



Introduction to Laboratory Informatics: Life of a Specimen Data Standards

In the context of laboratory informatics, data standards are the rules for describing and recording laboratory data in valid, meaningful and actionable ways.

Common coding and messaging standards include International Classification of Diseases, or ICD, SNOMED CT, LOINC, and Health Level Seven, or HL7. ICD standards are the U.S health system's adaption of the international standard list of six character codes to describe patient diagnoses.

SNOMED CT is a terminology that is primarily used in the laboratory to code test results. One reason to use a SNOMED CT code is the identification of an organism or description of a specimen type from test results. LOINC is a coding system that is defined by six specific attributes that identify what test was requested or performed.

HL7 defines standards that govern the electronic message structure used to build messages coming from and to the laboratory systems such that the receiver can understand how to interpret the message. Data standards provide a common language and set of expectations for describing, storing, dispersing and sharing data.

To share, exchange, and understand data, we must standardize data structure, format, as well as meaning. Data standards not only define how one system communicates to another, they also ensure laboratory precision and quality.

Link to video job aid [Introduction to Laboratory Informatics: Life of a Specimen – Data Standards | OneLab REACH \(cdc.gov\)](#)