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# **IHE Canada**

## **Activity Report 2021-22**

**May 2022**

**Derek Ritz: IHE Canada Liaison**



Canada Health **Infoway**  
**Inforoute** Santé du Canada



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## 1. Mission of the National/Regional IHE Initiative

Canada Health Infoway acts as the Member Organization for IHE in Canada. IHE Canada's mission mirrors Infoway's mission which was updated in 2021 to be as follows: "make health care more digital by ensuring that all Canadians are able to access health information and services online." We do this by working with partners to accelerate the development, adoption and effective use of digital health solutions across Canada.

## 2. Sponsoring Organization: Canada Health Infoway

Key role of the sponsor: IHE Canada is integrated into Canada Health Infoway, a national organization responsible for the co-ordination of digital healthcare initiatives across Canada. In support of this mandate, Infoway also co-ordinates Canada's digital health standards activities for, HL7 International, ISO/TC 215, SNOMED International, Regenstrief (LOINC and UCUM) and DICOM.

Infoway helps to improve the health of Canadians by working with partners to accelerate the development, adoption and effective use of digital health across Canada. Through our investments, we help deliver better quality and access to care and more efficient delivery of health services for patients and clinicians. Infoway is an independent, not-for-profit organization funded by the federal government.

### 2.1 IHE International Board Representative

Name of Representative: Derek Ritz, IHE Canada Liaison  
Phone: +1 (905) 515-0045  
Email: [derek.ritz@ecgroupinc.com](mailto:derek.ritz@ecgroupinc.com)

### 2.2 National / Regional IHE Initiative Secretariat

Name: Andrea MacLean, Director, Interoperability Standards, Canada Health Infoway  
Phone: 416-595-3449 Ext. 3064  
Email: [amaclean@infoway-inforoute.ca](mailto:amaclean@infoway-inforoute.ca)

### 2.3 Date Deployment Committee was first recognized by IHE International Board

- 2004 IHE Canada created with Infoway as a founding member
- 2008 IHE International accepts Canada as a member organization
- 2011 IHE Canada integrates with Canada Health Infoway



### 3. Organization of IHE national/regional committee

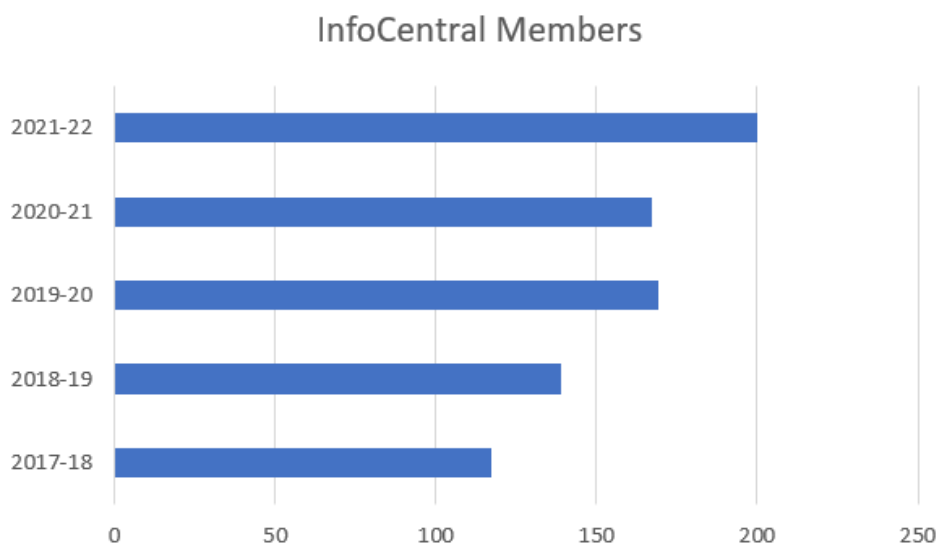
Infoway's [InfoCentral](#) platform is home to IHE Canada. Via this platform, the [IHE Canada community](#) can access IHE profiles, host webinars, engage in discussion forum conversations and engage with other domain specific communities, such as the Enterprise Imaging community (many of whom are active participants in IHE's radiology-focused technical committees).

A separate fee is not required for membership in the IHE Canada community; joining the InfoCentral community is the only necessary criteria. InfoCentral engages stakeholder organizations representing clinicians, industry, and governments, to accelerate interoperability progress in Canada. Together we are addressing interoperability challenges and:

- working with other communities such as HL7 Canada to leverage IHE profiles of FHIR;
- working to promote synoptic cancer reporting leveraging the IHE Structured Data Capture (SDC) profile;
- promoting IHE, Society for Imaging Informatics in Medicine (SIIM) and other podcasts;
- progressing Canada's important, cross-jurisdictional, virtual care initiative, including specific work on a national patient summary specification; and
- leveraging blogs and social media to raise awareness of the value of IHE in Canada.

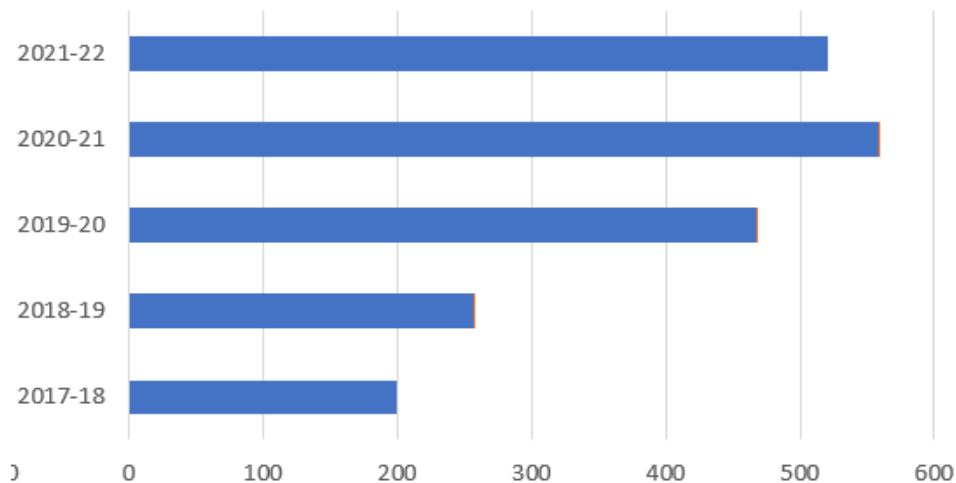
### 4. Achievements and Activities in the Preceding 12 Months

- The IHE Canada community membership increased from the 167 members reported in 2020-21 to 200 this year (+ 20 %).
- The IHE Canada Standards page on InfoCentral has been a consistent "to go" resource for all things IHE. First launched in 2017-18, the page views decreased from 559 visits in 2020-21 to 521 this year. (7% decrease)
- The IHE community pageviews has decreased to 1510 this year vs 1680 last year (10% decrease).

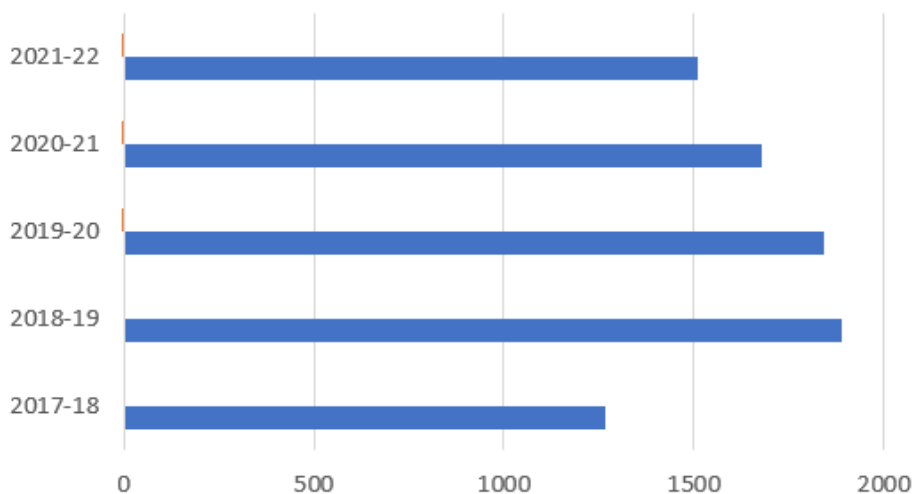




InfoCentral IHE Standards Page Views



InfoCentral Community Pageviews



Notwithstanding the continuing effects of COVID-19, this has been an impactful year for IHE Canada. Activities included:

**eHealth Conference 2021**

Because of COVID, Canada's national digital health conference (eHealth 2021) was again a virtual event. Sessions that included a focus on IHE included:

- Derek Ritz presented on IHE's Computable Care Guidelines initiative and how the WHO SMART Guidelines project and the COVID certificates work are related to this important profile. (videohere: <https://vimeo.com/552011485>).



### FHIR North.

Established in 2014 by [Mohawk MEDIC](#), [Gevity](#), [Smile CDR](#) and [Canada Health Infoway](#), FHIR North is the only Canadian conference focused on building awareness, knowledge, and experience around HL7® FHIR healthcare interoperability standards in Canada.

FHIR North is more than just a developer's conference: FHIR North's sessions can help build understanding and knowledge for anyone in an organization that wants to understand how this standard can improve patient care and the clinical experience.

FHIR North was, once again, virtual this year. The **IHE Canada Introduction** video created last year was again included as part of Canada Health Infoway's online conference presence as a FHIR North sponsor. The video is permanently hosted on IHE Canada's InfoCentral "Standards" page: <https://infocentral.infoway-inforoute.ca/en/standards/canadian/ihe>. IHE community members contributed to the continued success of this important conference:

- A preconference session on "OpenHIE on FHIR" described some of the important work being done, including significant contributions from Canadians, to progress the adoption of IHE profiles in low and middle income countries (LMIC). The **OpenHIE** architecture framework ([www.ohie.org](http://www.ohie.org)) is based on the Infoway blueprint and, in its latest iteration, leverages important new specifications such as mobile Health Document Sharing (**MHDS**) and the International Patient Summary (**IPS**). A video presentation by Derek Ritz was made on this topic (<https://vimeo.com/627676516>).
- A session on the **Pan Canadian Virtual Care Interoperability Program** was led by Infoway's Abhinav Kalra. This session provided an overview of Canada's national initiative, including the patient summary efforts and Projectathon event supported by the IHE methodology (discussed later in this report).
- Following Abhi's session, a panel session specifically focused on **the pan-Canadian patient summary (PS-CA)** initiative was facilitated by Infoway's Attila Farkas with participation from Sue Schneider, Gavin Tong, and Colin King.
- An introduction to, and real time demonstration of, IHE's **Computable Care Guidelines (CCG)** profile was made by Alex Goel of JuniperCDS. A video of the introduction portion of the presentation is available, here: <https://vimeo.com/653748605>. The demonstration showed how a SMART on FHIR application can connect to an electronic medical records solution and, as a façade, add CCG processing capabilities to a legacy application.
- A presentation by Sheridan Cook and Michael Savage outlined progress on development of the **Canadian FHIR Baseline Profiles**. IHE Canada has been an ongoing contributor to this important interoperability project and the IHE IPS Profile has helped inform the work.

**Community Engagement.** Via InfoCentral, IHE achievements, announcements, and opportunities were promoted, including:

- IHE Canada participation at the FHIR Governance working group
- IHE Canada participation at the eHealth Conference and at FHIR North
- IHE Governance conversations, which benefit from the helpful inputs of IHE Canada members who sit on the IHE International Board
- IHE Board Members: Member at Large nominations and elections – which resulted in IHE Canada's long standing member, **Laura Bright**, being elected as an IHE International Board



member at large and **Michael Nusbaum** being re-elected to the Board as a technical co-chair, emeritus. Canada's **Daniel Berezeanu** was the outgoing member at large that Laura replaces and we all thank him for his exemplary contribution to IHE and to digital health in Canada.

**Cross-SDO Collaboration.** Under the able leadership of **Mike Nusbaum**, the IHE **IPS** Profile's cross-SDO governance team has continued to meet as the joint custodians of the important IPS standard. The group is presently hosted by HL7 as the secretariat. Of particular note – the IPS has been leveraged by the **WHO** as the core of its Digital Documentation of COVID Certificates (**DDCC**) specification, and by the Global Digital Health Partnership (**GDHP**) as a key interoperability enabler. It is also the foundation of the pan-Canadian Patient Summary (**PS-CA**) specification.

**Strategic Engagement.** IHE Canada has supported Infoway's ongoing strategic initiatives to progress Canada's national Virtual Care agenda. This has included facilitating demonstrations and meetings with IHE International related to the Gazelle platform and its ability to support reference architecture "Projectathon" events. The **IHE methodology** has been adopted to support the initiative. Video descriptions of the methodology can be found here: <https://vimeo.com/541449386>, and here: <https://vimeo.com/551267568/da505fe8b1>. This process has specifically assisted in the development of the pan-Canadian Patient Summary (**PS-CA**) specification and the domestically-authored FHIR document exchange (**CA:FeX**) profile.

**IHE International Governance.** IHE Canada has been an active participant in IHE governance activities including regular board meetings, Global Deployment Coordination committee meetings, marcomm meetings, and ad hoc meetings related to strategic initiatives such as the establishment of the HIMSS HL7-IHE Consortium and the licensing of IHE International IP to the new IHE Services organization. IHE Canada community members are also actively contributing to the establishment of a new strategic direction for IHE.

**IHE Uptake in Canada.** In Canada, there are government supported XDS based implementations in Ontario, Quebec, Alberta and British Columbia. IHE's DICOM-based profiles are the pervasive DI standard across the country. The PIX and PDQ profile families (largely based on v2, but with v3 and FHIR as well) are supported as the predominant patient ID interfaces by electronic medical records solutions and jurisdictional client registry solutions Canada-wide. Over the last year, there has been significant progress related to the development and Projectathon testing of new pan-Canadian specifications for patient summary (PS-CA) and FHIR document exchange. This is described in detail, below.

### **Pan-Canadian Projectathon**

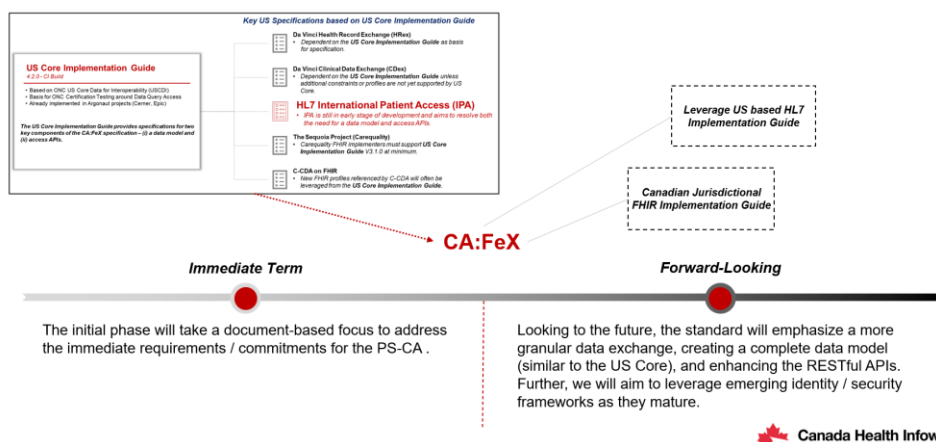
The goals and plans for the Projectathon were presented by Infoway's Attila Farkas at an IHE Canada Community event hosted on February 9, 2022 (video recording, here: <https://vimeo.com/676320290>). Over the course of March 21-23, 2022 -- participants completed the first ever **pan-Canadian Projectathon**. Engineers from **Allscripts**, **Cerner**, **Epic**, **SmileCDR** and **JuniperCDS** tested:

- the pan-Canadian patient summary content profile (**PS-CA**, based on the International Patient Summary (**IPS**) specification),
- IHE's cross-Enterprise Document Sharing (**XDS.b**) and mobile Health Documents (**MHD**) content sharing specifications, and



- companion specifications such as Consistent Time (CT), Audit Trail and Node Authentication (ATNA), and patient identity exchange for HL7 v3 (PIXv3).

### International Scan: Coordination table recommendation



Projectathon participants also tested the new **CA:FeX** (Canadian FHIR document exchange) profile. This profile is **consistent with international specifications** including the HL7 IPA work and US-based projects including Sequoia and Da Vinci (as noted in the figure, above). It was developed as a consensus specification by the **pan-Canadian PS working group** and benefitted from both jurisdictional and vendor inputs. This “sweet spot” for the spec is green-field situations where there is not a requirement to support legacy CDA-based document exchange. It gives implementers a conformance-testable, **pure-FHIR document exchange** option.

The public comment periods closed on March 25, 2022 for both PS-CA and CA:FeX. The next step in the evolution for these two domestic specifications will be to disposition comments and publish **trial implementation** versions of the specs. This is expected by mid-2022.

**Video recordings** of the Projectathon read-out sessions are available at the *Patient Summaries* InfoCentral folder, [here](#). These four sessions cover, respectively:

1. an introduction to **PS-CA** and **CA:FeX** and **implementer experience** in testing these new specifications at the Projectathon;
2. an introduction to the **PS-CA reference architecture**, plus a technical refresher on the OAuth-based Internet User Authentication (IUA) profile. This was followed by a quick demonstration, by **JuniperCDS** and **SmileCDR**, showing how a **SMART on FHIR** based reference implementation can support the real-time generation of PS-CA documents which can then be leveraged to operationalize FHIR-based **computable care guidelines (CCG)**.
3. implementer experience with **large-scale document exchange**, both using the mature XDS and CDA models, and using FHIR.



4. **clinicians' requirements** and the ways their inputs informed the development of the pan-Canadian specifications and reference implementation (facilitated by **Dr. Darren Larsen**).

The IHE methodology was leveraged in developing PS-CA and CA:FeX, and IHE profiles and the Gazelle tools played a foundational role in supporting this inaugural Projectathon. Congratulations are in order to the Infoway team, to all the participating vendors, and to the IHE Catalyst support team, for this successful launch.

## 5. Notable Challenges


Awareness of and appreciation of the breadth and value of IHE is growing – both in terms of the portfolio of conformance-testable IHE Profiles and (perhaps more importantly) in terms of the mature IHE Methodology. This has been significantly elevated by the leveraging of both in progressing Canada's national virtual care initiative and, specifically within that, the patient summary project (as described above). That said, **there are still communications and messaging challenges in articulating the role IHE Profiles play in connecting FHIR specifications to implementable and conformance-testable artefacts**. The default practice in the country is still for engineering teams to begin developing FHIR Implementation Guides (IGs) from scratch, rather than leveraging existing IHE artefacts to “assemble” workflows from testable building blocks. Important progress is being made, but the general awareness of IHE and its Methodology is still not strong enough to have changed the default practice.

Advocacy work continues for IHE Canada **community** members to become **IHE International members** (and pay their membership dues to that organization). Multiple webinars have been held, over the last 2 years, related to IHE's **value proposition**, and how that value accrues to various stakeholders in the ecosystem. This “messaging” work continues.







There is still a challenge, at the jurisdictional level and at the national level, in **clearly articulating the value of operationalizing IHE-based methods** – especially as regards to **Projectathon** (peer-based) testing and its natural follow-on, **conformity assessment** against normative jurisdictional specs. Notwithstanding their opportunity to provide an important instrument of digital health ecosystem governance, IHE processes and platforms are not broadly adopted as the go-to option and there is no official policy related to its role. It is hoped that **IHE International's new strategic plan** can play an important role in clarifying, and “packaging” this value proposition.

## 6. Status Against Planned Activities for – 2021-2022

Continue to grow and engage the **IHE Canada** Community via the InfoCentral collaboration platform and the following activities:

	Promote participation in IHE International domain (technical) committees
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	Promote the use of IHE profiles in local/regional/provincial implementations.
	Enable the IHE Canada community to leverage a new Canadian initiative to develop Standards Selection Guides to feature IHE profiles as applicable.
	Represent IHE Canada and promote the work of the community at domestic and international digital health events.
	Continue participation in the IHE International Board of Directors
	Continue to support IHE initiatives via the Enterprise Imaging, IHE Canada and other InfoCentral communities
	IHE Canada will host 3-5 webinars in 2020 to review IHE activities (current and future) with a particular focus on how these can serve our domestic mission to broadly leverage digital health for the benefit of all Canadians.

## 7. Planned Activities for 2022-23

The agenda for 2022-23 will focus on **strategic** activities related to the broad adoption of FHIR in Canada and the governance challenges that accompany this alongside the **tactical** activities needed to address the present pandemic and to solidify the adoption and continued use, on a permanent basis, of virtual care in Canada. It is expected that the activities of the upcoming year will include:

- contributing to and helping inform Canada's FHIR adoption strategy, including (particularly) in the sociotechnical supports needed to foster broad uptake by the vendor community of pan-Canadian specifications such as PS-CA and CA:FeX and the conformance testing of digital health solutions against these.
- continuing to participate in national and international digital health events such as FHIR North, eHealth, HIMSS, IHE Connectathons (domestic and international), etc.
- cultivating IHE "voices" to be represented in fora dedicated to furthering digital health strategy and adoption in Canada and internationally.
- developing and disseminating course materials and resources that can be employed as teaching tools in health informatics academic programmes in Canada.
- continuing evaluation, in Canada, of the potential value of CCGs and the implications of developing and adopting these in support of a learning health system strategy (generally) and Virtual Care (specifically).
- fostering adoption of the EBIW and IDEP Profiles within the enterprise imaging community in Canada.
- advocating for stronger participation by Canadian stakeholders in the work of IHE



technical committees and for stronger support, generally, of IHE International membership.

- representing Canada's interests at the IHE International Board and related committees.
- continuing to leverage InfoCentral webinars and in-person opportunities (where and when available) as a way to engage with and educate the digital health community in Canada – with a preference for cross-hosted sessions that draw in members from complementary communities (e.g. HL7 Canada, Enterprise Imaging, Analytics, etc.)
- fostering stronger collaboration with the national digital health vendor association (Technation Health) and with the national health informatics professional associations (Digital Health Canada, and regional HIMSS chapters).
- contributing, alongside others in the Canadian healthcare ecosystem, to the rapid implementation of digital health interventions that can mitigate and overcome the COVID-19 pandemic, at home and globally.



## 8. Presentations, Publications, and Specifications of Note

Some of the following were already referenced in the body of this document. They are summarized here for convenience.

- Current published versions of **all** of IHE's Profiles are found, here: <https://wiki.ihe.net/index.php?title=Profiles>
- IHE Canada Introduction: <https://infocentral.infoway-inforoute.ca/en/standards/canadian/ihe>
- IHE Methodology: <https://vimeo.com/541449386>
- Canada's Virtual Care Interoperability Workflow: <https://vimeo.com/551267568/da505fe8b1>
- Computable Care Guidelines, including WHO's use: <https://vimeo.com/552011485>
- Computable Care Guidelines, into to FHIR North demo: <https://vimeo.com/653748605>
- IHE profiles in support of LMIC (FHIR North): <https://vimeo.com/627676516>
- Intro to PS-CA Projectathon: <https://vimeo.com/676320290>
- Projectathon summary presentations (4 videos): <https://infocentral.infoway-inforoute.ca/en/panel?action=groups&func=show&cat=121&grp=301&tab=Video>
- Digital Health Canada IPS Whitepaper: <https://chief.digitalhealthcanada.com/wp-content/uploads/2021/11/Value-of-the-IPS-in-Canada-v11-03-2021.pdf>
- Canadian FHIR Baseline Profiles (Continuous Integration Build): <https://build.fhir.org/ig/HL7-Canada/ca-baseline/index.html>
- PS-CA: <https://infoscribe.infoway-inforoute.ca/display/PCI/PS-CA+v0.3+Draft>
- CA:FeX: <https://infoscribe.infoway-inforoute.ca/display/PCI/CA%3AFex+v0.2+Draft>



## 9. Glossary

ATNA	Audit Trail and Node Authentication
CA:FeX	Canadian FHIR document exchange
CCG	Computable care guidelines
CDA	HL7 Clinical Document Architecture
CT	Consistent Time
DDCC	Digital Documentation of COVID Certificates
DICOM	Digital Imaging and Communications in Medicine
EBIW	Encounter-Based Imaging Workflow
FHIR	HL7 Fast Healthcare Interoperability Resources
GDHP	Global Digital Health Partnership
HIMSS	Healthcare Information and Management Systems Society
HL7	Health Level 7 International
IHE	Integrating the Healthcare Enterprise
IPS	International Patient Summary
ISO/TC 215	International Organization for Standardization 's (ISO) Technical Committee (TC) on health informatics
LMIC	Low and Middle Income Countries
LOINC	Logical Observation Identifiers Names and Codes
MHD	Mobile Health Documents
MHDS	Mobile Health Document Sharing
PDQ	Patient Demographics Query
PiX	Patient Identity Cross-Reference
PS-CA	Pan-Canadian patient summary content profile
SDC	Structured Document Capture
SIIM	Society for Imaging Informatics in Medicine
SNOMED-CT	Systematized Nomenclature of Medicine--Clinical Terms
UCUM	Unified Code for Units of Measure
WHO	World Health Organization
XDS	Cross-Enterprise Document Sharing