

The hierarchical crosswalk between LOINC and SNOMED CT Laboratory Procedures

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INTRO

The LOINC-SNOMED hierarchical crosswalk has been designed and implemented by the Odysseus Vocabulary team to simplify the process of concept set creation during cohort definition in studies.

METHODS

We present an approach that is based on LOINC/SNOMED CT Collaboration Files (Expression Association and Map Sets File) and allows building the hierarchical crosswalk automatically using a structured query language (SQL) in the following sequence:

1. Formation of the pool of attributes for fully-defined SNOMED Expressions of the Measurement Domain.
2. Connection of SNOMED attributes to LOINC laboratory procedures using LOINC Parts and modified LOINC/SNOMED CT Collaborative Files.
3. Multi-axial matching of sharable attributes in different combinations for LOINC and SNOMED.

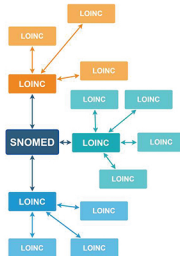
RESULTS

The approach allowed to include plenty of LOINC Lab Test into the OMOP Hierarchy of Measurements. As a result, we have obtained 16578 hierarchical crosswalks between LOINC and SNOMED Laboratory Procedures, which are already available for searching and downloading in Athena as well as for the concept set creation in Atlas.

In OMOP CDM, there are **16578 hierarchical crosswalks between LOINC and SNOMED Laboratory Procedures**, which are already available for searching and downloading in Athena as well as for the creation of concept sets in Atlas.



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PERSPECTIVES

The hierarchy can be extended through the creation of hierarchical mappings for those LOINC Parts and SNOMED Attributes which are not connected yet. However, this approach has a risk of being time-consuming. Thus, we plan to review the status of Classification concepts of LOINC Hierarchy, which are able to bring along all related Measurements. Once becoming Standard, they could be integrated into the OMOP hierarchy of Measurements as descendants of generic SNOMED concepts as well.

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