



ONC Update: The Role of Measurement in Assessing Current Efforts and Guiding Future Action

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LOINC Conference

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Health Information Technology



Agenda

- Describe goals of the 2018 and 2020 LOINC/Regenstrief Cooperative Agreements with ONC
- Provide a background on measurement efforts related to identify barriers to lab interoperability
- Describe how LOINC/Regenstrief Cooperative Agreement seeks to address specific barriers related to the usage of LOINC
- Describe upcoming measurement efforts to assess the impact of those efforts and guide future actions

Cooperative Agreement Background

Enhancing the LOINC® Standard to Support U.S. Interoperability Cooperative Agreement

- Awarded in 2018
- 5-year period-of-performance
- Initial award amount: \$600,000
- Supplemental awards provided in FY19 and FY20



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Project Objectives

Objective 1

- Upgrade technical infrastructure
- Expedite improvements in accessing content
- Bridge gaps between LOINC® and HL7® FHIR®



Project Objectives

Objective 2

- Advance the production deployment of FHIR-based terminology services for LOINC®
- Support LOINC® content developers as they develop new content that support the USCDI
- Update tools maintained by Regenstrief for LOINC® implementers including Regenstrief LOINC Mapping Assistant (RELMA®)



COVID-19 and Public Health Cooperative Agreement Background

Accelerating and Expanding LOINC® Development to Support Interoperable Public Health Reporting

- Awarded on September 24, 2020
- 5-year period-of-performance
- Budgeted award amount: \$1,500,000



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2020 Cooperative Agreement Objectives and Alignment with Identified Challenges to Lab Interoperability

Objectives

- Support rapid development of SARS-CoV-2 LOINC codes and associated mapping services;
- Upgrade technical infrastructure to support IVD manufacturers, labs, and other entities in testing efforts; and
- Terminology standardization

Past and Current Measurement Efforts Supported by ONC to assess the state of lab interoperability



- In 2012, ONC conducted the first national survey of clinical laboratories (hospital and independent labs) that focused on lab capabilities and levels of exchange. It also assessed the use of standards and barriers to exchange.
- In 2019, through discussions with the CDC, HITAC, Standards Workshop, and Regenstrief Institute, we identified that there were challenges with LOINC use that would warrant further investigation.

Project Goal(s)

- With ONC's support, NORC at the University of Chicago led an effort to identify current issues in laboratory interoperability and recommend specific approaches for measurement
- Targeted literature review and 20+ interviews with representatives from lab associations and clinical labs, public health organizations, HITAC members, HIO representatives, Federal Partners, Regenstrief, and other subject matter experts.
- March-June, 2020

Key Findings: Areas that limit the usage of LOINC

- **Time, expertise, and effort needed to use LOINC (particularly mapping LOINC codes)**
- **Limited LOINC Coding at the Source which increases the need for mapping by labs**
- **Complexity and granularity of LOINC codes which may make it challenging to code consistently**
- **Uncertainty about which LOINC code to use due to too many codes that appear to be similar**
- **Availability of best practices or guidance/resources available on using LOINC**
- **The timely availability of LOINC codes**



**How does the LOINC/Regenstrief
Cooperative Agreement address these
challenges?**



Objectives and Alignment with Identified Challenges to Lab Interoperability

Efforts Regenstrief / LOINC engaged in through 2018-2020 ONC's cooperative agreement.

- **Reduce resources required for mapping**
 - Encourage the use of existing mappings where available (from reference labs and IVD manufacturers)
 - Develop LOINC mapping guides—Multi-year effort to develop step-by-step guide for choosing correct LOINC term for different laboratory domains
- **Assist with selecting correct code**
 - Ongoing effort to enhance descriptions attached to LOINC terms
- **Improve availability of its guidance/resources by enhancing web search capabilities**
 - In June, 2020 launched a tool called New Knowledge Base (KB) to make tools web searchable (previously PDF)
 - New search LOINC is an improved user interface for querying LOINC

Objectives and Alignment with Identified Challenges to Lab Interoperability

Efforts Regenstrief / LOINC engaged in through 2018-2020 ONC's cooperative agreement.

- **Decrease turnaround time to generate new LOINC codes**
 - Support rapid development of SARS-CoV-2 LOINC codes and associated mapping services
- **Increase LOINC Coding at the Source by Instrument vendors and lab information systems**
 - LOINC is going to be upgrading its technical infrastructure to support IVD manufacturers, labs, and other entities in testing efforts

Role of Measurement: Environmental Scan

- A number of issues related to lab interoperability that focus on LOINC are being addressed through ONC's Cooperative Agreements.
- However, we won't know the extent to which these efforts are making an impact.
- Environmental scan will survey key stakeholders to assess the impact of these efforts on reducing barriers to usage.
 - Different Types of Laboratories
 - Clinical Laboratories
 - Public Health Laboratories
 - Reference Laboratories
 - Health Information Exchange Organizations
 - Laboratory Information Systems
 - IVD manufacturers



Key Activities Environmental Scan Will Measure

LOINC[®] Use of LOINC
from Regenstrief

Expand the usage and improve the usability of LOINC



**SARS-CoV-2/
COVID-19 Response**

Regenstrief has received numerous requests to create and assign appropriate LOINC codes for their SARS-CoV-2 test kits



**Webpage
Enhancements**

Increase searchability and continue to make user-friendly updates to LOINC website



**Education
and Outreach**

Increase outreach and education efforts to promote awareness of LOINC content and resources



**Update
LOINC Content**

Continue to update LOINC content and expand FHIR API implementation, including new data classes and elements identified in the ONC USCDI

Environmental Scan/Survey

- **Usage of LOINC**
 - Reasons for not using LOINC
 - Extent to which LOINC is used
 - How is LOINC used and by whom?
 - Issues experienced when using LOINC (e.g., technical, resource)
 - Benefits and value of using LOINC
 - Process of using LOINC, including receipt of codes
- **SARS-CoV-2/COVID-19 Response**
 - Experience related to process of creating new codes



Environmental Scan/Survey: Education and Resources

- **Education and Resources supporting LOINC**
 - Usage and helpfulness of tools and reference materials
 - LOINC website
- **COVID content and resources**
 - Usage and helpfulness of key features to support COVID response (e.g., downloadable list of LOINC codes related to SARS-CoV-2/COVID-19)



How will the results be used?

- **Provide insights into the state of lab interoperability that can be used by all stakeholders**
 - Who is lagging behind in LOINC use? Why?
- **Assess current efforts which will guide ONC and LOINC/Regenstrief's future work to expand the use of LOINC and improve users' experiences**
- **Support efforts to address the COVID-19 pandemic**



Environmental Scan/Online Survey Starts Soon!

- Online survey will commence this spring
- We need YOU to:
 - Complete the survey if you are requested to do so (and encourage others to do the same)
 - provide feedback
 - help make lab interoperability a reality

We can't do it without the engagement and assistance from the laboratory community!







The Office of the National Coordinator for
Health Information Technology

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Health IT Feedback Form:
<https://www.healthit.gov/form/healthit-feedback-form>



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Links:

- **Accelerating and Expanding LOINC® Development to Support Public Health Needs**
<https://www.healthit.gov/sites/default/files/page/2020-08/Regenstrief%20COVID-19%20NOFO%20FINAL.pdf>
- **Enhancing the Logical Observation Identifiers Names and Codes (LOINC®) Standard to Support U.S. Interoperability**
<https://www.healthit.gov/techlab/ipg/node/4/submission/2581>

