Canada Health Infoway

# Interoperability Specifications for Patient Summaries

## Release Review

September 20, 2022

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Solution Management and Advisory Services

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# Agenda

| | |
|---|---|
| Scope and Approach | 10 mins |
| Pan-Canadian Interoperability Candidate Specifications for Trial Implementation<br>• PS-CA<br>• CA:FeX | 15 mins |
| Reference Architecture | 20 mins |
| Question & Answer | 45 mins |

# Scope and Approach

# Patient Summary: An Interoperability Priority Area

Extensive consultations with jurisdictions, clinicians, patients and industry identified patient summaries as an interoperability priority area.

**Patient summaries can help improve:**

- Coordination of care and clinical workflow efficiencies
- Health outcomes and patient safety
- Patient and provider experiences
- Cross-jurisdictional patient flows

**Clinical uses of patient summaries may include:**

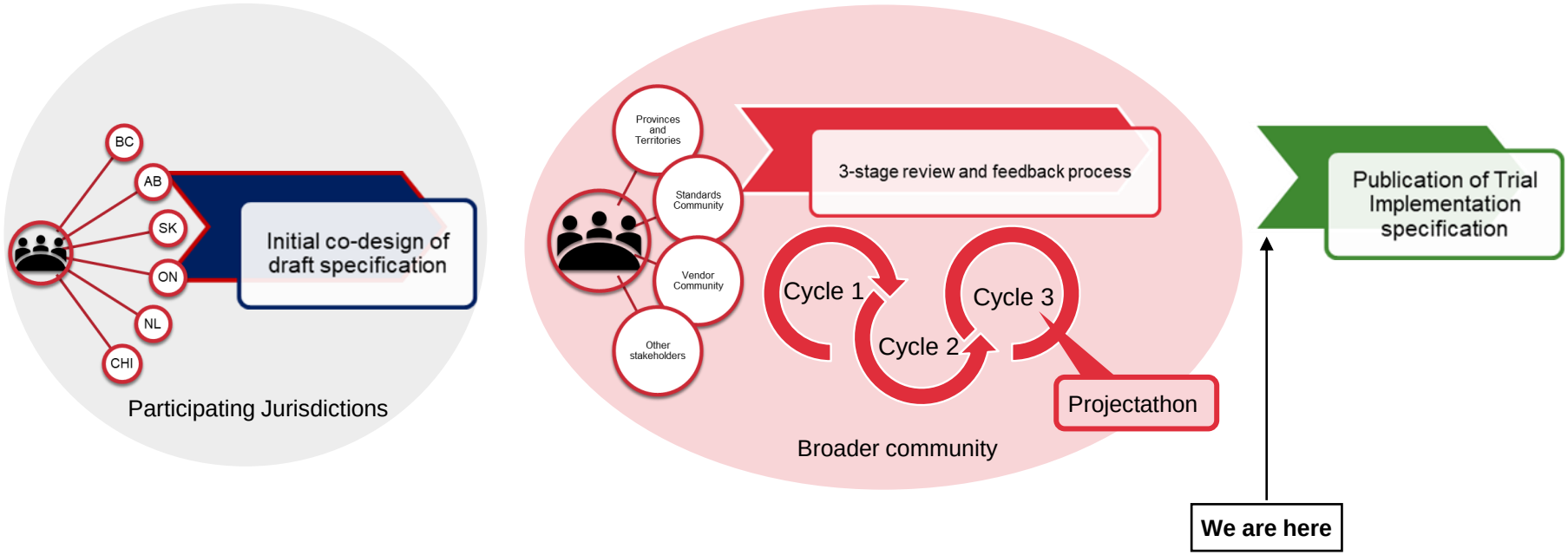
- Medical emergencies
- Unfamiliar provider at point of care
- Coordination/Transitions of care

In response to this, we developed two specifications: pan-Canadian Patient Summary (PS-CA) and the Canadian FHIR Exchange (CA:FeX).

# Pan-Canadian Interoperability Candidate Specifications for Trial Implementation:

PS-CA and CA:FeX

# Initial co-design work set the stage for broader stakeholder participation





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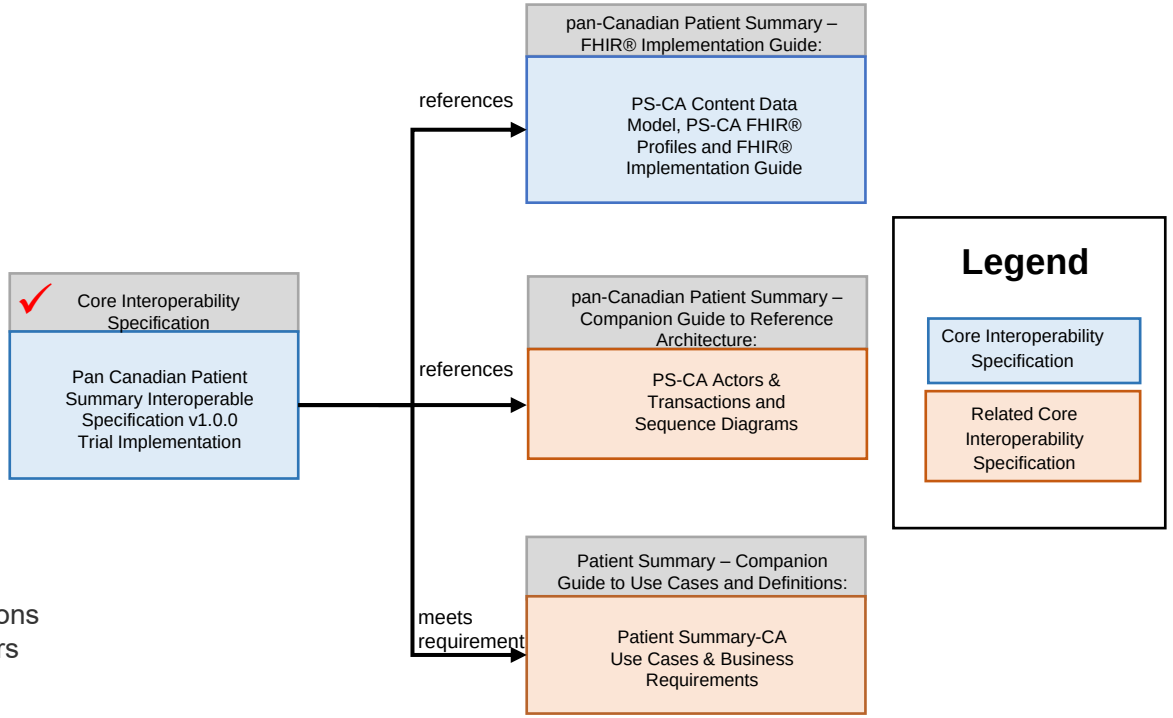
# Patient Summary-CA Specifications

An Overview

## What is it?

- The Pan-Canadian Patient Summary Interoperability Specification is an implementable, testable specification, based on the IHE International Patient Summary specification and HL7 IPS IG
- Defines building blocks (both: data model and interoperability) to create and share condition-independent and specialty-agnostic patient summaries




## Intended Audience

- IT departments of healthcare institutions
- Technical staff of participating vendors
- Experts involved in standards development
- Software developers





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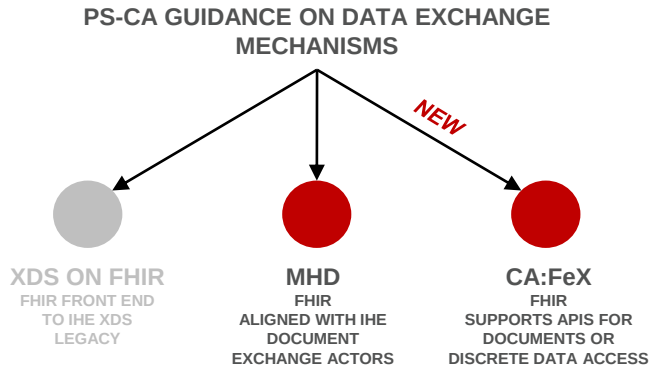
# Canadian FHIR Exchange Specification (CA:FeX)

## Why is CA:FeX needed?

- Feedback from multiple provinces and vendors indicated a need for an alternative to the IHE MHD (FHIR) profile, which is part of the IHE IPS specification.
- This option is needed as a simpler mechanism to implement exchange of documents or discrete data within documents.

**CA:FeX was introduced as a new data exchange option in PS-CA v0.2.**




### Consistent with PS-CA Use Cases

FHIR-based approach will address the original PS-CA use cases.

### Applicable to any FHIR Document

Documentation will apply to Patient Summaries but expected to grow to support a variety of FHIR-based documents.

### International Market Alignment

Approach will be consistent with existing international efforts to document FHIR interface health information exchange patterns.

### Aligned with Current Canadian Market

Responsive to feedback from jurisdictions and vendors for an alternative to MHD, which is simpler to implement and better aligned with an API approach and FHIR enabled data repositories.





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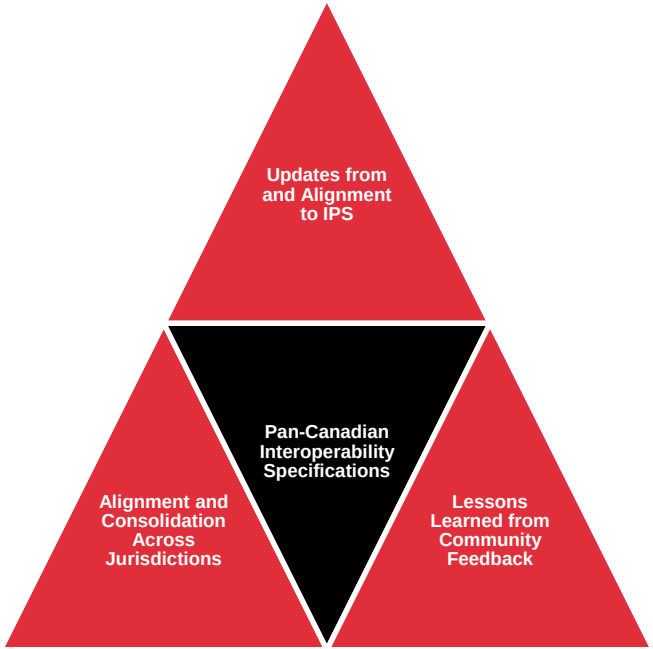
# Release Highlights

# Key Changes in the Candidate Specifications

- Updates to PS-CA Data Model:
  - IPS Updates
  - Family History Domain inclusion
  - Social History Domain
- Updated security for exchange of patient summaries over the internet
  - CA:Sec and CA:Aud
- Reference Architecture as a standalone artefact



# Pan-Canadian Patient Summary Specifications

- PS-CA v1.0.0 TI Candidate is available online here. Download is available here.
- Release Highlights: (Full list of release notes is available here.)
  - **PS-CA Specifications**
    - Published Privacy as an Enabler, which provides an introduction to interoperability, an overview of Canadian privacy laws and some practical approaches to privacy for interoperability, available for download here.
    - Updates applied throughout the PS-CA Specifications to point to the RA where content previously existed within the PS-CA Specifications, see more details under Companion Guide: Reference Architecture.
  - **Companion Guide: Reference Architecture**
    - Moved Foundational IHE Profiles and other core reference architecture concepts from the Companion Guide into the new Reference Architecture (RA).
    - Removed the XDS implementation option.
  - **FHIR Implementation Guide** (PS-CA Data Model)
    - IPS Updates
    - Inclusion of Family Member History profile and generalized Social History Observation. (These profiles are optional.)

# Pan-Canadian FHIR Exchange Specifications

- CA:FeX v1.0.0 TI Candidate is available online here. Download is available here.
- Release Highlights: (Full list of release notes is available here.)
  - Defined new guidance in the CA:FeX Interoperability Specifications on how to use CA:FeX in conjunction with ATNA (CA:Sec and CA:Aud), CT and IUA to support the secure exchange of the PS-CA (new pages for Cross Profile Considerations and Audit Considerations).
  - Removed the Reference Architecture section.
    - Content core to the Reference Architecture, an evolving blueprint of service availability that supports a broader interoperability landscape, not limited to PS-CA or CA:FeX, has been moved to the Reference Architecture (RA), RA v0.1.0 DFT.
    - RA content focused specifically on the CA:FeX has been moved to the CA:FeX Interoperability Specifications (e.g., CA:FeX Sequence Diagrams).
    - Updates applied throughout the CA:FeX Specifications to point to the new RA where content previously existed in the Reference Architecture section of the CA:FeX.

# Reference Architecture

# pan-Canadian Reference Architecture (RA)

Refactored as a standalone supporting framework to stimulate the conversation and convergence on a key dimension of the wider interoperability landscape.

An **integrated** and **harmonized** collection of **specifications**, **policies** and **infrastructure** is required to enable **wider interoperability**



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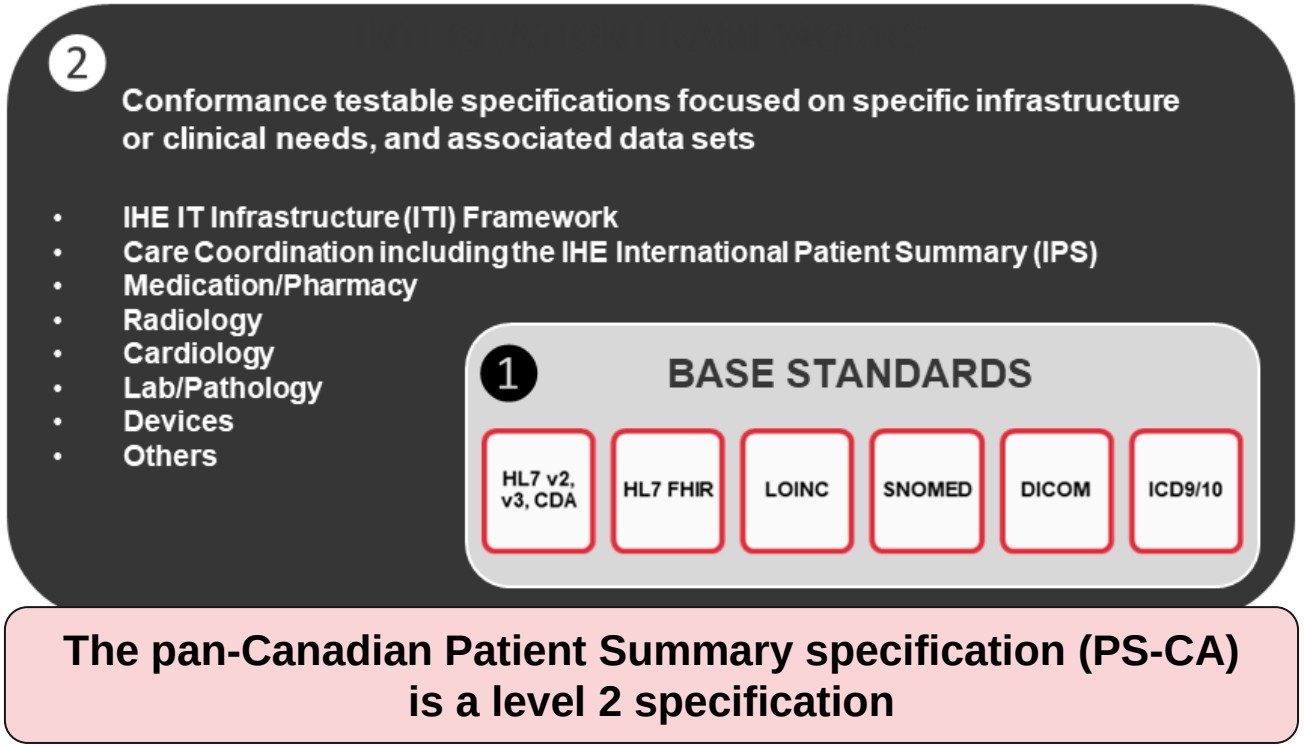
# Conformance Testable Specifications

1. **Adoption of Base Standards is not enough**
   - Projects and vendors across the country use base standards but there is lack of harmonization across implementations

2. **Interoperability requires harmonization of testable specifications** across public and private sector implementers
   - **A growing body of specifications is being adopted internationally** (US, Europe, Asia, Latin America)
   - The medical imaging sector is most mature in embracing testable specifications




**The pan-Canadian Patient Summary specification (PS-CA) is a level 2 specification**





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# Reference Architecture

- RA v0.1.0 DFT is available online here. Download available here.
- Release Highlights: (Full list of release notes is available here.)
  - **Initial Release!**
  - RA v0.1.0 DFT is the first release of the Reference Architecture (RA), to support interoperability. This release supports the reference architecture requirements as referenced by the PS-CA v1.0.0 TI Candidate and the CA:FeX v1.0.0 TI Candidate.
  - Moved the IHE Profiles and other core reference architecture concepts from the PS-CA and CA:FeX Specifications into the new RA (i.e., this release).
  - Defined new Canadian Implementation Guidance for the IHE Profiles ATNA (CA:Sec and CA:Aud), CT and IUA.

# Reference Architecture

## Reference Architecture Overview

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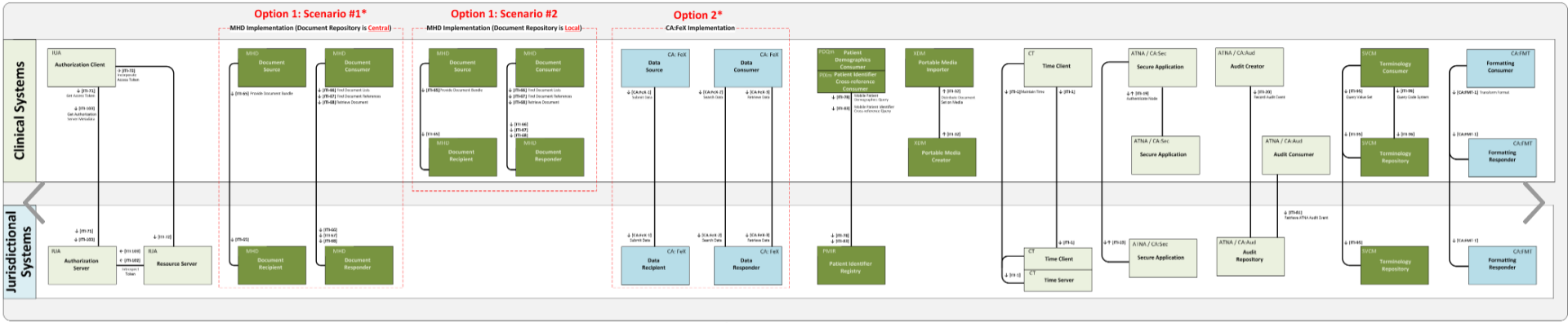


**IHE Profiles**

| | |
|---|---|
| IUA | Internet User Authorization |
| ATNA | Audit Trail and Node Authentication |
| CT | Consistent Time |
| MHD | Mobile access to Health Documents |
| PMIR | Patient Master Identity Registry |
| PDQm | Patient Demographics Query for Mobile |
| PIXm | Patient Identifier Cross-Reference for Mobile |
| XDM | Cross-enterprise Document Media Interchange |
| SVCM | Sharing Valuesets, Codes and Maps |

**Canadian Specifications and Guidance**

| | |
|---|---|
| CA:FeX | Canadian FHIR Exchange |
| CA:FMT | Canadian Formatting Service |
| CA:Sec | Canadian Network Security (based on ATNA) |
| CA:Aud | Canadian Audit Trail (based on ATNA) |

*Preferred Option

Legend

Legend: actors

Core IHE Actor

Actor with further Implementation Guidance

Actor part of a National Extension

Actor part of a new Canadian Specification

**Key Changes:**

- Standalone artefact
- Removed Mandatory/Optional language
- Removed XDS as an option
- Focus on secure over-the-internet exchange of documents




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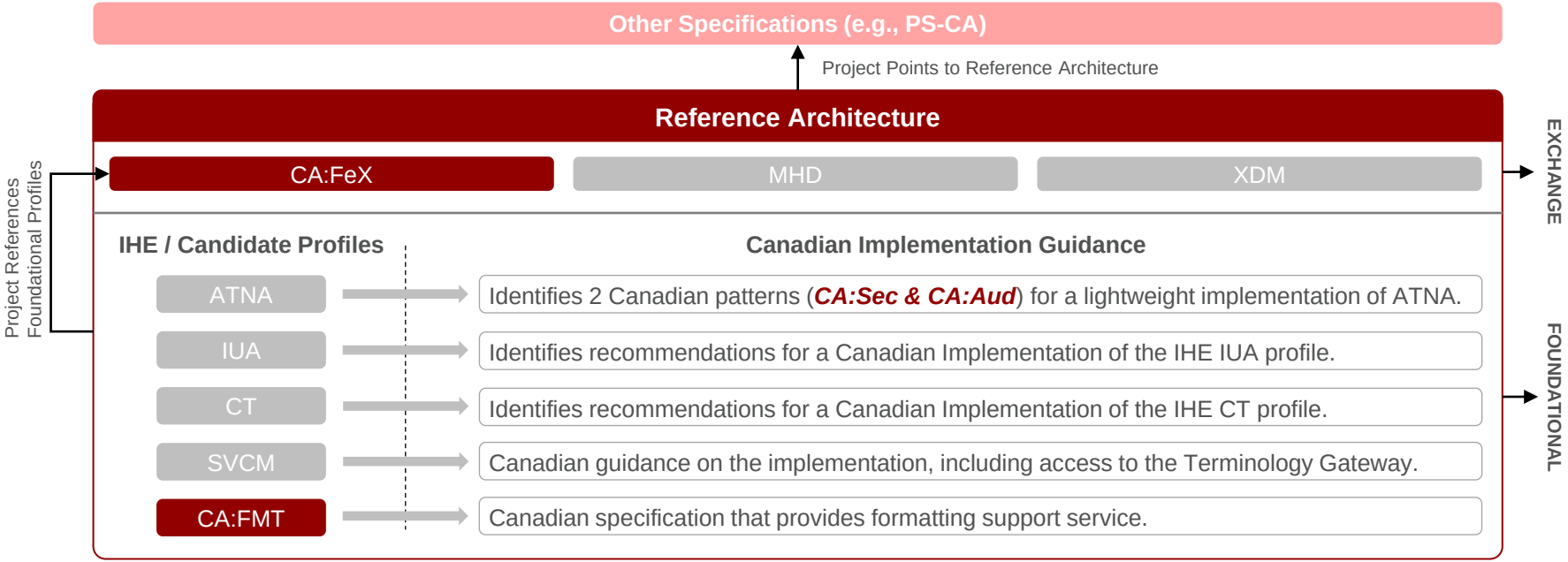
*Non-exhaustive list of profiles*

# A Deeper Look at Reference Architecture

The Reference Architecture contains information relevant to system level integration patterns, supporting interoperability. Other interoperability specifications (e.g., PS-CA, CA:FeX) may contain project-specific references to this Reference Architecture guidance.





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# Q&A

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# Thank you!

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# Appendix

# PS-CA is configurable to address jurisdictional realities

| | EXPECTED USER SCENARIOS | EXPECTED IMPLEMENTATION |
|---|---|---|
| LOCAL | • Patient summary (PS) available for local care transitions (provider to provider).<br>• Provider contributes summary data to provincial repository | • Sharing between providers' systems<br>• EMR/HIS input to provincial PS repositories.<br>• Multiple data sources not reconciled/curated. |
| PROVINCIAL | • Patient/Provider consults a provincial summary.<br>• Provider updates local record from provincial summary.<br>• Patient contributes to Provincial summary. | • Provincial repository consolidates and reconciles multiple sources of data to create a single PS. |
| X-PROVINCIAL | • Patient/Provider able to consult a harmonized summary across-provincial borders.<br>• Provider updates local record from cross-provincial summary. | • Harmonized PS and data sets across provinces/territories. Likely starting with a general subset evolving to support relevant specialties. |
| INTERNATIONAL | • Patient able to access PS to get care abroad.<br>• Foreign provider shares/consults summary for cross-national care. e.g. armed forces, extended stay outside Canada, etc. | • PS fully harmonized to support International exchange with target nations. |

While standards and technical harmonization are foundational,
alignment of privacy and other policy considerations to drive and manage change will be essential to accomplish cross-provincial and cross-national sharing.





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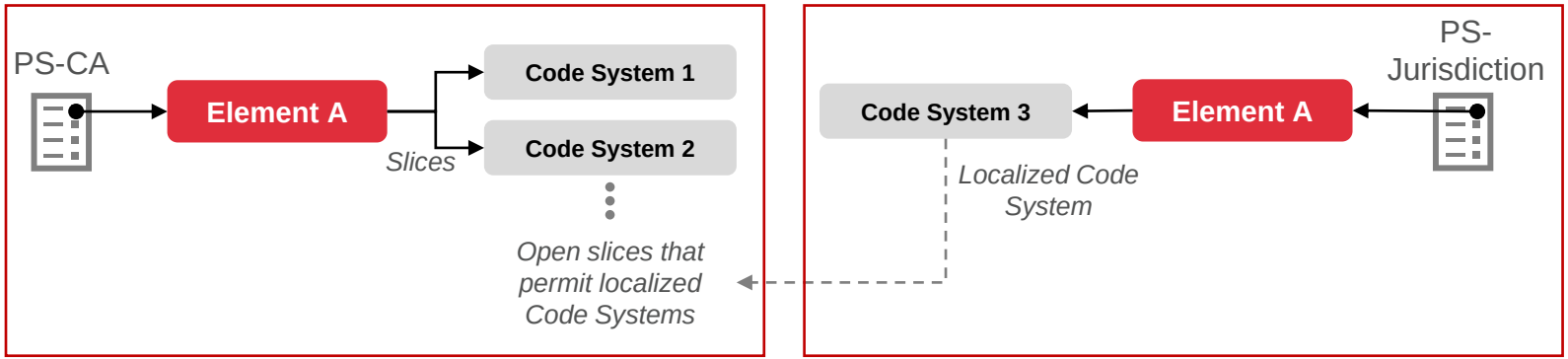
# Illustrative Example: Necessary Localization

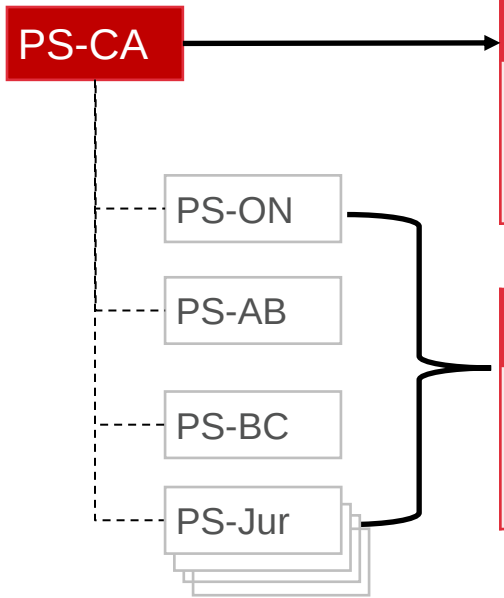
Jurisdictional specifications may be required in instances where localized needs cannot be reflected in the PS-CA and result in constraining the PS-CA specification.

Scenario: A data element in a jurisdiction may require a localized code system that is specific to a jurisdiction. The PS-CA specification will likely not include this code system in its specification, requiring jurisdictional implementation guidance and configuration from vendors.




*Because the PS-CA has 'open slices' for code systems within the element, the PS-CA enables this level of localization to happen. It should be noted, however, that in this case, conformance to PS-CA alone will not ensure conformance with PS-Jurisdiction going forward.*

# Relationship between PS-CA and PS-Jurisdiction




| Contains | Change Process/Ownership | Criteria for approved Change |
|---|---|---|
| Outlines the core data elements that are common across the participating jurisdictions | Changes can be made through consultation with Infoway and, through Infoway, the remaining jurisdictions | Is not currently included in specification and will not break pan-Canadian interoperability for any jurisdiction |

| Contains | Change Process/Ownership | Criteria for approved Change |
|---|---|---|
| Outlines the specific implementation choices from the PS-CA and CA:FeX specifications for the jurisdiction | Changes can be made through the jurisdictions governance body | Determined by the jurisdiction, and should maintain alignment with PS-CA |

When directing a vendor, a jurisdiction should:

1) Direct the vendor to the PS-CA specification to represent the core specification
2) Provide the vendor with their implementation choices from the specification in a guidance document – this should represent a small amount of change and should not reflect any changed elements contained within the specification





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