LOINC Update

Highlights since we last met

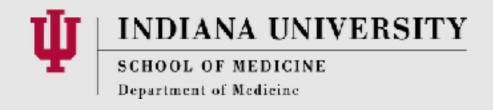


Daniel J. Vreeman, PT, DPT, MS

Regenstrief-McDonald Scholar in Data Standards Indiana University School of Medicine

Director, LOINC and Health Data Standards

Regenstrief Center for Biomedical Informatics







Committee Interaction

Have something to add?

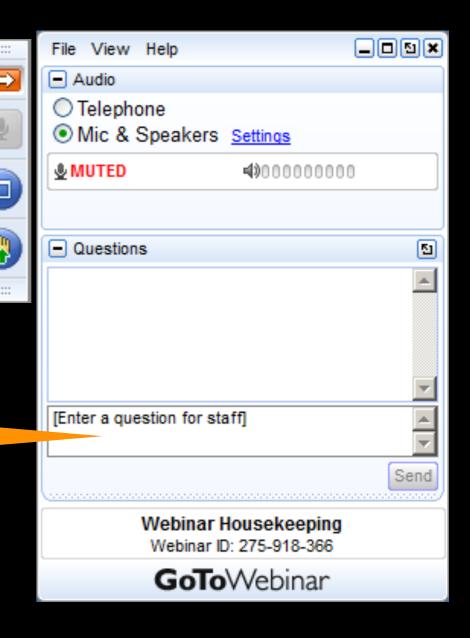
"Raise your hand" by selecting the hand icon.

A member of the LOINC team will open your microphone.

Raise hand

Have a question the LOINC team can answer?
Use the Q&A section of the webinar.

Ask your question here



meeting.loinc.org

GET INFO for this week's workshop and public committee meeting:

Log In Sign Up



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♠ ► MEETINGS

Public Laboratory LOINC Workshop & Committee Meeting - Summer 2017

Agenda Prerequisites In-Person Attendees Webinar Attendees Meeting Handbuts



Join us for the Public Laboratory LOINC Workshop & Committee Meeting!

Regenstrief Institute and the LOINC Committee are very excited to offer this special RFLMA. workshop and tutorial focused on Laboratory LOINC.

The Introduction to LOINC tutorial and RELMA workshop will be held on Wednesday. Regular Committee business—all are welcome to attend—will be held on Thursday.



Topics

- 1. A brand new loinc.org
- 2. Growth and usage
- 3. Brief collaboration updates
- 4. LOINC release updates
- 5. Coming attractions

The universal standard for identifying health measurements, observations, and documents.

Reference labs, healthcare organizations, U.S. federal agencies, insurance companies, software vendors, in vitro diagnostic testing companies, and more than 47,200 registered users from 166 countries. use LOINC to move data seamlessly between systems.

11's free, but involuable.

Get Started





search.loinc.org

Explore all the LOINC codes. directly in your web browser. More Info.



5ponsor LOINC

Get special benefits and tools by becoming a LOINC Premium. Member



Learn LOINC

Find resources and watch videos to get you LOINC-ready fast.



LOINC Essentials

Learn Dr. Vreeman's secrets for mapping local codes to LOINC.



Public Laboratory LOINC Workshop & Meeting

Our next workshop and committee meeting is June 7-8 in Indianapolis. See the full workshop schedule for more information.



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Growth and Usage



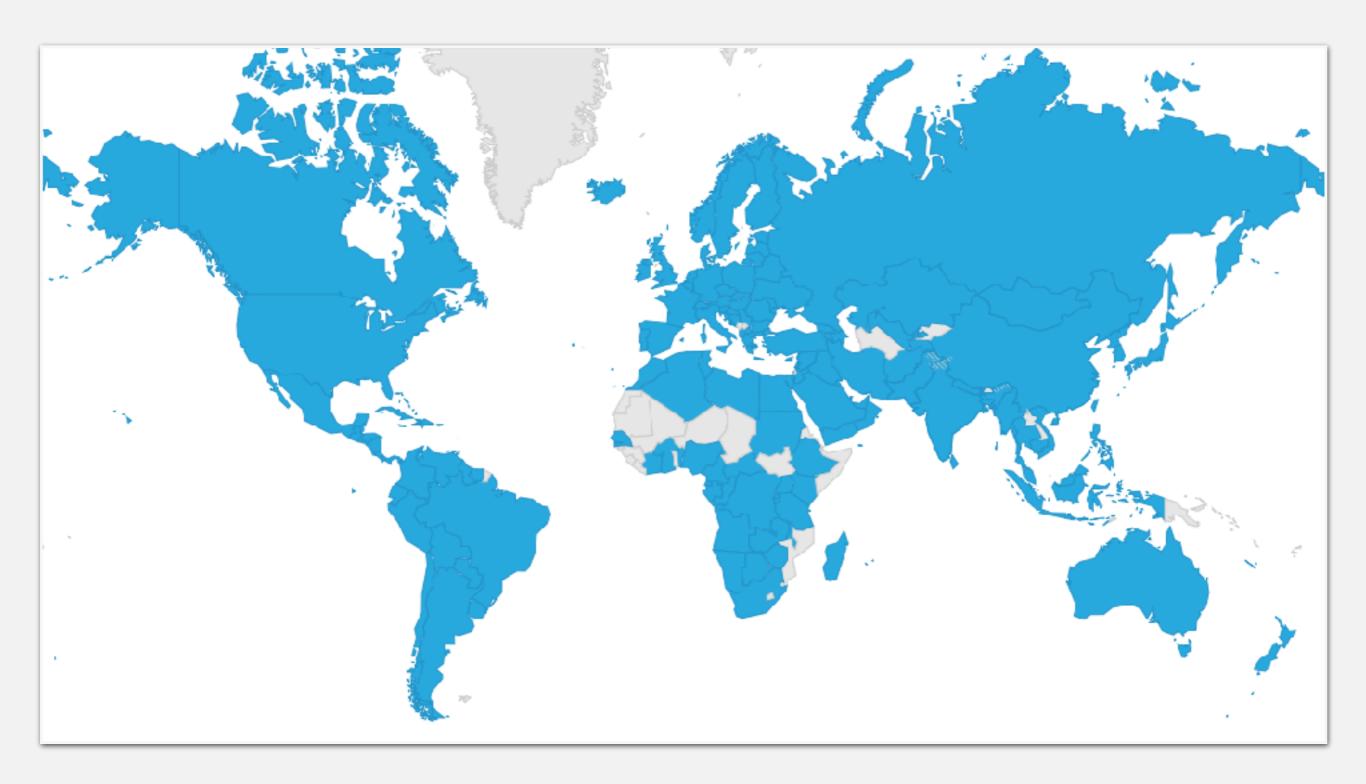
More than 50 onsite and 285 remote participants are joining us from around the world.



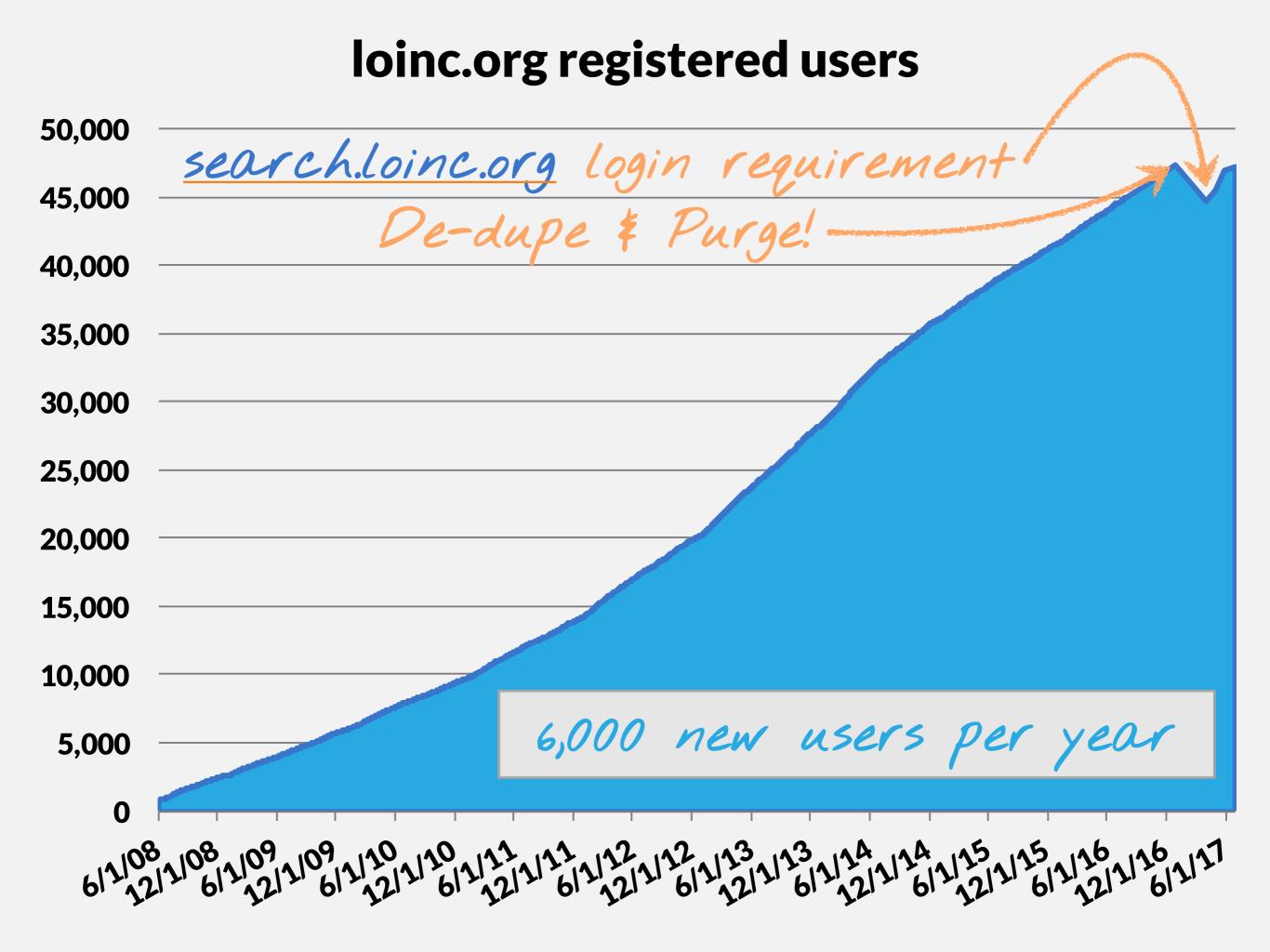
PUBLIC LABORATORY LOINC WORKSHOP & COMMITTEE MEETING

meeting.loinc.org

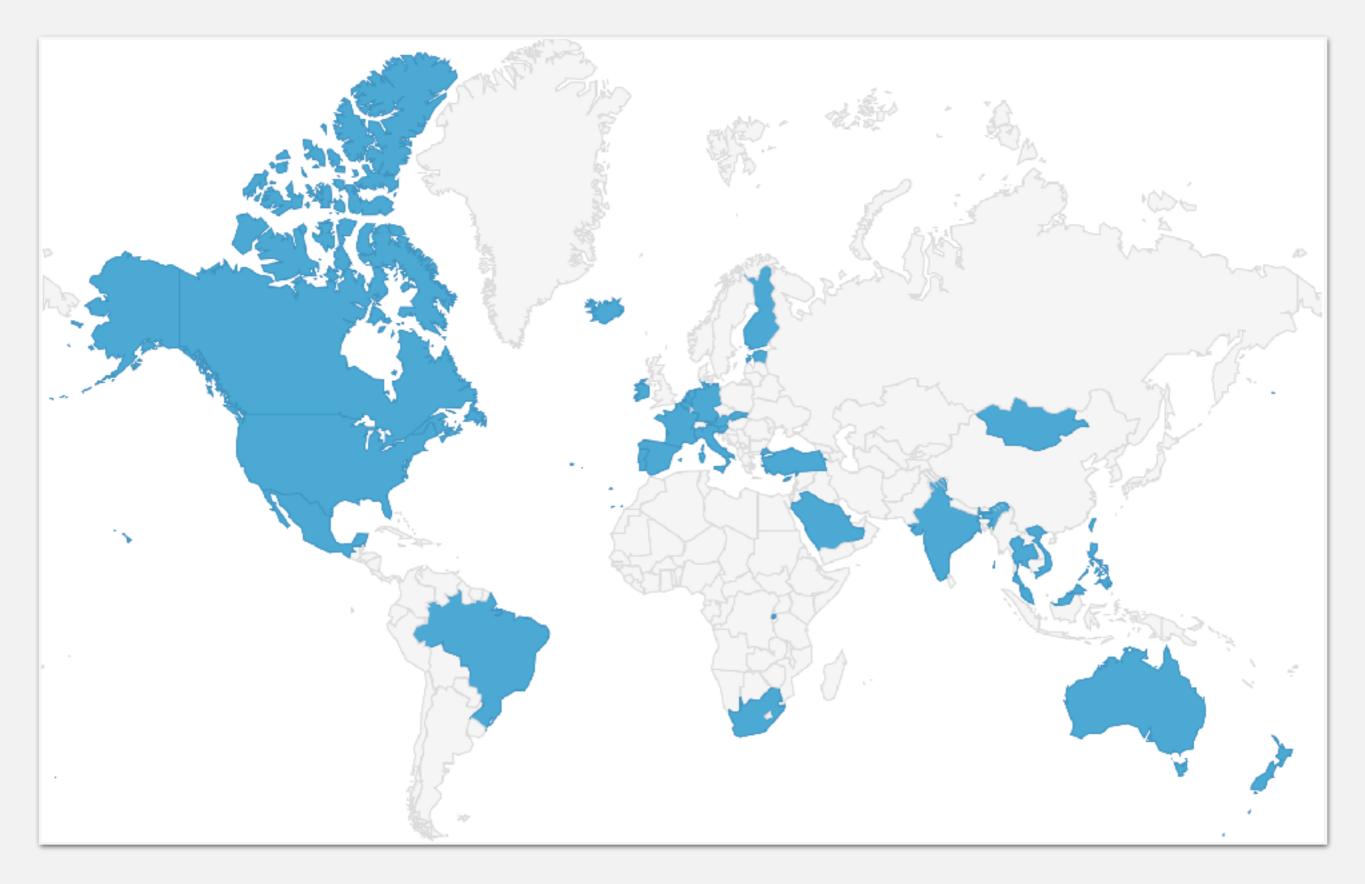
47,000+ registered users from 166 countries



6,000 new users per year

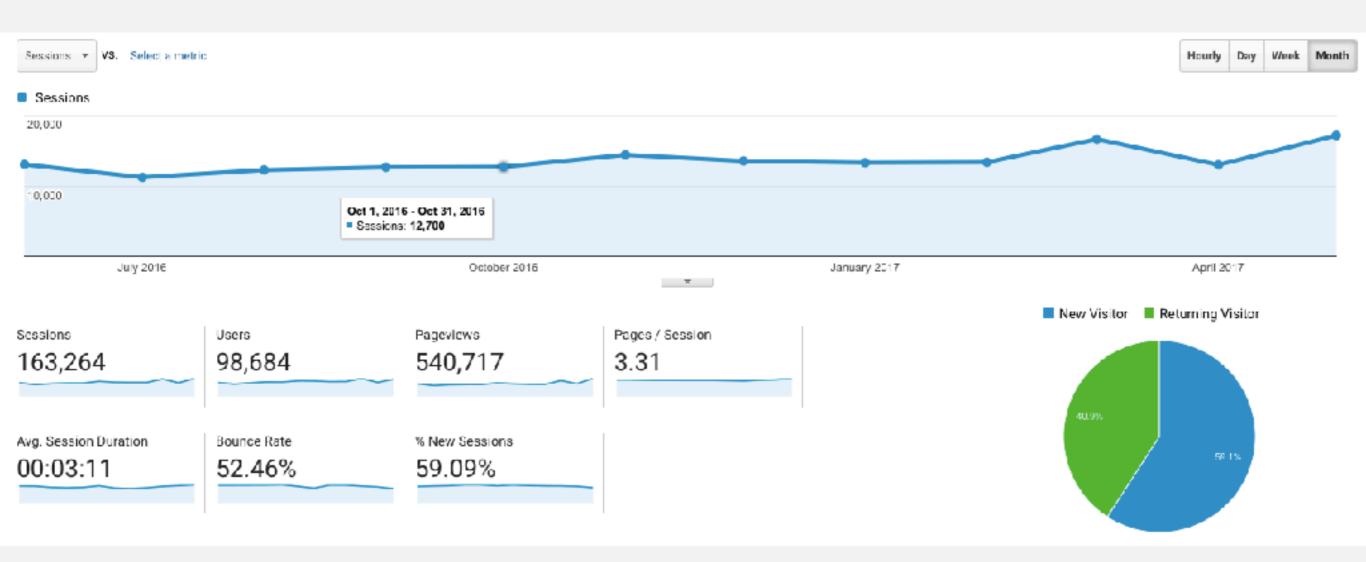


Official national standard in 30+ countries



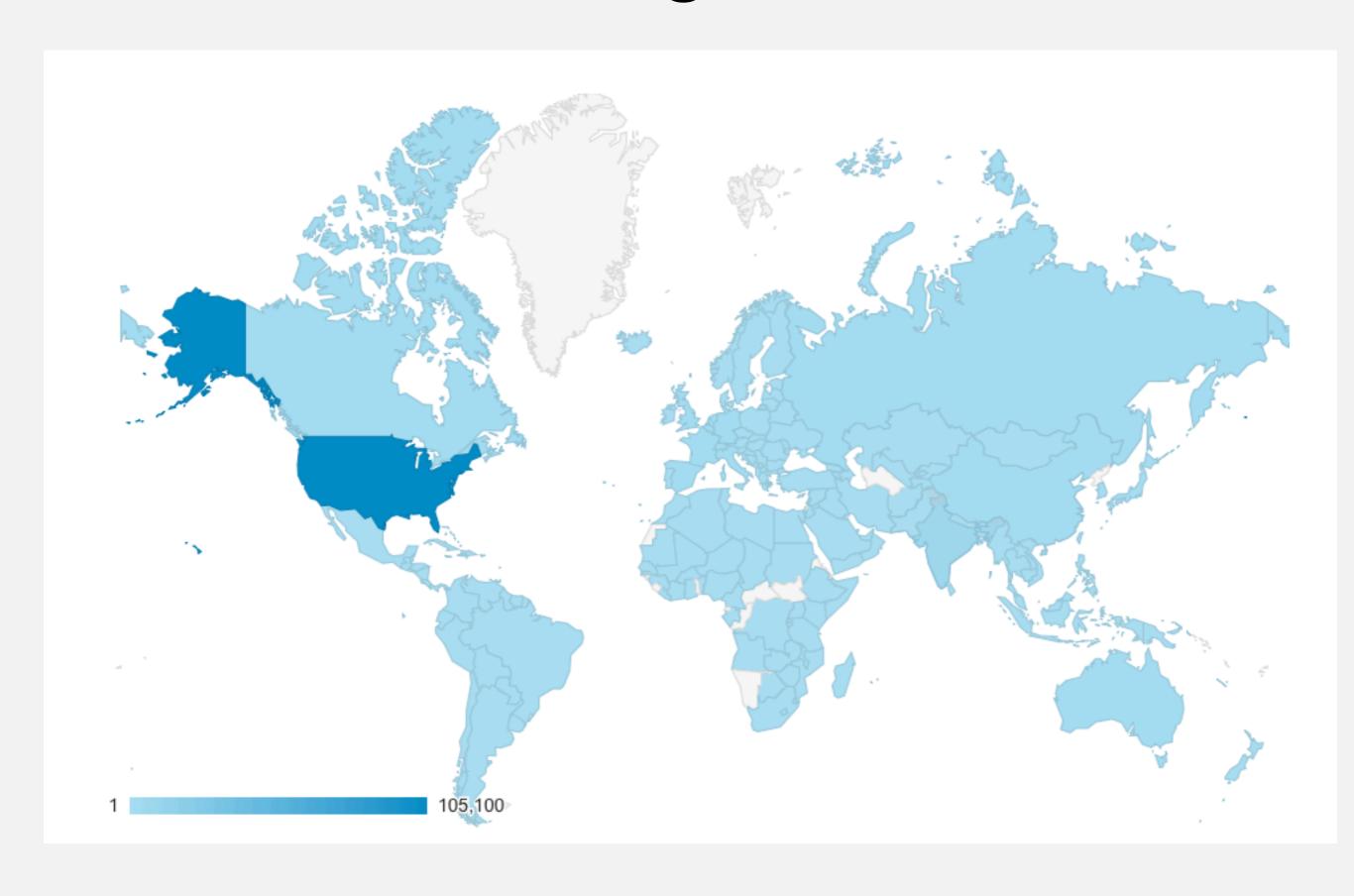
Overall loinc.org website traffic

June 2016 to May 2017



About 15% increase in sessions, users, and page views

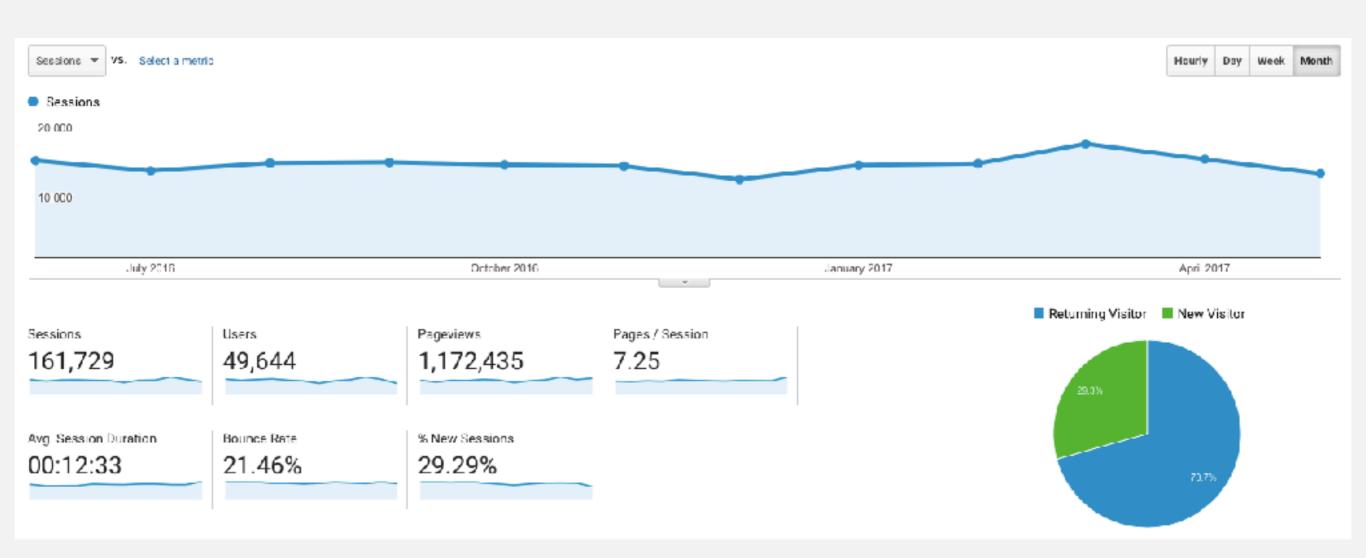
Overall loinc.org website traffic



Overall loinc.org website traffic (2017)

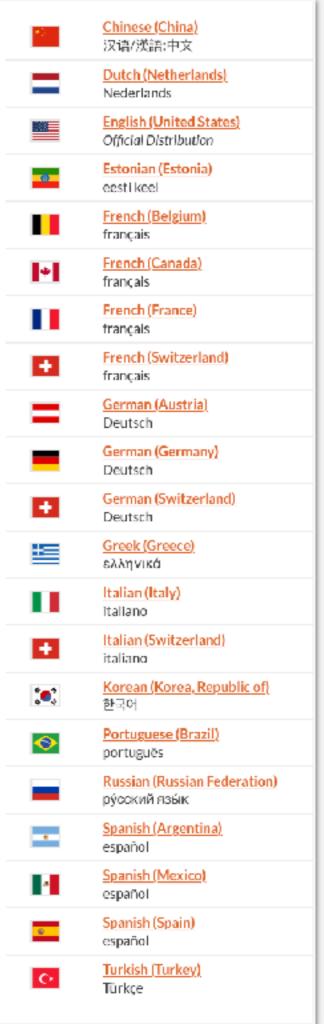
			Acquisition			Behavior		
Country ?			Sessions ? ↓	% New Sessions	New Users ?	Bounce Rate	Pages / Session ?	Avg. Session Duration ?
			163,264 % of Total: 100.00% (163,264)	59.15% Avg for View: 59.09% (0.10%)	96,565 % of Total: 100.10% (96,470)	52.46% Avg for View: 52.46% (0.00%)	3.31 Avg for View: 3.31 (0.00%)	00:03:11 Avg for View: 00:03:11 (0.00%)
1.	W.	United States	105,100 (64.37%)	57.00%	59,903 (62.03%)	53.65%	3.22	00:03:04
2.	9	India	7,563 (4.63%)	66.48%	5,028 (5.21%)	55.65%	3.10	00:02:58
3.	a distance	Canada	1 100 (0 74%)	EO ACO	2610 (2740)	40.40%	2.40	00:03:13
4.		Russia •••••	#10 in 2015! Up two slots each! 1800 (110%) 5883% 1059 (110%) 5656% 294 00					00:02:12
5	A Live Townson	Cormany						00:06:50
6.	20 E	United Kingdom						00:02:44
7.	A LONG TO SERVICE	China						00:07:17
8.		France						00:02:56
9.		Netherlands						00:02:20
10.		Italy						00:02:48

search.loinc.org website traffic



June 2016-May 2017 Summary

Translations into 18 variants of 12 languages







Open-source LIMS in Vietnam

Implemented at 38 hospital, public health, and HIV testing laboratories in Vietnam.

Mapped to LOINC to facilitate data exchange and interoperability projects



66 a feasible approach towards establishing a sustainable laboratory informatics program that met the needs of health laboratories in Vietnam.



Austrian National Patient Health Record (ELGA)

LOINC for laboratory tests as well as for document and section encoding.

A value set of LOINC codes and preliminary ELGA-wide codes was developed for laboratory analyses and is constantly maintained and updated in coordination with the laboratory community.

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Exploring Complexity in Health: An Interdisciplinary Systems Approach
A. Hoerbst et al. (Eds.)

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doi:10.3233/978-1-61499-678-1-426

eHealth Terminology Management in Austria

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^b HL7 Austria, Austria

Abstract. When it comes to establishing and operating a nationwide personal health record (PHR), effective and efficient terminology management including the development, administration, maintenance and publishing of terminologies is a precondition for semantic interoperability. In the Austrian national patient health record "ELGA" all relevant terminologies are provided and distributed by means of a CTS2-conformant terminology server. In the following article, issues and lessons learned from terminology management in a large-scale eHealth project are presented. Experience has proved the necessity of a national authority for medical terminology management in Austria.

Keywords. Terminology; Terminology Server; Semantics; Interoperability; Vocabulary, Controlled; Patient Health Record; Electronic Health Record

1. Introduction

Semantic interoperability within a nationwide electronic patient record, entailing the interconnection of highly diverse organizations with various IT systems, can only be achieved by providing standardized terminologies. In order to cover the needs of clinical documentation, a plethora of special terms, abbreviations and codes, organized in systems like nomenclatures and classifications is a prerequisite. The terminology server has proved to be a helpful tool to support efficient terminology management. Preliminary results and experiences from the Austrian national patient health record "ELGA" are reported.

1.1. ELGA and e-Health applications in Austria

ELGA was put into operation in December 2015. It allows a cross domain exchange of health data between all authorized Austrian Health Care Provider (HCP) and enables secure and reliable access to health data for any patient visiting a HCP. In the first phase, distinct clinical documents (physician and nurse discharge letters, laboratory and radiology reports) can be shared. Other data like medication will follow later. The format for the documents is restricted to CDA Rel.2 (HL7 Clinical Document Architecture, ISO/HL7 27932:2009). All documents are required by law to conform to the nationally harmonized HL7 CDA implementation guidelines. Specific coded health data (e.g. diagnoses or laboratory analyses) have to be included. [1]

Corresponding Author: carina.seerainer@elga.gv.at



Nictiz

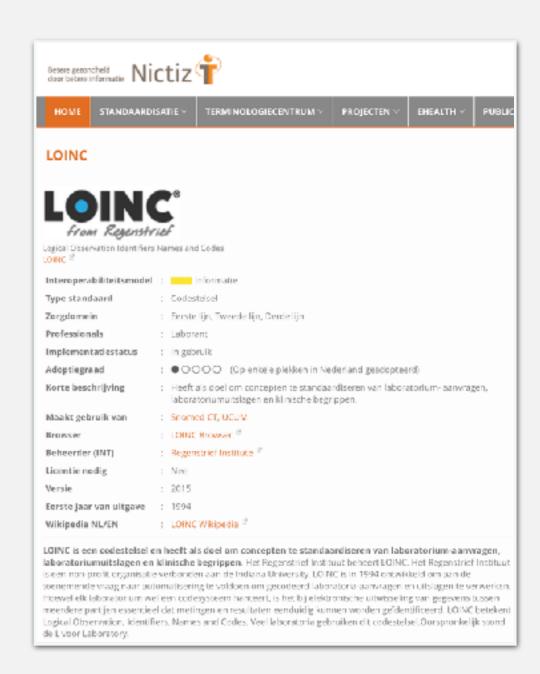
Many national projects in the Netherlands are using LOINC

Nationwide surveillance network for bacterial typing and antibiotic resistance surveillance

National laboratory code list (selected by NVKC and NVMM societies)

National special test registry (WieDoetWatdatabase)

Nictiz is a LOINC Premium Member







International Patient Summary (IPS)

A non-exhaustive patient summary, specialtyagnostic, condition-independent, but readily usable by clinicians for the cross-border unscheduled care of a patient.

Coordinated with the IPS project mandated to CEN TC 251 by the European Commission.

Uses LOINC for:

Document type, sections, lab results, other clinical observations, and radiology reports

Welcome to the International Patient Summary

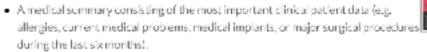
What is it?

The International Patient Summary is a minimal and non-exhaustive Patient Summary, specialty-agnostic, condition-independent, but readily usable by all clinicians for the unscheduled (cross-border) care of a patient.

International Patient Summary

This is the wiki hosting the Implementation Guide for the **International Patient Summary**, an HLZ project. An **International Patient Summary** contains the following data:







Information about the Patient Summary itself e.g. when and by whom the Patient Summary was generated or updated. This data is also used for protocol and security purposes.

About Patient Summaries

A Patient Summary is a standardized set of basic medical data that includes the most important clinical



Turkish Ministry of Health

General Directorate of Health Services recently mandated LOINC for laboratory results in public, university, and private health facilities

Maintain a Turkish translation of LOINC and mapping to national billing codes (plus online search/mapping tool).



T.C. SAĞLIK BAKANLIĞI Sağlık Bilgi Sistemleri Genel Müdürlüğü



Sayı: 75730711

Konu: LOINC Kullanımı

DAĞITIM YERLERİNE

Igi : 22.12.2014 tarihli ve 75730711/700/2014.5210.23 sayılı yazımız.

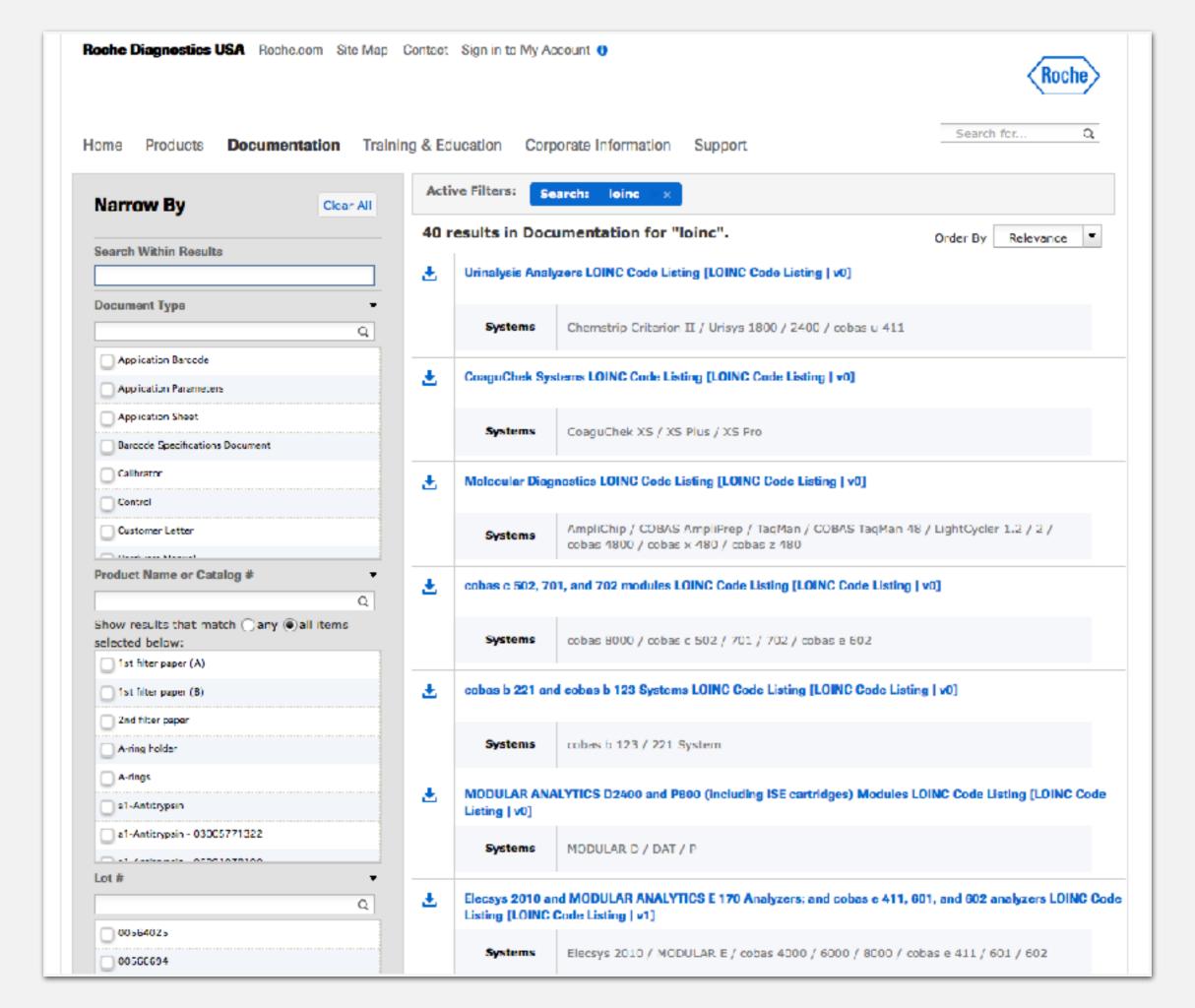
Laboratuvar tetkik istemlerinin yapıldığı bilgi sistemi (HBYS, AHBS vb) ile tetkik sonuçlarının üretildiği bilgi sistemleri (LBYS) arasındaki iletişim esnasında ortak bir dil kullanılmasına yönelik çalışmalar çerçevesinde uluslararası kabul gören bir standart olan Logical Observation Identifiers Names and Codes – LOINC kodlama ve sınıflandırma sistemine geçilmesinin kararlaştırıldığı, tüm kamu, üniversite ve özel sağlık tesislerinde tüm tetkikler (Biyokimya, Radyoloji, Mikrobiyoloji vb.) için bu standardın kullanılması konusunda çalışmaların başlatılması hususu tarafınıza ilgi yazımız ile 2014 yılı sonunda bildirilmiştir.

LOINC standardının kullanılması sayesinde tüm laboratuvar tetkiklerinde ortak bir dil kullanılması, tetkik sonuçlarının karşılaştırılmasındaki yanılgıların önlenmesi, tetkik sonuçlarının tibbi veri olarak değerlendirilmesi ve yorumlanabilmesi, birden çok bilgi sistemi arasındaki iletişim sorunlarının giderilmesi, uzak lokasyonlardaki tetkik istekleri ve sonuçlarının standart bir şekilde iletilmesi amaçlanmaktadır. Bu amaç çerçevesinde kamu, üniversite ve özel dâhil olmak üzere tüm sağlık kuruluşlarının çalıştıkları test adlarını http://www.sbsgm.saglik.gov.tr/ adresinde yer alan LOINC listesine göre ilişkilendirmesi gerekmektedir. İlişkilendirme çalışmaları için LOINC kodlarının daha kolay bulunmasına yönelik arama motoru geliştirilmiş ve http://loinc.saglik.gov.tr adresinde kullanıma açılmıştır. Arama motorunun kullanımına ilişkin hazırlanan Kılavuz Ek-1'de yer almaktadır.

1 Haziran 2017 tarihinden itibaren Ulusal Sağlık Sistemine (USS) laboratuvar ile görüntüleme istem ve tetkik sonuçlarının LOINC kodu ile gönderimi zorunlu olacak ve LOINC standardının kullanımı konusunda saha denetimleri yapılacaktır. Sağlık kuruluşları kullandıkları tüm laboratuvar ve görüntüleme testlerini istem (order) ve sonuç (result) olarak http://www.sbsgm.saglik.gov.tr/ adresinde yer alan kodlara göre sınıflandırarak, çalışmış oldukları Sağlık Bilgi Yönetim Sistemi (HBYS ve AHBS gibi SBYS Yazılımları) yazılımlarına yansıtılması amacıyla SBYS yazılım üreticilerine bildirmeleri gerekmektedir. llişkilendirme çalışmaları yapılırken, listede yer almayan ve eklenmesi talep edilen tetkik isimlerinin loinc@saglik.gov.tr adresine e-posta ile gönderilmesi gerekmektedir.

Mithatpaga Cad. No:3 B Blok, Kat 1 06434 Sihhiye-Ankara Irtibat: Tel: 0 312 585 23 86 Ayrıntılı bilgi için Esra ZEHİR e-posta: esra.zehir@saglik.gov.tr





VITEK® 2 System connectivity enhanced with support for the ICC/IHE LAW Profile and LOINC®



bioMérieux has updated its VITEK® 2 system for automated identification and antimicrobial susceptibility testing with software version 8.01 that is fully compliant with the IICC/IHE Laboratory Analytical Workflow (LAW) profile. The IICC/IHE LAW profile defines plug-n-play connectivity between instruments, middleware, and LIS systems in the laboratory. An IICC founding member, bioMérieux successfully tested its LAW Profile implementation at three IHE Connectathons in the USA and Europe. With this new interface, VITEK® 2 system software version 8.01 also supports LOINC® codification. Implementation of this connectivity standard in the VITEK® 2 system will help improve healthcare lab efficiency and contribute to better patient care through increased reliability of test order data and patient test results.

A few highlights from the USA



2017 Interoperability Standards Advisory

Office of the National Coordinator for Health IT

Lots o' LOINC

Representing Patient Allergic Reactions Representing Patient Family Health History

Representing Patient Functional Status and/ or Disability

Representing Imaging Diagnostics, Interventions and Procedures

Representing Laboratory Tests

Nursing

Representing Nursing Assessments

Representing Nursing Interventions

Representing Outcomes for Nursing

Representing Patient Clinical "Problems" (i.e., Conditions)

Sex at Birth, Sexual Orientation and

Gender Identity

Representing Patient Gender Identity Representing Patient Sex (At Birth) Representing Patient-Identified Sexual Orientation

Social Determinants

Representing Financial Resource

Strain

Representing Level of Education

Representing Stress

Representing Depression

Representing Physical Activity

Representing Alcohol Use

Representing Social Connection and

Isolation

Representing Exposure to Violence

(Intimate Partner Violence)

Representing Patient Tobacco Use (Smoking Status)

Representing Patient Vital Signs

U.S. Food and Drug Administration

LOINC codes will be required for laboratory test data in studies starting after March 2018

Actively facilitating discussion with IVD vendors about identifying the LOINC codes associated with their products



DEPARTMENT OF HEALTH AND HUMAN SERVICES

Food and Drug Administration

[Docket No. FDA-2)15-N-1349]

Electronic Study Data Submission; Data Standards; Support for the Logical Observation

Identifiers Names and Codes

AGENCY: Food and Drug Administration, HHS.

ACTION: Notice; request for comments

SUMMARY: The Food and Drug Administration (FDA) is encouraging sponsors and applicants to provide Logical Observation Identifiers Names and Codes (LOINC) codes (available at http://oinc.org/) for clinical laboratory test results in investigational study data provided in regulatory submissions submitted to the Center for Drug Evaluation and Research and to the Center for Biologics Evaluation and Research. LOINC code is defined as electronic messages for laboratory test results and clinical observations. The decision to adopt LOINC for lab test results is part of a larger FDA effort to align the use of data standards for clinical research with

data submitted to the Agency. The LOINC common terminology will be listed in the FDA Data

ongoing matienwide health information technology initiatives. FDA invites public comment on

appropriate steps the Agency could take to promote the use and utility of LOINC-coded clinical

Standards Catalog that is posted to FDA's Study Data Standards Resources Web page at

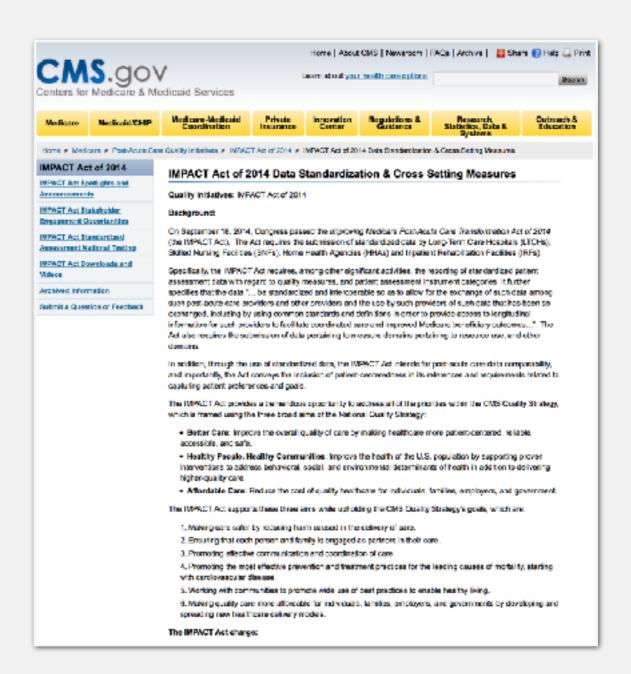
More on this later

Centers for Medicare & Medicaid Services

Long term goal of unification across settings. Representing all data elements from assessment instruments in LOINC.

Focused on MDS, OASIS, IRF-PAI, LCDS instruments now.

2,000+ individual data elements!



Centers for Disease Control and Prevention

Longtime users of LOINC:

Electronic Laboratory Reporting

Case Reporting

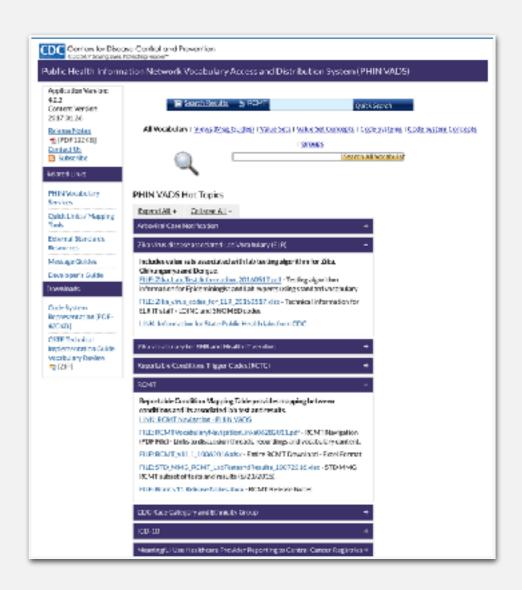
Reportable Condition Mapping Table

Immunization Messaging

National Emergency Medical Services Info System

National Trauma Data Standards

National Healthcare Safety Network - Healthcare Associated Infection (HAI)





Active Collaborations

IICC NIDDK

HL7 APSE/CTSI

IEEE NCCIH

SNOMED Intl NIBIB

RSNA CMS

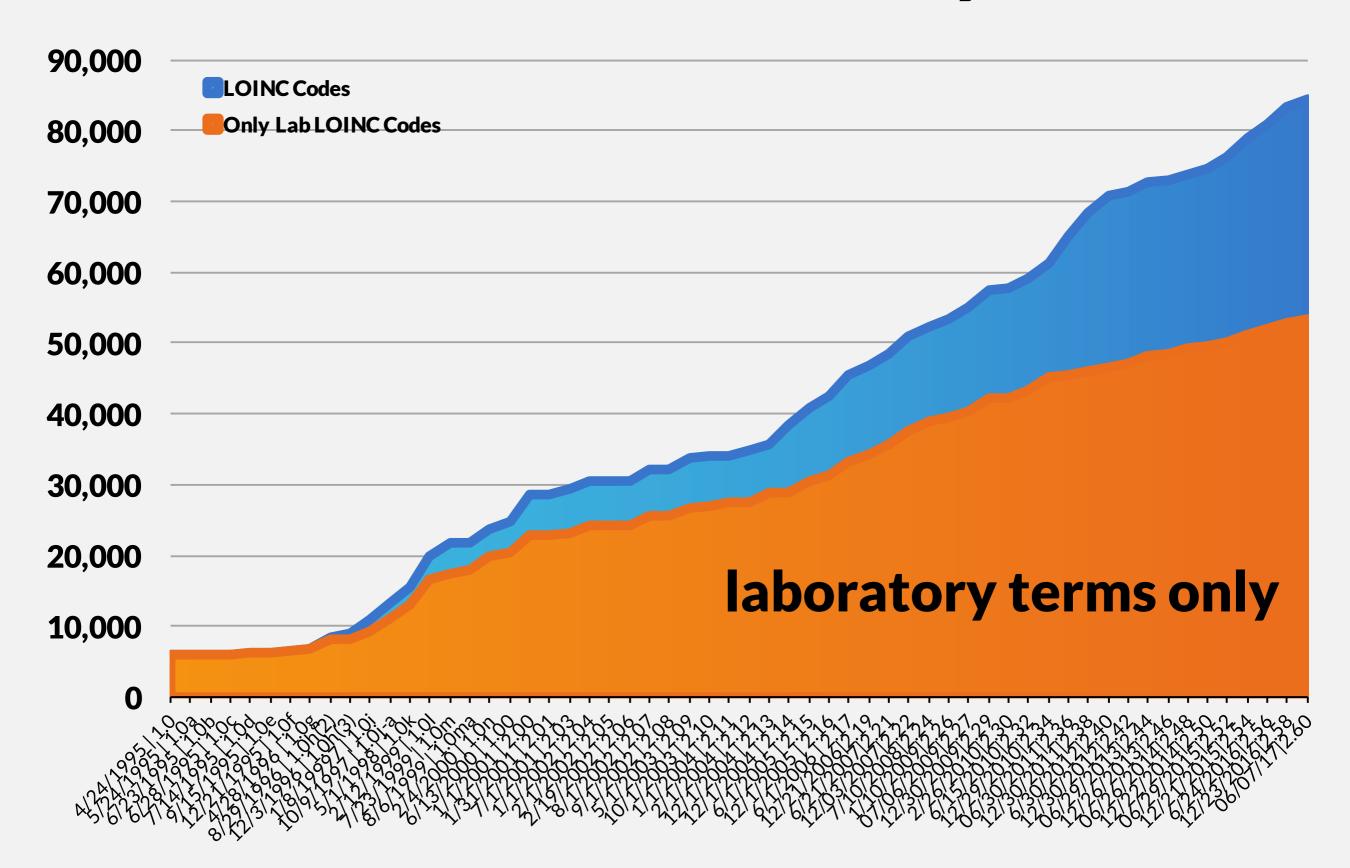
bioMérieux

LOINC Release

2.59 (patch) / 2.60 (beta) / 2.61 (coming)

A note about what we learned in version 2.59...

LOINC Codes Over Time by Release



Content development team has done a remarkable job tackling our queue of term requests

Our target was processing all requests received 6 weeks out of a beta release date

Some of our funded projects are for developing specific content (e.g. CMS)

Median turnaround time

About 75 days for lab requests

About 72 days for clinical requests

Current request queue

3600+ requested LOINCs

87% of those requested within the last 3 months*

*Terms older than 3 months may be awaiting submitter information, Committee review, etc.

Continue evolving our multi-level QA process to try to decrease that time even further

Reminder of coming data file changes

Approved expansion of most text field sizes to 255 characters

See Release Notes or <u>Announcement</u>

New changes (for June 2018)

<u>Pascal case</u> (and potentially other) changes to file name conventions

Making the Answers worksheet of Panels and Forms File consistent with the structure of the new AnswerList file.

License Updates

Added new release files

Same basic principles

Updated Third Party attributions

Spoiler alert! Now contains some SNOMED

CT and RxNorm mappings

RELMA 6.19 Updates

Updated Translations



Chinese (China)

汉语/漢語;中文



French (Canada)

français



<u>Spanish (Spain)</u>

español

No new features...

But a good visualization of our new multi-axial hierarchy enhancements.

I won't steal Swapna's thunder though...

Canonical LOINC Representation in FHIR

FHIR Terminology Services

http://loinc.org/fhir/loinc.xml

We are collaboratively defining a canonical representation of LOINC for use in FHIR as a CodeSystem

Specifies generic filters/attributes:

parent, child, ancestor, descendant

Specifies LOINC-specific filters/attributes:

STATUS, COMPONENT, PROPERTY, etc

Highlights our strange field names

People want to use Part codes here (e.g. compose/decompose)

```
</property>
<!--
 LOINC properties.
 These apply to the main LOINC codes, but not the Multiaxial Hierarchy, the answer lists, or the part codes.
 Notes:
   SHORTNAME = display & LONG_COMMON_NAME = definition
   Properties are specified as type "code", which are LOINC Part codes (LP-).
   It is anticipated that the LOINC Part codes to be used in these properties will be published in the June 2017 LOINC release.
-->
property>
  <code value="STATUS"/>
  <uri value="http://loinc.org/property/STATUS"/>
  <description value="Status of the term. Within LOINC, codes with STATUS=DEPRECATED are considered inactive. Current values: ACTI</pre>
 <!-- DV NOTE: changed this from boolean to string -->
 <type value="string"/>
</property>
cproperty>
  <code value="COMPONENT"/>
 <uri value="http://loinc.org/property/COMPONENT"/>
  <description value="First major axis-component or analyte: Analyte Name, Analyte sub-class, Challenge"/>
  <type value="coding"/>
</property>
cproperty>
  <code value="PROPERTY"/>
 <uri value="http://loinc.org/property/PROPERTY"/>
 <description value="Second major axis-property observed: Kind of Property (also called kind of quantity)"/>
 <type value="coding"/>
</property>
cproperty>
 <code value="TIME_ASPCT"/>
 <uri value="http://loinc.org/property/TIME_ASPCT"/>
  edescription value-"Third major axis-timing of the measurement. Time Aspect (Doint on moment in time vs. time interval)"
```





Learn - Content - Downloads - Community - Donate - O





Introducing our new webinar series for LOINC Premium Members

LOINC Premium Members have exclusive access to our new LOINCinar series. A LOINCinar is an interactive webinar covering all things LOINC. They are a great opportunity to learn more about LOINC, ask questions, and hear directly from our team of experts. LOINCinars are offered every 4-6 weeks as 60-minute live events. covering a variety of topics. Each session offers in-depth explanations and allows plenty of time for your questions. Our goal is for you to succeed with LOING.



Send us your suggestions for future LOINCinar topics

NEXT LOINCINAR

We will be announcing our next LOINCinar very soon!

LOINC Premium Members, watch your email for details and how to RSVP.

NOW AVAILABLE



Sneak Peek! New LOINC Artifacts

LOINCINAR 2 RECORDED 2017-05-23 42 MINUTES



Lifecycle of a Submission

This first LOINCinar explains how we process submissions, from our first look at the information you send through the creation and publication of new codes, It's your backstage pass that will give you a better understanding of our content development and QA workflows.

LOINCINAR 1 RECORDED 2017-04-20 55 MINUTES

Upcoming Meetings

Tutorial at MedInfo Congress 2017

(Hangzhou, China) 2017-09-26 to 2017-09-28

Fall 2017 Clinical LOINC Meeting

(Salt Lake City, UT USA) 2017-09-26 to 2017-09-28

Tutorial at AMIA Annual Symposium

(Washington, D.C. USA) 2017-11-04 to 2017 11 08

FHIR DevDays - Terminology Track

(Amsterdam, Netherlands) 2017-11-15 to 2017-11-16

Winter 2017 Lab LOINC Meeting

(Indianapolis, IN USA) 2017-12-06 to 2017-12-07

Spring 2018 International LOINC Meeting

(Tentative)
TBD

Summer 2018 Lab LOINC Meeting

(Indianapolis, IN USA) 2018-06-06 to 2017-06-07

Enhanced Educational Opportunities

More modular approach

Possible sessions include:

Submitting new term requests

Domain-specific mapping tips (micro, genetics)

Deep dive into accessory files

Mapping lab

What would you like to see?

Clarified and improved LOINC Committee structure

Committee composition (lab, clinical, rad)

Officer roles defined

Committee membership clarified

A few categories (individual, organization, international affiliate)

Prerequisites (attendance, IP agreement)

Membership duration (pruning absentees)

Overall goal is to preserve the success of this group as an advisory body to Regenstrief



OUESTIONS

