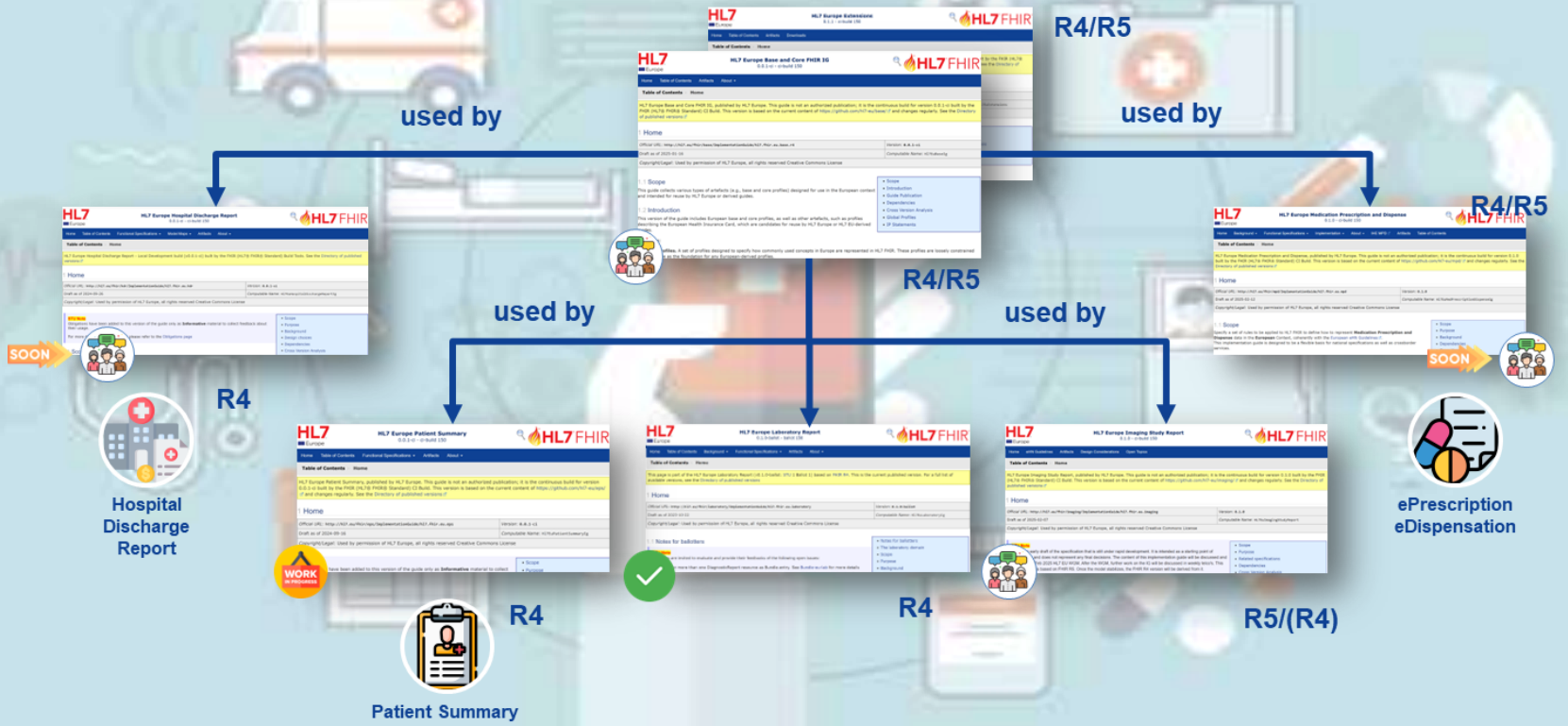
The HL7 Europe FHIR Base and Core IG: what it is, why it was developed, and how it supports the EHDS

An HL7 Europe webinar
Tuesday, 27 January 2026, 16.00-17.00 CET

Online on Teams

HL7® Europe

The EHDS FHIR IG ecosystem



The HL7 Europe FHIR Base and Core IG: what it is, why it was developed, and how it supports the EHDS

Introductions

- Presenters:
  - Rutt Lindström, HL7 Europe and TEHIK (EE)
  - Daniel Karlsson, The Swedish eHealth Agency (SE)
  - Hynek Kružík, HL7 Europe (EU)

- Facilitator: Michael Strübin, HL7 Europe

Housekeeping

- To help ensure a successful webinar please:
  - Use the chat (for comments, questions…)
  - Use reactions/emojis during the presentations
  - Raise your hand if you'd like to speak
  - If you are invited to speak, please turn on your video and say who you are
- The webinar will be recorded.
- Link to recording and slides (in pdf) on www.hl7.tv will be emailed to all registered participants.

The HL7 Europe FHIR Base and Core IG: what it is, why it was developed, and how it supports the EHDS

Agenda

1. Welcome, introductions, housekeeping
   Michael Strübin
2. An overview of the HL7 Europe Base & Core FHIR IG
   Rutt Lindström, HL7 Europe and TEHIK
3. The Xt-EHR logical models
   Daniel Karlsson, Swedish eHealth Agency
4. The Xt-EHR obligations for EHR systems
   Hynek Kružík, HL7 Europe
5. The HL7 Europe ballot and how to contribute to the IG
   Michael Strübin
6. Discussion and next steps

An overview of the HL7 Europe Base & Core FHIR IG

Rutt Lindström, HL7 Europe / TEHIK

HL7® International

HL7 Europe

HL7 Europe Base and Core FHIR IG

2.0.0-ballot - ballot 150

HL7 FHIR

Home | Introduction | Functional | Implementation | About | Artifacts | R5 IG

FHIR R4 and R5!
Use urls, not menu for ballot versions!

Table of Contents > **Home**

This page is part of the HL7 Europe Base and Core (v2.0.0-ballot: Release Ballot) based on FH
a pre-release. The current official version is 0.1.0. For a full list of available versions, see the Directory of published versions

1 Home

Official URL: `http://hl7.eu/fhir/base/ImplementationGuide/hl7.fhir.eu.base`	*Version*: `2.0.0-ballot`
Active as of 2025-12-19	*Computable Name*: `Hl7EuBaseIg`
Copyright/Legal: Copyright HL7 Europe. Licensed under creative commons public domain (CC0 1.0).	

Xt-EHR @dataspace — Co-funded by the European Union — My health @ EU, eHealth Digital Service Infrastructure, A service provided by the European Union

Acknowledgment

The development of this Implementation Guide version has been supported by the **Xt-EHR Joint Action**. Xt-EHR provided expertise, alignment with European health policy priorities, and validation of specifications to enable consistency with EHDS requirements.

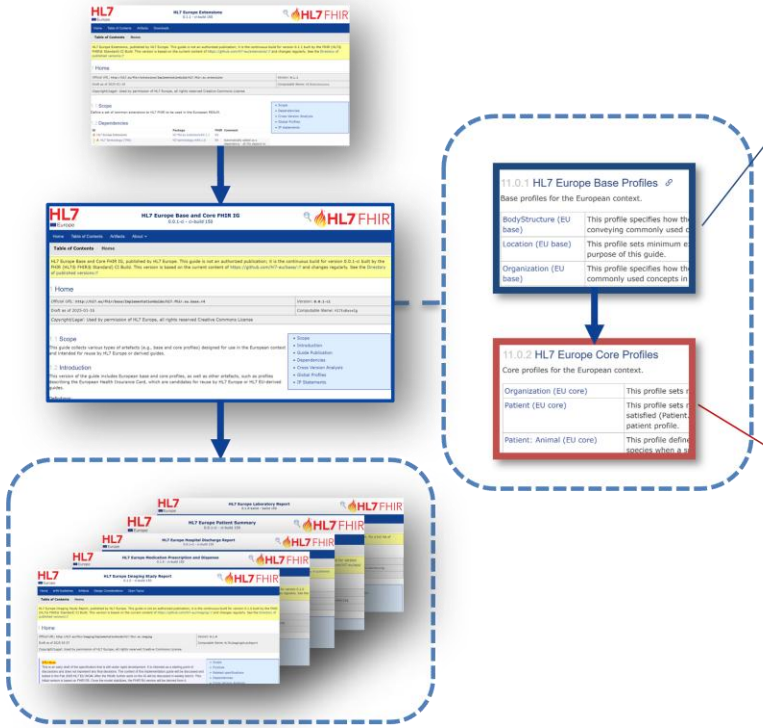
- https://hl7.eu/fhir/base/2.0.0-ballot/
- https://hl7.eu/fhir/base-r5/2.0.0-ballot/

What are Base and Core?

Extensions (R4/R5)

Base and Core (R4/R5)

Scoped HL7 EU IGs (R4/R5)



Base

- **Baseline** for all HL7 Europe profiles.
- **Loosely constrained**, providing a flexible foundation.
- **Rarely used "as is"**, but always extended or specialized.

Core

- Defines **essential constraints** that cut across many use cases.
- Serves as the **first reference point** for the large majority of HL7 Europe FHIR IGs.
- Can often be used **"as is"**, without further refinement.
- Realizes the **common EHDS logical models** in practice.

Profiles

Base
Organization
Patient
Practitioner
PractitionerRole

Current focus on Core >>>

Core
Organization
Patient
Patient: Animal
Location
Practitioner
PractitionerRole
BodyStructure
Procedure
Address (data type)

Core - new
Flag
AllergyIntolerance
Condition
Medication
MedicationStatement
MedicationRequest
Immunization
Medical Test Result (Observation)
DiagnosticReport
Composition

Other content

11 Handling Missing Data

11.1 Missing Data

This page provides general rules to de

The content of this page is adapted fr

11.1.1 Optional Data Elements (car

If a content creator does not have dat

Note: a content creator may have no
shared, or because data available are

11.1.2 Required Data Elements (ca

If a content creator does not have dat

9 Model Map

Ongoing alignment:

The Xt-EHR logical models are under active revisio
Implementation Guide to maintain alignment with

9.1 EHDS Logical Models → FHIR Pr

The Xt-EHR Joint Action defines EHDS logical data
HL7 FHIR profiles that realise those models.

The sections below group the EHDS logical models into catego

Each table shows:

- the logical model
- the FHIR datatype or profile(s) used in this IG
- a link to the detailed element-by-element mapping

33.0.4 Terminology: Value Sets

These define sets of codes used by systems conforming t

Body Structure Laterality	Body Structure site laterality specimen is collected. (base
Body Structure Qualifier	Body Structure site qualifier is collected. (based on SNO
EHDS Categories	
Laboratory Code	
Medication Intended Us	
Periods of Life	
Types of species	

33.0.5 Example: Example Instances

These are example instances that show what data
like.

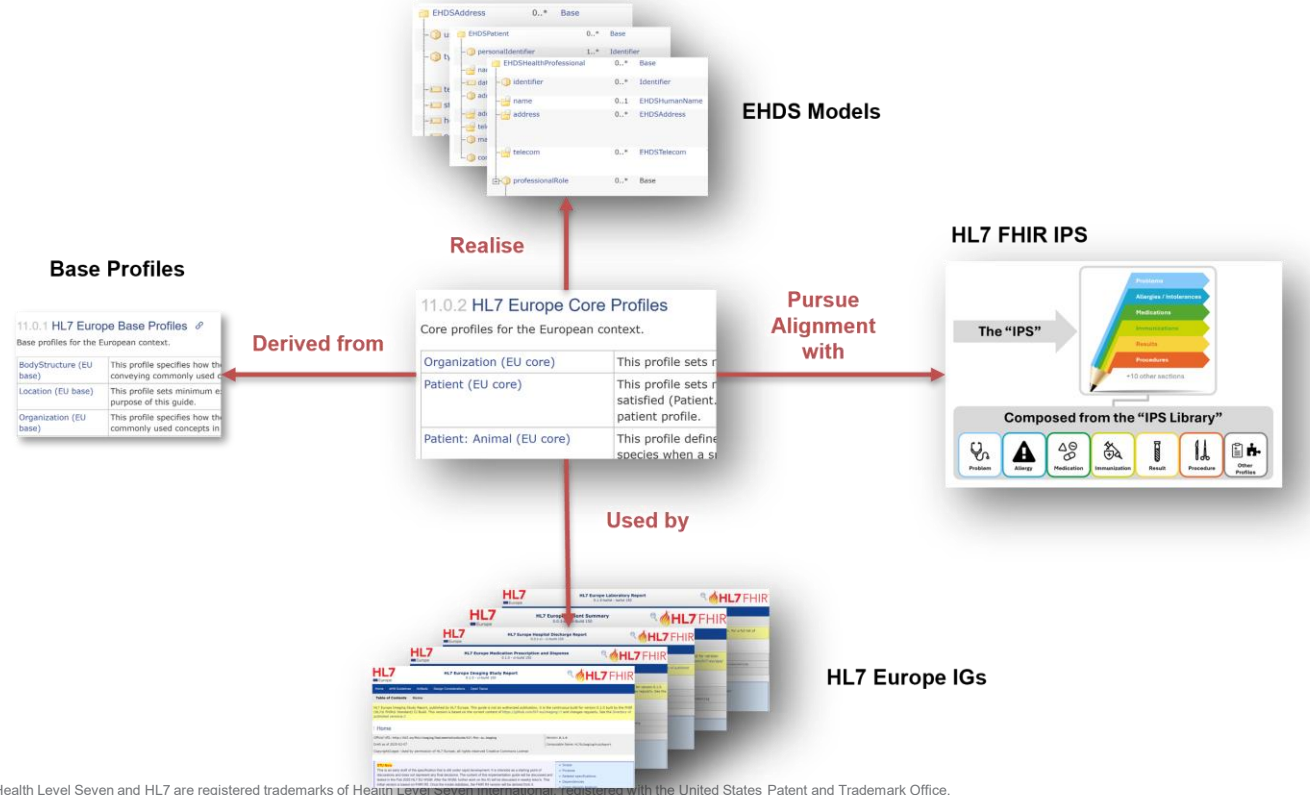
AllergyIntolerance Example	Example of an Allergy
Animal Patient Example	Example of a Patient
BodyStructure Example	Example of a BodyStr
Composition Example	Example of a Laborat
Condition Example	Example of a Conditio
DiagnosticReport Example	Example of a Laborat
Flag Example	Example of a Flag res

Model-to-profile mapping

EHDSMedication → Medication

EHDSMedication (Logical Model)		Relationship	Medication			
Element	**Description**	**Relation**	**Resource**	**Element**	**Description**	**Notes**
identifyingCodeCodeableConcept	Identifier or code for the product (virtual/branded/package).	equivalent	Medication	code	Code that identifies this medication.	
identifyingCodeIdentifier	Identifier for the product (virtual/branded/package).	equivalent	Medication	identifier	Business identifiers for the medication entry.	Use multiple identifiers if needed; avoid conflicting meanings.
classification	Classification (e.g. ATC; narcotic/psychotropic; orphan drug).	equivalent	Medication	extension:classification	Classifications of the product, e.g ATC, narcotic/psychotropic, orphan drug, etc	
productName	Name of the product (full/invented/other).	equivalent	Medication	extension:productName	Text representation of the medication name.	Official name of branded medicinal product.
marketingAuthorisationHolder	Marketing authorisation holder / manufacturer.	equivalent	Medication	manufacturer **[R4]**	Manufacturer of the item.	Reference to `Organization`.
marketingAuthorisationHolder	Marketing authorisation holder / manufacturer.	equivalent	Medication	marketingAuthorizationHolder **[R5]**	Organization that has authorization to market medication.	Reference to `Organization`.
marketingAuthorisationHolder.organisationName	Name of the MAH/manufacturing organisation.	equivalent	Organization	name	Name used for the organization.	Populate the referenced Organization's `name`.

Core profiles used across all other IGs



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The Xt-EHR logical models

Daniel Karlsson, Swedish eHealth Agency

HL7® International

Xt-EHR Logical Information Models

- Xt-EHR's proposal for
  - EEHRxF implementing act(s)
  - Common requirements for EHR systems

- For interoperability components of EHR systems
- **Not** only for cross border

EHDS

Article 15

European electronic health record exchange format

1. By 26 March 2027, the Commission shall, by means of implementing acts, lay down the technical specifications for the priority categories of personal electronic health data referred to in Article 14(1), setting out the European electronic health record exchange format. Such format shall be commonly used, machine-readable and allow transmission of personal electronic health data between different software applications, devices and healthcare providers. Such format shall support transmission of structured and unstructured health data and shall include the following elements:

(a) harmonised datasets containing electronic health data and defining the representation of clinical content and other parts of the elect

(b) coding systems and values to be used in datasets containing elect

(c) technical interoperability specifications for the exchange of electro standards and profiles.

- Logical information models
- ”Logical binding” to preferred code systems
- Mapping to HL7 Europe FHIR implementation guides
  - Including terminology binding to value sets

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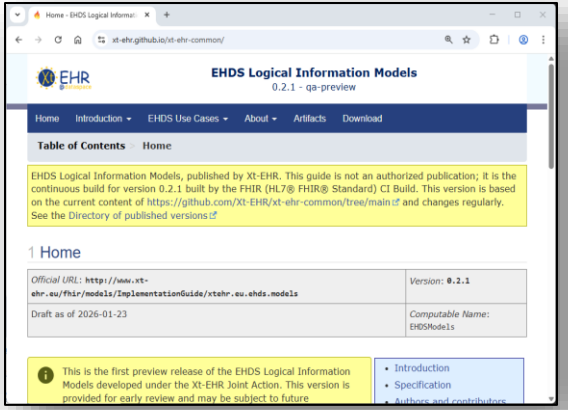
Xt-EHR Logical Information Models

- Business-level information requirements
- Technical standard agnostic



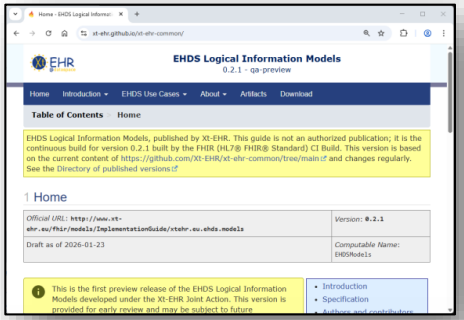
Draft: https://xt-ehr.github.io/xt-ehr-common/

Xt-EHR Logical Information Models

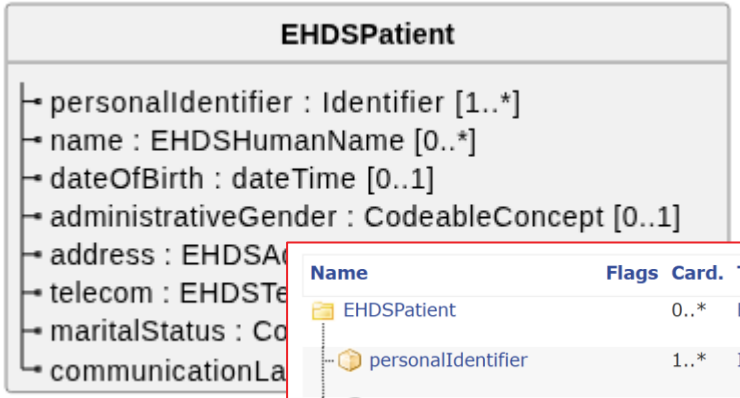
- Sources of inspiration

Xt-EHR Models and HL7 Europe Base & Core

- Published (W.I.P.)
  - https://xt-ehr.github.io/xt-ehr-common/
- Xt-EHR deliverables D6.1 – D7.3
  - 31 March 2026
  - https://www.xt-ehr.eu/deliverables/
- HL7 EU Base and Core FHIR IG
  - https://build.fhir.org/ig/hl7-eu/base/



Simple-ish example: Patient



Logical model

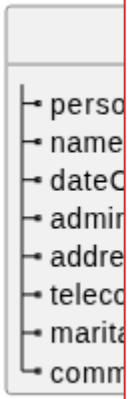
Name	Flags	Card.	Type
EHDSPatient		0..*	Base
personalIdentifier		1..*	Identifier
name		0..*	EHDSHumani
dateOfBirth		0..1	dateTime
administrativeGender		0..1	CodeableCon
address		0..*	EHDSAddress
telecom		0..*	EHDSTelecom
maritalStatus		0..1	CodeableCon
communicationLanguage		0..*	CodeableConcept

HL7 Europe FHIR profile

identifier	Σ	0..*	Identifier	Patient identifiers
active	?! Σ	0..1	boolean	Whether this patient's record is in active use
name	Σ C	1..*	HumanName	A name associated with the patient Constraints: **eu-pat-1**
telecom	Σ	0..*	ContactPoint	A contact detail for the patient
gender	Σ	0..1	code	Administrative Gender **Binding:** AdministrativeGender (required): The gender of a person used for administrative purposes.
birthDate	Σ	1..1	date	The date of birth for the patient
deceased[x]	?! Σ	0..1		Indicates if the individual is deceased or not
address	Σ	0..*	AddressEu	An address for the individual
maritalStatus		0..1	CodeableConcept	Marital status **Binding:** Marital Status Codes (extensible): The domestic partnership status of a person.

The language which can be used to communicate with the patient about his or her health.
Binding Description: (preferred): BCP 47

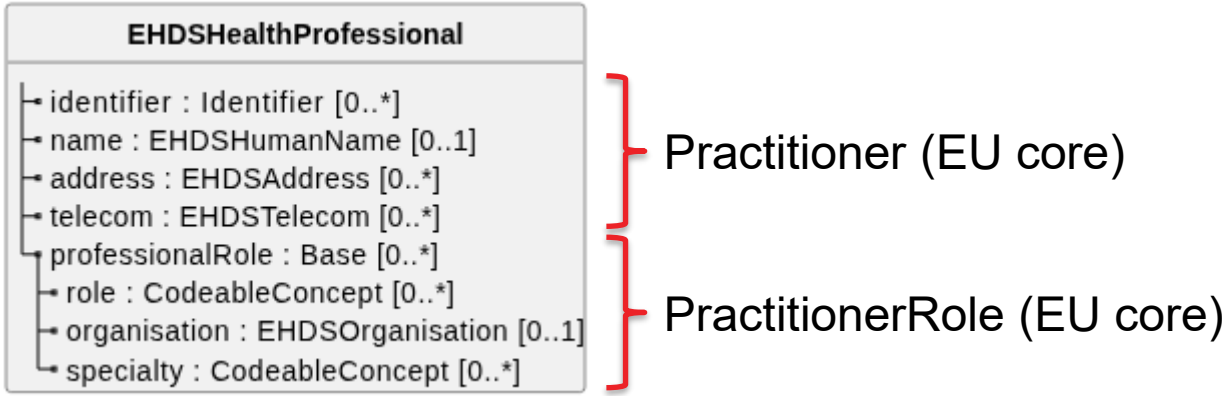
Simple-ish example: Patient



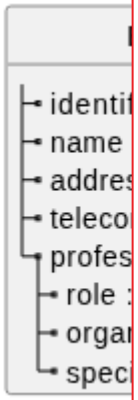
EHDSPatient → PatientEuCore

EHDSPatient (Logical Model)		Relationship	PatientEuCore			
Element	**Description**	**Relation**	**Resource**	**Element**	**Description**	**Notes**
personalIdentifier	An identifier of the patient that is unique within a defined scope.	equivalent	Patient	identifier	Patient identifiers.	
name	Name associated with the patient/subject.	equivalent	Patient	name	A name associated with the patient.	
dateOfBirth	Date of birth.	equivalent	Patient	birthDate	The date of birth for the patient.	
administrativeGender	Administrative gender.	equivalent	Patient	gender	Administrative gender.	
address	Mailing and home or office addresses.	equivalent	Patient	address	An address for the individual.	
telecom	Telecommunication contact information.	equivalent	Patient	telecom	A contact detail for the patient.	
maritalStatus	Marital (civil) status of a patient.	equivalent	Patient	maritalStatus	Marital (civil) status of a patient.	
communicationLanguage	Language that can be used to communicate with the patient about their health.	equivalent	Patient	communication.language	Communication language.	

Less simple example: Health professional



Less simple example: Health professional



EHDSHealthProfessional → PractitionerRole, Practitioner

EHDSHealthProfessional (Logical Model)		Relationship	PractitionerRole, Practitioner			
Element	**Description**	**Relation**	**Resource**	**Element**	**Description**	**Notes**
identifier	Identifier of the health professional (e.g. national professional ID).	narrower	PractitionerRole	identifier	Business identifier.	Mapping depends on identifier type.
identifier	Identifier of the health professional (e.g. national professional ID).	narrower	Practitioner	identifier	Practitioner identifier.	Mapping depends on identifier type.
name	Name of the health professional responsible for the patient.	related-to	PractitionerRole	practitioner	Practitioner that can provide the defined services for the organization.	Name carried on referenced Practition
name	Name of the health professional.	equivalent	Practitioner	name	Practitioner name.	
address	Addresses (office / practice / service location).	related-to	PractitionerRole	practitioner / location	Practitioner info and the location(s) at which this practitioner provides care.	Depends on address type (personal vs practice vs service site).
address	Addresses of the practitioner that are not role specific (often home).	narrower	Practitioner	address	Address(es) of the practitioner that are not role-specific.	Depends on address type.
telecom	Telecommunication contact information	source-is-broader-than-target	PractitionerRole	telecom [R4]	Contact details specific to this	R4 commonly teleco R5 may surface

HL7 International

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The Xt-EHR obligations for EHR systems

Hynek Kružík, HL7 Europe

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EHDS

Article 30

Obligations of manufacturers of EHR systems

1. Manufacturers of EHR systems shall:

(a) ensure that the harmonised software components of their EHR systems and the EHR systems themselves, to the extent that this Chapter establishes requirements for them, are in conformity with the essential requirements laid down in Annex II and with the common specifications in accordance with Article 36;

Article 36

Common specifications

(a) datasets containing electronic health data and defining structures, such as data fields an clinical content and other parts of the electronic health data;

(b) coding systems and values to be used in datasets containing electronic health data, taki harmonisation of terminologies and their compatibility with existing national terminologie

(c) other requirements related to data quality, such as the completeness and accuracy of electr

(d) technical specifications, standards and profiles for the exchange of electronic health data;

- Conformity framework
  - Interoperability profiles
  - Attestable assertions
- Logical Information model
- Data set Obligations
- Implementation specifications
- Resource Obligations

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Xt-EHR Conformity framework

- Interoperability profiles
  - Classification of the EHR systems based on their function
    - the EHDS priority data categories supported by the system;
    - the functional role performed in the exchange (Producer, Consumer, or Exchanger); and
    - the intended use of the system: whether it is intended for use by health professionals, natural persons, or both.

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Xt-EHR Conformity framework

- Depending on their scope, Interoperability Profiles define:
  - the applicable EEHRxF artefacts governing the structure and semantics of exchanged data;
  - the metadata requirements applicable to the exchange, as specified in dedicated Metadata Interoperability Profiles;
  - the structural expectations that apply when data are exchanged in accordance with the profile; and
  - the role-specific interoperability obligations for systems acting as Producers or Consumers.

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Xt-EHR Conformity framework and HL7 IG

- EEHRxF artefacts
- Metadata Interoperability Profiles
- Structural expectations for data exchange
- Role-specific interoperability obligations for Producers or Consumers.

- HL7 Logical models
- HL7 Implementation Guides
  - Resource profiles & cardinality
  - Role based Obligations
    - Producers
      - Able-to-populate
      - Populate-if-known
    - Consumers
      - Display
      - Process

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Xt-EHR Obligations

- Obligations are use-case specific and depends on the expected behavor of the EHR system
- Completes structural requirements (resource profiles) which are processable with functional non-processable but still testable obligations
- Creates important element in conformity self-assement for EHR vendors

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Xt-EHR Obligations

Code	HL7 Definition	Proof
able-to-populate	Conformant applications producing resources SHALL/SHOULD/MAY be able to correctly populate this element.	To be proofed
populate-if-known populate-if-supported	Conformant applications producing resources SHALL/SHOULD correctly populate this element if they know a value for the element, but it is acceptable if the system is unable to ever know a value for the element. It is acceptable if the system does not support this value if it is not needed for its expected function.	To be explained
display	Conformant Applications SHALL/SHOULD display the value of this element when presenting the data from the resource to a human user	To be proofed
process	Conformant Applications SHALL/SHOULD consider the value of this element when processing the resource as specified by the IG	To be proofed

Xt-EHR Obligations Example

Use case: Lab report
Logical Model Element: Related person as intended recipient of the report

Cardinality	Data element	Producer	Consumer
Related person			
0..*	Personal identifier	SHALL:populate-if-supported	SHOULD:display, SHALL:process*
0..*	Name	SHALL:able-to-populate	SHALL:display
0..1	Relationship	SHALL:able-to-populate	SHALL:display
0..*	Address	SHALL:populate-if-supported	SHALL:display
0..*	Telecom	SHALL:able-to-populate	SHALL:display

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Xt-EHR Obligations and HL7 EU IGs

- ToDo:
  - Implementation of the Xt-EHR logical models including Xt-EHR Obligations
  - Mapping of the LM elements to the IG resources for all EU IG's
    - Lab, Imaging, HDR, PS
  - Implementation of the Obligations on IG resources

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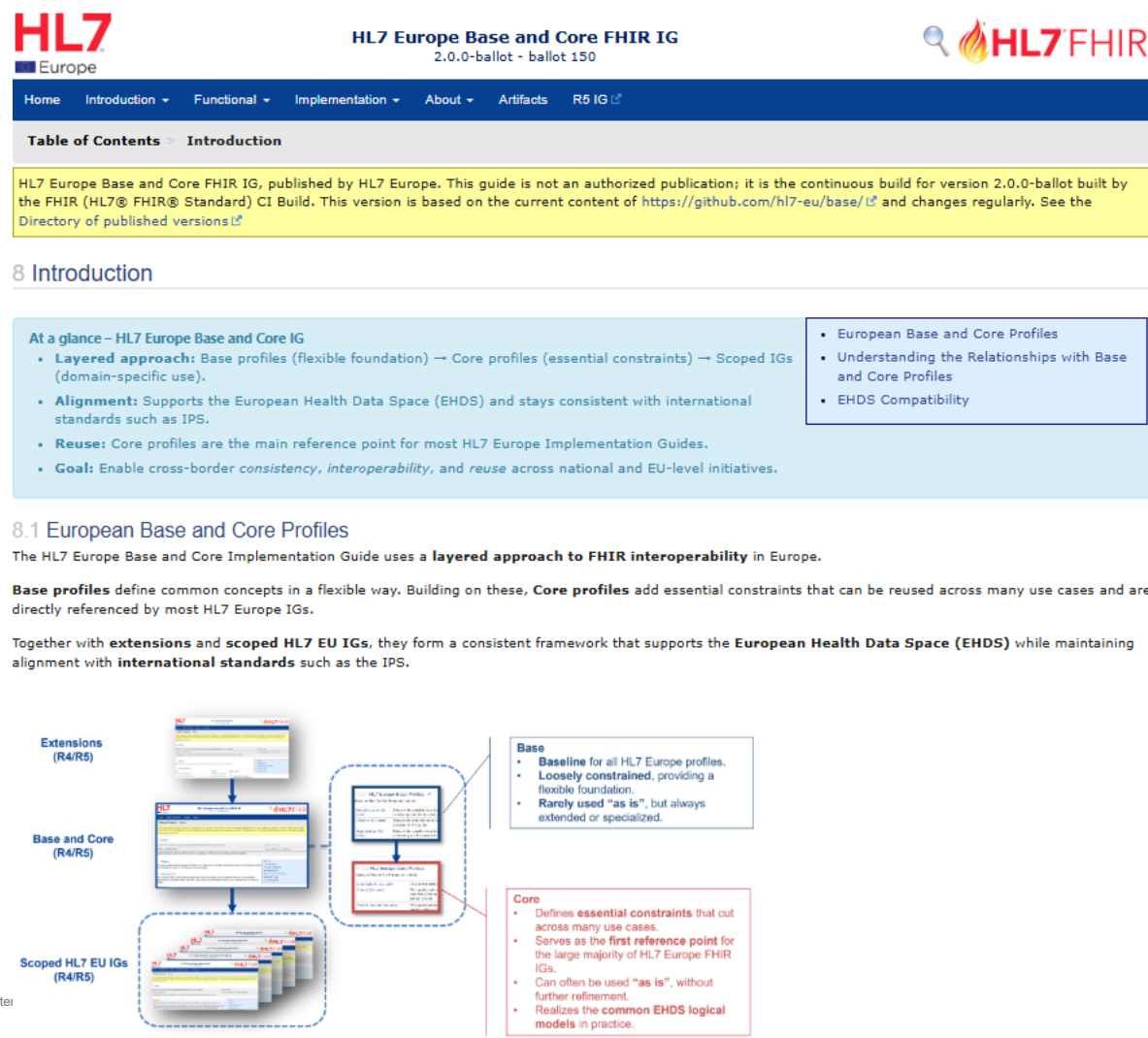
The HL7 Europe ballot and how to contribute to the IG

Michael Strübin, HL7 Europe

HL7® International

New ballots opened for HL7 Europe Base and Core FHIR Implementation Guides

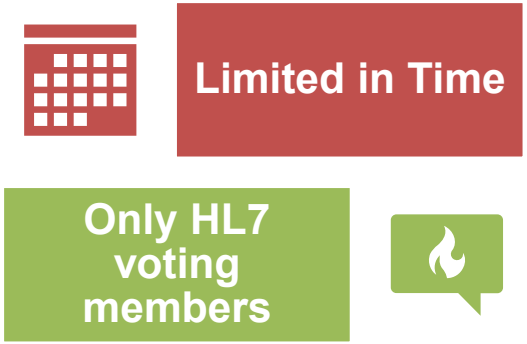
Brussels, 5 January 2026 – HL7 Europe opened a new round of ballots for its Base and Core FHIR Implementation Guides. Anyone is invited to submit comments (instructions below), but per HL7 Europe's rules only HL7 Europe affiliates may cast official ballot votes. The deadline for ballots and comments is 31 January 2026.



Two distinct formal processes

Balloting

the formal process that HL7 uses to review and **vote** on specifications prior to publication



Specification Feedback

the official mechanism for providing feedback about any HL7 specification

Ballot (formal vote)

Balloting
the formal process that HL7 uses to review and **vote** on specifications prior to publication

Limited in Time

Only HL7 voting members

One vote per European Affiliate !

Contact your HL7 Affiliate if you want to impact on your national vote !

Ballot (comments)

Specification Feedback

the official mechanism for providing feedback about any HL7 specification

Any Time

… during ballot is better !

Anyone

Your review and feedback matter most during the ballot !

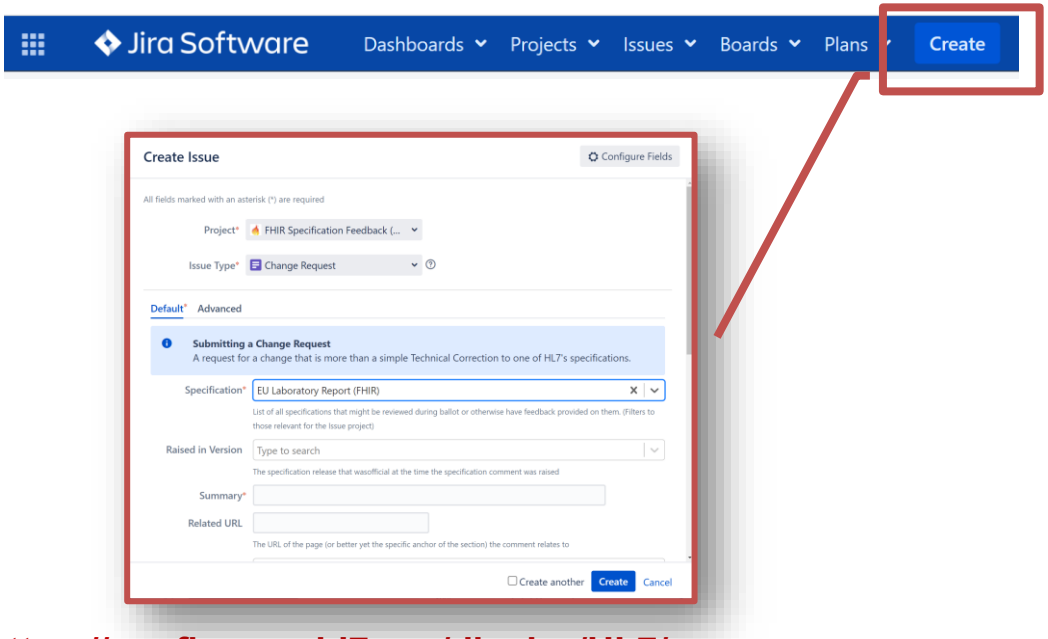
Provide input **during the ballot period** to:
…influence the content before first publication
…support your affiliate in shaping their vote

Specification Feedback

Any Time

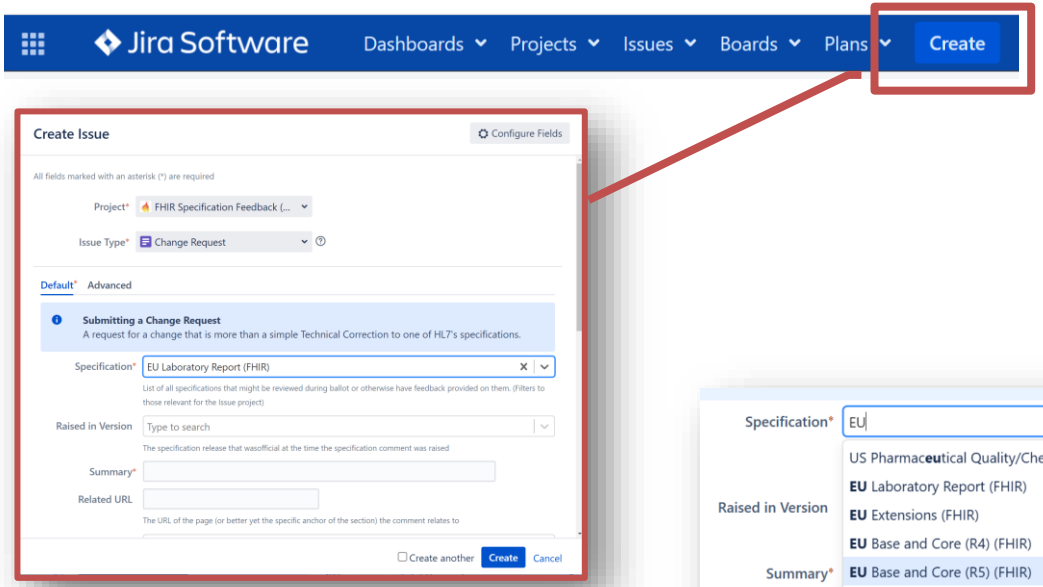
Anyone (registered user)

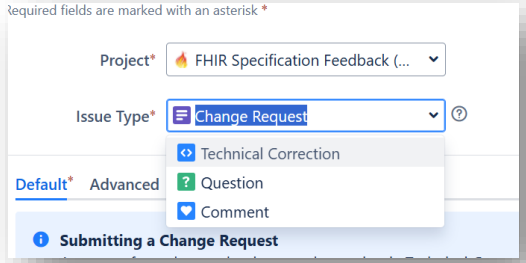
https://jira.hl7.org/

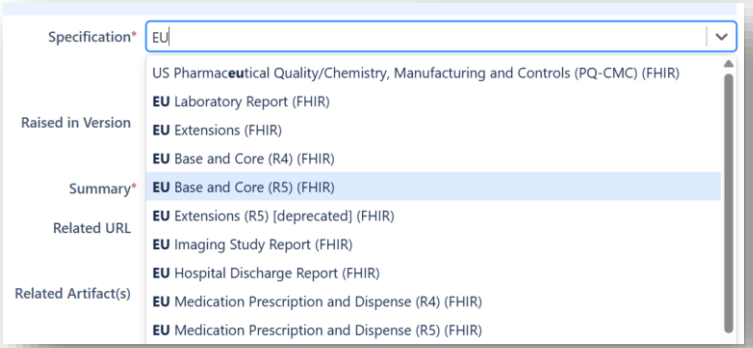


https://confluence.hl7.org/display/HL7/Specification+Feedback#SpecificationFeedback-submitting

Specification Feedback







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HL7 news

New HL7 International CEO:

Prof. Rachel Dunscombe

“Meet the CEO: A Conversation with HL7’s New Chief Executive, Professor Rachel Dunscombe”

Thursday, 29 January 2026, 16.30-17.30 CET

Register for free on Zoom

Next steps

- Webinar recording and slides to be posted on https://hl7europe.eu/ and www.hl7.tv

- Find us at **IHE-Europe Connectathon Brussels**, 23 to 27 March 2026: https://connectathon.ihe-europe.net/

- Get involved:
  - https://hl7europe.eu/get-engaged/
  - Follow HL7 Europe on LinkedIn
  - Subscribe to HL7 Europe news and updates

Thank you !