



Canada Health Infoway

Pan-Canadian Service Directory Implementation Guide

July 25, 2024

Background

Agenda

Code of Conduct

- Members to share their opinions on the content presented
- Co-chairs to actively listen and consolidate the opinions and ideas shared during the WG sessions and shared through notes post meeting
- All ideas are welcome; however, priority will be given to content related to the current version of the guide
- Coming to a consensus that everyone “can live with”
 - If all avenues are exhausted through discussion and consensus has not been reached, an online poll (during the WG call and on forums) will be used to reach majority consensus

Service Directory – Summary

Definition

The service directory specification harmonizes how data regarding healthcare services and providers is structured and provides standardized interactions with that information (e.g., Querying service/provider information). This directory would also store relationships between the service, service providers and their roles, organizations, and associated locations, as well as details on how to contact them. This standardization will enable users (regardless of jurisdiction) to search for, locate, and communicate with healthcare providers, and help them search, plan, and choose the right health services for their patient(s) needs.

Out-of-Scope

The initial version of the implementation guide will not cover:

- A directory of instances and its subsequent such use,
- Federated services/functionality,
- Inclusion of actors outside the scope defined within this implementation guide. This is done to avoid complex processes that are outside of the current defined processes of a service directory.
- Security and access considerations

MustSupport Definition

The *supplier (sender)* of the service directory information

- **SHALL** populate any elements with the MustSupport flag set to true if the information is available and is appropriate to provide

The consumer (**receiver**) of the service directory information

- **SHALL** be capable of receiving any resource instances containing elements with the MustSupport flag set to true without generating an error or causing the application to fail.
- Elements without a MustSupport flag in a FHIR response **SHOULD** still be received without generating an error or causing the application to fail.

Use Cases

1. Search for Service

Service Consumer looks up specialist within the patient's city that speaks the same language

Query: Search for location that has a specific city and an associated specialist service and the specified language and return the location and associated practitioners that provide that service

Alternative: Health region queries all locations within the region to update its central repositories information

Query: Search for all locations within a specific organization that have been updated since the last update, and include in the results all practitioners associated with each location

2. Search for Service Provider

Patient asks their general practitioner additional information on their diagnosis which only the specialist they saw can provide additional information on

Query: Search for a practitioner based on their name and specific specialty and include locations and contact information in the response

Types of Actors – Roles and Definition (Pan-Canadian)

Actors	Description
Services Supplier	<p>Is an actor that accepts the query request and produces a list of matching resources that it sends as a response.</p> <p>Some examples of this actor are: Jurisdiction, Health Region, Hospital, Community Clinic</p>
Services Consumer	<p>Requests a list of resources from the SD Services Supplier based on the query parameters selected.</p> <p>Some examples of this actor are: Registered Care Providers (Physician, Nurse, etc.), Front Desk Staff, Health Region, Community Clinic, Patient*</p>

* Patient access to the service is not in scope for the first MVP release

Process for Creation and Review of Profiles

1. Profiles are created by Infoway and put on Github (auto-linkage with the Simplifier project - Public)
2. Profiles were published to simplifier on Wednesday, 10AM ET for WG review
3. WG members review the profiles together on Thursday, 1PM ET
4. Changes to the profiles and the pages are gathered and the updates made before the next session

Approach for Extensions & Valuesets

- Derived from the original IG
- The canonical URLs are updated to ensure that there aren't any dependencies on the IG that they are adopted from
 - These new extensions and valuesets are maintained by Infoway
- Valuesets to be hosted on terminology gateway by Infoway

CA:CSD Base Profiles

We are using the IHE mCSD version 3.8.0 as the basis for our profiles, and are deriving from them to ensure that we remain in line with it.

Should we identify something in the future that does not allow us to continue to derive from mCSD we can easily switch to using base FHIR r4.

Agenda:

<https://simplifier.net/ca-csd>

- Feedback on last week's resources:
 - Endpoint (<https://simplifier.net/ca-csd/endpoint>)
 - Practitioner (<https://simplifier.net/ca-csd/practitioner>)
 - PractitionerRole (<https://simplifier.net/ca-csd/practitionerrole>)
- First look at resources

Organization	https://simplifier.net/ca-csd/organization
OrganizationAffiliation	https://simplifier.net/ca-csd/organizationaffiliation
Location with Distance	https://simplifier.net/ca-csd/locationdistance
Facility	https://simplifier.net/ca-csd/organizationfacility / https://simplifier.net/ca-csd/locationfacility
Jurisdiction	https://simplifier.net/ca-csd/organizationjurisdiction / https://simplifier.net/ca-csd/locationjurisdiction

Initial Resources

Priority	Resource	Represents
1	✓ HealthcareService	Service offered
2	✓ Location	Location of service. Generally associated with an address/geo location
3	EndPoint	How to connect to the associated resource within the Service
4	✓ PractitionerRole	Relationship between person and location or organization. Includes the role played when representing that location/organization
5	✓ Practitioner	Person providing the service
6	Organization	Department, health region, jurisdiction etc.
7	OrganizationAffiliation	How two organizations relate to each other or to a location

Additional Resources

Resource	Represents
Location Distance	Supports distance based searched
Location for Jurisdictions	A jurisdictions is a pairing of Location and Organization which represents administrative units such as cities, counties, regional zones etc. A jurisdiction must have at least one organization.location.type#jurisdiction
Organization for Jurisdictions	
Location for Facilities	A facility is a pairing of Location and Organization which represents a physical care delivery site such as hospitals, clinics, physician offices, pharmacies etc. A facility must have at least one organization.location.types#facility
Organization for Facilities	
OrganizationAffiliation Document Sharing	Considered out of scope for the first release.
Endpoint for Document Sharing	Considered out of scope for the first release.

Endpoint.period

We have put in a request to have the MS on the mCSD Endpoint.period element removed. If this ticket is not approved we have the following choices:

1. Use version mCSD 3.7.0

- Impact: We would need to choose between the previous package between both mCSD versions which would result in changes to the rest of the resources as well

2. Use Base FHIR

- Impact: we could no longer say we are IHE:mCSD compliant

3. Continue with the current mCSD 3.8.0 version

- Use the Obligation to define a lighter expectation for this element (ihe-R2 vs SHALL:able-to-populate)
 - Enables vendors who do not support this element to not have to demonstrate it

IHE R2 Definition

R2 Required if known. ***If the sending application has data for the element, it is required*** to populate the element with a non-empty value. ***If the value is not known, the element may be omitted.*** A receiving application may ignore the information conveyed by the element. A receiving application shall not raise an error solely due to the presence or absence of the element.

Endpoint.period Use Cases

1. Test servers can include what times they will be available
2. When an organization is deploying a new version of their application they can setup a new Endpoint for the new version ahead of time and state when it will be available. The end date of the existing Endpoint can be updated to state when it is going to be going offline so that existing users know when they need to make the switch by.

Practitioner / PractitionerRole

Are there any questions or comments

Endpoint – Updates

Different from base FHIR
Different from CA:CSD
Profile instance being compared

Element	Update Description	Reason
Endpoint.status	<ul style="list-style-type: none">Inclusion of mustSupport element	<ul style="list-style-type: none">mustSupport element identified within the IHE's mCSD endpoint profile
Endpoint.managingOrganization	<ul style="list-style-type: none">Inclusion of mustSupport element	<ul style="list-style-type: none">Allows the search to return the organization without having to go through the practitionerRole resource
Endpoint.period	<ul style="list-style-type: none">Inclusion of mustSupport element	<ul style="list-style-type: none">mustSupport element identified within the IHE's mCSD endpoint profile

Endpoint – Extensions

Extension	IG Source Derieved from	Rationale
Endpoint.extension:purpose-of-use	Using the extension from mCSD	<ul style="list-style-type: none">• Proposed to be relevant to the Service Directory Endpoint profile• Adopted from mCSD to define purpose of use for organization and endpoint resources

EndPoint Comparison

Different from base FHIR
Different from CA:CSD
Profile instance being compared

Element	CA:CSD	mCSD (3.8.0)	CA:eRec	CA Baseline
Multiple Profiles	Endpoint	Endpoint Endpoint for Document Sharing	N/A	N/A
status	MS = True, 1..1	1..1		
managingOrganization	MS = True, 1..1 Reference to the Organization profile in CA:CSD	1..1		
period	MS = True, 0..1	0..1		

Organization – Updates

Different from base FHIR
Different from CA:CSD
Profile instance being compared

Element	Update Description	Reason
Organization.type	<ul style="list-style-type: none">Inclusion of mustSupport element	<ul style="list-style-type: none">mCSD set cardinality to a minimum of 1All minimum cardinalities of 1 have an added MS to it
Organization.name	<ul style="list-style-type: none">Inclusion of mustSupport element	<ul style="list-style-type: none">Included MS as seen in CA:eReC and CA BaselinemCSD set cardinality to a minimum of 1All minimum cardinalities of 1 have an added MS to it
Organization.partOf	<ul style="list-style-type: none">Reference to the Organization profile in CA:CSD	<ul style="list-style-type: none">mCSD references their own Organization profile created for the project

Organization – Extensions

Extension	IG Source Derived from	Rationale
N/A	N/A	N/A

Different from base FHIR
 Different from CA:CSD
 Profile instance being compared

Organization Comparison

Element	CA:CSD	mCSD (3.8.0)	CA:eRec	CA Baseline
Multiple Profiles	Organization	Organization Organization for Facility Organization for Jurisdiction	Organization	Organization
type	MS = True , 1..*	1..*	MS = True , 0..*	MS = N/A , 0..*
name	MS = True , 1..1 Reference to the Organization profile in CA:CSD	1..1	In alignment	MS = True , 0..1
partOf	MS = N/A, 0..1 Reference to the Organization profile in CA:CSD	0..1	MS = N/A, 0..1 Reference FHIR base organization resource	MS = N/A, 0..1 Reference FHIR base organization resource

OrganizationAffiliation – Updates

Different from base FHIR
 Different from CA:CSD
 Profile instance being compared

Element	Update Description	Reason
OrganizationAffiliation.active	<ul style="list-style-type: none"> Inclusion of mustSupport element 	<ul style="list-style-type: none"> mCSD set cardinality to a minimum of 1 All minimum cardinalities of 1 have an added MS to it
OrganizationAffiliation.organization	<ul style="list-style-type: none"> Inclusion of mustSupport element Reference to the organization profile in CA:CSD 	<ul style="list-style-type: none"> mCSD set cardinality to a minimum of 1 All minimum cardinalities of 1 have an added MS to it
OrganizationAffiliation.participating Organization	<ul style="list-style-type: none"> Inclusion of mustSupport element Reference to the organization profile in CA:CSD 	<ul style="list-style-type: none"> mCSD set cardinality to a minimum of 1 All minimum cardinalities of 1 have an added MS to it
OrganizationAffiliation.code	<ul style="list-style-type: none"> Inclusion of mustSupport element 	<ul style="list-style-type: none"> mCSD set cardinality to a minimum of 1 All minimum cardinalities of 1 have an added MS to it
OrganizationAffiliation.location	<ul style="list-style-type: none"> Inclusion of mustSupport element Reference to the location profile in CA:CSD 	<ul style="list-style-type: none"> mustSupport element identified within the IHE's mCSD organizationAffiliation profile
OrganizationAffiliation.healthcareService	<ul style="list-style-type: none"> Inclusion of mustSupport element Reference to the healthcareService profile in CA:CSD 	<ul style="list-style-type: none"> mustSupport element identified within the IHE's mCSD organizationAffiliation profile
OrganizationAffiliation.telecom	<ul style="list-style-type: none"> Inclusion of mustSupport element 	<ul style="list-style-type: none"> mustSupport element identified within the IHE's mCSD organizationAffiliation profile
OrganizationAffiliation.endpoint	<ul style="list-style-type: none"> Inclusion of mustSupport element Reference to the endpoint profile in CA:CSD 	<ul style="list-style-type: none"> mustSupport element identified within the IHE's mCSD organizationAffiliation profile

Organization Affiliation – Extensions

Extension	IG Source Derived from	Rationale
N/A	N/A	N/A

Different from base FHIR
 Different from CA:CSD
 Profile instance being compared

OrganizationAffiliation Comparison

Element	CA:CSD	mCSD (3.8.0)	CA:eRec	CA Baseline
Single Profiles	OrganizationAffiliation	OrganizationAffiliation	N/A	OrganizationAffiliation
active	MS = True , 1..1	1..1		MS = N/A , 0..1
organization	MS = True , 1..1 Reference to the Organization profile in CA:CSD	1..1		MS = N/A , 0..1
participatingOrganization	MS = True , 1..1 Reference to the Organization profile in CA:CSD	1..1		MS = N/A , 0..1
code	MS = True , 1..*	1..*		MS = N/A , 0..*
location	MS = True , 0..* Reference to the Organization profile in CA:CSD	0..*		MS = N/A , 0..*
healthcareService	MS = True , 0..* Reference to the Organization profile in CA:CSD	0..*		MS = N/A , 0..*
telecom	MS = True , 0..*	0..*		MS = N/A , 0..*
endpoint	MS = True , 0..* Reference to the Organization profile in CA:CSD	0..*		MS = N/A , 0..*

Different from base FHIR
Different from CA:CSD
Profile instance being compared

LocationDistance – Updates

Element	Update Description	Reason
Location.position	<ul style="list-style-type: none">Inclusion of mustSupport element	<ul style="list-style-type: none">mCSD set cardinality to a minimum of 1All minimum cardinalities of 1 have an added MS to it

LocationDistance – Extensions

Extension	IG Source Derieved from	Rationale
N/A	N/A	N/A

Different from base FHIR
Different from CA:CSD
Profile instance being compared

LocationDistance Comparison

Element	CA:CSD	mCSD (3.8.0)	CA:eRec	CA Baseline
Multiple Profiles	Location	Location Location for Facilities Location for Jurisdictions Location with Distance	N/A	N/A
position	MS = True, 1..1	1..1		

Different from base FHIR
Different from CA:CSD
Profile instance being compared

Location for Juridictions – Updates

Element	Update Description	Reason
Location.managingOrganization	<ul style="list-style-type: none">Inclusion of mustSupport element	<ul style="list-style-type: none">mCSD set cardinality to a minimum of 1All minimum cardinalities of 1 have an added MS to it

Location for Jurisdictions – Extensions

Extension	IG Source Derived from	Rationale
N/A	N/A	N/A

Location for Juridictions Comparison

Different from base FHIR
Different from CA:CSD
Profile instance being compared

Element	CA:CSD	mCSD (3.8.0)	CA:eRec	CA Baseline
Multiple Profiles	Endpoint	Location Location for Facilities Location for Jurisdictions Location with Distance	N/A	N/A
managingOrganization	MS = True , 1..1 Reference to the Jurisdiction Organization profile in CA:CSD	1..1		

Different from base FHIR
Different from CA:CSD
Profile instance being compared

Location for Facilities – Updates

Element	Update Description	Reason
Location.managingOrganization	<ul style="list-style-type: none">Inclusion of mustSupport element	<ul style="list-style-type: none">mCSD set cardinality to a minimum of 1All minimum cardinalities of 1 have an added MS to it

Location for Facilities – Extensions

Extension	IG Source Derived from	Rationale
N/A	N/A	N/A

Different from base FHIR
 Different from CA:CSD
 Profile instance being compared

Location for Facilities Comparison

Element	CA:CSD	mCSD (3.8.0)	CA:eRec	CA Baseline
Multiple Profiles	Endpoint	Location Location for Facilities Location for Jurisdictions Location with Distance	N/A	N/A
managingOrganization	MS = True , 1..1 Reference to the Facility Organization profile in CA:CSD	1..1		

Next Week (August 1st)

- Feedback review and updates for the following profiles:
 - Organization
 - OrganizationAffiliation
 - Remaining Location and Endpoint profiles
- Use Case discussion
 - Queries
 - Other actions (add, update, delete)
 - CapabilityStatement



Canada Health Infoway

Thank you!

Contact Information

VISIT OUR WEBSITE
infoway-inforoute.ca

VISIT OUR SURVEY WEBSITE
insights.infoway-inforoute.ca/

LET'S CONNECT ON LINKEDIN
linkedin.com/company/canada-health-infoway/

LET'S CONNECT ON TWITTER
[@infoway](https://twitter.com/infoway)

Different from base FHIR
 Different from CA:CSD
 Profile instance being compared

HealthcareService Comparison

Element	CA:CSD	mCSD (3.8.0)	CA:eRec	CA Baseline
Single Profile	HealthcareService	HealthcareService	N/A	N/A
identifier	MS = True , 0..*	0..*		
providedBy	MS = True , 0..1 Reference to the Organization profile in CA:CSD	0..1		
type	MS = True , 1..*	1..*		
location	MS = True , 0..* Reference to the Location profile in CA:CSD	0..*		
name	MS = True , 1..1	1..1		

Different from base FHIR
 Different from CA:CSD
 Profile instance being compared

Location Comparison

Element	CA:CSD	mCSD (3.8.0)	CA:eRec	CA Baseline
Multiple Profiles	Location	Location Location for Facilities Location for Jurisdictions Location with Distance	Location	Location
identifier	MS = True , 0..*	0..*	In alignment	In alignment
status	MS = True , 1..1	1..1	MS = True, 0 ..1	MS= N/A , 0 ..1
name	MS = True , 1..1	1..1	MS = True, 0 ..1	MS = True, 0 ..1
type	MS = True, 1..*	1..*	MS = N/A , 0 ..*	MS= N/A , 0 ..*
telecom	MS = True , 0..*	0..*	In alignment	In alignment
physicalType	MS = True , 1..1	1..1	MS = N/A , 0 ..1	MS = N/A , 0 ..1
partOf	MS = N/A, 0..1 Reference to the Location profile in CA:CSD	0..1	In alignment	In alignment

Practitioner – Updates

Element	Update Description	Reason
Practitioner.identifier	<ul style="list-style-type: none">Inclusion of mustSupport element	<ul style="list-style-type: none">Identified as a requirement and mustSupport element from the CA baseline
Practitioner.name	<ul style="list-style-type: none">Inclusion of mustSupport elementMinimum cardinality of 1	<ul style="list-style-type: none">mCSD set cardinality to a minimum of 1All minimum cardinalities of 1 have an added MS to it

Practitioner – Extensions

Extension	IG Source Derived from	Rationale
N/A	N/A	N/A

Different from base FHIR
Different from CA:CSD
Profile instance being compared

Practitioner Comparison

Element	CA:CSD	mCSD (3.8.0)	CA:eRec	CA Baseline
Single Profile	Practitioner	Practitioner	Practitioner	Practitioner
identifier	MS = True, 0..*	0..*	In Alignment	In Alignment
name	MS = True, 1..*	1..*	MS = True, 0..*	MS = True, 0..*

PractitionerRole – Updates

Element	Update Description	Reason
PractitionerRole.practitioner	<ul style="list-style-type: none"> Inclusion of mustSupport element Reference to the practitioner profile in CA:CSD 	<ul style="list-style-type: none"> mCSD references their own Practitioner profile created for the project
PractitionerRole.organization	<ul style="list-style-type: none"> Inclusion of mustSupport element Reference to the organization profile in CA:CSD 	<ul style="list-style-type: none"> mCSD references their own Organization profile created for the project
PractitionerRole.code	<ul style="list-style-type: none"> Inclusion of mustSupport element Minimum cardinality of 1 Reference to "healthcare provider role type" valueset 	<ul style="list-style-type: none"> ValueSet binding preferred in CA Baseline mCSD set cardinality to a minimum of 1 All minimum cardinalities of 1 have an added MS to it
PractitionerRole.specialty	<ul style="list-style-type: none"> Inclusion of mustSupport element Reference to "practitioner specialty" valueset 	<ul style="list-style-type: none"> Included MS as seen in CA:eReC and CA Baseline ValueSet binding preferred in CA Baseline
PractitionerRole.telecom	<ul style="list-style-type: none"> Inclusion of mustSupport element 	<ul style="list-style-type: none"> Included MS as seen in CA:eReC and CA Baseline
PractitionerRole.telecom.system	<ul style="list-style-type: none"> Inclusion of mustSupport element 	<ul style="list-style-type: none"> Included MS as seen in CA:eReC and CA Baseline
PractitionerRole.location	<ul style="list-style-type: none"> Inclusion of mustSupport element Reference to the location profile in CA:CSD 	<ul style="list-style-type: none"> mCSD references their own Location profile created for the project
PractitionerRole.healthcareService	<ul style="list-style-type: none"> Inclusion of mustSupport element Reference to the healthcareService profile in CA:CSD 	<ul style="list-style-type: none"> mCSD references their own HealthcareService profile created for the project

PractitionerRole Comparison

Different from base FHIR
 Different from CA:CSD
 Profile instance being compared

Element	CA:CSD	mCSD (3.8.0)	CA:eRec	CA Baseline
Single Profile	PractitionerRole	PractitionerRole	PractitionerRole	PractitionerRole
practitioner	MS = True , 0..1 Reference to the Practitioner profile in CA:CSD	0..1	In Alignment	MS = True , 1..1
organization	MS = True , 0..1 Reference to the Organization profile in CA:CSD	0..1	In Alignment	MS = N/A , 0..1
code	MS = True , 1..* Reference to CA <u>healthcare provider role type</u> valueset	1..* Use FHIR base valueset	MS = True , 0..* Use FHIR base valueset	MS = N/A , 0..* Reference to CA <u>healthcare provider role type</u> valueset
specialty	MS = True , 0..* Reference to CA <u>practitioner specialty</u> valueset	0..* Use FHIR base valueset	In Alignment Use FHIR base valueset	In Alignment
telecom	MS = True , 0..*	0..*	In Alignment	In Alignment
telecom.system	MS = True , 0..*	N/A	In Alignment	In Alignment
location	MS = True , 0..* Reference to the Location profile in CA:CSD	0..*	In Alignment	MS = N/A , 0..*
healthcareService	MS = True , 0..* Reference to the HealthcareService profile in CA:CSD	0..*	MS = N/A , 0..*	MS = N/A , 0..*

PractitionerRole – Extensions

Extension	IG Source Derieved from	Rationale
N/A	N/A	N/A