frequency and timing of the medication to be taken (e.g., BID, TID, QD)	2: Proposed	To be developed	To be developed	Future development
Medication End Date and Time*	The date and time the medication was stopped, if available	2: Proposed	n/a	n/a	n/a
Medication Reason*	The sign, symptom or health condition that the medication is or was prescribed to improve or treat	2: Proposed	Pan-Canadian Health Concern Value Set (PHCVS) (SNOMED CT CA)	• Bacterial sepsis • Pneumonia and influenza • Pain of joint of knee	2: Proposed
Code System URI	The URI of the system that creates and maintains the value set codes	1: Draft	n/a	n/a	n/a
Medication Event Type	The categorization of the medication event as medication statement, medication request or medication administration	1: Draft	Supporting architecture	• Medication statement • Medication request	1: Draft
Party Type Code	The classification of a Party as a Person, Organization or Party Group	1: Draft	Supporting architecture	• Person • Organization • Party Group	0: In development
Party Role Type Code	A classification of roles that Parties can fulfill	1: Draft	Supporting architecture	• Patient • Provider • Primary care organization	0: In development

Social Determinants of Health (SDOH)

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Service Language*	The person's preferred language of service	2: Proposed	To be developed	n/a	0: In development
Indigenous Identity*	The person's self-identification as First Nations, Inuk/Inuit and/or Métis **Additional guidance** The implementation of the Indigenous identity data standard should include data governance agreements, engagement with Indigenous groups, and processes related to culturally safe and appropriate data collection. The Indigenous identity data standard is a minimum data collection standard. More granular information on specific populations and/or Nations within each category may be collected, as long as consistency is maintained by having these subcategories roll up to the minimum standard for reporting.	2: Proposed	IndigenousIdentityCode (SNOMED CT CA, HL7)	• First Nations • Inuk/Inuit • Métis	2: Proposed

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Racialized Group*	A social construct used to judge and categorize people based on perceived differences in physical appearance in ways that create and maintain power differentials within social hierarchies. There is no scientifically supported biological basis for discrete racial groups. Due to the inherent complexity of race identity, a person's association with a racialized group is through self-identification. **Additional guidance** The collection of race-based data should involve community engagement to mitigate the risk of harm to individuals and communities, and to ensure the safe and appropriate use of the data. The race-based data standard is a minimum data collection standard. More granular information on specific populations within each category may be collected, as long as consistency is maintained by having these subcategories roll up to the minimum standard for reporting. Individuals can select all racialized group categories that apply.	2: Proposed	RacializedGroupCode (SNOMED CT CA, HL7)	• East Asian • Indigenous • Latin American	2: Proposed
Party Type Code	The classification of a Party as a Person, Organization or Party Group	1: Draft	Supporting architecture	• Person • Organization • Party Group	0: In development
Party Role Type Code	A classification of roles that Parties can fulfill	1: Draft	Technical attribute	• Patient • Provider • Primary care organization	0: In development

Health Concerns

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Health Concern Clinical Status*	The current status of the health concern or condition (e.g., active, resolved)	2: Proposed	ConditionClinicalStatusCodes (HL7)	• Active • Recurrence • Relapse	2: Proposed
Health Concern(s)*	Code(s) representing active and historical health-related conditions or issues requiring attention **Additional guidance** ICD-10-CA is the recommended supporting classification. ICD-9-CM currently supports historical implementations for physician billing and is not recommended for new implementers as it is no longer maintained.	2: Proposed	Pan-Canadian Health Concern Value Set (PHCVS) (SNOMED CT CA)	• Bacterial sepsis • Pneumonia and influenza • Pain of joint of knee	2: Proposed
			Alternate ICD-9-CM	• Septicaemia, other specified septicaemias • Influenza, with pneumonia • Other and unspecified disorder of joint, pain in joint	2: Proposed
			Alternate ICD-10-CA	• Other specified sepsis • Influenza with pneumonia, virus not identified • Pain in joint, lower leg	2: Proposed

Appendix B: Medication Statement, Prescription or Order, and Administration

Data element name	Data element definition	Drug product	Statement	Prescription or order	Administration
Medication* (Essential)	The medication name or code (e.g., brand, generic, ingredient)	Applicable	Applicable	Applicable	Applicable
Medication Expiry Date*	The expiration date of the medication	Applicable	n/a	n/a	n/a
Medication Manufacturer	The manufacturer of the medication	Applicable	n/a	n/a	n/a
Medication Lot Number*	The lot number of the medication	Applicable	n/a	n/a	Applicable
Medication Form*	The physical form (e.g., liquid, tablet) of the pharmacological agent	Applicable	n/a	n/a	n/a
Medication Ingredients	A list of substances that — alone or in combination with 1 or more other ingredients — produce the intended activity of a medicinal product	Applicable	n/a	n/a	n/a
Medication Active Ingredient Flag	An indicator that the ingredient is an active ingredient (i.e., has a therapeutic action)	Applicable	n/a	n/a	n/a
Medication Dose Value* (Essential)	The prescribed quantity of medication to be taken for each administration (e.g., 50)	n/a	Applicable	Applicable	Applicable
Medication Dose Unit of Measure* (Essential)	The unit of measure for the medication dose (e.g., mg, IU, capsule[s])	n/a	Applicable	Applicable	Applicable
Prescribed Medication Dose Type*	The kind of dose or rate specified (e.g., whether it is an ordered or calculated dose)	n/a	Applicable	Applicable	Applicable
Medication Ingredient Strength Value*	The quantity of the ingredient present in the medication (e.g., 50)	Applicable	Applicable	Applicable	n/a

Data element name	Data element definition	Drug product	Statement	Prescription or order	Administration
Medication Ingredient Strength Unit of Measure*	The unit of measure for the medication ingredient (e.g., mg, mL, IU)	Applicable	Applicable	Applicable	n/a
Medication Route of Administration* (Essential)	The path by which the pharmaceutical product is taken in to or contacts the body (e.g., oral, intramuscular)	Applicable	Applicable	Applicable	Applicable
Medication Timing* (Essential)	The frequency and timing of the medication to be taken (e.g., BID, TID, QD)	n/a	Applicable	Applicable	n/a
Medication Dosage as Needed Flag*	An indicator of whether the medication is or was taken on an as-needed basis	n/a	Applicable	Applicable	n/a
Medication Duration Value*	The value of the duration for which the medication will be taken (e.g., 10)	n/a	Applicable	Applicable	n/a
Medication Duration Unit of Time*	The unit of time for the medication duration (e.g., minutes, days, weeks)	n/a	Applicable	Applicable	n/a
Medication Total Quantity Value*	The total numerical quantity of medication requested or dispensed (e.g., 100)	n/a	Applicable	Applicable	n/a
Medication Total Quantity Unit of Measure*	The unit of measure for the total numerical quantity of medication requested or dispensed (e.g., tablet[s], mL)	n/a	Applicable	Applicable	n/a
Medication Repeats*	The number of refills/repeats associated with the prescription	n/a	Applicable	Applicable	n/a
Medication Usage Start Date and Time*	The date and time the person is supposed to start the medication	n/a	Applicable	Applicable	Applicable
Prescribed Medication No Substitution Flag*	An indicator that no substitutions can be made for the requested medication	n/a	Applicable	Applicable	n/a
Medication End Date and Time* (Essential)	The date and time the medication was stopped, if available	n/a	Applicable	Applicable	Applicable

Data element name	Data element definition	Drug product	Statement	Prescription or order	Administration
Medication Dosage Instructions*	Instructions for the person on how to take the medication (e.g., with meals), or warnings regarding the medication (e.g., may cause drowsiness)	n/a	Applicable	Applicable	n/a
Medication Reason* (Essential)	The sign, symptom or health condition that the medication is or was prescribed to improve or treat	n/a	Applicable	Applicable	Applicable
Medication Request Intent*	Indicates whether the request is a proposal, plan or original order	n/a	n/a	Applicable	n/a
Medication Notes*	Note(s) associated with the medication statement, prescription or administration	n/a	Applicable	Applicable	Applicable
Medication Supporting Information*	Information to support the medication statement, prescription or administration	n/a	Applicable	Applicable	Applicable
Medication Request Authored on Date	The date that the medication request was made	n/a	Applicable	Applicable	n/a
Medication Request Status*	The status of the medication request (e.g., active, completed)	n/a	Applicable	Applicable	n/a
Medication Request Status Reason*	The reason for the current status of the medication request (e.g., try another treatment first, drug level too high, allergy)	n/a	Applicable	Applicable	n/a
Medication Administration and/or Statement Request	A reference to the medication request that the medication administration and/or statement is associated with	n/a	n/a	n/a	Applicable
Medication Administration Body Site*	The body site where the medication was administered	n/a	n/a	n/a	Applicable

Data element name	Data element definition	Drug product	Statement	Prescription or order	Administration
Medication Administration Status*	The status of the medication administration (e.g., completed, in progress, on hold)	n/a	n/a	n/a	Applicable
Medication Administration Status Reason*	A code indicating the reason why the medication administration was not performed	n/a	n/a	n/a	Applicable
Medication Administration Date and Time*	The date and time when the medication was administered	n/a	n/a	n/a	Applicable
Medication Statement Date and Time*	The date and time when the medication statement was obtained by the information source	n/a	Applicable	n/a	n/a
Medication Usage Status*	The status of each medication the person is taking or has taken (e.g., active, completed, entered in error)	n/a	Applicable	n/a	n/a
Medication Usage Status Reason*	The reason for the current status of each medication the person is taking or has taken (e.g., drug not taken, treatment stopped)	n/a	Applicable	n/a	n/a
Medication Incident Description*	An event or circumstance related to medication that could have resulted or did result in unnecessary harm to the patient (e.g., prescription, administration)	n/a	Applicable	Applicable	Applicable
No Active Medications Flag*	An indicator that the person reports not currently taking any medications, including prescribed and over-the-counter products	n/a	Applicable	n/a	n/a
Medication Reconciliation Complete Flag*	An indicator that medication reconciliation has been completed	n/a	Applicable	n/a	n/a

Appendix C: Text alternative for figure

Text alternative for Figure: Pan-Canadian Health Data Content Framework

This figure describes the main components of the Pan-Canadian Health Data Content Framework. There is a backdrop of an image of a map of Canada with connected lines across cities to illustrate health data interoperability. The components of the Pan-Canadian Health Data Content Framework and their purpose are as follows:

Business context model: Describes the scope of the Pan-Canadian Health Data Content Framework

Data models: Provides reference data architecture that establishes all the concepts and relationships needed to represent health data

Data content standard: Defines the data elements and their permitted values, which together can be grouped to form data sets

Business glossary: Provides definitions for all business terms used across the Pan-Canadian Health Data Content Framework

Metadata: Provides descriptive and contextual information about the Pan-Canadian Health Data Content Framework

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