



# Tour of New Artifacts

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**LOINC**<sup>®</sup>  
*from Regenstrief*



# New artifacts in LOINC 2.61

- Table core
- Part file
- Answer file
- Group file

And an updated  
Multi-axial  
hierarchy!



# LOINC Table Core

**Goal:** to make it easier for implementers to update to the latest LOINC release without having to change their database structure

- Contains all of the LOINC terms that are in the full LOINC Table
  - >84,500 rows
- With a subset of fields for each term
  - 15 columns...versus 46 columns in the full table
- Fields included are the ones that are crucial for defining each LOINC term and whose *structure* is not likely to change in the short-term



# LOINC Table Core Fields

1. LOINC\_NUM
2. COMPONENT
3. PROPERTY
4. TIME\_ASPCT
5. SYSTEM
6. SCALE\_TYP
7. METHOD\_TYP
8. CLASS
9. CLASSTYPE
10. LONG\_COMMON\_NAME
11. SHORTNAME
12. EXTERNAL\_COPYRIGHT\_NOTICE
13. STATUS
14. VersionFirstReleased
15. VersionLastChanged



# LOINC Part File

## Includes three CSV files

- Part\_Alpha\_1.csv
  - All of the primary parts associated with any LOINC term in the current release
  - ~50,000 unique records
- LoincPartLink\_Alpha\_1.csv
  - Contains links between LOINC terms and their parts
  - >860,000 links between >84,500 LOINC terms and 50,000 unique parts
- PartRelatedCodeMapping\_Alpha\_1.csv
  - Contains mappings from LOINC Parts to corresponding concepts in other terminologies
  - First release will contain 8700 records (860 RadLex, 990 RxNorm, 6800+ SCT)



# Part\_Alpha\_1.csv

Four major categories of parts in this file:

- Six main parts that define a LOINC term (Component, Property, Time Aspect, System, Scale, and Method)
- Additional parts that contribute to the term, such as the Divisor, Challenge, and Class
- Document ontology parts
- Radiology parts based on the LOINC/RadLex unified model



# Part\_Alpha\_1.csv (cont.)

- Included in the file: Parts associated with Deprecated LOINC terms
- NOT included in this file: Parts that are no longer used to define any published LOINC term, even if those parts were previously released
- List of fields:
  - PartNumber (e.g. LP129068-5)
  - PartTypeName (e.g. Component, Rad.Reason For Exam)
  - PartName (e.g. hemoglobin, clavicle)
  - PartDisplayName
  - Status (ACTIVE, DEPRECATED)



# LoincPartLink\_Alpha\_1.csv

Contains the following link types for each LOINC term as appropriate:

- “Primary” LOINC term ↔ primary parts (e.g. Component, Property, Time, System, Scale, Method)
- “Search” LOINC term ↔ search-related parts
- “Radiology” LOINC term ↔ radiology parts
- “DocumentOntology” LOINC term ↔ document ontology parts





# LoincPartLink\_Alpha\_1.csv (cont.)

## List of fields:

- LoincNumber
- LongCommonName
- PartNumber
- PartName (e.g. hemoglobin, clavicle)
- PartTypeName (e.g. Component, Method)
- LinkTypeName (Primary, Search, DocumentOntology, Radiology)



# PartRelatedCodeMapping\_Alpha\_1.csv

- Contains the subset of LOINC parts that are mapped to a concept in an external terminology (SNOMED CT, RadLex, RxNorm)
- List of fields:
  - PartNumber
  - PartName
  - PartTypeName
  - MapTargetId - the unique external concept identifier
  - MapTargetName - the external concept name
  - MapTargetCodeSystem - the coding system (SCT, RadLex) to which the external identifier belongs
  - MapType - specificity of mapping between the LOINC part and the external concept (Exact, LOINC broader, LOINC narrower)
  - ContentOrigin - an indicator of the origin of the concept (LN, Both)



{Part files demo}



# LOINC Answer File

Includes two CSV files:

- AnswerList\_Alpha\_1.csv
  - Contains all LOINC answer lists that are associated with any LOINC term in the current release
  - >3,400 unique answer lists
- LoincAnswerListLink\_Alpha\_1.csv
  - Contains links from LOINC codes in the current release to their answer list(s)
  - >15,000 unique rows linking >15,000 LOINC terms to ~3,000 unique answer lists



# AnswerList\_Alpha\_1.csv

- Two types of answer lists
  - Enumerated lists with LOINC Answer Strings
  - Externally defined Answer lists
- Included in this file: Answer lists associated with Deprecated LOINC terms
- NOT included in this file: Answer lists that were previously released but that are no longer linked to any published LOINC term



# AnswerList\_Alpha\_1.csv

## List of fields

- AnswerListId (prefix "LL")
- AnswerListName
- AnswerListOID
- ExtDefinedYN (Y, N)
- ExtDefinedAnswerListCodeSystem (e.g. SCT)
- ExtDefinedAnswerListLink
- AnswerStringId (prefix "LA")
- LocalAnswerCode (e.g. code on a form)
- LocalAnswerCodeSystem
- SequenceNumber
- DisplayText
- ExtCodeId
- ExtCodeDisplayName
- ExtCodeSystem
- ExtCodeSystemVersion
- CopyrightNotice
- SubsequentTextPrompt (e.g. "Other", "Please specify:")
- Description
- Score



# LoincAnswerListLink\_Alpha\_1.csv

- List of fields:
  - LoincNumber
  - LongCommonName
  - AnswerListId
  - AnswerListName
  - AnswerListLinkType (Example, Preferred, Normative)
  - ApplicableContext (if applicable, the panel context in which an answer list other than the default list is attached to a LOINC term)



# LoincAnswerListLink\_Alpha\_1.csv (cont.)

LoincNum	LongCommonName	AnswerListId	AnswerListName	AnswerListLinkType	ApplicableContext
83234-5	Prior device use [CMS Assessment]	LL4152-6	CMS IRFPAI_GG0110 Prior Device Use	EXAMPLE	
83234-5	Prior device use [CMS Assessment]	LL4152-6	CMS IRFPAI_GG0110 Prior Device Use	NORMATIVE	83268-3
83234-5	Prior device use [CMS Assessment]	LL4471-0	CMS_LCDS Prior device use	NORMATIVE	85639-3

**83234-5** Prior device use [CMS Assessment] ...included in two different CMS panels; question meaning is the same but the answer choices are different

**85639-3** LCDS - Functional abilities and goals  
(Long-Term Care Hospital (LTCH) Continuity Assessment Record and Evaluation (CARE) Data Set)

**83234-5** Prior device use [CMS Assessment]

- Manual wheelchair
- Motorized wheelchair or scooter
- Mechanical lift
- None of the above

**83268-3** IRF-PAI - Functional abilities and goals - admission  
(Inpatient Rehabilitation Facility - Patient Assessment Instrument)

**83234-5** Prior device use [CMS Assessment]

- Manual wheelchair
- Motorized wheelchair or scooter
- Mechanical lift
- Walker
- Orthotics/Prosthetics
- None of the above





# LOINC Group File

- A flexible, extensible, and computable tool for rolling up groups of LOINC codes for various purposes
- Use cases:
  - Aggregating data for displaying on a flowsheet
  - Retrieving data for quality measure reporting
  - Collecting data for research
- **\*\*Use with caution\*\***
  - The distributed LOINC Group file is a work in progress. Expect the contents of this file, including the types of Groups that are included, are subject to change from release to release as we receive feedback from users and refine our processes.
  - The contents of the file and the groupings **MUST** be validated by the user prior to implementation in any aspect of clinical care.



# LOINC Group File

- In 2.61
  - >2500 rows representing 10+ Parent groups and 740+ Groups
  - List of fields:
    - ParentGroup (prefix “LG”)
    - ParentGroupCategory (Clinical, Laboratory)
    - ParentGroupDescription
    - Group (also prefix “LG”)
    - LoincNumber
    - LongCommonName
- For the December release
  - Two related files – one with Parent group information, second with ParentGroup, Group, LoincNumber, LongCommonName
  - >19000 rows representing 19 Parent groups and 4000+ Groups



# LOINC Group File - Example

**Parent Group:** LG70-5 (BodyMeasurements, SAME:Comp|Prop|Tm|Sys, ROLLUP:Method)

**ParentGroupCategory:** Clinical

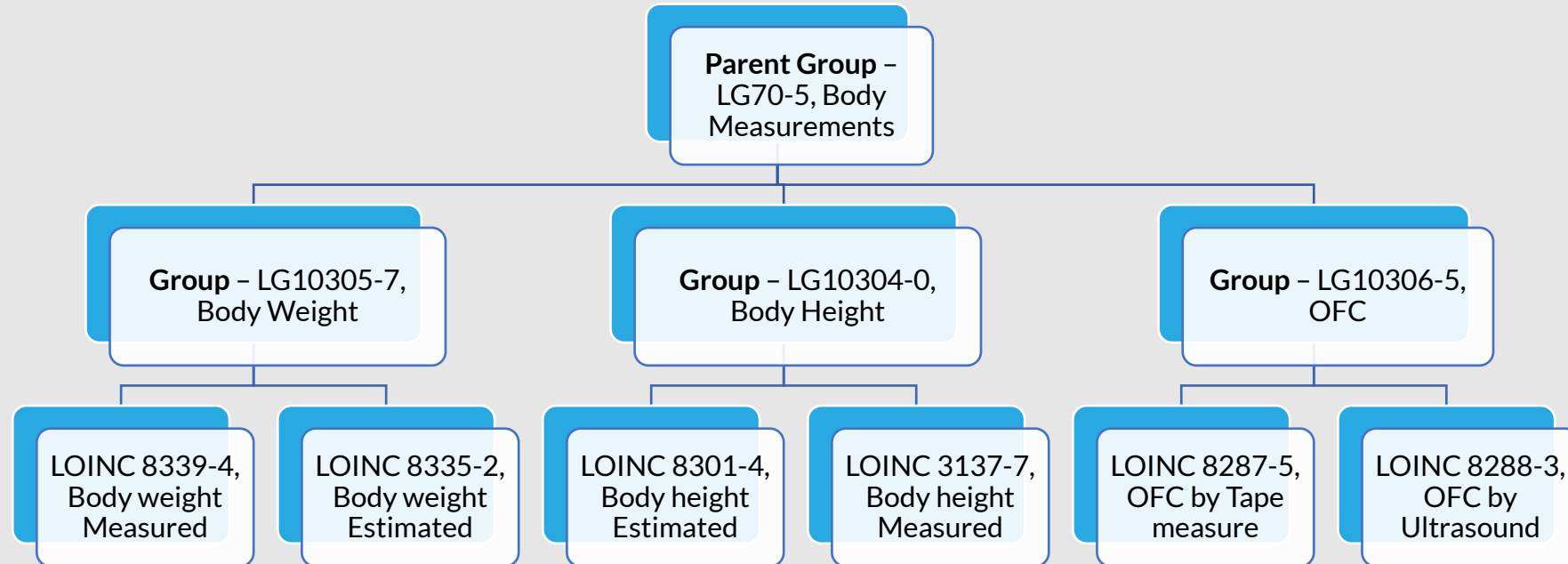
**ParentGroupDescription:** Contains individual groups for non-fetal body weight, body height and head circumference, where each group contains all terms for that particular measurement regardless of the method.

**Groups within Parent Group:**

- LG10305-7 (Body weight|Mass|Pt|^Patient)
- LG10304-0 (Body height|Len|Pt|^Patient)
- LG10306-5 (Circumference.occipital-frontal|Len|Pt|Head)



# LOINC Group File - Example



{Group files demo}



# Existing LOINC Artifacts

- LOINC Table
- LOINC Top 2000+ Results
- LOINC Universal Lab Order Value Set
- LOINC Common UCUM Codes
- LOINC Document Ontology
- LOINC Imaging Document Codes
- LOINC Panels and Forms
- LOINC RSNA Radiology Playbook
- LOINC SNOMED CT Mappings
- LOINC IEEE Mappings
- LOINC Linguistic Variants
- LOINC Multiaxial Hierarchy (now with even more)



Available for download:

<https://loinc.org/downloads/loinc/>

<https://loinc.org/downloads/accessory-files/>





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