eHealth Ontario

Ontario's Electronic Health Record (EHR) Conceptual Information Model (CIM)

Digital Health Enabled

VERSION 2.0

Ontario

eHealth Ontario

Version History

Version Number	Date	Summary of Change	Changed By
1.0	November 2014	Initial version part of Ontario's Ehealth Blueprint	eHealth Ontario, Architecture & Standards Division
2.0	June 26, 2019	Updated to align with HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1]	eHealth Ontario, Architecture & Standards Division

eHealth Ontario

Table of Contents

Introduction

The Ontario health care sector is a complex and multi-faceted environment. The Government of Ontario recently introduced a new model of care provision under The People's Health Care Act, 2019. It was designed to integrate care delivery and funding, thus enabling patients, families, communities, providers, and system leaders to better work together, innovate, and build on what is best in Ontario's health care system. To enable this transformation, 20 different health agencies, including Cancer Care Ontario, Health Quality Ontario, eHealth Ontario, Trillium Gift of Life Network, Health Shared Services Ontario, HealthForce Ontario, and the 14 Local Health Integration Networks are consolidating under the single roof of Ontario Health. In addition, localized Ontario Health Teams (OHTs) are being introduced to strengthen the patient's circle of care and enhance the patient's journey through the health care system. The OHT model outlines how providers will be supported with a suite of resources that include digital health tools and services.[1] These tools are important in these early days of the digital revolution. They support electronic communication between providers as well as between patients and their service providers for day-to-day wellness tracking through wearable health parameter recording devices. Moreover, these tools will enable potential utilization of artificial intelligence algorithms in the future.

eHealth Ontario, and eventually Ontario Health, plays an important role in promoting and implementing electronic health records (EHRs) across Ontario. Currently, the agency serves as a provincial digital health integration and technology service provider making relevant patient information available at the point-of-care as well as facilitating inter-professional communication and information-sharing. eHealth Ontario, as part of Ontario Health, is integral to the upcoming transformation as the province continues to advance health care delivery through the use of digital health services.

The Conceptual Information Model (CIM) is a high-level map describing the information contained in Ontario's provincial Electronic Health Record (EHR) system. The CIM provides an information structure to guide the planning, design, data integration and governance of health information from multiple sources. It also serves as a reference information model shared by organizations building or buying digital health solutions in Ontario, reducing the time to design a solution, and providing solution teams with a shared collective view. The CIM provides a common foundation to promote and facilitate clinical data collection and information sharing while leveraging integrated digital health solutions.

[1] Ontario Health Teams: Guidance for Health Care Providers and Organizations. (Retrieved June 5, 2019) http://health.gov.on.ca/en/pro/programs/connectedcare/oht/docs/guidance_doc_en.pdf)

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Overview

This overview describes the model, its origins, benefits and subject areas as well as provides a data dictionary. It includes sections on using CIM 2.0 in digital health solutions. It also includes areas of interest for the future of electronic health records.

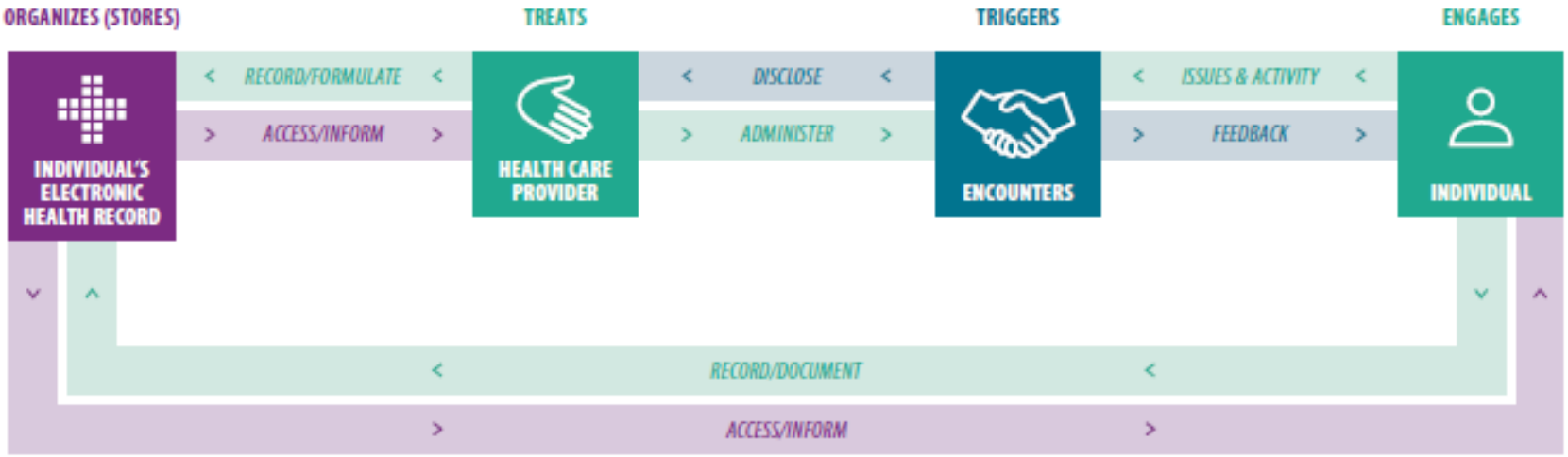

Figure 1: EHR Information Model context: individuals, patients and substitute decision makers (SDMs), as well as providers contribute to the electronic health record system through care encounters. Individuals and their SDMs may access it directly. Health care clients and patients may also access it directly.

The CIM is a common information model that includes all of the information types that make up Ontario's EHR system. It enables the development of comprehensive, life-long patient records by ensuring that information from multiple health care sources can be linked to the same individual. It places the patient squarely at the centre of their care by enabling the collecting, storing and use of health information captured for them during their encounters within the health care system. Since we know that knowledge applied from health information improves outcomes, the purpose of the provincial EHR is to enable health care providers and patients to participate in the management and improvement of health outcomes through access to and application of health information. By recording health information about each patient, governed by privacy legislation, and making it available, where and when it is needed most – at the patient's side, the patient, and the health care providers involved in their care, are able to take advantage of comprehensive health information over the course of the patient's lifetime to make more informed decisions and adjust lifestyle and health choices accordingly. The general EHR model, and the electronic health record system, is being extended to include clinical data that resides in other significant point-of-care applications, that can be referenced and retrieved through published application

programming interface API's, such as Hospital Information Systems (HISs) and Community and Primary Care systems that incorporate segments of a patient health record across the health care sector.

The CIM defines each piece of information that supports the patient's transition from one care setting to another. It is a foundation for solution planning, design, implementation and maintenance of digital health solutions that can facilitate patient transitions.

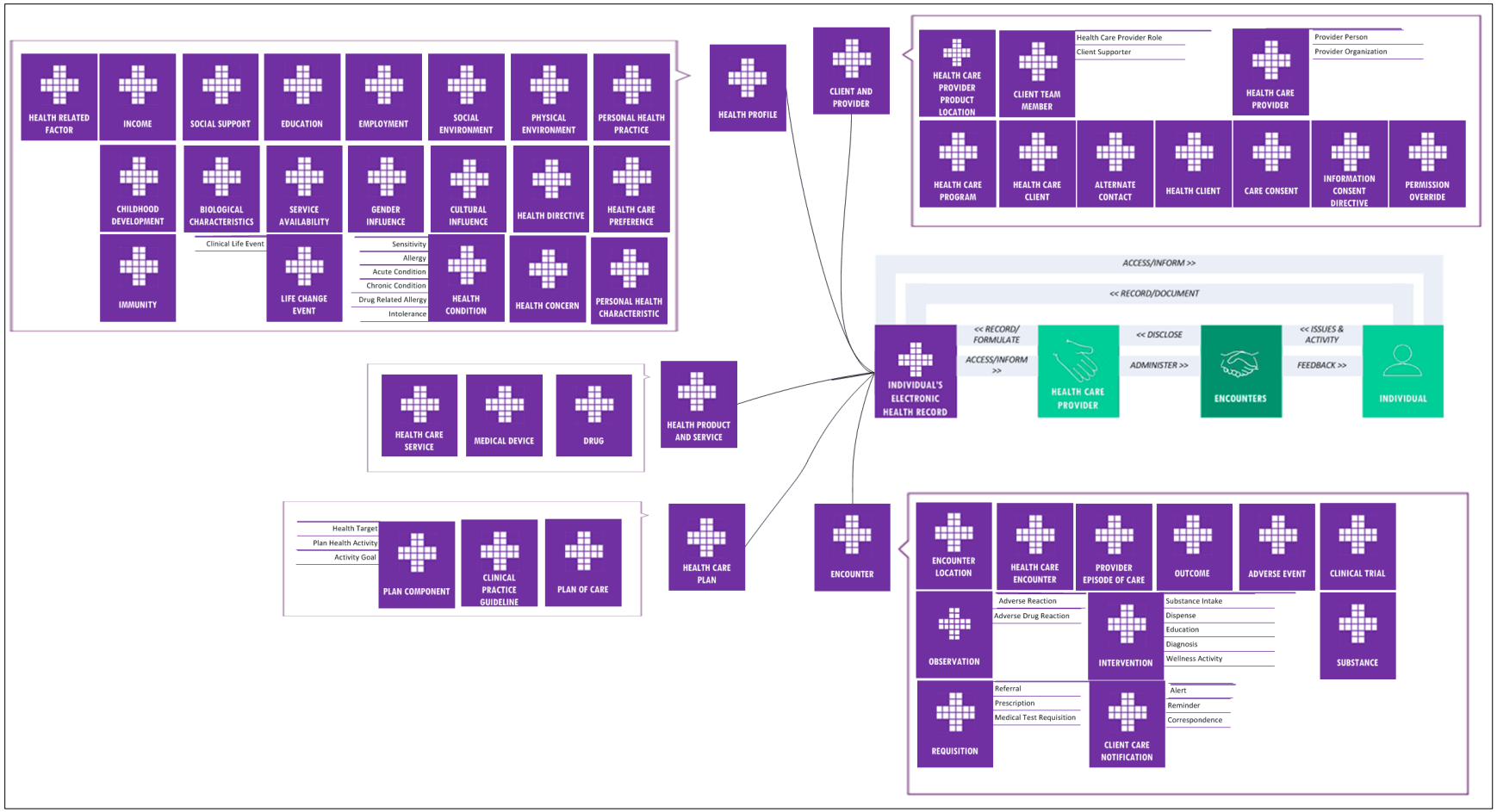

Figure 2: Overview diagram of the conceptual information model.

Information Architecture

To support the alignment and integration of digital health initiatives, eHealth Ontario has developed CIM 2.0 in collaboration with key governance stakeholders: the ministry (Health System Information Management Services, Investment and Sustainment Board) and the agency's Clinical Advisory Committee, renamed to the ONE Provincial Clinical Working Group. This version builds on the initial CIM release published in 2012.

The CIM is a high-level conceptual view of the information that constitutes a patient's health record in the Ontario health care system, providing broad outlines of how that information should be structured. It is a reference for all stakeholders of EHRs in Ontario, including but not limited to the ministry and its agencies, Ontario-based health care providers, patients, and information system vendors.

The CIM provides:

- A map of information relevant to the business of health care that serves as the basis for information management and governance
- A standards-based representation of health information in the EHR
- An information structure to guide the planning, design, and data integration of EHR systems, primarily to provide common information definitions for the content of clinical information resources used in care settings (refer to Appendix E)
- A common high-level vocabulary to facilitate semantic interoperability communication and coordination between parties within eHealth Ontario and across the broader health care environment
- CIM diagrams and definitions illustrating the content of the model (matching solution information requirements against the model will highlight opportunities, issues and risks vital to solution planning)

CIM 2.0 is called a conceptual model because it is an information model that gives high-level definitions for people, places, things, events and other concepts important in health care IT solution planning. It covers the electronic health record only. It does not define data fields or deal with database or message design. All financial, insurance or payment references in the data dictionary are 'as required for care' only. Data related to administration and system management are not included. More detailed views of data are addressed by the interoperability standards, terminology guides and EHR Data Dictionary available on the agency's website.

EHR Information Principles

The following information principles guide the process of managing the EHR system:

1. Health information is a business asset. Its acquisition, development, management and use must be business-driven and fit-for-purpose.
2. Health information is a shared asset. It must have common vocabulary and information definitions. It must concur with adopted health interoperability standards in order to be shared.

3. Health information is a complex asset. It must be managed by enterprise-wide governance using the Canadian HIM Lifecycle[2] e.g. creation to destruction.
4. Health information is a trusted asset. It must be managed in compliance with Ontario health law and regulation. It must be secure and accessible, and must incorporate privacy by design.

Modelling References

There were three (3) major sources of reference information for the 2012 development of the first edition of the CIM:

- The logical data models for existing registries and repositories, e.g. the Provincial Provider Registry (PPR) and the Diagnostic Imaging Common Service.
- Health interoperability standards and data models developed by key organizations with a vested interest in health information management: the International Standards Organization (ISO), Health Level Seven (HL7), the Canadian Institute for Health Information (CIHI), Canada Health Infoway (CHI), and OntarioMD.
- Similar documents from other external organizations such as the National Health Service in the UK and the Office of the National Coordinator for Health Information Technology in the US.

These reference models represent different views of the EHR system. The CIM was created from these inputs based on accepted information modelling methods and knowledge of the health information domain.

CIM 2.0 has important additional sources that support and improve the model to ensure it remains current:

- Government of Ontario's *Ontario Health Teams: Guidance for Health Care Providers and Organizations*: outlines the Ontario Health Team (OHT) model, "wherein partners across the broader health system, including the Ministry and Ontario Health,..., will work with Ontario Health Teams to identify approaches for improving their suite of digital tools in order to improve access, share information with providers and patients, and measure performance."
- ISO/HL7 10781 - EHR System Functional Model, Release 2: This international standard was published by the International Standards Organization in April 2014. It describes electronic health functions at a conceptual level, providing a foundation for more detailed work. Every part of this model was assessed for its contribution to the CIM and, in large part, CIM 2.0 is the result.
- Health Canada's website *Safe Medical Devices in Canada* that provides current thinking on digital medical devices.

[2] The Canadian Health Information Management Lifecycle, Kelly J. Abrams, Shirley Learmonth, Candace J. Gibson, Canadian Health Information Management Association, 2017 pages 6-10.

- The Public Health Agency of Canada's website *What Determines Health?* for the social and economic influences on health. Information about an individual's place in society, such as income, education or employment, have a very significant impact on health and are reflected in CIM 2.0.
- Two health care dictionaries: Canada Health Infoway's Standards Knowledge Management Tool, a collection of terms and definitions rooted in ISO standards, and the U.S. National Library of Medicine - Medical Subject Headings (MeSH).

Conceptual Information Model Benefits

The OHT model is designed to ensure coordinated and integrated care, so patients get the right care from the right providers at the right time.

CIM 2.0 provides a common information foundation to promote and facilitate these goals and to integrate solutions involved in the EHR, enabling stakeholders to leverage a comprehensive set of provincial digital health information assets. It provides an information structure to guide the planning, design, data integration and governance of health information from multiple sources. It also serves as a reference, and standard of comparison, for organizations building or buying digital health solutions in Ontario, reducing the time to design a solution, and improving the quality of the solution.

Subject Areas of the Model

CIM content is structured into five major classifications of clinical information:

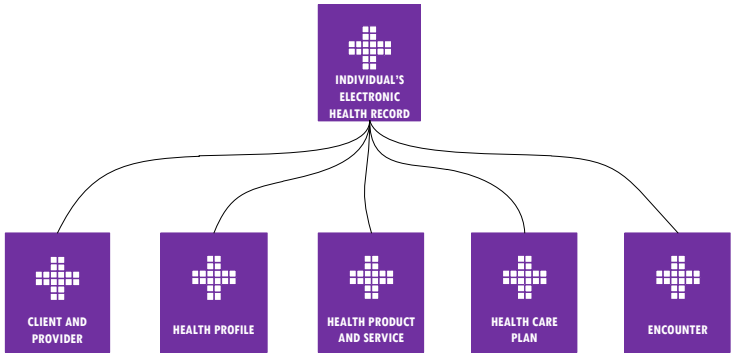

Figure 3: The high level subject areas of the Conceptual Information Model

PATIENT, PROVIDER, LOCATION and ORGANIZATION

Patient and Provider Subject Area entities for individuals receiving care and parties acting on their behalf, supporting them in their journey and providing them with care products and services. This includes a team of health providers, supporters providing coordinated care or substitute decision makers such as parents of underage patients.

HEALTH PROFILE

Health Profile Subject Area entities for a patient's personal health characteristics. This includes health related factors related to the social determinants of health.

HEALTH PRODUCT AND SERVICE

Health Product and Service Subject Area entities for the health products and services usually given by providers to patients within the context of an encounter, but also including devices and wearables purchased over the counter. This includes Internet of Things (IoT) medical devices.

HEALTH CARE PLAN

Health Care Plan Subject Area entities for work plans, goals and objectives for a patient's health and health care.

ENCOUNTER

Encounter Subject Area entities record the clinical details of a patient's health care events. Encounters may occur in any setting; health care organization or otherwise, including at the patient's home, or public locations. An encounter is a step in a Patient Journey; including measurements recorded by a medical device or wearable.

Additional Information Categories

Two additional categories of information are important parts of the EHR system.

Knowledge Resources

Many types of knowledge resources support health care. Examples include forms, policies, references, coding systems, standards, and links to other organizations playing roles in electronic health care. They could also include patient post-discharge instructions and wellness monitoring guidance geared to specific clinical best practices and outcomes. Knowledge resource content should be considered when using the information model, including system design and implementation, maintenance, and sustainment.

Knowledge resource repositories will contain health care reference information for sharing across a variety of health care settings as well as for supporting applications and enabling collaboration and integration of health information solutions. Trillium Gift of Life Network (TGLN) provides patient referral and listing criteria guidelines for referring a patient to a transplant centre for assessment, and to assess the suitability of potential candidates for various types of transplantation. Similarly, standardized clinical protocols for surgeries or procedures could be disseminated to caregivers from a best practices website.

Audiences for these resources include the Ontario public, health care workers, digital health solution vendors, delivery partners, and researchers.

Population Health and Health System Analytics

The EHR information electronically captured and recorded about population health and health system activity can support the development of clinical analytics, health system analytics and reporting services throughout Ontario's health sector. The CIM is strongly patient-centered with patients/supporters and their caregivers represented at the heart of the model. The variety of care settings in the province is also conceptually represented within the model including; primary care, acute care, home care, community care, palliative care, long-term care, and settings related to mental health and addictions. Furthermore, social determinants of health are identified in the health profile subject area and include variables such as income, social support, education, childhood development, physical environment, etc., as they relate to the overall health and wellness of the patient.

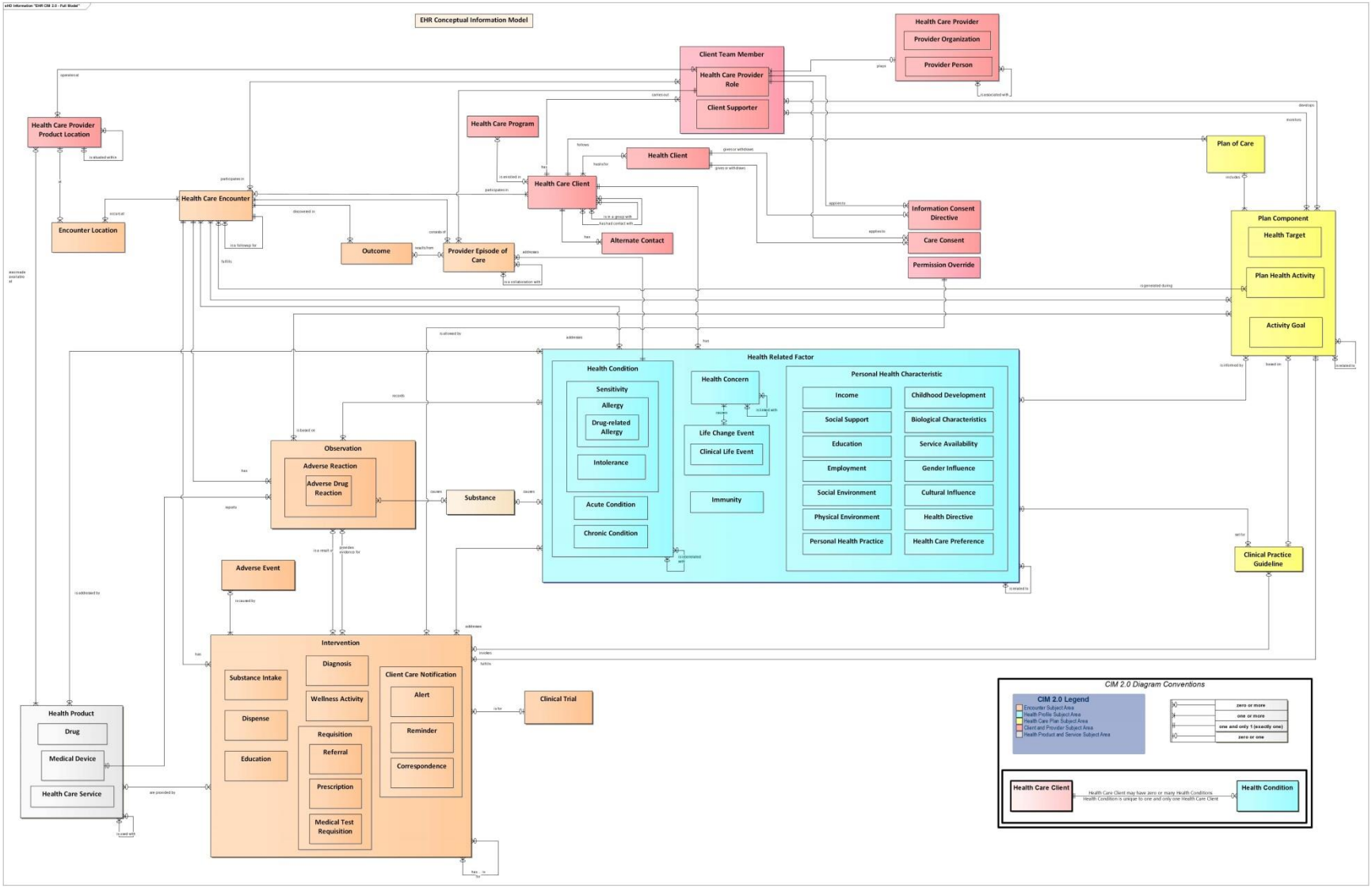

Figure 9: CIM 2.0 Full Model. **Note:** Subject Areas of this figure are available in the sections below.

CIM 2.0 Data Dictionary

The CIM 2.0 Data Dictionary is a listing of the metadata for each information entity in the model. The listing is organized by model subject area and each entry in this list contains the full entity name, short and long description, detailed data, example instances and documentation references.

The ISO/HL7 10781 - EHR system functional model, Release 2, 4/21/2014 is the primary model against which CIM 2.0 was verified. References to the Functional Model are to demonstrate linkage of CIM entities to EHR functions. Links to the functional model documentation are available in Appendix 1.

Note: All financial, insurance or payment references in the data dictionary are in the context of 'as required for care'.

EHR Data Dictionary

The EHR Data Dictionary is a catalogue of all data elements that are represented in eHealth Ontario's repositories and registries, based on point-in-time published interoperability standards. It also defines metadata attributes for the data elements captured in these digital health assets, as required by the interoperability standards. Where applicable, data elements within the EHR Data Dictionary have been mapped to an appropriate subject area and information entity. This enables users to aggregate or categorize data elements across clinical domains at an EHR conceptual level aligned to the Conceptual Information Model (CIM). For example, a user is able to group/filter all data elements by subject area of "Encounter" or by information entity of "Diagnosis" across all digital health assets. Data elements captured by the CIM are representative of more conceptual patient-centered entities in the electronic health record and are not intended to capture the more granular and logical system-oriented or administrative concepts which are represented in the EHR Data Dictionary. Therefore, not all data elements in the EHR Data Dictionary will have corresponding mapping to the CIM.

1. Client and Provider Subject Area

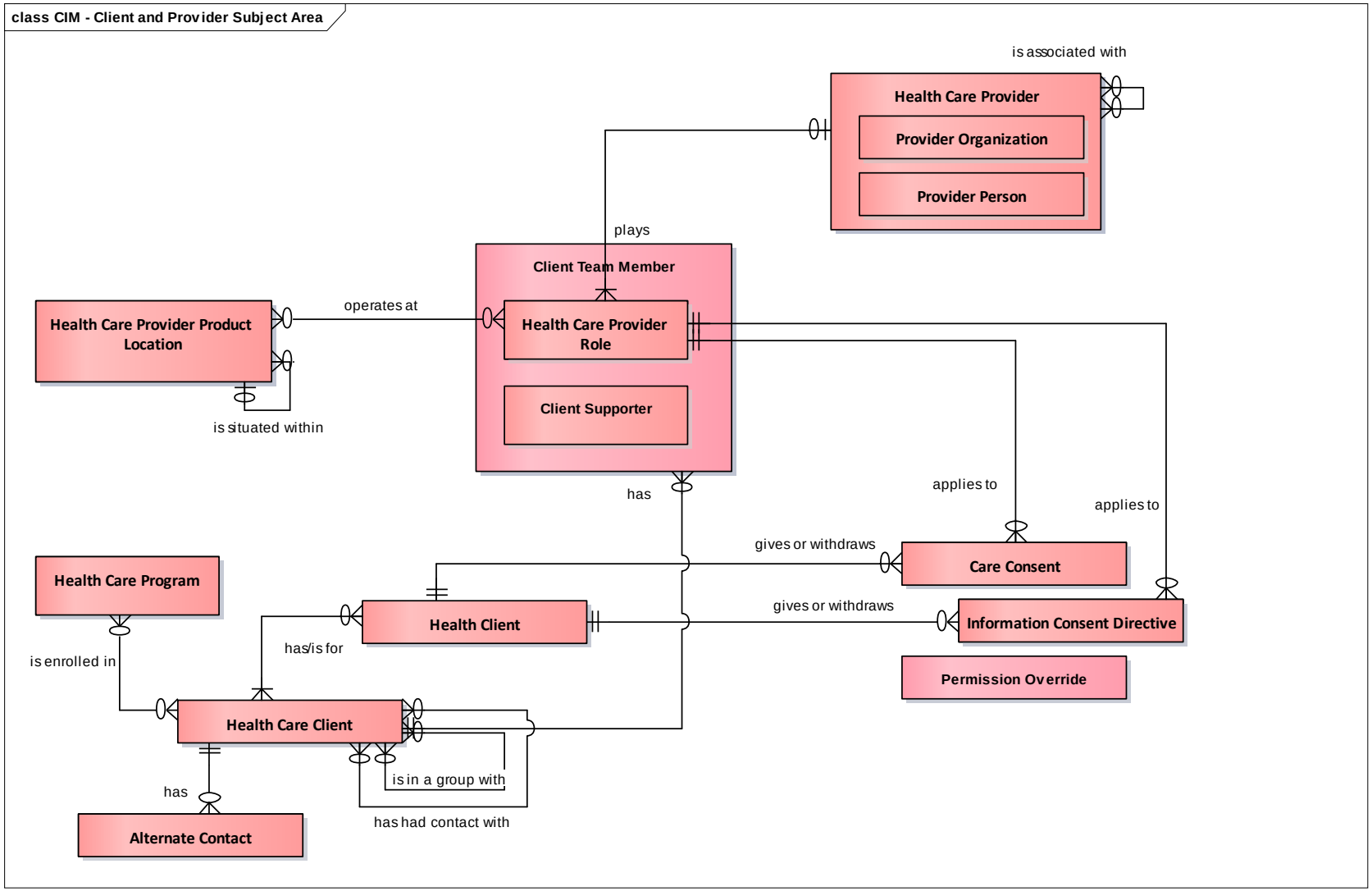

Figure 10: CIM 2.0 Client and Provider Subject Area

Entity	Description	References
Health Care Client	An individual participating in the health care system for the purpose of receiving therapeutic, diagnostic, or preventive procedures. (U.S. National Library of Medicine - Medical Subject Headings) A natural person (i.e. a human being) who: • is eligible to receive health care services in Ontario, or • has received or is receiving health care services in the province of Ontario (i.e. a health care client). This entity covers personal identifying information but not health information. It includes information about: • identity within the health system e.g. a Health Number; each care setting may have a separate unique ID. E.g. a research study may uniquely identify a health care client as a test subject. • administrative gender, e.g. Male, Female, undisclosed • adoption: whether or not the health care client was adopted • birth and death dates • official versus preferred name • whether or not the health care client would prefer to receive correspondence The health care client's identity may be unknown e.g. for a protected person or if the identity of the health care client is unknown. A health care client may be a VIP whose identity must be omitted from reporting. A health care client may be identified by an alias. Health care client-identifying information could include a photograph. May be related genetically or by physical co-location (e.g. residential,	HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Population Health Support (Outcome Measures and Analysis, Manage Population Health Study-Related Identifiers) • Care Provision (Manage a Patient Record, Manage Patient Demographics, Related by Genealogy, Related by Living Situation, Related by Other Means)

Entity	Description	References
	occupational, travel, etc.) to another person not necessarily a health care client. Depending on care setting, a health care client may be referred to as: • Patient (currently receiving care) • Participant (in a clinical study) • Resident (of a long term care facility) • Subject (in a public health case) • Client (in home care/community care cases/ settings)	
Health Client	Legal entity (i.e. either an individual or an organization) holding rights and responsibilities for a health care client with respect to health care. A health care client managing his or her own care acts as the health client. Where care of a health care client is legally managed by another person, that person is the health client. Includes power of attorney and substitute decision maker. Includes personal representative, advocate, healthcare proxy, legal representative, financially responsible entity. It includes information about contact method e.g. geographic or virtual address, telephone number.	HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Administration Support (Manage Patient Demographics, Location and Synchronization) • Care Provision (Related by Insurance, Related by Other Means, Manage Consents and Authorizations)
Alternate Contact	An alternate contact person or organization. E.g. an Emergency Contact called in the event of a medical emergency involving the health care client, or a person contacted when the health care client can't be reached. An Alternate Contact is	HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0

Entity	Description	References
	a helper facilitating communication for the health care client, and may or may not be a health client. It includes information about contact method e.g. geographic or virtual address, telephone number, etc.	***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Administration Support (Manage Patient, Demographics, Location and Synchronization)
Health Care Provider	A person or an organization that provides health care or other health-related services or products. It includes information about contact method: • geographic address • virtual address • telephone number • other demographics	HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Administration Support (Team/Group of Providers Registry or Directory, Provider Caseload/Panel, Manage Patient Demographics, Location and Synchronization)
Provider Organization	An organization that provides health care or other health-related services or products.	HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1]

Entity	Description	References
	Includes e.g. insurers and transcription services. May have information on service classification e.g. Regional Cancer Centre. [For Single Sign on application, a Provider Organization may be a Sponsoring Organization, a Health Care organization that has users that require access to at least one Federated Service. 2015-6-15]	http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Administration Support (Support for Provider Credentialing)
Provider Person	Describes a health care provider involved in the delivery of healthcare services. Encompasses both professional and non-professional members. Has professions, areas of practice for which the provider is qualified. May have information on clinician credentialing and privileging as defined by the applicable professional and governing organizations. This includes remote participation (e.g., via tele-health activities such as tele-consultation, home health monitoring.) Includes any information about licensing status and license suspension. May be an author, authenticator or scribe/transcriber of clinical documentation. Has a Unique Provider Identifier, a key assigned by eHealth to uniquely identify each Provider. May have a health system universal ID. May have a license number or national provider identifier (U.S.). May have multiple unique identifiers.	SC-3004-EN-CeRx Terminology Worksheet-CeRx4.4.2-20160311 https://infocentral.infoway-inforoute.ca/2_Standards/1_pan-Canadian_Standards/Terminology/3_pan-Canadian_Terminology_Artifacts HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269

Entity	Description	References
		• Administration Support (Team/Group of Providers Registry or Directory)
Information Consent Directive	A directive received from a health care client or health client for the purpose of restricting access to Personal Health Information (PHI) by Health Information Custodians (i.e. implied consent directive). If a consent directive is in place, it is only to prevent access to PHI in the EHR for health care purposes. Consent directives will apply only in respect of sharing of PHI for provision of health care (since EHR is to be accessed only for this purpose). Consent directives do not have a time limit. May be overridden by Consent Override in a 'break the glass' scenario. Consent overrides may be permitted only for the following purposes as authorized by law: • if health care client or Substitute Decision Maker (SDM) provides express consent for the override to facilitate provision of health care to the health care client, or • to prevent, eliminate or reduce risk of serious bodily harm to a person (if it is not reasonable to obtain consent in timely manner) or to a group, where the HIC believes on reasonable grounds that the collection is necessary for this purpose. Additional purposes are not permitted.	HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Administration Support (Manage Patient Privacy Consent Directives) Personal Health Information Protection Act, 2004, S.O. 2004, c. 3, Sched. A https://www.ontario.ca/laws/statute/s04003
Care Consent	Voluntary authorization, by a health care client (e.g. patient, research subject), with full comprehension of the risks involved, for diagnostic or investigative procedures, and for medical and surgical treatment. (MeSH)	HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard***

Entity	Description	References
	Care consent may be explicit or implied. May include consent to have restricted medications administered for research protocol and experimental drugs.	***requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision (Manage Medication Orders, Manage Medication Administration, Manage Immunization Administration, Manage Treatment Administration) • Care Provision (Manage Consents and Authorizations)
Permission Override	In Temporary Override with Client's Consent a Client allows a Provider temporary access to the Client's restricted Personal Health Information (PHI). In Temporary Override without Client's Consent a Provider temporarily accesses a Client's restricted Personal Health Information without the Client's consent. This scenario may play out in an Emergency setting where the Providers do not have the ability to obtain consent from the Client (or the Client's SDM) but must access their PHI for the purpose of providing care. For example, normally the 'Dietician' role can only view (not update) the Health Care Client's diary. A Health Care Client may grant special permission to his/her dietician to enable him/her to update the nutritional intake portion of the diary. In another example an ER physician may gain temporarily access to PHI to treat a non-communicative emergency patient. Override permission is only allowed under 3 circumstances: • With express consent	Consent Directives Implementation Guide - Version 1.01 http://www.ehealthontario.on.ca/en/architecture/resources

Entity	Description	References
	• For health care purposes For reducing risk of harm to others	
Health Care Provider Product Location	An address or other identifiable locale at which health products have been provided to an individual health care client in a Health Care Encounter, often by a particular provider playing a particular role. It may also be: • temporary (e.g. flu shot clinic in a mall) • mobile (e.g., ambulance, mobile lab) • in the field (e.g., car, accident site) • the health care client's home • virtual (e.g. a tele-health activity such as tele-consultation or home health monitoring) Locations and contact information may refer to the location of the provider within a health care facility's premises e.g. a hospital unit. Products and services can be provided by non-licensed providers e.g. care-givers.	HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Population Health Support (Donor Management Support) • Administration Support (Manage Provider's Location Within Facility, Provider's On Call Location, Team/Group of Providers Registry or Directory)
Client Team Member	A member of a multidisciplinary team providing care of health care clients, usually organized under the leadership of a physician. Each member of the team has specific responsibilities and the whole team contributes to the care of the health care client. Examples: • encounter provider, • primary care provider, • attending • resident	U.S. National Library of Medicine - Medical Subject Headings - https://www.nlm.nih.gov/cgi/mesh/2016/MB_cgi?mode=&index=10325&field=all&HM=&II=&PA=&form=&input HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballo

Entity	Description	References
	• consultant • most responsible provider (not applicable in home care) • nurse case manager • medical specialist • clinical pharmacist • social worker • lay health worker • health care client advocate • home care worker There will be one instance per role played. May elect to receive communication regarding the health care client.	t_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision (Manage Results) • Administration Support (Manage Provider Registry or Directory)
Health Care Provider Role	A part played by a health care provider (regulated or unregulated) that provides a type of care to a particular health care client. Examples: • Acupuncturist • Advanced Care Paramedic • Audiologist • Certified Graduate Nurse • Chiropractic • Clinical Counsellor • Combined Lab and X-Ray Technologist • Communicable Disease Case Investigator • Counsellor • Critical Care Paramedic • Dental Assistant • Dental Hygienist • Dental Technician • Dentist	Canada Health Infoway SC-3004-EN - Master Terminology Worksheet: Health Care Provider Role Type HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269

Entity	Description	References
	• Denturist • Emergency Medical Responder • Homeopath • Home Support Worker • Kinesiologist • Lab Technician • Licensed Practical Nurse • Marriage and Family Therapist • Medical Doctor • Medical Laboratory Technologist • Medical Officer of Health • Midwife • Nuclear Medicine Technologist • Occupational Therapist • Optician • Optometrist • Paramedic Practitioner • Pharmacist • Pharmacy Technician • Physiotherapist • Personal Support Worker • Podiatrist • Primary Care Paramedic • Psychiatrist • Psychologist • Psychotherapist • Radiation Technologist in Magnetic Resonance • Radiation Technologist in Radiation • Radiation Technologist in Therapy • Recreation Therapist	• Care Provision (Manage Results)

Entity	Description	References
	• Registered Acupuncturist • Registered Clinical Social Worker • Registered Dietitian • Registered Massage Therapist • Registered Midwife • Registered Nurse • Registered Nurse Practitioner • Registered Psychiatric Nurse • Respiratory Therapist • Social Services Worker • Social Worker • Speech Language Pathologist • Speech Therapist • Veterinarian	
Client Supporter	A person who provides care to a health care client who needs supervision or assistance. He or she may provide the care in the home, in a hospital, or in an institution. Although caregivers include trained medical, nursing, and other health personnel, the concept also refers to parents, spouses, or other family members, friends, members of the clergy, teachers, social workers, fellow health care clients. This could be an informal care giver: unpaid, unlicensed, often untrained, often a friend or family member of the health care client. For example: • a neighbour providing housework and meals • a teacher reporting violent behaviour • a policeman assisting in a roadside childbirth • a faith-based organization e.g. a church, synagogue, mosque, temple, etc.	U.S. National Library of Medicine - Medical Subject Headings - https://www.nlm.nih.gov/mesh/MBrowser.html HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269

Entity	Description	References
	• a community volunteer • a postal worker • a student It includes information about contact method (e.g. geographic or virtual address, telephone number and other demographics).	• Care Provision (Manage Patient-Originated Data, Manage Results) • Administration Support (Team/Group of Providers Registry or Directory) • Care Provision Support (Related by Insurance)
Health Care Program	Mandate and resources conferred by legislative or administrative authority to achieve health outcomes within a jurisdiction and based on a strategy. Supports health care client registration in specific business programs e.g.: • Ontario Drug Benefit (ODB) Program • Special Drugs Program (SDP) • Inherited Metabolic Diseases (IMD) Program • Breast Cancer Screening Program • Assistive Devices Program • Home Palliative Care Program • Home Dialysis Program Refers to actual referral or enrollment of a health care client in a Program. These programs are invoked for a particular health care client, for the treatment or prevention of disease or injury.	HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision (Manage Results) • Administration Support (Manage Patient Demographics, Location and Synchronization, Manage Patients in Healthcare Programs)

2. Health Profile Subject Area

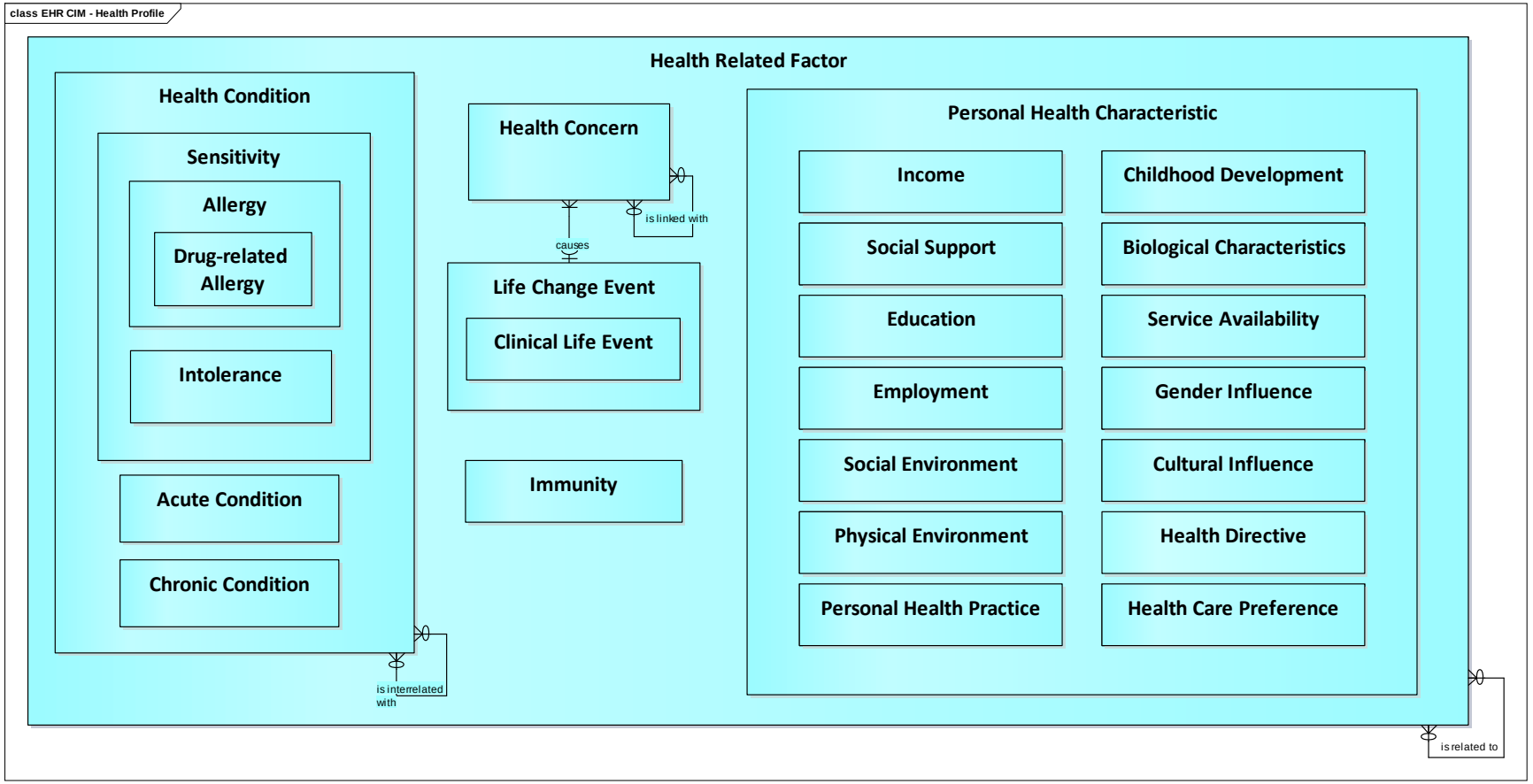

Figure 11: CIM 2.0 Health Profile Subject Area

Entity	Description	References
Health Related Factor	Circumstance, influence, cause or issue that affects or describes a health care client's ability to receive or respond to treatment, or to maintain wellness (including physical, mental, social, spiritual, community, and/or economic dimensions). A health care client's strengths (positive factors) or weaknesses (negative factors) may impact a health care client's care or recovery and may be recorded as part of the EHR to support the development of plans of care and treatment options. For example, the level of health insurance coverage may be seen typically as a positive factor and unemployment as a negative factor. Other examples of factors include: family support, financial support, good overall health, employment status/type, access to care, and education level. An example of an active health care client-specific strength is that of an adult child providing care for an elderly parent during his/her seasonal break from college. Health-related factors may be included in a health care client's problem list (e.g. ambulatory status, or addictions). Where the factor is a health care problem, may include the severity of the factor. May include inactivation, reactivation or deprecation of a factor. Should include the source of the data to help the information consumer judge the credibility of the information.	HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision (Manage Problem List, Manage Health-Related Factors List, Patient-Specific Medication Dosing and Warnings)
Health Condition	A mode or state of being, the state of being fit: the physical status of the body as a whole or of one of its parts usually used to indicate abnormality. May include a descriptive narrative. Over time a health condition can change in nature or acuity, or split or merge. It includes all diseases and disorders, specifically to denote any illness, injury, disease, or complications from existing health conditions or treatment. A health condition may be contagious, having implications on health care client management. A health condition may be genetically based.	https://infocentral.infoway-inforoute.ca/2_Standards/1_pan-Canadian_Standards/v_Glossary_-_Canada_Health_Infoway_Pan-Canadian_EHR_Standards_Master_Glossary_MR02.05_-_pCS_Master_Glossary-20160212

Entity	Description	References
	A health condition can also be positive, e.g. pregnancy, wellness. It can be physical, mental or emotional.	
Sensitivity	A susceptibility to an agent or substance or category of substances, such that exposure to it is likely to result in a harmful physiological response rather than the expected (non-harmful, normal) physiological response AND where it has not been possible to determine whether the sensitivity is of the allergic type or not. (CHI) Includes the reason for the capture, update or removal of this information. Includes the source of the sensitivity information. Notations indicating whether item is patient reported, and/or provider verified may be maintained.	https://infocentral.infoway-inforoute.ca/2_Standards/1_pan-Canadian_Standards/v_Glossary_-_Canada_Health_Infoway_Pan-Canadian_EHR_Standards_Master_Glossary_MR02.05_-_pCS_Master_Glossary-20160212 HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision (Manage Allergy, Intolerance and Adverse Reaction List, Manage Problem List, Medication Interaction and Allergy Checking, Manage Medication Administration)

Entity	Description	References
Allergy	An immunological hypersensitivity to one or several defined antigens, called allergens, resulting in a marked increase in adverse reactivity to that antigen upon subsequent exposure, sometimes resulting in harmful immunological consequences. (CeRx - Canadian Clinical Drug Messaging Standard) Examples of allergies are reactions to bee stings, foods, pollen and certain medications.	https://infocentral.infoway-inforoute.ca/2_Standards/1_pan-Canadian_Standards/v_Glossary_-_Canada_Health_Infoway_Pan-Canadian_EHR_Standards_Master_Glossary_MR02.05_-_pCS_Master_Glossary-20160212 SC-3004-EN-CeRx Terminology Worksheet-CeRx4.4.2-20160311 https://infocentral.infoway-inforoute.ca/2_Standards/1_pan-Canadian_Standards/Terminology/3_pan-Canadian_Terminology_Artifacts HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision (Support for Medication Interaction and Allergy Checking)
Drug-related Allergy	An allergy to a particular Medication, which can be caused by the active ingredient, the filler or the production method, (e.g. an allergy to eggs precludes use of vaccines which were incubated using eggs).	https://infocentral.infoway-inforoute.ca/2_Standards/1_pan-Canadian_Standards/v_Glossary_-_Canada_Health_Infoway_Pan-Canadian_EHR_Standards_Master_Glossary_MR02.05_-_pCS_Master_Glossary-20160212

Entity	Description	References
		SC-3004-EN-CeRx Terminology Worksheet-CeRx4.4.2-20160311 https://infocentral.infoway-inforoute.ca/2_Standards/1_pan-Canadian_Standards/Terminology/3_pan-Canadian_Terminology_Artifacts HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269
Intolerance	Adverse sensitivity caused by a mechanism other than an immunologic over-response. (CeRx - Canadian Clinical Drug Messaging Standard)	https://infocentral.infoway-inforoute.ca/2_Standards/1_pan-Canadian_Standards/v_Glossary_-_Canada Health Infoway Pan-Canadian EHR Standards Master Glossary MR02.05 - pCS Master Glossary-20160212 SC-3004-EN-CeRx Terminology Worksheet-CeRx4.4.2-20160311 https://infocentral.infoway-inforoute.ca/2_Standards/1_pan-Canadian_Standards/Terminology/3_pan-Canadian_Terminology_Artifacts HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballo

Entity	Description	References
		t_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision (Manage Allergy, Intolerance and Adverse Reaction List)
Acute Condition	A Health Condition which is sharp or severe, having rapid onset, severe symptoms and a short course.	HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision (Capture Quick Registration)
Chronic Condition	Referring to a health-related state lasting a long time, or exposure, prolonged or long-term, sometimes meaning also low intensity. The U.S. National Centre for Health Statistics defines a chronic condition as one of 3 months' duration or longer.	https://infocentral.infoway-inforoute.ca/2_Standards/1_pan-Canadian_Standards/v_Glossary_-_Canada_Health

Entity	Description	References
	E.g., diabetes, hypertension, asthma.	Infoway Pan-Canadian EHR Standards Master Glossary MR02.05 - pCS Master Glossary-20160212
Barrier	A barrier to health care is any socio-economic or functional barrier that restricts the use of health services by making it more difficult for some individuals to access, use or benefit from care. E.g. lack of familiarity with the Canadian health care system, poor health care prior to arrival in Ontario, precarious finances.	Scheppers E, van Dongen E, Dekker J, et al. Potential barriers to the use of health services among ethnic minorities: A review. - http://www.kidsnewtocanada.ca/care/barriers
Health Concern	An issue that prompts an encounter with a Health Care Provider, such as: • a health symptom or complaint experienced by the health care client, e.g. headaches, back pain, or • a health need expressed by the health care client, e.g., continuing good health, or • a requirement by a third party to establish the health care client's health state, e.g. for life insurance, pilot licensing, job application or retention. May become a health care client Reason for Encounter.	HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269

Entity	Description	References
Life Change Event	Those occurrences, including social, psychological, and environmental, which require an adjustment or effect a change in an individual's pattern of living. Examples are accident, exposure to hazardous materials, travel to countries where immunization is advised or where there is an epidemic or endemic disease, contact with an infected person.	Joint Initiative for Global Standards Harmonization Health Informatics Document Registry and Glossary https://www.nlm.nih.gov/cgi/mesh/2016/MB_cgi?mode=&index=8084&field=all&HM=&II=&PA=&form=&input=
Clinical Life Event	A life event that has clinical significance, e.g., birth, death. End of life is especially relevant when human products have been donated.	HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Population Health Support (Donor Management Support)
Immunity	Non-susceptibility to the invasive or pathogenic effects of foreign microorganisms or to the toxic effect of antigenic substances.	U.S. National Library of Medicine - Medical Subject Headings - https://www.nlm.nih.gov/mesh/MBrowser.html

Entity	Description	References
	A condition of being able to resist a particular disease.	HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision (Manage Patient History, Manage Immunization List, Manage Medication, Immunization and Treatment Administration)
Personal Health Characteristic	A factor particular to a health care client that may affect health and/or the provision of health care. Drawn largely from the Determinants of Care.	What Makes Canadians Healthy or Unhealthy? http://www.phac-aspc.gc.ca/ph-sp/determinants/determinants-eng.php#unhealthy
Health Directive	A health care related instruction to be followed by the health care client May record the type of directive, relevant dates (e.g., received, reviewed, rescinded, updated), circumstances under which the directives were received (e.g., during initial consultation), and the location of any paper or electronic advance directive documentation. May also include the identity and role of the principal acting on	HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative***

Entity	Description	References
	behalf of the provider to capture and complete the advance directive for the health care client. May include the date and circumstances of the most recent review of the advanced directives. E.g. living will, durable power of attorney, preferred interventions for known conditions, the existence of a "Do Not Resuscitate" order, or a consent to donate human products such as blood or organs. Should record who provided the directive i.e. health care client or health client.	***and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision (Manage Patient Advance Directives) • Administration Support (Manage PHR End-of-Life Documents and Other Advance Directives)
Health Care Preference	Health care client's expression of desirability or value of one course of action, outcome, or selection in contrast to others. These may be important to the delivery of care. Health care client and family preferences may be distinct and different. Examples of preferences are: • language • religion • spiritual practices • culture • medication choice • invasive testing • labeling and medication instructions (e.g., for language and print size)	(U.S. National Library of Medicine - Medical Subject Headings) https://www.nlm.nih.gov/cgi/mesh/2016/MB_cgi?mode=&term=Treatment+Outcome&field=entry HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision(Manage Patient and Family Preferences, Support for Patient and Family Preferences)

Entity	Description	References
Income	Information about income and social status of the health care client or his economic family, indicating economic resources deployable for healthcare. Low income is associated with poor health and poor health outcomes. Low income is difficult to measure objectively but a common measure is an individual's or family's income relative to established Low Income Cut Offs (LICO). Examples may include the client's means and receipt of social subsidies. Insurance information may include health plan/payer formulary and benefit coverage, as well as usage of specific formularies or preferred providers. These and other coverage limitations and guidelines may have exemptions.	Adapted from the twelve Determinants of Health. See: • What Makes Canadians Healthy or Unhealthy? http://www.phac-aspc.gc.ca/ph-sp/determinants/determinants-eng.php#unhealthy • Toward a Healthy Future: Second Report on the Health of Canadians http://publications.gc.ca/collections/Collection/H39-468-1999E.pdf
Social Support	Information about family, friend and community support of the health care client indicating: • emotional support, advice, care and respect • provision of food, clothing and housing • social isolation Social support may increase the ability of the health care client to deal with stress, gives a sense of well-being, and may act as a buffer against health problems.	Adapted from the twelve Determinants of Health. See: • What Makes Canadians Healthy or Unhealthy? http://www.phac-aspc.gc.ca/ph-sp/determinants/determinants-eng.php#unhealthy • Toward a Healthy Future: Second Report on the Health of Canadians http://publications.gc.ca/collections/Collection/H39-468-1999E.pdf
Education	Information about the education and literacy of the health care client, indicating possession of knowledge and skills for problem solving and the ability to access and understand health information. Education and literacy are associated with better health and health outcomes.	Adapted from the twelve Determinants of Health. See: • What Makes Canadians Healthy or Unhealthy? http://www.phac-aspc.gc.ca/ph-sp/determinants/determinants-eng.php#unhealthy • Toward a Healthy Future: Second Report on the Health of Canadians

Entity	Description	References
		http://publications.gc.ca/collections/Collection/H39-468-1999E.pdf
Employment	Information about employment, including unemployment, underemployment and stressful or unsafe work. Control over work circumstances and fewer stress related demands job are associated with better health and health outcomes than those in more stressful or riskier work and activities.	Adapted from the twelve Determinants of Health. See: • What Makes Canadians Healthy or Unhealthy? http://www.phac-aspc.gc.ca/ph-sp/determinants/determinants-eng.php#unhealthy • Toward a Healthy Future: Second Report on the Health of Canadians http://publications.gc.ca/collections/Collection/H39-468-1999E.pdf
Social Environment	Information about social values and norms, social stability, recognition of diversity, community safety, working relationships, and community cohesion affecting the health care client.	Adapted from the twelve Determinants of Health. See: • What Makes Canadians Healthy or Unhealthy? http://www.phac-aspc.gc.ca/ph-sp/determinants/determinants-eng.php#unhealthy • Toward a Healthy Future: Second Report on the Health of Canadians http://publications.gc.ca/collections/Collection/H39-468-1999E.pdf
Physical Environment	Information about environmental factors affecting the health care client including: • contaminants in water, food and soil • housing • indoor air quality • the design of communities and transportation.	Adapted from the twelve Determinants of Health. See: • What Makes Canadians Healthy or Unhealthy? http://www.phac-aspc.gc.ca/ph-sp/determinants/determinants-eng.php#unhealthy • Toward a Healthy Future: Second Report on the Health of Canadians http://publications.gc.ca/collections/Collection/H39-468-1999E.pdf
Personal Health Practice	Information about actions by which health care clients attempt to prevent disease and exercise self-care, cope with challenges and develop self-reliance, solve problems and make choices that enhance health. Also, information about high-risk behaviours such as	Adapted from the twelve Determinants of Health. See: • What Makes Canadians Healthy or Unhealthy? http://www.phac-aspc.gc.ca/ph-

Entity	Description	References
	combining smoking, alcohol use or drug use with driving or unsafe sexual practices.	sp/determinants/determinants-eng.php#unhealthy • Toward a Healthy Future: Second Report on the Health of Canadians http://publications.gc.ca/collections/Collection/H39-468-1999E.pdf
Childhood Development	Information about the health care client's childhood development and health history: • housing and neighbourhood • family income • level of parents' education • access to nutritious foods • physical recreation • genetic makeup • access to dental and medical care • positive stimulation early in life • tobacco and alcohol use during pregnancy • attachment with parents/caregivers during babyhood • neglect or abuse	Adapted from the twelve Determinants of Health. See: • What Makes Canadians Healthy or Unhealthy? http://www.phac-aspc.gc.ca/ph-sp/determinants/determinants-eng.php#unhealthy • Toward a Healthy Future: Second Report on the Health of Canadians http://publications.gc.ca/collections/Collection/H39-468-1999E.pdf
Biological Characteristics	Information about the health care client's biologic and organic make-up and genetic endowment, any inherited predisposition to a wide range of individual responses that affect health status. E.g. life stage , genome, genetic predisposition to disease of the health care client.	Adapted from the twelve Determinants of Health. See: • What Makes Canadians Healthy or Unhealthy? http://www.phac-aspc.gc.ca/ph-sp/determinants/determinants-eng.php#unhealthy • Toward a Healthy Future: Second Report on the Health of Canadians http://publications.gc.ca/collections/Collection/H39-468-1999E.pdf
Service Availability	Information about healthcare services available (or not available) to the health care client, including resources for treatment and secondary prevention.	Adapted from the twelve Determinants of Health. See: • What Makes Canadians Healthy or Unhealthy? http://www.phac-aspc.gc.ca/ph-

Entity	Description	References
		sp/determinants/determinants-eng.php#unhealthy • Toward a Healthy Future: Second Report on the Health of Canadians http://publications.gc.ca/collections/Collection/H39-468-1999E.pdf
Gender Influence	Information about the influence of gender roles, personality traits, attitudes, behaviours, values, and relative power and influence on the health and care of the health care client. Covers any health issue that is a function of a gender-based social status or role.	Adapted from the twelve Determinants of Health. See: • What Makes Canadians Healthy or Unhealthy? http://www.phac-aspc.gc.ca/ph-sp/determinants/determinants-eng.php#unhealthy • Toward a Healthy Future: Second Report on the Health of Canadians http://publications.gc.ca/collections/Collection/H39-468-1999E.pdf
Cultural Influence	Information about any part the health care client's cultural environment that contributes to conditions such as marginalization, stigmatization, loss or devaluation of language or culture or lack of access to culturally appropriate health care and services.	Adapted from the twelve Determinants of Health. See: • What Makes Canadians Healthy or Unhealthy? http://www.phac-aspc.gc.ca/ph-sp/determinants/determinants-eng.php#unhealthy • Toward a Healthy Future: Second Report on the Health of Canadians http://publications.gc.ca/collections/Collection/H39-468-1999E.pdf

3. Health Product and Service Subject Area

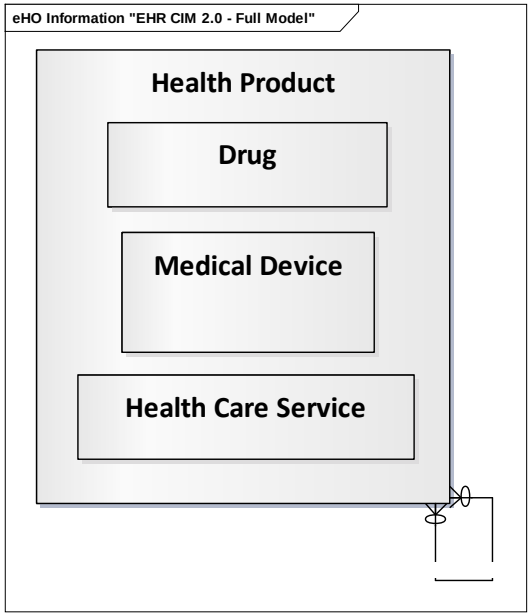

Figure 12: CIM 2.0 Health Product and Service Subject Area

Entity	Description	References
Health Product	Material (i.e. medication or devices) or service provided for a particular health care client for the treatment or prevention of disease or injury or the promotion of wellness. Product examples include insulin test strips, adult briefs. Also includes a human-product donation received by a health care client e.g. blood or biological products. May include radiation such as X-rays. May include a reason for use of the product.	HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision (Manage Medical Equipment, Prosthetic/Orthotic, Device List, Manage Non-Medication Patient Care Orders, Manage Orders for Blood Products and Other Biologics, Manage Medication, Immunization and Treatment Administration) • Population Health Support (Donor Management Support)

Entity	Description	References
Drug	Any substance or mixture of substances used in the diagnosis, treatment, mitigation or prevention of a disease, disorder or abnormal physical state, or its symptoms, or when used for non-medical purposes, solely for its effects on the central nervous system. Includes prescription drugs, herbal medicine, vitamins, minerals, Chinese medicine, and other over the counter medicines. Also there are extemporaneous mixtures which are combinations of drugs. May have the following attributes: • administration route • drug identification e.g. DIN • name, including brand name and generic name, in English and French • manufacturer • theraputic class • pharmaceutical format (e.g. capsule, tablet) • strength (e.g. 200 mg.)	Joint Initiative for Global Standards Harmonization Health Informatics Document Registry and Glossary http://www.skmtglossary.org/search.aspx?term_id=898&SearchExp=drug CIHI Glossary: Part 0 - CIHI Glossary (English) https://www.cihi.ca/en/crdm_toolkit_v3_en.pdf HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision (Manage Medication Administration)
Medical Device	Wide range of products used in the treatment, mitigation, diagnosis or prevention of a disease or abnormal physical condition. Some examples include pacemakers, artificial heart valves, hip implants, synthetic skin, medical laboratory diagnostic instruments, test kits for diagnosis and contraceptive devices. May include: • brand name • common device name • manufacturer	Drugs and Health Products - Safe Medical Devices in Canada http://www.hc-sc.gc.ca/dhp-mps/md-im/activit/fs-fi/meddevfs_matmedfd-eng.php HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0

Entity	Description	References
	• model number • catalog number • device serial number • lot number • expiration date • single or multiple use device indicator (i.e. if this is a single use device that was reprocessed and reused on a health care client) • dates of manufacture, use, removal/reactivation, etc. • reason for removal or deactivation/reactivation • anatomical location	***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision (Manage Medical Equipment, Prosthetic/Orthotic, Device List, Support Medical Device Originated Data)
Health Care Service	Action performed with the intention of directly or indirectly improving the health of the person or populations for whom it is provided. Each service may include a range of actions and interactions over time. Classification of types of health care service: Primary care: • treatment of chronic illness • family planning • vaccination Secondary care: • specialist care such as psychiatric and therapeutic care • acute care • hospital emergency care • obstetrics • intensive care	HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision (Manage Patient Clinical Measurements)

Entity	Description	References
	• medical imaging Tertiary care: • cancer management • surgery • treatment for severe burns • advanced neonatology • palliative care Examples: • provision of a Health Product e.g. a blood transfusion service includes a blood product • a Community Care Service such as home care, homemaking, respite services or home palliative care May include expected turnaround time for service delivery, e.g., the time from when a lab receives a specimen to when test results are available.	

4. Health Care Plan Subject Area

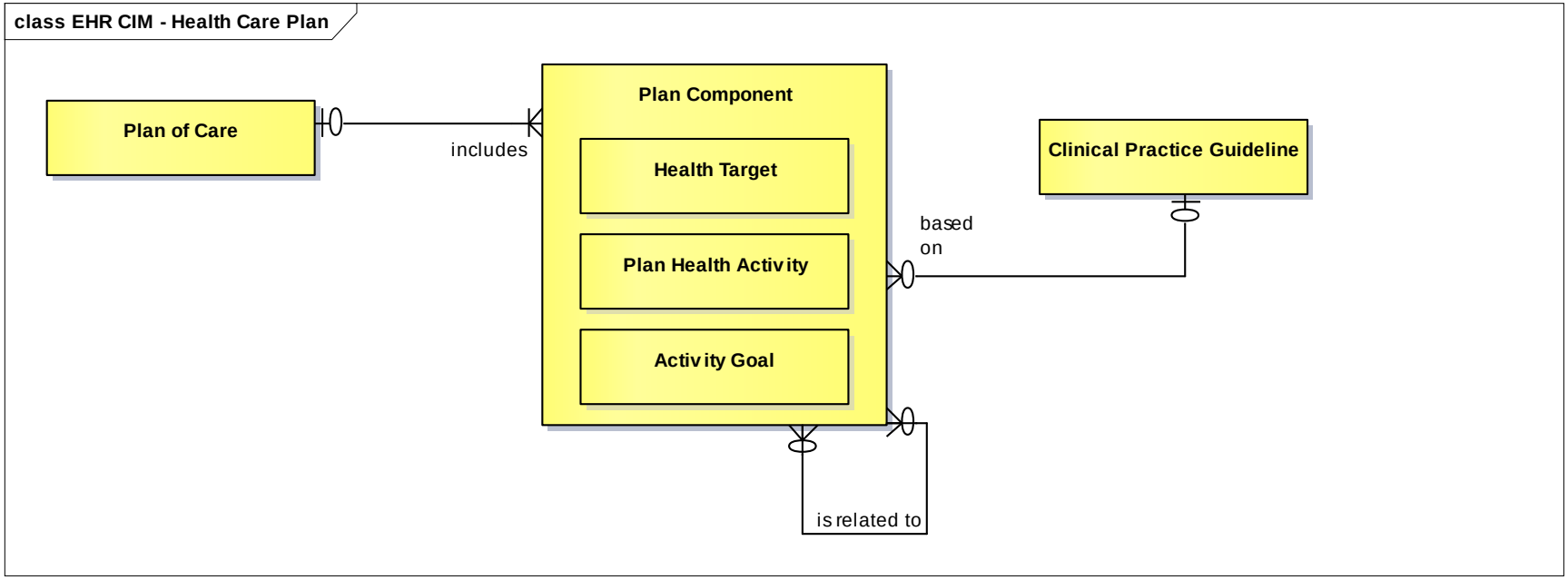

Figure 13: CIM 2.0 Health Care Plan Subject Area

Entity	Description	References
Plan of Care	A plan for health and wellness goals, palliative care, care planning and care coordination for a health care client. Also known as the Care Plan, Health Care Plan, or Treatment Plan. A plan of care records goals and activities for conditions and concerns of the health care client. It is the information structure in which the care planning for the health care client and all health care providers can be organized, planned and checked for completion. Client Team Members implement and monitor activities/interventions in the plan of care. Plans of care support the monitoring and flagging of unperformed activities and unmet goals for later follow up. Goals, activities and interventions to achieve goals and the target date(s) to assess goal achievement may have been developed with the Client. The use of plans of care is highly varied. Some organizations and settings provide care with interdisciplinary health care client-centric plans of care. Other settings use plans of care in a highly specialized manner covering only specific care areas.	HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision (Conduct Assessments)
Plan Component	A part of a Plan of Care, authored by the health care client and/or provider(s). A Plan Component may be: • a set of related activities to be performed in the future by the health care client to assist with his/her Plan of Care (e.g. disease monitoring, education/training, exercise, food intake, medication, immunizations, treatment, regular examinations), • a target for those activities (e.g. monitoring blood glucose on a daily basis, intake of less than 1500 calories per day), • management of progress of the plan component with respect to work program elements such as targets met, current status, etc., • a goal with respect to a Health Condition or Personal Health	HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269

Entity	Description	References
	Characteristic, e.g. to quit smoking. A plan component can be clinical or health care client self-care. May record that care providers have been offered clinical care guidelines along with acceptance or override of these. If there is a deviation from a guideline reasons may be given. It can include a communication plan to help manage outstanding planned activities or issues that arise from the Plan of Care. This includes alerts, reminders and correspondence (and associated details e.g. number of repetitions, notification timing, escalation in priority) and reasons for deviation from rule-based messages. It may include notification that an alert has been disabled (e.g., notification to administrators or the user who disabled the alert). Includes: • authors • creation date • version • references • local and non-local sources	• Care Provision (Conduct Assessments, Manage Patient-Specific Care and Treatment Plans, Manage Immunization Administration, Present Guidelines and Protocols for Planning Care, Capture Referral Request) • Population Health Support (Present Notifications and Reminders for Preventative Services and Wellness) • Administration Support (Manage Patient Bed Assignment)
Health Target	A desired state of a Health Condition or Personal Health Characteristic of a health care client. A Health Target can be measured by tests (e.g., fasting blood glucose level less than 6, provider-assessed weight less than 130 lbs, non-smoker). Progress toward the target is monitored and logged with dates and notes. The target may include target date of evaluation, units of measure and a target range of values. The target may include notes on why the target for this health care client differs from the standard clinical guideline. Health Targets may align with Clinical Practice Guidelines. Achievement of targets would be an indication that the respective health care client has reached a satisfactory state with respect to a	HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269

Entity	Description	References
	specific Health Condition, such as diabetes or asthma. May include a recommended target range, unit of measure, and frequency of measurement.	• Care Provision (Manage Results)
Plan Health Activity	An activity the health care client will perform, with or without the services of a provider, for health reasons. Examples: Medication, eye examination, exercise, stress management therapy, etc. A Plan Health Activity may also be a follow-up appointment, test or exam generated during a previous encounter. May include this information: • any co-payments for planned services • planned or intended service location • prior authorization e.g. for a chest x-ray.	HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision (Manage Patient Encounter)
Activity Goal	An objective to be achieved as a consequence of health care interventions applied to an individual. Goals are set in many areas of the health care system, and include educational, behaviour modification and health goals such as reduced discomfort, improved circulation. Goals are documented by a variety of health care professionals including physicians, nurses and respiratory and other therapists. Goals are defined during health care client visits and they may span one or multiple visits, encounters or episodes of care. E.g. stress reduction, increased fitness, decreased smoking.	Joint Initiative for Global Standards Harmonization Health Informatics Document Registry and Glossary HL7 Green Book Part 0 http://www.skmtglossary.org/search.aspx?term_id=1560&SearchExp=goal
Clinical Practice Guideline	"Clinical Practice Guidelines are statements that include recommendations intended to optimize health care client care. They are informed by a systematic review of evidence and an assessment	From IOM (Institute of Medicine). 2011. Clinical Practice Guidelines We Can Trust. Washington, DC: The National Academies Press. -

Entity	Description	References
	of the benefits and harms of alternative care options. To be trustworthy, guidelines should: • be based on a systematic review of the existing evidence; • be developed by a knowledgeable, multidisciplinary panel of experts and representatives from key affected groups; • consider important health care client subgroups and health care client preferences, as appropriate; • be based on an explicit and transparent process that minimizes distortions, biases, and conflicts of interest; • provide a clear explanation of the logical relationships between alternative care options and health outcomes, and provide ratings of both the quality of evidence and the strength of recommendations; and • be reconsidered and revised as appropriate when important new evidence warrants modifications of recommendations." Also known as a Best Practices Guideline and Quality Based Protocol. Record of a guideline invoked for a particular health care client, for the treatment or prevention of a disease or injury. May include rules or parameters upon which guideline-related alerts are based. Plans of care are heavily influenced not only by clinical practice guidelines but also by requisition instructions. For example, the CCAC's referral may be limited by available funds or regulations. The home care worker cannot work beyond those restrictions.	http://www.awmf.org/fileadmin/user_upload/Leitlinien/International/IOM_CPG_lang_2011.pdf See also: https://www.cma.ca/En/Pages/clinical-practice-guidelines.aspx HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision (Conduct Assessments, Manage Orders for Referral, Manage Results) • Population Health Support (Present Alerts for Preventative Services and Wellness)

5. Encounter Subject Area

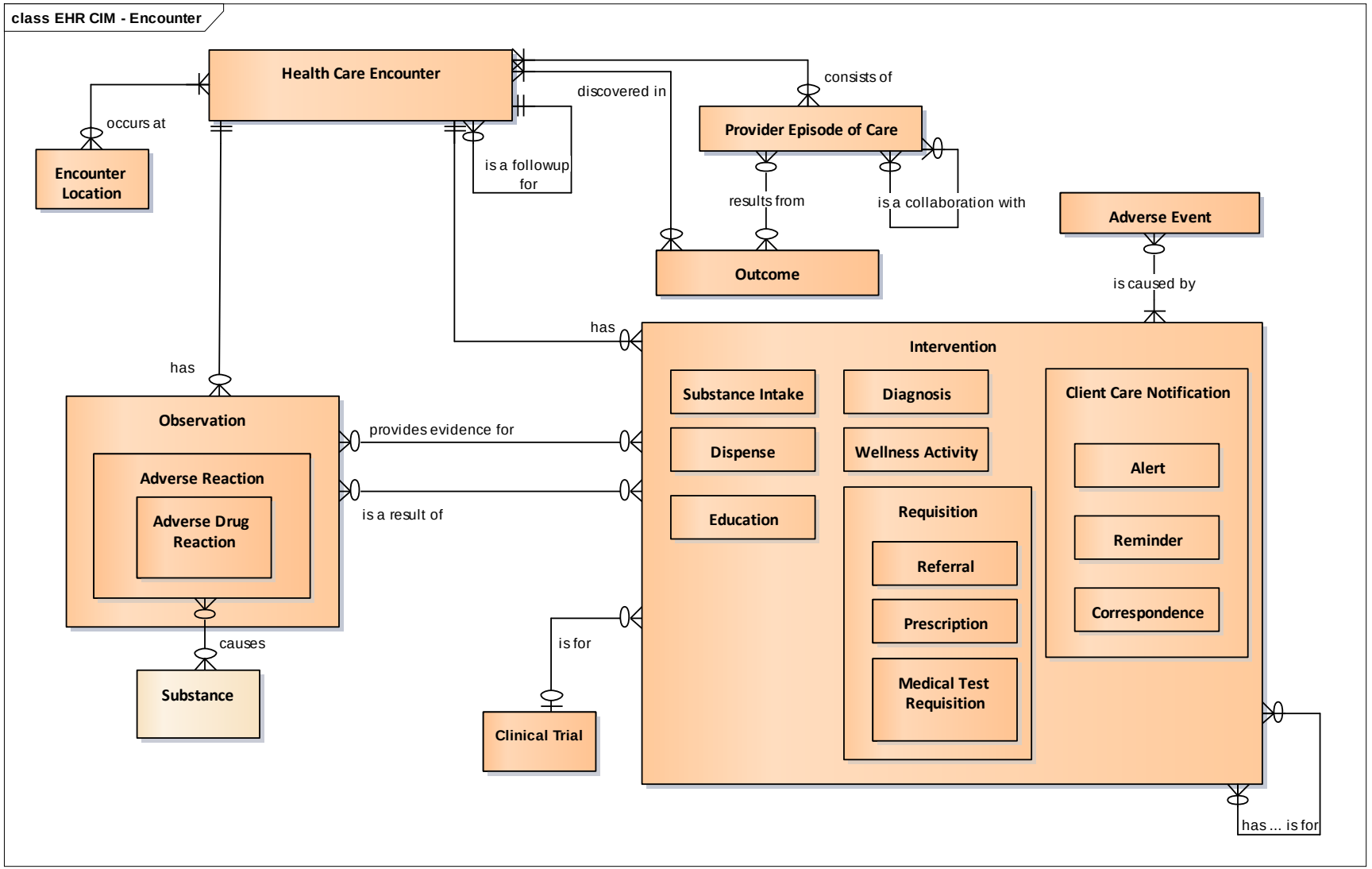

Figure 14: CIM 2.0 Encounter Subject Area

Entity	Description	References
Health Care Encounter	An event occurring at a given time and place, where one or more services or products are provided to assess, maintain or improve the health of the health care client. Types of encounter include: inpatient, outpatient, emergency, ambulatory, telehealth, community care, long-term care etc. Could be unplanned (e.g. ER visit) or planned (e.g. doctor's appointment). A self-care encounter is self-provided, e.g. glucometer reading, treatment of a wound, non-prescription medication. An encounter may be a step in a larger care process. The status of the care process may be noted by the provider as part of the encounter. Also includes phone calls and email correspondences between health care clients and health care providers. Encounter information should be categorized to support functionality to consolidate diverse, high-volume encounter information gathered over an extended period. May have an encounter-level outcome (as distinct from an Episode of Care Outcome) with information details such as: • appointment was kept • discharge • admission • transfer • death • left without being seen (LWBS) • left without treatment (LWOT) • elopement (i.e. leaving without notifying the facility or wandering) • left against medical advice (AMA) • health care client triaged to another clinic • recommendation for future care (e.g. book a follow-up) • may include time provider was notified of encounter and time he or she arrived.	HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision (Manage Recommendations for Future Care, Capture Referral Request, Manage Patient Encounter, Manage Consultation Requests and Responses) • Administration Support (Support for Communications Within an Organization)

Entity	Description	References
	Encounters can also be for individual health care clients or for groups of health care clients. If it is a group encounter then the EHR should document the fact that it is a group and group characteristics such as name of group, size of group, health care professionals conducting the group should be included.	
Encounter Location	A geographic or virtual address at which an encounter has occurred, or has been scheduled to occur, for a particular health care client or group of clients. It may be: temporary (e.g. flu shot clinic in a mall), mobile (e.g., ambulance, helicopter, mobile lab), in the field (e.g., car, accident site) or in the home. May be an en route location (e.g. EMS system tracking health care client arrival to an Emergency Department). May include health care client's or group's location within a facility, e.g. in the emergency department of a hospital, or a floor and room in a particular building on a large campus.	HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision (Capture Referral Request) • Administration Support (Support for Provider Credentialing)
Provider Episode of Care	A series of Health Care Encounters to address one Health Condition by the same Provider Person. An episode of care starts with the first contact with the provider for the health issue and it ends after the last encounter with the provider for the Health Condition. A hospital stay is represented by a Provider Episode of Care for the Most Responsible Physician. An episode of care for a home care referral may inlcude different providers persons.	HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do***

Entity	Description	References
		not have member access, you can learn more about this standard here: http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision (Manage Patient History)
Outcome	Evaluation undertaken to assess the results or consequences of management and procedures used in combating disease in order to determine the efficacy, effectiveness, safety, and practicability of these interventions in individual cases or series. (U.S. National Library of Medicine - Medical Subject Headings) Outcomes are not always recorded by providers. Surgical interventions usually have recorded outcomes but treatments, particularly when successful, are not followed up so the outcome is not necessarily discovered by the Provider. Health outcomes can be evaluated across three dimensions: economic, clinical and humanistic i.e. from the health care client's point of view. May include measures of health care client satisfaction.	U.S. National Library of Medicine - Medical Subject Headings https://www.nlm.nih.gov/cgi/mesh/2016/MB_cgi?mode=&term=Treatment+Outcome&field=entry HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ****Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision (Manage Problem List, Manage Health-Related Factors List) • Population Health Support (Support for Process Improvement)

Entity	Description	References
Observation	Information derived from performance of a health related activity. An observation may be clinical i.e. made during an Encounter, or it may be made during a laboratory test. These are distinct types of observations. Observations often involve measurement or other elaborate methods of investigation, but may also be simply assertive statements, findings, symptoms, conclusions, etc. e.g. triage disposition or acuity or severity of a condition. An Observation may be a self-observation made by a health care client, e.g. blood pressure, photograph, pulse. These may be annotated by an authorized health care provider. May be broken down into several types: • vital signs (e.g., blood pressure, temperature, heart rate and respiratory rate) • other clinical measures (e.g. peak expiratory flow rate, size of lesions, oxygen saturation, height, weight, length, bone density, bone age, cardiac rhythm) • additional values (e.g., Body Mass Index based on height and weight) • mood, behavioural and daily functioning An alternate classification based on the nature of an observation: • Coded Observation (blood type, mole shape, family support etc.) • Measured Observation (height, blood pressure, weight etc.) • Clinical Document (includes Diagnostic Image (e.g. x-ray; x-ray report etc.), Laboratory Data and any other relevant Clinical Document (e.g. discharge summary, consult note etc.)	Joint Initiative for Global Standards Harmonization Health Informatics Document Registry and Glossary - http://www.skmtglossary.org/search.aspx?term_id=1623&SearchExp=observation CIHI Glossary: Part 0 - CIHI Glossary (English) https://www.cihi.ca/en/crdm_toolkit_v3_en.pdf HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision (Manage Allergy, Intolerance and Adverse Reaction List, Manage Medication List, Manage Problem List, Manage Patient-Originated Data, Manage Patient Clinical Measurements, Manage Patient-Specific Care and Treatment Plans, Manage Orders, Patient-Specific Medication Dosing and Warnings, Manage Orders for Diagnostic/Screening Tests, Manage Results, Manage Medication Administration) • Care Provision (Support externally-sourced Clinical Data, Support Emergency Medical

Entity	Description	References
	May include annotations. May be preliminary or final. May be from any care setting e.g. hospital, lab, EMS. May be measurement from an ancillary system or external device. Information may be from telemetry i.e. a real-time or near-real-time feed. May be provided by non-medical devices (e.g., digital camera or sound recorder). May be a recorded audio narrative e.g. from EMS. May include the following attributes, if applicable: • measurement timestamp, recording timestamp • observation class e.g., lab result, diagnostic imaging study, assessment result. Clinically logical classifications may include Pathology, Chemistry, Cytology, etc. • standardized test name • standardized unit of measure • contextual information (e.g. methods used for the vital signs measurements, position of health care client, etc.) • normal and abnormal results, e.g. errors, interruptions, exceptions, reactions, complications. • pain scale For example, Diagnostic Image (an observation in the form of a spatial representation of a physical subject suitable for visual presentation (from HL7 v3)); e.g. photograph, scan, or other type of images (e.g. radiographs, pictures, video/audio, waveforms). May include other forms of results (e.g., wave files of EKG tracings or psychological assessment results). Other information about Observation: • date/time of collection • laboratory panel name • pre-defined testing conditions • specimen identifier • reference range limits • laboratory identifier • clinical significance	System Originated Data, Support externally-sourced Clinical Images, Support patient-originated Data, Support Patient Health Data Derived from Administrative and Financial Data and Documentation, Support Medical Device Originated Data, Support Other Encounter and Episode of Care Documentation) • Administration Support (Support Triage Categorization, Support Patient Acuity and Severity Determination)

Entity	Description	References
Adverse Reaction	Noxious (harmful or injurious to health or physical well-being) and unintended response to a substance or agent. Description could include what actually causes the reaction, as well as situations where the reaction occurs, time delay before start of reaction, how long it lasts, and severity. Includes the reason for the capture, update or removal of this information. Includes the source of the reaction information. Could be due to environment, food, drugs, cosmetics, and many other factors.	SC-3004-EN-CeRx Terminology Worksheet-CeRx4.4.2-20160311 https://infocentral.infoway-inforoute.ca/2_Standards/1_pan-Canadian_Standards/Terminology/3_pan-Canadian_Terminology_Artifacts HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision (Manage Allergy, Intolerance and Adverse Reaction List, Manage Problem List, Manage Medication Administration)
Adverse Drug Reaction	An Adverse Drug Reaction is a negative reaction that a health care client has after taking particular Medications.	HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:***

Entity	Description	References
		http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision (Manage Medication Administration)
Adverse Event	Unintended injuries or complications caused by health care activity or through the management of the health care activity, rather than by the client's underlying disease. May lead to death, disability at the time of discharge or prolonged episodes of care e.g. prolonged stays at hospital.	HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision (Manage Adverse Events)

Entity	Description	References
Clinical Trial	A scientifically rigorous study of individual outcomes to some process of healthcare intervention. Clinical trials usually involve medical treatments so this document will use the term treatment, rather than the broader term intervention. A clinical trial design may randomly assign and compare one treatment approach with another, or generate safety and efficacy data on a single treatment approach. The clinical trial has a protocol for the health care client's course of treatment and/or evaluation. There is usually a schedule for collection of data to measure compliance, safety, and outcomes. May include: • investigational product (e.g., medication, device, immunization) • exposure information (e.g. start date/time, end date/time, dose amount, dose unit, study treatment name, route, formulation) • clinical research identifiers for investigator • visit name or site identification assigned by the sponsor	SC-3004-EN-CeRx Terminology Worksheet-CeRx4.4.2-20160311 https://infocentral.infoway-inforoute.ca/2_Standards/1_pan-Canadian_Standards/Terminology/3_pan-Canadian_Terminology_Artifacts HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision (Manage Patient History, Manage Medication List, Manage Results Support for Research Protocols Relative to Individual Patient Care) • Population Health Support (Manage Population Health Study-Related Identifiers)
Intervention	Activity performed for a health care client with the intention of directly or indirectly improving or maintaining physical or psychological condition. May include: • provider treatment • self-care	Joint Initiative for Global Standards Harmonization Health Informatics Document Registry and Glossary http://www.skmtglossary.org/search.aspx?term_id=8220&SearchExp=intervention EN 13940-1:2007 Overview of National eHealth Initiatives HL7 Electronic Health Record System Functional

Entity	Description	References
	• preparatory activity e.g. fasting requirements, pre-medication • clinical test activities i.e. diagnostic interventions and assessments. • transfer activity, i.e. movement of the health care client from one care setting to another. • information about deviation from research trial protocol. • that an activity was not attempted or not completed, including reasons e.g. information about overriding a drug interaction warning, including the reason for the override. • reasons disease management or preventative services/wellness prompts from clinical care guidelines were overridden. Surgery is a primary example of intervention, but less invasive procedures such as physiotherapy, massage, or blood donation also apply. Includes intake of a substance, ingestion and implantation i.e. of medical devices. A psychotherapy session would be an example of altering a psychological condition. May be one in a sequence of treatments. May be completed, attempted, not attempted, or not completed. May be performed by a health care provider or the health care client. Also may include: • treatment name • date and time of treatment • site • administering provider • reactions and complications	Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision (Manage Patient Clinical Measurements, Manage Orders) • Care Provision (Manage Patient Encounter, Support for Standard Care Plans, Guidelines, Protocols, Support for Medication Interaction and Allergy Checking) • Population Health Support (Present Alerts for Preventative Services and Wellness, Support Consistent Healthcare Management of Patient Groups or Populations) • Administration Support (Manage Patient's Location Within Facility, Support for Communications Between Organizations)

Entity	Description	References
	• details associated with continuous treatments (e.g., infusions, tube feedings, bladder irrigations, suction levels) • routine scheduling, "one-time", "on-call" or "PRN" • reason treatment not given and/or related activity not performed.	
Substance Intake	The administration of a substance into the body key to the management of a health care client's condition(s). May be self-administered or administered by a Health Care Provider. May be administered by a device. Intake can be medication or nutrition, e.g. daily consumption of food items, beverages, or oral medication, injected medication such as a pain killer or the topical application of a patch. It can be a meal type (e.g. breakfast), and can have a specific time or date associated with it. It can be PRN i.e. taken as needed, including adjustment of dosage to suit needs. An example of an intake is an immunization: an application of a technique (e.g. vaccination), that induces immune resistance to a specific disease by exposing the individual to an antigen in order to raise the level of antibodies to that antigen. May record: • the immunization name/type, sequence number in the series & series identifier, strength and dose • the date and time of administration • manufacturer, lot number, expiration date • route and site of administration • administering provider • observations, reactions and complications • reason immunization not given, and/or immunization related activity not performed (e.g., due to a contraindication or a health care client's refusal), and identity of immunization-withholding provider. • if the immunization is recorded or occasioned by a population-based schedule from a relevant public health immunization authority	HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision (Manage Medication List, Manage Immunization List, Manage Medication Orders, Manage Medication Administration, Manage Immunization Administration) • Care Provision (Support for Medication Interaction and Allergy Checking)

Entity	Description	References
	May include: • drug name • strength and dose • site and route • date, time and frequency of administration • observations, reactions and complications • reason medication not given (e.g. delay, refused, unavailable) • medication related activity not performed. • annotation, e.g., describing the dose to be administered based upon specific clinical indicators such as a sliding scale insulin order where the dose is based on the health care client's current blood sugar level.	
Dispense	The provision of a device, medication, immunization, or product by a provider to a health care client. Dispense examples include insulin test strips, adult briefs.The product dispensed may be a sample. A dispense may have the following attributes: • Drug Identification Number (DIN) • type - examples include: Trial Fill, Completion of Trial, Partial Fill, not filled, Emergency Fill, Samples, etc. • manufacturer, drug lot, expiration date • instructions for use • prescription dispensed quantity • date dispensed Relationships in the model will express: • the health care client the dispense is related to • who the prescriber was • who the prescribed drug was dispensed to (not always the	HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision (Manage Medication List , Medication Interaction and Allergy Checking, Manage Medication Administration)

Entity	Description	References
	health care client) • dispensing location (i.e. Name of Pharmacy, hospital or home)	
Education	Information given to a health care client to enable appropriate participation in his or her care. During an encounter with a health care client or when any medical decision is made that affects the health care client and requires action from the health care client it is necessary to communicate effectively with the health care client (or their supporter or representative) to ensure that they can participate appropriately in their care. May include an assessment of the success of the education. Information may be given in the language of the recipient. Delivery must be appropriate for recipient's age, gender, reading level etc. This includes: • providing instructions pertaining to preparation for a procedure • self-administration of medications • self-care • managing a chronic disease • improving state of health • behavior modification • use of Health Products e.g. instruction for use and maintenance of a device • use of accessibility features (addressing e.g. vision or hearing impairment)	HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision (Manage Medical Equipment, Prosthetic/Orthotic, Device List, Manage Patient Education & Communication, Generate, Record and Distribute Patient-Specific Instructions) • Care Provision (Patient, Family and Care Giver Education)
Diagnosis	Identification of disease or condition by a practitioner by means of a person's symptoms, diagnostic tests, etc. The kind of diagnosis made can be clinical, differential, lab, nursing or physical.	Joint Initiative for Global Standards Harmonization Health Informatics Document Registry and Glossary http://www.skmtglossary.org/search.aspx?term_id=8220&SearchExp=diagnosis

Entity	Description	References
		Canada Health Infoway Pan-Canadian EHR Standards Master Glossary MR02.05 - pCS Master Glossary-20160212
Wellness Activity	An activity aiming to prevent a health problem, or improve or maintain the health care client's physical or mental condition, which may help to meet a health care client's lifestyle or care target (e.g. exercise, meditation). The activity may have the following attributes: • type (e.g. swimming, walking, etc.) • event date & time, duration • intensity	
Requisition	A request for a Health Product, fulfilled by providers. A requisition may come with instructions, which may come from the provider, a pharmacist, or a manufacturer. May have: • a life cycle to manage the creation, renewal, modification and discontinuation or cancellation of a requisition. • oral verification (i.e a 'read-back') of the complete requisition by the person receiving the telephone or verbal requisition. • an association with an order set, a frequently used and institutionally-approved preferred group of requisitions facilitating retrieval and ordering. They allow a care provider to choose common orders for a particular circumstance or disease state according to standards or other criteria such as provider preference. May include:	HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision (Manage Medication List, Use Order Sets, Manage Medication Orders, Manage Non-Medication Patient Care Orders)

Entity	Description	References
	• a status (e.g. captured, verified, filled, or dispensed to health care client; for inpatient: captured, verified, filled, or medication administered). • indication of urgency (e.g. ASAP or STAT). • recurrence	
Referral	Request for clinical care or evaluation requiring expertise outside the domain of the referring provider, or beyond his or her capacity. May include community services (such as home care), genetic profiling, and stress testing. May include: • source of the referral • reason for the referral. • administrative details from a referral that was received (e.g., insurance information, or a consent and authorization for disclosure) • results of electronic referral eligibility and health plan/payer checking • information supporting financial eligibility verification • referral life cycle status as the referred provider may reject the referral • reason for status change	HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision (Manage Orders for Referral, Capture Referral Request, Support for Electronic Referral Ordering)
Prescription	A written direction for the preparation, compounding, and administration of a medicine, a prescribed remedy, a written formula for the grinding of corrective lenses for eyeglasses, or a written direction for the application of physical therapy measures (as directed exercise or electrotherapy) in cases of injury or disability. May include: • new, discontinue, refill/continue, or renew prescription status	HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:***

Entity	Description	References
	• 'take as needed' instruction • frequently-used health care client medication administration instructions • capture of results of electronic prescription eligibility and health plan/payer formulary verification of prescription coverage. May list discrete medication components to create combination drugs or compounds (e.g. Butalbital compound). Medication may be coded or uncoded i.e. included in or excluded from a formulary (e.g., medications that are being studied, investigational products being used in research trials, and blind study protocols). Details may be fielded information or free text. Fixed text (e.g., "Bio-hazard Warning") may be part of a drug prescription. Administrative or clinical reasons, indications or rationale for the medication(s) selected may be included. May include: • prescription identification • medication treatment options on the basis of practice standards and the health care client's conditions, diagnoses, characteristics (e.g., obesity, occupation) and preferences • prompts and notifications to support medication monitoring • name of the medication ordered, medication or pharmaceutical identifier (e.g., DIN, SNOMED-CT, etc.) • prescriber • ordering date • packaging label (e.g. on a bottle of tablets) giving dose amount and quantity, timing, duration and route, and/or site of administration, • quantity • formulation and ancillary instructions • medication contraindication. Contraindication may be overridden. Interaction checking in a formulary may not be performed if the medication being ordered is new.	http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision (Manage Medication List, Manage Medication Orders, Medication Interaction and Allergy Checking, Patient-Specific Medication Dosing and Warnings, Medication Alert Overrides, Manage Medication Administration) SC-3004-EN-CeRx Terminology Worksheet-CeRx4.4.2-20160311 https://infocentral.infoway-inforoute.ca/2_Standards/1_pan-Canadian_Standards/Terminology/3_pan-Canadian_Terminology_Artifacts

Entity	Description	References
	• Limited Use codes for Ontario Drug Benefit Coverage • a "no substitution" directive • refills • instruction to only dispense certain quantities at certain intervals (ex. Dispense maximum of 30 tabs per month – useful for narcotics)	
Medical Test Requisition	This is the documented request of a provider or lab, for one or more lab test request(s). A requisition may be recorded electronically or on paper. A requisition is equivalent to one and only one lab order. Requests may be for : • medical laboratories in areas such as chemistry, serology, haematology, microbiology, histology, anatomic pathology, cytology and virology, or • diagnostic imaging laboratories in areas such as X-rays, MRIs, ultrasounds, and radiology. May include: • indication (e.g., clinical rationale, reason, health problem) for ordering the test(s). • life cycle with status codes (e.g. requisitioned, completed, in process).	Joint Initiative for Global Standards Harmonization Health Informatics Document Registry and Glossary http://www.skmtglossary.org/search.aspx?term_id=8220&SearchExp=requisition Canada Health Infoway Pan-Canadian EHR Standards Master Glossary MR02.05 - pCS Master Glossary-20160212 HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision (Manage Orders for Diagnostic/Screening Tests)

Entity	Description	References
Client Care Notification	A communication to appropriate Client Team members and/or the health care client, to inform them about something that has happened, should happen or has changed. A client care notification could be delayed in the form of a report or in real-time	HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision (Manage Medication List, Manage Patient-Specific Care and Treatment Plans, Manage Medication Orders, Medication Interaction and Allergy Checking, Patient-Specific Medication Dosing and Warnings)
Alert	A notification to advise of any deviation from a Plan of Care Component such as missed planned activities, or a positive result such as the achievement of Activity Goals or Health Targets of a Plan of Care. An alert also may be a contraindication alert generated for possible contraindications to administration of medications (e.g., the administration of tetracycline to pregnant women) and the prescriber may choose to override the alert. Includes reasons for overriding a drug alert or warning at the time of ordering. An alert may also advise health care providers or agents that consent directives are in place and when they may need to obtain consent to access PHI.	HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269

Entity	Description	References
	An alert may also be a reminder that a health care client is due for other types of interventions such as preventative care (e.g. Due for pap test or mammogram) or chronic disease management ('due for blood test' or 'not achieving results within guidelines'.) An alert may also notify a home care worker that patient is in a hospital ER. An alert may need to be acknowledged. It may have a criticality attribute (e.g. urgent).	• Care Provision (Manage Patient-Specific Care and Treatment Plans, Manage Medication Orders, Medication Interaction and Allergy Checking)
Reminder	A prompt to perform a planned activity e.g. prescription renewal.	HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Administration Support (Clinical Task Assignment and Routing for Medication Management & Administration)
Correspondence	A communication between the health care client and a member of his or her client team relating to the health of, or the provision of health care to, the health care client, e.g., "health care client is advised to reduce alcohol consumption". May often be secure messaging.	

Entity	Description	References
	Health care client may reply with a reason for not following the treatment.	
Substance	Types of allergy and intolerance agents which are non-drugs. Important in categorizing non-drug allergy and intolerance types. May produce an unfavorable and unintended symptom. Includes the type of substance taken. Examples: cigarette, alcohol, insulin, food, etc.	Test Level 7 (TL7): https://tl7.intelliware.ca/public/mnemonic.faces;jsessionid=D00D1099F244A3845A95EB290046083D?type=NonDrugAgentEntity CHI CeRX terminology sheet (SC-3004-EN-CeRx Terminology Worksheet- CeRx4.4.2-20160311): https://infocentral.infoway-inforoute.ca/2_Standards/1_pan-Canadian_Standards/Messaging/g_Drug/Current_Releases/CeRx_4.4.2_-_Drug HL7 Electronic Health Record System Functional Model (EHR-S FM) [Draft Release 2.1] http://www.hl7.org/ctl.cfm?action=ballots.home&ballot_cycle_id=548&ballot_voter_id=0 ***Please note that access to this standard requires member access to HL7 International materials. Also note, this release is normative and soon to be published externally. If you do not have member access, you can learn more about this standard here:*** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 • Care Provision (Manage Allergy, Intolerance and Adverse Reaction List)

Appendix 1: Bibliography

This section lists the documents that were reviewed, analyzed, and considered in the development of the original EHR Conceptual Information Architecture in 2012. They are two major categories of documents: published standards/specifications/architectures, and materials under development by working groups. The published materials are subdivided into three sub-categories of international, national, and provincial. They were used as follows:

- International: best practices and knowledge base
- National: to be in alignment or be able to implement national practices/standards and fulfill interoperability
- Provincial: to be able to fulfill provincial requirements and implement provincial standards.

Published Standards/Specifications/Architectures

International

1. OPS Information Modeling Handbook
2. ISO TC 215 Date: 2008-08-0111-09-30 prEN ISO/DIS ISO TC 215/WG 3 Health Informatics – System of concepts to support continuity of care. (2008-08-01)
3. HL7 Reference Information Model (RIM) Release 4 (May, 2011)
4. HL7 Version 3 Standard Care Provision, Release 1 (September, 2009)
5. The openEHR EHR Information Model. Revision 5.1.1 (2008-08-16)
6. Dr. Lawrence Weed. Problem Oriented Medical Record.
7. Formal Representation of a Conceptual Data Model for the Patient-Based Medical Record (http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2248552/pdf/procascamc00002-0482.pdf)
8. ONC Standards and Interoperability Framework. Clinical Element Data Dictionary and Information Model Reference Mapping. Version 1.9 (2011-12-19)

National

9. Canada Health Infoway (CHI) Electronic Health Record Reference Architecture. Version 1.2.8 (2006-03-21)
10. SC-0003-EN HL7 v3 pan-Canadian Messaging Standard. Master Glossary. R02.04.00 (2009-03-16)
11. SC-0006-EN HL7 v3 pan-Canadian Messaging Standard. Implementation Guide Volume 0 - Overview. R02.04.02 (2010-03-26)
12. SC-0006-EN HL7 v3 pan-Canadian Messaging Standard. Implementation Guide Volume 3 – Shared Interactions. R02.04.00 (2009-03-16)
13. SC-0009-EN HL7 v3 pan-Canadian Messaging Standard. Implementation Guide Volume 8 – Pharmacy. R02.04.00 (2009-03-16)
14. Canadian Clinical Drug (CeRx) Messaging Standard - Business Model. V01R04.3 (2007-07-12)
15. Canadian Institute for Health Information (CIHI) Primary Health Care Indicators Electronic Medical Records Content Standards. Version 1.1 (2009)
16. Medical Devices http://www.ic.gc.ca/eic/site/lsg-pdsv.nsf/eng/h_hn01706.html Industry Canada
17. My Diary - https://www.sharedcareplan.org/MainPage.aspx?PageToLoad=CarePlan&CtrlToLoad=CareTCar
18. Public Health Agency of Canada www.publichealth.gc.ca – Immunization

Provincial

19. Ontario's 2015 eHealth Blueprint – the Foundation for Innovation and Action
20. eHealth Ontario Client Registry Interface Specification. Version 0.2 (2010-10-29)

21. eHealth Ontario Provider Registry Interface Specification. Version 1.11 (2011-09-28)
22. Chronic Disease Management Data Framework (CDMDF)
23. eHealth Ontario Laboratories Information System (OLIS) Interface Specification. Version 1.09 (2011-10-07)
24. eHealth Ontario eReferral Specification Implementation Guide – Clinical Information Model. Version 3.0 (2010-06-18)
25. eHealth Ontario Discharge Implementation Guide – Clinical Information Model. Version 2.0 (2009-11-30)
26. eHealth Ontario Clinical Document Specification Implementation Guide – Clinical Information Model. Version 1.0 (2011-02-28)
27. eHealth Ontario – Compliance Management and Consent Directives
28. College of Physicians and Surgeons of Ontario. Policy Statement #5-05. Medical Records. (March/April 2006)
29. OntarioMD Electronic Medical Record (EMR) Specification. Version 4.0 (2011-01-17)
30. MOHLTC Physician Discharge Summary Documentation Guide.
31. Community Mental Health Common Assessment Project. Ontario Common Assessment of Need (OCTAN). Version 2.0
32. Ontario Association of Community Care Access Centres (OACCAC) Solution Architecture. CHRIS/HHS Integration. Version 0.1 (2009-01-12)
33. MOHLTC - Panorama
34. Personal Health Information Protection Act (PHIPA)

Working Groups Materials

35. Standards Collaborative Working Group 2 – Individual Care. Allergy/Intolerance/Adverse Reaction Recommendations (2011-12-19)
36. HL7 Patient Care Working Group. Care Plan Project. Chronic Conditions Care Plan Storyboard. Version 0.5 (2012-01-06); Home Care Plan Storyboard. Version 0.3 (2011-12-31); Stay Healthy Health Promotion Care Plan Storyboard. (draft) (2012-01-17)
37. Zac Whitewood-Moores – NHS Care Planning Content using SNOMED CT

CIM 2.0 Materials

38. Ontario Health Teams: Guidance for Health Care Providers and Organizations. (see http://health.gov.on.ca/en/pro/programs/connectedcare/oht/docs/guidance_doc_en.pdf)
39. ISO/HL7 10781 - Electronic Health Record System Functional Model, Release 2 (Functional Model). This international standard was published by ISO in April 2014. It describes electronic health functions at a conceptual level, providing a foundation for more detailed work. Every part of this model was assessed for its effect on the CIM and, in large part, CIM 2.0 is the result.
40. Two healthcare dictionaries:
    i. The Standards Knowledge Management Tool (SKMT), a collection of terms and definitions supporting digital health solutions in Canada, from the Joint Initiative on SDO Global Health Informatics Standardization (see http://www.jointinitiativecouncil.org/)
    ii. U.S. National Library of Medicine - Medical Subject Headings (MeSH).
41. Health Canada's websites 'Safe Medical Devices in Canada' (see http://www.hc-sc.gc.ca/dhp-mps/md-im/activit/fs-fi/meddevfs_matmedfd-eng.php)
42. The Public Health Agency of Canada's website 'What Determines Health?' (see http://www.phac-aspc.gc.ca/ph-sp/determinants/index-eng.php#determinants).
43. A Policy Framework for Ontario Health Teams _ Queen's Policy Blog. (See https://www.queensu.ca/connect/policyblog/)
44. Trillium Gift of Life. Transplantation Referral and Listing Criteria. (See https://www.giftoflife.on.ca/en/professionals.htm)

45. Health Quality Ontario. (See https://www.hqontario.ca/Evidence-to-Improve-Care/Quality-Standards/View-all-Quality-Standards)

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