



# LOINC

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## Logical Observation Identifiers Names and Codes (LOINC®)

The purpose of the LOINC database is to facilitate the exchange and pooling of results, such as blood hemoglobin, serum potassium, or vital signs, for clinical care, outcomes management, and research. Currently, most laboratories and other diagnostic services use HL7 to send their results electronically from their reporting systems to their care systems. However, most laboratories and other diagnostic care services identify tests in these messages by means of their internal and idiosyncratic code values. Thus, the care system cannot fully "understand" and properly file the results they receive unless they either adopt the producer's laboratory codes (which is impossible if they receive results from multiple sources), or invest in the work to map each result producer's code system to their internal code system. LOINC codes are universal identifiers for laboratory and other clinical observations that solve this problem.

The laboratory portion of the LOINC database contains the usual categories of chemistry, hematology, serology, microbiology (including parasitology and virology), and toxicology; as well as categories for drugs and the cell counts you would find reported on a complete blood count or a cerebrospinal fluid cell count. Antibiotic susceptibilities are a separate category. The clinical portion of the LOINC database includes entries for vital signs, hemodynamics, intake/output, EKG, obstetric ultrasound, cardiac echo, urologic imaging, gastroendoscopic procedures, pulmonary ventilator management, selected survey instruments, and other clinical observations.

The Regenstrief Institute ([www.regenstrief.org](http://www.regenstrief.org)) maintains the LOINC database and its supporting documentation.

### Current Version

#### **LOINC 2.17**

*(released: June 12, 2006)*

#### **RELMA 3.17b**

*(released: August 14, 2006)*

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### HHS Announcement 3

HHS Proposes Standards for Electronic Health Care Attachments

### NCQA/HEDIS

HEDIS supports the use of LOINC codes.



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LOINC is a voluntary effort housed in the Regenstrief Institute for Health Care, an internationally respected non-profit medical research organization associated with Indiana University. LOINC system was initiated in 1994 by the Regenstrief Institute and developed by Regenstrief and the LOINC committee as a response to the demand for electronic movement of clinical data from laboratories that produce the data to hospitals, physician's offices, and payers who use the data for clinical care and management purposes.

- The LOINC laboratory terms set provides a standard set of universal names and codes for identifying individual laboratory and clinical results.
- LOINC codes allow users to merge clinical results from many sources into one database for patient care, clinical research, or management.
- The LOINC database currently contains about 41,000 observation terms.
- Nearly 31,000 of these observational terms relate to laboratory testing.
- Each record in the LOINC database identifies a clinical observation and contains a formal 6-part name, a unique name for tests identifying code with check digit, synonyms, and other useful information.
- LOINC records apply to all tests with equivalent clinical results. They are not unique per company.
- Distinct LOINC codes are required for each specimen for which your test kit has been calibrated. If your instrument/kit produced one value for each specimen and you recommend its use on two specimens-- say whole blood and CSF-- two LOINC codes are needed, one for whole blood and one for CSF. If two or more results per specimen are reported (e.g., a control value or a total and a percent), two or more LOINC codes are needed per supported specimen.
- LOINC has been endorsed by the American Clinical Laboratory Association and the College of American Pathologists. It has been adopted as an alternate test reporting code by large commercial laboratories including Quest, LabCorp, Mayo Medical Laboratories, and MDS Labs; large HMOs including Kaiser Permanente and Aetna; governmental organizations including the CDC, DOD, VA, and NLM; and has also been adopted by Germany, Switzerland and two Canadian provinces.
- Current draft proposals for HIPAA electronic claim attachment standards are based on LOINC codes.
- LOINC has also been supported in part by funding from NLM, HCFA, DOD, AHCPR (now AHRQ), and the John A. Hartford Foundation. (NLM N01-LM-9-3517)

The full LOINC database and RELMA -- a program for searching and viewing the LOINC database and mapping local files to LOINC -- are available at no cost at <http://www.loinc.org>. A CD-ROM version is available at no charge.

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# RELMA

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The Regenstrief Institute provides a Windows-based mapping utility called the Regenstrief LOINC Mapping Assistant (RELMA) to facilitate searches through the LOINC database and to assist efforts to map local codes to LOINC codes. Like the LOINC database, this program is also available for free use.

RELMA can be downloaded from this website for installation on your computer, or you can choose to run the program over the internet using your web browser.

## Should I Download the Program or Run It Over the Internet?

There is a difference between the internet version of RELMA and the version that you download for installation on your computer. The internet version only allows the user to browse the LOINC database and view the HIPAA attachments (the internet version allows you to print the results of your browsing but not export results to a file on your computer). The internet version does not allow you to map your local terms to LOINC codes. The internet version, however, can run on computers running the Macintosh and Unix/Linux operating systems whereas the full version of RELMA can only be installed on computers running Microsoft Windows.

If you are curious about LOINC and RELMA wish to browse the LOINC database or lookup information about a particular LOINC code, then the internet version of RELMA might be a good alternative to the full version. However, if you desire to use RELMA in conjunction with your local codes then it is recommended that you download and install the full version of the program.

## Download Full Version of RELMA

The full version of the RELMA program can be installed only on computers running Microsoft Windows 95/98/NT/2000/XP.

[Click here to download the full version of the RELMA program.](#)

## Internet version of RELMA

The internet version of the RELMA program can be used by any computer connected to the internet. You may be prompted to download and install the Citrix client software the first time you run RELMA from the Internet. This is a small (7 MB) download and instructions on how to install it will be provided..

[Click here to launch RELMA using the internet](#)

*NOTE: The Citrix client software works on a variety operating systems such as Microsoft Windows, Mac OS 9.x/10, and Unix/Linux running standard internet browsers such as Microsoft Internet Explorer, Netscape Navigator, Mozilla and Konqueror. Other operating systems and browsers may be supported, but there is no guarantee that your computer will be able to run RELMA using the Citrix client software.*



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## This is a list of articles that have been written about LOINC

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