Trillium II – Patient Summary Standards, Building Blocks, and Electronic Health Record Exchange Format: An IPS Ecosystem Emerges
The International Patient Summary (IPS) Standards

Giorgio Cangioli
The SDOs activity on the IPS...is not a flower in a desert...
It comes from a long history

Moving to the CEF.....

The **epSOS projects**, cross-border pilot for PS and eP Exchange, 2009-2014... and several others ..to the **eHDSI**

**2010 EU US EU/US MoU:** ONC Standards and Interoperability Framework (ONC S&I) EU/US eHealth Cooperation Initiative; EU Trillium Project; 2013 The INTERPAS Project, HL7

**2015 Transatlantic eHealth/health IT Cooperation Roadmap:** enforcement of the IPS concept.

**eHealth Network Guidelines**

2013-2016
.. it has not been built on a green field...
.. but on solid foundations ...
.. But not limited to them..

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### Class Products Overview

**FUTURE (goal)**

- eHN EU PS
- Guidelines
- eHDSI PS IG
- HL7 IPS CDA IG
- HL7 IPS FHIR IG
- CEN/EN 17269 IPS
- CEN/TS 17288 IPS

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**Legend**

- Common
- CEN/EN 17269
- CEN/TS 17288
- CDA IPS
- FHIR IPS
- CDA
- FHIR

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**Name:** Products Overview

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**Argonaut (US)**

- isTheEvolutionOf
- implement
- isCompliantWith
- refer
- useAsInput

**European PS IG**

- It Has Multiple Versions

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**C-CDA on FHIR**

- isTheEvolutionOf
- implement
- isCompliantWith
- refer
- useAsInput

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**Trillium II FHIR profiles**

- isTheEvolutionOf
- implement
- isCompliantWith
- refer
- useAsInput

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**IHE PCC**

- It Has Multiple Versions
..is not a product of a restricted team..
.. but the result of a wide collaboration ..
SDOs do not come from mars...

- SDO are communities
- Most of the IPS contributors have been involved (and are now involved) in the EU initiatives mentioned before
SDOs are facilitators
The goal

“Standards and Profile Developing Organizations and eHealth/Health IT stakeholders should collaborate on the following items to enable a standardized international patient summary (IPS)”
The IPS Project: the HL7 Int. CEN/TC 251 agreement (April, 2017)

Vision

• “In order to further the care for citizens across the globe, we agree to collaborate on a single, common International Patient Summary (IPS) specification that is readily usable by all clinicians for the (cross-border) unscheduled care of a patient.”

Scope

• “The IPS specification shall focus on a minimal and non-exhaustive Patient Summary, which is specialty-agnostic and condition-independent, but still clinically relevant.”
What is the first iteration of IPS?

• The focus of use for IPS is unscheduled (cross-border) care
• ..the data model for the IPS has been constructed to serve this case...
• ...but it provides a base-line usable also within other scheduled or planned care cases.
The IPS as BEST PRACTICE

- The HL7 and CEN collaboration on IPS has worked superbly well with 4 specifications near completion in just 2 years!
- The «IPS SNOMED CT Free Set» by SNOMED International is on the way
- Hopefully, to be extended..(e.g. ISO)
IPS Progressive Approach

The IPS as a document ...and...

.....as set of reusable data blocks!

Formally today...

..expected use..

as a document

as a document and as a library
IPS Progressive Approach

Library of reusable...
(fragment; resources; building blocks;...)

Common “core” set of data

With minimal common terminologies

Extensible
IPS Progressive Approach

EU ModEX, Bucharest, 2018 Oct 15-17

IPSs and Mobile Field Hospital Encounter Reports were build on (HL7 FHIR) IPS resources
The IPS Standards
The Five IPS project Products

- eHN EU PS Guidelines
- CEN EN 17269
- CEN TS 17288
- HL7 IPS CDA IG
- HL7 IPS FHIR IG

EN 17269: implementation independent content of the IPS
TS 17288: guidelines for establishing a EU IPS service

IPS FHIR IG: how to implement the IPS using HL7 FHIR
IPS CDA IG: how to implement the IPS using HL7 CDA
Timelines

- CEN/TC251
  - EN 17269
    - ballot passed
  - TS 17288
    - ballot passed
  - Ready for publication. (Summer 2019).

- HL7 Int.
  - HL7 CDA IPS IG (STU)
    - published
  - HL7 FHIR IPS IG (STU)
    - ballot passed
    - expected publication next month

SNOMED Int.

- IPS SNOMED CT Free Set
  - Announced by HL7 Int. and SNOMED Int. at the last HIMSS 2019
  - Publicly available from SNOMED International likely on Summer 2019
...formalises the dataset required to share information about the medical background and history of a patient ....

.. It uses the European guidelines (version 2, November 2016) as an official source for the requirements....

The dataset is minimal and non-exhaustive <...> specialty-agnostic, condition-independent and usable by all clinicians for the unscheduled care of a person...

...usable as a valuable subset of data items for scheduled care...

It is implementation independent.

This international standard does not cover workflow processes of data entry, data collection, the summarisation act nor subsequent data presentation. ..
# CEN EN 17269:2019

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HL7 IPS CDA Implementation Guide

IPS Sections

- Subject
- Author
- Attester
- Custodian

- Medication Summary
- Allergies and Intolerances
- Problem List
- Medical Devices
- Diagnostic Results

- Immunizations
- History of Procedures
- Medical Devices
- Diagnostic Results

- Vital Signs
- Immunizations
- Medical Devices
- Diagnostic Results

- Functional Status
- Plan of Care
- Advance Directives
- Plan of Care

"Header" Required Recommended Optional
The FHIR IPS IG (STU)

Based on FHIR R4
(To Be Published – by next month)

It describes the “IPS document” and the data blocks (FHIR profiles) used to build it

https://build.fhir.org/ig/HL7/fhir-ips/
IPS as Collaboration Framework

- SNOMED CT free subset...
- Within the scope of the HL7 and SNOMED CT agreement approx. 8000 concepts have been proposed to be included as part of a free SNOMED CT subset.
- IPS taken as reference use case
- Free SNOMED CT subset being made available for CEN and HL7 IPS, and to eHDSI.
...this is not the end, but the first step...
A wider «IPS ecosystem»

Actors
- Patients
- Policy Makers
- Vendors
- Clinicians

SDOs
- Deployers

Validators
- Clinical Guidelines
- System Functional Models
- Computable Logical Models

Terminologies
- Educational Material

Products
- APIs

Educational Material
IPS Project and ISO

• IPS results presented at the last ISO meeting (@Paestum - Oct 2018)
• Very positive feedbacks received
• Next ISO meeting @Goteborg April 2019 discussion about moving the EN17269 (IPS data set) in ISO.
Towards an «IPS ecosystem»

E-EHR-XF
European EHR eXchange Format

Possible formal basis for the E-EHR-XF

HCIM/ZIB
Others

IPS Template

IPS PROFILES
HL7® FHIR®

EN 17269
Logical Model

EN 17269

Possible formality basis for the E-EHR-XF
So then?

- Move the EN 17269 IPS dataset in ISO
- Develop computable model (FHIR® Logical Models) for the IPS data set
- Better support for Provenance information
- HL7 FHIR® Argonaut and IPS harmonization
- ... and much more...
THANKS
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