

WP7 New Services for EHR services towards EHDS

T7.2 Medical Imaging and Related Imaging Reports:
EEHRxF, requirements and specifications for EHR systems



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WP7 Introduction and objectives

WP7 New services for EHR systems towards EHDS

- **Objective:** Develop implementation guides on EEHRxF, functional and technical requirements as well as specifications for EHR systems, to enable cross-border and national interoperability.
- Goals include developing common and domain-specific data sets and logical models.
- In alignment with the following EHDS regulation articles:
 - **Article 14** - Priority categories of personal electronic health data for primary use;
 - **Article 15** - European electronic health record exchange format;
 - **Article 36** - Common specifications;
 - **Annex II** - Essential requirements for the harmonised software components.

MyHealth@EU: simultaneously development - FHIR

WP7 Tasks:

Task 7.1 - Medical test results, including laboratory and other diagnostic results and related reports



D7.1 - Medical test results, including laboratory and other diagnostic results and related reports: Implementation guides on EEHRxF, functional and technical requirements and specifications for HER systems.

Task 7.2 - Medical imaging studies and related imaging reports



D7.2 - Medical imaging studies and related imaging reports: Implementation guides on EEHRxF, functional and technical requirements and specifications for HER systems.

Task 7.3 - Discharge reports



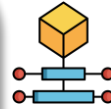
D7.3 – Discharge reports: Implementation guides on EEHRxF, functional and technical requirements and specifications for HER systems.

WP7 Introduction and objectives

Logical model development

Defines:

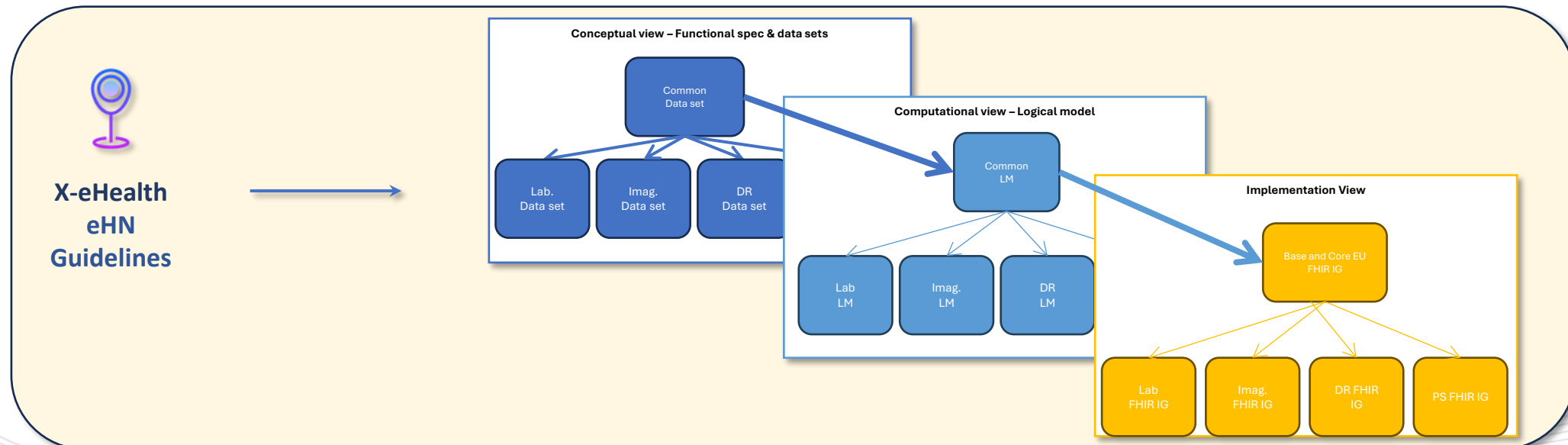
- Entities and attributes per domain
- Common elements
- Core elements
- Data types
- Preferred code systems (*e.g., SNOMED CT, LOINC, etc.*)



HL7 FHIR Implementation Guides



- Implementation Guides structured using FHIR resources
- Definition of profiles, extensions, value sets
- Guidance for data representation and exchange of data



The Xt-EHR T7.2 Imaging team

T7.2 Leadership: Netherlands (Nictiz) and Cyprus (NeHA, University of Cyprus)

Representatives from ~ 15 EU Member States, around 40 participants

eHealth and Medical Imaging Experts

Dedicated activities in sub-teams:

- General sections (introduction, (gap)analysis of existing guidelines and more)
- Use case descriptions
- **Logical Information Model**
- **Technical specifications for transactions**
- **Imaging Study Report & Manifest FHIR Implementation Guide**

Goal: T7.2 Medical Imaging studies and reports: implementation guides on EEHRxF, functional and technical requirements and specifications for EHR systems

Cooperation with HL7 Europe and IHE-International & IHE-Europe

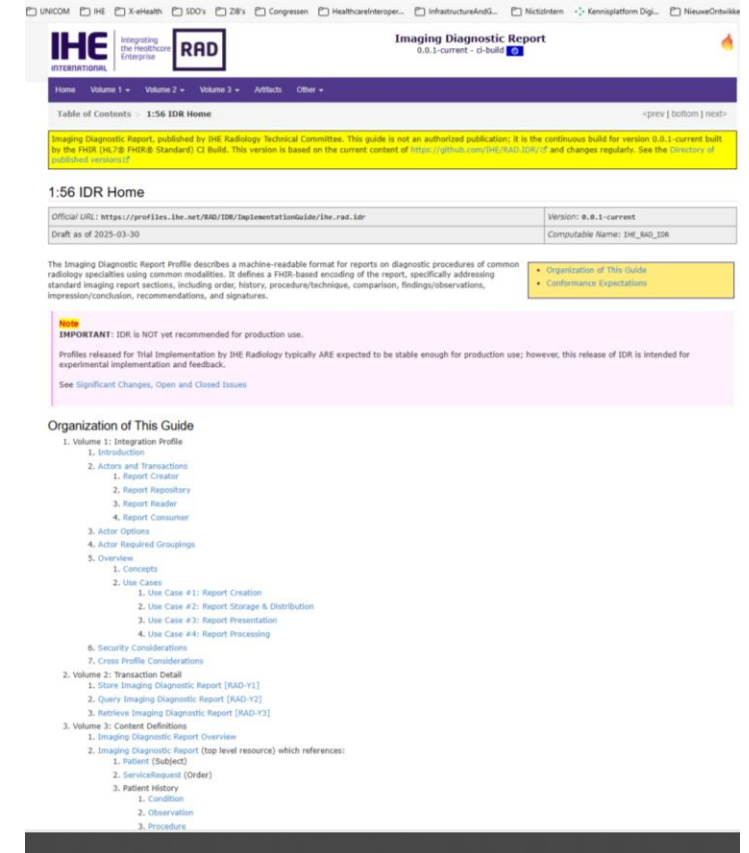


Align content and time lines!

D7.2 deadline: 31 March 2026

Closure of Project: 30 April 2026

Meet HL7 & IHE balloting time lines



T7.2 Sub-team Basic Subset Imaging Report Model

T7.2 Medical Imaging studies and reports: implementation guides on
EEHRxF, functional and technical requirements and specifications for EHR systems



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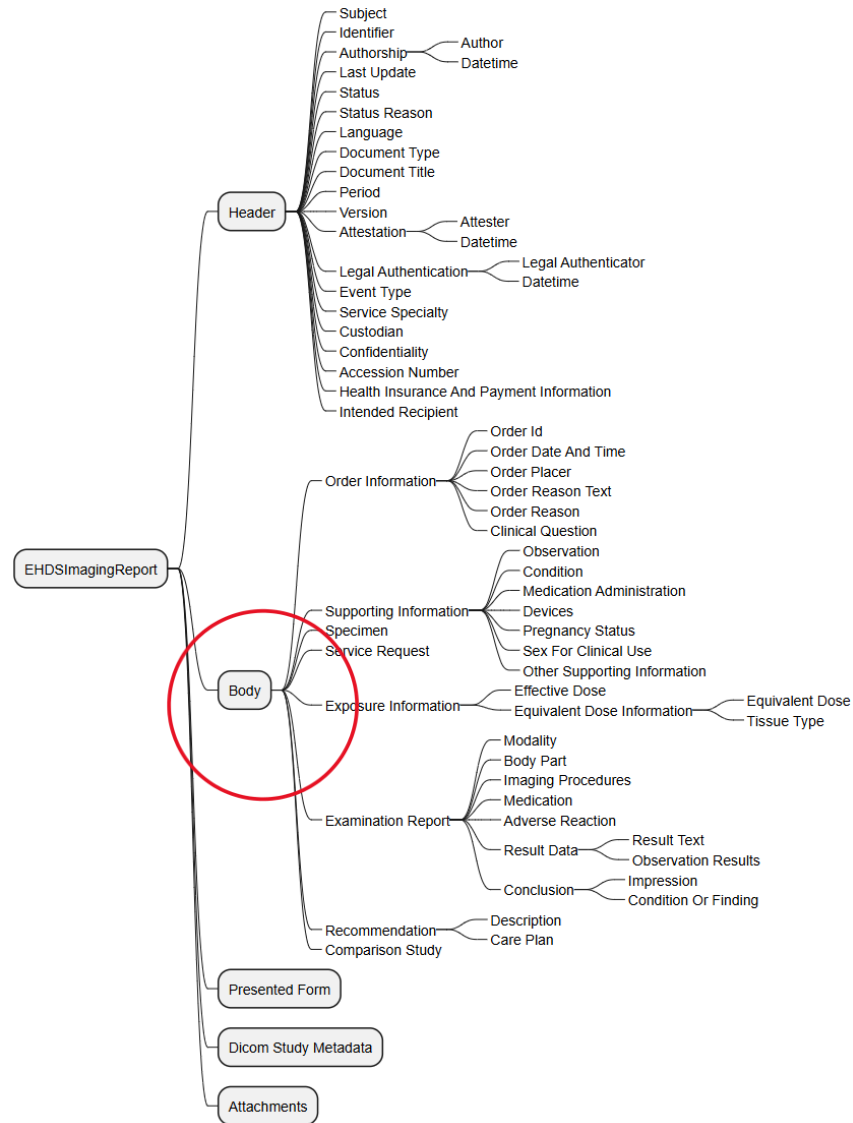
Goal of sub-team

- Propose a 'Basic Subset Model' based on the current Imaging Report - Body
- Provide proof why to keep specific elements (via discussion AND AI-analysis)
- The Basic Subset Model MUST
 - support the defined use cases
 - support what is needed NOW
- Minimal Viable Product (MVP)

Preconditions

- Incorporate clinician perspective
=>what is really needed for good patient treatment
- Incorporate EHR-systems=> feasibility in implementation
- Reference and support the EHDS Regulation; articles 3, 4, 7, 10-13 (patient rights) and 14, 15, 23, 36, Annex II (EEHRxF)

Scope – Body



Approach I

- Compare real-live reports from subteam participant's countries: NL, CZ, DE, NO, IE, FR, CY, AT, EE
- Discuss within sub-team; 5 members with clinical background

Parrot Dataset - AI Analysis – mapping with Report Model

Dataset Overview

- **Total Reports:** 2,738 imaging reports
- **Languages:** 14 different languages (Polish most common: 837 reports)
- **Modalities:** 10 different imaging modalities (CT most common: 989 reports)
- **Anatomical Areas:** 126 different anatomical areas (chest most common)
- **Countries:** 21 different countries
- **Subspecialties:** Multiple subspecialties represented

Key Findings

Real-World Data Element Usage

Always Present in PARROT Dataset (100% coverage):

1. **Report Content** - Every report contains narrative text
2. **Modality** - Imaging technique used
3. **Anatomical Area** - Body region examined
4. **Language** - Report language
5. **Country/Provider** - Geographic/institutional context
6. **Clinical Classification** - ICD codes for findings
7. **Subspecialty** - Medical specialty context

Frequently Present in Report Content:

- **Measurements:** 74.3% of reports contain quantitative measurements
- **Normal Findings:** 61.7% contain normal/unremarkable findings
- **Pathological Findings:** 49.1% contain abnormal findings
- **Contrast Use:** 37.4% mention contrast agents

Preliminary Basic Subset Model

A.2.1.6	body.orderInformation.clinicalQuestion	Base
A.2.2.1	body.supportingInformation.observation	Base
A.2.2.2	body.supportingInformation.condition	Base
A.2.2.3	body.supportingInformation.medicationAdministration	Beyond basic
A.2.5.4	body.examinationReport.modality	Base
A.2.5.5	body.examinationReport.bodyPart	Base
A.2.5.6	body.examinationReport.imagingProcedures	Base
A.2.5.7	body.examinationReport.medication	Base
A.2.5.8	body.examinationReport.adverseReaction	Beyond basic
A.2.5.9.1	body.examinationReport.resultData.resultText	Base
A.2.5.9.2	body.examinationReport.resultData.observationResults	Base
A.2.5.10.1	body.examinationReport.conclusion.impression	Base
A.2.5.10.1	body.examinationReport.conclusion.conditionOrFinding[x]	Base
A.2.2.4	body.supportingInformation.devices	Beyond basic
A.2.6	body.comparisonStudy	Base
A.2.5.11	body.recommendation	Beyond basic
	header.intendedRecipient	Beyond basic (preliminary suggestion)
	header.studyCustodian	Beyond basic (preliminary suggestion)

- Based on Parrot dataset analysis AND team discussions.
- Including justification.
- Handed-over to FHIR team last week, for discussion TODAY!

Thank you!

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