

Draft CACDI Version 1, September 2024, Aligned With CA Core+ v0.3.0

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



Canadian Institute
for Health Information

Institut canadien
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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.

Production of this document is made possible by financial contributions from Health Canada and provincial and territorial governments. The views expressed herein do not necessarily represent the views of Health Canada or any provincial or territorial government.

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How to cite this document:

Canadian Institute for Health Information. *Draft CACDI Version 1, September 2024, Aligned With CA Core+ v0.3.0 (for review and reference only, not an official version)*. Ottawa, ON: CIHI; 2024.

Cette publication est aussi disponible en français sous le titre *Version préliminaire de l'EDBIC, version 1, septembre 2024, conforme à la version 0.3.0 du CA Core+ (version non officielle pour examen et référence seulement)*.

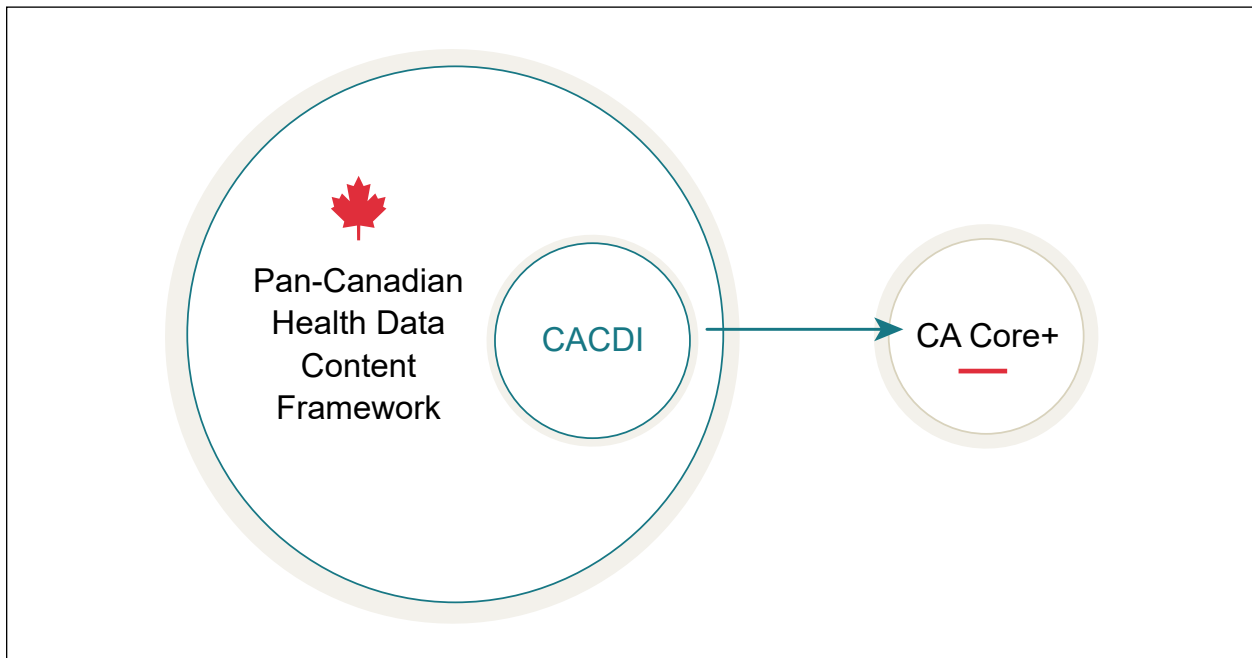
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About the CACDI

The Canadian Core Data for Interoperability (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. The CACDI represents the minimum data required to support standardized information capture and enable meaningful exchange of health information. It aims to standardize the capture, structure and exchange of health data across the health continuum by providing a foundation of standardized data elements applicable to multiple health care settings.

The CACDI is a subset of the [Pan-Canadian Health Data Content Framework](#) and works in tandem with the Fast Healthcare Interoperability Resources (FHIR) profiles created by Canada Health Infoway (also known as CA Core+) to facilitate the meaningful exchange of health care information. Together, the Canadian Institute for Health Information's and Canada Health Infoway's efforts, including the development of national health data content and data exchange standards, will support the uninterrupted and accurate exchange of health information across Canada, aligning with Health Canada's vision for a modern, integrated health care system.



Development of the CACDI

The CACDI is being developed in coordination with the Pan-Canadian Health Data Content Framework and CA Core+ 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, September 2024, aligned with CA Core+ v0.3.0, was developed in collaboration with a group of co-contributors and in alignment with other national and international standards, including the International Patient Summary (IPS), the Pan-Canadian Patient Summary (PS-CA), the United States Core Data for Interoperability (USCDI) and the Australian Core Data for Interoperability (AUCDI). For this draft, data categories and data elements that were considered essential for patient safety were prioritized for inclusion.

The ongoing development of the CACDI will follow an iterative process and include input from a wide range of stakeholders, including patients and families, Indigenous Peoples, clinicians, technology vendors and other industry partners, researchers, and federal, provincial and territorial governments. Feedback on draft versions of the CACDI will be sought through an accessible and transparent open review process, including the opportunity to suggest new data categories and data elements for inclusion in future versions.

Future iterations of the CACDI will continue to be developed in coordination with the Pan-Canadian Health Data Content Framework and CA Core+ and will include information related to providers, procedures, laboratory content and expanded social determinants of health content (including information on gender, sex and sexual orientation).

This draft of the CACDI includes the following data categories: Person Information, Allergies and Intolerances, Immunization, Medication, Social Determinants of Health and Health Concerns. The data elements that make up each of these categories are listed below.

CACDI data category	CACDI data elements
Person Information	<ul style="list-style-type: none"> • Person Identifier Type • Person Identifier Value • Given Name • Middle Name • Surname • Name Used • Birth Date
Allergies and Intolerances	<ul style="list-style-type: none"> • Allergy or Intolerance • Allergy or Intolerance Reaction
Immunization	<ul style="list-style-type: none"> • Immunization • Immunization Date
Medication	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • Service Language • Indigenous Identity • Racialized Group
Health Concerns	<ul style="list-style-type: none"> • Health Concern(s) • Health Concern Clinical Status

Canadian Core Data for Interoperability data elements

The tables that follow list the data elements and value sets included in Draft CACDI Version 1, September 2024, aligned with CA Core+ v0.3.0. The common data architecture for the CACDI can be found on the web page [Products of the Pan-Canadian Health Data Content Framework](#). Definitions of data elements and value sets in these tables are as follows:

1. Data elements: These are defined as distinct units of information that represent a specific attribute or characteristic in a data set. Fields in these tables about data elements include
 - Data element name;
 - Data element definition; and
 - Data element maturity.
2. Value sets: These are defined as sets of permitted values, along with their codes and definitions, assigned to a data element. Fields in these tables about these value sets include
 - Value set (code system): Pan-Canadian value sets referenced from the Terminology Gateway may also be found with the same value set name on the [Terminology Server](#);
 - Value set examples: Further information on codes and concepts can be accessed through the hyperlinks in these fields; and
 - Value set maturity.

CACDI data elements represent data that may be entered by a person at the point of care (also known as front-end data). This data could be entered by a patient (e.g., via a self-administered questionnaire), a clinic administrator or a health care provider. Data that has been derived from other sources (i.e., data that is machine-generated), also known as back-end data, is listed in the [appendix](#).

Administrative and clinical workflow designs as well as technical systems/solutions will determine whether data is entered at the point of care or is machine-generated.

A maturity model is incorporated in the CACDI to document transparency, completeness of data concepts, and readiness for implementation.

- Rating = 0 means “work is in progress”
- Rating = 1 means “draft created that includes input from experts”
- Rating = 2 means “has been subject to at least one round of open review”
- Rating = 3 means “ready for implementation”

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)	2: Proposed	IdentifierType (HL7)	<ul style="list-style-type: none"> • 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
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

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Name Used	<p>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.</p> <p>Additional guidance When implemented, Name Used will be a name with Name Type = usual.</p>	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	n/a

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)	<ul style="list-style-type: none"> • 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-CanadianHealthConcernValueSet (PHCVS) (SNOMED CT CA)	<ul style="list-style-type: none"> • 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	<p>The immunizing agent identified through its trade name or generic name</p> <p>Additional guidance VaccineAdministeredTradeNameCode and PassiveAdministeredImmunizingAgentCode will be used to document an immunization event, while VaccineHistoricalNameCode and PassiveHistoricalImmunizingAgentCode can be used to record historical immunizations or when the specific immunization details are not known.</p> <p>The pan-Canadian recommended value sets are integrated in the National Vaccine Catalogue, which can be referenced for mapping to additional fields.</p>	2: Proposed	VaccineAdministeredTradeNameCode (SNOMED CT CA)	<ul style="list-style-type: none"> • Inf Xanaflu API • LZV ZOSTAVAX II MC • MMR-Var ProQuad Merck 	2: Proposed
			VaccineHistoricalNameCode (SNOMED CT CA)	<ul style="list-style-type: none"> • Pneu-C-7 pneumococcal conjugate 7-valent unspecified • COVID-19 whole inactivated virus unspecified • Inf influenza unspecified 	2: Proposed
			PassiveAdministeredImmunizingAgentCode (SNOMED CT CA)	<ul style="list-style-type: none"> • BATx BAT Cang • CMVlg Cytogam KIB • HBlg HepaGam B KIB 	2: Proposed
			PassiveHistoricalImmunizingAgentCode (SNOMED CT CA)	<ul style="list-style-type: none"> • CMVlg Cytogam CSL • DATx Diphtheria antitoxin IOI • HBlg HepaGam B Cang 	2: Proposed
Immunization Date	The date the immunization was administered, refused or deferred	2: Proposed	n/a	n/a	n/a

Medication

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Medication	<p>The medicinal name or code (e.g., brand, generic, ingredient)</p> <p>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.</p> <p>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. WhoAtcUvIps (ATC) is the recommended supporting classification for reporting and analysis.</p> <p>If the code does not exist in the local EMR (i.e., not on-formulary), the medication name will be entered as free text.</p>	2: Proposed	Canadian Clinical Drug Data Set (CCDD)	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • Melatonin 3 mg • Cod liver oil gummy • Cyctek Shan Zhu Yu powder 	2: Proposed
			Alternate WhoAtcUvIps (ATC)	<ul style="list-style-type: none"> • Epinephrine • Oxyquinoline • Magnesium oxide 	2: Proposed
			Alternate PharmaceuticalBiologicProductAndSubstanceCode (SNOMED CT CA)	<ul style="list-style-type: none"> • (+)-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	PrescriptionDoseQuantityUnit (SNOMED CT CA, UCUM)	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • Bacterial sepsis • Pneumonia and influenza • Pain of joint of knee 	2: Proposed

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	n/a
Indigenous Identity	<p>The person's self-identification as First Nations, Inuk/Inuit and/or Métis</p> <p>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.</p> <p>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.</p>	2: Proposed	IndigenousIdentityCode (SNOMED CT CA, HL7)	<ul style="list-style-type: none"> • 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
<p>Racialized Group</p>	<p>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.</p> <p>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.</p> <p>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.</p>	<p>2: Proposed</p>	<p>RacializedGroupCode (SNOMED CT CA, HL7)</p>	<ul style="list-style-type: none"> • East Asian • Indigenous • Latin American 	<p>2: Proposed</p>

Health Concerns

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
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)	<ul style="list-style-type: none"> • Bacterial sepsis • Pneumonia and influenza • Pain of joint of knee 	2: Proposed
			Alternate ICD-9-CM	<ul style="list-style-type: none"> • Septicaemia, other specified septicaemias • Influenza, with pneumonia • Other and unspecified disorder of joint, pain in joint 	2: Proposed
			Alternate ICD-10-CA	<ul style="list-style-type: none"> • Other specified sepsis • Influenza with pneumonia, virus not identified • Pain in joint, lower leg 	2: Proposed
Health Concern Clinical Status	The current status of the health concern or condition (e.g., active, resolved)	2: Proposed	ConditionClinical StatusCodes (HL7)	<ul style="list-style-type: none"> • Active • Recurrence • Relapse 	2: Proposed

Note

n/a: Not applicable.

Appendix: Canadian Core Data for Interoperability supporting architecture

This table lists additional data elements needed to support technical implementation of Draft CACDI Version 1, September 2024, aligned with CA Core+ v0.3.0.

Person Information

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Person Identifier Assigner	The legal entity/organization (e.g., Veterans Affairs Canada, Ministry of Health Saskatchewan) responsible for assigning the person identifier	2: Proposed	ClientIdentifierAssigning AuthorityCode (SNOMED CT CA)	<ul style="list-style-type: none"> • 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
Name Type	The use of the person's name (e.g., usual, official, old)	2: Proposed	NameUse (HL7)	<ul style="list-style-type: none"> • Usual • Official • Nickname • Temp 	2: Proposed
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

Data element name	Data element definition	Data element maturity	Value set (code system)	Value set examples	Value set maturity
Party Role Relationship Type	A classification of Party Role Relationships that a Party Role can participate in	1: Draft	Supporting architecture	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Person • Organization • Party Group 	0: In development

Immunization

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	<ul style="list-style-type: none"> • Immunization • Oral surgery 	0: In development
Party Role Type Code	A classification of roles that Parties can fulfill	1: Draft	Supporting architecture	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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
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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Person • Organization • Party Group 	0: In development
Party Role Type Code	A classification of roles that Parties can fulfill	1: Draft	Supporting architecture	<ul style="list-style-type: none"> • 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
Party Type Code	The classification of a Party as a Person, Organization or Party Group	1: Draft	Supporting architecture	<ul style="list-style-type: none"> • Person • Organization • Party Group 	0: In development
Party Role Type Code	A classification of roles that Parties can fulfill	1: Draft	Supporting architecture	<ul style="list-style-type: none"> • Patient • Provider • Primary care organization 	0: In development

Note

n/a: Not applicable.



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