

Resource Summary Report

Generated by SPARC SAWG on Sep 16, 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/>

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

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: 20260912T200012+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 47 mentions in open access literature.

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

Zhou X, et al. (2026) Knowledge-enhanced pretraining for vision-language pathology foundation model on cancer diagnosis. Cancer cell, 44(4), 777.

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

Fisher JL, et al. (2022) Considerations and challenges for sex-aware drug repurposing. Biology of sex differences, 13(1), 13.

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.

Moon S, et al. (2019) Salience of Medical Concepts of Inside Clinical Texts and Outside Medical Records for Referred Cardiovascular Patients. Journal of healthcare informatics research, 3(2), 200.

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.

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.

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.

Akbari M, et al. (2016) Towards organizing health knowledge on community-based health services. EURASIP journal on bioinformatics & systems biology, 2016(1), 18.

, et al. (2016) Database resources of the National Center for Biotechnology Information. Nucleic acids research, 44(D1), D7.

Oellrich A, et al. (2016) The digital revolution in phenotyping. Briefings in bioinformatics, 17(5), 819.

, 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.

Wang L, et al. (2015) iCTNet2: integrating heterogeneous biological interactions to understand complex traits. F1000Research, 4, 485.