



Global Passport Series

IPS: Cross Border Collaboration and Interoperability Issues



IPS: Cross Border Collaboration and Interoperability Issues

Moderator



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HL7 Global Director, Partnerships & Policy

Panelists



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HL7 Chief Standards Development Officer



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Development Manager, APIs & Structured Documents, MEDITECH

Expanding Access, Ensuring Freedom

HL7 International: your trusted convener and forum for solving interoperability problems together

HL7 Global Passport Series

IPS: Cross Border Collaboration and Interoperability Issues

Daniel J. Vreeman, PT, DPT, MS, FACMI, FIAHSI, FHL7

Chief Standards Development Officer

HL7 International

Chair

Joint Initiative Council (JIC)

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International

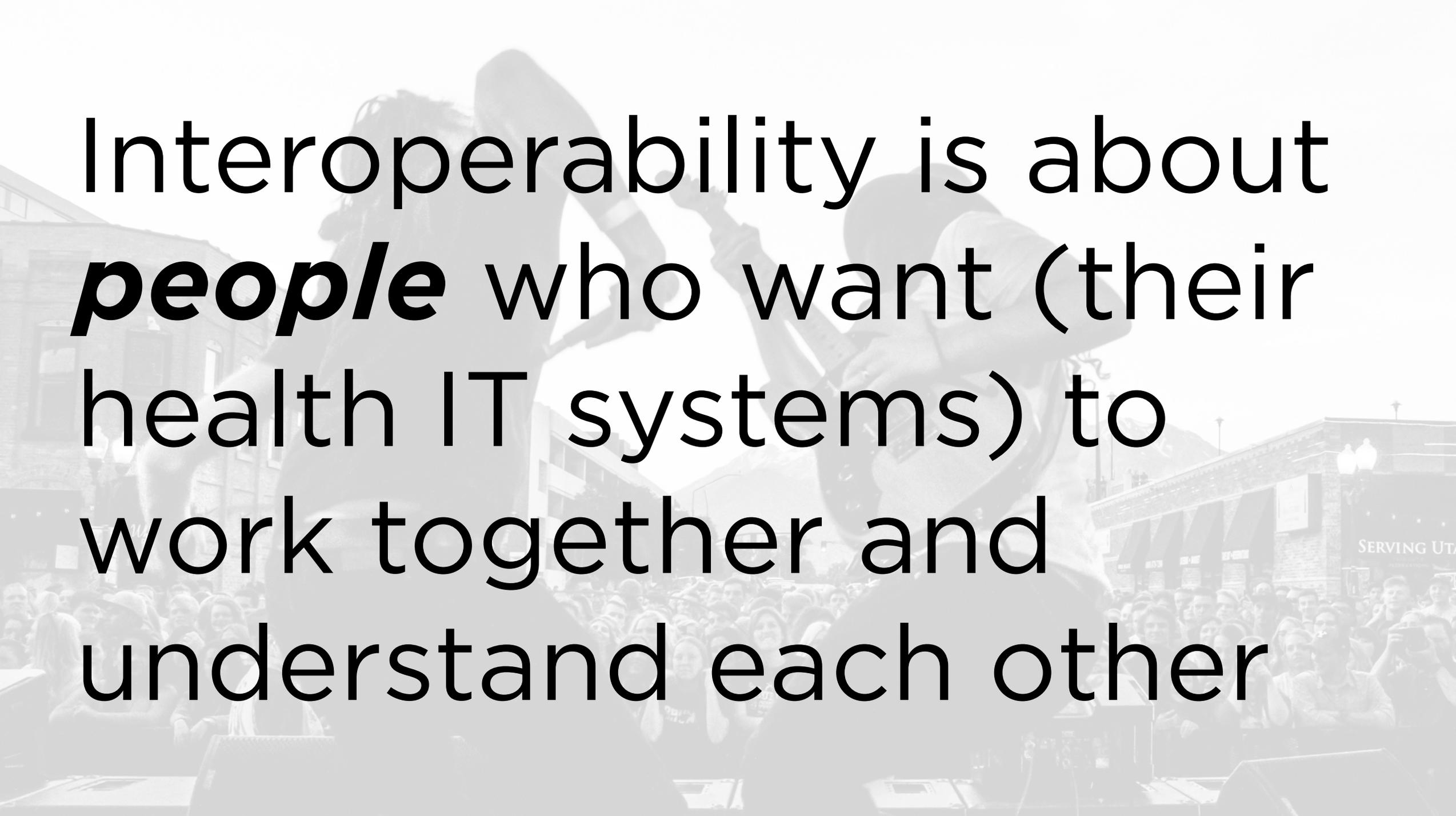
A grayscale photograph of a man running in a courtyard. He is wearing a dark long-sleeved shirt and light-colored pants. The background features a wall with utility boxes and some debris on the ground. The overall tone is somber and urgent.

Reality (still today):

People move *faster* and *further* than their health information.

Open data standards:
fuel for innovation





Interoperability is about ***people*** who want (their health IT systems) to work together and understand each other



Organizational Profile

Not-for-profit (501c6)

Standards Development Organization

Founded in 1987

ANSI-accredited

Globally trusted

Product Families



Cheat Codes for Digital Innovation



Semantically interoperable health data at scale



SMART App Launch

Standard integration for apps interacting with FHIR data



Bulk

Simple export of big FHIR data (e.g. for model training)



CDS Hooks

Workflow-integrated interaction with CDS (including AI)



CQL

Standardized clinical knowledge and metrics



SMART Health
Cards and Links

Tamper-proof, verifiable, and easily shareable health data



HL7[®] FHIR[®]

Freedom to

Harness global interoperability wisdom

Implement, inspect, and improve the specification

Redistribute refinements, helping others

Example Use Cases for FHIR in 2024

Patient Cost
Transparency

Payer Data Exchange

Quality Improvement Core

Adverse Events in
Clinical Research

Central Cancer Registry
Reporting

Digital Insurance Card

Pharmaceutical Quality

Electronic Long-Term
Services and Supports

Value-based Performance
Reporting

Multiple Chronic
Condition Care Plans

SDOH Data Exchange

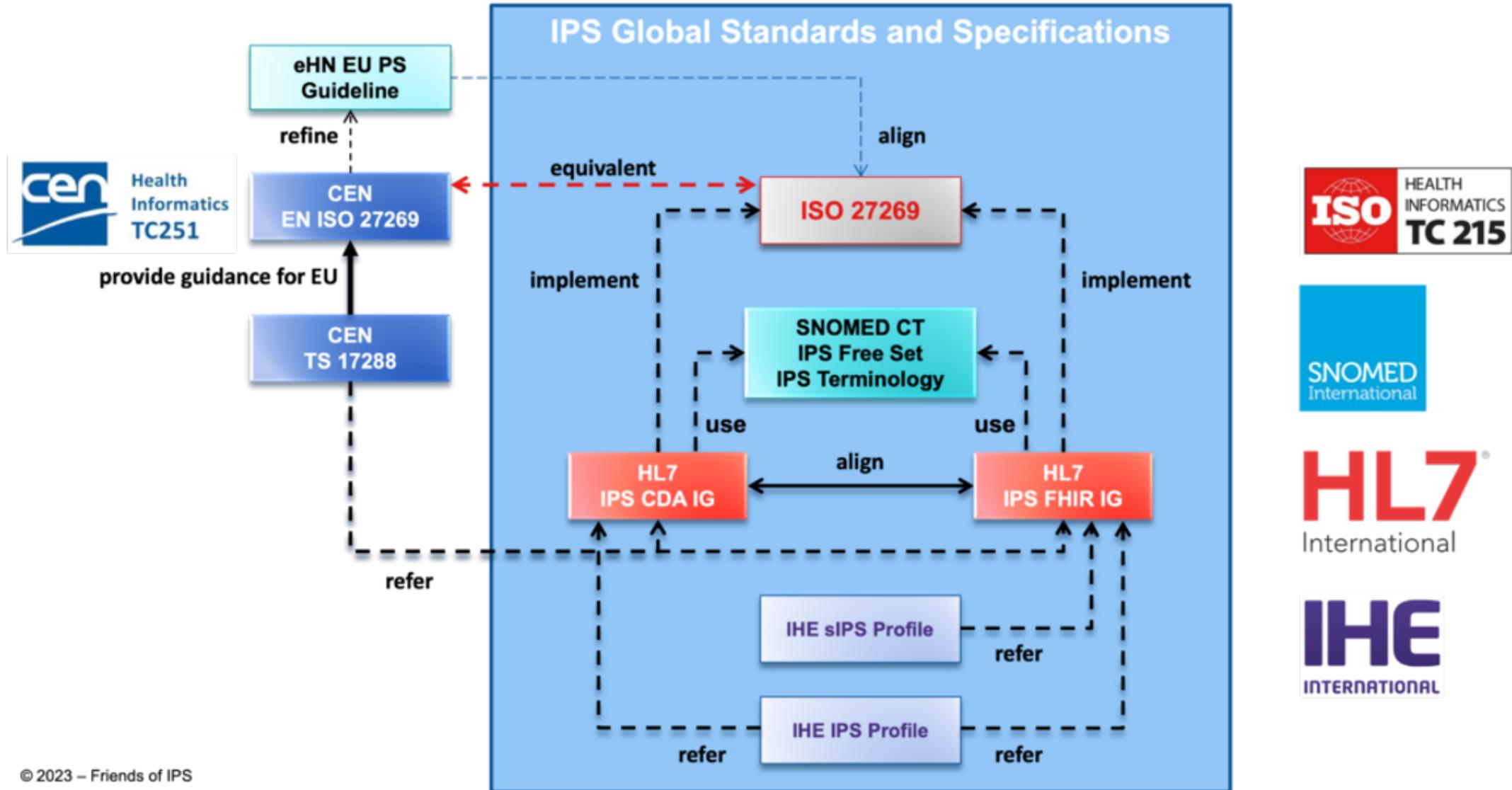
Electronic Case
Reporting

International Patient Summary (IPS)

A unique suite of standards from several SDOs that together enable the availability of a minimal and non-exhaustive set of basic clinical data of a patient— specialty-agnostic, condition-independent, but readily usable by all clinicians for unscheduled, cross-border patient care.



The IPS is a Multi-SDO Collaboration





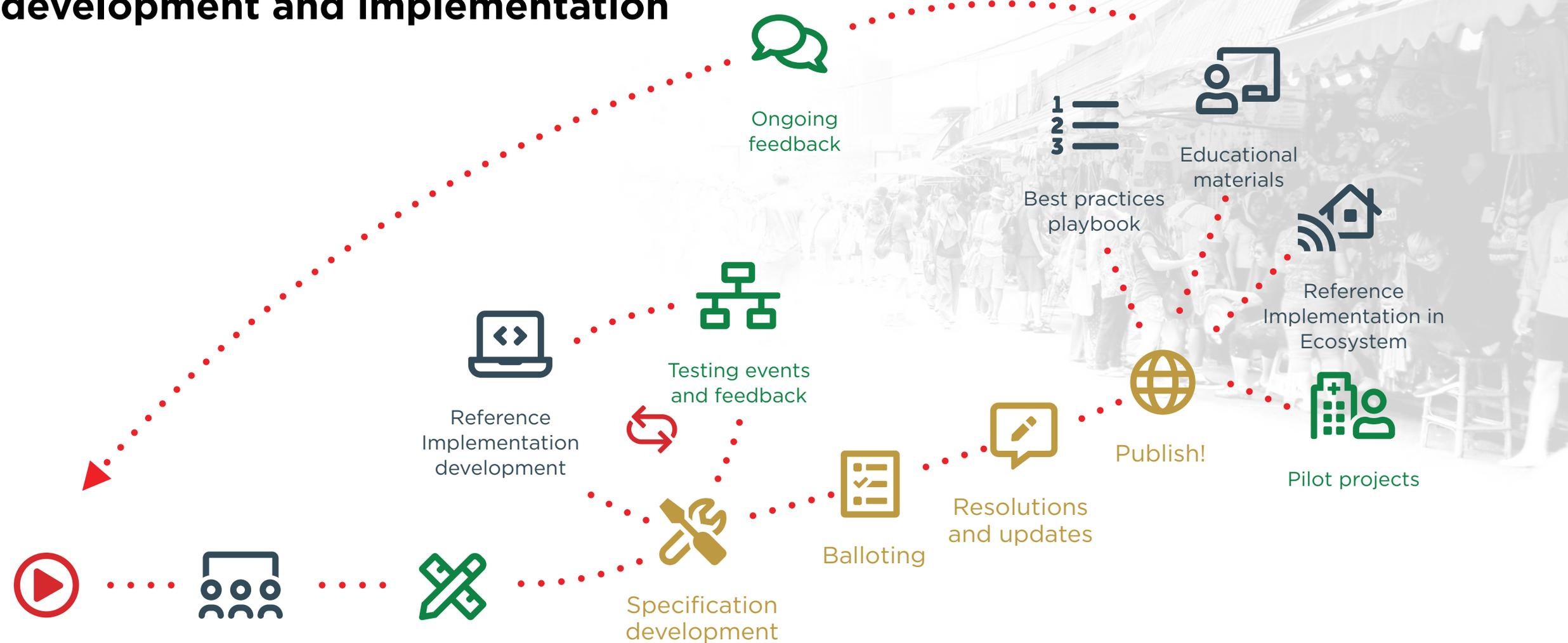


HL7's View of the Ideal Standards Process

The background of the slide features a grayscale image of two individuals in profile, facing each other and shaking hands. They are positioned in the foreground, with their silhouettes clearly visible against a lighter background. Behind them is a landscape with rolling hills and some vegetation, suggesting an outdoor setting. The overall tone is professional and collaborative.

1. Fosters consensus
2. Ensures content is fit for purpose
3. Ensures content is implementable
4. Establishes an implementer community
5. Ensures ongoing maintenance of the standard

HL7's virtuous cycle of standards development and implementation



Begin

Community and use case building

Project planning and integration into standards development processes

Specification development

Balloting

Resolutions and updates

Publish!

Pilot projects

Reference Implementation in Ecosystem

Educational materials

Best practices playbook

Ongoing feedback

Testing events and feedback

Reference Implementation development

Legend

- Greater standards implementation activity
- Mixed implementation and development
- Greater standards development activity

HL7 ❤️ IPS

HL7 International **HL7 FHIR**

International Patient Summary Implementation Guide
1.1.0 - STU 1 Update 1

Home | Table of Contents | General Principles and Design | The "IPS" | FHIR Artifacts | Downloads | Copyrights

Table of Contents | International Patient Summary Implementation Guide

This page is part of the International Patient Summary Implementation Guide (v1.1.0 - STU 1) based on FHIR R4. This is the current published version. For a full list of available versions, see the [list of published versions](#) of IG.

International Patient Summary Implementation Guide

Official URL: http://hl7.org/fhir/r4/igs/ImplementationGuide/HL7.FHIR.ig.ips	Version: 1.1.0
IG Standards status: Trial-use	Maturity Level: 2
Compute Name: InternationalPatientSummaryIG	

Page standards status: [Informative](#)

An **International Patient Summary (IPS)** document is an electronic health record extract containing essential healthcare information about a subject of care. As specified in EN 12889 and ISO 27289, it is designed for supporting the use case scenario for "unplanned, cross border care"; but it is not limited to it. It is intended to be international, i.e., to provide generic solutions for global application beyond a particular region or country.

The IPS dataset is **minimal and non-exhaustive; specialty-agnostic and condition-independent; but still clinically relevant.**

The IPS document is composed by a set of robust, well-defined and potentially reusable sets of core data items (indicated as IPS library in the figure below). The tight focus of the IPS on unplanned care is in this case not a limitation, but, on the contrary, facilitates their potential re-use beyond the IPS scope.

Figure 1: The IPS product and by-products

- Purpose
- Project Background
- Project Scope
- Relationships with Other Projects and Guidelines
- Status
- Dependencies
- Cross Version Analysis
- Social Profiles
- Authors and Contributors

The "IPS" →

🌐 HL7 IPS FHIR IG

CDAR2_INTLPATSUMMARY_STU_R1_2018OCT

HL7 INTERNATIONAL

**HL7 CDA® R2 Implementation Guide
International Patient Summary
STU Release 1 (Universal Realm)**

🌐 HL7 IPS CDA IG

HL7 FHIR Select HL7 FHIR version to view: 3.0.0

Support | Github | News | Documentation | Get Help | Test Server

5.13.1 International Patient Summary (IPS) Generator

The International Patient Summary (IPS) is an international collaborative effort to develop a specification for a health record summary extract. It is specified in the standards EN 12889 and ISO 27289, and supported in FHIR through the [International Patient Summary Implementation Guide](#).

In FHIR, an IPS is expressed as a **FHIR Document**. The HL7 FHIR JPA server supports the automated generation of IPS documents through an extensible and customizable engine which implements the **Generator** operation.

5.13.2 Overview

The IPS Generator uses FHIR resources stored in your repository as its input. The algorithm for determining which resources to include and how to construct the mandatory narrative is customizable and extensible, with a default algorithm included.

5.13.3 Generation Strategy

JPA SERVER MISC

- JPA SERVER MISC
- JPA SERVER MATCHING AND MULTITENANCY
- JPA SERVER BATCH PROCESSING

🔧 HL7 IPS Tools: [Reference Implementation](#), [Validator](#)

WELCOME TO THE HL7 FHIR CONNECTATHON

🔧 HL7 Connectathon Events

Matt Rahn - IPS Work with Smart Health Links | DevDays 2024

HL7 FHIR DevDays JUN 6 | 2024

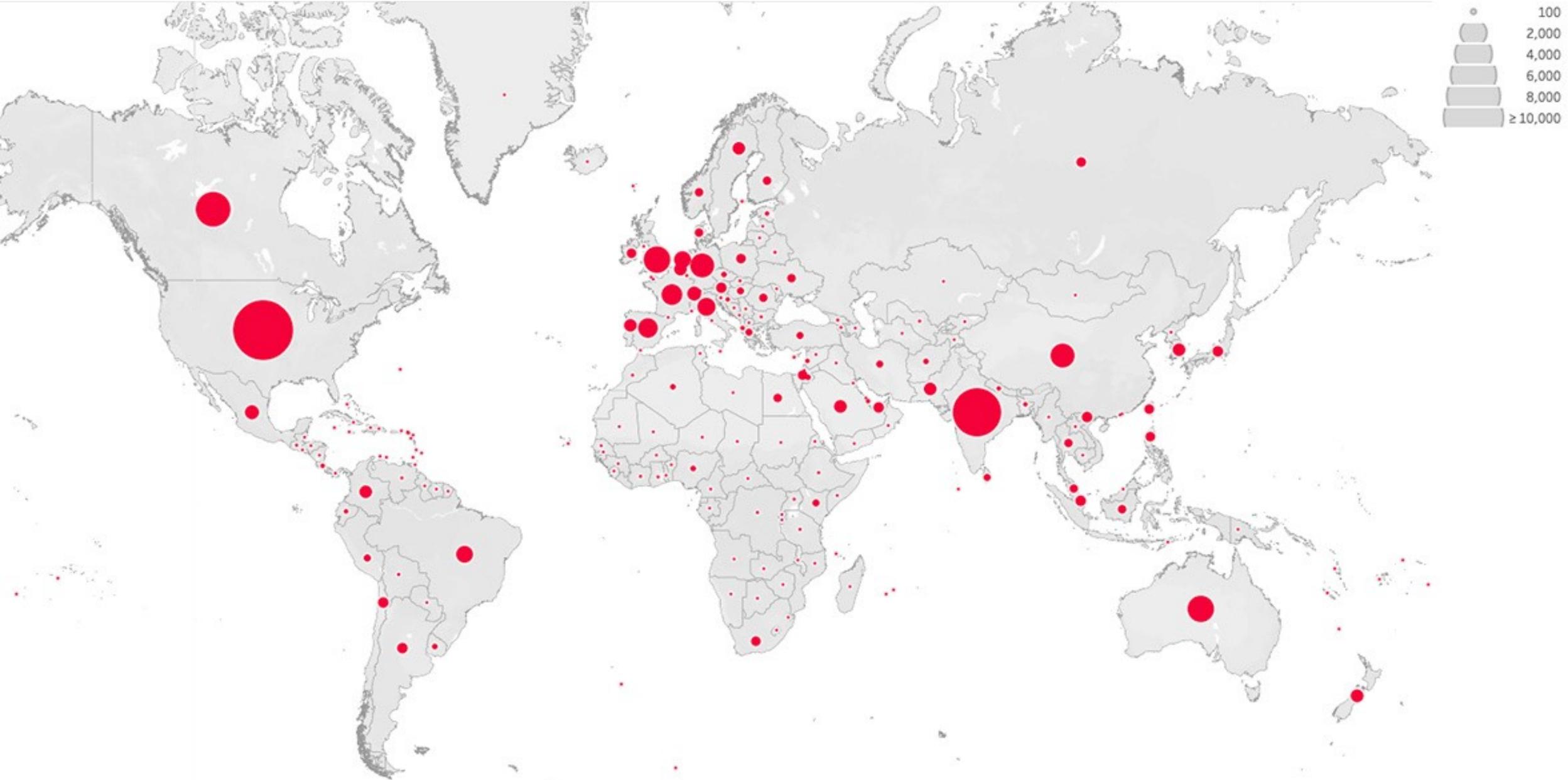
What is the IPS (International Patient Summary)?

- A standardized set of basic clinical data, which includes most important health and care related facts
- A summarized version of a patient's clinical data provides essential information needed for care during a care transition

The International Patient Summary is a minimal and non-exhaustive set of basic clinical data of a patient, specialty-agnostic, condition-independent, but readily usable by all clinicians for the unscheduled (cross-border) patient care.

🗨️ Outreach Events and Presentations

HL7 Standards are Advanced by an Active Community Worldwide



Many integrated components of our global community

HL7 Membership

300+ corporate members
1300+ individual members

HL7 Affiliates

HL7 Argentina	HL7 Mexico
HL7 Australia	HL7 Netherlands
HL7 Austria	HL7 New Zealand
HL7 Belgium	HL7 Norway
HL7 Brazil	HL7 Peru
HL7 Canada	HL7 Philippines
HL7 Central America & Dominican Republic	HL7 Poland
HL7 Chile	HL7 Portugal
HL7 China	HL7 Romania
HL7 Colombia	HL7 Russia
HL7 Croatia	HL7 Singapore
HL7 Czech Republic	HL7 Slovakia
HL7 Denmark	HL7 Slovenia
HL7 Ecuador	HL7 Spain
HL7 Finland	HL7 Sweden
HL7 France	HL7 Switzerland
HL7 Germany	HL7 Taiwan
HL7 Greece	HL7 UAE
HL7 Hong Kong	HL7 UK
HL7 India	HL7 Ukraine
HL7 Italy	
HL7 Japan	

HL7 Regional Partner



HL7 Education Partners



HL7 Collaborations

Collaboration agreements with
30+ other organizations

Support Organization



FHIR Accelerator Program



HL7 International Liaisons to (45) other organizations

 Alliance of Community Health Plans (<i>J Skapik</i>)
 America's Health Insurance Plans (<i>L James</i>)
 American College of Physicians (<i>C Jaffe</i>)
 American Dental Association (<i>R Fiehn</i>)
 American Health Information Management Association (<i>V Nguyen</i>)
 American Hospital Association (<i>open</i>)
 American Medical Association (<i>C Jaffe</i>)
 American Medical Informatics Association (<i>C Jaffe</i>)
 American Society for Testing Materials (<i>open</i>)
 Council for Affordable Quality Healthcare (<i>V Nguyen</i>)
 CEN/TC 251 (<i>E Hammond</i>)
 Civitas Networks for Health (<i>C Jaffe</i>)
 Clinical Data Interchange Standards Consortium (<i>open</i>)
 Coalition for Health AI (<i>C Jaffe</i>)
 College of Health Information Management Executives (<i>C Jaffe</i>)
 Designated Standards Maintenance Committee (<i>A Goss</i>)
 Digital Imaging and Communication In Medicine (<i>B Bialecki</i>)
 GS1 (<i>N Piper</i>)
 Global Consortium for eHealth Interoperability (<i>D Vreeman</i>)
 Healthcare Information and Management Systems Society (<i>V Nguyen</i>)
 IEEE (<i>E Hammond</i>)
 Integrating the Healthcare Enterprise International, Inc (<i>D Vreeman</i>)
 Interamerican Development Bank (<i>D Kaminker</i>)

 International Conference on Harmonisation (<i>open</i>)
 International Medical Informatics Association (<i>E Hammond</i>)
 International Organization for Standardization (<i>multiple</i>)
 Joint Initiative Council (<i>D Vreeman</i>)
 National Council for Prescription Drug Programs (<i>F McKinney</i>)
 Object Management Group (<i>K. Rubin</i>)
 Observational Health Data Sciences and Informatics (<i>E Hammond</i>)
 Open Concept Lab, LLC (<i>D Vreeman</i>)
 OpenMRS, Inc. (<i>D Vreeman</i>)
 Pharmaceutical Users Software Exchange (<i>P Guerra</i>)
 Regenstrief Institute, Inc. (<i>D Vreeman</i>)
 The Sequoia Project (<i>A Truscott</i>)
 SHIELD (<i>J Skapik</i>)
 SNOMED International (<i>A Truscott</i>)
 TransCelerate BioPharma, Inc (<i>C Jaffe</i>)
 UDAP.org (<i>D Pyke</i>)
 U.S. Department of Veterans Affairs (<i>K Rubin</i>)
 U.S. Food and Drug Administration (<i>C Jaffe</i>)
 U.S. Office of the National Coordinator for Health IT (<i>C Jaffe, D Vreeman</i>)
 Web3D Consortium (<i>E Hammond</i>)
 Workgroup for Electronic Data Interchange (<i>C Jaffe</i>)
 World Health Organization (<i>D Vreeman</i>)
 X12 (<i>J Keegan</i>)

The Forum for International Health SDO Collaboration

A non-legal consortium established in 2007, now with 15 members advancing global interoperability together

Current Chair

HL7 International (D Vreeman)



INTEROPERABILITY IS A TEAM SPORT

FACILITATOR



Dr Daniel Vreeman

Chair elect, Joint Initiative Council for Global Health Informatics Standardisation

@djvreeman



Dr NT Cheung | AIDH

Hong Kong representative to the Global Digital Health Partnership



Heather Grain | AIDH

Convener ISO 10215

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Dr Eza Hafeza

Director of Terminology Operations and Services Regenstrief Institute



Dr W Ed. Hammond

Director, Duke Center for Health Informatics HL7 International

@duke_hammond



Don Sweete

CEO SNOMED International

@Snomedot

@TheInstituteDH #MEDINFO23



An exemplar of multi-SDO collaboration

The JIC has been the home for coordinated joint work on patient summary standards since 2014



TERMS OF REFERENCE

International Patient Summary Coordination Committee
(the 'Committee')

Version 1.0

Effective date: 19 September 2024

1. Background

1.1 The International Patient Summary (IPS) is defined by the **IPS Suite**, which comprises the following (each an **IPS Artefact**):

- (a) *ISO 27269 Health informatics — International patient summary*, which is maintained by ISO/TC 215 Health informatics through TC 215/WG 1 Architectures, frameworks and models;

 JIC's IPS Coordination Committee



The Future of IPS as a Global Public Good

a discussion paper from the

Joint Initiative Council for Global Health
Informatics Standardisation

 JIC IPS Discussion Paper (2024)

Listening Session Future of IPS as a Global Public Good 20250306

Now it's our turn to listen...

1. Do you feel that the IPS needs some form of "governance"?
2. Is the "Stewardship" model proposed in the discussion paper the right model?
3. Are there any "attributes" of stewardship that you feel may have been missed?
4. Is the broad stakeholder group sufficient, or does it need to be expanded (or reduced)?
5. What kind of accountability/decision-making structure do you feel might be worth considering? Let's examine alternatives...
6. Are there any "next steps" that you feel should be undertaken?
7. Other discussion questions?



Joint Initiative Council



 JIC Listening Sessions with IPS Stakeholders

The IPS is a *Global* Collaboration



*and SO MANY more...
including YOU!*



***You are welcome in our
merry band!***

HL7[®]
International

International Patient Summary (IPS)

IPS Structure and Value

John D'Amore, MS
@ HL7 Global Passport Series

Thursday 10am US ET, March 13, 2025

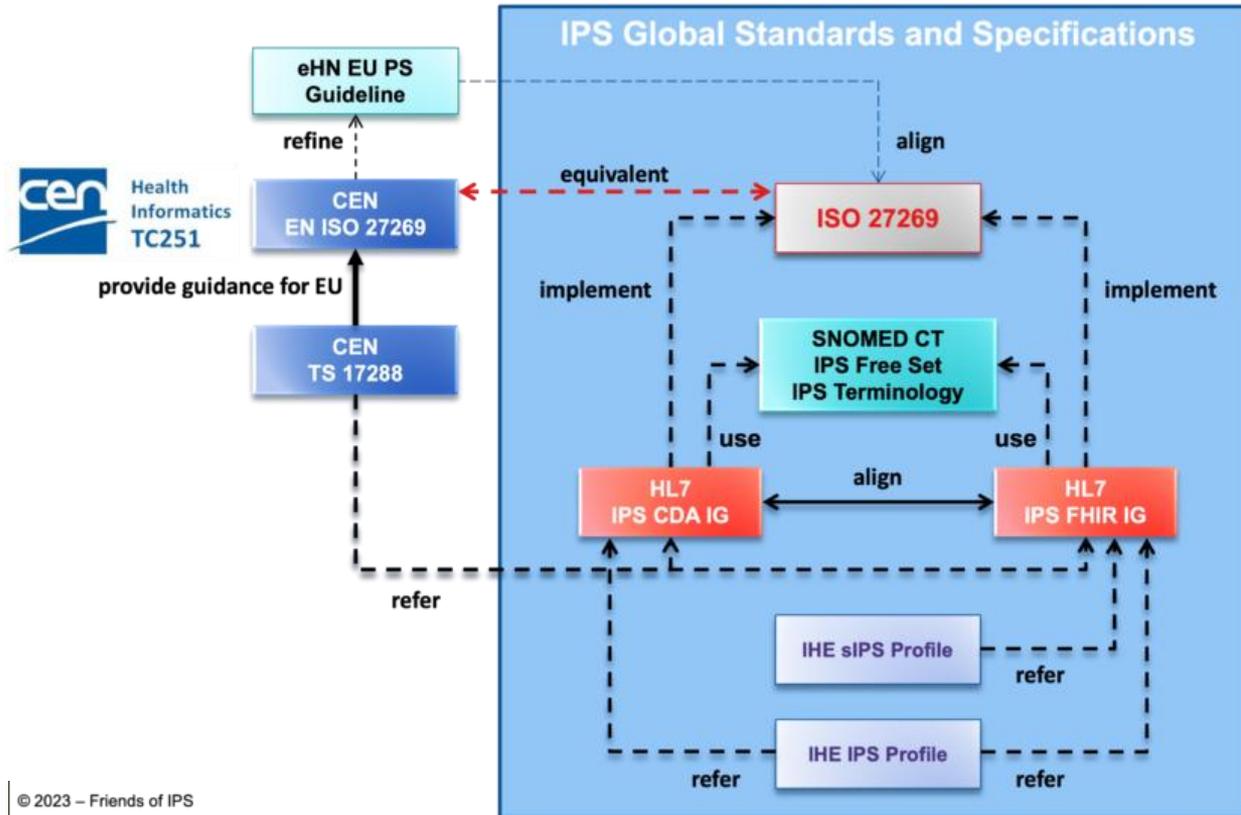


Agenda

- A Brief Introduction to the IPS
- Why a Patient Summary, Why Now?
- What's Upcoming for IPS?

A BRIEF INTRODUCTION TO THE IPS

Cross-SDO Collaboration



What is the IPS?

- A standardized set of basic clinical data
- Includes most important health and care related facts
- A summarized version of a patient's clinical data provides health professionals the essential information needed for care



The International Patient Summary is a minimal and non-exhaustive set of basic clinical data of a patient, specialty-agnostic, condition-independent, but readily usable by all clinicians for the unscheduled (cross-border) patient care.

What is the IPS?

**Continuity
of Care**



&

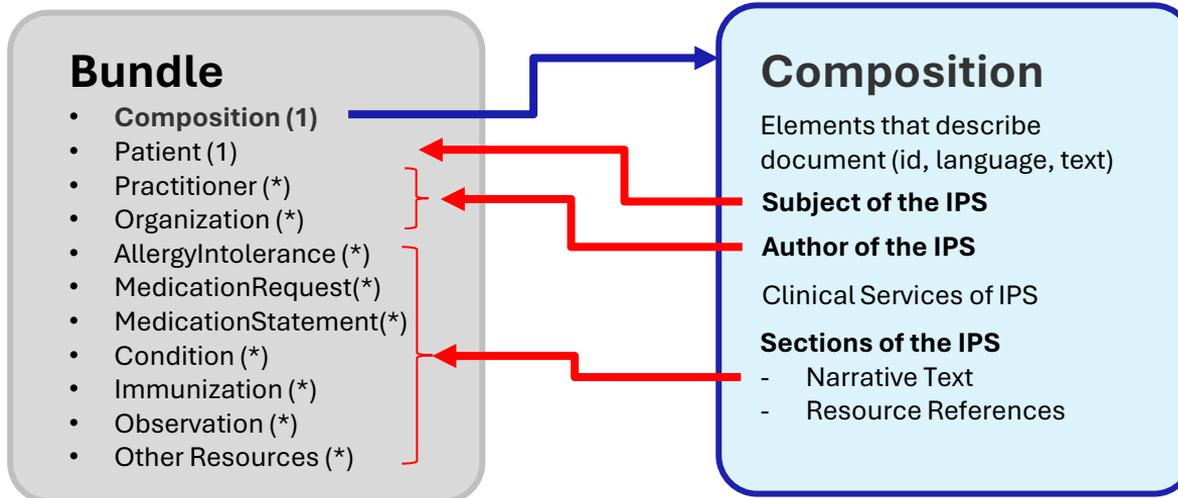
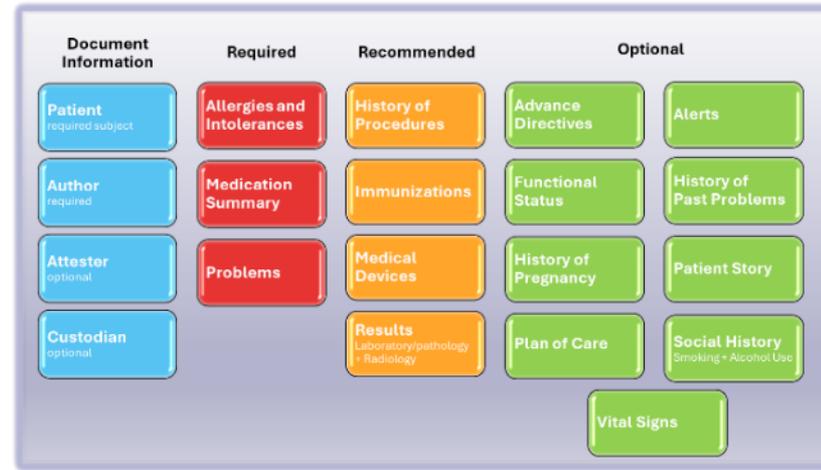
**Cross-
Border**



- National
- Provincial
- State/Regional
- Local
- Organizational

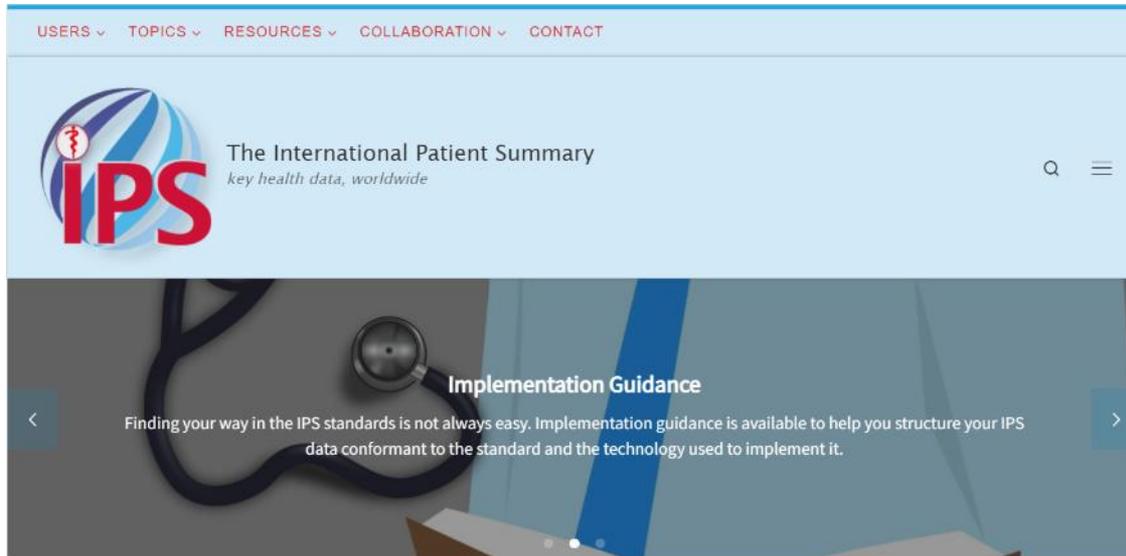
IPS as FHIR Document

- The IPS is a Bundle which uses the Composition resource to organize the patient's summary. It's both machine readable and human renderable



Want a Broader Introduction?

<https://international-patient-summary.net/>



WHY A PATIENT SUMMARY, WHY NOW?

IPS in Context of Global Document Exchange

**C-CDA 2.1
(US Realm)**

**CDA EPS
(EU Specific)**

Rest of World

- **Some CDA**
- **Lots of PDF/Fax/Paper**
- **Limited FHIR Documents (before 2024)**

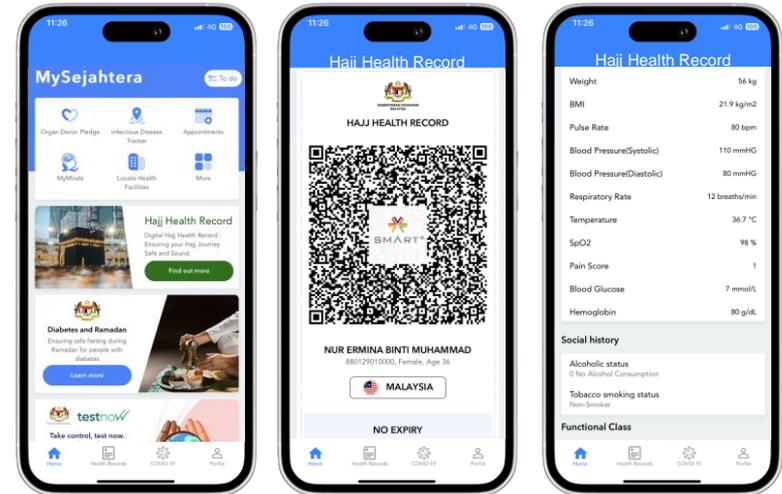
Value of the IPS

- Provides international format (“universal realm”) baseline with region-agnostic terminologies
- Empowers patient and provider-mediated exchange
- Leverages global FHIR investments
- Domestic adaptation possible for local needs
- Support from major technology vendors
- Builds on documented benefits of interoperability

<https://digitalhealthcanada.com/wp-content/uploads/2022/06/Value-of-the-IPS-in-Canada-v11-03-2021.pdf>

2024 Proof Points

- IPS issued for 200,000+ Hajj pilgrims (image right)
- Canada launches IPS in two provinces (New Brunswick & Alberta)
- Brazil publishes IPS plan
- ePatientDave @ HIMSS 24
- Major vendors launch (or announce) IPS support



Example from Malaysia's MySejahtera application

WHAT'S UPCOMING FOR IPS?

Upcoming for IPS

- Publish 2.0 IPS FHIR guide (1.1 last published November 2022)
- Continue support for IPS tooling and reference implementations
- Advance patient mediated exchange using QR codes and IPS
- Coordinate activity among SDOs (IPSCC launched in 2024)

ipsviewer.com



Click **“Try a Sample”**

The IPS Community

2016



2022



2024



“Never doubt that a small group of thoughtful, committed citizens can change the world, indeed, it's the only thing that ever has”

2023



How to Get Involved?

- Come to an HL7 or IHE Connectathon!
- Attend the weekly IPS Project Calls
- Join us on <https://chat.fhir.org>
- Attend a working group meeting
- Comment on the specification
<https://build.fhir.org/ig/HL7/fhir-ips/>

Thank You

- Questions at end of panelists. But feel free to reach out!
- John D'Amore, MS
More Informatics, Inc.
johnd@moreinformatics.com



Canada Health Infoway

Connected Care

Pan-Canadian Patient Summary

Allana Cameron, Senior Product Manager

March 13, 2025

Canada Health Infoway

About Us

- ❖ **Connected & Collaborative:** We work with governments, health care organizations, clinicians, and patients to digitize health care.
- ❖ **Access for All:** Ensuring everyone can access personal health information and services online.
- ❖ **Transforming Health:** Partnering with health system stakeholders to advance digital solutions for improved patient outcomes.
- ❖ **Independent & Funded:** An independent, not-for-profit organization funded by the federal government.

What is a Patient Summary?

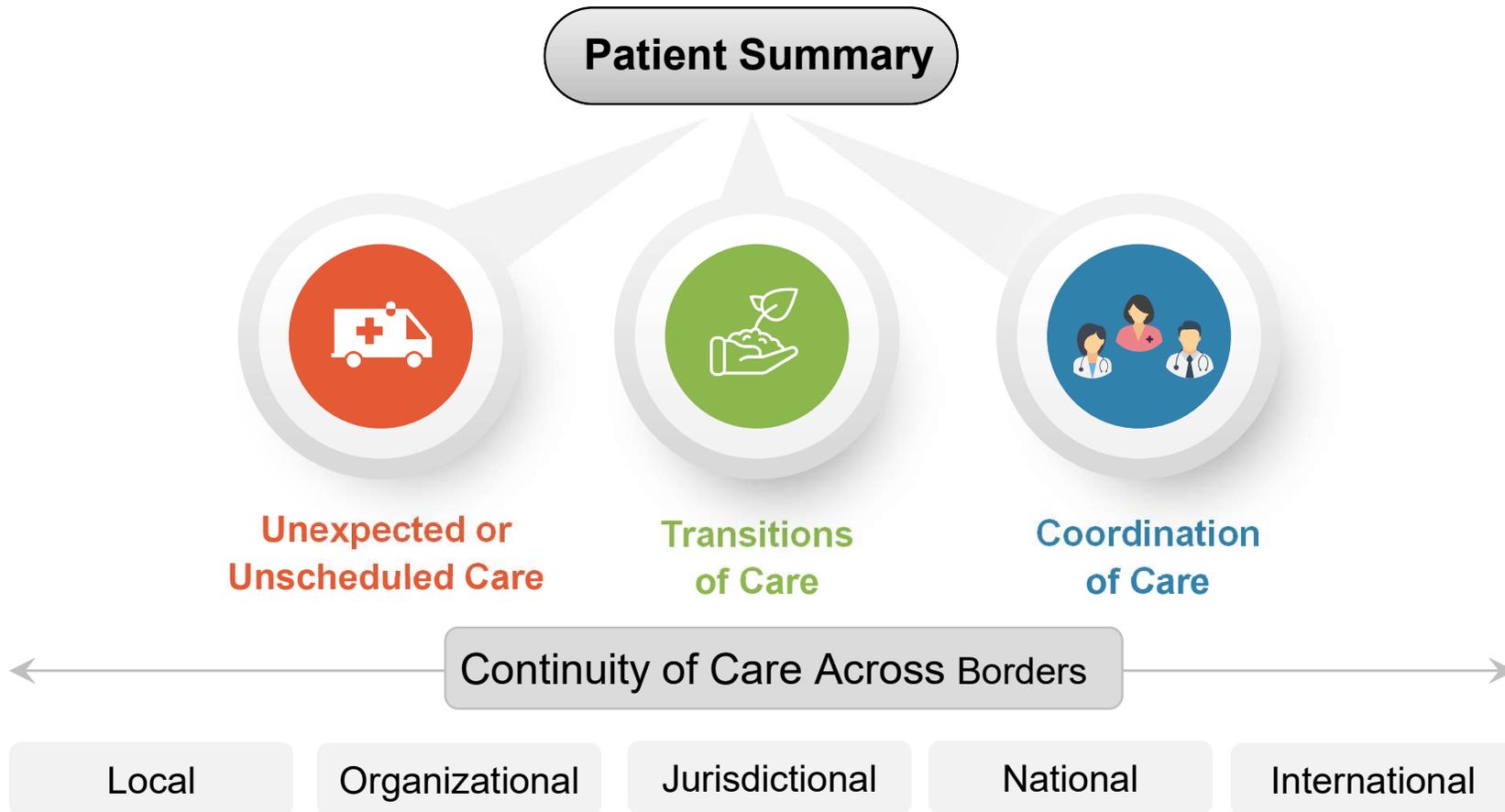
- ✓ A standardized set of **basic clinical data**, which includes the most important health and care related information about the patient, such as medications they are taking, any allergies or intolerances they have and their key medical issues.
- ✓ This summarized version of a patient's clinical data provides health professionals the **essential information needed at the point of care**, such as during medical emergencies, walk-in clinic visits, and transitions of care.

It represents a minimal and non-exhaustive set of clinically relevant standardized patient data, which is specialty-agnostic and condition-independent, but readily usable by patients and authorized health care providers.

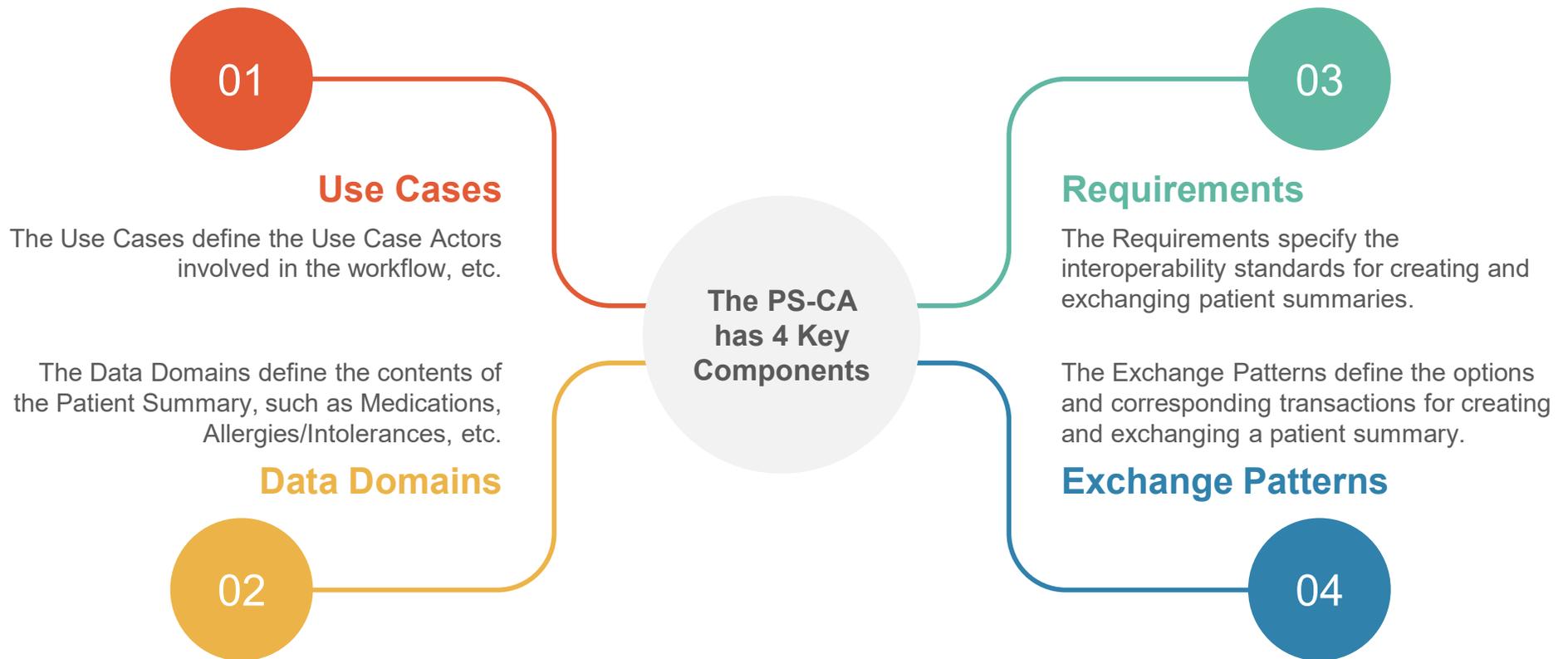
3



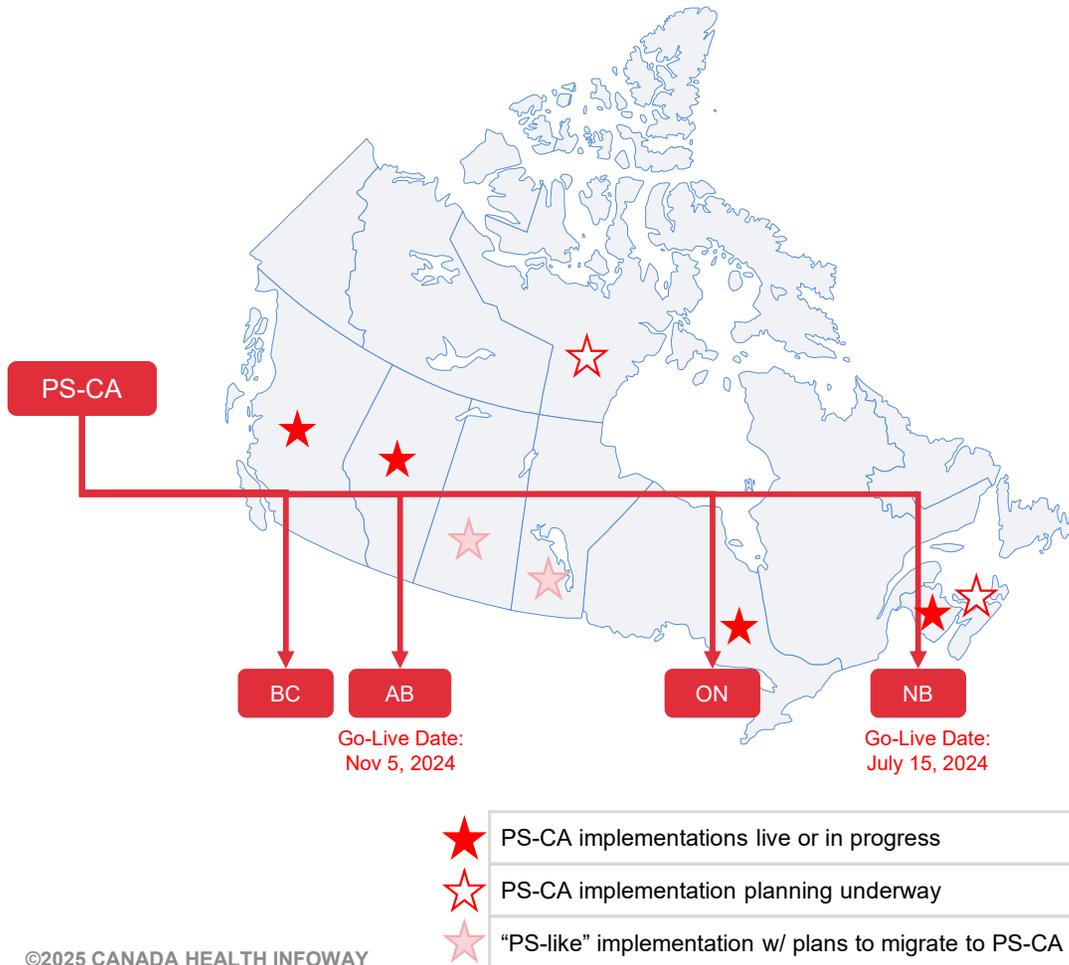
Patient Summary Supports Care Across Borders



Pan-Canadian Patient Summary (PS-CA) Specifications Components



Current PS-CA Initiatives



- ✓ The pan-Canadian Patient Summary aligns with the IPS and includes adaptations for the Canadian health context
- ✓ Clinical engagement throughout to inform content, workflow approaches, and identify opportunities for adoption



Patient Summary Use Cases

Two primary methods of sharing the Patient Summary:

1. Provider-mediated
2. Patient-mediated Access with Shareable Health Links

PS-CA Release in New Brunswick (Summer 2024)



**MyHealthNB
Records Landing
Screen**



**Privacy
Notice**



**QR / Share Link
Screen**

Source: [MyHealthNB](#), Government of New Brunswick

IPS and pan-Canadian Patient Summary Alignment

	IPS-UV		PS- CA	AB	BC	MB	NB	NL	ON	SK	v2.0.0 DFT	Upcoming
Header	Subject	Header	Subject								✓	✓
	Author		Author								✓	✓
	Attester		Attester								✓	✓
	Custodian		Custodian								✓	✓
Required	Medication Summary	Required	Medication Summary								✓	✓
	Allergies and Intolerances		Allergies and Intolerances								✓	✓
	Problem List		Problem List								✓	✓
Recommended	Immunizations	Recommended	Immunizations								✓	✓
	History of Procedures		History of Procedures								✓	✓
	Medical Devices		Medical Devices (IPS-UV)								✓	✓
	Diagnostic Results		Diagnostic Results								✓	✓
Optional	Vital Signs	Optional	Vital Signs (IPS-UV)								✓	✓
	Past history of Illness		Past History of Illness								✓	✓
	Social History		Social History								✓	✓
	Advance Directives		Advance Directives (IPS-UV)								✓	✓
	Pregnancy		Pregnancy (IPS-UV)								✓	✓
	Functional Status		Functional Status (IPS-UV)								✓	✓
	Plan of Care		Plan of Care (IPS-UV)								✓	✓
	Patient Story (coming soon)		Patient Story (IPS-UV)								N/A	✓
	Alerts (coming soon)		Alerts (IPS-UV)								N/A	✓
		EXT	Extension(s)									
			Family History							✓	✓	

The evolution of the PS-CA and IPS is a collaborative effort, **with each providing guidance and input to the other.** Infoway collaborates with **stakeholders** to understand jurisdictional needs and to reach a **consensus on priorities.**

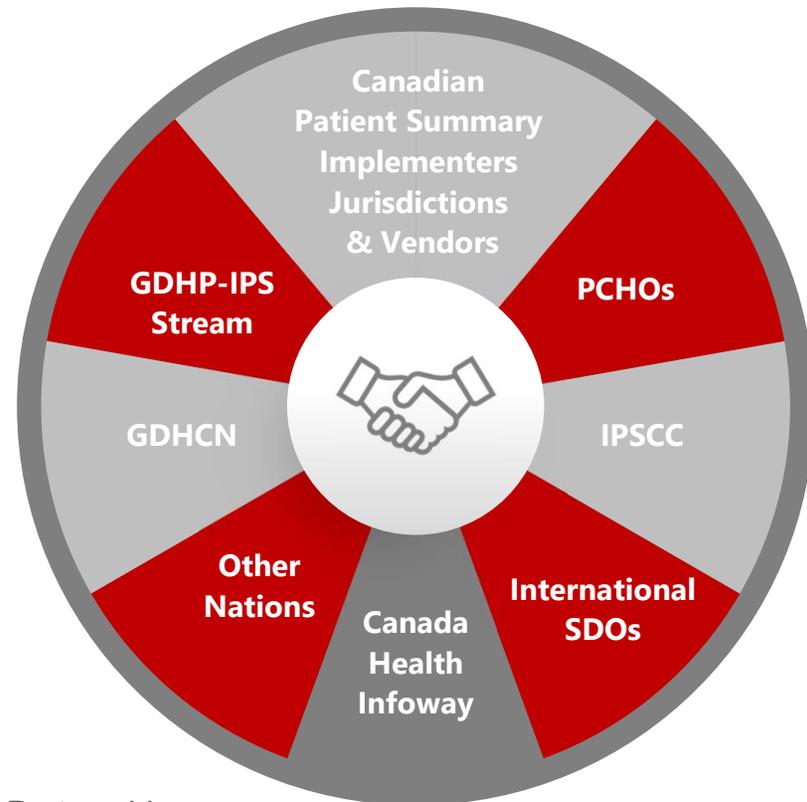
Legend

- Blue: header domains
- Red: required domains
- Orange: recommended domains
- Green: optional domains
- Grey: common domains by jurisdiction
- White: domains not identified by jurisdictions as priority and/or not yet included in the PS-CA



Infoway Partnerships

Working together to evolve the IPS through formal processes, introducing changes based on implementation experience, for the benefit of all IPS implementers!

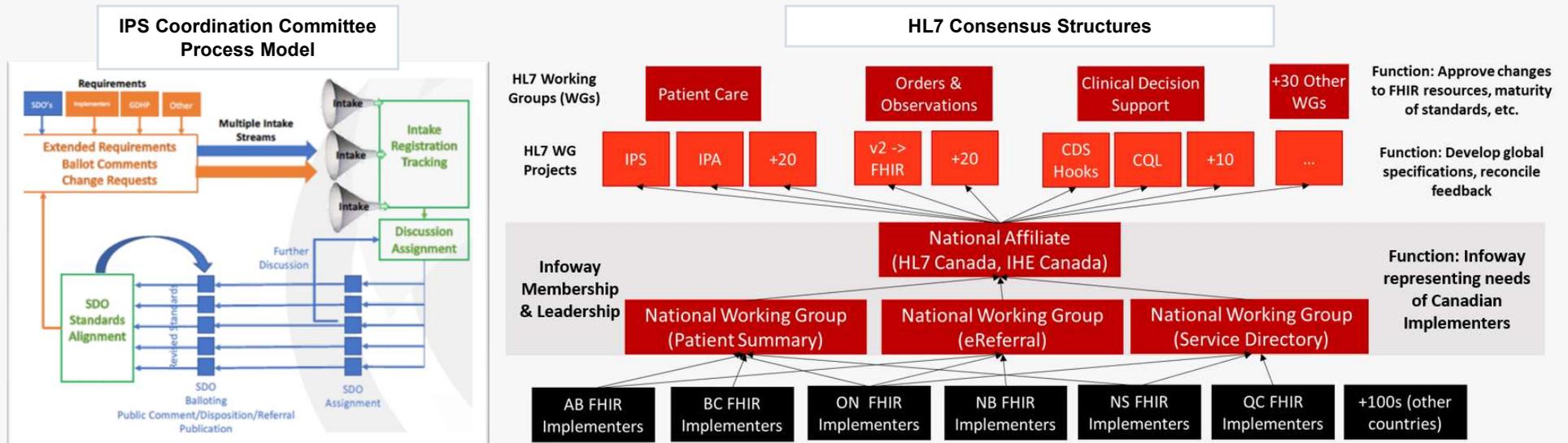


Legend

GDHP: Global Digital Health Partnership
GDHCN: Global Digital Health Certification Network
SDOs: Standards Development Organizations
IPSCC: IPS Coordination Committee
PCHOs: pan-Canadian Health Organizations

How Canadian Requirements Enter the Global Landscape

Canada Health Infoway represents the Canadian implementers' needs into the IPS and applies IPS updates to the PS-CA



- IPSCC is introducing a new process model for inputs into the IPS. Infoway is participating in a pilot of the new process
- Meetings bi-weekly with participation from the 5 SDOs: HL7, ISO, SNOMED, IHE and CEN. (+ Infoway)



Canada Health Infoway

Thank you!

Contact Information

interoperability@infoway-inforoute.ca

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/](https://www.linkedin.com/company/canada-health-infoway/)

LET'S CONNECT ON TWITTER

[@infoway](https://twitter.com/infoway)



March 13, 2025

HL7 IPS Spotlight: Cross Border Collaboration and Interoperability

IPS Innovation in Genomics



Global Genomic
Medicine Collaborative



What we will cover

- International clinical genetics
- Can IPS support clinical genetics?
- Innovative use cases and applications for the future of IPS and genomics





Challenges for international genomics



Global Genomic
Medicine Collaborative

A tale of two doctors

- A doctor works in a public hospital in a low-income country with limited resources and facilities.
- The doctor is particularly interested in genetics and the potential benefits of genetic testing for patient treatments.
- The hospital's lack of advanced equipment for genetic testing frustrates the doctor, as it limits the care for patients.
- Conversely, another doctor operates in a high-income country with access to advanced genomic technologies.
- The clinic can swiftly decode entire genomes and integrates this data with advanced algorithms for preventive healthcare.
- The doctor's vision includes personalized treatment plans based on individuals' genetic information.



Government support and regulatory challenges

- Insufficient government vision and financial support for personalized healthcare, including genetic-based care.
- High cost of genetic testing and personalized treatment plans, determining the clinical utility versus price tag.
- Regulatory disparities: some countries have advanced genetic regulations, others lack them.
- Delays in approval and regulation of genetic testing technologies.
- Confusion around regulatory requirements for cross-border genetic services and data sharing.

Cultural and Societal Acceptance

Barriers to Acceptance

Cultural beliefs can significantly hinder the acceptance of genetic technologies in various communities, leading to skepticism and resistance.

Understanding Genetic Concepts

A lack of understanding of genetic concepts often obstructs the adoption of genetic testing and counseling services.

Community Perspectives

Different societal attitudes towards genetics reflect diverse perspectives, which can influence health decisions in a community. Also, language barriers.



Availability of Trained Professionals

Shortage of Genetic Professionals

There is a notable shortage of trained genetic professionals, hindering the delivery of essential genetic services.

Impact on Genetic Services

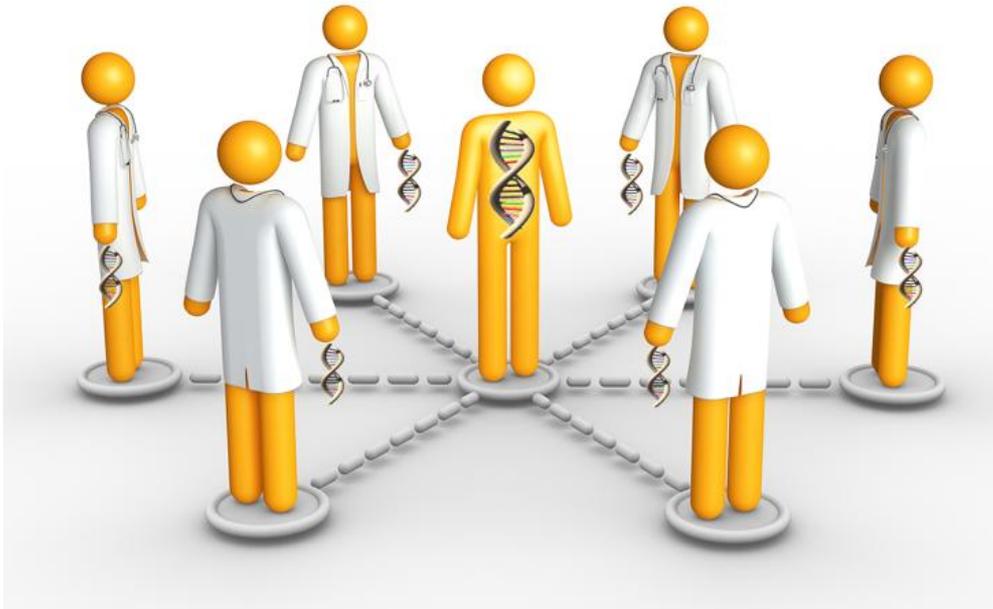
The lack of expertise in many regions hampers the effective implementation of genetic services, affecting patient care.

Need for Training Programs

To address the shortage, there is an urgent need for training programs aimed at educating future genetic counselors and clinical geneticists.



Other issues



- Healthcare systems facilitating cross-border genetic-based healthcare
- Use of mobile system
- Genetic data integration
- Patient-centered care, patient empowerment
- Genomics-based care coordination
- Personalized care plans, targeted therapies
- Telemedicine supporting genetics



Integrating Genomic Data Into HL7 IPS



IPS Composition

Subject

Medication
Summary

Immunizations

Vital Signs

Functional
Status Autonomy/
Invalidity

Author

Allergies and
Intolerances

History of
Procedures

Past History of
Illness

Plan of Care

Attester

Problem List

Medical
Devices

Pregnancy
status + history
summary

Advance
Directives

Custodian

Diagnostic
Results

Social History

„Header“

Required

Recommended

Optional

IPS Composition



Potential IPS application

Diagnostic
Results

Genetic testing results, variants, genomic implications (diagnostic, therapeutic, molecular consequence), molecular biomarkers, LOINC codes

Problem List

SNOMED codes for family health history and genetic-related disease risk, polygenic risk score

Medication
Summary

For pharmacogenomic analysis

Plan of Care

Targeted care plan – recommended actions (early surveillance, pharmacogenomics, etc.)



Innovative Use Cases and Applications



Global Genomic
Medicine Collaborative

Personalized Medicine and Treatment Plans (CDS?)

Tailored Treatment Plans

Personalized medicine customizes treatment plans to match individual genomic profiles, enhancing treatment outcomes.

Improving Therapy Effectiveness

This innovative approach can lead to more effective therapies by considering individual genetic traits.

Reducing Adverse Reactions

Personalized treatment plans can help minimize adverse reactions by aligning therapies with genetic predispositions.



IPS and AI Avatars as health advisors

The use of online avatars to collect and manage patient data in the HL7 International Patient Summary (IPS) format presents several possibilities. Leveraging avatars in healthcare can enhance patient engagement, improve data accuracy, and facilitate seamless data integration, especially in telemedicine and remote monitoring contexts.

1. **Enhanced Patient Engagement:** Avatars can provide a more interactive and engaging interface for patients, making it easier and more comfortable for them to share health information^[1](<https://www.hl7.org/fhir/uv/ips/>).
2. **Improved Data Accuracy:** Through structured interactions, avatars can guide patients in providing comprehensive and accurate health information, which is crucial for the IPS format's standardized data elements^[2](<https://confluence.hl7.org/spaces/PC/pages/40739013/International+Patient+Summary+IPS...>).
3. **Ease of Data Integration:** Avatars can facilitate the collection of patient data directly into the IPS format by asking specific questions aligned with the IPS dataset elements. This ensures that data is collected in a manner that is readily integratable into electronic health records (EHRs) and other health information systems^[3](<https://blog.hl7.org/international-patient-access>).
4. **Remote Patient Monitoring:** Avatars can be used in telehealth platforms to monitor patients remotely. They can collect real-time data and update the IPS records, ensuring continuous and up-to-date patient summaries^[4](<https://confluence.hl7.org/download/attachments/104568480/International%20Patient%20Summary%20Overview%202022-08-08.pdf?version=1&modificationDate=1659995465516&api=v2>).
5. **Language and Accessibility:** Avatars can be designed to communicate in multiple languages and accessible formats, making it easier for patients from diverse backgrounds to input their health data^[5](https://wiki.international-patient-summary.net/index.php?title=IPS_implementationguide_1).

IPS and AI Avatars as health advisors

6. **Personalized Interaction:** By utilizing AI, avatars can personalize interactions based on the patient's history and preferences, enhancing the quality of data collected and ensuring it is relevant and comprehensive[1].
7. **Data Security:** Online avatars can ensure data security and privacy by incorporating secure communication protocols and encryption, which aligns with the ethical requirements for managing patient data[3].
8. **Scalability:** Using avatars to collect patient data can be scaled across various healthcare settings, from urban hospitals to rural clinics, thereby standardizing how data is collected and managed in the IPS format on a global scale[2].
9. **Cost Efficiency:** The implementation of avatars can reduce the cost associated with human-mediated data collection processes, making it a cost-effective solution for healthcare institutions[5].
10. **Integration with Advanced Technologies:** Avatars can integrate with other advanced technologies, such as wearable devices and IoT, to automatically update patient summaries in the IPS format with minimal patient intervention[4].





Figure source: Primo Medda



March 13, 2025

The End

IPS Innovation in Genomics



Global Genomic
Medicine Collaborative

Global Passport Series

IPS: Cross Border Collaboration and Interoperability Issues



International Patient **Summary** (IPS)
international-patient-summary.net



IPS: What & Why



International Patient **Access** (IPA)
ipa.hl7.org



isaac vetter, *epic*

International Patient Access

- Secure RESTful APIs: SMART, search parameters
- Minimal profiles: reflect current state
- Terminologies specified locally



HL7 International	International Patient Access 1.0.0 - STU1 	  HL7 FHIR®			
Home	Conformance	Using The API ▾	Security and Privacy	Artifact Index ▾	Support ▾
Table of Contents > International Patient Access					
This page is part of the International Patient Access (v1.0.0: STU 1) based on FHIR R4 . This is the current published version. For a full list of available versions, see the Directory of published versions					
<h2>1 International Patient Access</h2>					
<i>Official URL:</i> http://hl7.org/fhir/uv/ipa/ImplementationGuide/hl7.fhir.uv.ipa			<i>Version:</i> 1.0.0		
Active as of 2023-02-01			<i>Computable Name:</i>		

Jurisdictions with Core FHIR specs

Individual styles

- Switzerland
- Netherlands
- Australia
- Denmark
- Finland
- Norway
- New Zealand
- United Kingdom
- France
- Canada
- Belgium
- Japan
- United States
- Argentina
- Brazil
- Chile
- Colombia
- Cyprus
- Estonia
- Germany
- Israel
- Luxembourg
- Mexico
- Norway
- Peru
- Czechia
- Taiwan



Summary is a noun; Access a verb

IPS



Domestic &
Cross Border



Between
Organizations

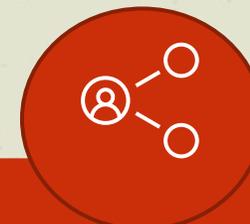
IPA



Authentication



Authorization



Access



IPA Resources are accessed individually

Patient

Allergy

Medication

Problem

Condition

Immunization

Observation

IPS Composition is bundled

Patient

Author

metadata, etc

Medications

Section with narrative

Allergies

Section with narrative

Problems

Section with narrative

Immunizations

Section with narrative

Results

Section with narrative

Procedures

Section with narrative





TREATMENT EXCHANGE

Care Everywhere Impact

Built on Document Exchange



20M
Charts a day

100%

of **Epic customers**
can interoperate

Half

of exchanges are
with **other vendors**



Australia • Canada • Lebanon • The Netherlands • Saudi Arabia • Switzerland • UAE • UK • USA



Interoperability Improves Care

Nearly 50%
reduction

in risk of code blue
events for highest
acuity patients



5,300

duplicate imaging orders
avoided every month, saving
up to **\$10M annually**



... using external data



FHIR International Patient Summary

powered by Care Everywhere 



Established Workflows



International Standard



Global Investment

Produce IPS
for provider exchange

COMING SOON
MAY 2025

Receive & Display
IPS from other systems

FUTURE



Come together on **universal standards**



International Patient Summary



MEDITECH

Customers Across the World



Inpatient Facilities Only

MEDITECH Canada

British Columbia	197
Ontario	139
Alberta	128
Newfoundland & Labrador	52
Nova Scotia	33
New Brunswick	26
Yukon	8
Nunavut	3



MEDITECH's Strategy

- ❖ Furthering our transition to full FHIR
- ❖ Supporting our international markets where CCD exchange is unlikely to occur
- ❖ Supported Implementations
 - Base IPS Specification
 - pan-Canadian Patient Summary (PS-CA)
 - Ontario Patient Summary (PS-CA:ON)
 - British Columbia Patient Summary (PS-CA:BC)

Things to consider

- ❖ Do NOT recreate the US Document exchange issues
 - MUST be a summary of the patient hopefully by the patient
 - MUST be concise (what I must know to initially treat this patient)
 - Patients perspective MUST be included
 - It should not contain all data need to transfer care
- ❖ IPS can be the initial FHIR context needed to initiate FHIR APIs
 - Patient, Encounter and other contexts already included
- ❖ Can be exchange through a network (Provider to Provider) or pulled and viewed from a QR code