HL7 International

THE OFFICIAL PUBLICATION OF HEALTH LEVEL SEVEN® INTERNATIONAL

SUMMER 2024

NEWS

One Health
The Future of Healthcare, Data Integration and Interoperability

Protecting Urban
Aquatic Ecosystems

Standardizing Continuous
Glucose Monitoring Data Exchange

Automating the Retrieval of
Duplicate Remittance Advice

PLUS:

BPM+ Health Transitions into
HL7 as HL7 BPM

Updates from FHIR Accelerators

HL7 FHIR Applied in Urban Ecology

Protecting Urban Aquatic Ecosystems to Promote One Health

Aquatic ecosystems play a critical role in creating diverse habitats and supporting biodiversity and ecosystem systems vital for life on Earth. Unfortunately, pollutants often contaminate aquatic urban ecosystems, leading to space decreases and threatening ecosystems, which leads to poor health conditions for humans, animals and plants.

The European Union (EU) funded OneAquaHealth (OAH) project [2023–2026] aims to improve the sustainability and integrity of freshwater ecosystems in urban environments.

The project will support decision-makers in finding adequate and timely decisions as well as effective measures to restore aquatic ecosystems' health and promote OneHealth, which is a collaborative, multisectoral, and transdisciplinary approach that aims to achieve optimal health outcomes by recognizing the interaction between people, animals, plants, and their shared environments.

Background

The OAH HL7 team will be leveraging the FAIR: Findable, Accessible, Interoperable, Reusable (FAIR) Criteria. These criteria emphasize machine actionability, which is the capacity of computational systems to find, access, interoperate, and reuse data with no or minimal human intervention. The project will follow the OAH perspective of ethical excellence to provide a FAIR approach to emerging risks to environments and health in transforming urban Europe. HL7's expertise in this area will allow them to contribute to the FAIR criteria to improve data collection, storage, and analysis to support public health-related policymaking.

Deliverable

One area the HL7 team will work on for the project is leading the OAH standardization efforts. This will focus on standardization activities that will be carried out to promote the OAH project results. The objectives are to conduct standardization related workshops and webinars, identify digital health standards that may impact OAH, and explore potential OAH standards. The workshops and webinars will cover topics such as well-being, mental health, urban ecology, and the restoration of aquatic ecosystems. Because HL7 standards can play a role in this project, the HL7 team will identify digital health standards that impact OAH to determine specific issues that require standardization. Lastly, potential OAH standards will be considered using HL7, IEEE SA, and ISO/TC 215 standards.

By Gora Datta, FHL7, Co-Chair, HL7 Mobile Health Work Group; and Nicole Ha, MSHCA, Intern at Cal2cal Corp

HL7 proposes to leverage the HL7 FHIR Accelerator program and several relevant HL7 standards for the project. Relevant programs include the Social Determinants of Health (SDOH) Gravity Accelerator, Public Health Helios Accelerator and relevant HL7 implementation guides, and International Patient Summary Project would also be considered. The SDOH Gravity accelerator aims to standardize SDOH-related codes to facilitate the use of SDOH-related data within healthcare and other sectors. Social care data standards are necessary because they establish a shared understanding of critical concepts, data visibility, and a common agreement and methods for exchanging information within communities to allow for analysis and upstream structural interventions.

The potential OAH standards may involve adding attributes to existing FHIR resources or developing a new OAH FHIR resource and developing an OAH HL7 FHIR Implementation Guide.

Potential OneAquaHealth Standards

- **OAH HL7 FHIR Resource Attributes**
  FHIR resources are building blocks designed to be easily shared. They are comprised of a standardized structure, including attributes and relationships. The FHIR resource design aims to enable interoperability using well-structured data models and efficient exchange mechanisms.[1] It is envisaged that certain OAH specific FHIR attributes may need to be developed to support OAH data interoperability across the ecosystem.

- **OAH HL7 FHIR Implementation Guide**
  FHIR profiles define how a specific FHIR resource should be used, extended, or constrained in a particular context or implementation. They are a useful tool for customizing and specializing FHIR resources to meet the specific requirements of a particular organization, project, or use case.
  A FHIR implementation guide (IG) is a set of instructions for implementing the FHIR

Left to Right: Gora Datta, Catherine Chronaki, Frank Ploeg, Ken Fuchs, Matthew Graham

standard in a specific healthcare context. An IG is a roadmap for healthcare stakeholders that want to adopt the FHIR standard and leverage its advanced data exchange capabilities. FHIR IG is a type of FHIR profile. It is also envisaged that there may be a need to develop an OAH FHIR IG once the OAH project artifacts have been developed. It must be recognized that the standards development life-cycle may extend beyond the life-span of OAH project.

At the HL7 May Working Group Meeting

At the May 2023 HL7 Working Group Meeting, the Mobile Health Work Group hosted a session where the OAH HL7 team introduced the project to the HL7 Mobile Health Work Group members and offered insights on how HL7 standards, such as FHIR, may contribute to the OAH project.

On January 1, 2024, HL7 Europe hosted an exciting workshop on *OneAquaHealth: Linking Urban Aquatic Ecosystems and Human Health*. The workshop explored the benefits of environmental observations and how they can help address OneHealth challenges.

Conclusion

The deliverable is currently in the early stages of the project. Therefore, it is premature to recommend any standards. The HL7 OAH team plans to provide potential standards guidelines for the project and to outline potential pathways to relevant standards for OAH. ■

---

1   https://ecqi.healthit.gov/fhir?qt-tabs_fhir=about