Pan-Canadian Primary Health Care EMR Minimum Data Set for Performance Measurement

Version 1.1

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

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Jurisdictions and organizations

- Alberta Ministry of Health
- Alliance for Healthier Communities
- British Columbia Ministry of Health
- Canada Health Infoway
- Canadian Primary Care Sentinel Surveillance Network
- eHealth Centre of Excellence
- eHealth Saskatchewan
- Health PEI
- Manitoba Health, Seniors and Active Living
- New Brunswick Department of Health
- Newfoundland and Labrador Centre for Health Information
- Northwest Territories Department of Health and Social Services
- Nova Scotia Department of Health and Wellness
- Nunavut Department of Health
- Ontario Health
- OntarioMD
- Ontario Ministry of Health and Long-Term Care
- Saskatchewan Medical Association
- Shared Health Manitoba
- Yukon Department of Health and Social Services, eHealth Yukon

About CIHI

The Canadian Institute for Health Information (CIHI) is an independent, not-for-profit organization dedicated to providing essential health information to all Canadians.

CIHI works closely with federal, provincial and territorial partners and stakeholders throughout Canada to gather, package and disseminate information to inform policy, management, care and research, leading to better and more equitable health outcomes for all Canadians.

Health information has become one of society's most valuable public goods. For more than 25 years, CIHI has set the pace on data privacy, security, accessibility and innovation to improve Canada's health systems.

CIHI: Better data. Better decisions. Healthier Canadians.

For more information, visit our website at cihi.ca.

Contact us

For more information on the Pan-Canadian Primary Health Care EMR Minimum Data Set, or to learn more about primary health care in Canada, please email the Primary Health Care Information Program at phc@cihi.ca or visit CIHI's Primary health care web page.

Executive summary

Primary health care (PHC) is a cornerstone of Canada's health care system. It gives individuals an entry point to health care services and provides continuity of care across the system. The primary health care approach puts the patient at the centre of care, focusing on the comprehensive and interrelated aspects of physical, mental and social health and well-being.

Primary health care is delivered in the community by a range of health providers working as a team. Delivering care close to where patients live offers patients better access to care for the treatment for short-term health issues and management of chronic conditions and is linked to better health outcomes.

The onset of the COVID-19 pandemic upended primary health care delivery across the country, with the rapid deployment and expansion of virtual care services. By April 2020, approximately two-thirds of patient visits with primary care providers were done virtually.[1, 2] This pivot highlighted the potential for better patient access in a connected world, but it also uncovered gaps in technology and inconsistencies in how primary health care information is collected and used.

Data in primary health care is widely captured in various forms through digital health technologies. The use of this data, however, is currently constrained due to a lack of data standardization and access. Despite more than 46,000 physicians in Canada[3] using electronic medical records (EMRs) — which, in principle, should make it easy to create and use data — the technologies and standards that support them are different across Canada and even between clinics. Standardizing primary care data, as is the current practice for other health data, is an essential step in using this data for the benefit of patients, providers and the broader health system.

CIHI has been working to advance primary health care data standards for over a decade. This version of the Pan-Canadian Primary Health Care EMR Minimum Data Set focuses on updates required to capture data on virtual care and other patient characteristics. It includes updates to the Visit Modality data element, which enable users to identify virtual care, and updates to the Provider Type data element, which enable users to identify who provided care based on profession or designation. New data elements have been added for race and Indigenous identity, which are important to better understand and address health inequalities in primary care. Updates to these 4 data elements include new or revised standardized terminology in subsets maintained by Canada Health Infoway. Work continues on future updates to identify the reason for a primary care visit (Health Concern) and to decouple sex and gender, and on the development of standards related to prescribed medication in primary health care.

As provincial and territorial health systems consider the future of primary health care, there are calls for better data access and improved standardization to support this transformation. In its *Expert Advisory Group Report 2: Building Canada's Health Data Foundation*, the Expert Advisory Group for the Pan-Canadian Health Data Strategy notes that Common data standards for interoperability, including data exchange and content, are the backbone of health data in the health sector and need to be consistently defined, adopted, evolved and sustained.

The Pan-Canadian Primary Health Care EMR Minimum Data Set is essential to improving the standardization and comparability of primary health care data. When data content standards are paired with data exchange standards, data can seamlessly flow as a patient moves throughout Canada's health care systems. Interoperability among data sources, standards and jurisdictions is recognized to be a critical component for sharing digital health information. To facilitate interoperability, CIHI is developing a data exchange standard (Fast Healthcare Interoperability Resources, or FHIR standard) for the Pan-Canadian Primary Health Care EMR Minimum Data Set. The Pan-Canadian Primary Health Care EMR Minimum Data Set provides a foundation for data collection that can be expanded upon for clinical implementation or can be used to generate a patient summary to communicate essential information on a patient.

This update brings us closer to the ideal vision for primary care data — standardized data that can be shared, accessed and updated by providers across the spectrum of care to ensure safe and quality care for patients. Achieving a pan-Canadian solution to improve EMR data standardization and interoperability will require collaboration across Canada's provinces and territories and among clinicians, vendors, pan-Canadian health organizations such as CIHI and Canada Health Infoway, and others. Working together to improve primary care data in Canada will provide a real benefit to patients, clinicians, researchers and the broader health system.

Primary care data in Canada

For many Canadians, primary health care plays an important role in their health and wellness, often being their first point of contact with the health care system and the central point of coordination between care providers. **Primary health care** refers to an approach to health and a spectrum of services beyond the traditional health care system. It includes all services that play a part in health, such as income, housing, education and environment. **Primary care** is a type of primary health care that focuses on health care services, including health promotion, illness and injury prevention, and the diagnosis and treatment of illness and injury.[4] For the purpose of this document, the term primary health care captures both concepts.

As the use of EMR systems is now common in Canada, the volume of primary health care EMR data has increased. However, challenges remain with data standardization[5, 6] and accessibility. Data standardization typically occurs through standards implemented in an EMR, and clinicians require support to capture comparable data and balance the burden of data collection.[6] Data standards are critical to facilitate interoperability and include content standards (the focus of this document), supported by terminology standards and data exchange standards. Primary health care EMR data content standards can enable the creation of comparable data, which can be used to manage patients in primary health care practices and generate patient summaries. Comparable data can also be used for planning and performance measurement in the broader primary care sector and Canada's health systems.

Pan-Canadian Primary Health Care EMR Minimum Data Set

The *Pan-Canadian Primary Health Care EMR Minimum Data Set, Version 1.1* (2022) defines a focused set of primary health care EMR data elements and associated code systems to help create a comparable set of primary health care EMR data for performance measurement across Canada. This pan-Canadian minimum data set is intended to be a subset of the hundreds of data elements captured in clinical data sets through EMR systems (e.g., a patient summary) and/or EMR system baseline specifications. The minimum set of comparable data can be used at the clinic level to track quality of care through indicator dashboards within the EMR and to identify patient cohorts for various purposes, such as for chronic disease prevention and management.

The Pan-Canadian Primary Health Care EMR Minimum Data Set includes a core set of recommended data elements and optional supplementary data elements to meet regional and local performance measurement needs. A general overview of the core and supplementary data elements is provided below. For a comprehensive list of data elements, please refer to the data dictionary (tables 1 and 2).

Overview: Pan-Canadian Primary Health Care EMR Minimum Data Set, Version 1.1

Patient/ Client	Clinician/ Provider	Service delivery location	Visit/ Encounter	Observation	Intervention	Lab tests	Diagnostic imaging	Referral	Prescribed medication	Immunization
Core										
• Patient Identifier and Type • Identifier Assigning Authority • Date of Birth • Gender • Status • Postal Code • Race • Indigenous Identity	• Clinician Identifier and Type • Identifier Assigning Authority • Provider Type	• Service Delivery Identifier • Service Delivery Postal Code	• Reason for Visit • Visit Modality	• Health Concern • Social Behaviour • Blood Pressure • Height • Weight • Clinician Assessment	• Intervention (Treatment)	• Lab Test Ordered • Lab Test Name • Lab Test Result	• Diagnostic Imaging Test Ordered	• Referral	• Prescribed Medication	• Vaccine Administered
Supplementary										
• Highest Education • Housing Status • Primary Language • Date of Death • Rostered Date • Ethnicity	• Clinician Expertise	• Service Delivery Name • Service Delivery Type of Service	• Payment Source and Type • Billing Code	• Family Member Health • Allergies/ Intolerances • Waist Circumference	• Intervention Refusal Reason	• Lab Test Result Low/High Range	n/a	n/a	• Medication Strength, Dose, Form, Frequency, Route, Refills • Reason Not Prescribed • Medication Compliance • Dispensed	• Vaccine Administered Lot Number • Reason Vaccine Not Given

Supporting code systems: Classifications and terminologies

Data standardization is supported by classification and terminology standards. This section provides an overview of where vendors and other stakeholders can find code systems for targeted data elements in the Pan-Canadian Primary Health Care EMR Minimum Data Set.

Canadian Institute for Health Information: ICD-10-CA, CCI standards

- The Canadian Institute for Health Information (CIHI) sets the standard for morbidity reporting in Canada and maintains, distributes and supports the application of the *International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Canada* (ICD-10-CA), the Canadian modification of ICD-10, which is published by the World Health Organization. Pan-Canadian Primary Health Care EMR Minimum Data Set data elements such as Reason for Visit or Health Concern can use these source codes.
- In Canada, the *Canadian Classification of Health Interventions* (CCI) is the CIHI standard for the classification of health-related interventions. Pan-Canadian Primary Health Care EMR Minimum Data Set data elements such as Intervention and Diagnostic Imaging Test Ordered can use CCI source codes or SNOMED CT codes, as described below.

A full list of ICD-10-CA and CCI codes is available from CIHI's online store.

Canadian provinces and territories: ICD-9 standards

- Diagnosis information must accompany certain billing claims by those physicians (family medicine and specialists) being paid via fee for service in Canada. Typically, the required ICD-9 codes vary by province and territory. For a current list of ICD-9 diagnosis codes used for physician billing in EMR systems, please contact the ministry or department of health in each Canadian jurisdiction.

Canada Health Infoway: SNOMED CT, LOINC/pCLOCD, UCUM, HL7 standards

- The Systematized Nomenclature of Medicine — Clinical Terms (SNOMED CT) is an international terminology standard that is produced by SNOMED International and made available to Canadian users via Canada Health Infoway. The SNOMED CT Canadian Edition contains concepts that are specific to use in Canada.[7] It is recommended that implementers use the Canadian edition of SNOMED CT, where available.
- The Logical Observation Identifiers Names and Codes (LOINC) is an international standard for identifying tests, as well as laboratory and clinical observations and documents.[8] The pan-Canadian LOINC Observation Code Database (pCLOCD) is a Canadian version of LOINC that specifically meets Canadian laboratory-ordering and reporting requirements.

- Unified Code for Units of Measure (UCUM) is a code system intended to include all units of measure currently in use in international science.[9]
- Health Level Seven (HL7) is an international standard providing a comprehensive framework and related standards that support clinical practice and the management, delivery and evaluation of health services.[10]

Canada Health Infoway maintains SNOMED CT, pCLOCD, UCUM and HL7 terminology subsets relevant to the delivery and administration of primary health care. Subsets provide a constrained list of allowable values from source code systems to support standardization of a particular data element.

For example, the Visit Modality data element has an associated primary health care subset in SNOMED CT. Canada Health Infoway makes the primary health care subsets available through its Terminology Gateway. For more information on availability, maintenance and revision guidelines of the PHC subsets, please visit the Terminology Gateway via Canada Health Infoway's website. While a user account is required to access the Terminology Gateway, downloading PHC subsets is free.

Pan-Canadian Primary Health Care EMR Minimum Data Set, Version 1.1 — Data Dictionary

CIHI recommends a minimum set of 47 core data elements (Table 1) and provides 58 supplemental data elements (Table 2) that are considered optional. Stakeholders are encouraged to adopt the minimum set of core data elements in their EMR system requirements to enable the collection of comparable data within EMR systems, as well as performance measurement at the jurisdictional level. The use of a classification or terminology code system to standardize the data is also recommended. CIHI recommends that a code system be used for relevant data elements but does not recommend one code system over another.

The following tables provide a detailed list of the core and supplementary data elements, including definitions, data types, valid formats, subsets (where available), recommended code systems, sample data content and selected considerations for performance measurement and reporting in primary health care.

The data dictionary (tables 1 and 2) is available in Excel format by request to phc@cihi.ca.

Table 1 Pan-Canadian Primary Health Care EMR Minimum Data Set core data elements

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary health care
PATIENT/CLIENT									
A1	Patient Identifier	Client Identifier	Represents a unique numeric or alphanumeric identifier assigned to the Client.	Identifier	Varies by Client Identifier type	n/a	n/a	52483-7200	Can be used to associate administrative information (e.g., demographic) and health information (e.g., lab results) with a unique Client.
A2	Patient Identifier Type	Client Identifier Type Code	Represents the type of Client Identifier (e.g., jurisdictional health care identifier, passport).	Code	n/a	Client Identifier Type Code	SNOMED CT or other (jurisdictional codes where available)	22481000087107 Jurisdictional health number (observable entity) (SNOMED CT)	Can be used to characterize further the unique Client Identifier (data element A1) (e.g., the value represents a jurisdictional health number).

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary health care
PATIENT/CLIENT (continued)									
A3	Patient Identifier Assigning Authority	Client Identifier Assigning Authority Code	Represents the legal entity/ organization responsible for assigning the Client Identifier.	Code	n/a	Client Identifier Assigning Authority Code	SNOMED CT or other (jurisdictional codes where available)	539773351000087101 Ministry of Health Alberta (qualifier value) (SNOMED CT)	Can be used to characterize further the unique Client Identifier (data element A1) and Client Identifier Type (data element A2) (e.g., the value represents a jurisdictional health number issued by the Ministry of Health in Alberta).
A4	Patient Date of Birth	Client Birth Date	Represents the Client's date of birth.	Date	YYYYMMDD	n/a	n/a	20101001	Can be used to calculate age, which is an equity stratifier for measuring health inequalities.[11, 12]
A5	Patient Gender	Client Administrative Gender Code	Represents the reported gender category of the Client at a given time.	Code	n/a	Administrative Gender	HL7	M Male	Can be used as an equity stratifier for measuring health inequalities.[11, 12] Future deliberations are required to explore discrete data elements for sex versus gender.

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary health care
PATIENT/CLIENT (continued)									
A9	Patient Status	Client Status Code	Represents whether or not the PHC Provider considers the Client to be actively seeking PHC services through them.	Code	n/a	Client Status Code	SNOMED CT or other (jurisdictional codes where available)	272730231000087108 Patient active (finding) SNOMED CT	Can be used to identify groups of active versus non-active Clients for analysis.
A14	Patient Postal/ Zip Code	Client Residence Postal Code	Represents the postal code of the Client's primary residence.	String	ANA NAN	n/a	n/a	K0K 3R0	Client postal code (geographic location) can be used to inform a geographic equity stratifier for measuring health inequalities.[11, 12]
A15	Race	Racialized Group	Represents a social construct most often characterized by phenotype or appearance (e.g., skin colour) with which the Client identifies.	Code	n/a	Racialized Group Code	SNOMED CT or other (jurisdictional codes where available)	413464008 Black (SNOMED CT)	Can be used to analyze social determinants of health and to measure health inequalities that potentially stem from bias and racism across groups.[13]
A16	Indigenous Identity	Indigenous Identity	Represents whether a person self-identifies as First Nations, Inuk/ Inuit and/or Métis.	Code	n/a	Indigenous Identity Code	SNOMED CT or other (jurisdictional codes where available)	29921000087109 First Nations (SNOMED CT)	Can be used to analyze social determinants of health and to measure health inequalities in Indigenous communities.[13]

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary health care
CLINICIAN/PROVIDER									
B4	Clinician Identifier	Provider Identifier	Represents a unique numeric or alphanumeric identifier assigned to the Provider.	Identifier	n/a	n/a	n/a	12345	Can inform analysis that requires Client records to be associated with a unique Clinician.
B5	Clinician Identifier Type	Provider Identifier Type Code	Represents the type of Provider Identifier.	Code	n/a	Provider Identifier Type Code	SNOMED CT or other (jurisdictional codes where available)	22411000087103 Provider registration number (qualifier value) (SNOMED CT)	Can be used to characterize further the unique Clinician Identifier (data element B4) (e.g., the value represents a Provider registration number).
B6	Clinician Identifier Assigning Authority	Provider Identifier Assigning Authority Code	Represents the legal entity responsible for assigning the unique identifier to the Provider.	Code	n/a	Provider Identifier Assigning Authority Code	SNOMED CT or other (jurisdictional codes where available)	441144831000087108 Health regulatory body for physicians and surgeons (qualifier value) (SNOMED CT)	Can be used to characterize further the unique Clinician Identifier (data element B4) and Clinician Identifier Type (data element B5) (e.g., the value represents a registration number issued by the health regulatory body for physicians and surgeons).

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary health care
CLINICIAN/PROVIDER (continued)									
B7	Provider Type	Provider Type Code	Represents the type/occupation of the Provider in relation to their participation in a specific health care event.	Code	n/a	Health care Provider Role Type	SCPTYPE or other (jurisdictional codes where available)	RN Registered Nurse (SCPTYPE)	Can inform analysis of Provider Types (e.g., alternative healer, physiotherapist, social worker) in delivering primary care to Clients with targeted chronic diseases or conditions.
SERVICE DELIVERY LOCATION									
C1	Service Delivery Identifier	Service Delivery Location Identifier	Represents the unique numeric or alphanumeric entry identifier of the practice (Service Delivery Location) where the Client received care.	Identifier	n/a	n/a	n/a	897564RT	Can be used to analyze groups of Clients with targeted chronic diseases or conditions (e.g., diabetes) according to service delivery location (e.g., main site versus satellite sites of a primary care practice).

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary health care
SERVICE DELIVERY LOCATION (continued)									
C4	Service Delivery Postal Code	Service Delivery Location Postal Code	Represents the postal code where the Client received the PHC service.	String	ANA NAN	n/a	n/a	K0K 3R0	Can be used to analyze groups of Clients with targeted chronic diseases or conditions (e.g., diabetes) according to service delivery location (e.g., main site versus satellite sites of a primary care practice).
VISIT/ENCOUNTER									
D1	Appointment Creation Date	Encounter Request Date	Represents the date on which an appointment was created for the Client by the Provider (or their staff).	Date	YYYYMMDD	n/a	n/a	20100430	Can support use of the Reason for Visit (data element D2) for analysis.
D2	Reason for Visit	Client Encounter Reason Code	Represents the reason for the encounter as conveyed by the Client.	Code	n/a	n/a	SNOMED CT, ICD-9, ICD-10-CA, ENCODE-FM or other	R51 Headache (ICD-10-CA)	Can be used to analyze Clients' perspectives of their reasons for primary care visits/ encounters.

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary health care
VISIT/ENCOUNTER (continued)									
D3	Visit Date	Encounter Date	Represents the date the Client had an encounter with the Provider.	Date	YYYYMMDD	n/a	n/a	20101001	In combination with other data elements (e.g., Visit Type — data element D4), can be used to analyze primary care encounter characteristics for groups of Clients with targeted chronic diseases or conditions (e.g., diabetes).
D4	Visit Modality	Encounter Mode Code	Represents the mode of contact between the Provider and the Client. Where more than one modality is used during a single visit (i.e., in virtual care) and where the EMR system allows, capture all relevant modalities used.	Code	n/a	Visit Modality Code	SNOMED CT or other (jurisdictional codes where available)	185317003 Telephone encounter (SNOMED CT)	Can be used to analyze modalities of Client encounters (e.g., in-person visits, virtual visits using email or videoconference) for Clients with targeted chronic diseases/conditions (e.g., diabetes).

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary health care
OBSERVATION									
E11	Health Concern	Observation Health Concern Code	Represents the Client's relevant conditions, diagnoses and major past medical history. Often captured in a "problem list."	Code	n/a	Health Concern Code Health Concern Code Subset Commonly Used	SNOMED CT, ICD-9, ICD-10-CA, ENCODE-FM or other	13645005 Chronic obstructive lung disease (SNOMED CT)	In combination with other data elements (e.g., Prescribed Medication — data element M1), can be used to analyze groups of Clients, according to targeted chronic diseases or conditions (e.g.,chronicobstructive pulmonary disease).
E12	Health Concern Date of Onset	Observation Health Concern Start Date	Represents the date on which the Client's health concern started.	Date	YYYYMMDD	n/a	n/a	20100430	Can support use of the Health Concern (data element E11) for analysis.
E14	Social Behaviour	Observation Social Behaviour Code	Represents a type of Client social behaviour that increases the possibility of disease or injury for the Client. This can include risk factors such as tobacco use, alcohol use and problematic use of illicit or prescription drugs.	Code	n/a	Client Social Behaviour Code	SNOMED CT, ICD-9, or ICD-10-CA	15167005 Alcohol abuse (SNOMED CT)	In combination with other data elements, can be used to analyze groups of Clients with targeted chronic diseases or conditions (e.g., chronic obstructive pulmonary disease) according to behavioural risk factors (e.g., tobacco use).[14]

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary health care
OBSERVATION (continued)									
E23	Systolic Blood Pressure	Observation Systolic Blood Pressure Number	Represents the Client's systolic blood pressure value (in mmHg) as measured. The unit of measure (mmHg) is implied when representing the value.	Number	n/a	n/a	n/a	120	In combination with other data elements (e.g., Diastolic Blood Pressure — data element E24, Visit date — data element D3, Health Concern — data element E11), can contribute to analysis of blood pressure measurement for groups of Clients with targeted chronic diseases/conditions (e.g., hypertension,[11] diabetes[12]).
E24	Diastolic Blood Pressure	Observation Diastolic Blood Pressure Number	Represents the Client's diastolic blood pressure value (in mmHg) as measured. The unit of measure (mmHg) is implied when representing the value.	Number	n/a	n/a	n/a	80	In combination with other data elements, can contribute to analysis of blood pressure measurement for groups of Clients with targeted chronic diseases/conditions (e.g., hypertension,[11] diabetes[12]).

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary health care
OBSERVATION (continued)									
E28	Height	Observation Height Number	Represents the height of the Client as measured.	Number	n/a	n/a	n/a	165	In combination with other data elements (E29 to E31), can contribute to the calculation and analysis of body mass index (BMI) measurement for groups of Clients with targeted chronic diseases or conditions (e.g., diabetes[12]).
E29	Height Unit of Measure	Observation Height Unit of Measure Code	Represents the unit of measure used to capture the Client's height.	Code	n/a	Height Unit Of Measure Code	UCUM	cm Centimetre (UCUM)	Can be used to identify the unit of height measured (e.g., centimetres, inches) in data element E28.
E30	Weight	Observation Weight Number	Represents the weight of the Client as measured.	Number	n/a	n/a	n/a	61.2	In combination with other data elements (E28, E29 and E31), can contribute to the calculation and analysis of BMI measurement for groups of Clients with targeted chronic diseases or conditions (e.g., diabetes[12]).

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary health care
OBSERVATION (continued)									
E31	Weight Unit of Measure	Observation Weight Unit of Measure Code	Represents the unit of measure used to capture the Client's weight.	Code	n/a	Weight Unit Of Measure Code	UCUM	kg Kilogram	Can be used to identify the unit of weight measured (e.g., kilograms, pounds) in data element E30.
E34	Clinician Assessment	Observation Encounter Clinical Assessment Code	Represents the Provider's professional opinion of the most significant condition related to the Client's current encounter following clinical assessment.	Code	n/a	Health Concern Code Health Concern Code Subset Commonly Used	SNOMED CT, ICD-9, ICD-10-CA, ENCODE-FM or other	195967001 Asthma (SNOMED CT)	In combination with other data elements (e.g., Prescribed Medication — data element M1), can be used to analyze groups of Clients according to targeted chronic diseases or conditions (e.g., asthma).
INTERVENTION									
F1	Intervention (Treatment)	Intervention Code	Represents the services or activities performed for the Client within the PHC setting, as well as relevant intervention history that occurred beyond the PHC setting.	Code	n/a	Intervention Code Intervention Code Subset Operating Room Procedure Intervention Code Subset Care	SNOMED CT, CCI, or other (jurisdictional codes where available)	225323000 Smoking cessation education (SNOMED CT)	Can be used to analyze types of interventions (e.g., smoking cessation counselling) provided for groups of Clients with targeted chronic diseases or conditions (e.g.,chronicobstructive pulmonary disease).[14]

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary health care
INTERVENTION (continued)									
F2	Intervention (Treatment) Date	Intervention Date	Represents the date the intervention was performed.	Date	YYYYMMDD	n/a	n/a	20100430	Can support the use of Intervention (Treatment) (data element F1) for analysis.
LABORATORY ORDERS									
G1	Lab Test Ordered	Laboratory Test Name Ordered Code	Represents the lab test ordered by the Provider for the Client.	Code	n/a	Observation Orderable Lab Type Subset Commonly Used	pCLOCD/LOINC, or other (jurisdictional codes where available)	41995-2 Hemoglobin A1c [Mass/volume] in Blood (pCLOCD)	Can be used to analyze types of lab tests (e.g., hemoglobin A1c [mass/volume] in blood) ordered for groups of Clients with targeted chronic diseases or conditions (e.g., diabetes[12]).
G2	Lab Test Ordered Date	Laboratory Test Order Date	Represents the date the lab test was ordered by the Provider.	Date	YYYYMMDD	n/a	n/a	20100430	Can support the use of Lab Test Ordered (data element G1) for analysis.

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary health care
LABORATORY RESULTS									
H1	Lab Test Performed Date	Laboratory Test Performed Date	Represents the date the lab test was performed.	Date	YYYYMMDD	n/a	n/a	20100430	Can support the use of Lab Test Name (data element H2) and Lab Test Result Value (data element H3) for analysis.
H2	Lab Test Name	Laboratory Test Result Name Code	Represents the lab test performed.	Code	n/a	n/a	pCLOCD/LOINC, SNOMED CT or other (jurisdictional codes where available)	41995-2 Hemoglobin A1c [Mass/volume] in Blood (pCLOCD)	Used to identify the name of the lab test associated with the Lab Test Result Value (data element H3).
H3	Lab Test Result Value	Laboratory Test Result Value Text (Number, Code)	Represents the result of the lab test.	String (Number, Text)	n/a	n/a	n/a	7.0%	In combination with lab test performed and results data elements (e.g., H1, H2, H4, H5, H7), can be used to monitor glycemic control for diabetes.[12]
H4	Lab Test Result Unit of Measure	Laboratory Test Result Value Unit of Measure Code	Represents the unit of measure of the lab result for the lab test performed.	Code	n/a	Laboratory Observation Unit Of Measure Code	UCUM	% Percent (UCUM)	Used to identify the unit of measure associated with Lab Test Name (data element H2) and Lab Test Result Value (data element H3).

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary health care
DIAGNOSTIC IMAGING ORDERS									
I1	Diagnostic Imaging Test Ordered	Diagnostic Imaging Test Ordered Code	Represents the type of diagnostic imaging test ordered by the Provider for the Client.	Code	n/a	n/a	SNOMED CT, CCI or other (jurisdictional codes where available)	3.YM.10. Mammography [diagnostic, screening] (CCI)	Can be used to analyze diagnostic imaging test ordered (e.g., screening mammography) for targeted groups of Clients (e.g., women in a certain age range who are not at increased risk for breast cancer).[15]
I2	Diagnostic Imaging Test Ordered Date	Diagnostic Imaging Test Ordered Date	Represents the date the diagnostic imaging test was ordered by the Provider.	Date	YYYYMMDD	n/a	n/a	20100430	Can support the use of the Diagnostic Imaging Test Ordered (data element I1) for analysis.
DIAGNOSTIC IMAGING RESULTS									
J1	Diagnostic Imaging Test Performed Date	Diagnostic Imaging Test Performed Date	Represents the date the diagnostic imaging test was performed.	Date	YYYYMMDD	n/a	n/a	20100430	Can support the use of the Diagnostic Imaging Test Ordered (data element I1) for analysis.

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary health care
REFERRAL REQUEST									
K1	Referral	Referral Service Code	Represents the type of service required for the Client.	Code	n/a	Referral Service Code Referral Service Code Subset Service Referral Service Code Subset Physician Referral Service Code Subset Nurse Referral Service Code Subset Other Provider	SNOMED CT, other (jurisdictional codes where available)	310116007 Psychiatry service (qualifier value) (SNOMED CT)	Can be used to analyze the type of referrals made by primary care Clinicians, to obtain Client consultation or service intake from a referred-to Clinician (e.g., psychiatrist) or Service (e.g., psychiatry service).
K2	Referral Requested Date	Referral Requested Date	Represents the date the referral request was created by the PHC Provider.	Date	YYYYMMDD	n/a	n/a	20100430	Can support the use of Referral (data element K1) for analysis.

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary health care
REFERRAL RESULT									
L1	Referral Occurred Date	Referral Occurred Date	Represents the actual date the Client had the encounter with the referred-to Provider.	Date	YYYYMMDD	n/a	n/a	20100430	Can be used to identify the time period between the Referral Requested Date and the Referral Occurred Date for groups of Clients with targeted diseases or conditions Performance measurement and reporting considerations to be determined.
PRESCRIBED MEDICATION									
M1	Prescribed Medication	Medication Prescribed Name Code	Represents the medications prescribed to the Client.	Code	n/a	n/a	To be determined	00406716 Novamoxin (Amoxicillin) (DIN)	Can be used to identify the types of medications prescribed to groups of Clients with targeted chronic diseases or conditions (e.g., diabetes, hypertension).
M2	Prescription Date	Medication Prescribed Date	Represents the date the prescription for the medication was created for the Client.	Date	YYYYMMDD	n/a	n/a	20100430	Can support the use of Prescribed Medication (data element M1) for analysis.

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary health care
IMMUNIZATION									
O1	Vaccine Administered	Vaccine Administered Name Code	Represents the vaccine administered to the Client within and beyond the PHC setting, including current and past vaccination history.	Code	n/a	Vaccine Administered Trade Name Code Vaccine Historical Name Code Passive Administered Immunizing Agent Code Passive Historical Immunizing Agent Code	SNOMED CT or other (jurisdictional codes where available)	46233009 Influenza virus vaccine (product) (SNOMED CT)	Can be used to identify whether groups of Clients with targeted chronic diseases or conditions (e.g., chronic obstructive pulmonary disease) received a particular type of vaccination (e.g., for influenza virus).[14]

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary health care
IMMUNIZATION (continued)									
O2	Vaccine Administered Date	Vaccine Administered Date	Represents the date the vaccine was administered to the Client.	Date	YYYYMMDD	n/a	n/a	20100430	Can be used to support the use of the Vaccine Administered (data element O1) for analysis.

Notes

* The primary health care subsets provide a standardized value set that can be accessed via the Canada Health Infoway Terminology Gateway.

CCI: *Canadian Classification of Health Interventions*.

ENCODE-FM: Electronic Nomenclature and Classification of Disorders and Encounters for Family Medicine.

ICD-9: *International Classification of Diseases, Ninth Revision*.

ICD-10-CA: *International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Canada*.

LOINC: Logical Observation Identifiers Names and Codes.

pCLOCD: pan-Canadian LOINC Observation Code Database.

SNOMED CT: Systematized Nomenclature of Medicine — Clinical Terms.

UCUM: Unified Code for Units of Measure.

n/a: Not applicable.

Source

Canadian Institute for Health Information.

Table 2 Pan-Canadian Primary Health Care EMR Minimum Data Set supplementary data elements

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary care
PATIENT/CLIENT									
A6	Patient Highest Education	Client Highest Education	Represents the highest level of education completed by the Client.	Code	n/a	Highest Level Education Code	SNOMED CT or other (jurisdictional codes where available)	224300008 Received university education (finding) (SNOMED CT)	Education can be used as an equity stratifier for measuring health inequalities.[11] Performance measurement and reporting considerations to be determined.
A7	Patient Housing Status	Client Housing Status Code	Represents the housing status of the Client.	Code	n/a	n/a	SNOMED CT	32911000 Homeless (finding) (SNOMED CT)	Housing status can be used as an equity stratifier for measuring health inequalities.[11] Performance measurement and reporting considerations to be determined.

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary care
PATIENT/CLIENT (continued)									
A8	Patient Primary Language	Client Primary Language Code	Represents the preferred spoken language of the Client.	Code	n/a	n/a	ISO 639-3	Fra French (ISO 639-3)	Language can be used as an equity stratifier for measuring health inequalities.[11] Performance measurement and reporting considerations to be determined.
A10	Patient Date of Death	Client Deceased Date	Represents the Client's date of death.	Date	YYYYMMDD	n/a	n/a	20190430	Performance measurement and reporting considerations to be determined.
A11	Patient Rostered Start Date	Client Rostered Start Date	Represents the date the Client was included on the roster.	Date	YYYYMMDD	n/a	n/a	20140615	Can be used to support analysis of Client rosters/panels.
A12	Patient Rostered End Date	Client Rostered End Date	Represents the date the Client was removed from the roster.	Date	YYYYMMDD	n/a	n/a	20191031	Can be used to support analysis of Client rosters/panels.

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary care
PATIENT/CLIENT (continued)									
A13	Patient Ethnicity	Client Administrative Ethnicity Code	Represents the self-reported ethnic group to which the Client belongs. Used for administrative purposes. The ethnic origin refers to a person's roots and should not be confused with their citizenship, nationality, race or Indigenous identity.	Code	n/a	Ethnicity Code	SNOMED CT or other (jurisdictional codes where available)	14045001 Caucasian (ethnic group) (SNOMED CT)	Ethnicity can be used as an equity stratifier for measuring health inequalities.[11] Performance measurement and reporting considerations to be determined.

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary care
CLINICIAN/PROVIDER									
B8	Clinician Expertise	Provider Expertise Code	Represents the expertise of the Provider.	Code	n/a	n/a	SNOMED CT or other (jurisdictional codes where available)	394579002 Cardiology (qualifier value) (SNOMED CT)	Can inform analysis of Clinician's expertise (e.g., cardiology) in delivering health care to groups of Clients with targeted chronic diseases or conditions (e.g., congestive heart failure).[16] Performance measurement and reporting considerations to be determined.
SERVICE DELIVERY LOCATION									
C2	Service Delivery Name	Service Delivery Location Name Text	Represents the name of the practice (Service Delivery Location) where the Client received care.	String	n/a	n/a	n/a	Glendale Family Health Clinic	Can be used to analyze groups of Clients with targeted chronic diseases or conditions (e.g., diabetes) according to service delivery location name.
C3	Service Delivery Type of Services	Service Delivery Location Type Code	Represents the type of location (Service Delivery Location) where the Client received care.	Code	n/a	n/a	SNOMED CT or other (jurisdictional codes where available)	394761003 General practitioner (GP) practice site (environment) (SNOMED CT)	Can be used to analyze groups of Clients with targeted chronic diseases or conditions (e.g., diabetes) according to service delivery environment.

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary care
VISIT/ENCOUNTER									
D5	Payment Source	Encounter Payor Source Code	Represents the source for Provider payment for the encounter.	Code	n/a	n/a	SNOMED CT or other (jurisdictional codes where available)	726220521000087101 Provincial and/or territorial government plan — resident (qualifier value) (SNOMED CT)	Can be used in the administration of care for billing purposes. Performance measurement and reporting considerations to be determined.
D6	Payment Type	Encounter Remuneration Mode Code	Represents the type of reimbursement paid to the Provider for the encounter.	Code	n/a	n/a	SNOMED CT or other (jurisdictional codes where available)	999487181000087102 Fee for service (finding) (SNOMED CT)	Can be used in the administration of care for billing purposes. Performance measurement and reporting considerations to be determined.
D7	Billing Code	Encounter Billing (Fee) Code	Represents the jurisdictional billing code.	Code	n/a	n/a	Per jurisdiction-specific set of values from fee schedules	A007 Intermediate assessment or well baby care (Ontario Health Insurance Plan Schedule of Benefits and Fees)[17]	Can be used in the administration of care for billing purposes. Performance measurement and reporting considerations to be determined.

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary care
OBSERVATION									
E1	Family Member Health Concern	Observation Family History Health Concern Code	Represents the relevant health concerns of a person sharing common ancestry with the Client.	Code	n/a	Health Concern Code Health Concern Code Subset Commonly Used	SNOMED CT, ICD-9, ICD-10-CA, ENCODE-FM or other (jurisdictional codes where available)	254837009 Malignant tumor of breast (disorder) (SNOMED CT)	Can be used to note that the Client may have a risk factor for a certain health concern (e.g., breast cancer), based on a family member's specific disease or condition. For example, a woman whose mother had breast cancer may be at higher risk of developing breast cancer.[18] Performance measurement and reporting considerations to be determined.

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary care
OBSERVATION (continued)									
E2	Family Member Social Behaviour(s)	Observation Family History Social Behaviour Code	Represents the relevant social behaviours of a person sharing common ancestry with the Client. This can include risk factors such as tobacco use, alcohol use and problematic use of illicit or prescription drugs.	Code	n/a	Family History Social Behaviour Code	SNOMED CT, ICD-9, ICD-10-CA or other (jurisdictional codes where available)	133940008 Alcoholic parent (finding) (SNOMED CT)	Can be used to note that the Client may have a risk factor for a certain social behaviour, based on a family member's social behaviour. For example, a Client whose parent was dependent on alcohol may be at higher risk of becoming alcohol-dependent.[19] Performance measurement and reporting considerations to be determined.

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary care
OBSERVATION (continued)									
E3	Family Member Interventions (Treatments)	Observation Family History Intervention Code	Represents the relevant interventions performed on a person sharing common ancestry with the Client.	Code	n/a	Intervention Code Intervention Code Subset Operating Room Procedure Intervention Code Subset Care	SNOMED CT or other (jurisdictional codes where available)	278723004 Mastectomy incision (procedure) (SNOMED CT)	Can be used to note that the Client may have a risk factor for a certain health concern (e.g., breast cancer), based on a family member's intervention (e.g., mastectomy). For example, a woman whose mother had breast cancer may be at higher risk of developing breast cancer.[18] Performance measurement and reporting considerations to be determined.

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary care
OBSERVATION (continued)									
E4	Family Member Relationship to Patient	Observation Family History Familial Relationship Code	Represents the relationship between the Client and a person who shares a common ancestry.	Code	n/a	Family Member Relationship Code	SNOMED CT or other (jurisdictional codes where available)	66839005 Father (person) (SNOMED CT) 72705000 Mother (person) (SNOMED CT)	Can be used to support analysis of a family member's health concern (data element E1), social behaviour (data element E2) or intervention (data element E3). Performance measurement and reporting considerations to be determined.
E5	Family Member Health Concern, Intervention or Social Behaviour Age at Onset	Observation Family History Effective Onset Age Number	Represents the age of the family member (in years) when the health concern, intervention or social behaviour started.	Number	n/a	n/a	n/a	82	Can be used to support analysis of a family member's health concern (data element E1), social behaviour (data element E2) or intervention (data element E3). Performance measurement and reporting considerations to be determined.

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary care
OBSERVATION (continued)									
E6	Family Member Health Concern, Intervention or Social Behaviour Start Date	Observation Family History Effective Start Date	Represents the date on which the health concern, intervention or social behaviour started for the family member.	Date	YYYYMMDD	n/a	n/a	19901010	Can be used to support analysis of a family member's health concern (data element E1), social behaviour (data element E2) or intervention (data element E3). Performance measurement and reporting considerations to be determined.
E7	Family Member Health Concern, Intervention or Social Behaviour End Date	Observation Family History Effective End Date	Represents the date on which the health concern, intervention or social behaviour ended for the family member.	Date	YYYYMMDD	n/a	n/a	20050430	Can be used to support analysis of a family member's health concern (data element E1), social behaviour (data element E2) or intervention (data element E3) Performance measurement and reporting considerations, if any, to be determined.

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary care
OBSERVATION (continued)									
E8	Family Member Deceased Date	Observation Family History Effective Deceased Date	Represents the date on which the family member died.	Date	YYYYMMDD	n/a	n/a	20100430	Can be used to support analysis of a family member's health concern (data element E1), social behaviour (data element E2) or intervention (data element E3). Performance measurement and reporting considerations to be determined.
E9	Family Member Cause of Death	Observation Family History Death Cause Code	Represents the clinical cause of death for the family member.	Code	n/a	Health Concern Code Health Concern Code Subset Commonly Used	SNOMED CT or other (jurisdictional codes where available)	57054005 Acute myocardial infarction (disorder) (SNOMED CT)	Can be used to support analysis of a family member's health concern (data element E1), social behaviour (data element E2) or intervention (data element E3). Performance measurement and reporting considerations to be determined.

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary care
OBSERVATION (continued)									
E10	Family Member Ethnicity	Observation Family History Familial Ethnicity Code	Represents the ethnicity of the family member.	Code	n/a	Ethnicity Code	SNOMED CT or other (jurisdictional codes where available)	414551003 Japanese (ethnic group) (SNOMED CT)	Can be used to support analysis of a family member's health concern (data element E1), social behaviour (data element E2) or intervention (data element E3). Performance measurement and reporting considerations to be determined.
E13	Health Concern Date of Resolution	Observation Health Concern End Date	Represents the date on which the Client's health concern ended.	Date	YYYYMMDD	n/a	n/a	20100430	Can support the use of Health Concern (data element E11) for analysis.
E15	Social Behaviour Date of Onset	Observation Social Behaviour Start Date	Represents the effective date the Client started the social behaviour.	Date	YYYYMMDD	n/a	n/a	20100430	Can support the use of Social Behaviour (data element E14) for analysis.
E16	Social Behaviour Date of Resolution	Observation Social Behaviour End Date	Represents the effective date the Client ceased the social behaviour.	Date	YYYYMMDD	n/a	n/a	20100430	Can support the use of Social Behaviour (data element E14) for analysis.

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary care
OBSERVATION (continued)									
E17	Allergy/ Intolerance Type	Observation Allergy/ Intolerance Type Code	Represents the type of allergy or intolerance a Client has.	Code	n/a	Allergy Intolerance Type Code	SNOMED CT or other (jurisdictional codes where available)	414285001 Food allergy (disorder) (SNOMED CT)	Can be used in the provision and administration of care. Can inform EMR system reminders and alerts. Performance measurement and reporting considerations to be determined.
E18	Allergy Agent	Observation Allergy Agent Code	Represents the specific allergen or other agent/ substance to which the Client has an allergic reaction.	Code	n/a	Non Drug Allergen Code	SNOMED CT or other (jurisdictional codes where available)	227150003 Mussels (substance) (SNOMED CT)	Can be used in the provision and administration of care. Can inform EMR system reminders and alerts. Performance measurement and reporting considerations to be determined.
E19	Allergy/ Intolerance Severity	Observation Allergy/ Intolerance Severity Code	Represents the level of severity a Client has in relation to an allergy or intolerance.	Code	n/a	Allergy Intolerance Severity Code	SNOMED CT or other (jurisdictional codes where available)	24484000 Severe (severity modifier) (qualifier value) (SNOMED CT)	Can be used in the provision and administration of care. Can inform EMR system reminders and alerts. Performance measurement and reporting considerations to be determined.

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary care
OBSERVATION (continued)									
E20	Allergy/ Intolerance Status	Observation Allergy/ Intolerance Status Code	Represents whether an allergy/ intolerance is active or inactive.	Code	n/a	Allergy Intolerance Status Code	SNOMED CT or other (jurisdictional codes where available)	55561003 Active (qualifier value) (SNOMED CT)	Can support the use of Allergy/Intolerance Type (data element E17) and Allergy Agent (data element E18).
E21	Allergy/ Intolerance Date of Onset	Observation Allergy and or Intolerance Start Date	Represents the date on which the recorded allergy/ intolerance is considered active.	Date	YYYYMMDD	n/a	n/a	20100430	Can support the use of Allergy/Intolerance Type (data element E17) and Allergy Agent (data element E18).
E22	Allergy/ Intolerance Date of Resolution	Observation Allergy and or Intolerance End Date	Represents the date on which the recorded allergy/intolerance is no longer considered active.	Date	YYYYMMDD	n/a	n/a	20100430	Can support the use of Allergy/Intolerance Type (data element E17) and Allergy Agent (data element E18).
E25	Blood Pressure Body Location	Observation Blood Pressure Measurement Anatomical Location Code	Represents the anatomical location on the Client's body where the blood pressure was measured.	Code	n/a	n/a	SNOMED CT or other (jurisdictional codes where available)	368209003 Right upper arm structure (body structure) (SNOMED CT)	Can support the use of Systolic Blood Pressure Number (data element E23) and Diastolic Blood Pressure Number (data element E24). Performance measurement and reporting considerations to be determined.

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary care
OBSERVATION (continued)									
E26	Blood Pressure Body Position	Observation Blood Pressure Measurement Body Position Code	Represents the position the Client's body was in when blood pressure was measured (e.g., standing, sitting, lying).	Code	n/a	n/a	SNOMED CT or other (jurisdictional codes where available)	163035008 Sitting blood pressure (observable entity) (SNOMED CT)	Can support the use of Systolic Blood Pressure Number (data element E23) and Diastolic Blood Pressure Number (data element E24). Performance measurement and reporting considerations to be determined.
E27	Blood Pressure Representative Reading	Observation Representative Blood Pressure Reading Code	Represents whether the Client's blood pressure reading is representative of the Client's current health condition.	Code	n/a	n/a	SNOMED CT or other (jurisdictional codes where available)	31874001 True (qualifier value) (SNOMED CT)	Can support the use of Systolic Blood Pressure Number (data element E23) and Diastolic Blood Pressure Number (data element E24). Performance measurement and reporting considerations to be determined.

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary care
OBSERVATION (continued)									
E32	Waist Circumference	Observation Waist Circumference Number	Represents the waist circumference of the Client as measured.	Number	n/a	n/a	n/a	70	In combination with data about optimal values for waist circumference, can be used to identify Client risk for selected chronic diseases or conditions, such as diabetes.[20] Performance measurement and reporting considerations to be determined.
E33	Waist Circumference Unit of Measure	Observation Waist Circumference Unit of Measure Code	Represents the unit of measure used to capture the Client's waist circumference.	Code	n/a	Waist Circumference Unit Of Measure Code	UCUM	cm Centimetre (UCUM)	Can support the use of Waist Circumference (data element E32) for analysis.
INTERVENTION									
F3	Intervention (Treatment) Refusal Reason	Intervention Refusal Reason Code	Represents the reason the Client refused an intervention.	Code	n/a	n/a	SNOMED CT or other (jurisdictional codes where available)	62458008 Has religious belief (finding) (SNOMED CT)	Can be used to ensure that an intervention already refused by a Client is not repeatedly offered to the Client. Performance measurement and reporting considerations to be determined.

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary care
LABORATORY RESULTS									
H5	Lab Test Result Low Range	Laboratory Test Result Reference Range Low Number	Represents the low end of a normal reference range lab result for a particular test performed in a particular lab.	Number	n/a	n/a	n/a	n/a (for HbA1c)	Lab tests are ordered in the provision of care for many reasons, including confirmation of suspected diagnoses and disease monitoring. A reference range (low and high values) is required to determine whether the lab test result is normal/ optimal. For example, clinical practice guidelines identify normal reference ranges for hemoglobin A1c [mass/volume] in blood lab test results.[12] Performance measurement and reporting considerations to be determined.
H6	Lab Test Result Low Range — Unit of Measure	Laboratory Test Result Reference Range Low Unit of Measure Code	Represents the unit of measure associated with the Laboratory Test Result Reference Range Low Number.	Code	n/a	Laboratory Observation Unit Of Measure Code	UCUM	% Percent (UCUM)	Can support the use of Lab Test Result Low Range (data element H5).

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary care
LABORATORY RESULTS (continued)									
H7	Lab Test Result High Range	Laboratory Test Result Reference Range High Number	Represents the high end of a normal reference range lab result for a particular test performed in a particular lab.	Number	n/a	n/a	n/a	5.5% (for HbA1C)	Lab tests are ordered in the provision of care for many reasons, including confirmation of suspected diagnoses and disease monitoring. A reference range (low and high values) is required to determine whether the lab test result is normal/ optimal. For example, clinical practice guidelines identify normal reference ranges for hemoglobin A1c [mass/volume] in blood lab test results.[12] Performance measurement and reporting considerations to be determined.
H8	Lab Test Result High Range — Unit of Measure	Laboratory Test Result Reference Range High Unit of Measure Code	Represents the unit of measure associated with the Laboratory Test Result Reference Range High Number.	Code	n/a	Laboratory Observation Unit Of Measure Code	UCUM	% Percent (UCUM)	Can support the use of Lab Test Result High Range (data element H7).

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary care
PRESCRIBED MEDICATION									
M3	Prescription Expected Completion Date	Medication Prescribed Expected Completion Date	Represents the date the prescribed medication is expected to be finished.	Date	YYYYMMDD	n/a	n/a	20100430	Can support the use of Prescribed Medication (data element M1) for analysis. Performance measurement and reporting considerations to be determined.
M4	Prescription Stop Date	Medication Prescribed Stopped Date	Represents the last date the Client took the prescribed medication.	Date	YYYYMMDD	n/a	n/a	20100430	Can support the use of Prescribed Medication (data element M1) for analysis. Performance measurement and reporting considerations to be determined.
M5	Medication Strength	Medication Prescribed Strength Number	Represents the potency of the drug/chemical, usually measured in metric weight (e.g., micrograms, milligrams, grams) and described as the strength of the product's active (medicinal) ingredient.	Number	n/a	n/a	n/a	100	Can support the use of Prescribed Medication (data element M1) for analysis of groups of Clients with targeted chronic diseases or conditions (e.g., diabetes, hypertension).

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary care
PRESCRIBED MEDICATION (continued)									
M6	Medication Strength Unit of Measure	Medication Prescribed Strength Unit of Measure Code	Represents the units of measure for the Medication Prescribed Strength Number.	Code	n/a	n/a	TBD	mg Milligram	Can be used to support the use of Medication Strength (data element M5) for analysis.
M7	Medication Dosage	Medication Prescribed Dose Number	Represents the measured portion of a drug to be taken at any one time that pertains to the drug prescribed.	Number	n/a	n/a	n/a	100	Can support the use of Prescribed Medication (data element M1) for analysis of groups of Clients with targeted chronic diseases or conditions (e.g., diabetes, hypertension).
M8	Medication Dose Unit of Measure	Medication Prescribed Dose Unit of Measure Code	Represents the unit of measure of a drug dose taken at any one time.	Code	n/a	Medication Prescribed Dose Unit Of Measure Code	UCUM	mg Milligram (UCUM)	Can be used to support the use of Medication Dosage (data element M7) for analysis.

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary care
PRESCRIBED MEDICATION (continued)									
M9	Medication Form	Medication Prescribed Form Code	The physical configuration or presentation of state of matter of any given drug product. The dosage form in which the medication is administered (e.g., tablet, liquid, suppository, solution).	Code	n/a	n/a	TBD	NDROP (nasal drops)	Can be used in both the provision and administration of care. Ensures that the right form of the prescribed medication is provided to the Client as required for treatment. Performance measurement and reporting considerations to be determined.
M10	Medication Frequency	Medication Prescribed Frequency Text	Represents the number of occurrences within a given time period that a dose of a drug is to be administered.	String/ General Timing Speci-fication	n/a	n/a	n/a	2 tablets/24 hours	Can be used in the provision of care to ensure that the Client takes the medication as required during a specified period of time, helping to ensure the efficiency of the treatment and to prevent any unintended medication overdose. Performance measurement and reporting considerations to be determined.

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary care
PRESCRIBED MEDICATION (continued)									
M11	Medication Route	Medication Prescribed Route Code	Represents the part of the body on which, through which or into which a drug product is to be introduced. A drug product can have more than one route of administration.	Code	n/a	n/a	TBD	NASINHL (nasal inhalant)	Can be used to provide instructions to the Client regarding how the medication is to be taken. Performance measurement and reporting considerations to be determined.
M12	Medication Number of Repeat/ Refill(s)	Medication Prescribed Repeat Number	Represents the number of times the prescription can be used to refill the prescribed medication.	Number	n/a	n/a	n/a	2	Can be used to provide instructions on how often a particular prescription can be refilled and the potential need for a follow-up reminder to the Clinician for this Client. Performance measurement and reporting considerations to be determined.

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary care
PRESCRIBED MEDICATION (continued)									
M13	Medication Not Prescribed Reason	Medication Prescribed Not Given Reason Code	Represents the reason why a preferred medication was not prescribed to a Client.	Code	n/a	n/a	TBD	PATINELIG patient not eligible	Can be used in both the provision and administration of care. Explains why a Clinician was not able to prescribe a medication at the time of an encounter. Performance measurement and reporting considerations to be determined.
M14	Medication Compliance	Medication Prescribed Adherence Code	Represents whether or not the Client has been administering the prescribed medication(s) as instructed.	Code	n/a	n/a	SNOMED CT or other (jurisdictional codes where available)	31874001 true (qualifier value) (SNOMED CT)	Can be used in both the provision and administration of care. Documents that a Client did not take the prescribed drug and can be used to inform subsequent provision of care. Performance measurement and reporting considerations to be determined.

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary care
DISPENSED MEDICATION									
N1	Medication Dispensed	Medication Dispensed Code	Represents the medication that was dispensed to the Client.	Code	n/a	n/a	TBD	Gen-acebutolol 200 mg	Can be used to create a longitudinal medication record to support the provision of care. Performance measurement and reporting considerations to be determined.
N2	Medication Dispensed Date	Medication Dispensed Date	Represents the date the medication was dispensed to the Client.	Date	YYYYMMDD	n/a	n/a	20100430	Can be used to create a longitudinal medication record to support the provision of care. Performance measurement and reporting considerations, if any, to be determined.
IMMUNIZATION									
O3	Vaccine Administered Lot Number	Vaccine Administered Lot Number	Represents the batch identification number of the vaccine.	Identifier	n/a	n/a	n/a	89765	Can be used to contact Clients who received a particular lot number of a vaccine substance. Performance measurement and reporting considerations to be determined.

Data element number	Data element common name	Data element standard name	Data element definition	Data type	Valid format	Primary health care subset name(s)*	Recommended code system(s)	Example	Selected considerations for performance measurement and reporting in primary care
IMMUNIZATION (continued)									
O4	Reason Vaccine Not Given	Vaccine Not Given Reason Code	Represents the reason a vaccine was not administered to a Client.	Code	n/a	Act No Immunization Reason	SNOMED CT or other (jurisdictional codes where available)	77386006 Pregnant (SNOMED CT)	Can be used to explain why a Client may have been offered a vaccination but refused or why the vaccine was not given for other reasons. Performance measurement and porting considerations to be determined.

Notes

* The primary health care subsets provide a standardized value set that can be accessed via the Canada Health Infoway Terminology Gateway.

ENCODE-FM: Electronic Nomenclature and Classification of Disorders and Encounters for Family Medicine.

ICD-9: *International Classification of Diseases, Ninth Revision*.

ICD-10-CA: *International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Canada*.

SNOMED CT: Systematized Nomenclature of Medicine — Clinical Terms.

UCUM: Unified Code for Units of Measure.

n/a: Not applicable.

TBD: To be determined.

Source

Canadian Institute for Health Information.

Appendices

Appendix A: Primary Health Care EMR Content Standard — Revision history

The following table provides a brief summary of the Pan-Canadian Primary Health Care EMR Minimum Data Set revision history.

Table A1 Pan-Canadian Primary Health Care EMR Minimum Data Set revision history

Iteration	Guide	CIHI supplementary products	Number of data elements
1	*Canadian Institute for Health Information Primary Health Care Indicators Electronic Medical Record Content Standards, Version 1.1* (2009)	Pan-Canadian Primary Health Care Indicators Report 1, Volumes 1 and 2 (2006)	112 data elements
2	*Draft Pan-Canadian Primary Health Care Electronic Medical Record Content Standard, Version 2.1 — Implementation Guide* [archived] (2012)	Business View, Conceptual Model, Logical Model, Detailed Logical Model, Data Extract Specification Pan-Canadian Primary Health Care Indicators Report 1, Volumes 1 and 2 (2006) PHC subsets (Canada Health Infoway)	106 data elements
3	*Pan-Canadian Primary Health Care Electronic Medical Record Content Standard, Version 3.0 — Clinician-Friendly Pick-List Guide* [archived] (2014)	CFPL Excel spreadsheets v1.0 (2014) and v1.1 (2018) FAQ, technical guide, business view, conceptual model, logical model, detailed logical model Pan-Canadian Primary Health Care Indicators Report 1, Volumes 1 and 2 (2006) Pan-Canadian Primary Health Care Indicator Update Report (2012) PHC subsets (Canada Health Infoway)	45 data elements

Iteration	Guide	CIHI supplementary products	Number of data elements
4	*Pan-Canadian Primary Health Care EMR Minimum Data Set for Performance Measurement, Version 1.0* (2020)	Pan-Canadian Primary Health Care Indicators Report 1, Volumes 1 and 2 (2006) Pan-Canadian Primary Health Care Indicator Update Report (2012) PHC subsets (Canada Health Infoway)	45 core and 61 supplementary data elements
5	*Pan-Canadian Primary Health Care EMR Minimum Data Set for Performance Measurement, Version 1.1* (2022)	Pan-Canadian Primary Health Care Indicators Report 1, Volumes 1 and 2 (2006) Pan-Canadian Primary Health Care Indicator Update Report (2012)	47 core and 58 supplementary data elements Updated: • Provider Type • Visit Modality New: • Race • Indigenous Identity Removed: • Clinician Last Name • Clinician First Name • Clinician Middle Name

Note
The historical documents listed above have been archived but are available upon request.
Source
Canadian Institute for Health Information.

Appendix B: Glossary

Table B1 Glossary

Term	Acronym (if applicable)	Description
Canadian Classification of Health Interventions	CCI	A national standard for classifying health care procedures in Canada. CCI is the companion classification system to ICD-10-CA. CCI replaces the Canadian Classification of Diagnostic, Therapeutic and Surgical Procedures (CCP) and the intervention portion of ICD-9-CM in Canada. It is designed to be provider- and location-neutral so that it may be used across the continuum of health care settings in Canada.[21]
Canadian Institute for Health Information	CIHI	CIHI is an independent, not-for-profit organization that provides essential data and analysis on Canada's health systems and the health of Canadians.
Standards and Data Working Group	n/a	The Standards and Data Working Group provides input and expert advice on the adoption, implementation and maintenance of the Primary Health Care EMR Content Standard to ensure that it remains clinically and technically relevant and aligned with existing standards, where applicable. The group includes jurisdictional standards experts, PHC providers, researchers and Canada Health Infoway representatives.
Drug Identification Number	DIN	A Health Canada–assigned unique identifier to all drug products sold in a dosage form in Canada. It is located on the label of prescription and over-the-counter drug products and identifies the following characteristics: manufacturer; product name; active ingredient(s); strength(s) of active ingredient(s); pharmaceutical form; and route of administration.[22]
electronic health record	EHR	An electronic health record (EHR) refers to the systems that make up the secure and private lifetime record of a person's health and health care history. These systems store and share such information as lab results, medication profiles, key clinical reports (e.g., hospital discharge summaries), diagnostic images (e.g., X-rays) and immunization history. The information is available electronically to authorized health care providers.[23]
electronic medical record	EMR	For the Pan-Canadian Primary Health Care EMR Minimum Data Set, an electronic medical record (EMR) is an office-based system that enables a health care professional, such as a family doctor, to record the information gathered during a patient's visit. This information might include a person's weight, blood pressure and clinical information, and would previously have been hand-written and stored in a file folder in a doctor's office. Eventually the EMR will also allow the doctor to access information about a patient's complete health record, including information from other health care providers that is stored in the EHR.[23]

Term	Acronym (if applicable)	Description
Health Level Seven	HL7	An international standard providing a comprehensive framework and related standards for the exchange, integration, sharing, and retrieval of electronic health information that supports clinical practice and the management, delivery and evaluation of health services.[10]
health system use	HSU	HSU of information refers to the use of health information to monitor, manage and improve the health of Canadians and the health care system.
International Statistical Classification of Diseases and Related Health Problems, Ninth Revision	ICD-9	A set of codes from the World Health Organization used to classify diseases and injuries. It is associated with fee schedules/billing codes used by primary care physicians across Canada.[24]
International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Canada	ICD-10-CA	An enhanced version of ICD-10 developed by CIHI for morbidity classification in Canada. It also includes conditions and situations that are not diseases but represent risk factors to health.[21]
International Organization for Standardization	ISO	An independent, non-governmental international organization that develops and publishes standards. The ISO consists of a network of national standards bodies in 164 countries.[25]
Logical Observation Identifiers Names and Codes	LOINC	An international standard for identifying tests, and laboratory and clinical observations and documents.[8]
Pan-Canadian LOINC Observation Code Database	pCLOCD	A nomenclature standard that uses the LOINC records and attributes that specifically meet Canadian laboratory-ordering and reporting requirements.[8]
primary health care	PHC	First-contact care that deals with the majority of health problems. It is the foundation of any health care system, and countries with strong primary care seem to have better health than those without.
primary health care subsets	PHC subsets	Constrained lists of allowable values developed by Canada Health Infoway from source code systems that are applicable to the delivery and administration of PHC. They support the implementation of the Pan-Canadian Primary Health Care EMR Minimum Data Set by facilitating standardization of PHC data for primary and health system use.[26]
roster	n/a	A patient panel, or roster, lists the unique patients (clients) that have an established relationship with a physician. There is an implicit or explicit agreement that the identified physician will provide primary care services.[27]
Systematized Nomenclature of Medicine–Clinical Terms	SNOMED CT	A clinical terminology that contains more than 311,000 concepts with unique meanings and formal logic-based definitions organized into hierarchies.[7]

Term	Acronym (if applicable)	Description
Unified Code for Units of Measure	UCUM	A code system intended to include all units of measure currently in use in international science.[9]
value set	n/a	A list of valid permissible values or codes from 1 or more code systems.[26]
virtual care	n/a	Any interaction between patients and/or members of their circle of care occurring remotely, using any forms of communication or information technology with the aim of facilitating or maximizing the quality of patient care (Women's College Hospital).[28]

Note
n/a: Not applicable.
Source
Canadian Institute for Health Information.

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