



Pannel on Multi-Country Working Group (MCWG) for Image Information Sharing

An IHE-Europe Taskforce

Sponsored by



Charles Parisot, IHE-Europe, Coordinator

Multi-country Working Group (MCWG) Timeline

**Initial MCWG
concept and need
identified
@IHE Experience
days**
(IHE Connectathon Montreux)

September 2022

**Pre-MCWG
defines scope
and
operating
principles**

Q4 2022

**Creation decision by
MCWG membership**
**IHE-Europe Executive
Committee approval of
the MCWG taskforce**

Supported by



December 2022

**Sharing of
existing
experience:
Venetto,
Quebec, France**

Q2 2023

**Completion of work
on first 3 sets of
MCWG
Recommendations***

Q1 2024

MCWG created

* All three presentation recordings are available to MCWG members
(Contact Arianna: secretariat@ihe-europe.net)

MCWG Scope and objectives

Scope:
Deployment of interoperability for
Imaging Exchange

- **National or regional level**
- Complementary to Cross-Border imaging exchange focus of EU Commission (eHN, JA9).

Goal:
Deliver design analysis for specific
extensions

- Extensions are needed to **effectively deploy IHE Profiles, DICOM, FHIR** and other standards within countries' ehealth services. Complementary to eHDSI for Cross-Border.

Benefits:
Pool expertise and resources

- **Direct engagement with active national deployments**
- Perform analysis of specific issues
- **Seek increased consistency** between such deployments.

Deliverables:
Analysis results as MCWG
recommendations.

- Mature and complete with multi-country consensus
- Offered for adoption and **easily included into national interoperability frameworks.**

**MCWG plenary
meetings**
every two weeks, 1-hour T-con

- **All members engage in MCWG governance** (within rules of an IHE-Europe Task Force)
- **All members prioritize topics for recommendations.** Each topic is addressed by a dedicated Focus Group including 3-4 Members or designees, committed to deliver recommendations on the topic in less than two months
- **All members review and comment on draft recommendations and approve final recommendations**

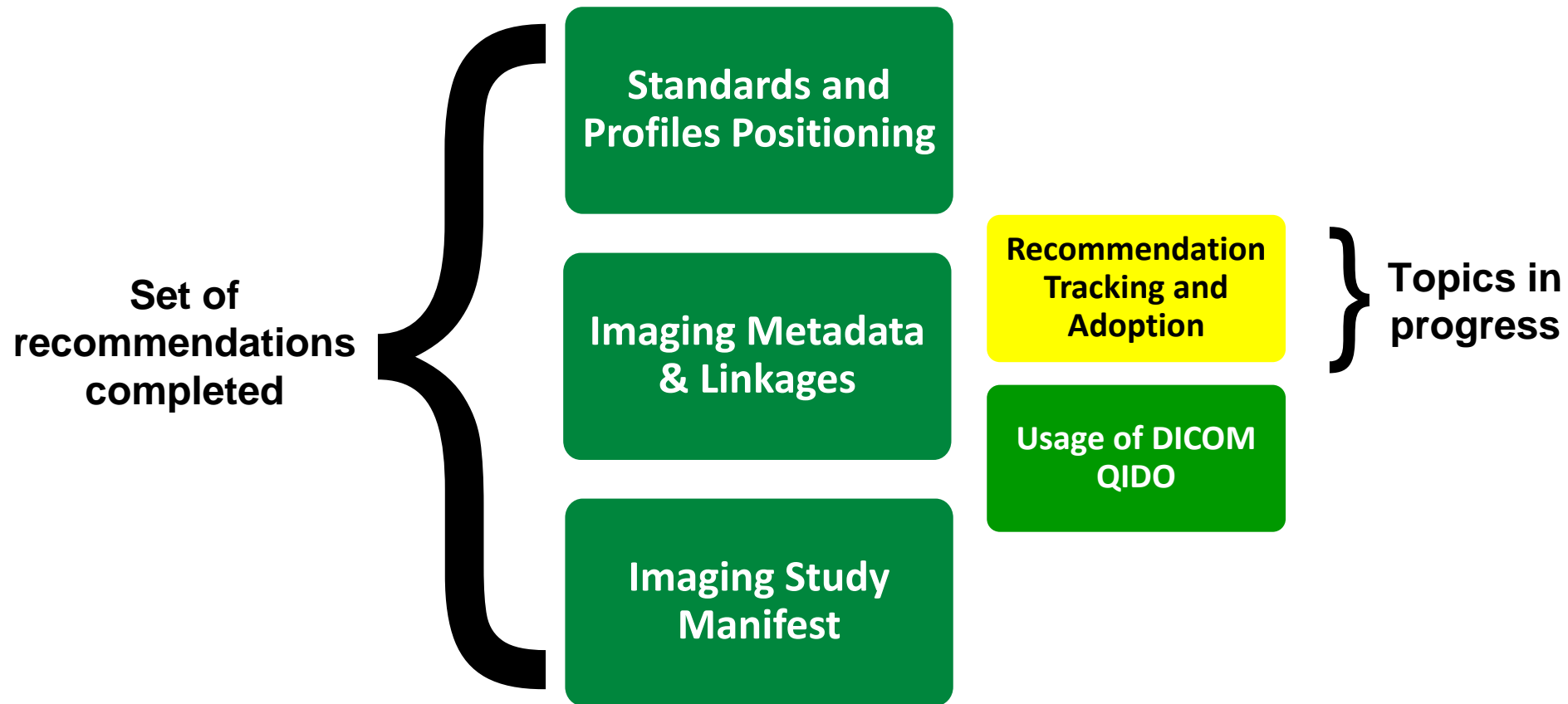
**Currently includes
representatives from
10 countries**

- **Austria, Belgium, Canada, Czechia, Denmark, Finland, France, Netherlands, Norway and Spain**
- MCWG is working on expanding that list. **Other countries European and non-European are welcome**

**MCWG produced 3 sets
of recommendations
in four months**

- Each set of recommendations corresponds a topic produced by a dedicated Focus Group.
- Recommendations **sufficiently mature, complete (multi country consensus) and stable to be offered for adoption into national interoperability frameworks.**
- The recommendations are initially delivered in a PowerPoint Slide Format.
- **Publicly available documents. MCWG members to ensure rapid feedback as they apply.**

Status Update on May 1st



1. Standards and Profiles Positioning

Topic description and scope

Scope

Standards
and Profiles
Positioning

Imaging
Metadata &
Linkages

Imaging
Study
Manifest

Recommen-
dation
Tracking and
Adoption

Usage of
QIDO

Use Case aligned with the
eHN Guidelines on Medical imaging studies and reports :

- search and select imaging studies of interest
- access to images
 - **links in report to server-side image viewer**
 - **to native DICOM images by a requester-side image viewer/processor.**

Choice of profiles and standards

- Position the role of HL7 FHIR in the sharing of imaging information architectures
- **Select profiles and standards for the use case** (FHIR/MHD, IHE/XDS-I, IHE/XCA-I, DICOM WADO-RS)

1. Standards and Profiles Positioning

Recommendation Highlights

Recommendations

Standards
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Three different
deployment architectures
may coexist (See Note) :

- A. Country (or stand-alone Region) with a **central document registry** both with distributed PACS/VNAs
- B. Country with **federated document registries & regions** with distributed PACS/VNAs
- C. Country (or region) with a **central document registry and a central VNA**

Note: Manifest Document Repositories whether centralized or distributed is possible in all three architectures.

Imaging Study Manifest
(DICOM KOS) used in all
deployment architectures.

Transactions are from the
following profiles:

- A, B or C: **IHE MHD** (FHIR based with document reference resource) + **DICOM WADO-RS** (Rest)
- A or C: **IHE XDS-I** (WS SOAP-Based) + **DICOM WADO-RS** (Rest)
- B : **XCA-I** (WS SOAP based) + **DICOM WADO-RS** (Rest)

2. Imaging Metadata & Linkages

Topic description and scope

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Ensuring effective
sharing with
linkages

- **For clinician as well as for imaging production**
- Both for imaging reports and imaging studies.
- Linkages with clinical orders and imaging procedure requests

Defining a robust
imaging metadata
strategy

- **For filtering access in queries** (key filtering elements) for imaging studies.
- **For selecting** among filtered imaging studies returned

2. Imaging Metadata & Linkages

Recommendation Highlights

Recommendations

Standards and Profiles Positioning

Imaging Metadata & Linkages

Imaging Study Manifest

Recommendation Tracking and Adoption

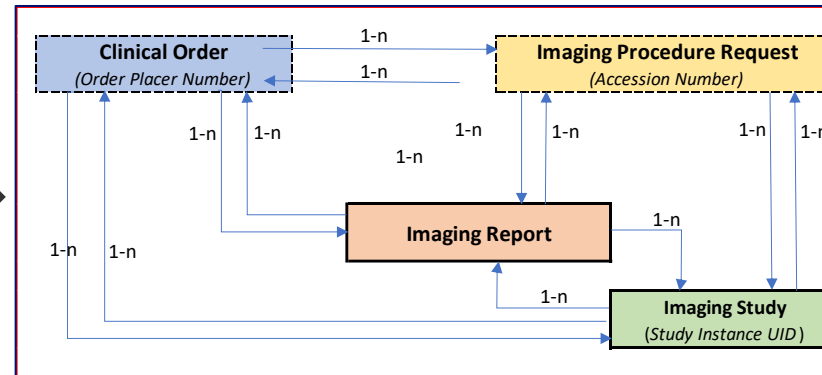
Usage of QIDO

Filtering in queries :

Criteria needed for health professionals (imaging and others) when exploring a patient imaging records:

Linkages for relationships between various entities

Metadata element	Description	Query level
Anatomical Regions	Set by RIS per each imaging procedure code	1 (or 2)
Study level modality	Set by RIS per each imaging procedure code	1 (or 2)
Study Instance UID	Set by RIS (sometimes by modality)	2 (or 1)
Accession number	RIS generated imaging procedure request identifier	2 (or 1)
Order Placer number	From ordering module EHR/EMR	2 (or 1)
Imaging Procedure Code	Set by RIS per each performed procedure code	2



- Initial filtering request (level 1)
- Subsequent selection (level 2) among the list of responses to initial request

Use of Display Names and Codes Value Sets

- Imaging Procedure
- Laterality

Non-imaging specific metadata

- Document Classes: Imaging or Report
- Practice Setting (source Specialty=)

Workflow

- Publication trigger
- Imaging reports header data

3. Imaging Study Manifest

Topic description and scope

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Definition of Imaging Study Manifest

- Based on [eHN Guidelines on Medical imaging studies and reports](#)
- Consistent with DICOM and IHE XDS-I

Analysis of the detailed content of the imaging manifest (KOS)

- National and local patient IDs,
- Accession numbers,
- Additional content in study/series/instance descriptions for technical or clinical efficiency.

3. Imaging Study Manifest Recommendation Highlights

Recommendations

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Usage of
QIDO

- DICOM KOS vs FHIR Document bundle (incl. Imaging Studies Resource). Choice of standard: DICOM KOS



DICOM KOS is a better use case match

- Neutral: Content match 90+% covered – Both are missing only a few standard attributes:
- **Imaging SW Alignment for consumption with 80% created from Imaging Data**
- **Much wider Adoption** – 84 vendors passed Connectathon testing of KOS Manifests (XDS-I). Over 100 sharing environments (Hospital, Regional, national) deployed in Europe
- Transaction to support sharing of manifests and workflows variants
- Key requirements on SOP Classes retrieved by WADO-RS
- Detailed recommendations for manifest content (what needs to be added, why and how)
 - Patient Identification,
 - Study Information,
 - Workflow/identifiers,
 - Series and Instance Information
- Retrieval
 - Locating the Referenced Studies, Series and Instances.
 - Management of retrieve URL and location OIDs
- Selection of Significant Images (IHE KIN)

Tracking and Adoption of Recommendations

On-going work

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Preparation of tools and strategy for survey of adoption

- Preparation of a checklist document listing the recommendations elements with brief explanations
- Preparation of list of target countries/jurisdictions
- Update of MCWG Overview presentation

Adoption information collection and processing

- Meetings with representants of target countries/jurisdictions
- Distribution of checklist document
- Collection of results and gap analysis

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Cases for use of
DICOM QIDO

- Analysis on QIDO experience
- Identify Cases where directly related to national/regional image information sharing
- Determination of opportunities and limitations

Recommendations on the
use of QIDO

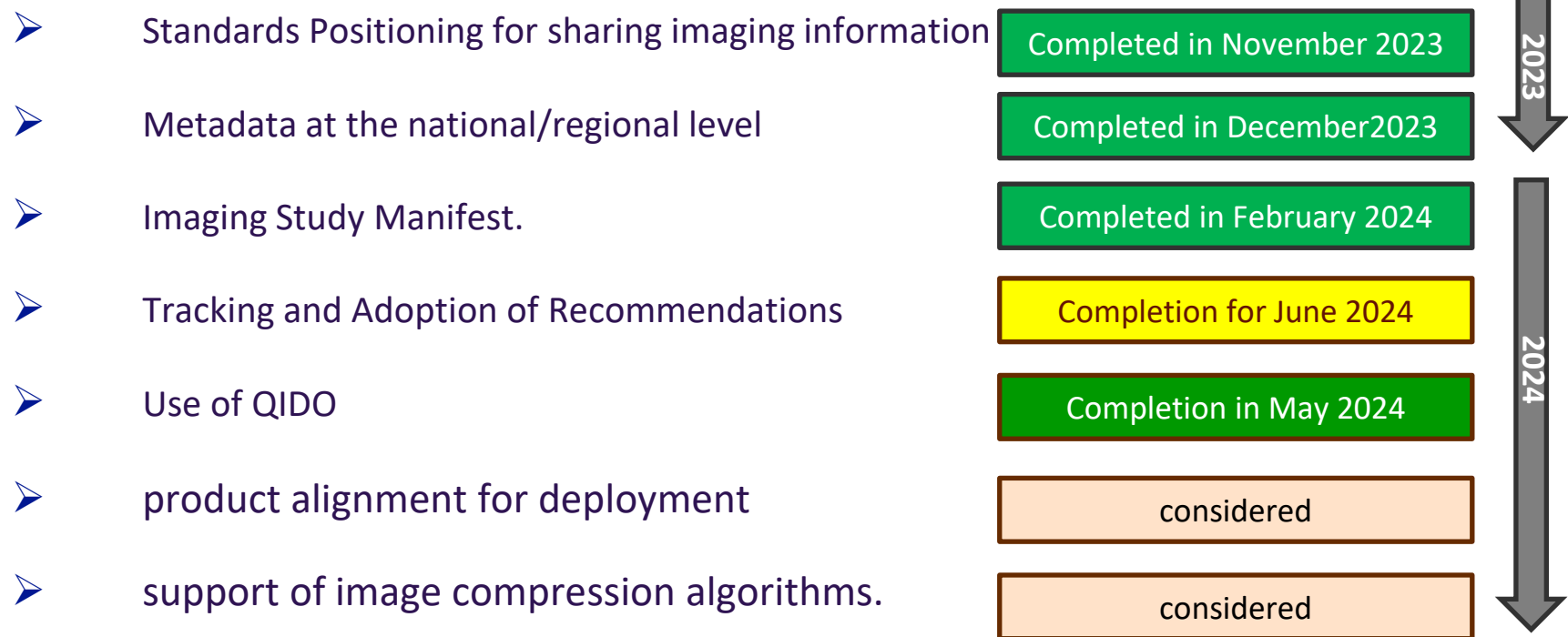
- Two extensions on the use of QIDO folded in a revision of the standards and profile positioning recommendation

NEXT STEPS AND TIMELINE

The Multi-Country Working Group on Imaging Information Sharing is well established and has delivered valuable refinements to the available standards and profiles for a consistent deployment across multiple countries.

These companion recommendations are compact and assemble significant technical, imaging expertise with more than 15 years of standards deployment experience.

- Standards and Profiles Positioning ✓ Finalized
- Imaging Metadata & Linkages ✓ Finalized
- Imaging Study Manifest ✓ Finalized
- Tracking and Adoption In progress
- Use of QIDO ✓ Finalized
- ... others



CONCLUSION



IHE MCWG welcomes additional countries and looks forward to further collaborations with eHN groups and projects

*Questions, Comments and Suggestions are welcome
and should be sent to the IHE-Europe Secretariat: secretariat@IHE-Europe.net*

**Interested countries and other organizations are welcome to attend the MCWG workshop:
June 6, 2024 10:30am – 1:00pm at the IHE-Europe Connectathon
For invitation contact: secretariat@IHE-Europe.net**

Trieste, Italy

