X-eHealth: Exchanging EHR in a Common Framework

State-of-Play and Next Steps

X-eHealth
Exchanging Electronic Health Records in a common framework

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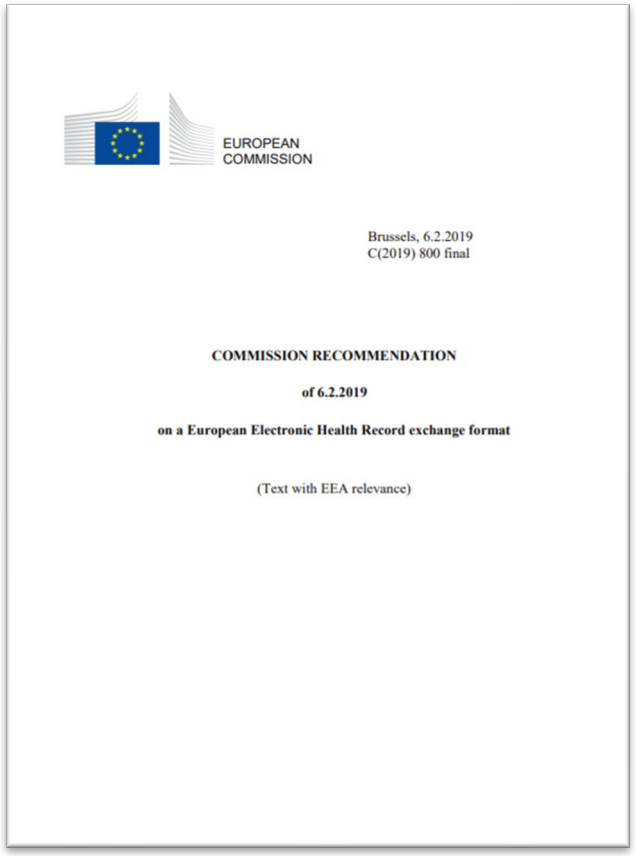
20th eHealth Network

Summary

1. *The EHRxF Recommendation*
2. *X-eHealth Scope of Action*
3. *X-eHealth Outputs and Timeline*


EUROPEAN COMMISSION

Brussels, 6.2.2019
C(2019) 800 final

COMMISSION RECOMMENDATION

of 6.2.2019

on a European Electronic Health Record exchange format

(Text with EEA relevance)

Framework for Cross-border Exchange of EHR

(11) Baseline for a European electronic health record exchange format

(a) **Patient Summary** (including rare diseases)

(b) **ePrescription/eDispensation**

(c) **Laboratory requests and results**

(d) **Medical imaging and imaging reports**

(e) **Hospital discharge reports**

These health information domains have been prioritised in alignment with the eHealth Network established priorities, on the basis of current work under the eHealth Digital Services Infrastructure and clinical relevance for cross-border healthcare.

2019 Fev 06

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Scope of Action

X-eHealth will build upon the already existing services and lay the foundations for a common structure for the following use cases:

- Laboratory requests and reports
- Hospital discharge reports
- Medical imaging and reports
- Rare diseases

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Relevant Outcomes for the eHDSI

- **Functional specifications**
- **Semantic specifications**
- **Technical specifications**

The use cases and specifications will be presented to the eHealth Network and the Commission and liaised with the eHMSEG.

Establish co-operation relations between eHMSEG, eHN SG-Semantic and X-eHealth

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Core Work Packages

Key Milestones

WP5 — Definition of EHRxF **functional specifications**

- **Jan 2021 –** Preliminary (internal) release of the overall principles and guidelines and the Functional Specifications
- **Aug 2022 –** Final Release of all deliverables after input from the other project Work

WP6 — Definition of EHRxF **implementable specifications**

- **Aug 2021 –** First Release of Content Specifications
- **Dec 2021 –** First Release of Technical Specifications and Testing Tools
- **Aug 2022 –** Final Release of Content Technical Specifications and Testing Tools

WP7 — **Architecture integration and System specifications**

- **Dec 2021 –** First Release of Definition of Architecture specifications
- **June 2022 –** EHRxF Testing Strategy definition
- **Aug 2022 –** Provision of the CEF eHDSI Change Proposals and guidelines to implement EHRxF at National Level

Concerted action: WP5/6/7

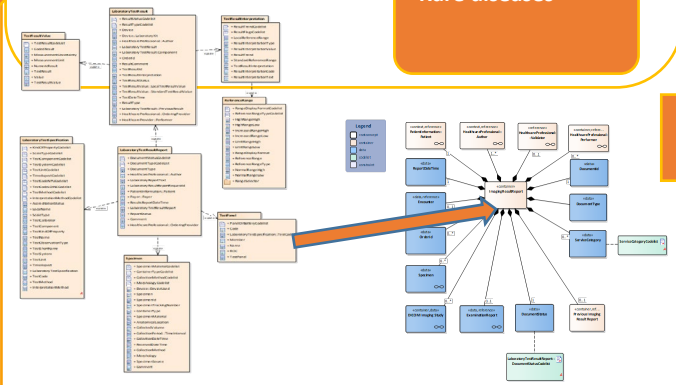
EEHRxF DOMAINS

FUNCTIONAL SPECIFICATIONS

CLINICAL REQUIREMENTS

LOGICAL MODELS

- Laboratory Requests and Reports
- Medical Imaging and Reports
- Hospital Discharge Reports
- Rare diseases



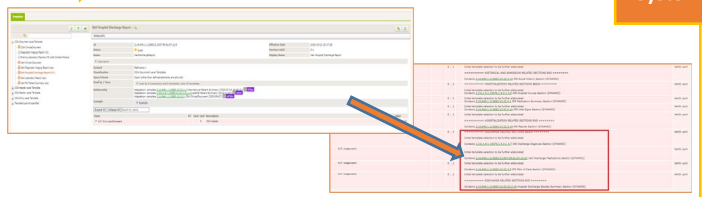
"Building-block" approach: 1 information model, 4 specifications

Logical models into implementation templates

IMPLEMENTABLE SPECIFICATIONS

IMPLEMENTATION TEMPLATES

- XeH Laboratory Report
- XeH Hospital Discharge Report
- XeH Diagnostic Imaging Report
- XeH RD Patient



HL7 templates covering the most relevant use-cases (in ArtDecor)

Implementation into System Architecture

ARCHITECTURE INTEGRATION AND SYSTEM SPECIFICATION

SYSTEM ARCHITECTURE

Country A

Country B

Cross-border exchange

- Lab Requests & Reports
- Medical Imaging & Reports
- Hospital Discharge Reports
- Rare disease

Common architecture for EEHRxF domains across the EU / integration with the current cross-border services

Key Deliverables Timeline

IDx.x Internal Deliverable

Dx.x Deliverable (final)

Today

2020 | Sep. | 2021 | Feb. | Aug. | Nov. | 2022 | June | Aug.

USE CASES

1. Laboratory Requests and Reports

2. Medical Imaging and Reports

3. Hospital Discharge Reports

4. Rare Diseases

All use cases

ID5.3 Laboratory Requests and Reports guideline and functional specifications

ID5.4 Medical Imaging and Reports guideline and functional specifications

ID5.5 Hospital Discharge Reports guideline and functional specifications

ID5.6 Refine PS functional specifications to account for eHN Guidelines and rare diseases

ID6.1 X-eHealth Implementation Guide: Laboratory Domain

ID6.2.1 X-eHealth Implementation Guide: Medical Imaging Domain

ID6.4 X-eHealth Implementation Guide: Patient Summary for Rare Diseases

ID6.2.2 Technical Specifications for Images

ID6.3 X-eHealth Implementation Guide: Hospital Discharge Report

D7.1 EEHRxF architecture specifications

D5.3 Laboratory Requests and Reports guideline and functional specifications

D5.4 Medical Imaging and Reports guideline and functional specifications

D5.5 Hospital Discharge Reports guideline and functional specifications

D5.6 Refine PS functional specifications to account for eHN Guidelines and rare diseases

D5.1 Use case driven methodology

D5.2 Clinical Guidelines driven Use Cases

D7.3 Possible upgrades of eHDSI core and generic services

D6.1 X-eHealth Services Specifications

D6.2 X-eHealth Testing Tools

D6.3 X-eHealth Implementation Guide

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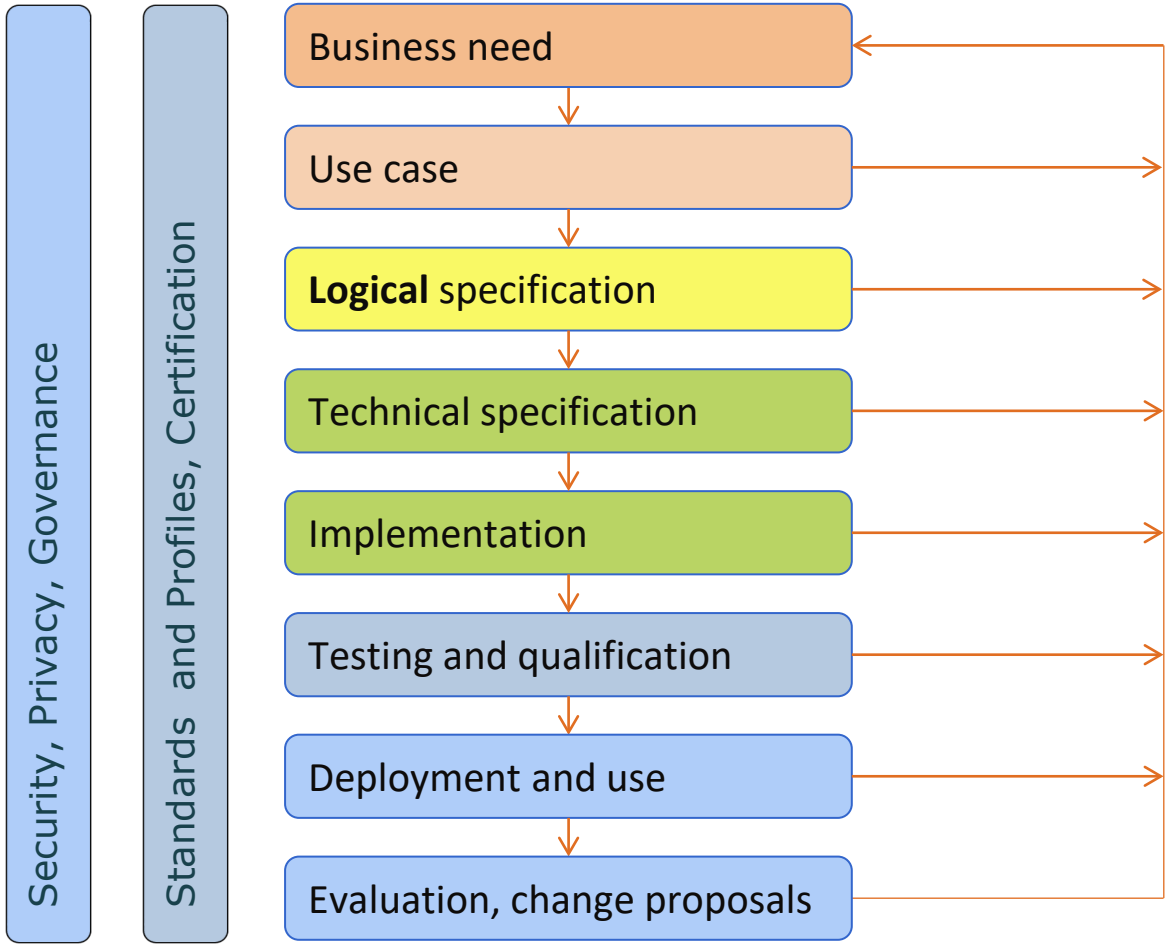
| Methodology

- *Use case*
  - **process flow, process steps**
  - **exchange of information**
- *Logical specification*
  - **breakdown of the information into reusable information building blocks**
  - **understandable by end users**
  - **stable basis for technical specification**
- *Technical specification*
  - **based on the logical information model**
  - **future proof - new versions of standards can be implemented from the logical model.**



EHRxF – a family of reusable information objects

Evolution
Extension
Expansion

Patient Summary, ePrescription, generic information elements

Patient	*HCP*	*Encounter*	*Order*	*Report*
Body weight	*Allergies*	*Medication*	*Diagnoses*	*...*

Laboratory

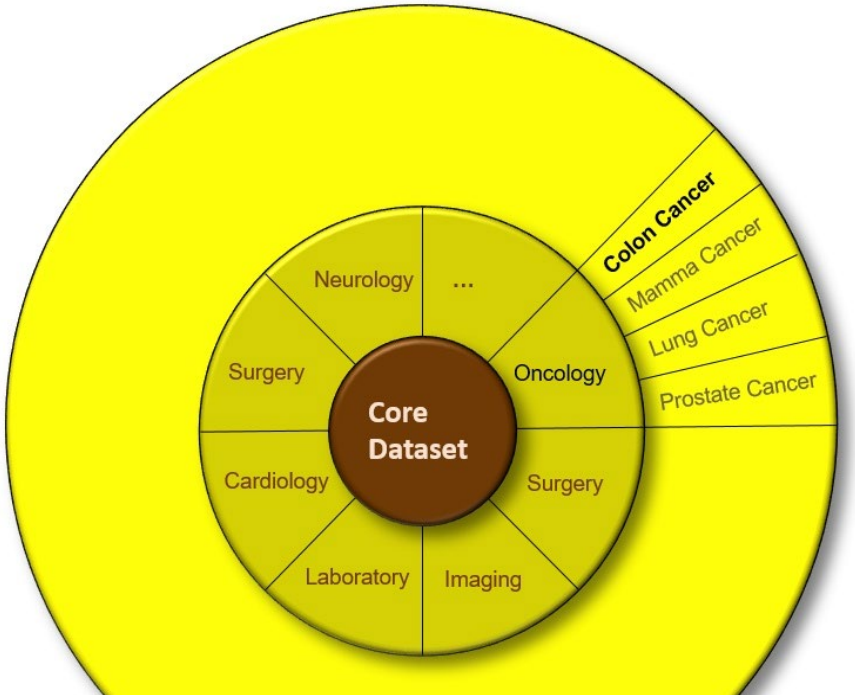
- *Lab Request*
- *Lab Report*

Imaging studies

- *Images*
- *Imaging Report*

Discharge reports

- *Discharge Report*



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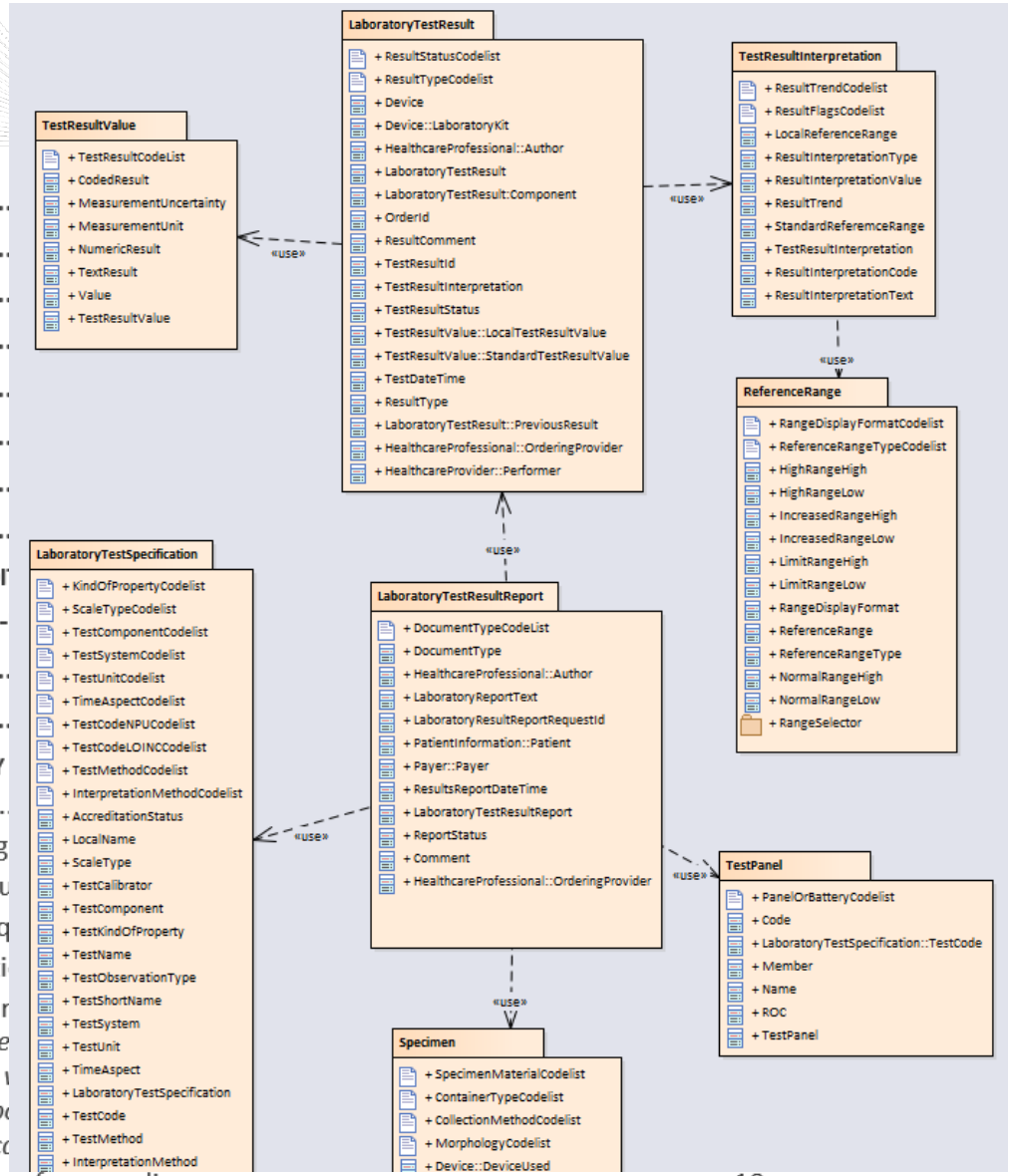
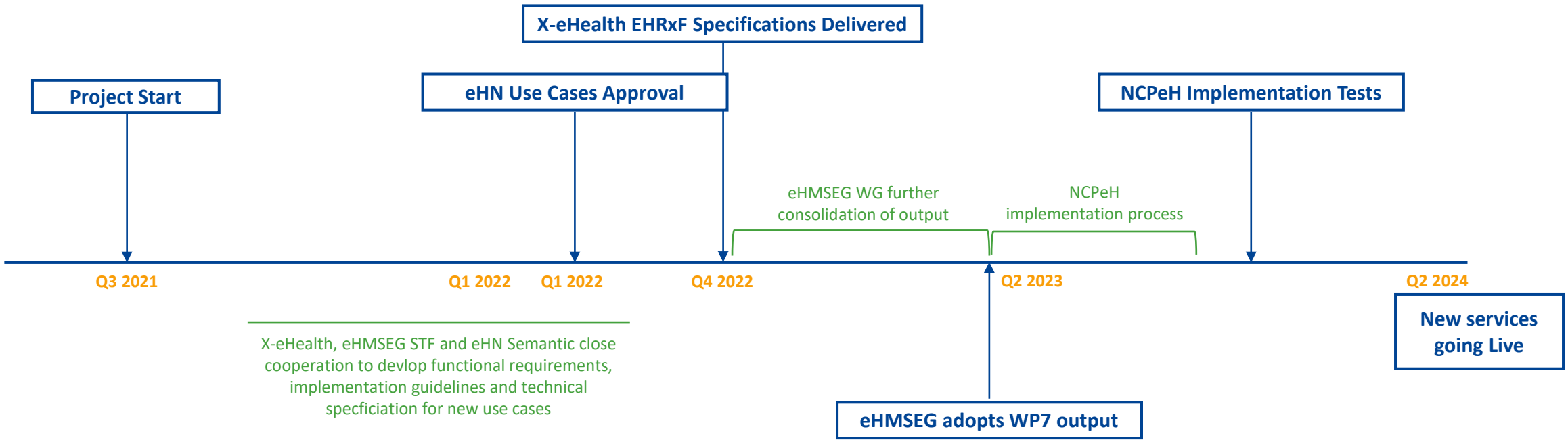
Use cases and chal

- *UC5.3.1 Laboratory re*
- *UC5.3.2 Laboratory Or*
- *Challenges*
  - Use of LOINC and/or N
  - Provide both conventic standard test names
  - Agree on standard unit results etc.



EHRxF | Next Steps



Join X-eHealth in 2022!

- **Professional Training Sessions**
  - **May-June**
- **2nd X-eHealth Innovation Day**
  - **Aug-Sep**
- **Interoperability Award**
  - **Sep**

Thank you

Cátia PINTO

X-eHealth project coordinator

Shared Services of the Ministry of Health