### HL7 Europe

#### **Giorgio Cangioli**

Technical Lead, Board Member - HL7 Europe Vice-Chair, Board Member - HL7 Italy TSC, CDA MG, AEC, Board Member - HL7 International

HL7 Austria WGM – 2023/03/15







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.



It doesn't pretend to be exhaustive ... just an overview..



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## Agenda





### **HL7 EUROPE IN A NUTSHELL**





## **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





# HL7 Europe: a continuous growth



- Visibility and **Recognition** at the European Level
- Active EU funded projects (1 in 2012, 9 in 2023)
- Initiatives (HoF) and events (Workshops, -athons)
- Liaisons established (JIC, CEN, EFMI,...)
- Team members
- Structure maturity (internal organization, procedures)
- Contributions to HL7 standards (FHIR4FAIR, IPS, ePI, Pharmacy Template)
- First HL7 EU REALM project has been started !

### **HL7 EUROPE OVERVIEW**



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### **HL7 Mission and Vision**

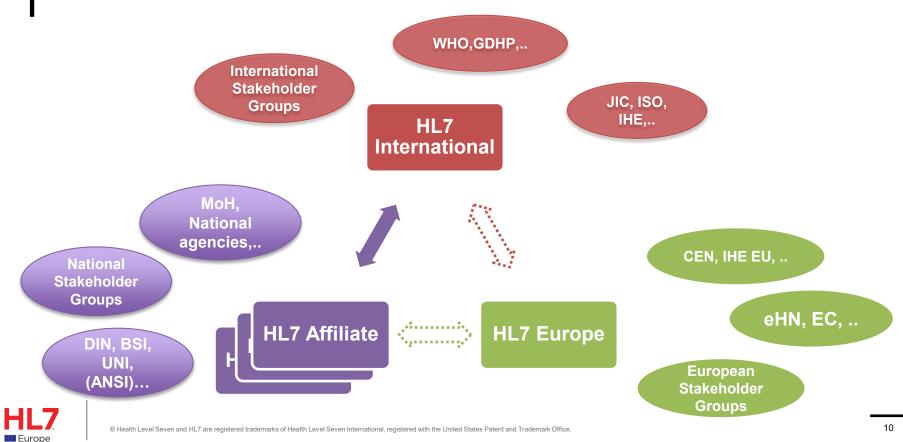
HL7 Vision: A world in which everyone can securely access and use the right health data when and where they need it. HL7 Mission: The mission of HL7 is to provide standards for interoperability that improve care delivery, optimize workflow, reduce ambiguity, and enhance knowledge transfer among all stakeholders.

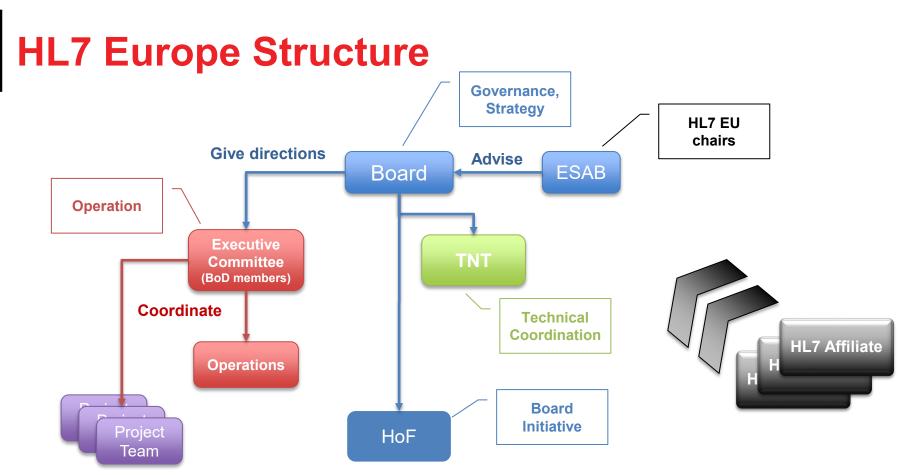
### HL7 Europe serves its mission to

- Promote HL7 Standards
- Collect European wide standards requirements
- Collaborate with European entities to advance digital health



### The collaboration model





#### HL7 Europe

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### HL7 Europe Foundation Board of Directors 2023-2024

#### HL7 Int. Appointed





Ed Hammond

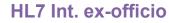
Andy Trescott Julia



Julia Skapik



Anne Moen







Mark McDougall

**Charles Jaffee** 



Jens Christian Villadsen



Line Andreassen Sæle



Roeland Luykx ESAB Elected



Henrique Martins



Robert Stegwee





Chronaki



Giorgio Cangioli

HL7 EU ex-officio



# HL7 Europe Team in 2023





### **Relation with European Organizations**

- eHealth Stakeholders group
- European Federation for Medical Informatics
- CEN
- JIC
- Act in Advisory Capacity to Projects
  - PharmaLedger
  - NFDI4Health
  - InterOpEHRate
  - mSEG Architecture Group







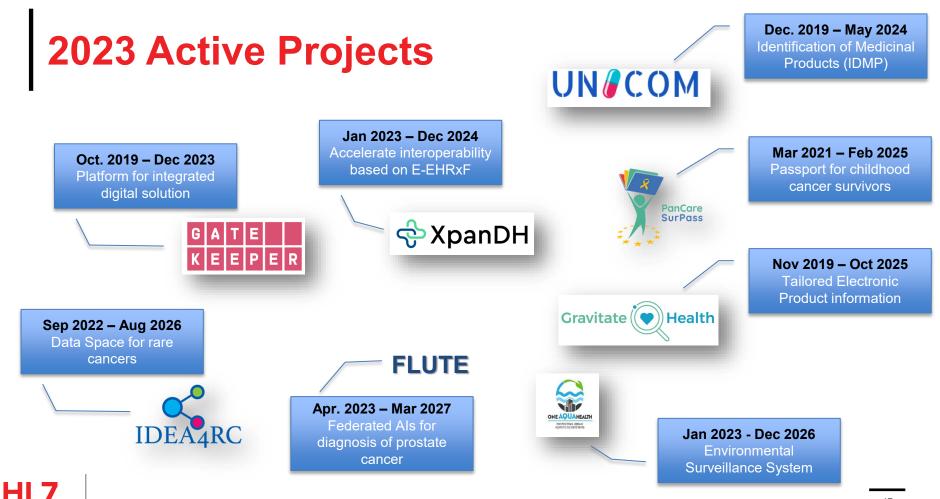
### THE EUROPEAN PROJECT



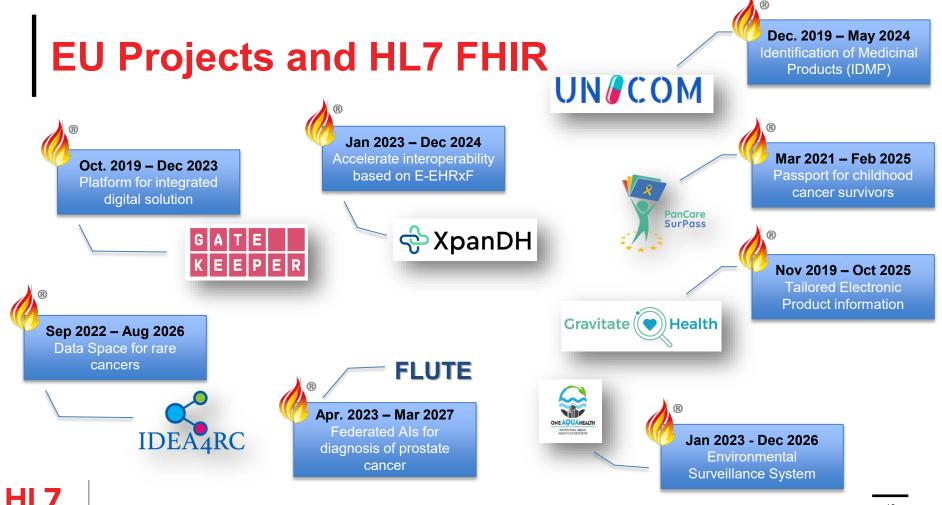
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Europe



Europe

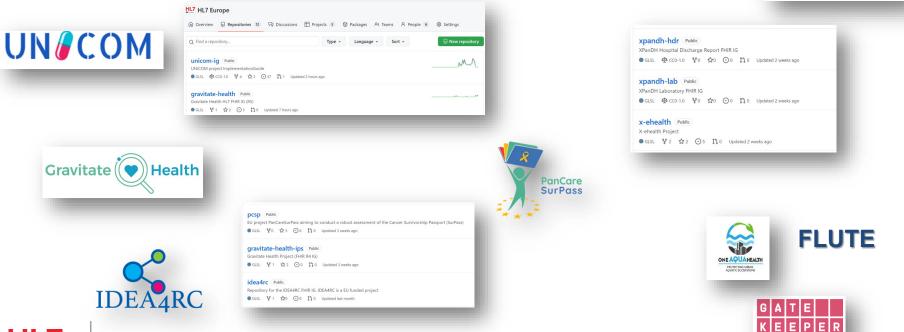


Europe

### **2023 Active Projects**







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HI 7

🔲 Europe

### The PanCareSurPass FHIR IG



PanCareSurPass FHIR Impleme 0.1.0 - CI Build 150	ntation Guide
IG Home Table of Contents Functional Description - Maturity Model Artiflact Index Support -	
Table of Contents > PanCareSurPass FHIR IG - Home Page	
PanCareSurPass FHIR Implementation Guide, published by PanCareSurPass Project. This is not an authoriz is based on the current content of <a href="https://pithub.com/hi/-eu/poss/filland-changes">https://pithub.com/hi/-eu/poss/filland-changes</a> regularly. See the Dress	
PanCareSurPass FHIR IG - Home Page	
Official URL: http://hl7.eu/fhir/ig/pcsp/ImplementationGuide/hl7.eu.fhir.pscp	Version: 0.1.0
Draft as of 2022-05-10	Computable Name: PCSPInplementationGuide
1 Scope     Specify HLZ FHIR logical models and profiles to be used within the European project PanCares     mprementation of the digital Survivorship Passport to Improve people-centred care for childhood or     The PancareSurPass Project	
1.2.1 Overview	
PanCareSurPass is a EU funded Research and Innovation action aiming to study the scale-up and implem are for childhood cancer survivors.	entation of the digital Survivorship Passport to improve people-centred
PanCareSurPass will conduct a robust assessment of the implementation of the Survivorship Passport by fir Belgium, Germany, Italy, Itahuania, Spain) representing three infrastructural scenarios in Europe. The Surviv funded protects: that can be used to percorme well-known knowledge name to improve pencel-centred low	ivorship Passport is an innovative, digital tool, developed in previous EU-

1.2.2 Objectives

#### HL7 FHIR Logical Models

What are the data managed by the PanCareSurPass Platform for generating recommendations and passport

Help piloting centers in mapping their data in the PCSP profiles

#### Models to Profiles Mapping

**HL7 FHIR Profiles** 

How PCSP data are represented with HL7 FHIR



Name	Flags	Card.	Туре	Description & Constraints
Chemotherapy		11	Element	This is an abstract profile Chemotherapy
() relatedDiagnosis		11	Identifier	Related Diagnosis
💷 startDate		11	dateTime	Start date
💶 endDate		11	dateTime	End date
istitutionOfTreatment		01	BackboneElement	Institution of treatment
description		01	string	Institution description
💶 name		01	string	Institution name
古 🗘 address		01	BackboneElement	Institution address
💶 name		01	string	Institution city
<b>country</b>		0 1	string	Institution country
productAdministration		H	L7 FHIR	Product(s) administartion data
🥥 agent			cal Models	Antineoplastic and immunostimulating agents
🕥 dose				Dose (NOT in PCSP DB)
古 🍑 cumulativeDose		01	BackboneElement	Cumulative Dose



8.1.6 Logical M	lodel: Chemotherapy - Mappings	Text Summary	Differential Table	Snapshot Table	Snapshot Table (Must Support) All
Draft as of 2022-05-10		Text Summary	Differential Table	Shapshot Table	
Mappings for the Chemo	therapy logical model.	This structure is	derived from Medication	Administration 🗳	
8.1.6.1 Mappings	for FHIR (hl7.org/fhir/r4)	Name		Card. Type	Description & Constraints tration Administration of medication to a patient
Chemotherapy	Madala ta			D* Extension	Extension
Chemotherapy	MedicationAdministration.conformsTo('http://hl7.eu/fhir/lg/pcsp/StructureDefinition/Medica	HL7 FHIR	6		Slice: Unordered, Open by value:url
relatedDiagnosis	.reasonReference Profiles		0	01 Reference(Resource)	e) Resource related information URL: http://hl7.eu/fhir/ig/pcsp/StructureDefinition/resource-relatedInfo
startDate	.effectivePeriod.start Mapping	Profiles		01 Reference(Observa	
endDate	.effectivePeriod.end			Chemotherapy Cur Dose)	
istitutionOfTreatment	.extension(http://hl7.eu/fhir/ig/pcsp/StructureDefinition/ActLocation-eu-pcsp).conformsTo(http://hl7.eu/fhir/ig/pcsp/StructureDefinition/Locpcsp)	ocation-eu-	ion	01 Reference(Location	<ol> <li>Act Location</li> <li>URL: http://hl7.eu/fhir/ig/pcsp/StructureDefinition/event-location</li> </ol>
description	Location.description	🗖 🗹 valueRe	erence	01 Reference(Location	
name	Location.name	workflow-s	pportingInfo	0* Reference(Resourc	
address	Location.address.city				URL: http://hl7.org/fhir/StructureDefinition/workflow-supportingInfo
country	Location.address.country	L 🗹 valueRe			entReference) Value of extension
productAdministration	.medication[x]	🛅 status		11 code	in-progress   not-done   on-hold   completed   entered-in-error   stopped   unknow
agent	.medicationCodeableConcept	- 🥥 medication	CodeableConcept S	11 CodeableConcept	What was administered Binding: Antineoplastic and immunostimulating agents (extensible)
dose	.dosage.dose	- 🖬 subject		11 Reference(Patient	
cumulativeDose	.extension(http://hl7.eu/fhir/ig/pcsp/StructureDefinition/ResourceRelatedInfo-eu- pcsp).conformsTo(http://hl7.eu/fhir/ig/pcsp/StructureDefinition/Observation-cumulativeDoseChemo-eu-pcsp)	- 🎲 effectivePe	iod S	01 Period	Start and end time of administration
	pcsp/comornisro(ncp.//nr/.eu/nm/)g/pcsp/screcterentition/observation-cumulativeDosechemo-eu-pcsp/	CP roaconRofe	ionco.	1 1 Poforonco/Drimony	Capear Condition or observation that supports why the medication was administered





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Standards





X-eHealth

**Potential future HL7 EU project** 



XpanDH



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PanCare SurPass



CDAR2\_IG\_PHARM\_TEMPLATES\_R1\_D3\_2023APR

HL7

HL7 CDA® R2 Implementation Guide: Pharmacy Templates Editor 1 (Universal Realm) Baltor 3



- · Indications and contra-indications for medications.
- The details of the chemical substances that may be ingredients for medications.

These resources are not typically used in direct patient care or day-to-day prescribing functionality (for which see the Medications Mode







Official URL: http://hl7.org/fhir/uv/fhir-for-fair/ImplementationGuide/hl7.fhir.uv.fhir-for-fair

Active as of 2022-09-28

#### 1.1 Scope

This guide aims to provide guidance on how HL7 FHIR can be used for supporting **FAIR health data** implementation and assessment to enable a cooperative usage of the HL7 FHIR and FAIR paradigms. Other kinds of health-related artefacts, such as clinical guidelines, algorithms, software, models are out of scope.

1.2 What does FAIR mean?

FAIR stands for Findable, Accessible, Interoperable and Reusable







🔲 Europe

	eHealth Iging Electronic Health Records mmon framework
HL7 Europe Laboratory Report 0.1.0 - c-bolid 150	<b>ML7</b> FHIR
Home         Table of Contents         Examples         Artistics         Downtoods           Table of Contents         Home         Home </th <th></th>	
COME     Comparison     Compari	Version: 8.1.8
Draft as of 2023-02-25	Computable Name: H17EuLaboratoryIg
I Scope     Scope     Weight and the second of the se	Contraints: • Scope • The project • Dependencies • Cross Version Analysis • Closal Profiles • Authors and Contributors
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First HL7 EU IG project

# UN@COM







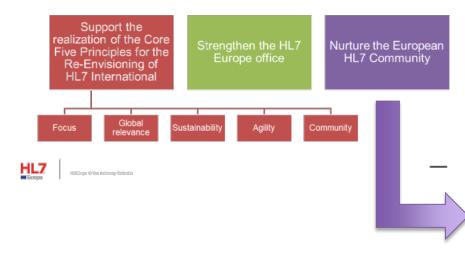
### THE TECHNICAL COORDINATION TEAM



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### The background

#### HL7 Europe Goals 2021



#### Nurture the European HL7 community





### Goals





### What the EU Technical CoordiNation Team (TNT) is...



- TNT aims to support to 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.



### The initial team





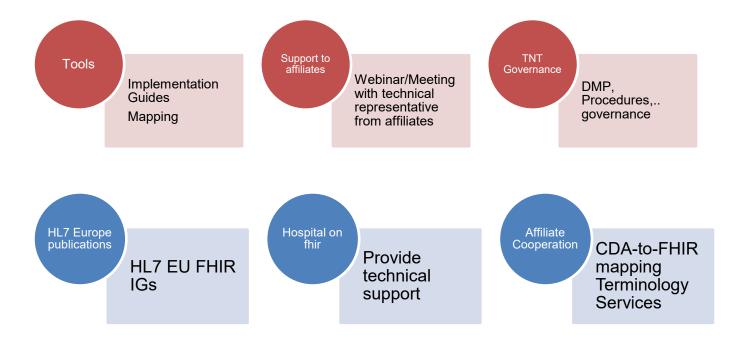








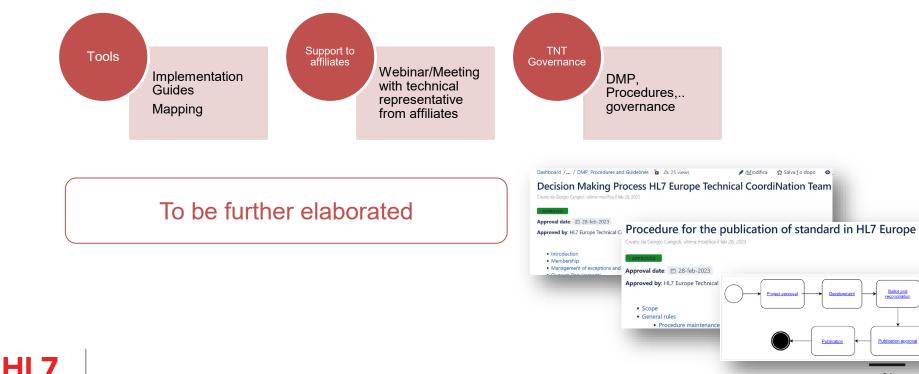
# Topics



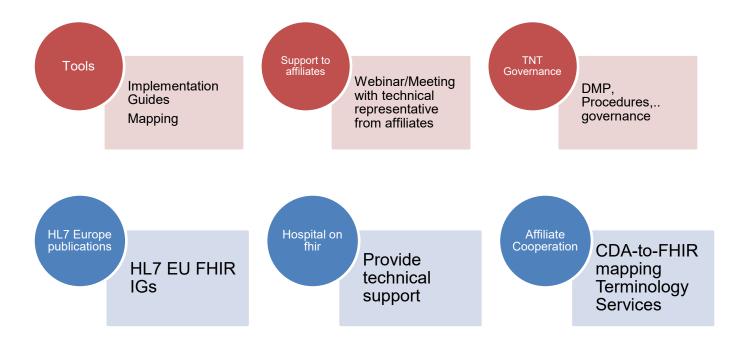




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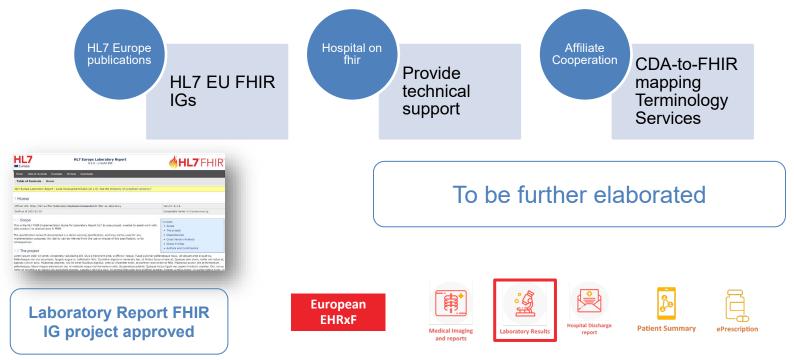


### **Areas of interest**

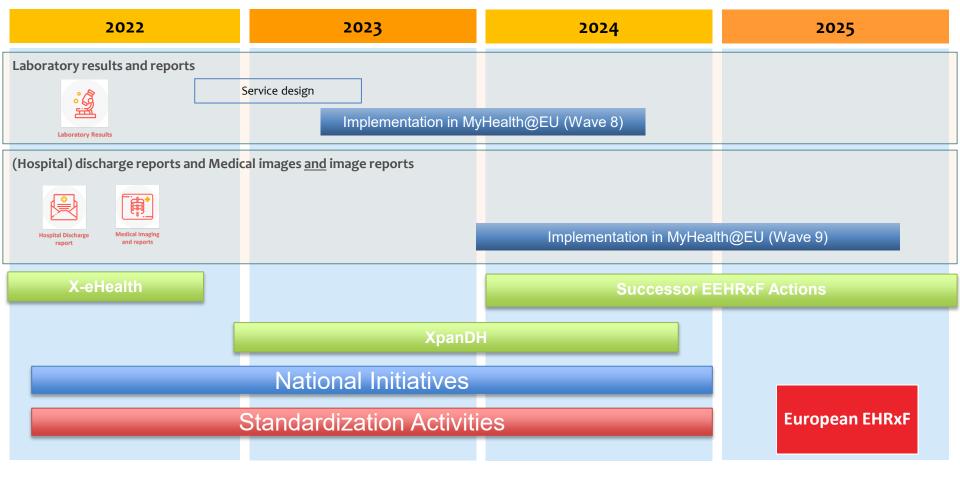




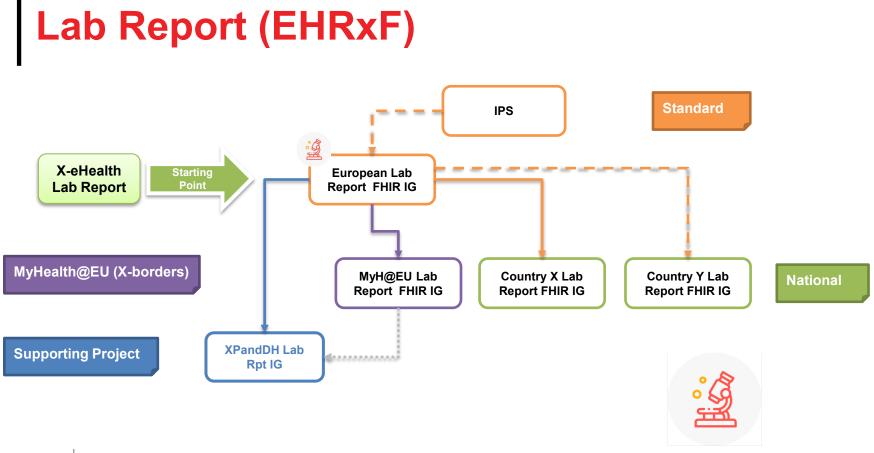
### **Areas of interest**



#### **EHDS - Art 5 Priorities**







HL7.

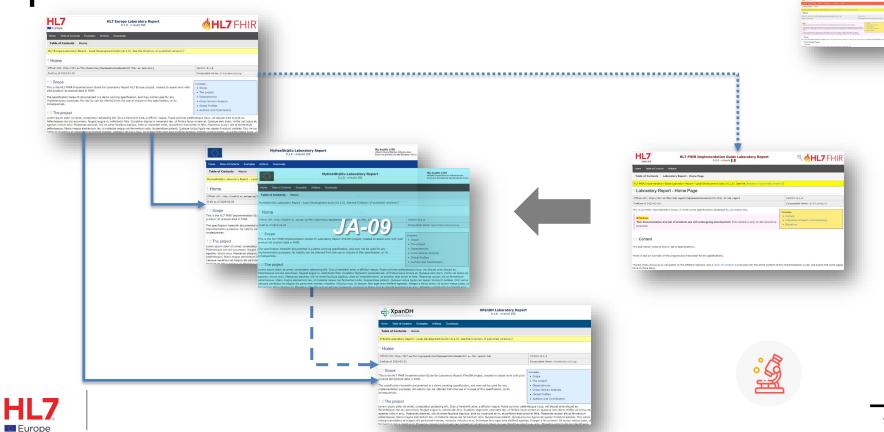
**Laboratory Results** 

# Lab Report (EHRxF)

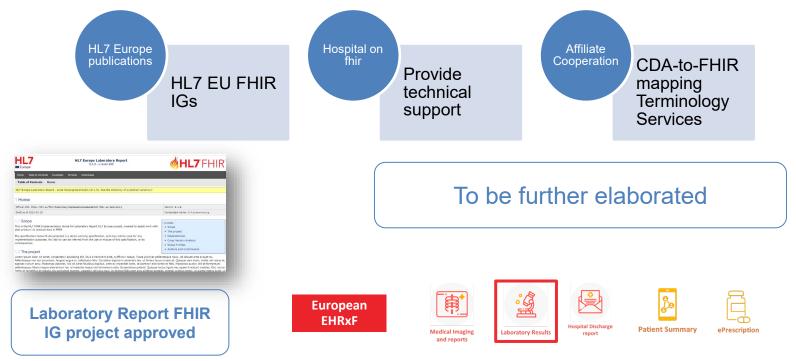
Europe

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European Lab Report FHIR IG	]	MyH@EU Lab Report FHIR IG	Country X Lab Report FHIR IG	)		(PandDH Lab Rpt IG

## Lab Report (EHRxF)



## **Areas of interest**



#### **EHDS - Art 5 Priorities**

## **EHRxF: supporting artefacts**

Affiliate Cooperation CDA-to-FHIR mapping Terminology Services

<u>`</u>	Data definitions	Technology	Business requirements	Development and testing	Supporting elements	
	Data categories	Base content representation	and workflows	Release management	General principles and	
	Data groups	standard or specification	Use case and workflow descriptions	processes	instructions	
E-EHRxF	Data fields	Specific content representation profiles	Requirements catalogue	Stakeholder involvement	Examples	
	Cardinalities	Base message transfer	Infrastructure architecture	processes and tools	Conversion instructions	
	Data types	standard or specification	Licenses or legal	Publication platform	and tools	
	Code systems	Specific message transfer	agreements	Testing procedures and tools	Data models	
	Value sets	profiles			Certification procedures and tools	
		Additional technical specifications				
NCPeH NCPeH						
				<pre>cda.recordTarget as recordTarget then{     recordTarget.patientRole as patient 1</pre>		
<b>Ĵe.</b>				patient.id as id-> patient.ident:	<pre>fier as identifier then {     m= translate(r, 'http://hl7.org/fhir/ConceptMap/special-oid2uri', 'uri') "rootl";</pre>	
		<b>_</b>	■ Maps	id.assigningAuthorityName as a }"idfn":	identifiar.assigner as a, a.display = s; 16.840,1.11383.2.9.4.3.2') or (root*2.16.840,1.113833.2.9.4.3.7') 4.3.3') or(root*2.16.840,1.113832.3.4') or	
Gateway	FHIR CD			<pre>(root='2.16.840.1.113883.2.9.4.3.15')</pre>	4.3.3') or(root='2.16.840.1.113883.2.9.4.3.17') or then { 'PAT.url = append('Patient?identifier=',ext) "WID";	
Applicativi Sanitari Regionali	1			}"ext"; }"record"; }"patient";		
		a 📃 👘				
KQ della validazione	Riscree FHIR					
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Document Repository	J		Conversi			
	Conversion engines					



## THE HOSPITALS-ON-FHIR INITIATIVE





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# An HL7 Europe launched <u>network of hospitals</u> and other healthcare organizations....



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## What Hospitals-on-FHIR is



an HL7 Europe launched network of hospitals and other healthcare provider organizations to





## What Hospitals-on-FHIR is not

#### A playground for technical geeks

• HL7 FHIR is a mean not the goal..

#### Just another infrastructure

• We are not selling solutions...

#### A consultancy program

• ...nor services...

#### An award system

• We promote cooperation not competition ...



Hospitals

## Why and why now ?

#### Not only country-to-country

No interoperability without standard adoption



#### No interoperability without data



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## **European Context**





#### **EUROPEAN HEALTH DATA SPACE**

#EUDigitalHealth

#### **OBJECTIVES**

- Empower individuals through better digital access to their personal health data; support free movement by ensuring that health data follow people;
- ✓ Unleash the data economy by fostering a genuine single market for digital health services and products;
- Set up strict rules for the use of individual's non-identifiable health data for research, innovation, policy-making and regulatory activities.



#### **GROWTH POTENTIAL OF THE HEALTH DATA ECONOMY**

Health Apps PHR

## European Health Data Space

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Europe

## **European Health Data Space**

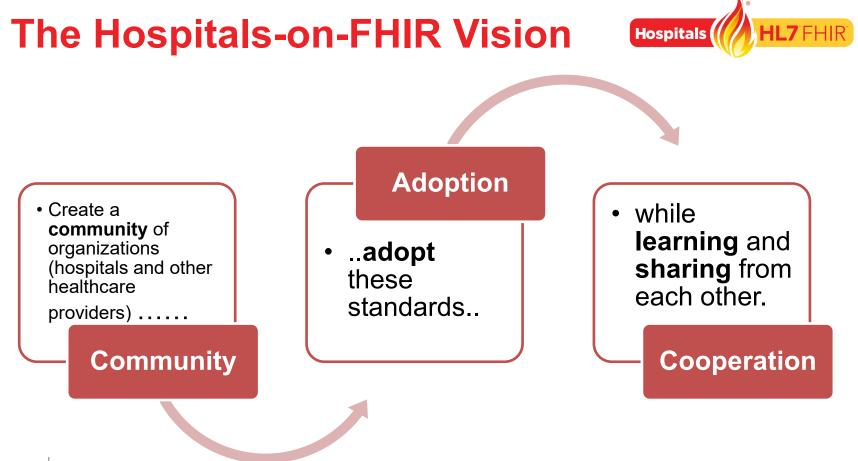


EUROPEAN COMMISSION					
Strasbourg, 3 COM(2022)					
2022/0140 (C	OD)				
Proposal for a					
REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL					
on the European Health Data Space					
(Text with EEA relevance)					
{SEC(2022) 196 final} - {SWD(2022) 130 final} - {SWD {SWD(2022) 132 final}	(2022) 131 final} -				

- EHDS will create a common space where **natural persons can easily control their electronic health data**.
- It will also make it possible for researchers, innovators and policy makers to use this electronic health data in a trusted and secure way that preserves privacy.



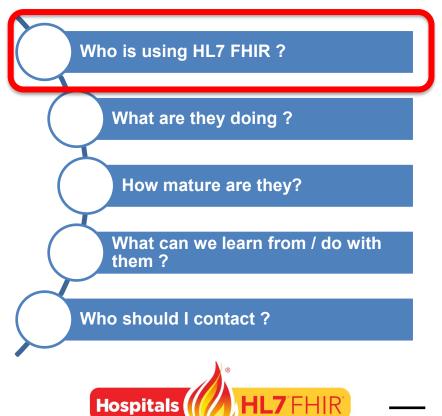






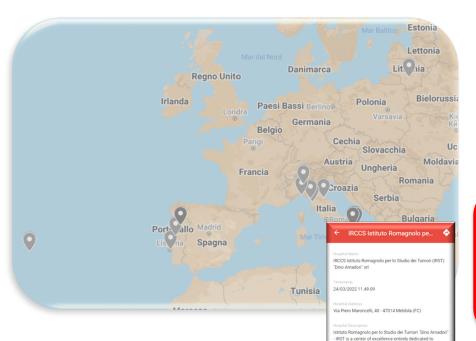
## **Realizing the HoF Vision**







## **Realizing the HoF Vision**



treatment, research and training in the oncology field. Stage in EER journey We're starting use FHIR for research and interoperability.

Nicola Gentili





## **Realizing the HoF Vision**



## **Discover your partners**

Letto Mar del Nord Danimarca Regno Unito Irlanda Polonia Paesi Bassi Berlino® Germania в Cechia Slovacchia Austria Ungheria Francia Roman Serbia Port-vallo Madrid talia Bulgar Spagna -Grecia

#### HL7 FHIR IG list

```
        Specific Laboratory Repert

        2.5 × objection 100

        Note
        Repert Antibio Repert

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#### 1.2 The project

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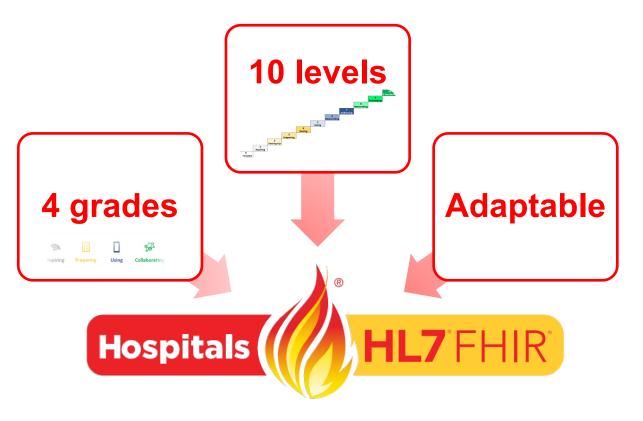


#### **European EHRxF**

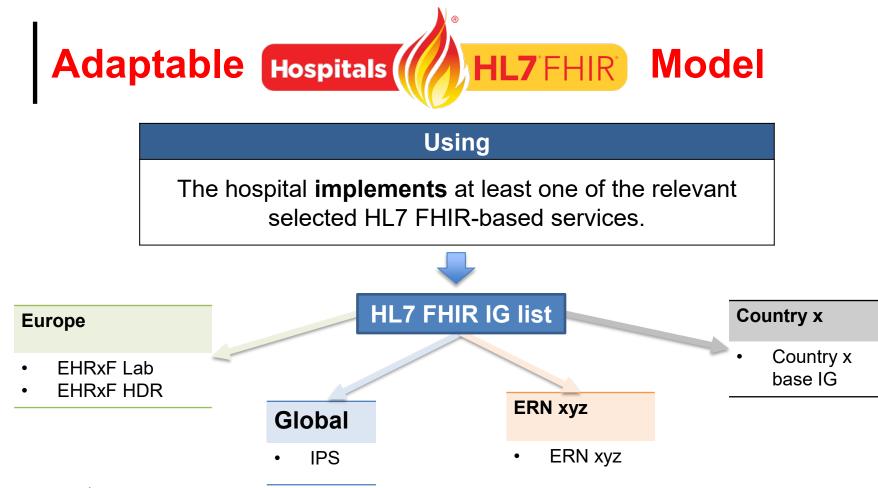




## The Maturity Model in a nutshell





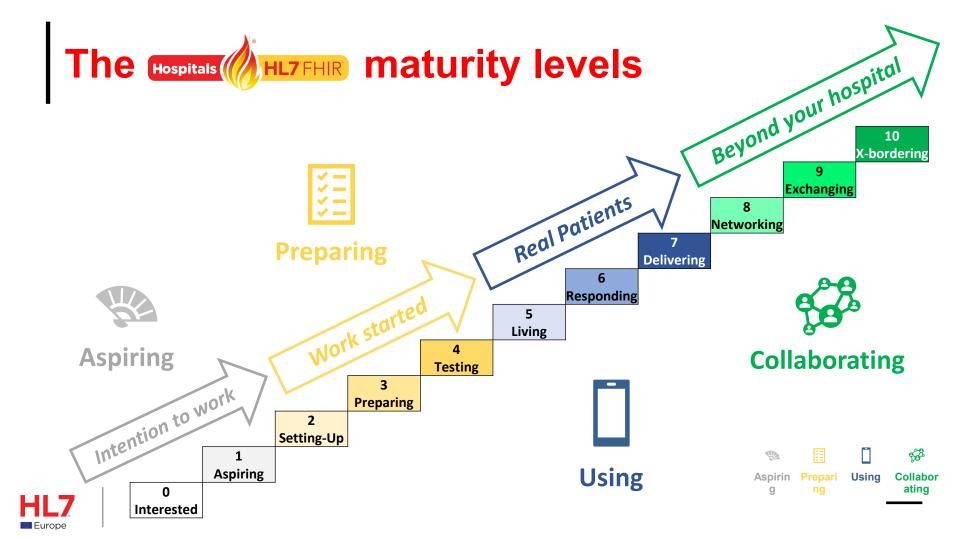








Europe



## The Hospitals HL7FHIR maturity levels





#### How to scale up the model ?

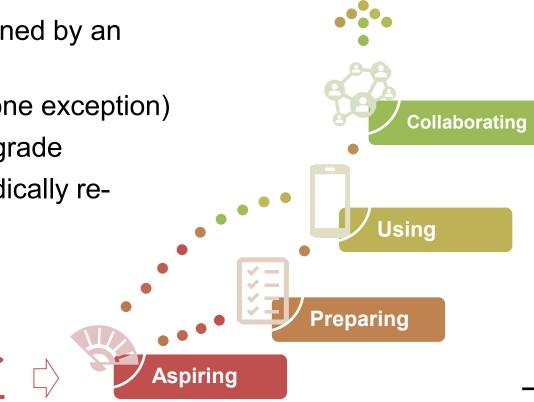






The Hospitals HL7FHIR rules

- Level achieved determined by an evaluation committee
- Grade by Grade (with one exception)
- Level by level within a grade
- Levels should be periodically reevaluated







#### Why and HOW joining HoF?



# Why and why now ?



- or patients who need to access, use, curate their health data and see it being used for their benefit
- ospitals (and other organizations) need to share experiences, techy enthusiasm and do IT together.
- nteroperability and integration at national level depend on organizations "opening their technical doors"
- egions like Europe, need to collect, secondary use and explore the value of health data



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# **Competitive advantages for Hospitals and Healthcare Organizations joining HoF**

- Join a top-notch Community of Practice
- Reduce costs and effort to implement HL7 FHIR by benefiting of learning exchanges and decrease time to scale
- Place your hospital in a privileged position to participate in large scale pilots and projects once reached level 6 or more



# Competitive advantages for Companies helping use HL7 FHIR and grow HoF

- Understand how hospitals and other healthcare providers evolve in interoperability and desire, need and are moving to buy interoperable services and systems
- Serve as a networking space for future business opportunities
- Evolve business models, intercompany partnerships around the provision of combined IT services based on FHIR while knowing which clients are ready for them.

# Put your hospital on the Hospitals HL7FHIR map



#### https://www.hospitalsonfhir.eu

Put Your	Hospital On the HL7 FHIR Map	
*Campo obbligatori	0	
Compila modulo		
Moduli Google	Questo modulo è stato creato all'interno di hI7europe.org.	:

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





# Thank you,

