2 - Selection of standard for the new use cases in MyHealth@EU

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New use cases

- Laboratory results and reports
- Medical images and medical image reports
- Hospital discharge reports

While current services in MyHealth@EU are based on HL7 CDA and IHE XDS, selection of the base standards should be made for the new use cases.

Basic process taken for the selection of the standard

Non-paper

- Prepare a description of the question at hand
- Analyse impacts on development (tools, processes, timelines)

Survey

- Perform a survey for Member States to identify preferences and readiness to implement
- Update the non-paper with the survey results
- Add proposed implementation timeline

Decision

- Submission of the non-paper to the eHealth Network decision
- Decision by the eHealth Network
- Incorporation of the decision in the eHN guidelines (technology-related sections)

Implementation

- Implementation of the new use cases in MyHealth@EU according to the agreed timeline

Waves in MyHealth@EU

	2018	2019		2020		2021		2022		2023		2024		2025		2026		2027	
	Oct-Dec	Jan-Sept	Oct-Dec	Jan-Sept	Oct-Dec	Jan-Sept	Oct-Dec	Jan-Sept	Oct-Dec	Jan-Sept	Oct-Dec	Jan-Sept	Oct-Dec	Jan-Sept	Oct-Dec	Jan-Sept	Oct-Dec	Jan-Sept	Oct-Dec
Wave 1	PROD	PROD																	
Wave 2	Pre-PPT	PPT	PROD	PROD															
Wave 3	Impl	Impl	Pre-PPT	PPT	PROD	PROD													
Wave 4		CPs	Impl	Impl	Pre-PPT	PPT	PROD	PROD											
Wave 5				CPs	Impl	Impl	Pre-PPT	PPT	PROD	PROD									
Wave 6						CPs	Impl	Impl	Pre-PPT	PPT	PROD	PROD							
Wave 7								CPs	Impl	Impl	Pre-PPT	PPT	PROD	PROD					
Wave 8										CPs	Impl	Impl	Pre-PPT	PPT	PROD	PROD			
Wave 9												CPs	Impl	Impl	Pre-PPT	PPT	PROD	PROD	
Wave 10														CPs	Impl	Impl	Pre-PPT	PPT	PROD
Wave 11																CPs	Impl	Impl	Pre-PPT

CP Change Proposal (under MyHealth@EU change management procedure)
Impl Implementation
Pre-PPT Preparatory Pre-Production Testing
PPT Pre-Production Testing
PROD Production (routine operations)

2022
2023
2024
2025
2026
Grants for MS implementing MyHealth@EU services (EU4H WP2022)
Horizontal issue
Decision on technology
Laboratory results and reports
eHN guidelines
Service design, including the possible summary element
Implementation in MyHealth@EU
Pre-production testing
Operation (Wave 8)
(first Member States, other MS to join in next Waves)
Medical images and image reports
eHN guidelines
eHN guidelines 2nd version
Service design
Implementation in MyHealth@EU
Pre-production testing
Operation (Wave 9)
(first Member States, other MS to join in next Waves)
Hospital discharge reports
eHN guidelines
eHN guidelines 2nd version
Service design
Implementation in MyHealth@EU
Pre-production testing
Operation (Wave 9)
(first Member States, other MS to join in next Waves)

Survey on the selection of the base standard

- The survey was performed in order to understand the preferences of the Member States in the eHealth Network regarding the choice of the base standards, and to understand their readiness to implement new use cases using either of the standard options.
- Aim of the survey: **position / expected way forward**
- The survey was accompanied by a non-paper explaining the background, characteristics of both standards, and impacts on MyHealth@EU
- After the survey, its results were added to the non-paper

MS participation

- Survey period: 7.12.2022– 20.1.2023
- The survey was sent to 29 countries. 23 countries replied
- 56 questions were asked in total

Austria	Malta
Bulgaria	Norway
Cyprus	Poland
Czechia	Portugal
Denmark	Slovak
Estonia	Republic
Finland	Slovenia
France	Spain
Germany	Sweden
Greece	
Ireland	
Italy	
Latvia	
Lithuania	
Luxembourg	

Belgium
Croatia
Hungary
Iceland
Netherlands
Romania

CDA/FHIR current use

Weights	CDA	Answers	Ratio
-1	Not used at all	4	17.39 %
1	Used in a few contexts/systems	6	26.09 %
2	Used in many contexts/systems	7	30.43 %
3	Mainstream standard	6	26.09 %

FHIR	Answers	Ratio
Not used at all(ID78)	6	26.09 %
Used in a few contexts/systems(ID79)	11	47.83 %
Used in many contexts/systems(ID80)	5	21.74 %
Mainstream standard(ID81)	1	4.35 %

CURRENT USE,
WEIGHTED SCORE

CDA/FHIR future use

Weights	CDA		Answers	Ratio
-1	Not used at all		5	21.74 %
1	Used in a few contexts/systems		6	26.09 %
2	Used in many contexts/systems		7	30.43 %
3	Mainstream standard		5	21.74 %

FHIR		Answers	Ratio
Not used at all		2	8.70 %
Used in a few contexts/systems		2	8.70 %
Used in many contexts/systems		8	34.78 %
Mainstream standard		11	47.83 %

CDA and FHIR: weighted scores for current and future use

What standard should be used for content **representation**?

Laboratory results and reports

		Answers	Ratio
HL7 CDA		3	13.04 %
HL7 FHIR		18	78.26 %
Other		2	8.70 %

Medical imaging reports

		Answers	Ratio
HL7 CDA		5	21.74 %
HL7 FHIR		16	69.57 %
Other		2	8.70 %

Hospital discharge reports

		Answers	Ratio
HL7 CDA		5	21.74 %
HL7 FHIR		17	73.91 %
Other		1	4.35 %

What standard should be used for content **transmission**?

Laboratory results and reports

		Answers	Ratio
IHE XDS stack (currently implemented in MyHealth@EU)		8	34.78 %
HL7 FHIR REST API		11	47.83 %
HL7 FHIR Messaging		3	13.04 %
Other		1	4.35 %

Medical imaging reports

		Answers	Ratio
IHE XDS stack (currently implemented in MyHealth@EU)		8	34.78 %
HL7 FHIR REST API		10	43.48 %
HL7 FHIR Messaging		2	8.70 %
Other		3	13.04 %

Hospital discharge reports

		Answers	Ratio
IHE XDS stack (currently implemented in MyHealth@EU)		8	34.78 %
HL7 FHIR REST API		10	43.48 %
HL7 FHIR Messaging		3	13.04 %
Other		2	8.70 %

If HL7 FHIR is chosen for the implementation of some of the new use cases in MyHealth@EU, this may have an impact on the implementation timeline. What impact on the timeline do you expect at the level of your NCPeH implementation for these use cases (in comparison with the timeline if HL7 CDA is used)?

Values			Answers	Ratio
-1	Quicker implementation is expected		2	8.70 %
0	No difference in timelines		11	47.83 %
1	Delay of 1 year (one Wave)		3	13.04 %
2	Delay of 2 years (two Waves)		5	21.74 %
3	A longer delay		2	8.70 %

Distribution average: 0.74 years (~9 months) delay expected

Current CDA and IHE XDS based implementation in MyHealth@EU

Scenario A

Scenario B

In red: FHIR-based functionalities

If HL7 FHIR is used for a new use case, what should be the general strategy regarding the implementation?

		Answers	Ratio
A hybrid solution (FHIR on IHE XDS, Scenario A) should be used as the target solution		0	0.00 %
A hybrid solution (FHIR on IHE XDS, Scenario A) should be used in the beginning, and a full transition to HL7 FHIR should be planned within 5 years		5	21.74 %
The implementation should be based on HL7 FHIR as much as possible (Scenario B) from the beginning		16	69.57 %
Another strategy		2	8.70 %

If a new technology (HL7 FHIR) is selected for new use cases in MyHealth@EU, what should be the strategy regarding the currently available services (Patient Summary, ePrescription, Original clinical documents)?

		Answers	Ratio
The current services should continue on current technology indefinitely		1	4.35 %
An update to the new technology should be planned within 5 years		12	52.17 %
An update to the new technology should be planned within 10 years		6	26.09 %
Another strategy		4	17.39 %

Proposal for a decision by the eHealth Network

- The eHealth Network considers that **HL7 FHIR should be selected** as the base standard for the implementation of use cases Laboratory results and reports, Hospital discharge reports, Medical images and imaging reports.
- For these use cases, HL7 FHIR should be used for both **content *representation*** and **content *transmission***, as described in Scenario B in the non-paper. For content transmission, the use of FHIR REST API should be the preferred option.
- It is understood that in addition to HL7 FHIR the use of **further standards may be required** for the listed new use cases, e.g. DICOM for medical imaging studies.
- A **decision** regarding the change to HL7 FHIR **for the existing use cases** (ePrescription/eDispensation, Patient Summary, Original Clinical Documents) **should not be taken now**, considering the investments Member States have made in the development and operationalisation of these services. This can be evaluated in the future.
- The choice of HL7 FHIR as a base standard only applies to the implementation of **new use cases** for **cross-border exchange** in MyHealth@EU. It is understood that in other infrastructures and at national level other choices may be made.
- The decision is not identifying a specific version of the FHIR standard yet. A **specific version** (e.g. R4, R5) should be selected **during the next steps** of technical preparatory work.

Position of the eHMSEG

In its meeting on 13 March 2023, the eHMSEG **endorsed** the proposed decision with the following remarks:

- Many open questions around technical choices remain to be made in the next phases – many of which are not addressed in the non-paper. The eHMSEG considers more Connectathon testing would be useful to address these operational issues. Proof of concept implementation and the involvement of MS in the latter would be a useful instrument to align technical aspects.
- Concerning the timeline of implementation, the eHMSEG advises that flexibility needs to be offered to MS with the new use cases if based on FHIR, as the survey has shown that approx. 43% of MS indicated that more time would be needed.
- Regarding implementation profiles, further work on alignment between MS will be necessary and the eHMSEG understands the implementation (specifically of the content layer) differ across the EU. The eHMSEG recognises that this is both applicable to CDA and FHIR.
- The eHMSEG understands and recognises that more funding/grants may be necessary if FHIR is selected at later stages for ePrescriptions and Patient Summary.

Does the eHealth Network adopt this decision?

- The eHealth Network considers that **HL7 FHIR should be selected** as the base standard for the implementation of use cases Laboratory results and reports, Hospital discharge reports, Medical images and imaging reports.
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Questions?

Further information

eHealth Network
https://ec.europa.eu/health/ehealth/policy/network_en

All events
https://ec.europa.eu/health/ehealth/events_en#anchor0