

Update on NLM Standards Related Activities

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Agenda

- Recent Events
- Update
 - UMLS Metathesaurus
 - RxNorm
- Introduction of DailyMed
- Status of
 - NLM / HL7 contract
 - Mapping Projects

Recent Events

- *Sept. 2005* – American Health Information Community – advisory committee of industry leaders & agency heads – HHS Sec. chair
- *Oct. 2005* – Office of National Coordinator for Health Information Technology (ONC), HHS awards contracts for (1) *standards harmonization, (2) compliance certification, (3) privacy/security solutions
 - *Commission on Systemic Interoperability releases report

*NLM involved at HHS request

Recent Events

- *Nov. 2005* – Medicare e-prescribing foundation standards named
 - ONC awards 4 contracts for National Health Information Network (NHIN) architecture prototypes
- *Jan. 2006*
 - Interagency Health Information Technology Policy Council
 - *HHS Health Information Technology Policy Council

*NLM involved at HHS request

UMLS® – Moving from a Research Project to a Production System

● Includes:

- Transitioning from research branch (Lister Hill Center) to production branch (Office of Computer and Communications Systems and Library Operations)
- Migrating to new computer hardware and software
- Adding new staff to support improvements to documentation, training, QA, and customer support

● Primarily affects production of the Metathesaurus release files.

● Research branch will still be heavily involved in continued development

2006AA UMLS Metathesaurus (February 2006)

- 1,276,301 concepts
- 5,021,400 unique “strings”
(Eye, Eyes, eye = 3)
- 6,040,931 source vocabulary terms
- 140 source vocabularies
- 17 different languages

New Metathesaurus Tools

● MRCXT Builder

- Provides contextual or hierarchical relationships to facilitate the construction of user displays
- Allows users to produce a custom MRCXT file from user's subset of the Metathesaurus
- Replaces the large and unwieldy MRCXT file

● RRF Subset Browser

- Allows users to search, view and print custom subsets of the Metathesaurus stored on their local computers or networks

UMLSKS

- New version in the works
 - Back end - implementing Web Services to make it easier for people to access the system (XML based)
 - Front end
 - Portals allow users to customize their view of the Metathesaurus
 - Search Metathesaurus on NLM server or local subset
 - Beta version available summer 2006

New UMLSK

The screenshot shows a web browser window displaying the UMLS Knowledge Source Server (UMLSKS) interface. The browser's address bar shows the URL: `http://skx1.nlm.nih.gov:8080/UPortal/tag.9472e090f57810e8.render.userLayoutRootNode.uP?uP_sparam=tab&tab=6i`. The page features a red header with the UMLSKS logo and navigation links for Home, Help, and Log Out. Below the header is a green navigation bar with tabs for Home, Metathesaurus, SPECIALIST Lexicon, Semantic Network, other portlets, and News. A green sidebar on the left contains a 'Documentation' menu with items like Overview, Frequently Asked Questions, and UMLS Documentation Set. The main content area is titled 'Metathesaurus' and includes a search section with the heading 'Metathesaurus Search : Auto Suggest'. This section contains a text input field labeled 'Enter term', a 'Term:' label, and an 'OK' button. Below the search section are four portlets: 'BasicConceptRRF Portlet', 'SourceContext Portlet', 'RelationshipsRRF', and 'CooccurrenceInfo'. Each portlet displays the message 'No Search performed yet' and includes a refresh icon and a help icon.

UMLS Knowledge Source Server (UMLSKS)

Home Metathesaurus SPECIALIST Lexicon Semantic Network other portlets News

Hello, Vivian Auld

Documentation

- Overview
- Frequently Asked Questions
- UMLS Documentation Set

Metathesaurus [Change Content](#)

Metathesaurus Search : Auto Suggest

Enter term

Term:

BasicConceptRRF Portlet [Refresh](#) [Help](#)

No Search performed yet

SourceContext Portlet [Refresh](#) [Help](#)

No Search performed yet

RelationshipsRRF

No Search performed yet

CooccurrenceInfo [Refresh](#) [Help](#)

No Search performed yet

New UMLSKS

The screenshot displays the UMLSKS web application interface. At the top, there is a browser window with the address bar showing a URL from nlm.nih.gov. Below the browser, a navigation bar includes links for 'Setting Started', 'Latest Headlines', 'UMLSKS Login Service', 'Local Tree', and 'Daily Kos: Oh really...'. The main content area is titled 'Metathesaurus Search : Auto Suggest' and features a search input field with the text 'bone mineral density' and an 'OK' button. Below the search results, there are three sections: 'BasicConceptRRF Portlet', 'SourceContext Portlet', and 'Contexts (7)'. The 'BasicConceptRRF Portlet' section shows 'Concept Information' for '[C0005938] Bone Density', including a 'Definition' with MeSH and CRISP references, 'Semantic Types' (Laboratory or Test Result), and 'Atoms: (28)'. The 'SourceContext Portlet' section shows 'Contexts (7)' with a tree view of 'Ancestors' including 'CRISP Thesaurus', 'anatomy', 'musculoskeletal system', and 'skeletal system', and 'bone'. The 'Contexts (7)' section lists various MeSH and Nursing Outcomes Classification contexts for 'bone mineral density'.

Setting Started Latest Headlines: UMLSKS Login Service Local Tree Daily Kos: Oh really ...

Metathesaurus Search : Auto Suggest

Enter term

Terms

bone mineral density

BasicConceptRRF Portlet

Concept Information

- ⊕ [C0005938] Bone Density
- ⊖ Definition:
 - ⊖ MeSH/A0031968
The amount of mineral per square centimeter of BONE. This is the definition used in clinical practice. Actual bone density would
 - ⊖ CRISP Thesaurus/A0474937
amount of bone tissue in a certain volume of bone.
- ⊖ Semantic Types:
 - ⊖ Laboratory or Test Result
- ⊕ Atoms: (28)

SourceContext Portlet

Contexts (7)

- ⊖ Alcohol and Other Drug Thesaurus/0000001729 bone mineral density Cxt 1
- ⊖ CRISP Thesaurus/2715-3972 bone density Cxt 1
 - ⊖ Ancestors
 - ⊖ CRISP Thesaurus
 - ⊖ anatomy
 - ⊖ musculoskeletal system
 - ⊖ skeletal system
 - ⊖ bone
 - ⊖ Siblings
- ⊕ MeSH/D015519 Bone Density Cxt 1
- ⊕ MeSH French/D015519 Densité osseuse Cxt 1
- ⊕ MeSH German/D015519 Knochendichte Cxt 1
- ⊕ MeSH Italian/D015519 Densità ossea Cxt 1
- ⊕ Nursing Outcomes Classification/011202 Bone density Cxt 1

UMLS Annual Report Data

Results from first web-based UMLS user annual report (calendar year 2004)

- Total number of valid responses: 1,427 (54% of the number of licensees as of December 2004)
- Top three types of affiliation: Academic (40%), Commercial (26%), Not-for-profit (11%)
- Top three types of main activity: Research + Education (42%), Software development (20%), Health care provider (17%)
- Experience with UMLS: 53% have started using the UMLS (median duration of usage = 12 months), 47% have not started

UMLS Annual Report Data

- Top three types of information that the UMLS is used to process (multiple answers allowed):
 - Findings and diagnosis (55% of respondents)
 - Procedures (34% of respondents)
 - Laboratory tests and reports (29% of respondents)
- Top three uses of the UMLS (multiple answers allowed):
 - Terminology research (53% of respondents)
 - Mapping between terminologies (35% of respondents)
 - Creating own terminology (33% of respondents)
- Metathesaurus terminologies used:
 - Everything 47%
 - SNOMED CT only 24%
 - Category 0 only 12%
 - SNOMED CT and Category 0 8%

RxNorm Update

- Monthly releases currently available
- Increased number of RxNorm standard names by 28% to 111,000
- Maintaining harmony with UMLS Metathesaurus
- Continuing to improve process & product code

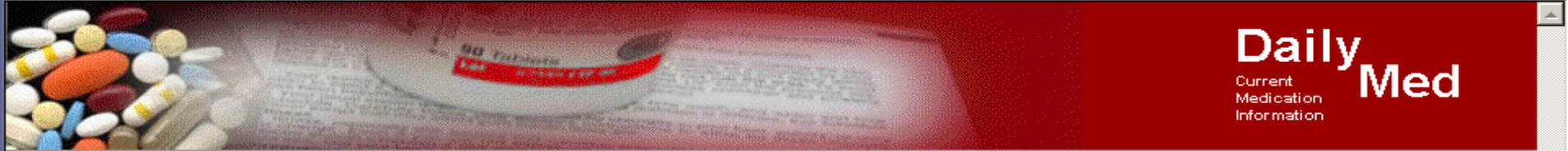
RxNorm – Plans for 2006

- Weekly releases available by end of year
- Establish link between DailyMed and RxNorm thus making the FDA the primary source for updated drug information in RxNorm
- Establish tighter integration for more rapid inclusion of RxNorm data in the UMLS Metathesaurus
- Continue improving quality assurance procedures and data integrity within RxNorm

RxNorm – Plans for 2006

- Continue improving coverage of drug delivery/dispensing devices and multi-vitamins within RxNorm
- Expand RxNorm to cover over-the-counter medications based on information supplied by selected sources
- Assist with MMA pilot testing of RxNorm as needed

DailyMed



**Daily
Med**
Current
Medication
Information

DailyMed provides high quality information about marketed drugs.

Drug labeling on this Web site is the most recent submitted to the Food and Drug Administration (FDA) and currently in use; it may include strengthened warnings undergoing FDA review and minor editorial changes.

Options

- Home
- E-mail Label Information
- Downloads
- Notify of Updates
- Contact Us

Additional Resources

Report Adverse Event

At the present time this Web site does not contain a complete listing of labels for approved prescription drugs.

Search By Drug Name:

GO

A B **C** **D** **E** **F** G H I J K L **M** N O **P** **Q** **R** **S** **T** U **V** W X Y Z **All**

About DailyMed

DailyMed provides high quality information about marketed drugs. This information includes FDA approved labels (package inserts). This Web site provides health information providers and the public with a standard, comprehensive, up-to-date, look-up and download resource of medication content and labeling as found in medication package inserts.

Other information about prescription drugs may also be available. NLM regularly processes data files uploaded from FDA's system and provides and maintains this Web site for the public to use in accessing the information. Additional information about medicines is available on NLM's MedlinePlus Web site <http://www.nlm.nih.gov/medlineplus/medicines.html>.

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dailymed.nlm.nih.gov

DailyMed

- Website designed to provide high quality information about marketed drugs
- Uses the Structured Product Label (SPL) from the FDA
- Note: DailyMed information intended for prescribers and dispensers, not for patients.
 - Information for Patients section is designed to tell prescribers how to talk to their patients about the drug.

DailyMed

- Site went live in November 2005
- Currently contains 10 labels
- Expect to have a complete set (~4,500) by the end of the year
- Will establish links to the published literature, ClinicalTrials.gov, and other relevant sources for each drug listed

NLM- HL7 Contract Arrangement

Awarded Sept. 2004

- Align HL7 message standard with CHI standard vocabularies (*NLM-initiated*)
 - Specify which subsets of standard vocabularies are valid for particular message segments
 - Replace HL7-maintained lists of coded values with subsets of standard vocabularies, where feasible
- Create implementation guide(s) for transmitting an entire Electronic Health Record between systems (*on behalf of HHS*)

Mapping Projects planned/underway

● CHI standards → HIPAA code sets:

- SNOMED CT → ICD-9-CM, ICD-10-CM
- SNOMED CT → CPT
- LOINC → CPT

● SNOMED CT → “other” vocabularies:

- Medical Dictionary for Regulatory Affairs (MedDRA)
- International Classification of Primary Care (ICPC)
- Medcin
- Nursing Vocabularies (NIC, NOC, NANDA)

Key NLM Assumptions about Mappings

- Participants must include:
 - Producers of vocabularies on both ends; prospective users and recipients of the output, e.g., health care providers, payers, as testers and validators
- Mapping may/will prompt changes/corrections to content and adjustment to update schedules
- Mappings must be updated every time either end is updated
- Mappings will be distributed in the UMLS (not exclusively); use will be governed by terms applicable to both ends
- Mapping is still an R & D problem - it will take iteration to build highly functional maps. Alignment of update schedules is critical.

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Questions?

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