Reading Up on LOINC: What Coders Need to Know

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What do coders need to know about Logical Observation Identifiers Names and Codes (LOINC)? A health records coder is unlikely to come across a LOINC code when looking for the correct ICD-9-CM code to reflect the documentation provided. A compliance officer may not see a LOINC code when evaluating whether all of the necessary elements for determining "meaningful use" EHR Incentive Program attestation have been met. However, LOINC codes are a key component of electronic health records (EHRs) and work in concert with other clinical vocabularies in a variety of healthcare applications.

Although a coder probably will never see or "code" with an actual LOINC code, it provides meaning to the information a coder uses every day. To illustrate, imagine a train. The train has an engine, three passenger cars, four baggage cars, eight freight cars, and a caboose-but each group of cars looks the same. How does each train car receive the proper message "load" to enable delivery of data and information to users? There needs to be a guide indicating what items go into each car, as well as each item's specific place within each car, in order for the contents to be organized and delivered safely. If messaging standards-such as Health Level Seven (HL7)-act as the trains, standard terminologies such as SNOMED CT, CPT, RxNorm, and LOINC are the content that populates the trains. The standard terminology LOINC serves as content specifically for laboratory tests and clinical assessments. It allows clinical and laboratory information to travel between organizations in a standardized structure.

In the United States, LOINC has been identified as an integral part of the American Recovery and Reinvestment Act's (ARRA) "meaningful use" EHR Incentive Program. It is also an integral part of the HL7 Clinical Document Architecture as part of the Consolidated Health Informatics (CHI) initiative. It is used to provide structured data in claims attachments between a provider and a payer. The Consolidated Health Informatics Initiative also identified LOINC as the standard for conveying information for assessments and disability forms because of its ability to clearly represent the question-and-answer format of these documents. All of these different applications, in one way or another, impact a coder, either by adding structure to a document, establishing continuity in laboratory information, or providing supporting information to substantiate a requested reimbursement.

As a health records coder or other coding-related professional (such as an auditor, compliance officer, or physician practice manager), understanding the purpose and use of LOINC adds value as organizations manage their electronic health data.

What is LOINC?

LOINC is a standard terminology managed by the Regenstrief Institute, which is associated with the Indiana University School of Medicine. Development started in 1994 with a group of medical informaticists, pathologists, and laboratory specialists in response to a need to uniformly convey information associated with lab results. The group realized that the standard needed to be open to the public for use and consistent in format, as well as accept content additions from end users. The first publication of the standard was in 1995 with less than 10,000 terms. As of December 2012, LOINC contains over 70,000 terms. The Regenstrief Institute has built a tool to be used for mapping and data submission, provides a top results and orders list, and supports a community mapping forum. LOINC has been adopted in 150 countries, with a significant presence in Europe and Canada.

LOINC Term Structure

The structure of a fully specified LOINC term is determined by six distinct axes. Each axis must fit into the LOINC structure and contributes to the meaning of the LOINC term. The axes are separated by a colon.

AXIS	Meaning
Component or Analyte	What is being measured
Property	The characteristic of how it is being measured
Timing	When the measurement is being completed
System	Where the analyte originates
Scale	Which way will the test result be expressed
Method (optional)	What method was used to make this measurement

How LOINC Codes Appear

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For example, LOINC code 5792-7, Glucose:MCNC:PT:Urine:QN:Teststrip, is a common laboratory test to quantitatively measure the amount of glucose that is present in the urine. Each axis of the code provides information in an organized, clearly defined way-when these axes are combined, a complete LOINC concept is constructed.

The appearance of a LOINC term can be confusing, but the standardized naming convention supports differentiation between different clinical measurements. Think of a LOINC term as a sentence. A sentence must have a noun and a verb, must start with a capital letter and end with a punctuation mark. This structured format conveys sentence meaning to a reader. Each LOINC term is paired with a unique code that acts as a primary key to identify a unique LOINC concept.

Using LOINC in the EHR

If an organization is using an EHR that meets meaningful use certification criteria, it is already using LOINC codes. LOINC is the clinical documentation standard for laboratory tests and result values in the EHR.

The LOINC code is captured during the lab ordering process, within the lab system and in clinical summary documents that are shared between providers. Specifically, the Office of the National Coordinator for Heath IT (ONC) has recognized that LOINC should be used to meet multiple Certified Electronic Health Record Technology (CEHRT) requirements.

The LOINC code represents a detailed explanation of what laboratory tests were ordered or completed for the patient. Additionally, any result of that lab test that is a numerical value is recorded as structured data within the CEHRT.

LOINC is also proposed as a Health Insurance Portability and Accountability Act (HIPAA) claim attachment standard. This means that during the electronic exchange of clinical patient information between a provider and a payer, a LOINC code is used to state what type of documents are to be sent to support a billing claim.

LOINC and the Billing Code

A major role of health record coders is to identify and assign the most accurate and correct billing code(s) for a patient service. Isolating the appropriate billing code requires coders to interpret complex clinical information from various sources of documentation within the health record. As a critical part of the EHR, LOINC codes improve the specificity of clinical documentation. LOINC codes could be leveraged in claim supporting documentation in order to justify or support a specific diagnosis or procedure being completed. For example, coders who are using a computer-assisted coding product are probably benefiting from LOINC because it makes it easier to highlight pertinent information within an electronic document to guide a coder to the most specific code possible.

Recognizing LOINC's Benefit to Coders

Medical-related encoding is a major factor in comprehensive compliance for an organization or practice because it enables efficient indexing and search capability to support analysis and trending. Coders may play a role in one or many of the areas for compliance.

As EHR functionality is introduced and improved, it is important to align financial and clinical data to meet compliance objectives. This means that coders must be able to locate information contained within the user interface and background of the EHR to efficiently and effectively navigate the patient health record(s). Through the process of chart review and auditing, coders can evaluate and influence policy and procedure regarding clinical documentation improvement.

Leveraging structured data such as LOINC codes within the EHR enables coding accuracy, assists in automating the audit process, and improves submission of claims and appeals data.

Coder Roles in Assuring Compliance

This table includes several healthcare-related compliance requirements with associated coder roles.

Compliance Requirement	Coder Role
EHR implementation for meaningful use requirements	Education and training during adoption of and transition between EHRs
Governing body and organization-specific audits	Evaluate procedure and documentation codes
Financial health and reimbursement	Audit and submit claims (including appeals or denied claims) Influence electronic Evaluation and Management templates
Strategic planning and improvement	Derive and organize data from the EHR for Clinical Quality Reporting and accountable care organization requirements
Strategic planning and improvement	Identify areas for organizational improvement

Coder Use of LOINC Increasing

Coding professionals are expected to have a detailed understanding of medical terminology and human anatomy. As health information technology and electronic clinical data capture increases, coders must also recognize and understand computerized medical vocabularies, reference terminologies, and codes.

Transitions from paper-based charting to the EHR have workflow, process, and organizational role implications for the HIM profession. Coding professionals may be involved in clinical documentation standards through areas such as mining electronic patient care documentation, reimbursement reporting, data capture for measuring quality of care, and practice management. Coding professionals should be aware of and must utilize LOINC and other standard terminologies within the EHR to collect and organize patient data in order to optimize workflow and tackle coding challenges.

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Article citation:
Sheide, Amy; Wilson, Patricia S. "Reading Up on LOINC: What Coders Need to Know." *Journal of AHIMA* 84, no.4 (April 2013): 58-60.

Article citation:
Sheide, Amy; Wilson, Patricia S. "Reading Up on LOINC: What Coders Need to Know" *Journal of AHIMA* 84, no.4 (April 2013): 58-60.

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