HL7 Europe Overview

Giorgio Cangioli

Technical Lead, Board Member - HL7 Europe

Vice-Chair, Board Member - HL7 Italy

TSC, CDA MG, AEC, Board Member - HL7 International

HL7/IHE Germany WGM – 2023/10/19

Disclaimer

Any views or opinions expressed in this presentation are those of the author and do not necessarily represent official policy or position of the organizations mentioned.

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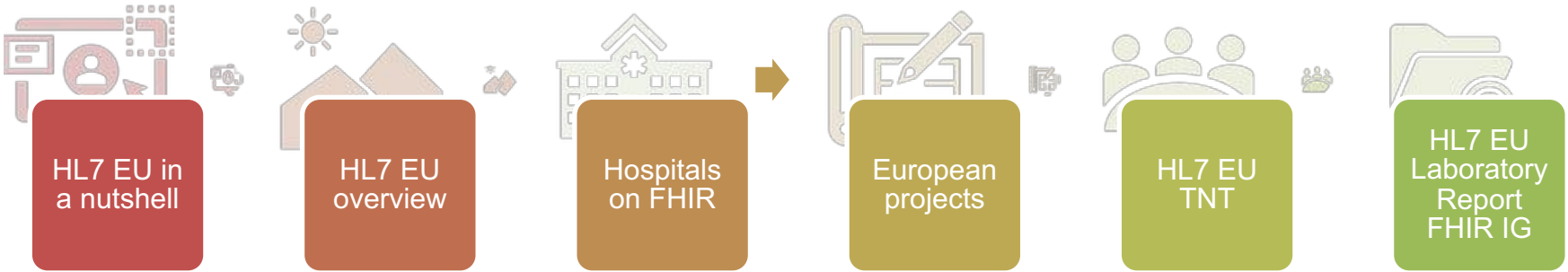
Agenda



Working Group Meeting
FHIR Connectathon

HL7 Europe IN A NUTSHELL

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HL7 Europe

- Formally, HL7 Europe is a not-for-profit legal entity based in Belgium (official name **HL7 Europe Foundation**) *… but it is much more than this…*
- …HL7 Europe has no “paying” members, nevertheless …

HL7 Europe is a community

built on the EU HL7 Affiliate members

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HL7 Europe

- **Established in** 2010
- **Scope:** WHO Europe Region (including Turkey and Israel)
- **# of HL7 Affiliates**: 22 + Slovakia (final approval next week) + Estonia (on-going)

HL7 Europe

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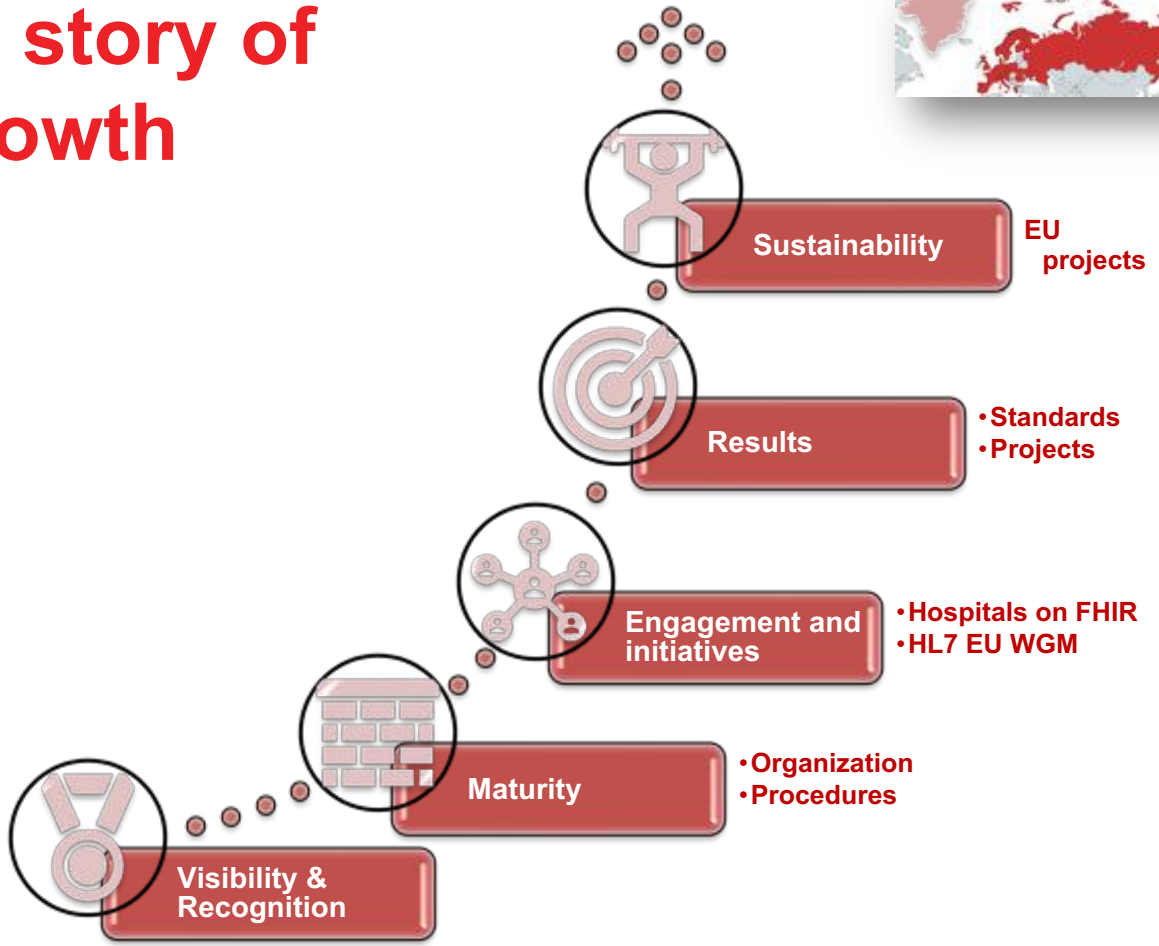
HL7 Europe: a story of continuous growth



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HL7 Europe OVERVIEW

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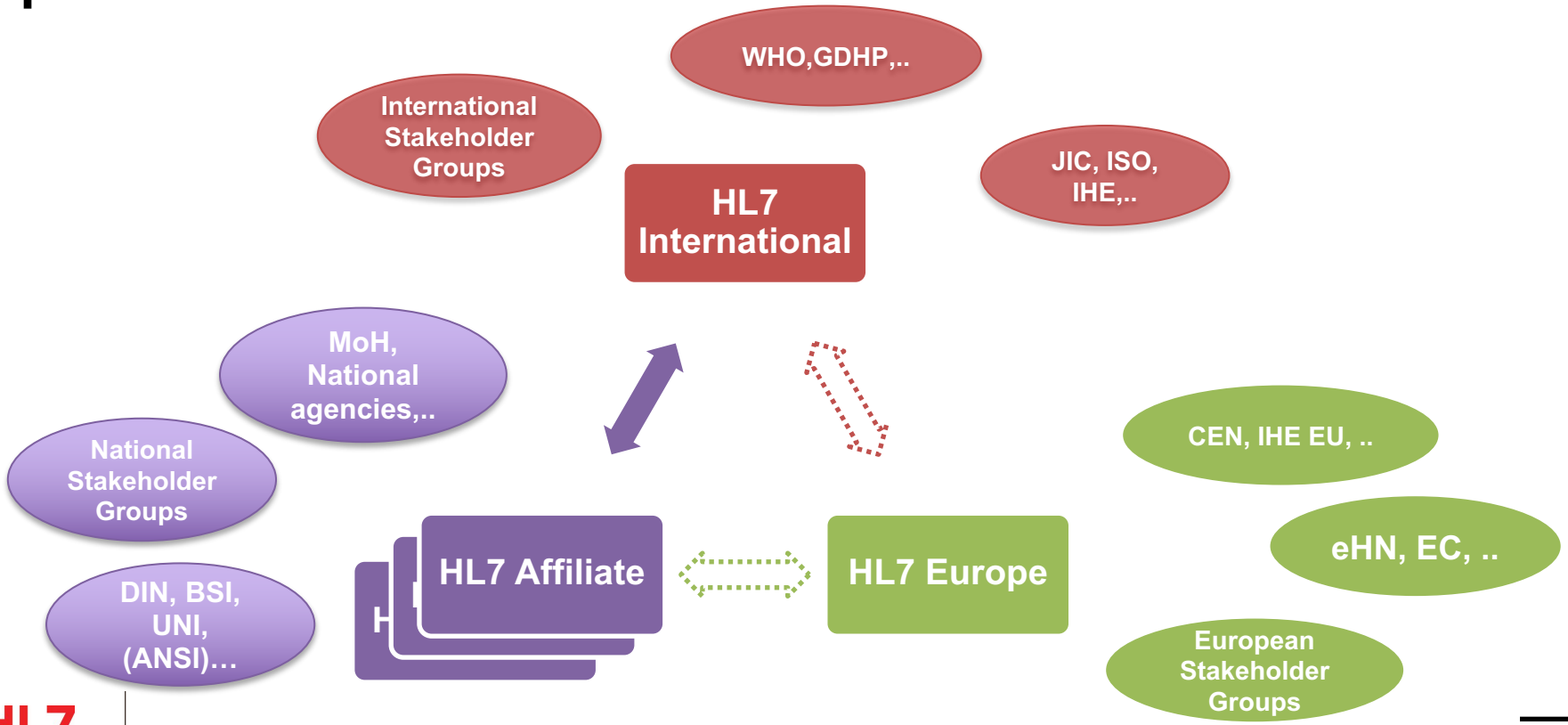
The collaboration model



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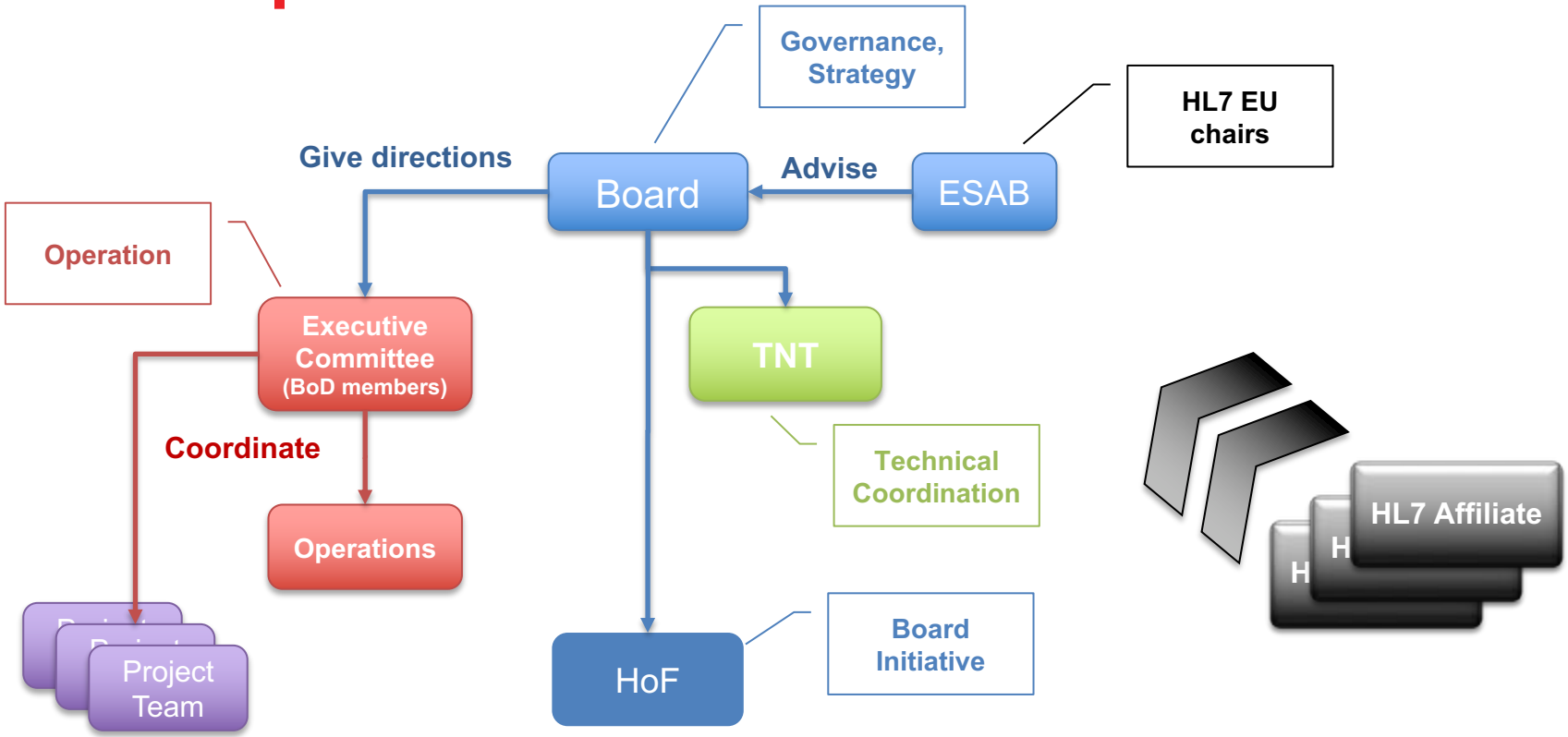
HL7 Europe Structure



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HL7 Europe Foundation Board of Directors 2023-2024

HL7 Int. Appointed

Ed Hammond

Andy Trescott

Julia Skapik

HL7 EU Appointed

Anne Moen

Henrique Martins

Robert Stegwee

HL7 Int. ex-officio

Mark McDougall

Charles Jaffee

ESAB Elected

Jens Christian Villadsen

Line Andreassen Sæle

Roeland Luykx

HL7 EU ex-officio

Catherine Chronaki

Giorgio Cangioli

HL7 Europe

THE HOSPITALS-ON-FHIR INITIATIVE

HL7 Europe

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European EHRxF: engagement

Hospitals HL7 FHIR

HL7 Europe *launched network of hospitals and other healthcare provider organizations to* ***foster*** *the* ***adoption*** *of HL7 FHIR-based interoperability.*

No interoperability without data

Enable and support standard adoption

Not only country-to-country but cooperation among hospitals

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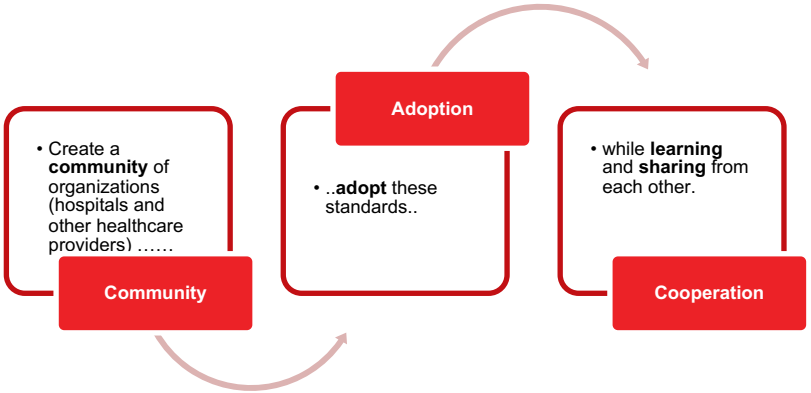
Standards and European EHRxF



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Put your hospital on the Hospitals HL7 FHIR map

https://www.hospitalsonfhir.eu

More information, joining Hospitals-on-FHIR, or suggestions – email us info@hospitalsonfhir.eu

HL7 Europe

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THE EUROPEAN PROJECTS

HL7 Europe

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Overview

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2023 Active Projects

Dec. 2019 – May 2024
Identification of Medicinal Products (IDMP)

UNICOM

Jan 2023 – Dec 2024
Accelerate interoperability based on E-EHRxF

XpanDH

Oct. 2019 – Dec 2023
Platform for integrated digital solution

GATEKEEPER

Mar 2021 – Feb 2025
Passport for childhood cancer survivors

Nov 2019 – Oct 2025
Tailored Electronic Product information

Gravitate Health

Dec 2023 – Nov 2026
Share and effectively use health data within the EHDS

SHARE
EHR Xchange Format

Jan 2024 – Dec 2027
Tools for genomic data integration for cardiovascular medicine

NextGen

Sep 2022 – Aug 2026
Data Space for rare cancers

IDEA4RC

May. 2023 – Mar 2027
Federated AIs for diagnosis of prostate cancer

flute

Jan 2023 - Dec 2026
Environmental Surveillance System

ONE AQUA HEALTH

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EU Projects and HL7 FHIR

Dec. 2019 – May 2024
Identification of Medicinal Products (IDMP)

UNICOM

Jan 2023 – Dec 2024
Accelerate interoperability based on E-EHRxF

XpanDH

Oct. 2019 – Dec 2023
Platform for integrated digital solution

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ONE AQUA HEALTH

Jan 2023 - Dec 2026
Environmental Surveillance System

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EU project HL7 FHIR IG sources

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Contribution to Standards

HL7 Europe

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Contribution to Standards

Gravitate Health

UNICOM

XpanDH

X-eHealth
Exchanging Electronic Health Records in a common framework

FAIR4Health

IPS

PanCare SurPass

Potential future HL7 EU project

IDEA4RC

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Contribution to Standards

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Contribution to Standards

UNICOM

Gravitate Health

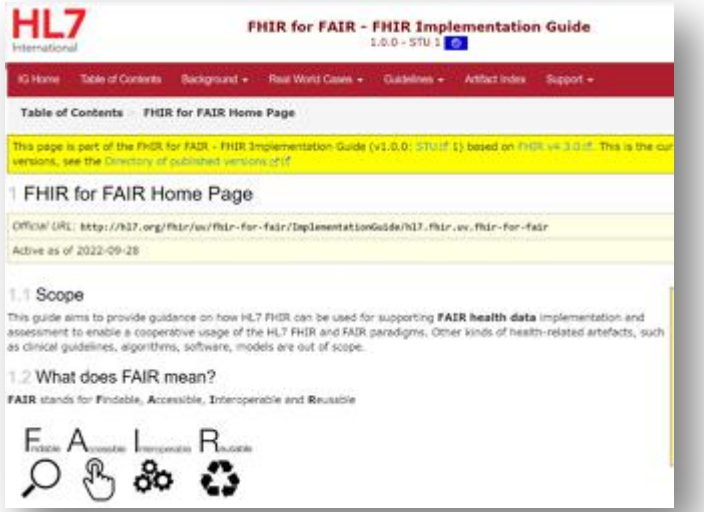
XpanDH

X-eHealth
Exchanging Electronic Health Records in a common framework

PanCare SurPass

FAIR4Health

Looking for support !



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Contribution to Standards

First HL7 EU IG project

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THE TECHNICAL COORDINATION TEAM

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Goals

HL7 Europe

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What the EU Technical CoordiNation Team (TNT) is…

- TNT aims to support the HL7 EU goals (technical perspective)
- TNT are voluntary-based activities
- **TNT activities are not supposed to overlap or conflict with any existing HL7 groups or activities at the affiliate and international levels.**

HL7 Europe

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The initial team

Giorgio Cangioli
HL7 Italy

Jens Villadsen
HL7 Denmark

Francois Maçary
HL7 France

Christof Gessner
HL7 Germany

Rik Smithies
HL7 United Kingdom

Jose Costa-Teixeira
HL7 Belgium

Roman Radomski
HL7 Poland

Oliver Egger
HL7 Switzerland

Alexander Henket
HL7 Nederland

HL7 Europe

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The team today

Giorgio Cangioli
HL7 Europe

Jens Villadsen
HL7 Denmark

Francois Maçary
HL7 France

Nicolas Riss
HL7 France

Christof Gessner
HL7 Germany

Kai Heitmann
HL7 Germany

Gabriel Kleinoscheg
HL7 Austria

Alexander Berler
HL7 Greece

Alexander Mense
HL7 Austria

Kružík Hynek
HL7 Czech Republic

Rik Smithies
HL7 United Kingdom

Leonardo Alcaro
HL7 Italy

Jose Costa-Teixeira
HL7 Belgium

Sebastian Bojanowski
HL7 Poland

Øyvind Aassve
HL7 Norway

João Almeida
HL7 Portugal

Oliver Egger
HL7 Switzerland

Alexander Henket
HL7 Nederland

Daniel Karlsson
HL7 Sweden

HL7 Europe

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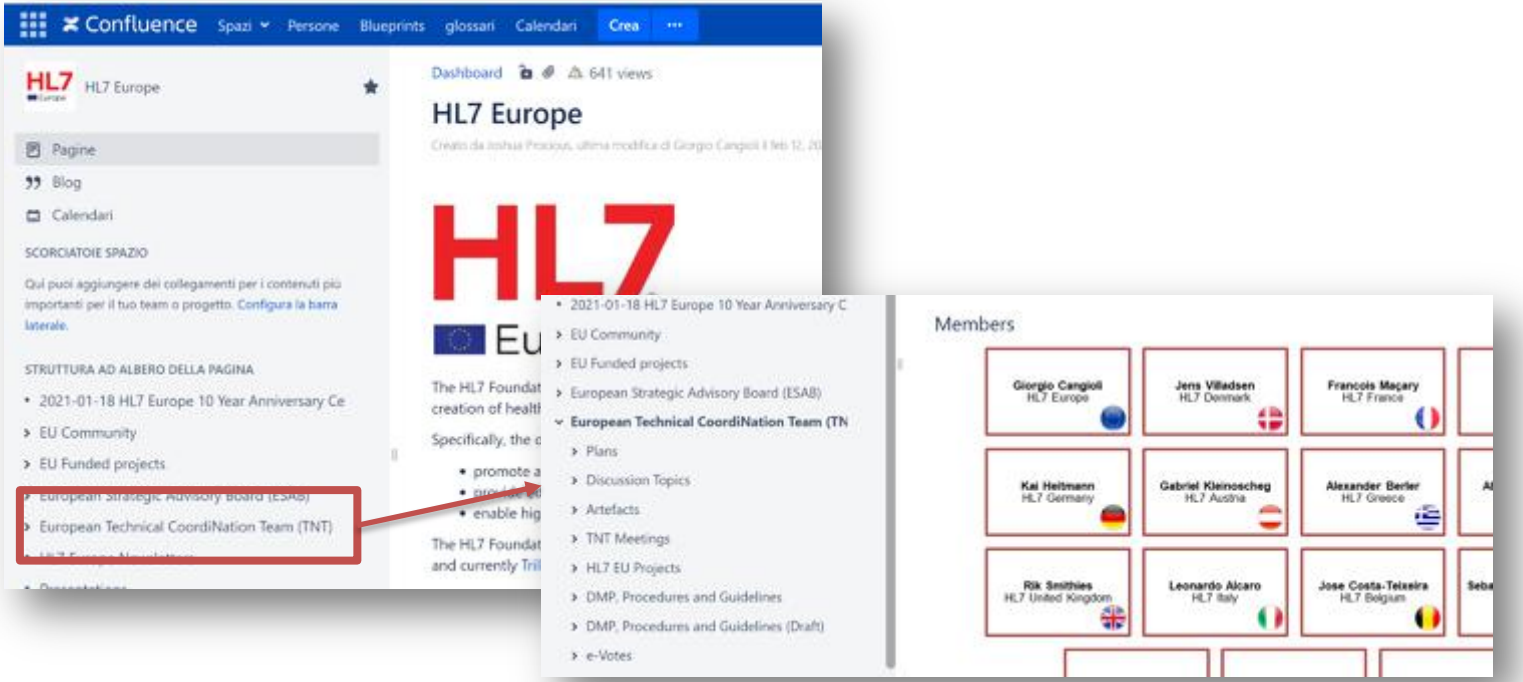
Confluence



https://confluence.hl7.org/display/HEU/HL7+Europe

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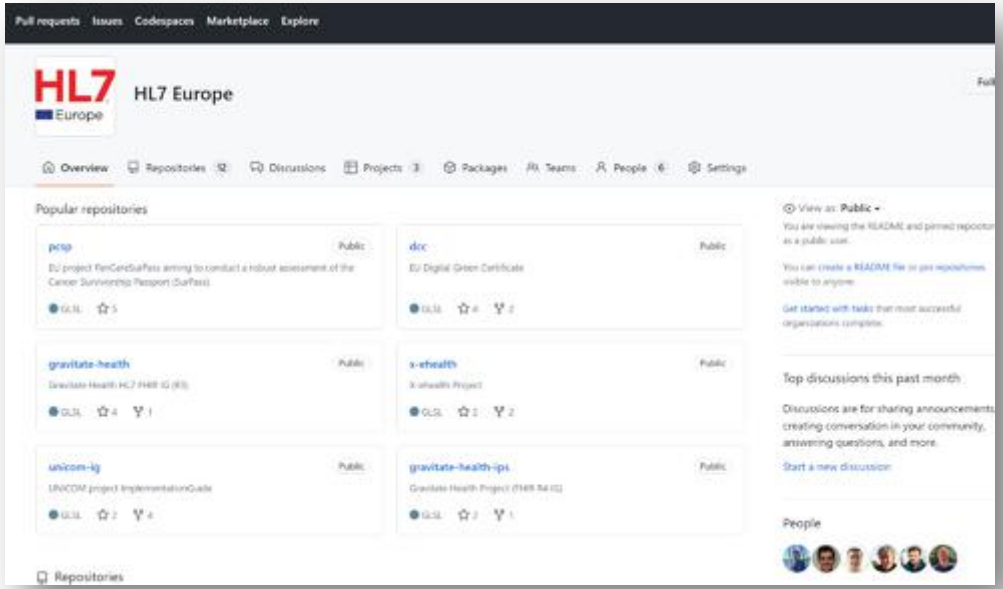
GitHub

https://github.com/hl7-eu



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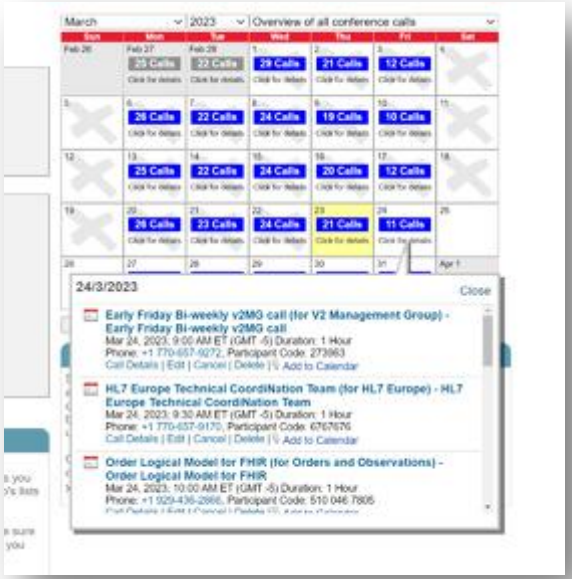
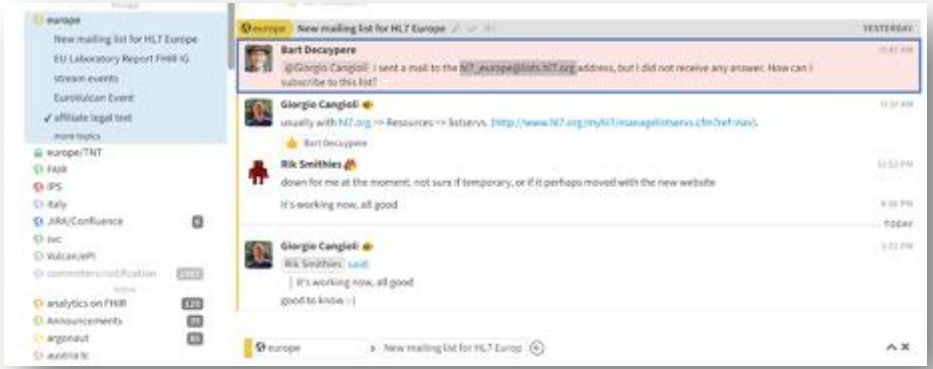
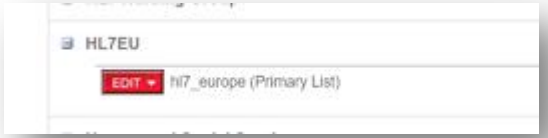
Calendar, public mailing list and chat

https://chat.fhir.org/#narrow/stream/242580-europe







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Areas of interest

HL7 Europe publications

HL7 EU FHIR IGs

Hospital on fhir

Provide technical support

Affiliate Cooperation

CDA-to-FHIR mapping Terminology Services

HL7 AUSTRIA

HL7 Affiliate | Switzerland

HL7 CDA

HL7 FHIR

HL7 Deutschland

Virtual Workshop
April 28th

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Topics

Tools

Implementation Guides Mapping

Support to affiliates

Webinar/Meeting with technical representative from affiliates

TNT Governance

DMP, Procedures,.. governance

HL7 CDA

HL7 FHIR

Virtual Workshop April 28th

More than 100 participants !

Follow up contacts among countries

Request to organize other meetings

HL7 Europe

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Topics

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DMP, Procedures,.. governance

Capacity building: Development of HL7 FHIR IG (BE/PT)

1 Step

Organize an open workshop providing an overview of the process and tools for designing, develop and publish FHIR IGs

Next steps

Organize focused workshops on specific topics (e.g., Tools; Templates, Publication; Functional Requirements / LM; Testing Scripts; Model Mapping Representation,..)

Two targets:

- **Non-Technical / Newbies**
- **HL7 FHIR IG developers**

HL7 Europe

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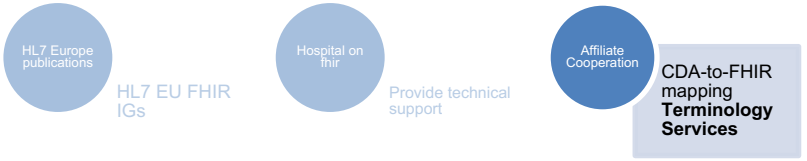
Topics



Created a small task force (EE; CZ, SE) aiming to promote the cooperation among EU countries on Terminology Services.

- 1st step: Collect countries' experiences with terminology services, and their current state of play. (*https://confluence.hl7.org/display/HEU/Survey+on+terminology+services*)
- Planned for the end of 2023, it would include HL7 affiliates in Europe and eHealth Network representatives to make sure we also reach the non-affiliates.

HL7 Europe

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Laboratory Report FHIR IG

HL7 Europe publications

HL7 EU FHIR IGs

Hospital on fhir

Provide technical support

Affiliate Cooperation

CDA-to-FHIR mapping
Terminology Services

European EHRxF

Weekly calls:
alternate technical and functional/terminology meetings

Good and qualified attendance (including myHealth@EU representatives)

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THE EU LABORATORY REPORT FHIR IG

HL7 Europe

Why and Why now

European EHRxF

EHDS - Art 5 Priorities

Common rules for representing a Laboratory Report in the European context

Facilitate the harmonization among the national initiatives

Support the development of the European-EHRxF

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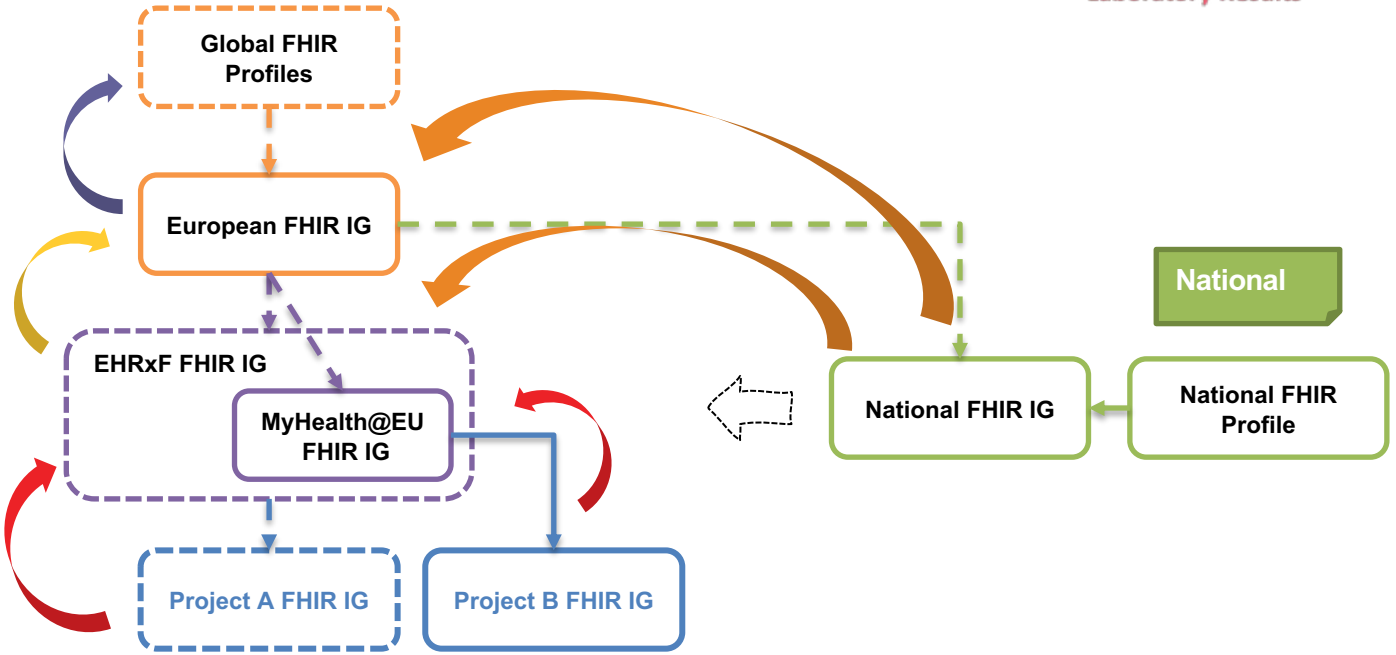
Layered Specifications

Global / EU Standard

EHDS/MyHealth@EU

Supporting EU Project



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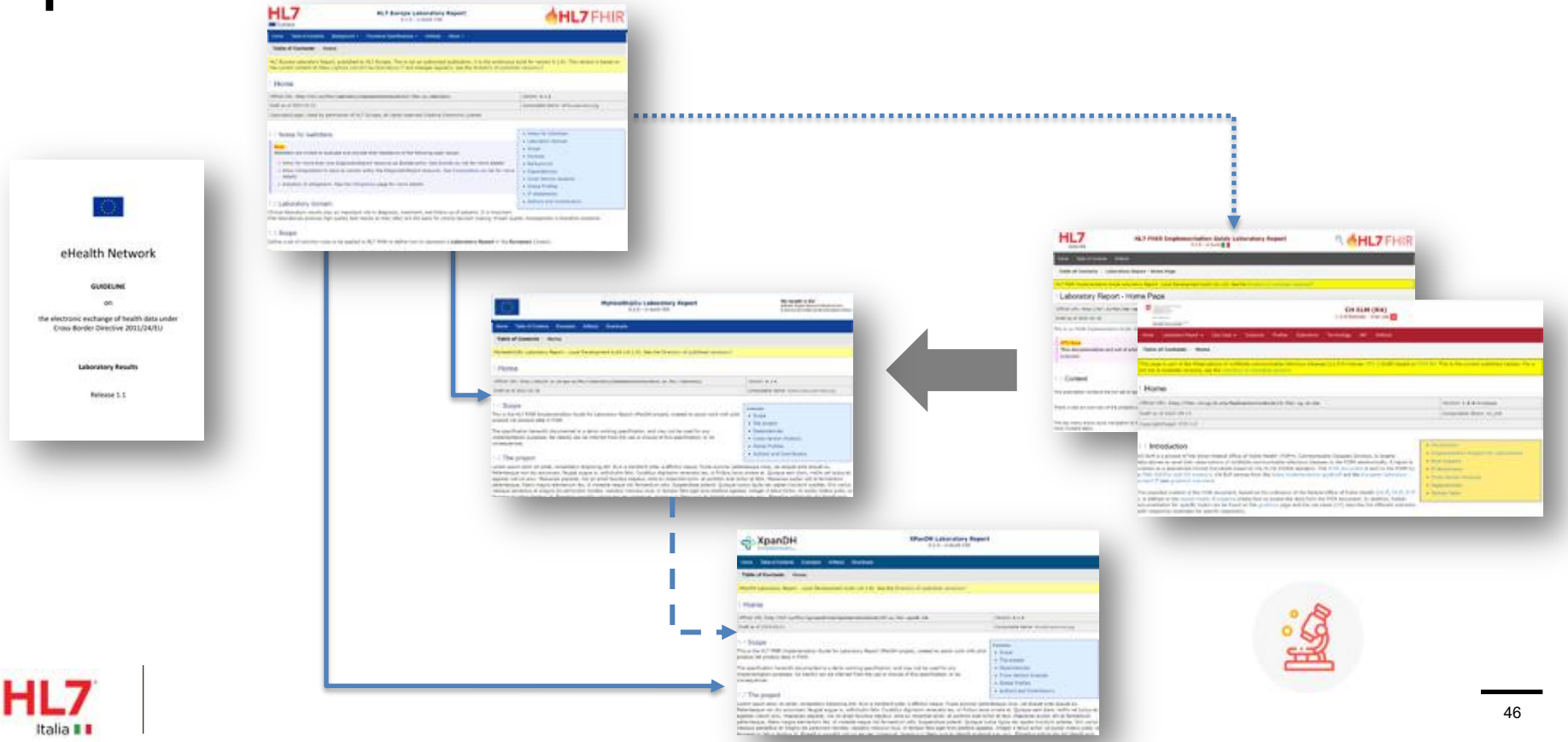
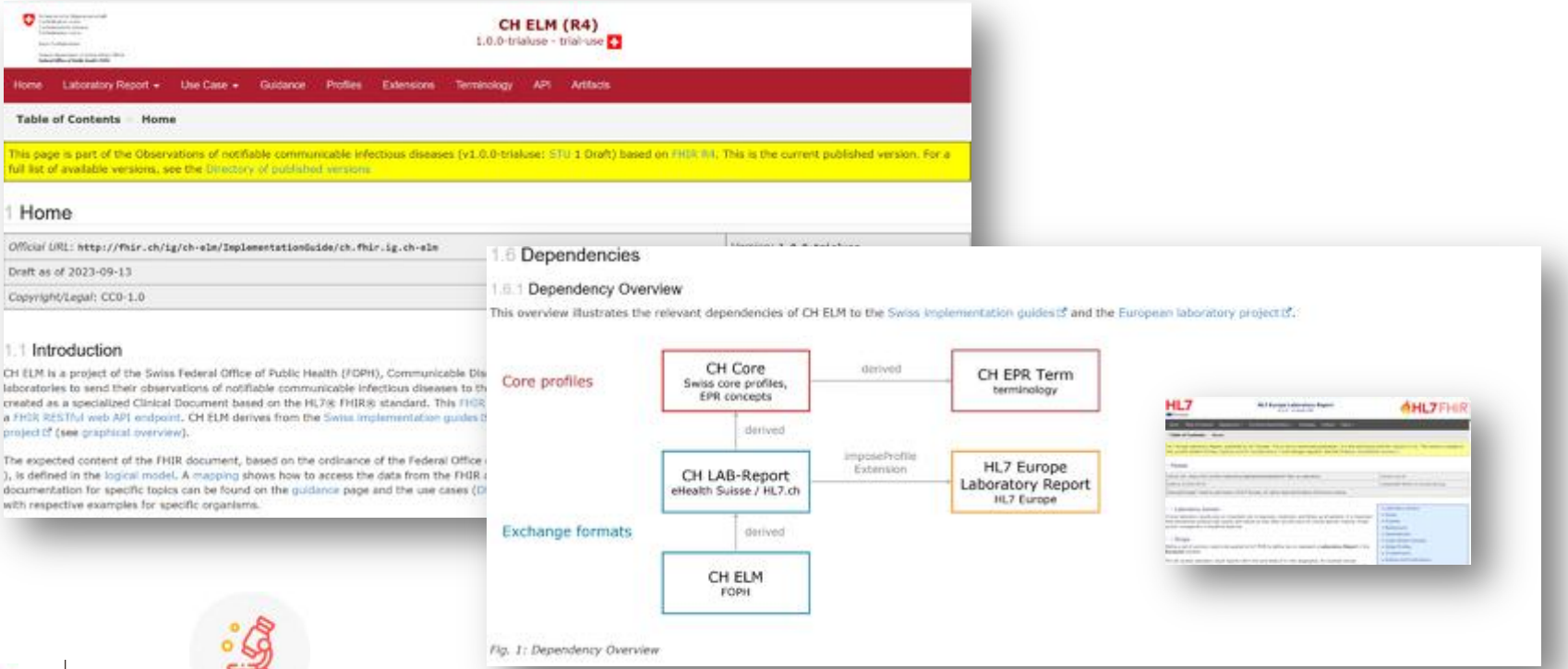
Layered Specifications: a concrete example



Layered Specifications: a concrete example



Plan

The STU ballot package is ready !

STU ballot November (everyone is invited to comment)

STU publication by the end of 2023

FHIR Connect-a-thon January 2024, Athens

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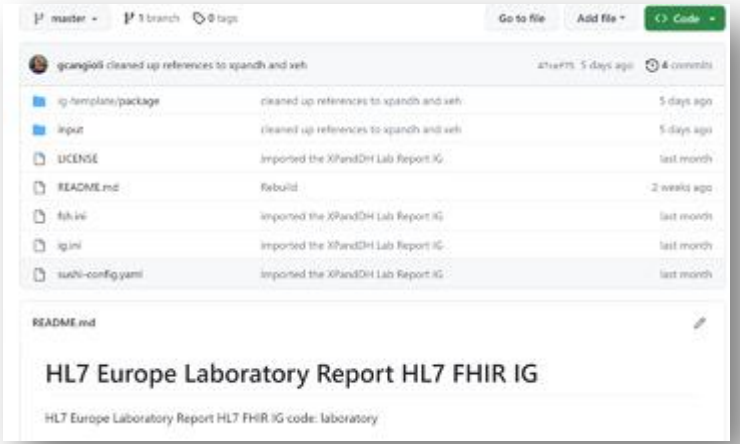
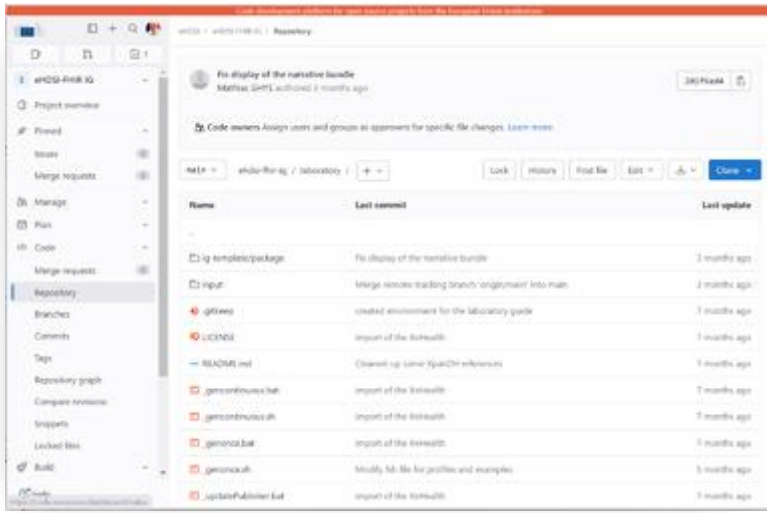
Source files: GitHub

https://github.com/hl7-eu/laboratory





https://code.europa.eu/ehdsi/ehdsi-fhir-ig/-/tree/main/laboratory

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Current build

https://build.fhir.org/ig/hl7-eu/laboratory/

A proof of concept.
It defines only the diffs (e.g. Value Set binding, subject only as identified human beings;…)

https://fhir.ehdsi.eu/laboratory/

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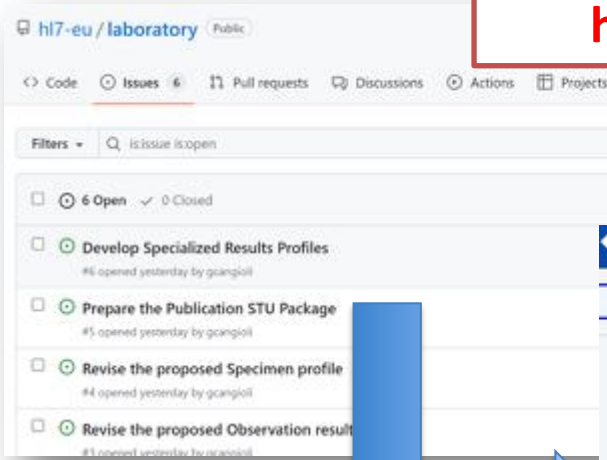
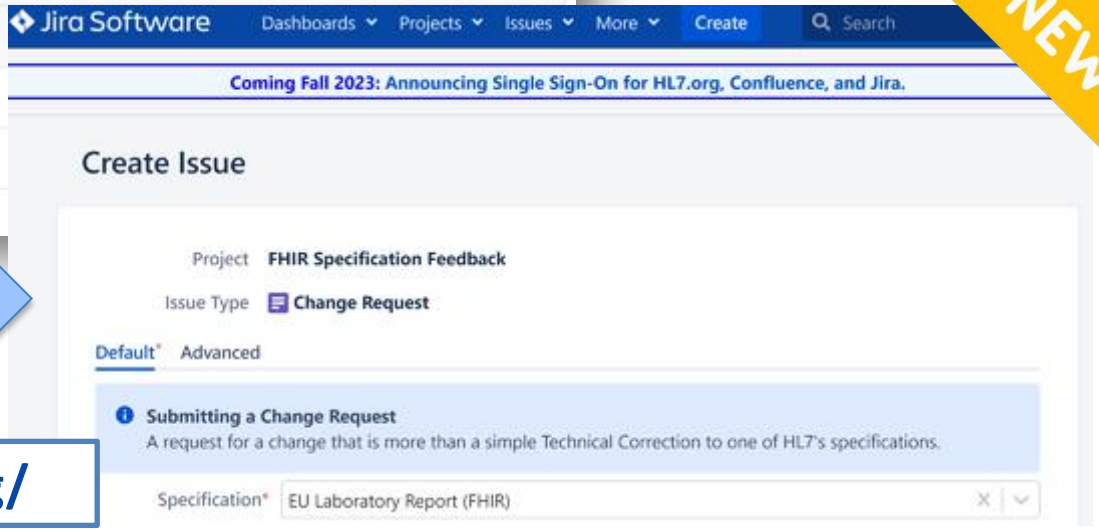
Issue tracking

https://github.com/hl7-eu/laboratory/issues





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Calendar, public mailing list and chat

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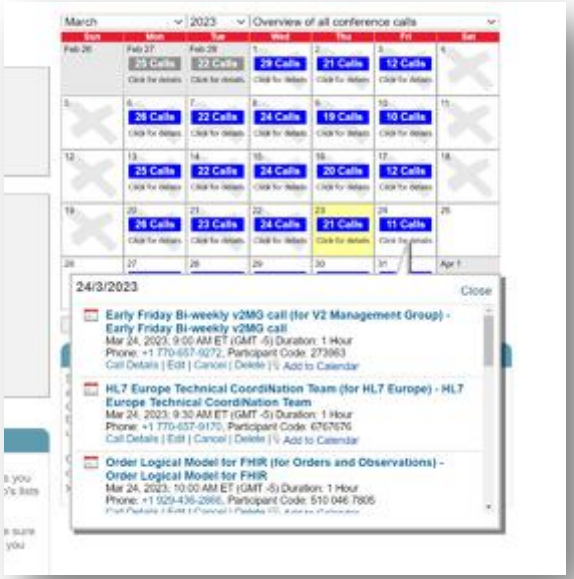

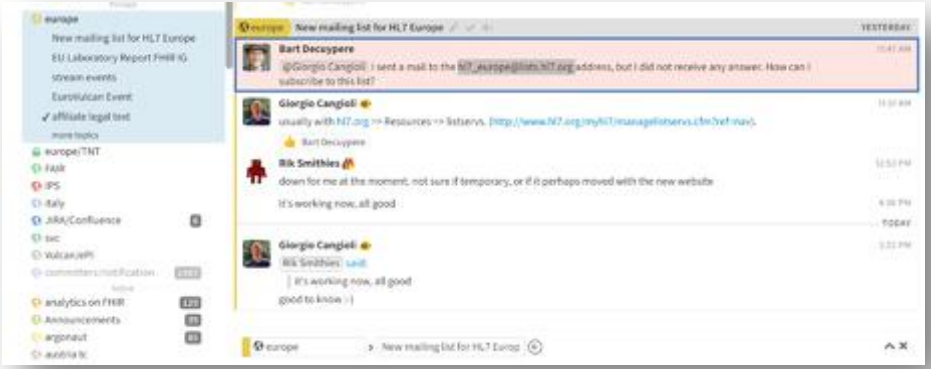

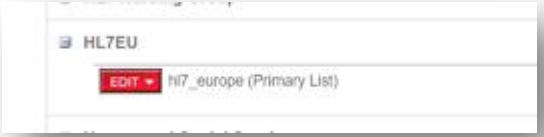

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HL7 FHIR

HL7 FHIR Logical Models

The data set

Models to Profiles Mapping

HL7 FHIR Profiles

How data are represented in HL7 FHIR

How to use HL7 FHIR

Obligations

HL7 Europe

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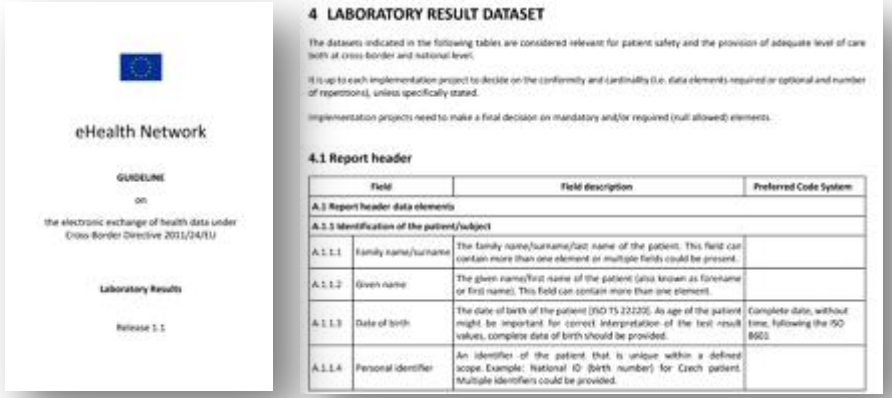
Guideline data set formalization



eHealth Network

GUIDELINE

on

the electronic exchange of health data under Cross-Border Directive 2011/24/EU

Laboratory Results

Release 1.1

4 LABORATORY RESULT DATASET

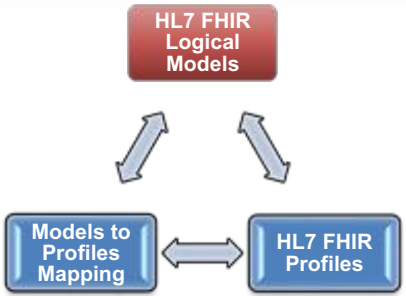
The datasets indicated in the following tables are considered relevant for patient safety and the provision of adequate level of care both at cross-border and national level.

It is up to each implementation project to decide on the conformity and cardinality (i.e. data elements required or optional and number of repetitions), unless specifically stated.

Implementation projects need to make a final decision on mandatory and/or required (null allowed) elements.

4.1 Report header

Field		Field description	Preferred Code System
A.1 Report header data elements			
A.1.1 Identification of the patient/subject			
A.1.1.1	Family name/surname	The family name/surname/last name of the patient. This field can contain more than one element or multiple fields could be present.	
A.1.1.2	Given name	The given name/first name of the patient (also known as forename or first name). This field can contain more than one element.	
A.1.1.3	Date of birth	The date of birth of the patient (ISO TS 22220). As age of the patient might be important for correct interpretation of the test result values, complete date of birth should be provided.	Complete date, without time, following the ISO 8601
A.1.1.4	Personal identifier	An identifier of the patient that is unique within a defined scope. Example: National ID (birth number) for Czech patient. Multiple identifiers could be provided.	



HL7 FHIR

Logical Model

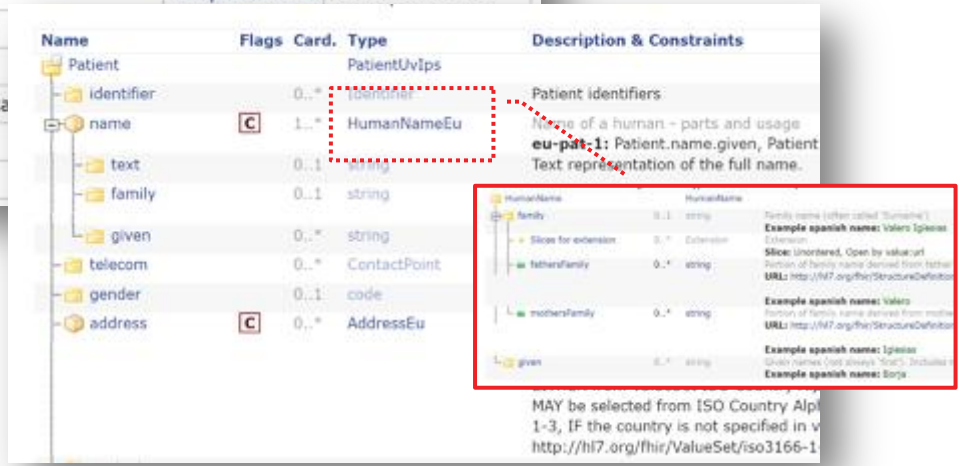
LabReport	0..*	Base	Laboratory Report
header	1..1	BackboneElement	A.1 Report header data elements
subject	1..1	Subject	A.1.1 - A1.2 Patient/subject
payer	0..1	Payer	A.1.3 Health insurance and payment information
informationRecipient	0..1	Recipient	A.1.4 Information recipient
author	0..*	Author	A.1.5 Author
legalAuthenticator	0..*	LegalAuthenticator	A.1.6 Legal authenticator
validator	0..*	Validator	A.1.7 Result validator
metadata	1..1	BackboneElement	A.1.8 Laboratory report metadata
type	1..1	CodeableConcept	A.1.8.1 Document type
status	1..1	CodeableConcept	A.1.8.2 Document status
dateTime	1..1	dateTime	A.1.8.3 Report date and time
title	0..1	string	A.1.8.4 Document title
custodian	0..1	BackboneElement	A.1.8.5 Report custodian
order	0..*	Order	A.2-A.3 Order
specimen	0..*	SpecimenLab	A.4 Specimen information
result	0..*	Result	A.5 Results data elements

HL7 Europe

Guideline data set formalization

Group 1 Mapping from A1.1, A1.2 - Subject of care to Patient: Identified Person

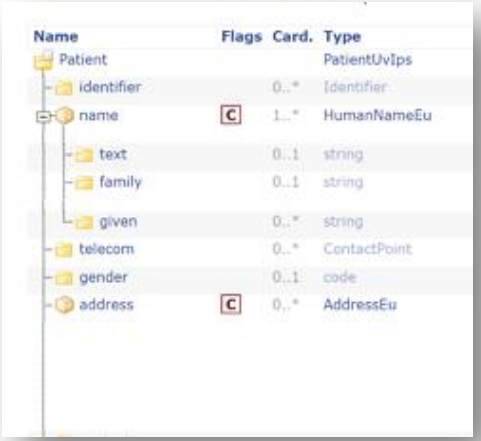
Source Code	Relationship	Target Code
Subject.identification (A.1.1 Identification of the patient/subject)	is related to	Patient
Subject.identification.familyName (A.1.1.1 Familyname/surname)	is equivalent to	Patient.name.family
Subject.identification.givenName (A.1.1.2 Given name)	is equivalent to	Patient.name.given
Subject.identification.dateOfBirth (A.1.1.3 Date of birth)	is equivalent to	Patient.birthDate
Subject.identification.identifier (A.1.1.4 Personal identifier)		
Subject.identification.gender (A.1.1.5 Gender)		
Subject.addressTelecom (A.1.2 Patient/subject related conta		
Subject.addressTelecom.address (A.1.2.1 Address)		
Subject.addressTelecom.telecom (A.1.2.2 Telecom)		



HL7 Europe

Obligations

NEW



Structural constraints

- e.g. Patient.birthdate 0..
- Observation.code derived from the Value Set XYZ (extensible)
- ….

Functional constraints

- e.g. The sender shall populate the Patient.birthdate if known
- Observation.code.text shall be displayed by the consumer if applicable
- ….

It describes the capabilities that each Actor may, should, or shall support

Informative, for collecting feedback

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STRUCTURAL APPROACH

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Some baseline requirements..

- In many European countries:
  - Laboratory Reports are **legally signed documents.**
  - Reports are often structured and may include different kinds of test results
  - Several implementations are currently based on HL7 CDA (mainly IHE XD-LAB) and still use document exchange infrastructures (e.g. IHE XD*)

A **document representation** for the Laboratory Report has been adopted

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…however,…

- It has been recognized that typical HL7 FHIR consumers expect to get Laboratory Reports by searching per DiagnosticReport
- The team looked for a “balanced” solution of the two approaches (FHIR document and DiagnosticReport) taking into account the R5 DiagnosticReport design pattern

A Document Bundle always including a DiagnosticReport resource.

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THE CURRENT APPROACH

Bundle (type=document)

Can be signed

Every referred object included in the bundle

DiagnosticReport

Order Group ID

Order

Result

Result

Result

Specimen

Composition

Section (opt1)

Section (opt2)

Sub-Section 1

.....

Sub-Section N

As the CDA inFullfillmentOf

Same CDA Result Sections Structure

No payers section

Option to consider

Bundle (type=document)

Can be signed

DiagnosticReport

DiagnosticReport

Every referred object included in the bundle

Order Group ID

Order

Result

Result

Result

Specimen

DR

Composition

Section (opt1)

Section (opt2)

Sub-Section 1

.....

Sub-Section N

As the CDA inFullfillmentOf

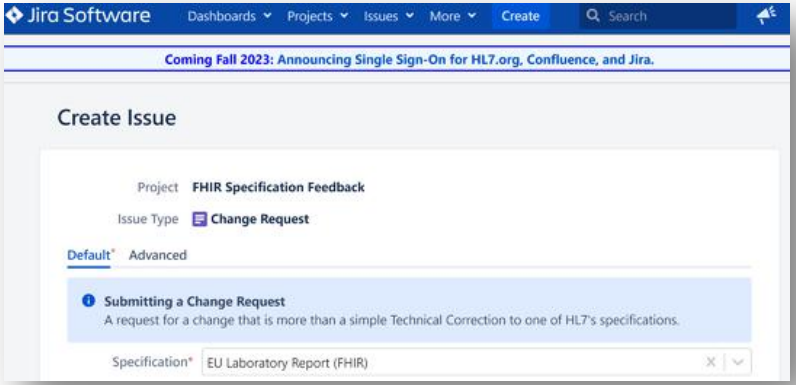
Same CDA Result Sections Structure

No payers section

HL7 Europe

What's next ?

- Ballot for comment (November 23)



- *Support national adoption*
- *FHIR Connectathon (January 24)*

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What's next ?

- *Ballot for comment (November 23)*
- Support national adoption
-

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What's next ?

- *Ballot for comment (November 23)*
- *Support national adoption*
- FHIR Connectathon
  - 2024 - January, 16-18

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HL7 EUROPE WGM AND FHIR CONNECTATHON

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HL7 Europe WGM and FHIR Connectathon

Athens,

2024, January 15th to 19th

*embedded in the **Digital Health Week** in Athens*

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Plan (draft)

<table>
<tr><th>Monday, 15th</th><th>Tuesday, 16th</th><th>Wednesday, 17th</th><th>Thursday, 18th</th><th>Friday, 19th</th></tr>
<tr><td rowspan="2">ESAB</td><td>HL7 EU Plenary</td><td>HL7 EU Plenary</td><td>HL7 EU Plenary</td><td rowspan="3">EU projects Joint Meetings</td></tr>
<tr><td colspan="3">HL7 EU FHIR Connectathon
European Lab Report, the International Patient Summary (IPS) and the electronic Product Information (ePI) and Identification of Medicinal Products (IDMP)</td></tr>
<tr><td rowspan="3">HL7 EU Board</td><td colspan="3">Technical sessions: FCAT break-outs; discussion rounds (e.g., National Terminology Services..) ; TNT meeting</td></tr>
<tr><td rowspan="2">Tutorials</td><td>Tutorials</td><td>Tutorials</td><td rowspan="2">Tutorials</td></tr>
<tr><td>EU projects Joint Meetings</td><td>EU projects Joint Meetings</td></tr>
</table>

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Thank you !

…hope to meet you all in Athens…

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