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Trillium II

Reinforcing the Bridges and Scaling up EU/US Cooperation on Patient Summary

Hacking Health Athens – Webinar
January 29th, 2019

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Topics

- Trillium II project – working with patient summaries and global standards
- HL7 FHIR International Patient Summary (IPS): an essential toolkit
  - What's the IPS ?
  - HL7 FHIR in a nutshell
  - HL7 FHIR IPS specifications, tools (ArtDecor, Simplifier, GitHub, FHIR servers)
  - Examples
- Q&A

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The Trillium II project

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Mission EU/US Memorandum of Understanding

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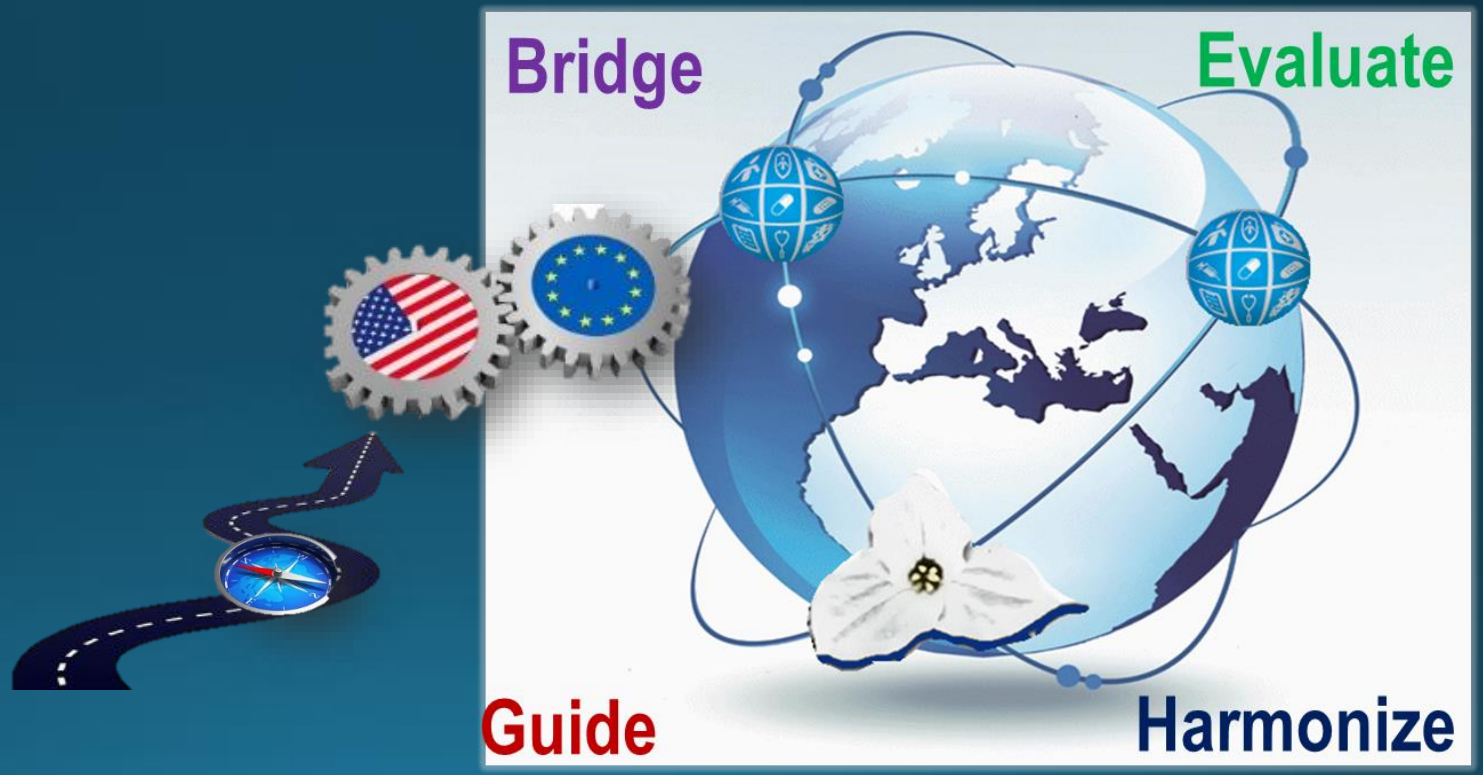
"To support an **innovative collaborative community** of public- and private-sector entities working toward developing, deploying, and using eHealth science & technology

- to empower individuals
- to support care
- to advance clinical outcomes
- to enhance patient safety, and
- to improve the health of populations."

Critical Levers:

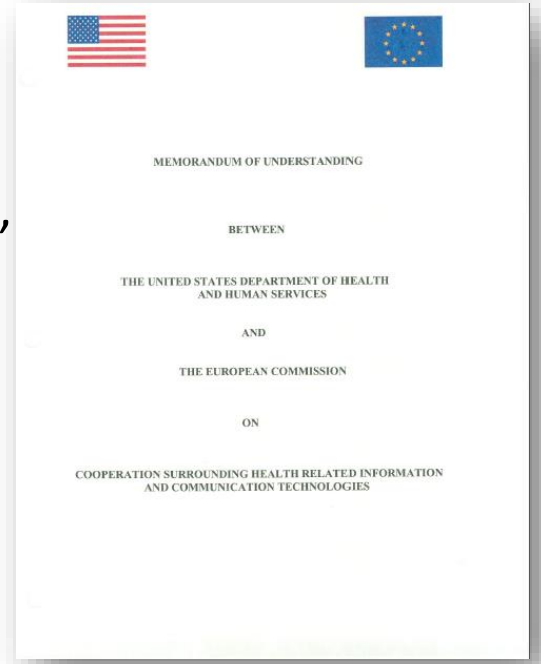
- International interoperability
- workforce development
- innovation ecosystems



The story began with epsos…can trans-European patient summaries be understood across the Atlantic?

- **Gap analysis**
  - Compared patient summary specifications in EU/US
  - Shared clinical elements: problems, medications, allergies

- **Interoperability Assets**
  - Established a terminology prototype CTS-2 service: http://extension.phast.fr/STS_UI
  - Developed Transformer of Patient summaries: http://informatics.mayo.edu/trillium-bridge
  - Mediated Differences in EU/US IHE XCPD/XCA profiles for Patient Identity and Document Query/Retrieve
- **Validation activities: 4 EU countries/ Kaiser Permanente**
  - EU/US Marketplace; HIMSS 2015; IHE Europe Connectathon 2015, eHealthWeek 2014,15
- **Feasibility study:**
  - Reflected upon standards, cross-vendor integration, incentives, clinical research, security and privacy, innovative business models, education



Recommendation:

"Advance an International Patient Summary (IPS) standard to enable people to **access and share their health information** for emergency or unplanned care anywhere and as needed. At minimum the IPS should include **immunizations**, **allergies**, **medications**, **clinical problems, past operations** and **implants**."

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What do we do with international patient summary (IPS) standards ?

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- Highlight the social value of patient summaries
- Contribute to their Governance
- Develop, Collect, Assess learning resources
- Foster innovation & inform health policy
- Collaborate across standardization bodies
- Bridge grassroot patient summary initiatives
- Engage mobile Health companies & app developers
- Establish a Global Community of Practice
  for Digital Health Innovation using International Patient Summary Standards (IPS)

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Scaling-up use of patient summaries

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- Consider the IPS as an active window, a landing page to navigate a person's linked health data across locations & jurisdictions.

- Trillium-II will select and ela[illegible]rate
  - resources to accelerate implementation and sharing of experience
  - new use cases on the use of patient summaries from unplanned emergency care

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More information about Trillium II ?

- Web Site : **https://trillium2.eu/**
- Contacts
  - Scientific coordinator Catherine Chronaki [HL7]: chronaki@hl7europe.org ;
  - Administrative coordinator Janne Rasmussen [MedCom]: jar@medcom.dk

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What is the IPS ?

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What is the IPS ?

- International

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

- Patient
- Summary

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]

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HL7 Int. and CEN/TC 251 agreement (April, 2017)

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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.**"*

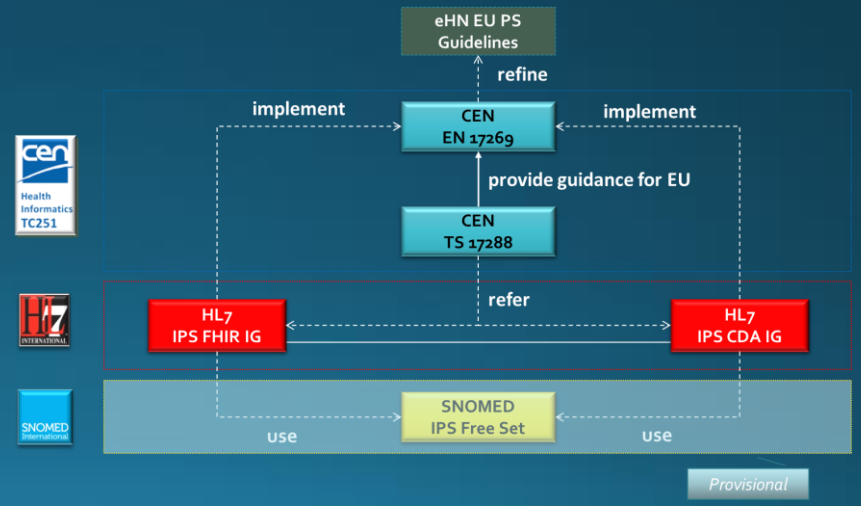
Scope

- *"The IPS specification shall focus on a **minimal** and **non-exhaustive** Patient Summary, which is **specialty-agnostic** and **condition-independent**, but **still clinically relevant**."*

IPS Principles

- Implementable
- Applicable for global use
- Extensible and open
- Sustainable

The Five IPS project Products



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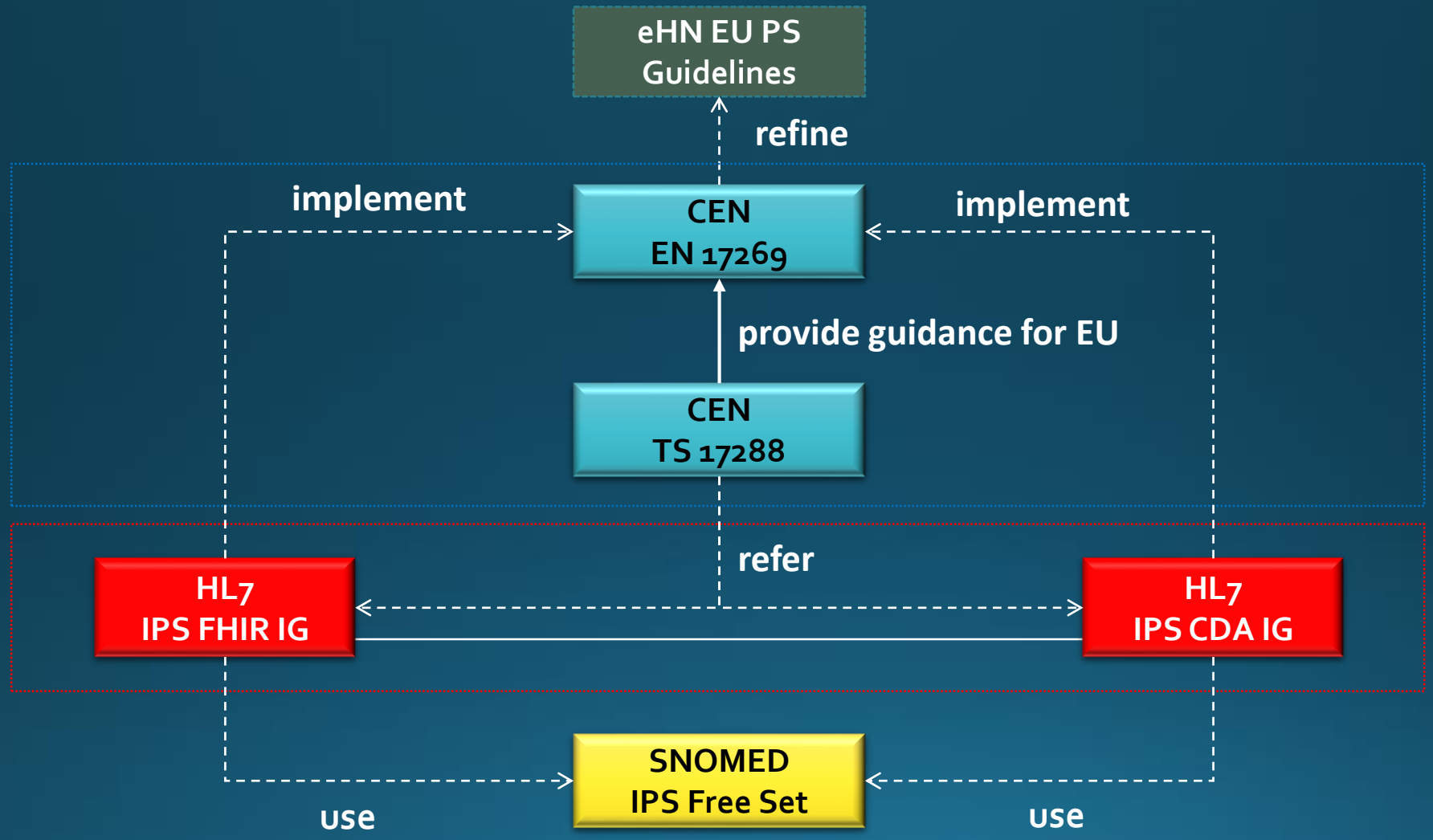
The Five IPS project Products



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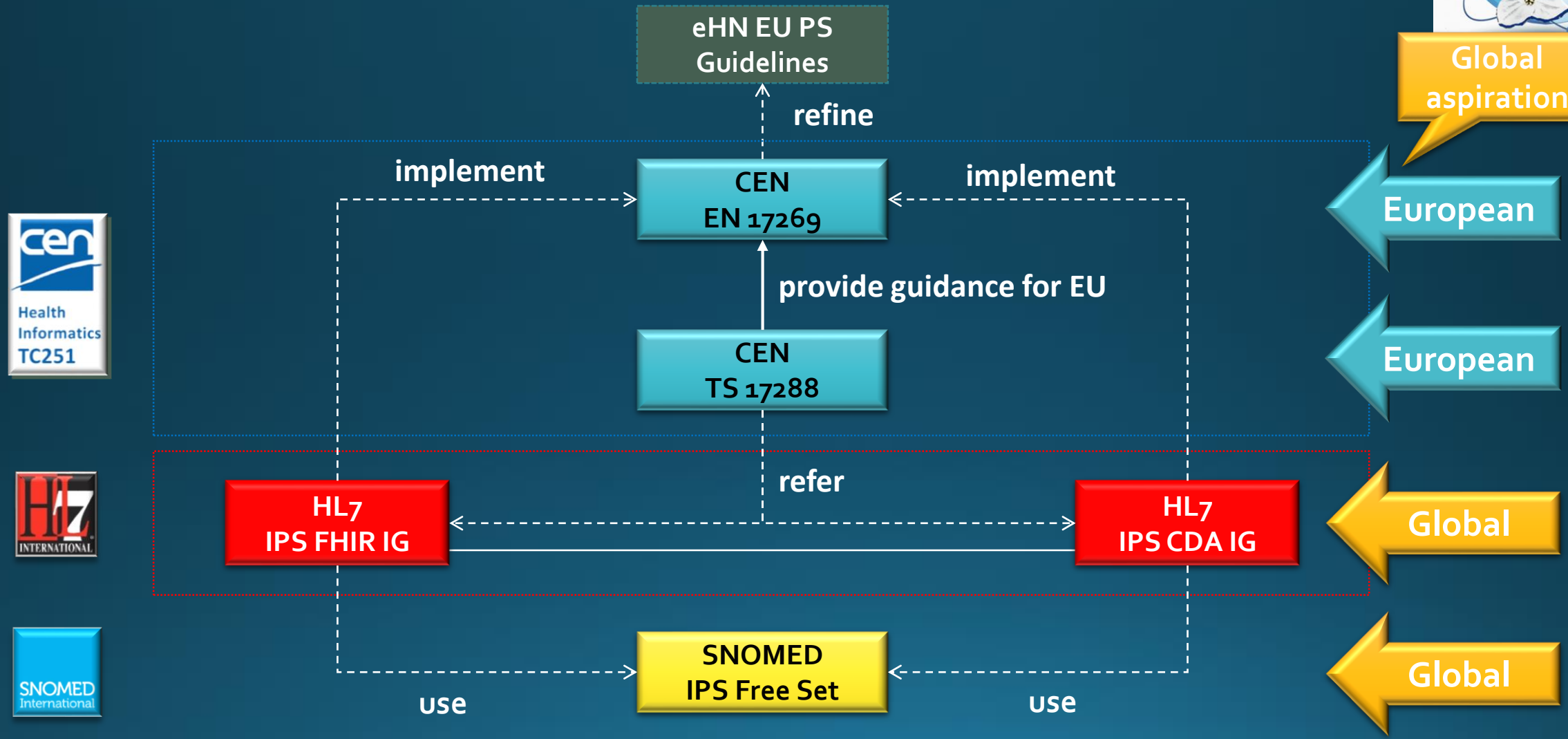
The Five IPS project Products



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Timelines

Health Informatics TC251

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CEN/TC251

- prEN 17269
  - ballot passed
- DTS 17288
  - ballot passed
- Ready for publication on March 2019

HL7

- HL7 CDA IPS IG (STU)
  - published
- HL7 FHIR IPS IG (STU)
  - ballot passed
  - expected publication begin 2019

SNOMED Int.

- ***IPS Free Set*** *(provisional)*
  - *Content finalised - January 2019*
  - *Available to be added to specifications at drafting stage – February 2019*
  - *Publicly available from SNOMED International – June 2019*

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The International Patient Summary

Data Set

- Minimal
- Non-exhaustive
- Specialty-agnostic
- Condition-independent

Principles

- Implementable
- Applicable for global use
- Extensible and open
- Sustainable

..but still clinically relevant

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The International Patient Summary

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on Patient Summary

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**;

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The International Patient Summary

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- Minimal
- **Non-exhaustive**
- Specialty-agnostic
- Condition-independent

- It recognises that the ideal dataset **is not closed**, and is likely to be **extended**, not just in terms of requirement evolution, but also pragmatically in instances of use.
- Such data is outside the scope of the IPS standards until review.

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The 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.

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International Patient Summary

- **Implementable**
- **Applicable for global use**
- **Extensible and open**
- **Sustainable**

- Promote (the evolution and convergence of) existing standards
- Rely on solutions that are already implemented or ready for implementation
- Consider new or additional solutions as they become available

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International Patient Summary

- Implementable
- **Applicable for global use**
- Extensible and open
- Sustainable

- Strive for **global accessibility** of **standards for free**
- Strive for a core set of **globally accessible** and **broadly usable terminologies**
- Do not include local solutions in that are not available in other jurisdictions
- Include free text in addition to the structured codes as needed

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International Patient Summary

- Implementable
- Applicable for global use
- **Extensible and open**
- Sustainable

- Provide **common content** that can be **extended for other use cases**
- Be **open** to **emerging solutions** for unresolved issues or improvements (e.g. IDMP)

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International Patient Summary

- Implementable
- Applicable for global use
- Extensible and open
- **Sustainable**

- Ensure **robust maintenance** and **update process** for the IPS
- **Ensure clinical validity** of the IPS, meeting requirements regarding
  - Clinical Workflow
  - Clinical Documentation
  - Information Quality

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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**.

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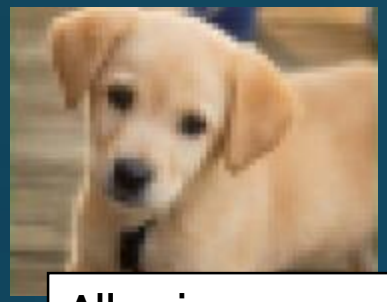
IPS Progressive Approach

Problems:
- Essential hypertension

Allergies:
- No known Allergies

Medications
- hydrochlorothiazide 25 mg + triamterene 37.5 mg



Allergies:
- No known Allergies
- Asserter: patient

Diagnostic Results:
- 11/11/2017 XYZ 999

Vital Signs:
- Average Blood pressure 150/100

Medical Devices
- No known devices

History of Procedures
<.....>

Problems:
- Essential hypertension

Allergies:
- No known Allergies

Medications
- hydrochlorothiazide 25 mg +
- triam

Diagnostic Results:
- 11/11/2017 Proced e XYZ
  - Specimen .>
  - Perform <...>
  - Exam1 xxx/xx
    - InterpretationCode
  - Exam 2...
  - Report ID = 123456

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The IPS is not an EHR !

..but it could be the basis for the future European EHR exchange format (EU EHR-xF) ..

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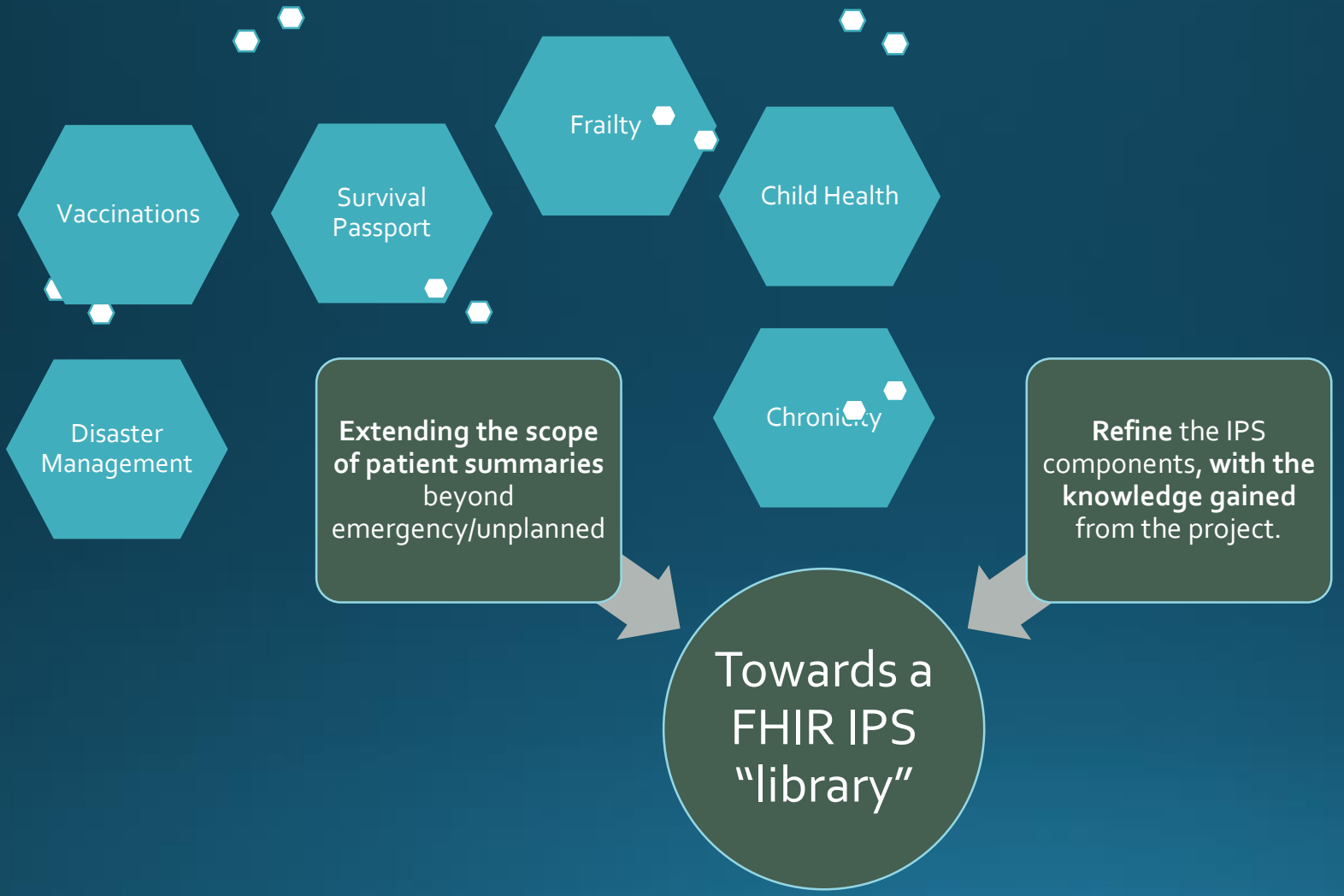
Trillium II: extending the IPS



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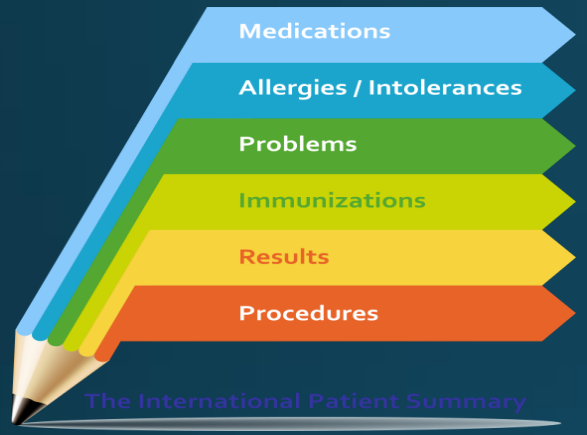
IPS Progressive Approach



1. The IPS document

2. The IPS data blocks

Current Intended Use

as a document

Expected Future Use

as a document and a as a library

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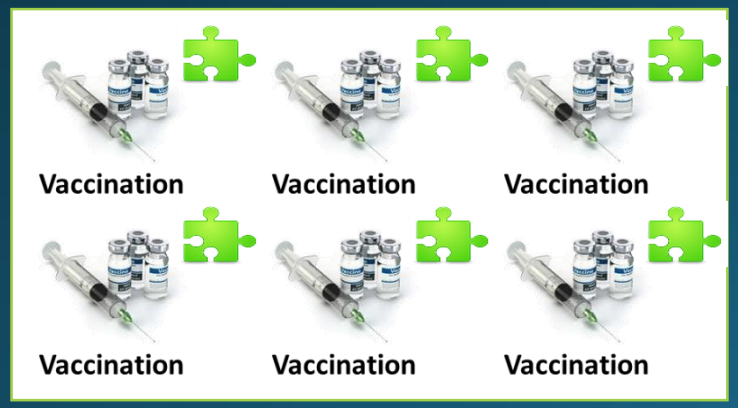
IPS Progressive Approach



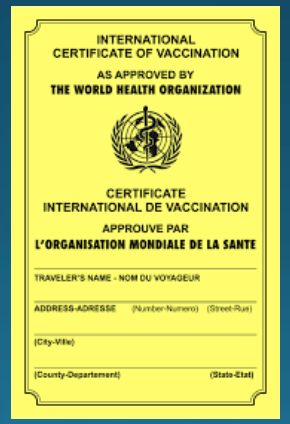
Library of reusable..

(fragments; resources; building blocks;…)

Common "core" set of data

With minimal common terminologies

Extensible


INTERNATIONAL CERTIFICATE OF VACCINATION
AS APPROVED BY THE WORLD HEALTH ORGANIZATION
CERTIFICATE INTERNATIONAL DE VACCINATION
APPROUVE PAR L'ORGANISATION MONDIALE DE LA SANTE
TRAVELER'S NAME - NOM DU VOYAGEUR
ADDRESS-ADRESSE

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Trillium II IPS Sections

IPS

„Header“

- Subject
- Author
- Attester
- Custodian

Required

- Medication Summary
- Allergies and Intolerances
- Problem List

Recommended

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

Optional

- Vital Signs
- Past History of Illness
- Pregnancy (status + history summary)
- Social History
- Functional Status (Autonomy/ Invalidity)
- Plan of Care
- Advance Directives

Optional

- Encounters

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FHIR in a nutshell..

Akwnolegments

- This presentation is based on the Kramer's presentation

The Acronym

Fast

Relative – No technology can make integration as fast as we'd like

Healthcare

Interoperability

That's why we're here

Resources

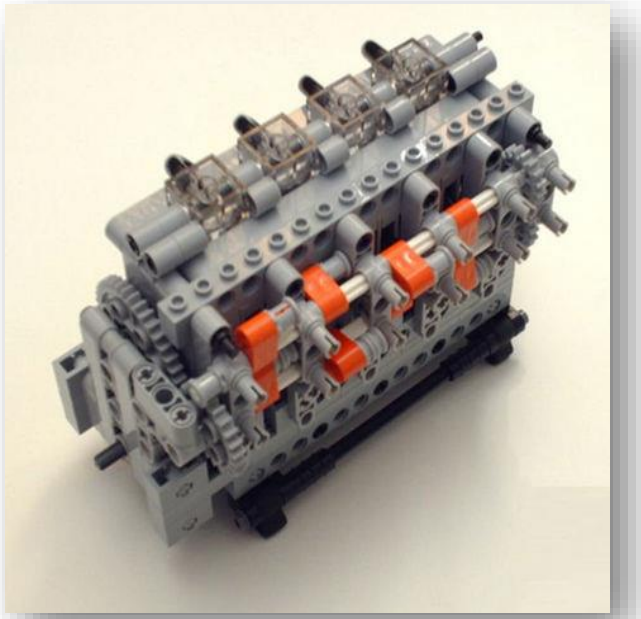
Building blocks – more on these to follow

Resources

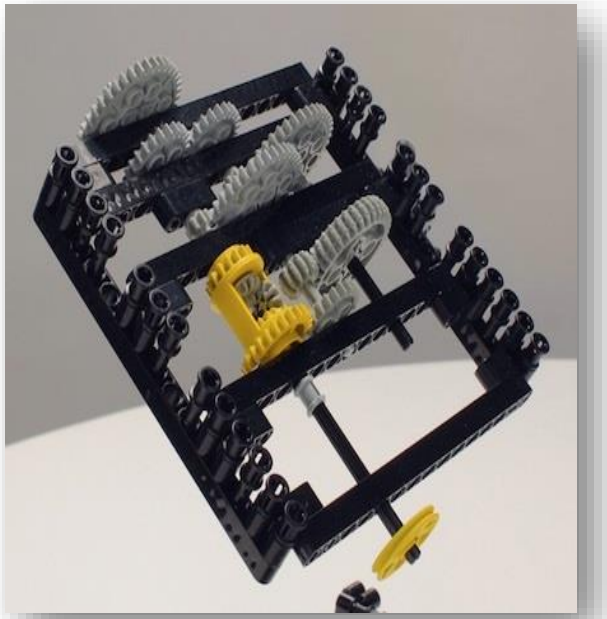
- "Resources" are:
  - Small logically discrete units of exchange
  - Defined behaviour and meaning
  - Known identity / location
  - Smallest unit of transaction "of interest" to healthcare

Concept is akin (in terms of scope) to HL7v2 segments, HL7v3 CMETs, as well as DICOM IEs.

Resources

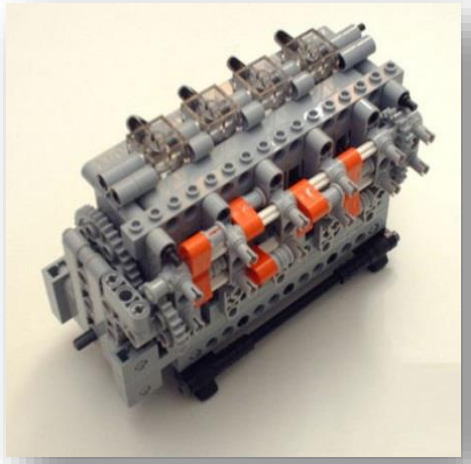


Patient



Observation

Resources



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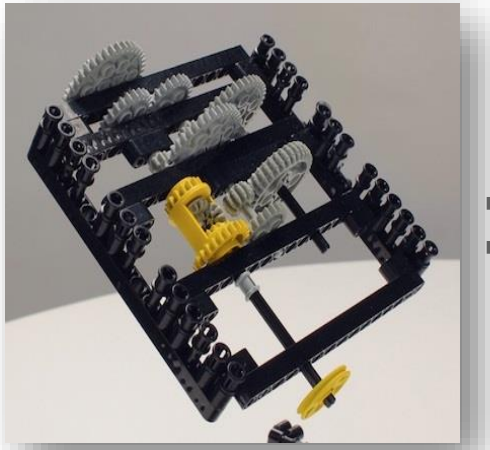

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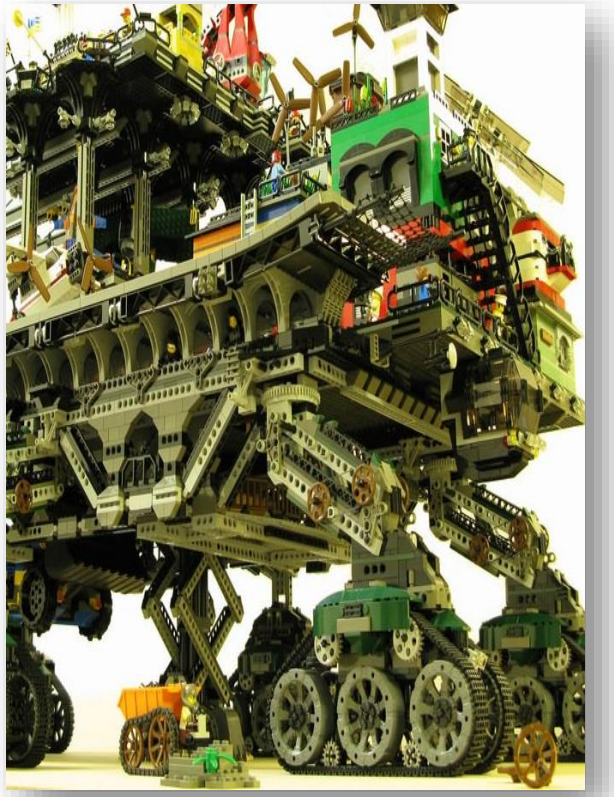


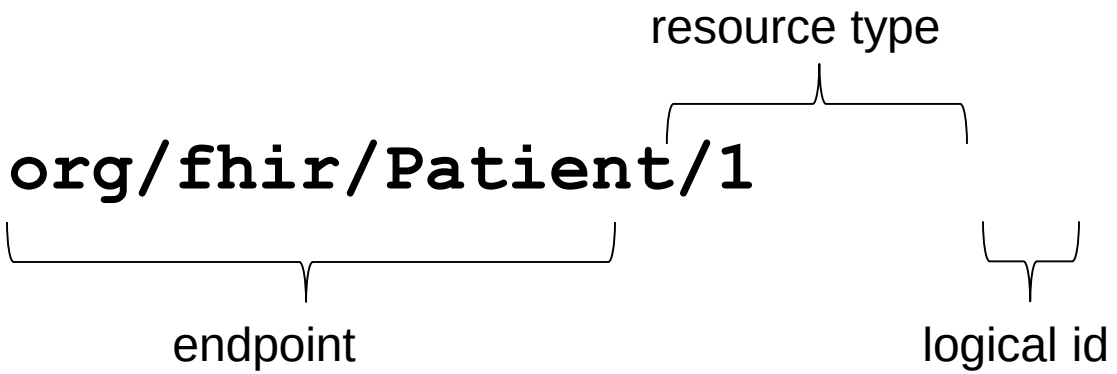
The 80/20 rule

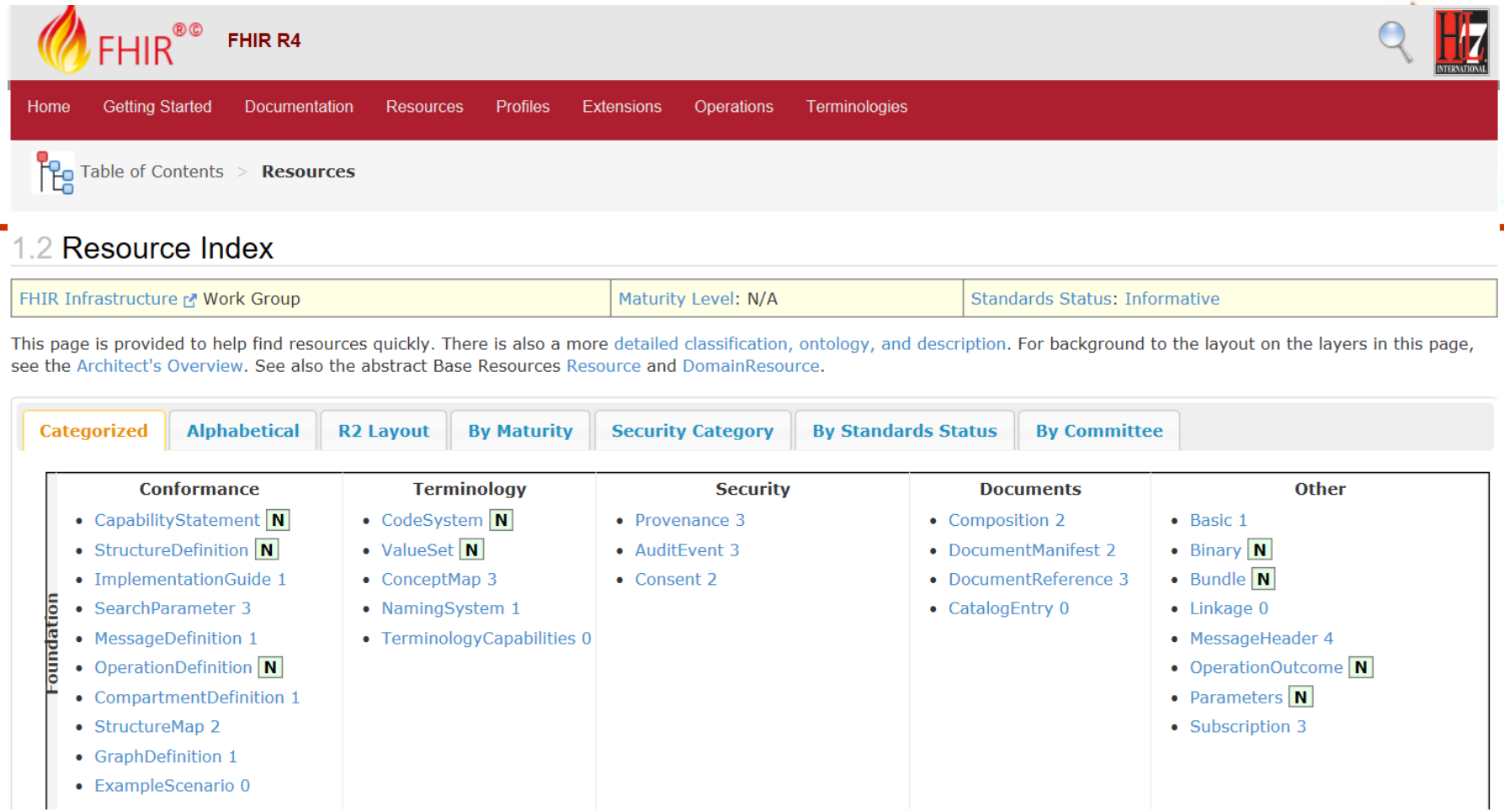
- Design for the 80%, not 100%
  - Only include data elements in the artifacts if 80% of all implementers of that artifact will use the data element
- Allow easy extension for the remaining 20% of elements
  - which often make up 80% of current specs
  - Vocabulary approach to extension definition

V3/OpenEHR are designed to cover the 100%.

A Resource's identity

- In fact: a URL
  - **`http://server.org/fhir/Patient/1`**

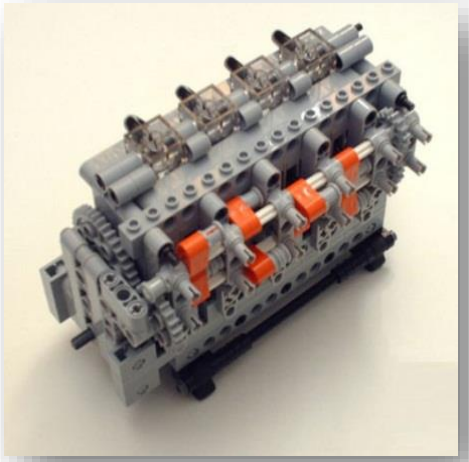


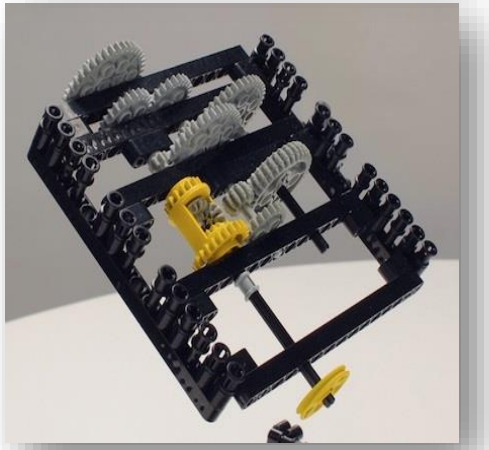


FHIR

http://www.hl7.org/fhir/resourcelist.html

Extensibility





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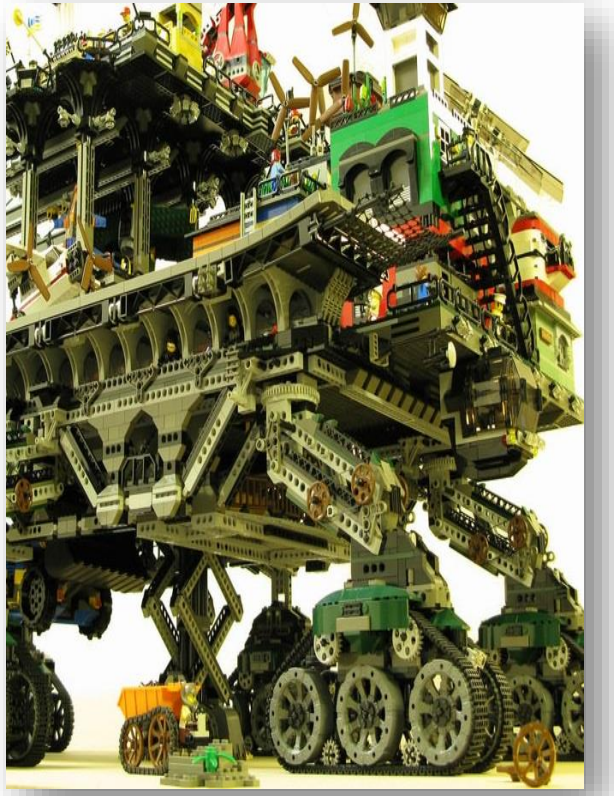
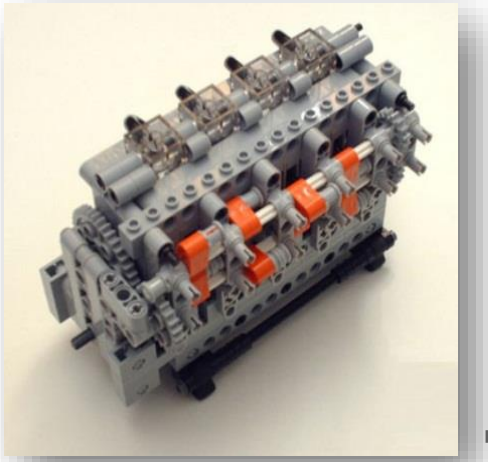
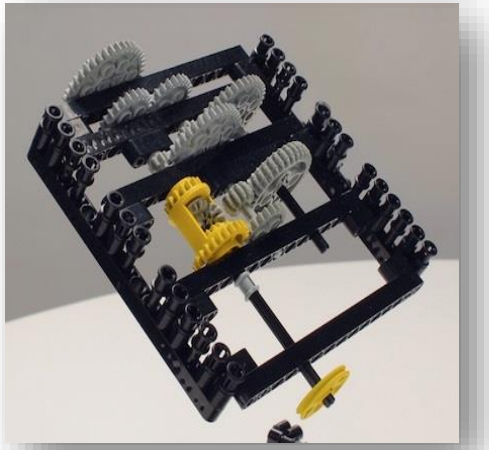
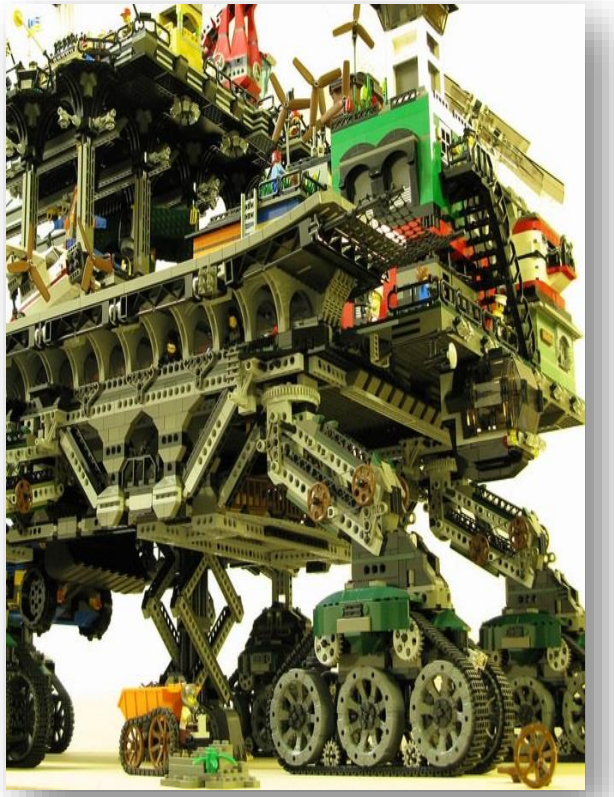


Extensibility







Extending a Patient resource

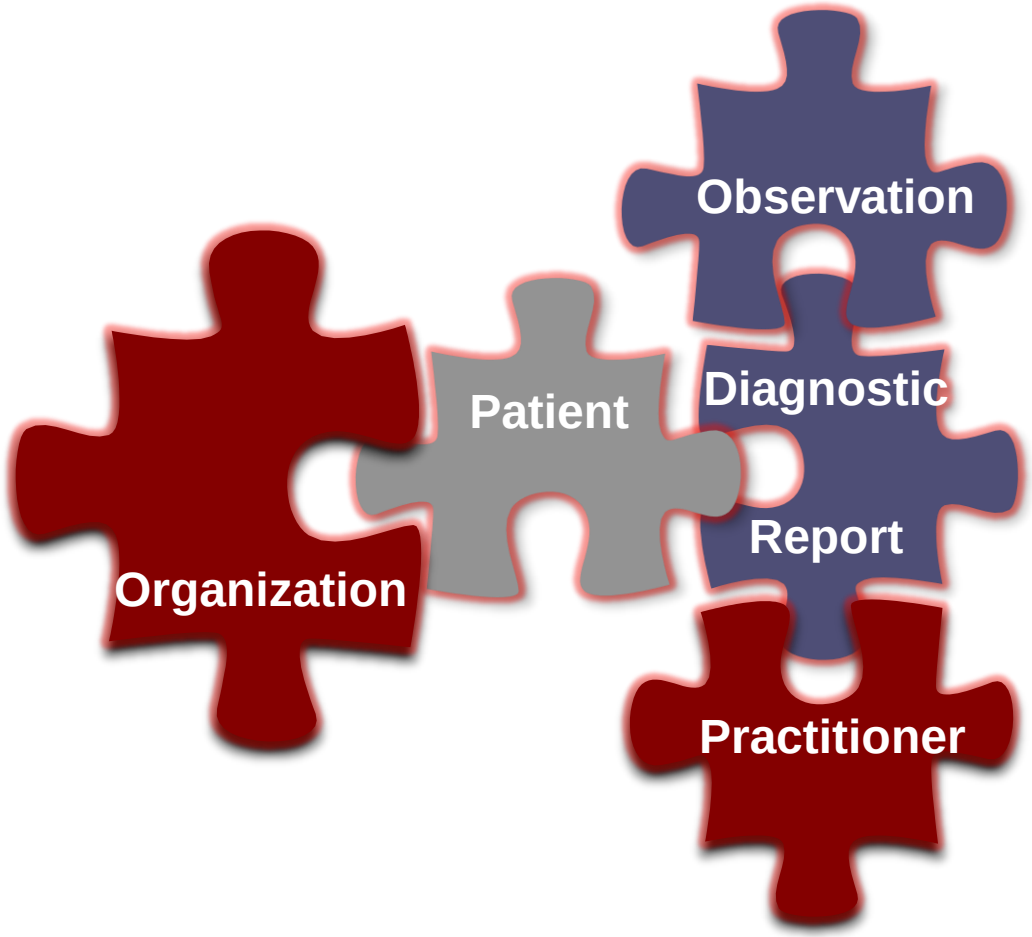
Key = location of formal definition

```
<Patient xmlns="http://hl7.org/fhir">
  <!-- some metadata and narrative -->
  <extension url="http://hl7.org/fhir/StructureDefinition/patient-mothersMaidenName">
    <valueString value="Williams"/>
  </extension>
  <!-- more patient data -->
</Patient>
```

Value = value according to definition

```
{
  "resourceType": "Patient",
  "extension": [{
      "url": "http://hl7.org/fhir/StructureDefinition/patient-mothersMaidenName",
      "valueString": "Williams"
  }]
}
```

It’s all about combining resources . . .



FHIR

DiagnosticReport			DomainResource
identifier	Σ	0..*	Identifier
subject	Σ	0..1	Reference(Patient | Group | Device | Location)
context	Σ	0..1	Reference(Encounter | EpisodeOfCare)
issued	Σ	0..1	instant
performer	Σ	0..*	BackboneElement
role	Σ	0..1	CodeableConcept
actor	Σ	1..1	Reference(Practitioner | Organization)
specimen		0..*	Reference(Specimen)
result		0..*	Reference(Observation)

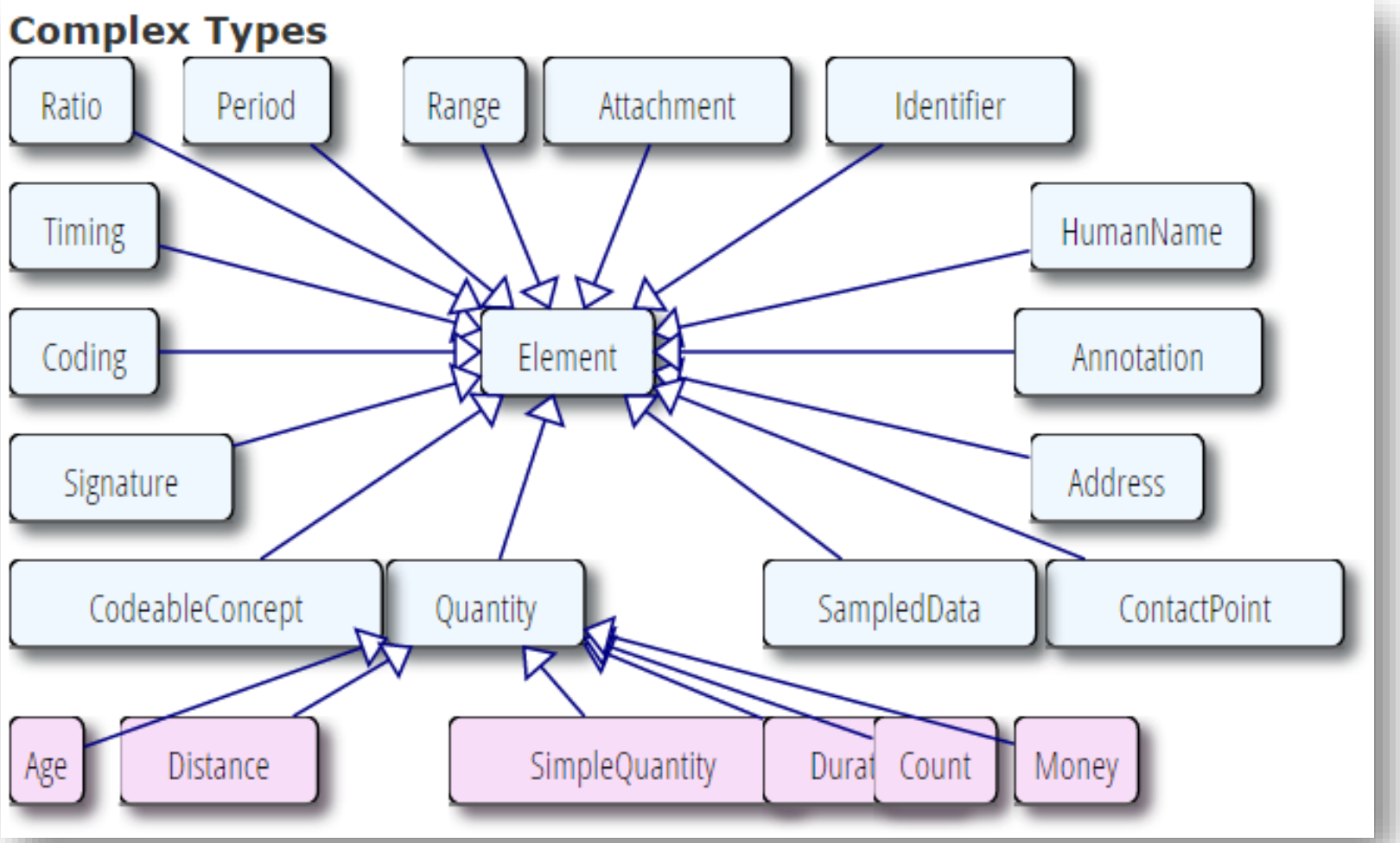
Resource Reference

example snippet taken from a DiagnosticReport:

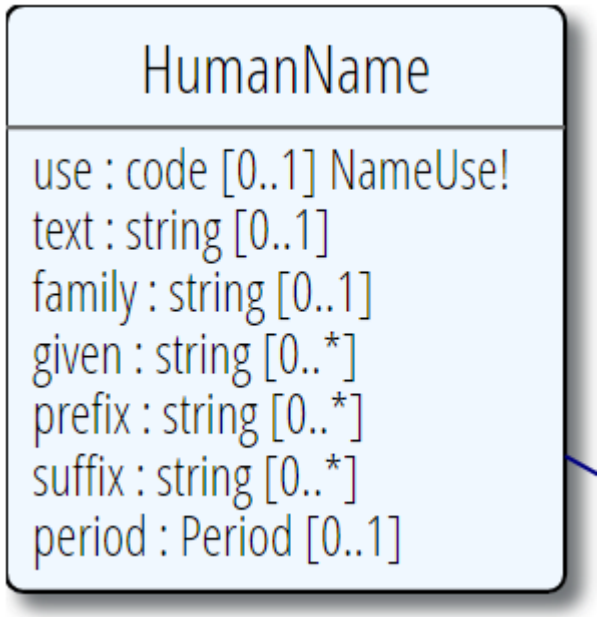
```
<subject>
  <reference value="Patient/f001"/>
  <display value="P. van den Heuvel"/>
</subject>
```

```
"subject": {
  "reference": "Patient/f001",
  "display": "P. van den Heuvel"
},
```

Datatypes, complex



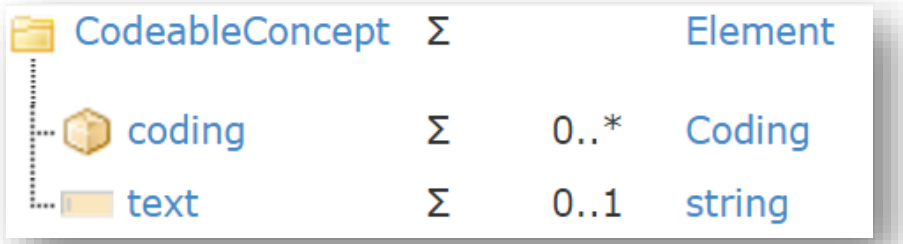
Complex datatypes

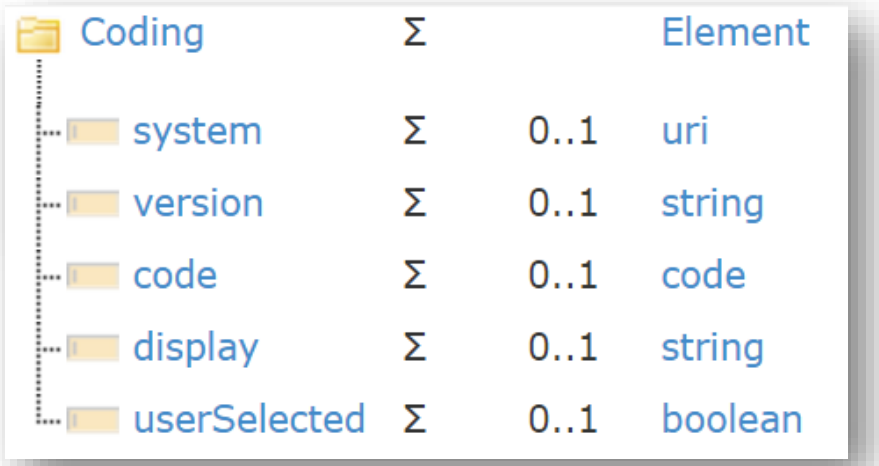



```
"name" : [
  {
    "family" : "Everyman",
    "given" : [
      "Adam",
      "A."
    ]
  }
]
```

```
<name>
  <family value="Everyman" />
  <given value="Adam" />
  <given value="A." />
</name>
```

Coded types



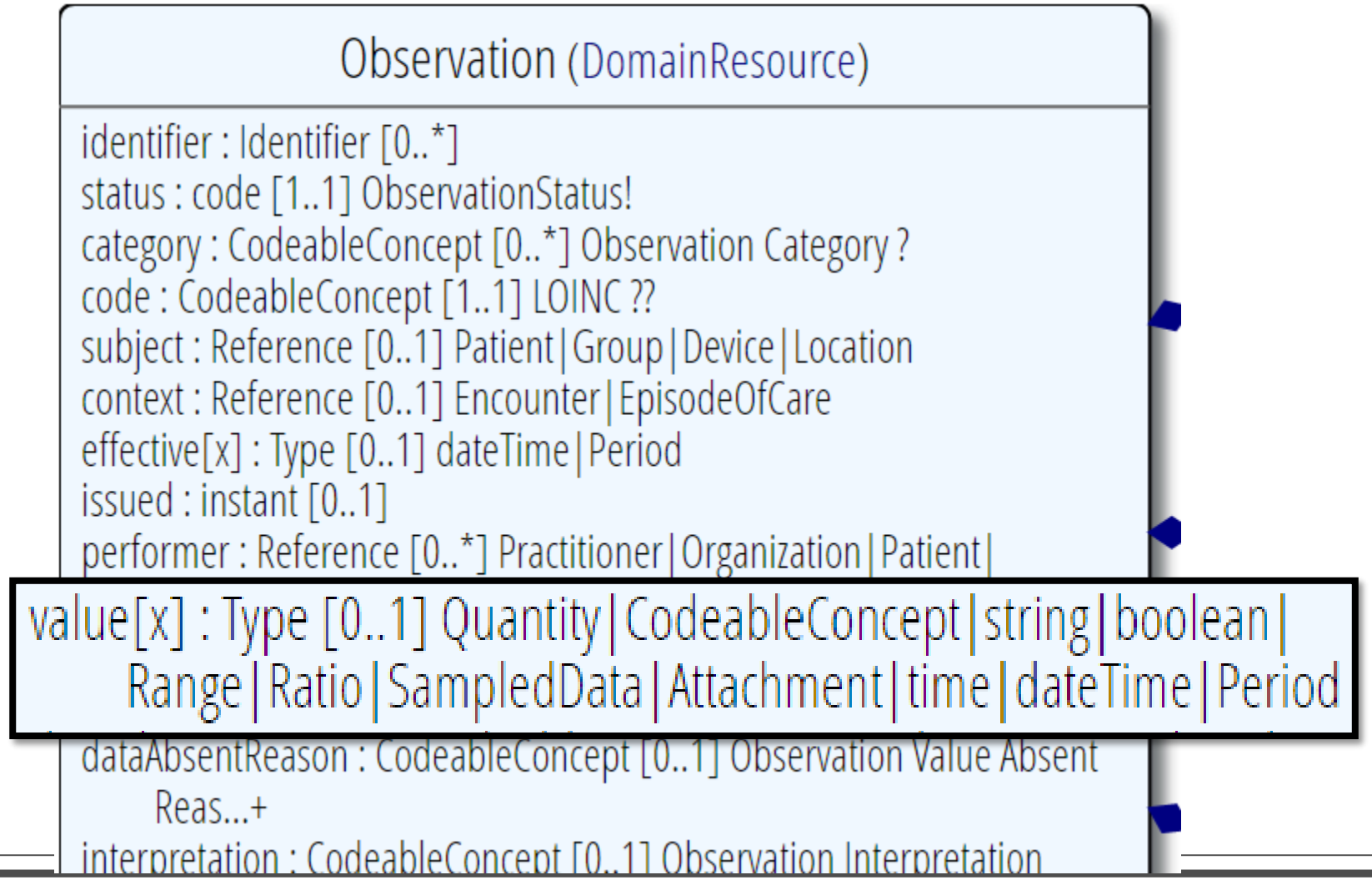



```
<code>
  <system value="http://hl7.org/fhir/sid/icd-10" />
  <code value="G44.1" />
</code>
```

Codes are defined in *code systems*

```
"code": {
      "system": "http://hl7.org/fhir/sid/icd-10",
      "code": "G44.1"
}
```

“Choice” properties



“Choice” properties

value[x] : Type [0..1] Quantity | CodeableConcept | string | boolean | Range | Ratio | SampledData | Attachment | time | dateTime | Period

```
<valueQuantity>
    <value value="107" />
    <unit value="mm[Hg]" />
</valueQuantity>
```

```
<valueString
    value="Patient loves to sing" />
```

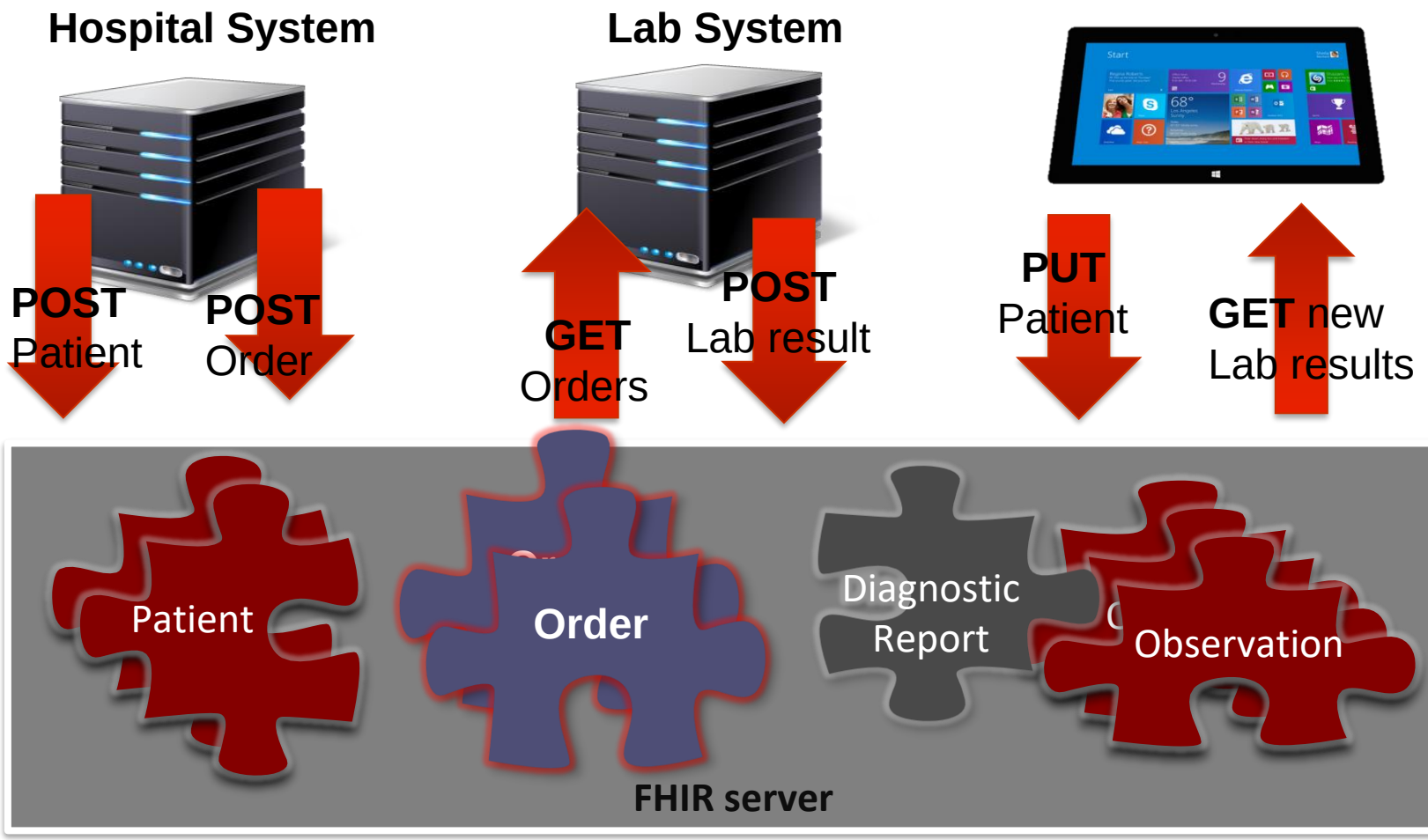
```
"valueQuantity" : {
  "value" : 107,
  "unit" : "mm[Hg]"
}
```

```
"valueString" : "Patient loves to sing"
```

Updating, creating & deleting single resources using REST

REST – CRUD

REST:"Repository" model of healthcare



REST “representations”

Request:

GET **http://myserver.org/fhir/Patient/1?_format=json**

Response

HTTP/1.1 200 OK

Content-Type: application/fhir+json

Content-Length: 787

Request:

GET **http://myserver.org/fhir/Patient/1**

Accept: application/fhir+json

Communicating resources

(with REST, see also http://www.hl7.org/fhir/http.html)

create

The create interaction creates a new resource in a server assigned location. The create interaction is performed by an HTTP POST operation as shown:

```
POST [base]/[type] {?_format=[mime-type]}
```

read

The read interaction accesses the current contents of a resource. The interaction is performed by an HTTP GET operation as shown:

```
GET [base]/[type]/[id] {?_format=[mime-type]}
```

update

The update interaction creates a new current version for an existing resource or creates a new resource if no resource already exists for the given id. The update interaction is performed by an HTTP PUT operation as shown:

```
PUT [base]/[type]/[id] {?_format=[mime-type]}
```

delete

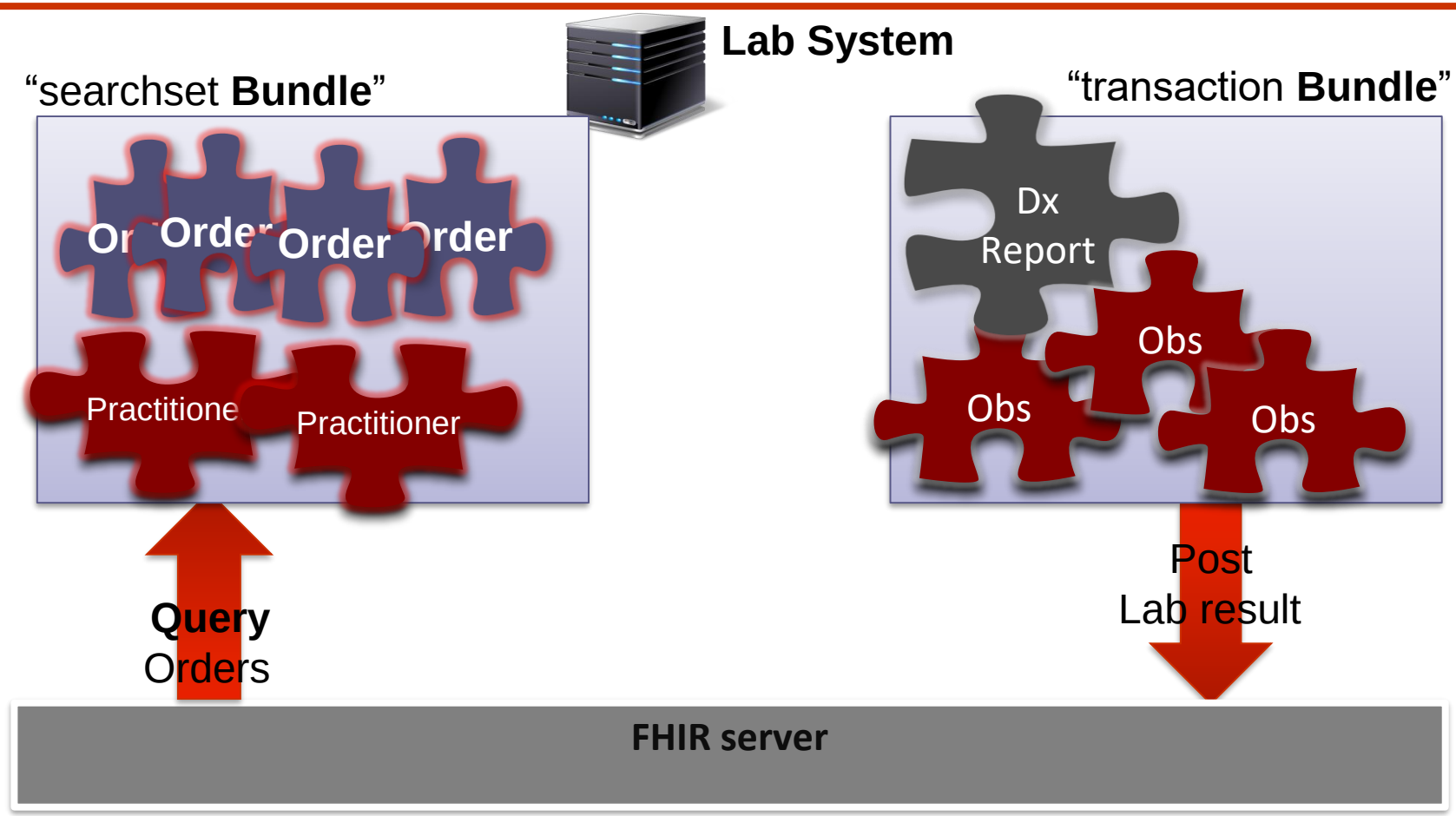
The delete interaction removes an existing resource. The interaction is performed by an HTTP DELETE operation as shown:

```
DELETE [base]/[type]/[id]
```

How FHIR communicates sets of resources

BUNDLES

Bundling resources



Types of Bundles

Code	Display	Definition
document	Document	The bundle is a document. The first resource is a **Composition**.
message	Message	The bundle is a message. The first resource is a **MessageHeader**.
transaction	Transaction	The bundle is a transaction - intended to be processed by a server as an atomic commit.
transaction-response	Transaction Response	The bundle is a transaction response. Because the response is a transaction response, the transaction has succeeded, and all responses are error free.
batch	Batch	The bundle is a set of actions - intended to be processed by a server as a group of independent actions.
batch-response	Batch Response	The bundle is a batch response. Note that as a batch, some responses may indicate failure and others success.
history	History List	The bundle is a list of resources from a history interaction on a server.
searchset	Search Results	The bundle is a list of resources returned as a result of a search/query interaction, operation, or message.
collection	Collection	The bundle is a set of resources collected into a single package for ease of distribution that imposes no processing obligations or behavioral rules beyond persistence.

SEARCH FUNCTIONALITY

Basic search

- Syntax

```
GET [base]/[resourcetype]?key=value&...
```

- Getting all patients

```
GET http://acme.org/fhir/Patient
```

- Example:

```
GET http://acme.org/fhir/Patient?name=eve
```

Search parameters

Each resource has a set of “standard” search parameters, so **not every element can be searched!**:

Name	Type	Description	Paths
active	token	Whether the patient record is active	Patient.active
address	string	An address in any kind of address/part of the patient	Patient.address
birthdate	date	The patient's date of birth	Patient.birthDate
family	string	A portion of the family name of the patient	Patient.name.family
gender	token	Gender of the patient	Patient.gender
given	string	A portion of the given	Patient.name.given
identifier	token	A patient identifier	Patient.identifier
language	token	Language code (irrespective of use value)	
link	reference	All patients linked to the given patient	
name	string	A portion of either family or given name of the patient	Patient.name

Parameter Type

Our last search used this one

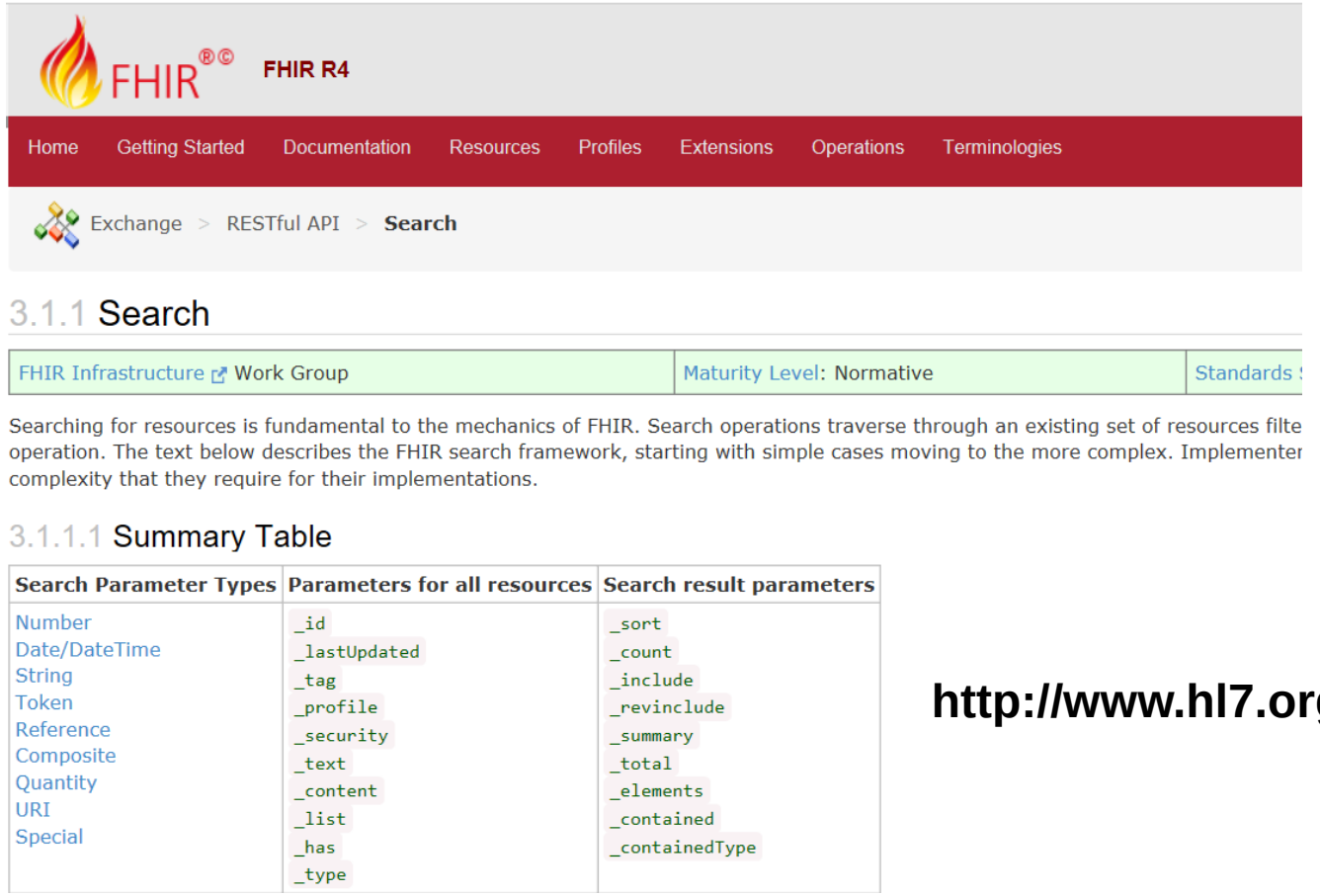
Parameter types

- For each type there are specific prefixes and modifiers

number, date and quantity:
Search for `[param]=gt[value]` retrieves resources where `[param]` has a value greater than `[value]`

```
http://acme.org/fhir/Patient?name:contains=eve
```

More information



http://www.hl7.org/fhir/search.html

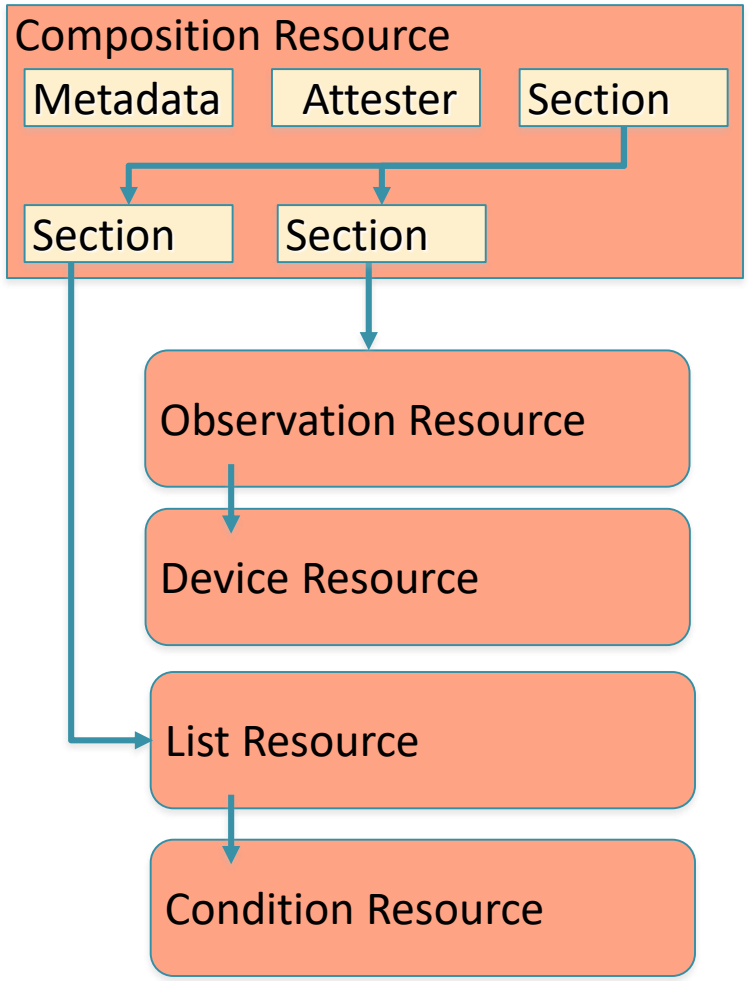
FHIR DOCUMENTS

Documents

- Collection of resources bound together
  - Root is a “Composition” resource
  - Composition is a sort of extended CDA header (includes sections; reference to entries;…)
- Sent as a Bundle resource
- Can be signed, authenticated, etc.
- No context conduction

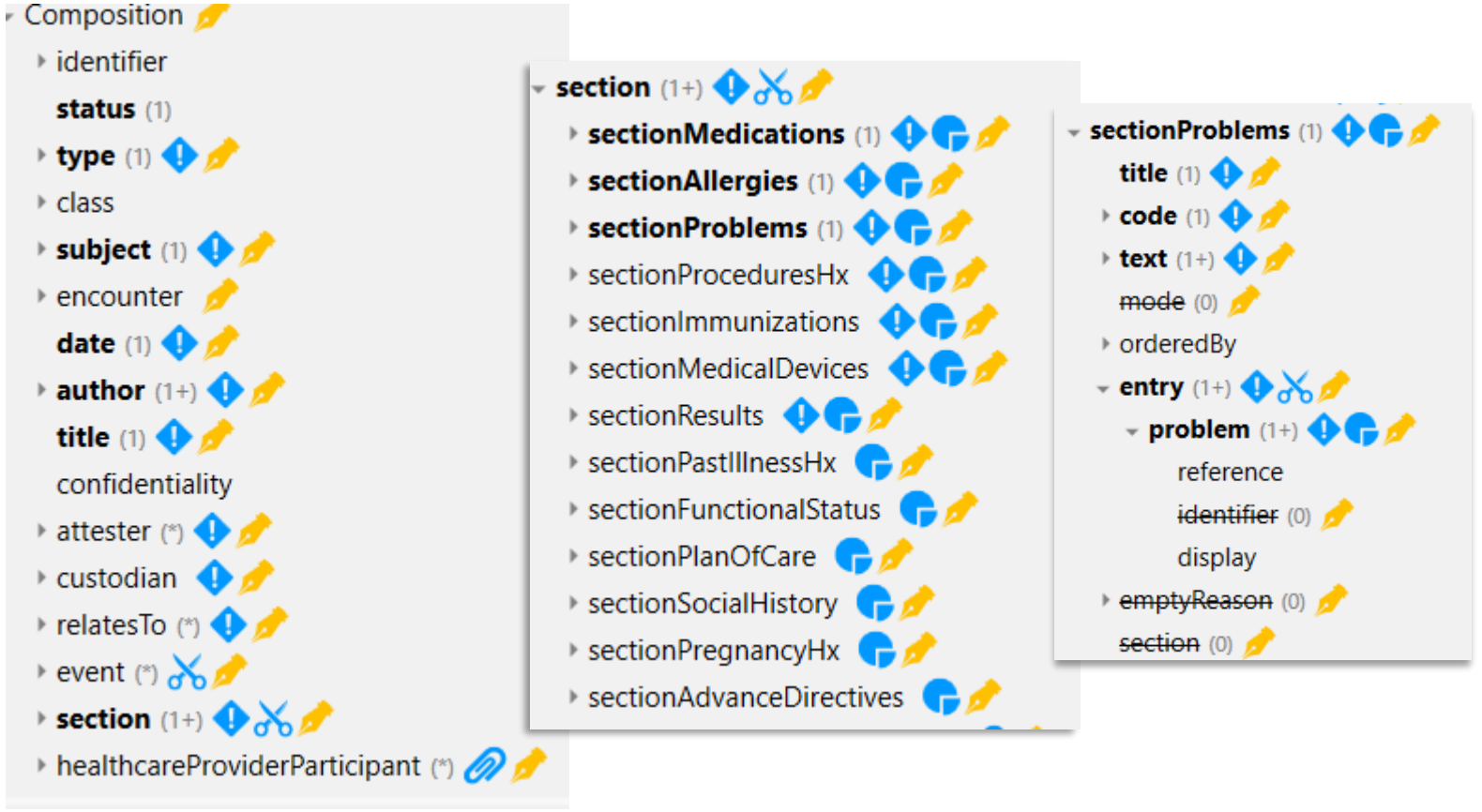
http://www.hl7.org/fhir/documents.html

Documents – are bundles

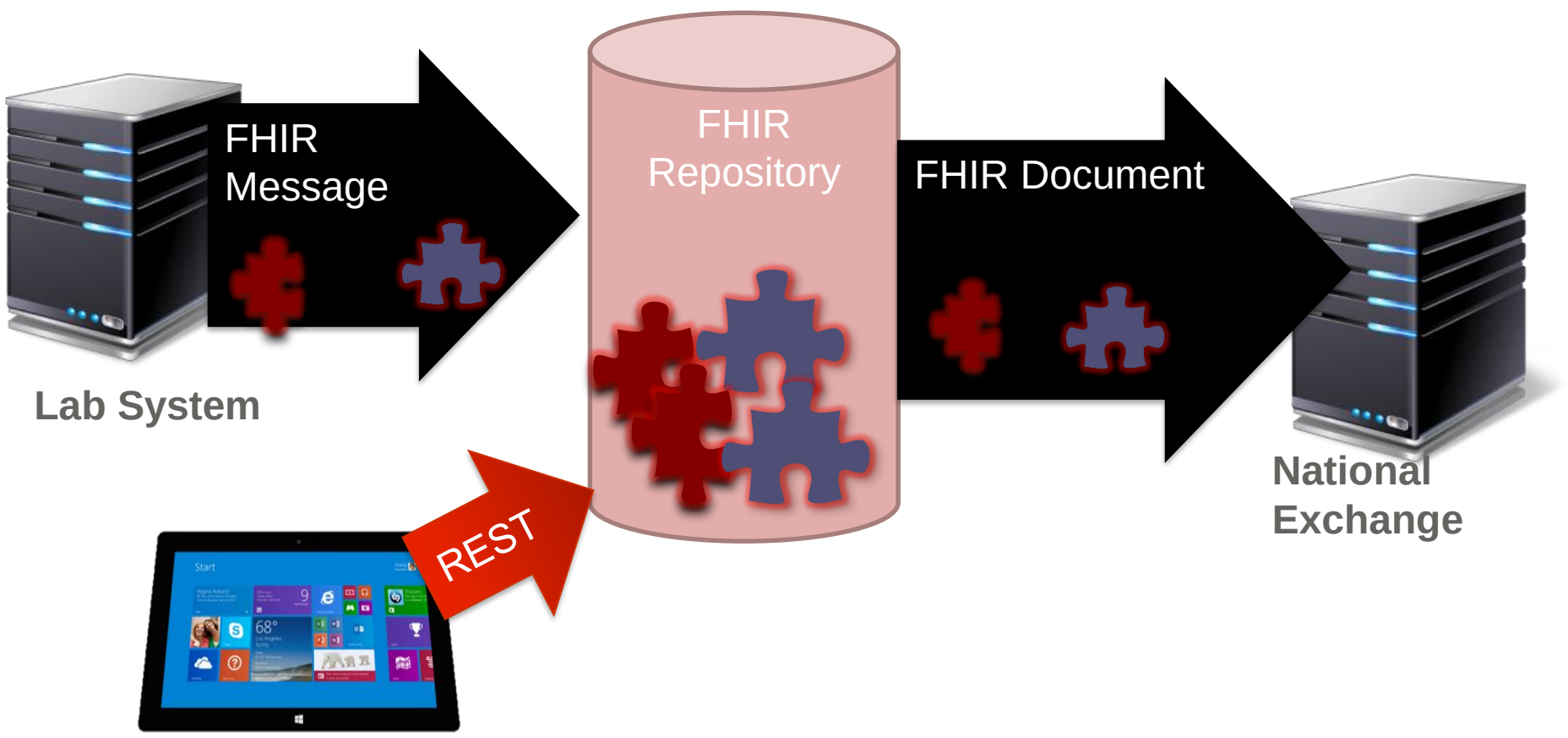



```
<Bundle>
  <entry>
      <Composition />
  </entry>
  <entry>
      <Observation />
  </entry>
  <entry>
      <Device />
  </entry>
  <entry>
      <List/>
  </entry>
  <entry>
      <Condition/>
  </entry>
</Bundle>
```

The IPS Composition



Regardless of **paradigm**, the content **is the same**



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THE HL7 FHIR IPS

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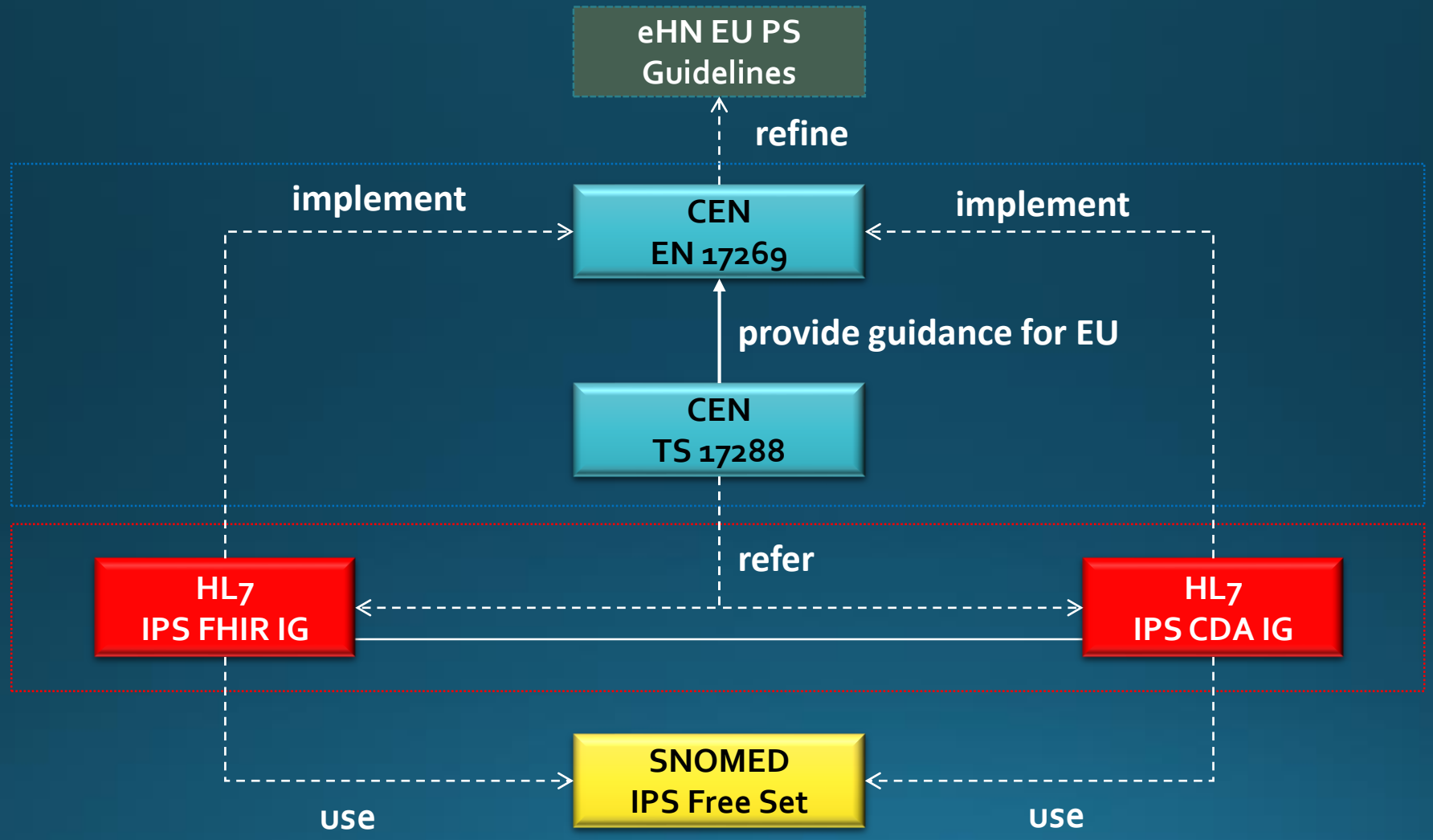
The Five IPS project Products



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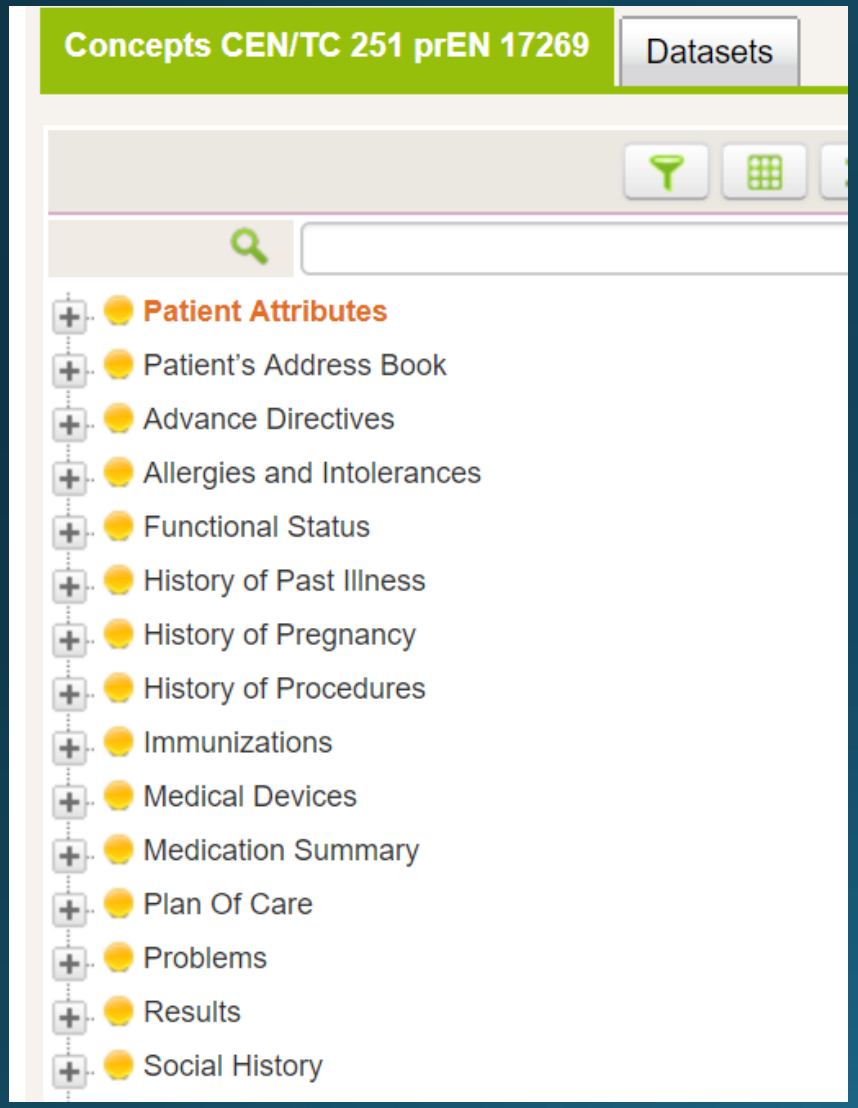
The IPS data set (prEN 12679)



https://art-decor.org/art-decor/decor-datasets--hl7ips-

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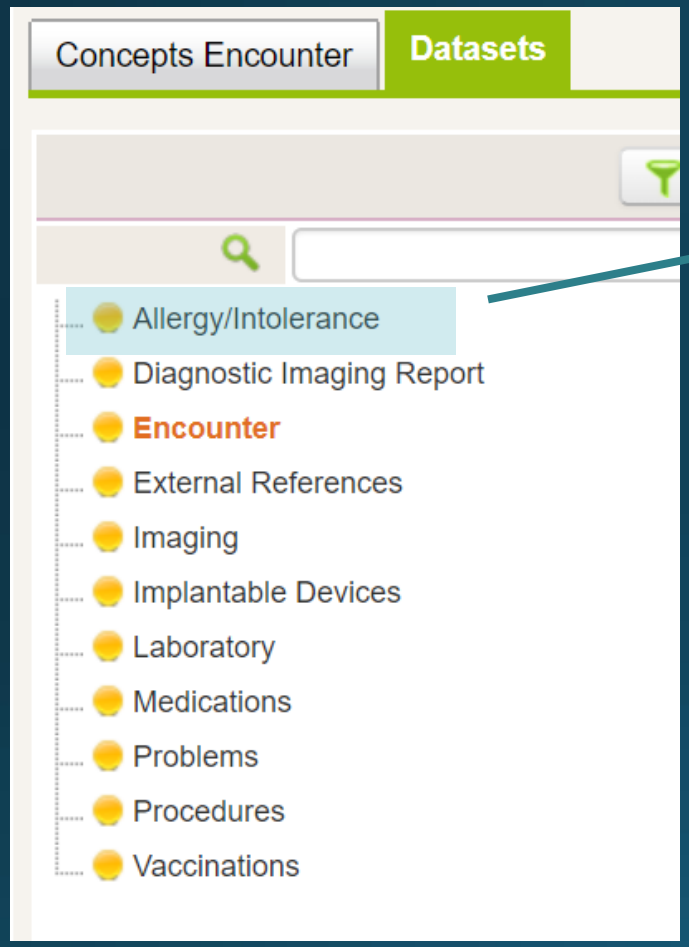
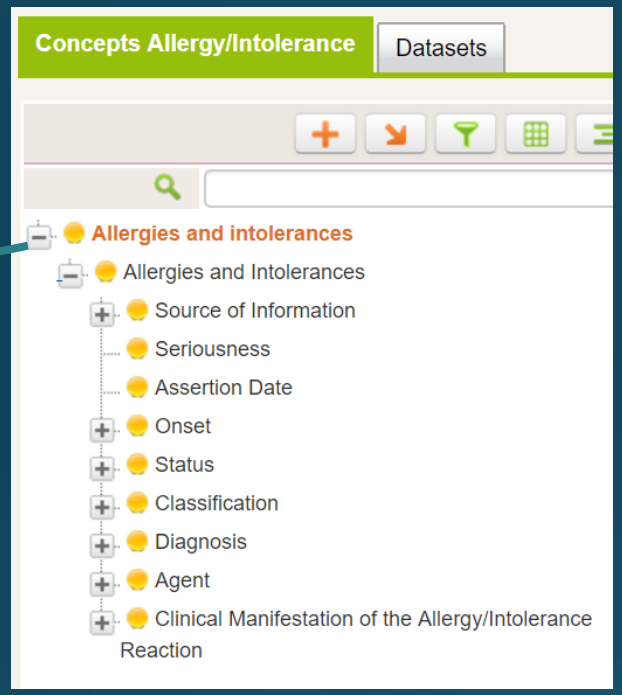
The Trillium II data set (based on prEN 12679)





https://art-decor.org/art-decor/decor-datasets--trilm2-

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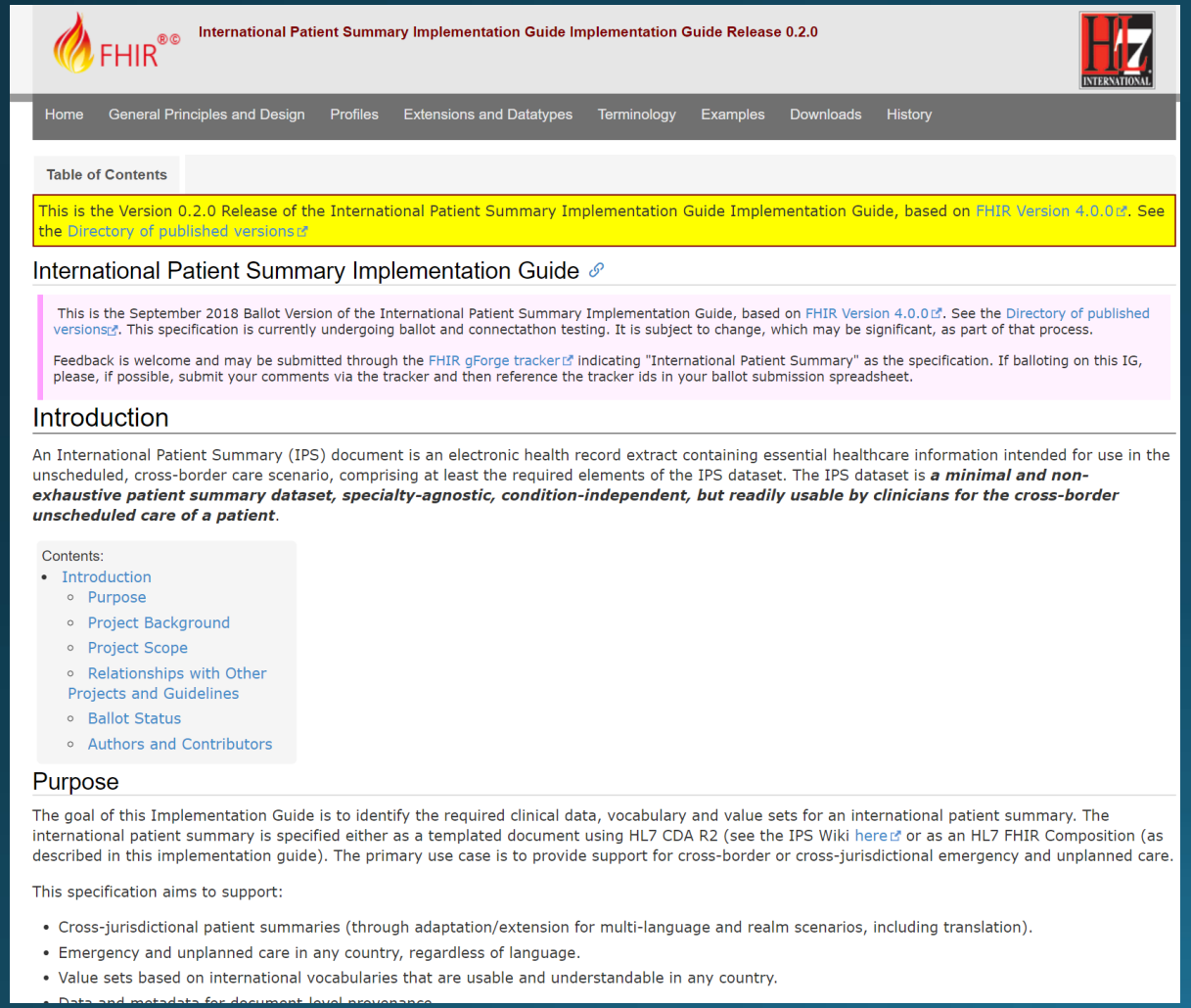
The FHIR IPS IG (STU)



International Patient Summary Implementation Guide Implementation Guide Release 0.2.0

Home | General Principles and Design | Profiles | Extensions and Datatypes | Terminology | Examples | Downloads | History

Table of Contents

This is the Version 0.2.0 Release of the International Patient Summary Implementation Guide Implementation Guide, based on FHIR Version 4.0.0. See the Directory of published versions

International Patient Summary Implementation Guide

This is the September 2018 Ballot Version of the International Patient Summary Implementation Guide, based on FHIR Version 4.0.0. See the Directory of published versions. This specification is currently undergoing ballot and connectathon testing. It is subject to change, which may be significant, as part of that process.

Feedback is welcome and may be submitted through the FHIR gForge tracker indicating "International Patient Summary" as the specification. If balloting on this IG, please, if possible, submit your comments via the tracker and then reference the tracker ids in your ballot submission spreadsheet.

Introduction

An International Patient Summary (IPS) document is an electronic health record extract containing essential healthcare information intended for use in the unscheduled, cross-border care scenario, comprising at least the required elements of the IPS dataset. The IPS dataset is ***a minimal and non-exhaustive patient summary dataset, specialty-agnostic, condition-independent, but readily usable by clinicians for the cross-border unscheduled care of a patient***.

Contents:

- Introduction
  - Purpose
  - Project Background
  - Project Scope
  - Relationships with Other Projects and Guidelines
  - Ballot Status
  - Authors and Contributors

Purpose

The goal of this Implementation Guide is to identify the required clinical data, vocabulary and value sets for an international patient summary. The international patient summary is specified either as a templated document using HL7 CDA R2 (see the IPS Wiki here or as an HL7 FHIR Composition (as described in this implementation guide). The primary use case is to provide support for cross-border or cross-jurisdictional emergency and unplanned care.

This specification aims to support:

- Cross-jurisdictional patient summaries (through adaptation/extension for multi-language and realm scenarios, including translation).
- Emergency and unplanned care in any country, regardless of language.
- Value sets based on international vocabularies that are usable and understandable in any country.
- Data and metadata for document-level provenance

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

Based on FHIR R4 (Published on January 2019)

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

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The Trillium II IPS FHIR Profiles

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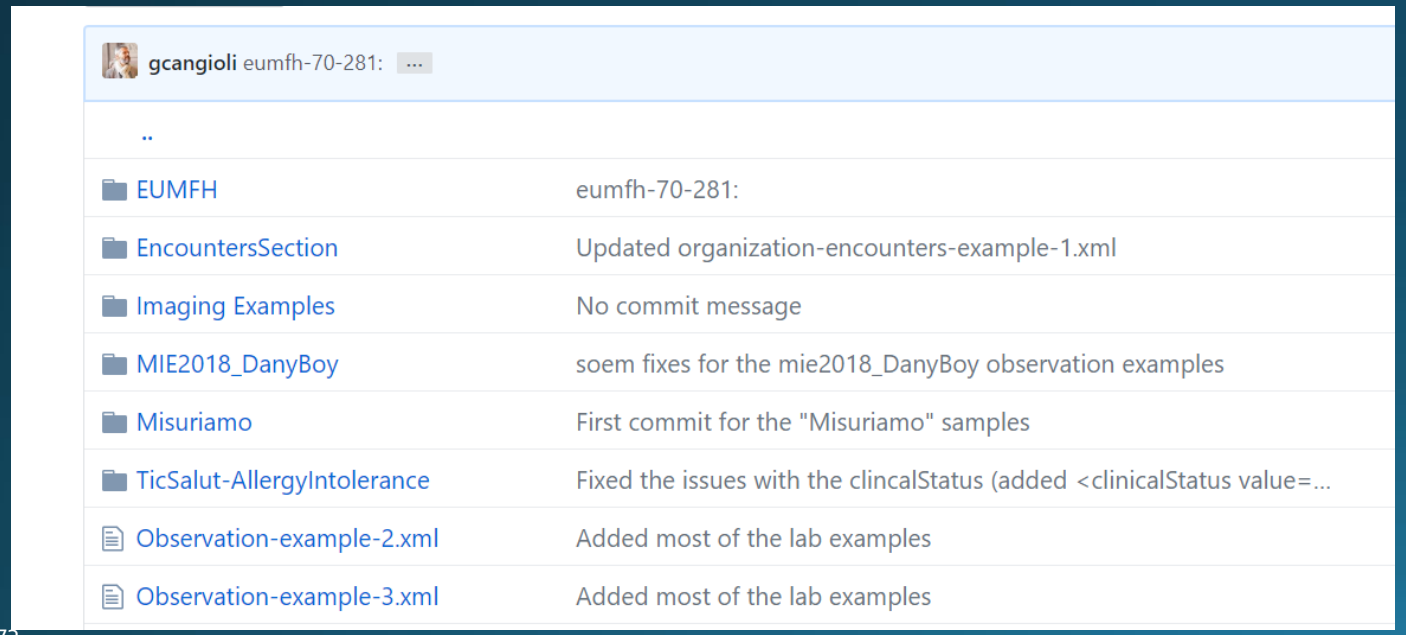
https://github.com/gcangioli/trilliumII



All the source files for

1. **HL7 FHIR Profiles**
2. **specified HL7 FHIR Value Set**
3. **examples**

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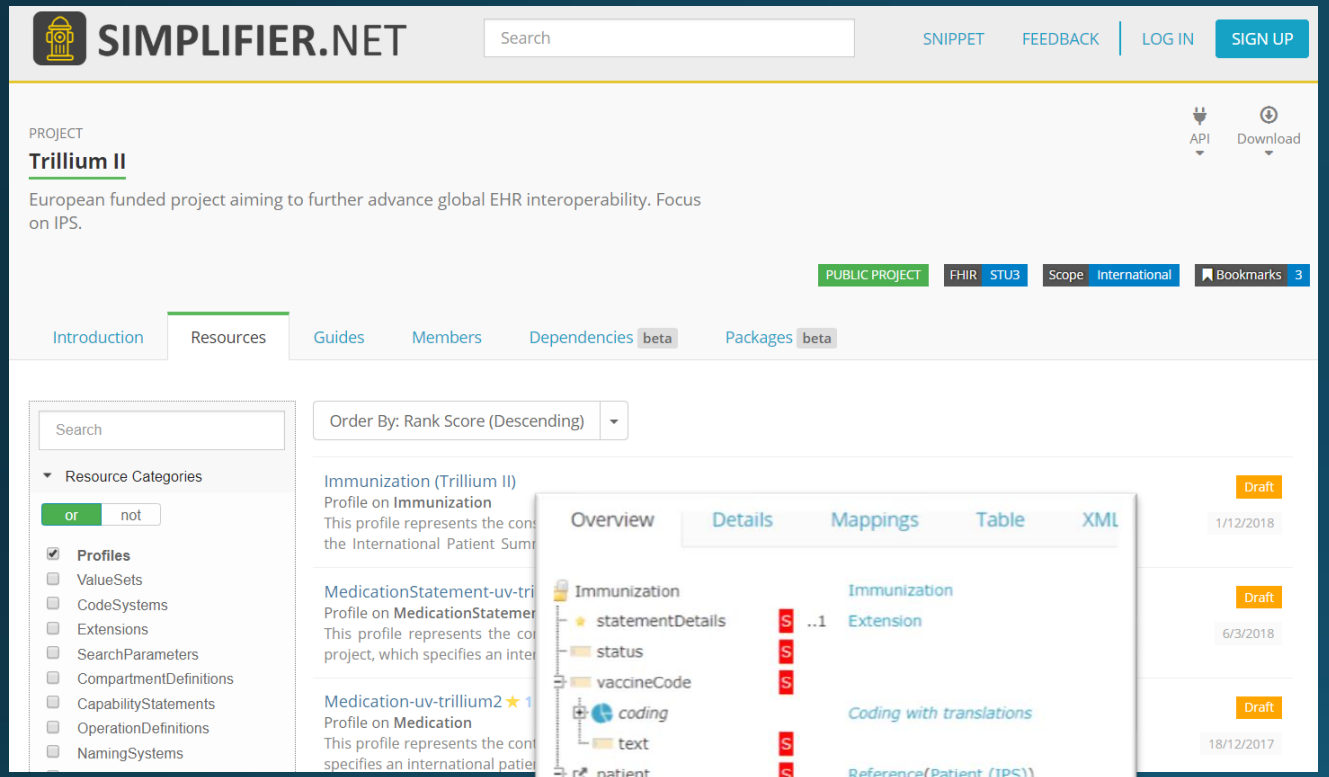
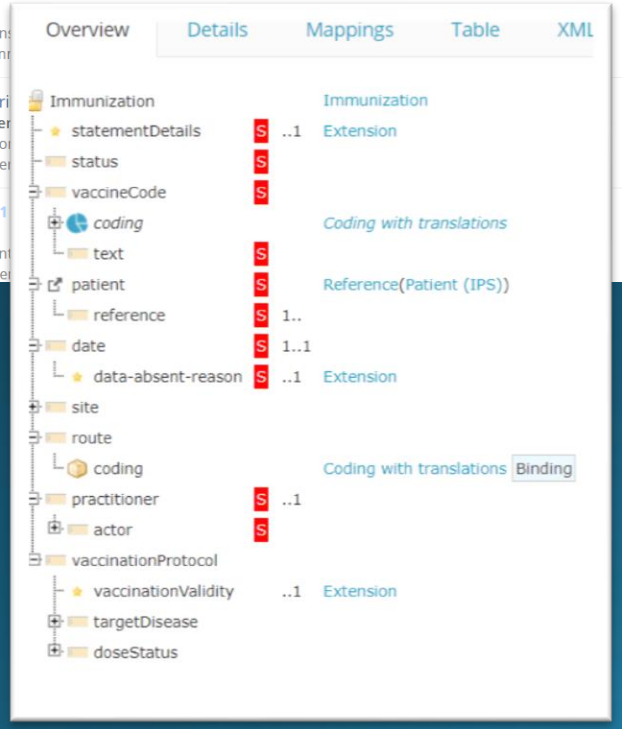
The Trillium II IPS FHIR Profiles





Based on FHIR STU3

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

https://simplifier.net/TrilliumII/~resources?category=Profile

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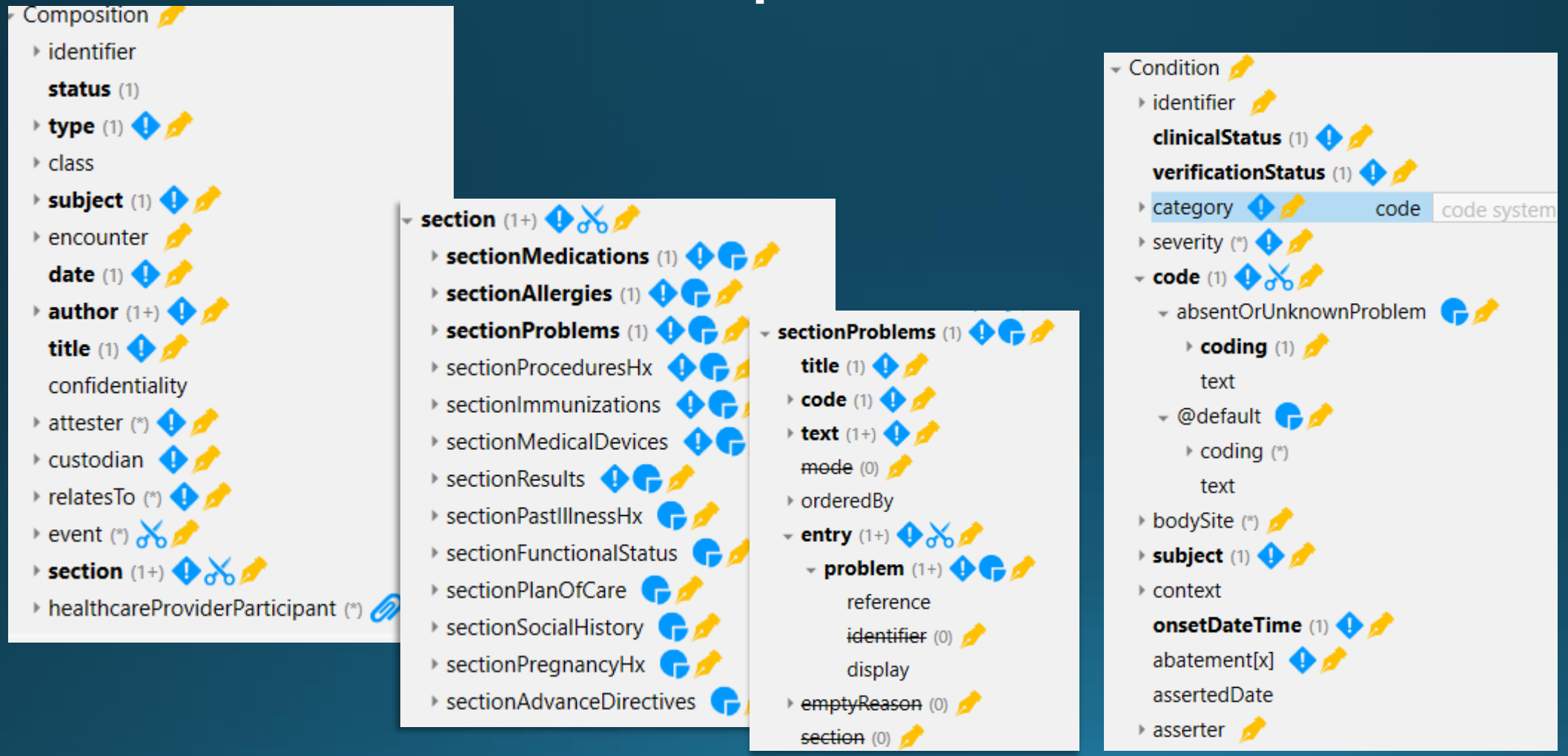
The IPS Composition



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The IPS Composition

```
<?xml version="1.0" encoding="UTF-8"?>
<Composition xmlns="http://hl7.org/fhir" xmlns:xsi="http://www.w
  <id value="demo-ips-dany-boy-1"/>
  <meta>
    <profile value="http://hl7.org/fhir/uv/ips/StructureDefinition/c
  </meta>
  <status value="final"/>
  <type>
  <subject>
    <reference value="Patient/demo-patient-1"/>
  </subject>
  <date value="2018-04-12T15:19:00+02:00"/>
  <author>
    <reference value="Practitioner/demo-practitioner-1"/>
  </author>
  <title value="Patient Summary - Boy with Asthma "/>
  <confidentiality value="N"/>
  <attester>
    <mode value="legal"/>
    <time value="2017-07-20T14:30:00+01:00"/>
    <party>
      <reference value="Practitioner/demo-practitioner-1"/>
    </party>
  </attester>
  <event>
  <section>
    <title value="Active Problems"/>
    <code>
```

```
<section>
  <title value="Active Problems"/>
  <code>
  <text>
  <entry>
    <reference value="Condition/demo-cond-asthma-1"/>
  </entry>
</section>
<section>
  <title value="Medication"/>
  <code>
  <text>
  <entry>
    <reference value="MedicationStatement/demo-medstat-1-1"/>
  </entry>
  <entry>
    <reference value="MedicationStatement/demo-medstat-1-2"/>
  </entry>
  <entry>
    <reference value="MedicationStatement/demo-medstat-1-3"/>
  </entry>
</section>
<section>
  <title value="Allergies and Intolerances"/>
  <code>
  <text>
  <entry>
    <reference value="AllergyIntolerance/demo-aoi-2"/>
  </entry>
</section>
```

GET http://app.srdc.com.tr/fhir/stu3/Composition/demo-ips-dany-boy-1

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The IPS "document"

```
<Bundle xmlns="http://hl7.org/fhir" xmlns:xhtml="http://www.w3.org/1999/xhtml" xmlns:xsi="
  <id value="demo-ipsbdl-dany-boy-1"/>
  <identifier><system value="http://trilliumbridge.eu/fhir/demos/mie2018/bundleids"
  <type value="document"/>
  <entry>
    <fullUrl value="Composition/demo-ips-dany-boy-1"/>
    <resource>
      <Composition>
    </resource>
  </entry>
  <entry>
    <fullUrl value="http://app.srdc.com.tr/fhir/stu3/Patient/demo-patient-1"/>
    <resource>
      <Patient>
    </resource>
  </entry>
  <entry>
    <fullUrl value="http://app.srdc.com.tr/fhir/stu3/Practitioner/demo-practitioner-1"/>
    <resource>
      <Practitioner>
    </resource>
  </entry>
  <entry>
    <fullUrl value="http://app.srdc.com.tr/fhir/stu3/AllergyIntolerance/demo-aoi-1"/>
    <resource>
      <AllergyIntolerance>
    </resource>
  </entry>
  <entry>
    <fullUrl value="http://app.srdc.com.tr/fhir/stu3/AllergyIntolerance/demo-aoi-2"/>
    <resource>
      <AllergyIntolerance>
    </resource>
  </entry>
```

Resources that have to be included (STU3)

- Composition.subject
- Composition.encounter
- Composition.author
- Composition.attester.party
- Composition.custodian
- Composition.event.detail
- Composition.section.entry

- All referred resources for the IPS Profile

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The IPS "document"

```
<Bundle xmlns="http://hl7.org/fhir" xmlns:xhtml="http://www.w3.org/1999/xhtml" xmlns:xsi="
  <id value="demo-ipsbdl-dany-boy-1"/>
  <identifier><system value="http://trilliumbridge.eu/fhir/demos/mie2018/bundleids"/><value
  <type value="document"/>
  <entry>
    <fullUrl value="Composition/demo-ips-dany-boy-1"/>
    <resource>
      <Composi
    </resource>
  </entry>
  <entry>
    <fullUrl value="http://app.srdc.com.tr/fhir/stu3/Patient/demo-patient-1"/>
    <resource>
      <Patient>
    </resource>
  </entry>
  <entry>
    <fullUrl value="http://app.srdc.com.tr/fhir/stu3/Practitioner/demo-practitioner-1"/>
    <resource>
      <Practitioner>
    </resource>
  </entry>
  <entry>
    <fullUrl value="http://app.srdc.com.tr/fhir/stu3/AllergyIntolerance/demo-aoi-1"/>
    <resource>
      <AllergyIntolerance>
    </resource>
  </entry>
  <entry>
    <fullUrl value="http://app.srdc.com.tr/fhir/stu3/AllergyIntolerance/demo-aoi-2"/>
    <resource>
      <AllergyIntolerance>
    </resource>
  </entry>
```

GET http://app.srdc.com.tr/fhir/stu3/Bundle/demo-ipsbdl-dany-boy-1

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FHIR Servers

- Trillium II test servers (FHIR STU3)
  - http://ehealthpass.gnomon.com.gr/hapi-fhir-jpaserver4/baseDstu3
  - http://app.srdc.com.tr/fhir/stu3

- Other FHIR Test Server
  - http://wiki.hl7.org/index.php?title=Publicly_Available_FHIR_Servers_for_testing
  - **http://test.fhir.org/r4** (http://test.fhir.org/r2, http://test.fhir.org/r3)

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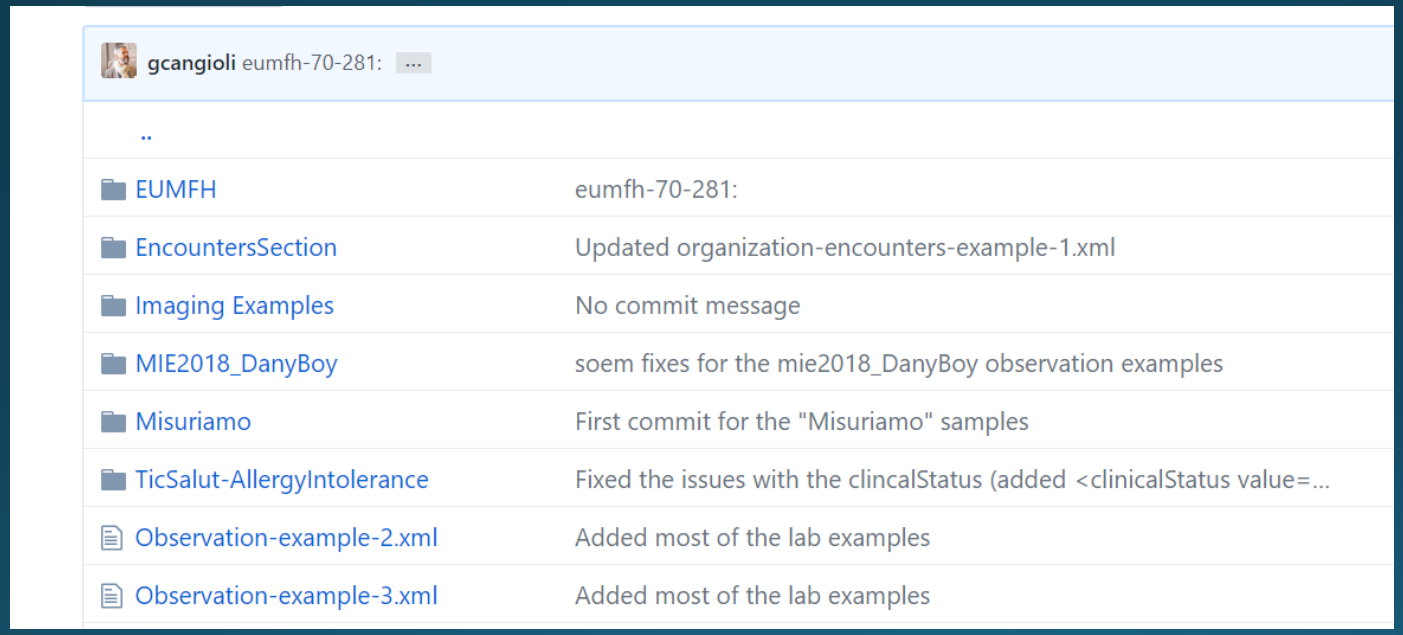
Trillium II examples

https://github.com/gcangioli/trilliumII/tree/master/examples



gcangioli eumfh-70-281: ...

..

EUMFH	eumfh-70-281:
EncountersSection	Updated organization-encounters-example-1.xml
Imaging Examples	No commit message
MIE2018_DanyBoy	soem fixes for the mie2018_DanyBoy observation examples
Misuriamo	First commit for the "Misuriamo" samples
TicSalut-AllergyIntolerance	Fixed the issues with the clincalStatus (added <clinicalStatus value=...
Observation-example-2.xml	Added most of the lab examples
Observation-example-3.xml	Added most of the lab examples

...ready to include also yours....