

Resource Summary Report

Generated by ASWG on Aug 4, 2026

Unified Medical Language System

RRID:SCR_006363

Type: Tool

Proper Citation

Unified Medical Language System (RRID:SCR_006363)

Resource Information

URL: <http://www.nlm.nih.gov/research/umls/>

Proper Citation: Unified Medical Language System (RRID:SCR_006363)

Description: Database of key terminology, classification and coding standards, and associated resources to promote creation of more effective and interoperable biomedical information systems and services, including electronic health records. This set of files and software brings together many health and biomedical vocabularies and standards to enable interoperability between computer systems. Users can use the UMLS to enhance or develop applications, such as electronic health records, classification tools, dictionaries and language translators. The UMLS has three tools, which we call the Knowledge Sources: * Metathesaurus: Terms and codes from many vocabularies, including CPT, ICD-10-CM, LOINC, MeSH, RxNorm, and SNOMED CT * Semantic Network: Broad categories (semantic types) and their relationships (semantic relations) * SPECIALIST Lexicon and Lexical Tools: Natural language processing tools We use the Semantic Network and Lexical Tools to produce the Metathesaurus. Metathesaurus production involves: * Processing the terms and codes using the Lexical Tools * Grouping synonymous terms into concepts * Categorizing concepts by semantic types from the Semantic Network * Incorporating relationships and attributes provided by vocabularies * Releasing the data in a common format Although we integrate these tools for Metathesaurus production, you can access them separately or in any combination according to your needs. The UMLS Terminology Services (UTS) provides three ways to access the UMLS: Web Browsers, Local Installation, and Web Services APIs.

Abbreviations: UMLS

Synonyms: Unified Medical Language System (UMLS)

Resource Type: standard specification, web service, data access protocol, database, narrative resource, international standard specification, data or information resource, software resource

Keywords: interoperability, electronic health record, classification tool, dictionary, language translator, classification, terminology, semantic, metathesaurus, vocabulary, thesaurus, natural language processing

Funding: NLM

Availability: License required and only issued to individuals, Not to groups or organizations - no charge for licensing the UMLS from NLM.

Resource Name: Unified Medical Language System

Resource ID: SCR_006363

Alternate IDs: nlx_152104

Record Creation Time: 20220129T080235+0000

Record Last Update: 20260804T043306+0000

Ratings and Alerts

No rating or validation information has been found for Unified Medical Language System.

No alerts have been found for Unified Medical Language System.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 44 mentions in open access literature.

Listed below are recent publications. The full list is available at [ASWG](#) .

Zhang S, et al. (2024) Cross-Standard Health Data Harmonization using Semantics of Data Elements. Scientific data, 11(1), 1407.

Panahiazar M, et al. (2022) An Ontology for Cardiothoracic Surgical Education and Clinical Data Analytics. Studies in health technology and informatics, 294, 407.

Gao H, et al. (2021) Drug repositioning based on network-specific core genes identifies potential drugs for the treatment of autism spectrum disorder in children. Computational and structural biotechnology journal, 19, 3908.

Lee EK, et al. (2020) CERC: an interactive content extraction, recognition, and construction tool for clinical and biomedical text. BMC medical informatics and decision making, 20(Suppl 14), 306.

Asim MN, et al. (2018) A survey of ontology learning techniques and applications. Database : the journal of biological databases and curation, 2018.

- Stenson PD, et al. (2017) The Human Gene Mutation Database: towards a comprehensive repository of inherited mutation data for medical research, genetic diagnosis and next-generation sequencing studies. *Human genetics*, 136(6), 665.
- Kraus M, et al. (2017) Olelo: a web application for intuitive exploration of biomedical literature. *Nucleic acids research*, 45(W1), W478.
- Soysal E, et al. (2017) CATTLE (CAncer treatment treasury with linked evidence): An integrated knowledge base for personalized oncology research and practice. *CPT: pharmacometrics & systems pharmacology*, 6(3), 188.
- Gabb HA, et al. (2016) An Informatics Approach to Evaluating Combined Chemical Exposures from Consumer Products: A Case Study of Asthma-Associated Chemicals and Potential Endocrine Disruptors. *Environmental health perspectives*, 124(8), 1155.
- Sharma A, et al. (2016) Translational informatics approach for identifying the functional molecular communicators linking coronary artery disease, infection and inflammation. *Molecular medicine reports*, 13(5), 3904.
- Akbari M, et al. (2016) Towards organizing health knowledge on community-based health services. *EURASIP journal on bioinformatics & systems biology*, 2016(1), 18.
- Oellrich A, et al. (2016) The digital revolution in phenotyping. *Briefings in bioinformatics*, 17(5), 819.
- , et al. (2016) Database resources of the National Center for Biotechnology Information. *Nucleic acids research*, 44(D1), D7.
- , et al. (2015) Database resources of the National Center for Biotechnology Information. *Nucleic acids research*, 43(Database issue), D6.
- Rajput NK, et al. (2015) Resources, challenges and way forward in rare mitochondrial diseases research. *F1000Research*, 4, 70.
- Pechacek J, et al. (2015) The National United States Center Data Repository: Core essential interprofessional practice & education data enabling triple aim analytics. *Journal of interprofessional care*, 29(6), 587.
- Liu GC, et al. (2015) Data visualization for truth maintenance in clinical decision support systems. *International journal of pediatrics & adolescent medicine*, 2(2), 64.
- Wang L, et al. (2015) iCTNet2: integrating heterogeneous biological interactions to understand complex traits. *F1000Research*, 4, 485.
- Noferesti S, et al. (2015) Resource construction and evaluation for indirect opinion mining of drug reviews. *PloS one*, 10(5), e0124993.
- Jamal QM, et al. (2015) PUBLIC HEALTH AND EPIDEMIOLOGICAL DATABASES FOR THE ENHANCEMENT OF MEDICAL EDUCATION. *Online journal of public health informatics*, 7(2), e217.