

International Patient Summary (IPS) - Moving from Specification to (Global) Implementation

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HL7 FHIR DevDays 2021, Virtual Edition, June 7–10, 2021 | @HL7 | @FirelyTeam | #fhirdevdays | www.devdays.com

ORGANIZED BY



PARTNER



Who am I?

- Rob Hausam MD
- Healthcare Informatics Consultant, Hausam Consulting LLC
- Family Physician & Electrical/Computer Engineer
- Co-lead HL7 IPS Project
- Consultant for GDHP Interoperability Stream IPS Work Group
- Co-chair HL7 Vocabulary and Orders & Observations Work Groups
- Co-lead joint HL7/SNOMED “SNOMED on FHIR” project



Learning Objectives

- Describe the the purpose and primary features of the FHIR International Patient Summary (IPS) standard
- Understand the collaborative process and the contributions from multiple SDOs in developing and maintaining the IPS standard
- Identify the planned IPS implementation strategies and related standards and projects

What is the IPS?

- **I**nternational

It emphasizes the need to provide generic solutions for global application beyond a particular region or country.

- **P**atient

- **S**ummary

Health record extract comprising a standardized collection of clinical and contextual information (retrospective, concurrent, prospective) that provides a snapshot in time of a subject of care's health information and healthcare

SOURCE: ISO/TR 12773-1:2009 (en) Business requirements for health summary records — Part 1: Requirements]

IPS: a focused Patient Summary



Provide a **healthcare summary** for a citizen at the point of care



It is **minimal** and **non-exhaustive**



It is **specialty-agnostic** and **condition-independent**.....but still **clinically relevant**

IPS: a focused Patient Summary



Designed to be **simple** and **implementable**

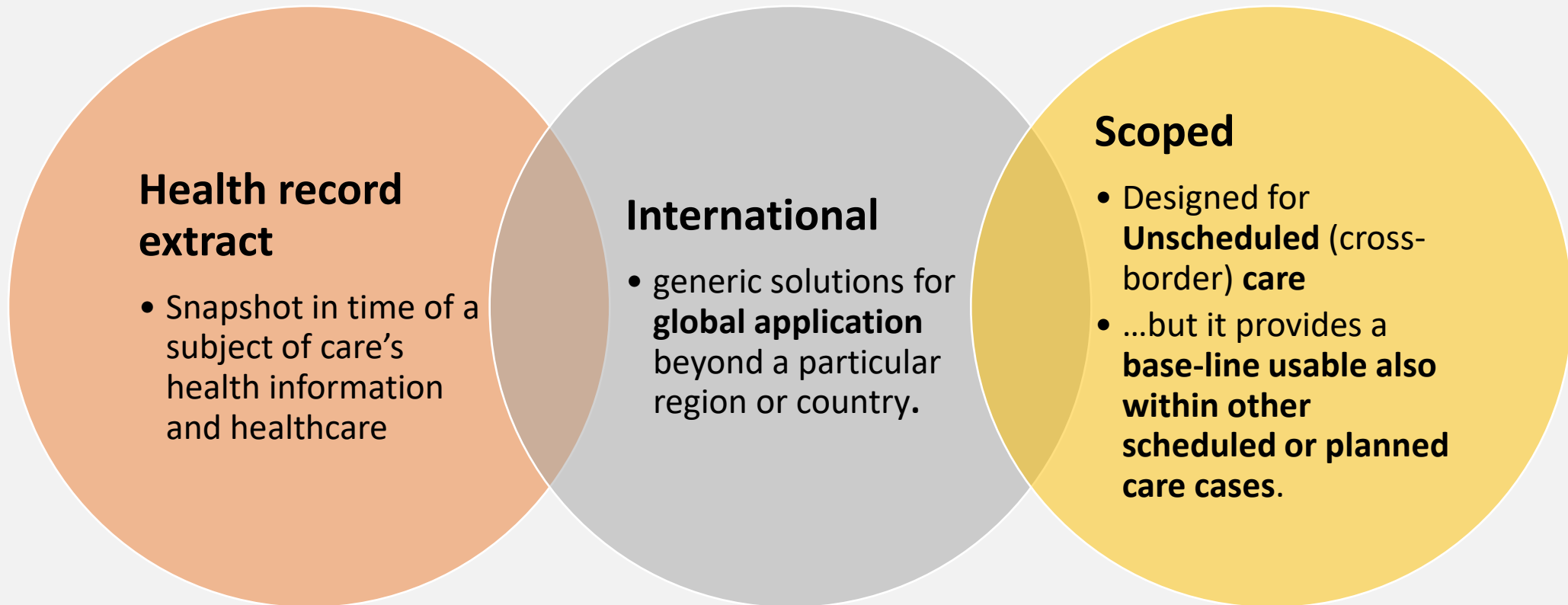


Usable **any time**, in **any place**; by **any one**



Multi-beneficiaries: Individuals, Healthcare Providers, Society

International Patient Summary



International Patient Summary

- It doesn't pretend to accommodate all the situations.
- It recognises that the ideal dataset **is not closed**, and is likely to be **extended**.

Minimal

Non-exhaustive

Specialty-agnostic

Condition-independent

- Reflects the ideas of 'summary' and the need to be **concise**
- It alludes to the existence of a **core set of data** items that **all health care professionals can use**;

International Patient Summary

Minimal

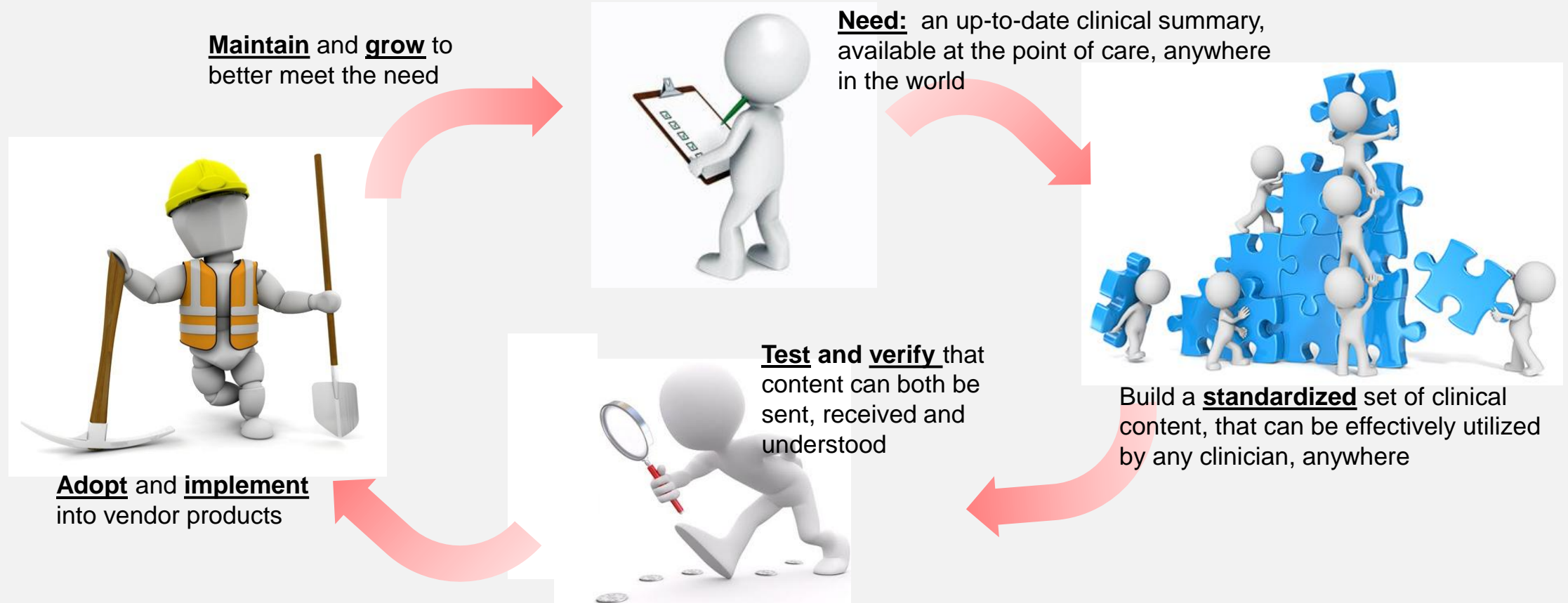
Non-exhaustive

Specialty-agnostic

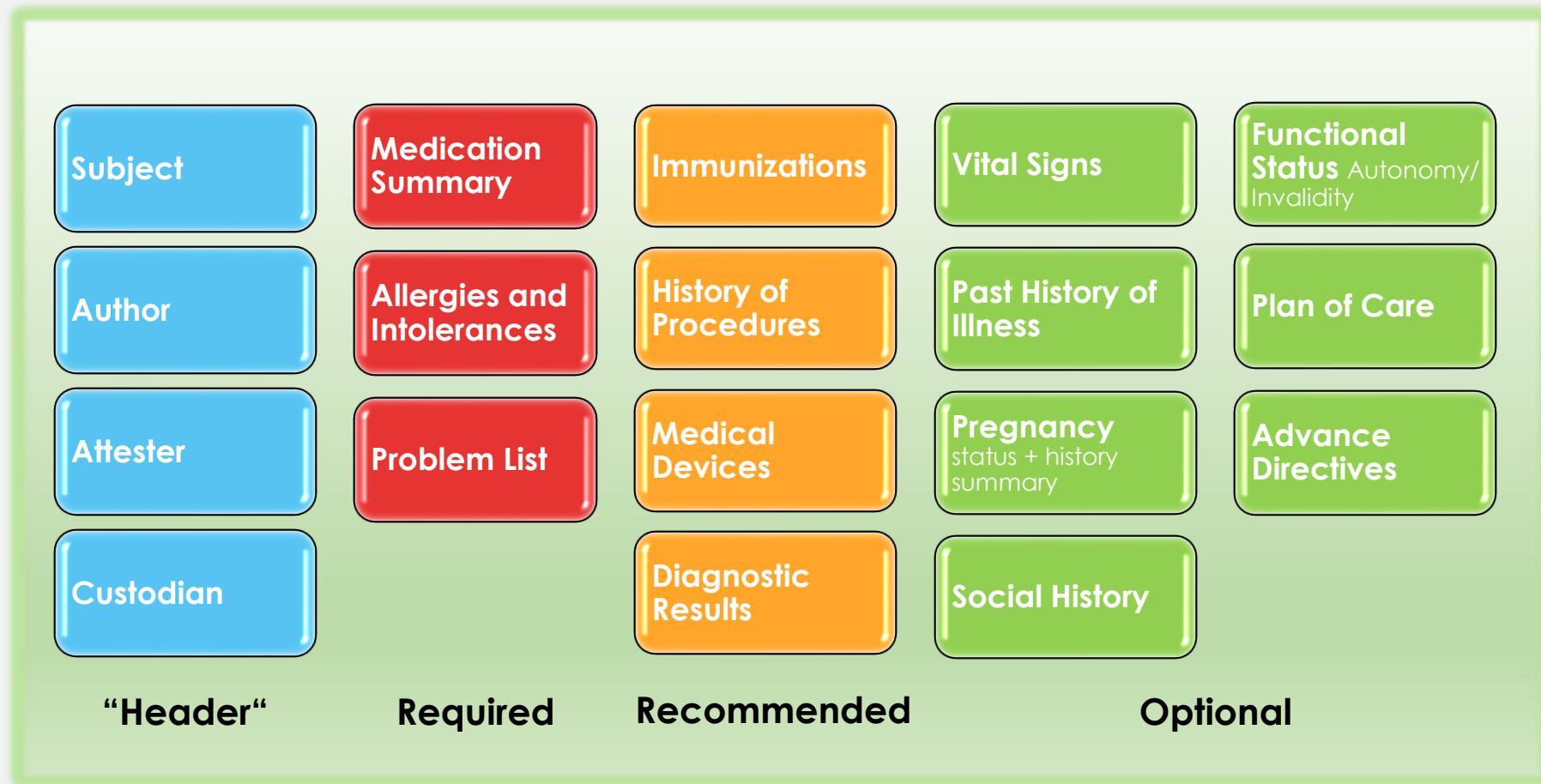
Condition-independent

- It does not imply that all the items in the dataset will be used in every patient summary.
- It is a **starter set** of data to help inform a person's treatment at the point of care, **irrespective of the condition of the patient or of the specialist** trying to manage the care.

IPS: fulfilling a clinical need...

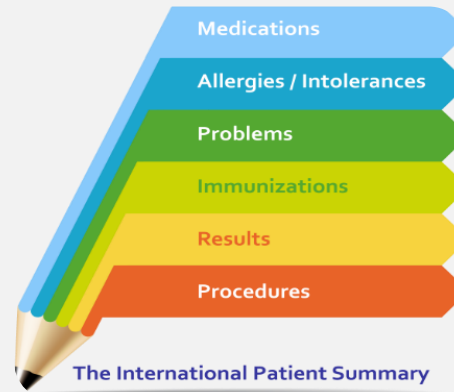


IPS Content Sections

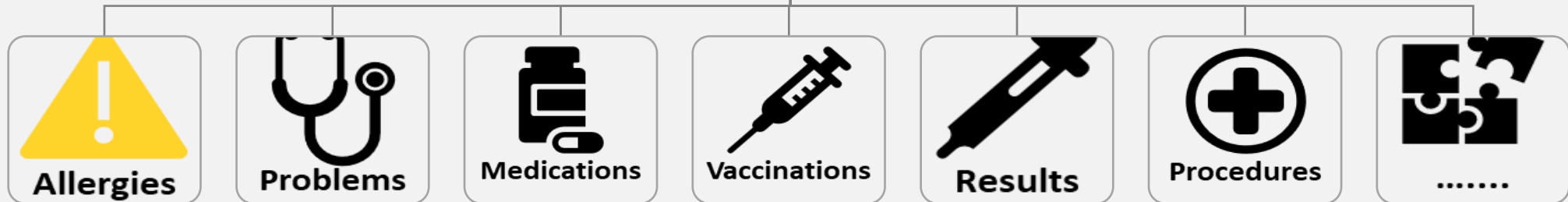


What makes up the IPS

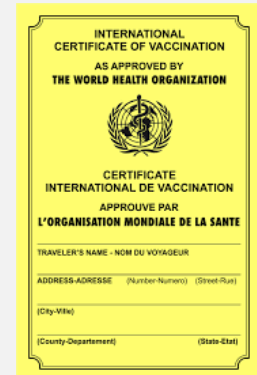
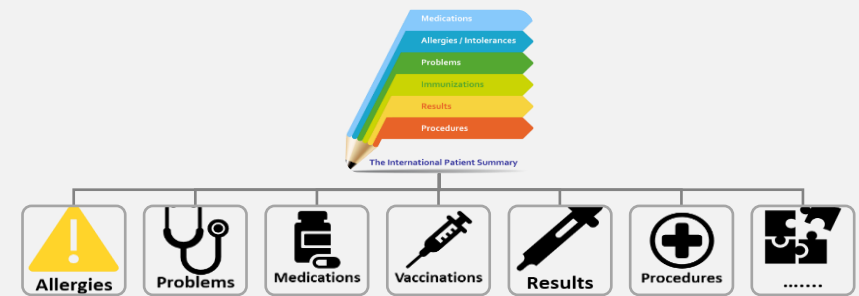
A document composed of reusable “profiles”



The IPS “library of profiles”



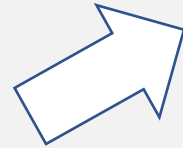
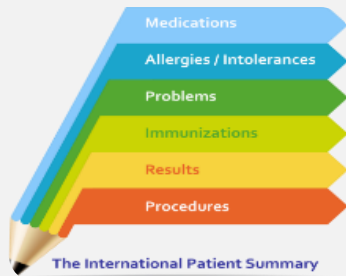
The IPS “library”



Envisioned “specialized” IPS use


The “Immunization” IPS

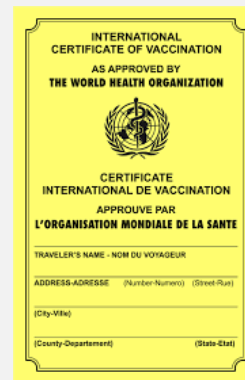
The IPS



Transform

Digital Certificate

| INTERNATIONAL CERTIFICATE OF VACCINATION OR PROPHYLAXIS Certificat international de vaccination ou de prophylaxie | | | | | |
|--|-------------------------|--|---|--|---|
| This is to certify that (1) <u>Jane Mary Doe</u> (2) <u>22 March 1960</u> (3) <u>F</u> <u>United States</u> | | | | | |
| Nom certifié que (Nom - nom) (Date of birth - date de naissance) (Sex - sexe) (Nationality - nationalité) | | | | | |
| (passport number) whose signature follows (3) <u>Jane Mary Doe</u> | | | | | |
| (National identification document, if applicable - document d'identification nationale, le cas échéant) | | | | | |
| has on the date indicated been vaccinated or received prophylaxis against (4) <u>Yellow Fever</u> in accordance with the International Health Regulations | | | | | |
| a été vacciné(e) ou a reçu une prophylaxie à la date indiquée (Name of disease or condition - nom de la maladie ou de l'affection) (in accordance with the International Health Regulations - conformément au Règlement sanitaire international) | | | | | |
| Vaccine or prophylaxis Vaccin ou agent prophylactique | Date | Signature and professional status of supervising clinician Signature et titre du professionnel de santé surveillant | Manufacturer and batch no. of vaccine or prophylaxis Fabricant du vaccin ou de l'agent prophylactique et numéro de lot | Certificate valid from: Certificat valable à partir de : (day - jour) | Official stamp of the administering center Cachet officiel du centre habilité |
| (4) <u>Yellow Fever</u> | (5) <u>15 June 2018</u> | (6) <u>Jane M. Smith, MD</u> | (7) <u>Batch (or lot) #</u> | (8) <u>25 June 2018, 11:00 AM</u> |  |
| | | | | | |
| | | | | | |



FHIR Vaccination Certificate

The Patient Summary journey...



Get to know the
Joint Initiative Council

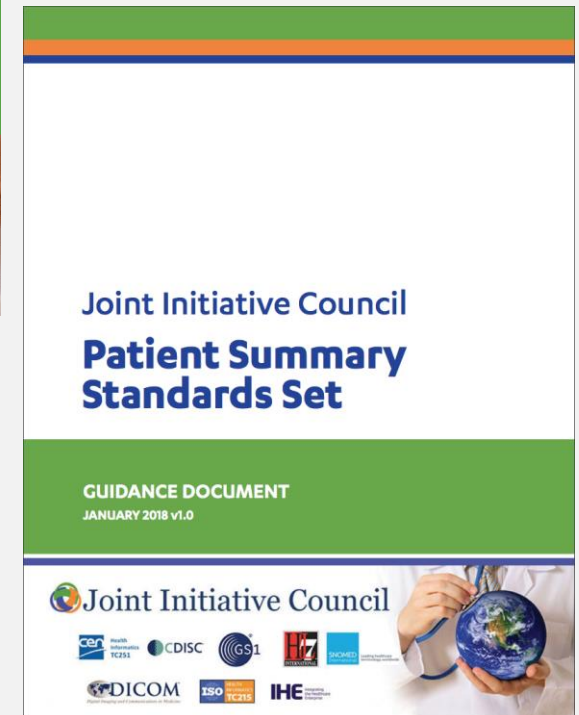
Making high-quality data available to the right people, at the right place and at the right time, for high-quality decisions and care.

Learn about the JIC at jointinitiativecouncil.org

cdisc | cen Health Informatics TC251 | DICOM | GS1 | HL7 International | IHE | Integrating the Healthcare Enterprise | ISO HEALTH Informatics TC215 | LOINC from Regenstrief | SNOMED International

IPS

2017-2021

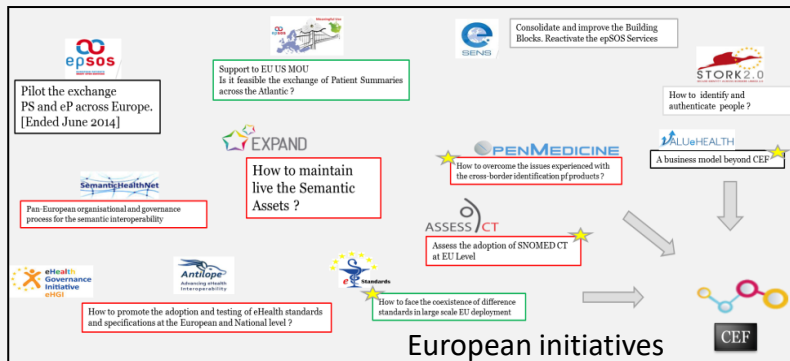


Joint Initiative Council
Patient Summary Standards Set

GUIDANCE DOCUMENT
JANUARY 2018 v1.0

Joint Initiative Council

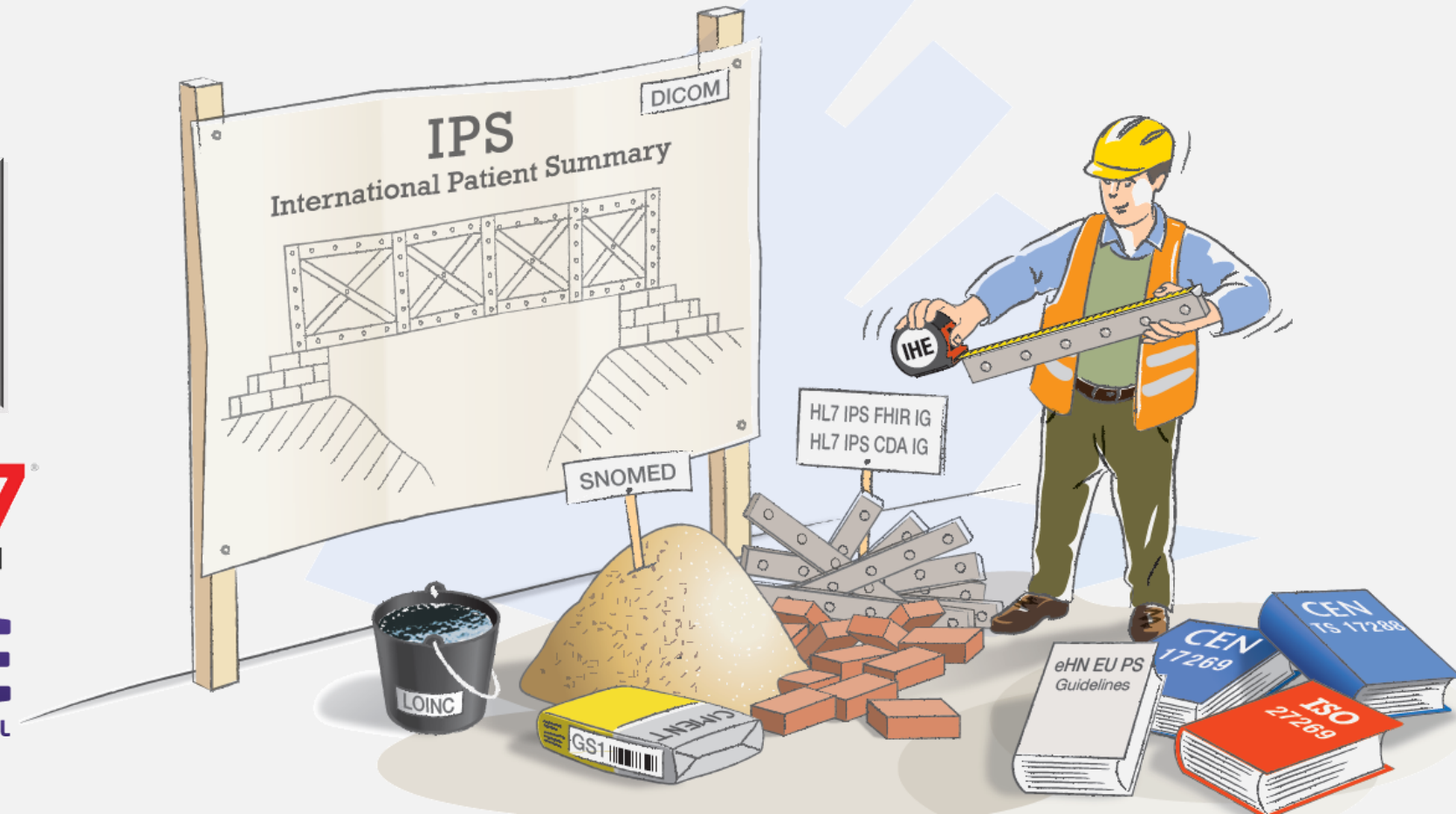
cen Health Informatics TC251 | CDISC | GS1 | HL7 | DICOM | Integrating the Healthcare Enterprise | ISO HEALTH Informatics TC215 | IHE | SNOMED International



2009-2016

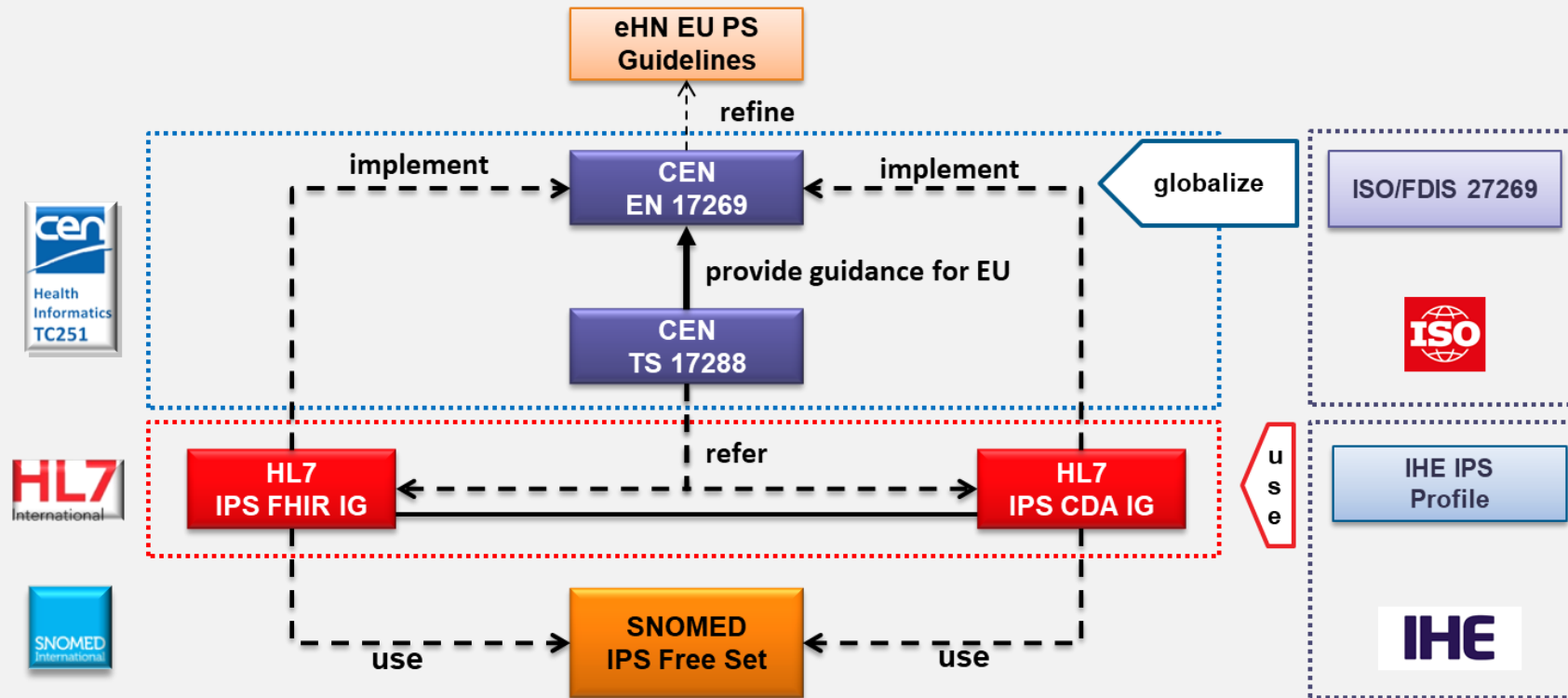
2017-2018

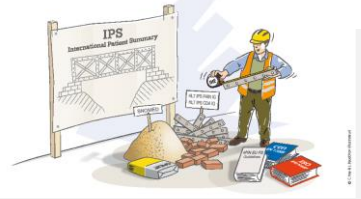
IPS: a Cross-SDO Initiative



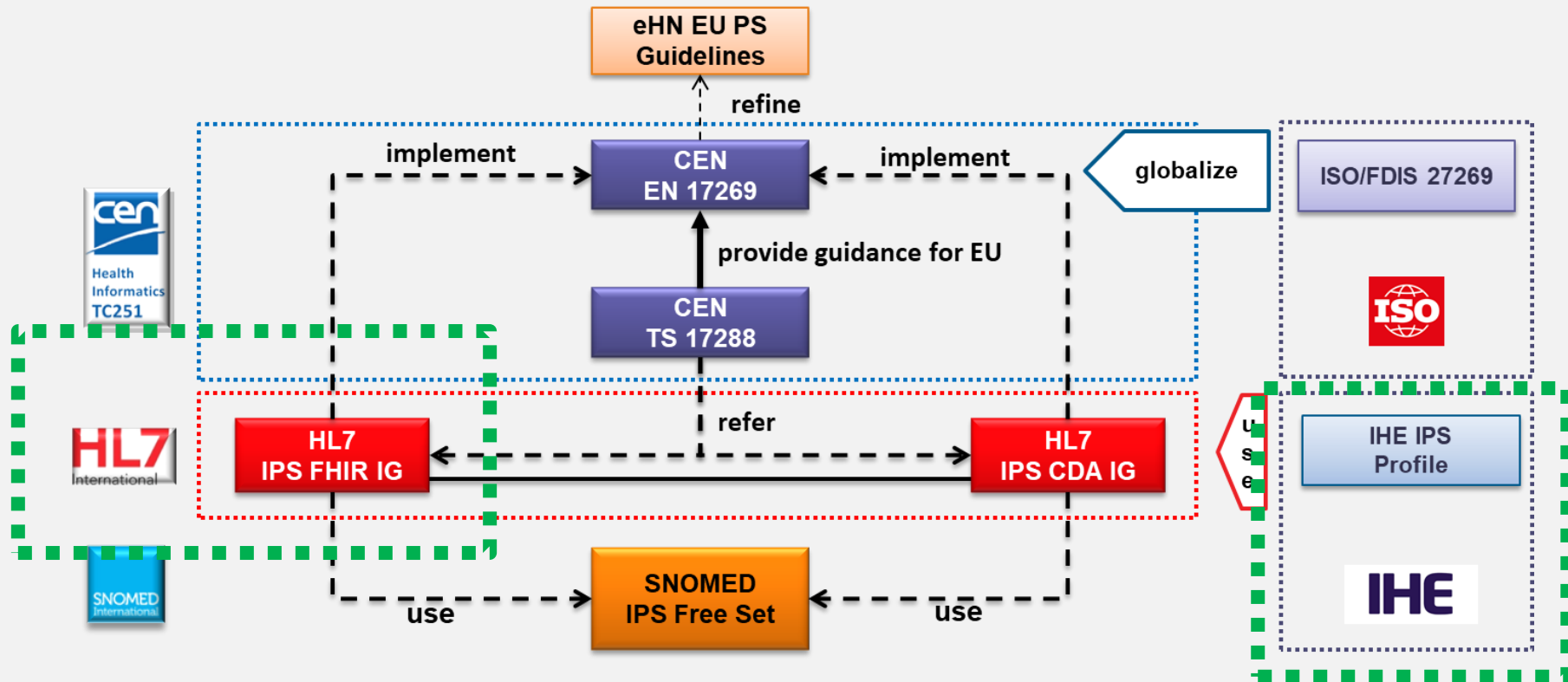


The IPS landscape



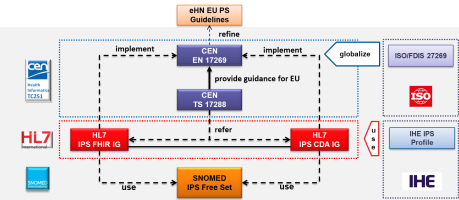
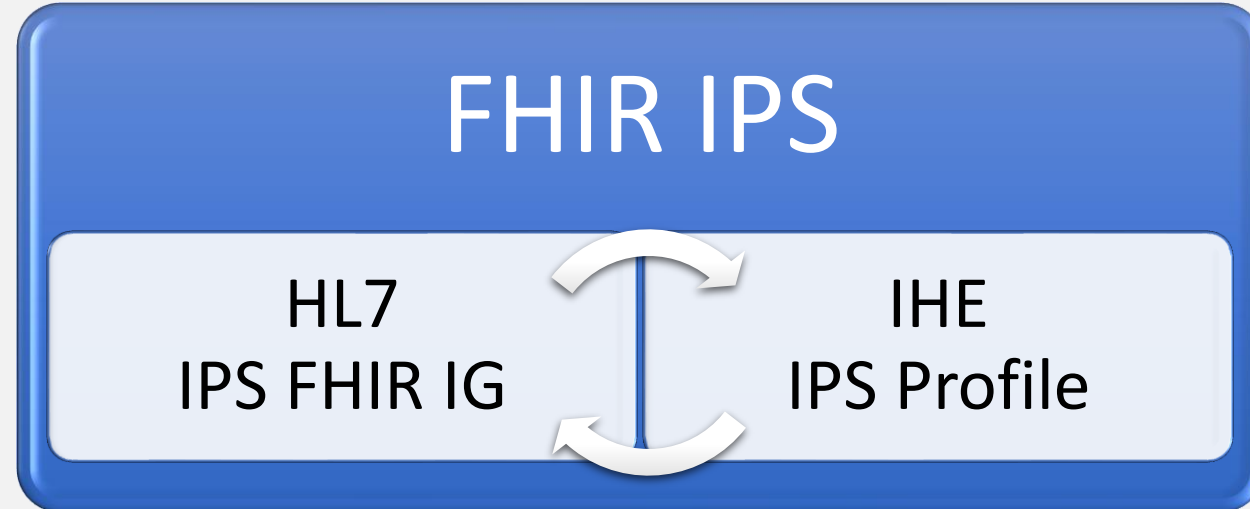


The IPS landscape



The FHIR IPS

There is only one FHIR IPS !



The FHIR IPS

Integrating the Healthcare Enterprise

IHE

5 **IHE Patient Care Coordination
Technical Framework Supplement**

10 **International Patient Summary
(IPS)**

HL7® FHIR® R4
Using Resources at FMM Level 0-N

15 **Revision 1.1 – Trial Implementation**

20 Date: June 17, 2020
Author: PCC Technical Committee
Email: pcc@ihe.net

25 **Please verify you have the most recent version of this document. See [here](#) for Trial Implementation and Final Text versions and [here](#) for Public Comment versions.**

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HL7 International **International Patient Summary Implementation Guide** 1.0.0 - CI Build

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International Patient Summary Implementation Guide, published by Health Level Seven International - Patient Care Work Group. This is not an authorized publication; it is the continuous build for version 1.0.0. This version is based on the current content of <https://github.com/HL7/fhir-ips/> and changes regularly. See the [Directory of published versions](#).


1 International Patient Summary Implementation Guide

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 17269 and ISO/DIS 27269, 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
- Ballot Status
- Authors and Contributors

https://www.ihe.net/uploadedFiles/Documents/PCC/IHE_PCC_Suppl_IPS.pdf

<http://hl7.org/fhir/uv/ips>

<https://build.fhir.org/ig/HL7/fhir-ips/>

<https://registry.fhir.org/package/hl7.fhir.uv.ips%7C1.0.0>

IPS Standards Artifacts & Processes *working together*

Specification



EN17269



DIS27269

Implementation



HL7 FHIR Implementation Guide
CDA Implementation Guide



IHE IPS Profile



TS17288

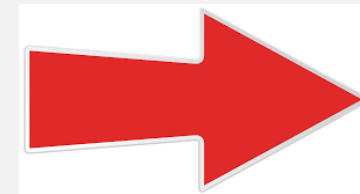
Terminology



IPS “free” Set
Global Patient Set (GPS)

Conformity Assessment

IHE Connectathon(s)
FHIR Connectathon(s)



IPS Standards Artefacts

- **ISO/DIS 27269** approved
- **CEN/EN 17269** and **CEN/TS 17288** published
- **HL7 FHIR** and **CDA** Implementation Guides (**IG**) published as *“Standard for Trial Use”*
- **IHE IPS Profile** for both CDA and FHIR published for *“Trial Implementation”*
- **SNOMED CT** has published the free for use **“Global Patient Set (GPS)”** (including the IPS “free set”)

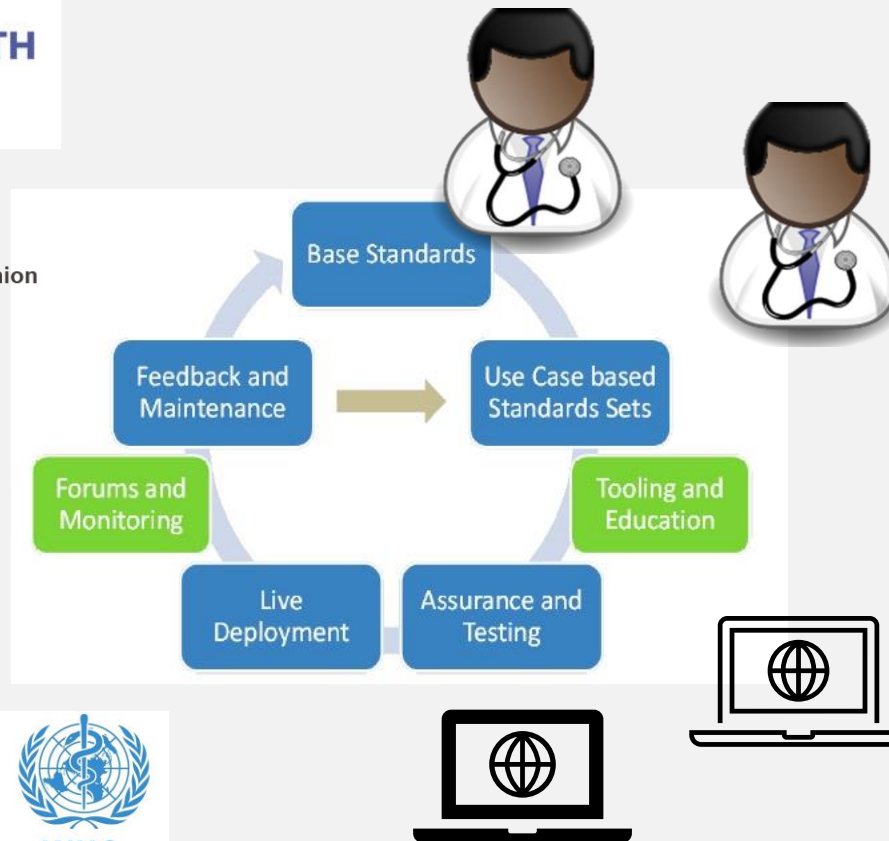
Cross-SDO Promotion of IPS Adoption

- **HL7 IPS Project Group**
 - Expect to publish IPS Standard for Trial Use (STU) update soon (hopefully by July 2021)
- **IPS Cross-SDO Collaboration Group**
 - HL7, IHE, ISO, SNOMED, CEN *and others*
 - Meet biweekly – focus on maintaining alignment and progressing further development and implementation of the IPS specifications

How do we work together on the IPS?



In close collaboration with real-world projects



What have we learned so far?

- Cross-SDO collaborations work very well when there is a focused need
- Each SDO brings their unique expertise, tooling and processes
- A suite of artifacts that work together ultimately helps the end user
- Growth and maintenance are key steps that can't be forgotten
- Adoption and implementation can be improved by leveraging existing international collaborations:
 - Joint Initiative Council
 - Global Consortium for eHealth Interoperability
 - Global Digital Health Partnership

The next step for IPS – real world implementation!

- Having a standard is nice ..
- But it's of little benefit unless it is widely adopted and used!

IPS Implementation Initiatives

- **Global Digital Health Partnership (GDHP)**

- Interoperability Work Stream - IPS Work Group*



- Leadership from US/ONC
 - 31 countries & WHO
 - Goals
 - 10 countries implementing IPS in pilot project by end of 2021
 - 20 countries implementing IPS, with 10 in production use, by end of 2022

- **Global Consortium for eHealth Interoperability (GCeHI)**

- HL7, IHE, HIMSS



Update the FHIR IPS IG

- Learn from experience with balloting, review and testing (STU update)
- Fix issues with slicing non-repeating CodeableConcept elements
 - E.g., Condition.code
- Relax unnecessary constraints
 - Causing incompatibility with US Core, vaccination certificates (VCI, DCC, etc.)
- Revise mustSupport
 - Use only when really needed
- Convert IG source files to FSH!
- Update SNOMED CT GPS and other terminologies to current versions

Update the FHIR IPS IG

- Update SNOMED CT GPS and other terminologies to current versions
- Move IG-specific terminology to THO (terminology.hl7.org) (also known as UTG) where appropriate
 - E.g. “Absent and Unknown Data - IPS” code system
 - Drop the “IPS” from the name and make available for others to find and use where appropriate

GDHP Mini-Connectathon

- Focused 4 hour time block to promote and further IPS implementation efforts in GDHP member countries and territories
- Intent is to provide further opportunities in conjunction with and between the larger HL7 FHIR and IHE Connectathon events, and build upon and further promote and enhance the accomplishments of those events
- Leverage common tool suites as much as possible
 - Gain and promote familiarity with Inferno, IHE Gazelle, etc.
- First Mini-Connectathon was held in May, next one is being planned for later in June/July (following IHE Europe Connectathon)

Decide on common terminologies!

- Difficult, but necessary step
 - Deferred initially, but now is the time to do it
- Primarily a GDHP effort now – but expect to extend that more broadly (globally?)
- Can we standardize on?
 - SNOMED CT for medications, allergy/intolerance, conditions, immunizations
 - LOINC for Observation.code
- To achieve the vision for IPS, we need to solve the “Tower of Babel” problem!

Collaborate with related projects

- International Patient Access (IPA)
 - Originated by Grahame Grieve to internationalize the patient data access
 - <http://build.fhir.org/ig/HL7/fhir-ipa/branches/main/index.html>
 - Provides secure API access to broad range of patient data
 - National specs (e.g., US CORE) may build on IPA
 - Different, but related to IPS (IPA is about access, IPS is about content)
 - <http://build.fhir.org/ig/HL7/fhir-ipa/branches/main/ips-relationship.html>
- IPS needs IPA – because IPS needs data!
 - Expect to be completely compatible, but intend to avoid a direct dependency (to preserve implementation flexibility)
 - IPA should be able to help handle security/provenance considerations

Engage with vendors

- This has been rather slow so far
- But there is some encouragement
- 4 European vendors will be testing the IHE IPS FHIR profile in the IHE Europe Connectathon next week
- We need at least one major vendor to step up!

Reference implementation(s)

- What can we build?
- Work with open-source EHR projects
 - OpenMRS, OpenHIE, OpenEMR. others?
- Server development (e.g., HAPI)
 - Intend to build out 'document' Bundle transaction capability in HAPI
 - Implement proposed Patient resource **\$summary** operation in HAPI
 - Can generate an IPS instance for a patient based on existing data and a set of rules
 - Rules can be server-defined (default) or specified by parameter
 - Need to answer the "relevant" question for what data to include

Expand the community

- Promote and encourage use of IPS “Community of Practice” Zulip stream
 - <https://chat.fhir.org/#narrow/stream/207835-IPS>
- Now there is also an IPA stream
 - <https://chat.fhir.org/#narrow/stream/261969-IPA>
- We are now extending the weekly HL7 IPS meetings to also include the work on IPA
 - Develop both projects in close collaboration
 - Ideally with considerable overlap in the project teams

We need you!

- Weekly HL7 IPS/IPA call
 - Wednesday 10:30 AM – 12:00 noon ET (14:30 – 16:00 UTC)
 - <https://us02web.zoom.us/j/5328571160>
- Bi-weekly IPS Cross-SDO Collaboration call
 - Wednesday 2:00 – 3:00 PM ET (next call June 16)
 - <https://us02web.zoom.us/j/89197612486?pwd=elBR0GxwblNXa0hOdFhOc0VxOHZpUT09>

Contact

- During DevDays, you can find / reach me here:
 - Via Whova App – Speaker's Gallery
 - Email: rob@hausamconsulting.com
 - Zulip

Q&A

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