UMLS KNOWLEDGE SOURCES

13th Edition - Spring Release

2002AB Addendum to 2002AA Documentation

0. Introduction

This is the 2002AB documentation addendum to the 2002AA documentation. Changes to the documentation due to addition or deletion of new content in 2002AB are outlined here. Some sections, like String Count by Source and Precedence, are shown in their entirety since there are significant changes to these sections with each release.

As an addendum, the content is presented in the order of the January (2002AA) documentation with the same section numbers and structure.

0.1 What's New for 2002AB UMLS

0.1.0 Introduction

The UMLS Knowledge Sources are now released quarterly. This Spring 2002 release is named 2002AB; the Summer release will be called 2002AC; and so on. When necessary, releases may become even more frequent; it will be up to each user to decide how frequently to load new updates. This *What's New* section will help a user decide by outlining changes present in a new release.

0.1.1 Metathesaurus

The 2002AB edition of the Metathesaurus includes 871,584 concepts and 2.10 million concept names in its source vocabularies. There are 94,644 more concepts; 142,338 more names in MRCON; and 151,870 more names in MRSO.

There are three new sources for the 2002AB release- NCBI2001, Taxonomy from National Center for Biotechnology Information; NLM02, RxNorm work done by the National Library of Medicine; and NLM03, RxNorm relationship work done by the National Library of Medicine.

Three sources were updated for the 2002AB release – INS2002, French translation of MeSH; MDR41, Medical Dictionary for Regulatory Activities Terminology (MedDRA) version 4.1; and MSH2002_02_10, Medical Subject Headings (MeSH) February 10, 2002.

VANDF01 now has a Restriction Level of 0.

MTHMSTFRE and MTHMSTITA now have a Restriction Level of 0.

The file sizes in MRFILES now show the correct sizes for each format (note that ISO/PC text files have one more character per line than Unix text files).

RxNorm

This release contains about 16,000 concepts created by the National Library of Medicine which express the meaning of a drug name in a normalized form. These concepts relate the names of orderable medications to a dose forms from a set proposed by the HL7 Vocabulary Technical Committee as a value set, and the components of those medications. For further discussion, see the article at:

http://umlsinfo.nlm.nih.gov/RxNorm.html

Problems Identified in 2002AA Release and Repaired for 2002AB Release

1. 2002AA MRCXT ICPC2E/ICPC2P Problem

I. Problem

There are two problems in the 2002AA MRCXT that affect International Classification of Primary Care, Version 2-Plus (ICPC2P) and International Classification of Primary Care, 2nd ed. Electronic form (ICPC2E). First, there are a number of incomplete contexts present containing only the second level ANC row (typically with context numbers 3 or 4) without the higher or lower ANC rows, and without any CCP, SIB, or CHD rows.

For example,

C0000731|S0351958|ICPC2P|D25|3|ANC|2|Symptoms and Complaints Component|C0497525|1|||

Second, there are a number of contexts attributed to ICPC2E that have "ICPC2-Plus" as the context tree-top.

For example,

C0000731|S0351958|ICPC2E|D25|4|ANC|1|ICPC2-Plus|C0848024|||||
C0000731|S0351958|ICPC2E|D25|4|ANC|2|DIGESTIVE|C0521361|D|||
C0000731|S0351958|ICPC2E|D25|4|CCP||ABDOMINAL DISTENSION|C0000731|D25||+|
  ... CHD rows not shown ...

II. Scope

These errors affect only ICPC2P and ICPC2E MRCXT data.

The first problem affects about 2500 rows of MRCXT and the second problem affects another 23,000 rows. In total, about 2500 "contexts" are affected (where a "context" is a CUI,SUI,SOC,SCD,CXN tuple).

These problems will cause a failure to correctly display these 2500 contexts. Additionally, exceptions will occur in applications that expect the complete ANC tree to be available for contexts represented in MRCXT.

2. MetamorphoSys 2002AA Configuration File Problem

I. Problem

There is a bug in the configuration file distributed with MetamorphoSys that affects the ability of the user to configure both the precedence and suppressibility of LOINC term types. This does not affect the ability of the user to exclude the entire LOINC vocabulary from using MetamorphoSys.

II. Scope

This problem is limited to a users' ability to change the precedence and suppressibility within LOINC. Other sources are not affected.

3. MRXNS.ENG, MRXNW.ENG Problem

I. Problem

The version of LVG used to compute the MRXNW.ENG and MRXNS.ENG files was slightly different from the version distributed with the 2002AA UMLS, causing small variations in the normalized forms of some strings in MRCON.

II. Scope

A total of 26 strings were affected by this problem. There are 28 lines in the old MRXNS.ENG that have incorrect NSTR fields. The new MRXNS.ENG replaces those lines with 36 new ones which are both corrected normalized forms and additional normalized strings.

Following is an example of a corrected NSTR. The original MRXNS.ENG has this line,

ENG|02 14 19 19 19 19 2 2 2 5 5 5 alpha beta chaetocin dide dideoxy diphenyl epidithio phenylethenyl|C0292271|L0354632|S2175084|

The corrected MRXNS.ENG replaces it with this line,

ENG|02 14 14 15 19 19 19 19 2 2 2 5 5 5 7 alpha beta beta chaetocin dide dideoxy diphenyl e epidithio phenylethenyl|C0292271|L0354632|S2175084|

Here is another example. The following line comes from the original MRXNS.ENG

ENG|3r capsanthin|C0951566|L1862217|S2191205|

This is replaced in the corrected MRXNS.ENG by two lines.

ENG|13 3 3r 5 capsanthin ci isomer r|C0951566|L1862217|S2191205|
ENG|13 3 3r 5 capsanthin cis isomer r|C0951566|L1862217|S2191205|

The original MRXNW.ENG contained no incorrect lines, however there were some missing lines. The corrected MRXNW.ENG has an additional 88 lines. For example,

ENG|15|C0292271|L0354632|S2175084|

This corresponds with the first MRXNS.ENG example shown above.

This problem only affects users who make use of the normalized index files.

The incorrect normalized strings and normalized words come from the following list of sources:

RCD99, MSH2002

4. MRCXT (CST95, SNM2) Problem

I. Problem

There are cases of multiple CST95 and SNM2 contexts being assigned the same context number for a single CUI,SUI,SAB,SCD tuple, leading to cases of overlapping contexts. In one case, specifically, this causes a single context to have two CCP rows.

II. Scope

There are contexts in 52 CUIs affected by this problem. The CST95 case appears like this in MRCXT:

C0019054|S0376154|CST95|HEMOLYSIS|1|ANC|1|COSTART: coding symbols for thesaurus of adverse reaction terms|C0220949||||
C0019054|S0376154|CST95|HEMOLYSIS|1|ANC|2|HEMATOLOGIC DISORDERS|C0018939|HEM|||
C0019054|S0376154|CST95|HEMOLYSIS|1|ANC|2|Hemic and Lymphatic System|C0549527|HAL|||
C0019054|S0376154|CST95|HEMOLYSIS|1|ANC|3|Erythrocyte

Abnormalities|C0391870|HAL/RBC|||
C0019054|S0376154|CST95|HEMOLYSIS|1|ANC|4|erythrocytes
decreased|C0236147|HAL/RBC/DEC|||
C0019054|S0376154|CST95|HEMOLYSIS|1|CCP||HEMOLYSIS|C0019054|HAL/RBC/
DEC/HEMOLYSIS|||
C0019054|S0376154|CST95|HEMOLYSIS|1|CCP||HEMOLYSIS|C0019054|HEM/HEM
OLYSIS||+|

In the corrected MRCXT, it appears as two contexts (CXN=2 is not shown here):

C0019054|S0376154|CST95|HEMOLYSIS|1|ANC|1|COSTART: coding symbols for
thesaurus of adverse reaction terms|C0220949||||
C0019054|S0376154|CST95|HEMOLYSIS|1|ANC|2|Hemic and Lymphatic
System|C0549527|HAL|||
C0019054|S0376154|CST95|HEMOLYSIS|1|ANC|3|Erythrocyte
Abnormalities|C0391870|HAL/RBC|||
C0019054|S0376154|CST95|HEMOLYSIS|1|ANC|4|erythrocytes
decreased|C0236147|HAL/RBC/DEC|||
C0019054|S0376154|CST95|HEMOLYSIS|1|CCP||HEMOLYSIS|C0019054|HAL/RBC/
DEC/HEMOLYSIS|||
...
C0019054|S0376154|CST95|HEMOLYSIS|3|ANC|1|COSTART: coding symbols for
thesaurus of adverse reaction terms|C0220949||||
C0019054|S0376154|CST95|HEMOLYSIS|3|ANC|2|HEMATOLOGIC
DISORDERS|C0018939|HEM|||
C0019054|S0376154|CST95|HEMOLYSIS|3|CCP||HEMOLYSIS|C0019054|HEM/HEM
OLYSIS||+|

The SNM2 cases are less obvious because they involve cases where a particular
CUI,SUI,SAB,SCD is its own child. In the original MRCXT it appears like this:

C0334970|S0637124|SNM2|NOCODE|1|ANC|1|Systematized Nomenclature of
Medicine. 2nd ed.|C0220966||||
C0334970|S0637124|SNM2|NOCODE|1|ANC|2|Occupation Axis|C0334705||||
C0334970|S0637124|SNM2|NOCODE|1|ANC|3|Professional,Technical and Related
Workers|C0334704||||
C0334970|S0637124|SNM2|NOCODE|1|ANC|4|Economists|C0334970||||
C0334970|S0637124|SNM2|NOCODE|1|CCP||Economists|C0334970|||+|

In the corrected MRCXT, it shows up as two separate contexts:

C0334970|S0637124|SNM2|NOCODE|1|ANC|1|Systematized Nomenclature of
Medicine. 2nd ed.|C0220966||||
C0334970|S0637124|SNM2|NOCODE|1|ANC|2|Occupation Axis|C0334705||||
C0334970|S0637124|SNM2|NOCODE|1|ANC|3|Professional, Technical and Related
Workers|C0334704||||

C0334970|S0637124|SNM2|NOCODE|1|CCP||Economists|C0334970|||+|

C0334970|S0637124|SNM2|NOCODE|2|ANC|1|Systematized Nomenclature of Medicine. 2nd ed.|C0220966||||
C0334970|S0637124|SNM2|NOCODE|2|ANC|2|Occupation Axis|C0334705||||
C0334970|S0637124|SNM2|NOCODE|2|ANC|3|Professional, Technical and Related Workers|C0334704||||
C0334970|S0637124|SNM2|NOCODE|2|ANC|4|Economists|C0334970||||
C0334970|S0637124|SNM2|NOCODE|2|CCP||Economists|C0334970|||+|

Note: CHD rows are not shown in this example.

The CST problem affects just one CUI, but the SNM2 problem affects 51 CUIs.

5. MRCOC COA Sort Order

I. Problem

The ordering of the subheading frequency listings in the COA field of MRCOC changed. Although not specifically documented, the subheading frequencies have historically been listed in decreasing frequency order but were instead listed in alphabetical order.

II. Scope

All cases with multiple subheadings where the frequency order did not match the alphabetical order were affected. For example, 2001AA MRCOC had the following entry:

C0000039|C0012456|MED01|L|10|CH=8,ME=2,<>=1,AN=1|

CH is the highest frequency subheading so it appears first. The corresponding entry from the 2002AA MRCOC is this:

C0000039|C0012456|MED02|L|12|<>=1,AN=1,CH=10,ME=2|

Again, CH is the highest frequency subheading, yet it appears third because the list is sorted alphabetically. In the corrected 2002AA MRCOC, this line appears as follows:

C0000039|C0012456|MED01|L|12|CH=10,ME=2,<>=1,AN=1|

This problem affects 2007720 lines in the 2002AA MRCOC, or 17% of the total file.

0.1.2 Semantic Network

No changes to the Semantic Network.

0.1.3 SPECIALIST Lexicon and Lexical Programs

No Changes to the SPECIALIST Lexicon or Lexical Programs.

0.1.4 UMLS Knowledge Source Server

There is a new version of the UMLS Knowledge Source Server. To find out more about the new features, please go to:

> http://umlsks.nlm.nih.gov

This page has a section on *What's New* and a link to a FAQ page. For users already registered, there is documentation describing the changes once in the system.

2. Metathesaurus

2.1 Source Vocabularies

The Metathesaurus contains relationships, attributes and concept names from more than 60 vocabularies and classifications, some in multiple editions. Many of the source vocabularies are included in their entirety; for others the Metathesaurus has partial coverage. Some material in the UMLS Metathesaurus is from copyrighted sources of the respective copyright claimants.

The Metathesaurus source vocabularies include terminologies designed for varied uses: in patient-record systems; large disease and procedure classifications used for statistical reporting and billing; more narrowly focused vocabularies used to record data related to psychiatry, nursing, medical devices, adverse drug reactions, etc.; disease and finding terminologies from expert diagnostic systems, and some thesauri used in information retrieval.

Metathesaurus sources may have markedly differing purposes and views. Some of these sources may match your needs exactly, while others may be useless or even harmful in your applications. For this reason, it is important to select appropriate sources and reject others, using MetamorphoSys or with queries using the Source Abbreviation (SAB) in the distribution files.

The Metathesaurus structure can incorporate translations of its source vocabularies into languages other than English. The 2002AB Metathesaurus includes the Dutch, French, Finnish, German, Italian, Portuguese, Russian (transliterated), and Spanish translations of NLM's Medical Subject Headings (MeSH). This edition also includes German

translations of ICD10 and UMDNS; ICPC terms in Basque, Danish, Dutch, Finnish, French, German, Hebrew, Hungarian, Italian, Norwegian, Spanish, and Swedish; CPT terms in Spanish; Metathesaurus Version of Minimal Standard Terminology Digestive Endoscopy in French and Italian; and WHOART terms in French, German, Portuguese, and Spanish.

Users should also determine which vocabularies would require additional license arrangements for the anticipated use. MetamorphoSys (see Section 2.8 in 2002AA documentation) should be used to exclude vocabularies; it removes all vocabulary information and thus ensures compliance with the UMLS License Agreement.

2.3.1 Relationships in the Metathesaurus

Relationships in the Metathesaurus may come from the sources themselves or may be created by Metathesaurus editors to link concepts that would not otherwise be connected. Some relationships (RELs) are further refined by a Relationship Attribute (RELA, see Appendix B.1.1 in 2002AA Documentation).

Note that the nature and purpose of a relationship depends on its source, as indicated in the "Source Abbreviation for source vocabulary" (SAB) and the "Source of Relationship labels," (SL). The source is the authority which asserts a relationship which is represented as transparently as possible within the Metathesaurus. Thus, relationships may adhere to pragmatic or esoteric principles; some are co-occurrences, statistical relationships, or mappings; some may even be self-referential (CUI1 = CUI2) where there are differing views of synonymy. Therefore it is important to select the RELs, RELAs, SABs, and SLs that match a user's views and purposes. Note also that a variety of relationships from earlier editions of the Metathesaurus as well as editor-asserted relationships may carry the SAB and/or SL of "MTH."

There are eleven types of relationships that exist in the Metathesaurus.

Broader (RB)   has a broader relationship.

Narrower (RN)   has a narrower relationship.

Other related (RO)   has relationship other than synonymous, narrower, or broader.

Like (RL)   the two concepts are similar or "alike". In the current edition of the Metathesaurus, most relationships with this attribute are mappings provided by a source. In previous releases, some MeSH Supplementary Concept relationships were represented in this way.

RQ   unspecified source asserted relatedness, possibly synonymous.

SY   source asserted synonymy.

Parent (PAR)   has parent relationship in a Metathesaurus source vocabulary.

Child (CHD)   has child relationship in a Metathesaurus source vocabulary.

Sibling (SIB)   has sibling relationship in a Metathesaurus source vocabulary.

AQ   is an allowed qualifier for a concept in a Metathesaurus source vocabulary.

QB   can be qualified by a concept in a Metathesaurus source vocabulary.

2.3.2 Context in the Metathesaurus

Updates to Context description include:

Change:
MDR40:FULL-MULTIPLE   --> MDR41: FULL-MULTIPLE
MSH2002:FULL-MULTIPLE --> MSH2002_02_10:FULL-MULTIPLE

Add:
NCBI2001: FULL-NOSIB

2.7.1.2.1 Relation Relation (File=MRFILES)

Corrected Column Information:

BTS Size in bytes in this format (ISO/PC or Unix)

Section 6

6.1 Content of the CD-ROMS

The 2002AB edition of the UMLS Knowledge Sources is available only in compressed formats: Unix (TGZ) and PC (ZIP). Two CD-ROMs are required for each format. To use the UMLS, you must uncompress BOTH discs to a local hard disk, which will then contain the complete distribution including the MetamorphoSys tool to customize your version.

The PC format discs (2002AB_1_ZIP and 2002AB_2_ZIP) contain the UMLS Knowledge Sources in ZIP format, with PC line termination in the ASCII files. Use this

format for Windows (version 3.1 and up), Windows NT and 2000 (v4.0 and up), XP, and OS/2. PKZIP or WINZIP programs may be used to extract the data; they may be obtained using these URLs: http://www.pkware.com or http://www.winzip.com. To extract the files to your disk, assign the target directory in which you wish to create UMLS2002AB (see below) and unzip the ZIP files on BOTH CD-ROMs. NOTE that your file system must support large file sizes, e.g. NTFS or FAT32.

The Unix format CD-ROMs (2002AB_1_TAR and 2002AB_2_TAR) contain the UMLS Knowledge Sources in tar GNU ZIP (gzip) format (.tar.gz), with Unix line termination in the ASCII files. Use this format for operating systems that support UNIX line termination (all flavors of UNIX and Linux). To unpack this you will need the free gzip (or gunzip) utility available from http://www.gnu.org. 'cd' to the target directory for UMLS2002AB (see below), then type the following commands:

    gzip -dc [cdrom_path]/2002AB_1.TGZ | tar xvf –

and then

    gzip -dc [cdrom_path]/2002AB_2.TGZ | tar xvf -

where [cdrom_path] is the path to the TGZ file on your CD-ROM.

NOTE that if you do not include the pipe to tar, the extraction will fail when the intermediate file exceeds most Unix file system's 2 GB size limits on single files.

Appropriate Java Runtime Environments (jre) for MetamorphoSys are included for each format.

All users should extract the full 2002AB UMLS Knowledge Sources to hard disk, creating the Standard UMLS2002AB Directory Structure below which occupies 4.2 GB. We recommend a minimum of 8 GB available disk space.

PLEASE NOTE that you must have the full 2002AB UMLS Knowledge Sources on a local hard disk to use MetamorphoSys; you will need MetamorphoSys to comply with the license agreement and to customize the Metathesaurus to meet your needs.

Standard 2002AB UMLS Knowledge Source Directory Structure

2002AB/	root UMLS directory
DOC/	UMLS Knowledge Source documentation (this manual) in ASCII, PDF, and HTML.

META/   Metathesaurus concepts in ASCII relational format

CHANGE/   Files identifying significant differences from the previous edition.

METAMSYS/   MetamorphoSys system

METASUBSET/ Your customized Metathesaurus (initially empty)

NET/   Semantic Network in ASCII relational format and unit record formats; and Semantic Network documentation in ASCII format.

LEX/   SPECIALIST lexicon in ASCII relational and unit record formats and SPECIALIST documentation in ASCII format.

DOCS/   SPECIALIST Documentation

LEX_DB/

LEX_PGMS/   SPECIALIST lexicon related lexical programs in executable and C source code.

MISC/

A.1 Appendix to the License Agreement for Use of the UMLS Knowledge Sources

Additions to the Appendix include the following (new sources, updates and restriction level changes):

UMLS METATHESAURUS SOURCE VOCABULARIES -- Spring 2002AB Edition

Source information for new or updated sources for the 2002AB release:

INS2002 Thesaurus Biomedical Francais/Anglais [French translation of MeSH]. Paris (France): Institut National de la Sante et Recherche Medicale, 2002.

CATEGORY 3 RESTRICTIONS APPLY

Contact: Dr. Annie Advocat; e-mail: advocat@inserm-dicdoc.u-strasbg.fr; http://www.inserm.fr

MDR41 Medical Dictionary for Regulatory Activities Terminology (MedDRA) Version 4.1, November, 2001. International Conference on Harmonization of Technical Requirements for Registration of Pharmaceuticals for Human Use (ICH).

CATEGORY 3 RESTRICTIONS APPLY

Contact: http://meddramsso.com

MDRAE41 Medical Dictionary for Regulatory Activities Terminology (MedDRA), American English Equivalents, Version 4.1, November, 2001. International Conference on Harmonization of Technical Requirements for Registration of Pharmaceuticals for Human Use (ICH).

CATEGORY 3 RESTRICTIONS APPLY

Contact: http://meddramsso.com

MDREA41 Medical Dictionary for Regulatory Activities Terminology (MedDRA), American English, with expanded abbreviations, Version 4.1, November, 2001. International Conference on Harmonization of Technical Requirements for Registration of Pharmaceuticals for Human Use (ICH).

CATEGORY 3 RESTRICTIONS APPLY

Contact: http://meddramsso.com

MDREX41 Medical Dictionary for Regulatory Activities Terminology (MedDRA),with expanded abbreviations, Version 4.1, November, 2001. International Conference on Harmonization of Technical Requirements for Registration of Pharmaceuticals for Human Use (ICH).

CATEGORY 3 RESTRICTIONS APPLY

Contact: http://meddramsso.com

MSH2002_02_10 Medical Subject Headings (MeSH). Bethesda (MD): National Library of Medicine, February 10, 2002.

This source has been translated into many languages. To date, eight of the translations have been incorporated into the UMLS Metathesaurus.

Contact: Stuart Nelson, M.D., Head, MeSH Section; e-mail: nelson@nlm.nih.gov; http://www.nlm.nih.gov/mesh/meshhome.html

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MTHMSTFRE Metathesaurus Version of Minimal Standard Terminology Digestive Endoscopy: French Edition April 22, 1998.

*NOTE: Now a CATEGORY 0.

Contact: Michele Tringali, tringali.michele@aoud.sanita.fvg.it

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MTHMSTITA Metathesaurus Version of Minimal Standard Terminology Digestive Endoscopy: Italian Edition April 22, 1998.

*NOTE: Now a CATEGORY 0.

Contact: Michele Tringali, tringali.michele@aoud.sanita.fvg.it

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NCBI2001 NCBI Taxonomy, Bethesda (MD): National Center for Biotechnology Information, 2001.

Contact: www.ncbi.nlm.nih.gov/Taxonomy/

NLM02 RxNorm work done by the National Library of Medicine (NLM), Bethesda (MD), National Library of Medicine.

This release contains concepts created by the National Library of Medicine which express the meaning of a drug name in a normalized form. These concepts relate the names of

orderable medications to a dose form and the components of those medications. For further discussion, see the article at:

http://umlsinfo.nlm.nih.gov/RxNorm.html

Contact: Stuart Nelson, M.D., Head, MeSH Section; e-mail: nelson@nlm.nih.gov

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NLM03 RxNorm relationship work done by the National Library of Medicine (NLM), Bethesda (MD), National Library of Medicine.

This release contains concepts created by the National Library of Medicine which express the meaning of a drug name in a normalized form. These concepts relate the names of orderable medications to a dose form and the components of those medications. For further discussion, see the article at:

http://umlsinfo.nlm.nih.gov/RxNorm.html

Contact: Stuart Nelson, M.D., Head, MeSH Section; e-mail: nelson@nlm.nih.gov

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VANDF01 U.S. Department of Veterans Affairs, Veterans Health Administration National Drug File. Department of Veterans Affairs, Washington, DC. Release Date: September 5, 2001.

*NOTE: Now a CATEGORY 0.

Contact: http://www.vapbm.org/PBM/natform1.htm

Appendix B Metathesaurus Data Elements and Source Vocabulary Information

B.1.1 Column Descriptions

Updates to Column Descriptions for 2002AB:

COT   Type of Co-occurrence

Found in MRCOC

Valid values for Type of Co-occurrence:

L	Co-occurrence of primary or main subject headings in citations to the published literature
LQ	second concept occurs as a MeSH topical qualifier of the first in citations to the published literature. Where CUI2 is not present, the count of citations of CUI1 with no MeSH qualifiers is reported.
LQB	second concept is qualified by the first (a MeSH topical qualifier) in citations to the published literature
KP	positive association in Knowledge Base
KN	negative association in Knowledge Base, e.g., a finding that is inconsistent with a disease.
MP	Co-occurrence of modifier and problem within a patient record
PP	Co-occurrence of two problems within a patient record

Note that in some circumstances patient record co-occurrences may be self-referential due to differing views of synonymy or to data anomalies.

B.1.2 Attribute Descriptions

Attribute additions and deletions include the following:

MISO   MedDRA Serial Code International SOC Sort Order Digit (01-26)

Examples:
MISO|07
MISO|05
MISO|09
MISO|14
MISO|11

DID   Descriptor Identifier.

The identifier for the "descriptor class" in a given source, this value may be the same as the source code.

2002AB has DID attributes from two sources:

MeSH: The DID is the descriptor identifier, e.g. D012711

MedDRA: The DID is the preferred MedDRA code. In MedDRA, a lower level term may have a different code from its preferred term. A DID is present for all preferred and lower level MedDRA terms, with the value of the code of the preferred term. This attribute was formerly called "MPC" for MedDRA. In the future, many sources will include a "DID" attribute.

Examples:

(MDR41)
DID|10000085
DID|10000060

(MSH2002_02_10)
DID|D012711
DID|D015060

Attributes used in the previous release, not found in current release:

MPC   This was a precursor to the MDR41 DID attribute. See the note above.

NST   Normalized Strength (VANDF01)

B.2 Source Vocabularies and their Abbreviations

Complete list of Source Abbreviations with the new updates and new sources for 2002AB included:

AIR93   AI/RHEUM. Bethesda (MD): National Library of Medicine, Lister Hill Center, 1993.

ALT2000   Alternative Billing Concepts (AltLink). Version 983. Las Cruces (NM): Alternative Link LLC, 2000.

AOD99   Alcohol and Other Drug Thesaurus: A Guide to Concepts and Terminology in Substance Abuse and Addiction. 3rd ed. [4 volumes]. Bethesda (MD): National Institute on Alcohol Abuse and Alcoholism (NIAAA) and Center for Substance Abuse Prevention (CSAP), 1999.

BI98   Beth Israel OMR Clinical Problem List Vocabulary. Version 1.0. Boston (MA): Beth Israel Deaconess Medical Center, 1999.

BRMP2002   Descritores em Ciencias da Saude [Portuguese translation of MeSH]. Sao
           Paulo (Brazil): Latin American and Caribbean Center on Health Sciences
           Information. BIREME/PAHO/WHO, 2002.

BRMS2002   Descriptores en Ciencias de la Salud [Spanish translation of MeSH]. Sao
           Paulo (Brazil): Latin American and Caribbean Center on Health Sciences
           Information. BIREME/PAHO/WHO, 2002.

CCPSS99   Canonical Clinical Problem Statement System (CCPSS). Version 1.0.
           Nashville (TN): Vanderbilt University, 1999.

CCS99   Clinical Classifications Software (CCS). June 1999 release. Rockville
           (MD): Agency for Health Care Policy and Research (AHCPR), 1999.

CDT3   Current Dental Terminology (CDT) contained in the HCFA Common
           Procedure Coding System (HCPCS). Version 3. Washington (DC): Health
           Care Financing Administration, 2002.

COS89   Computer-Stored Ambulatory Records (COSTAR). Boston (MA):
           Massachusetts General Hospital, 1989. (List of terms that occur frequently
           at 3 COSTAR sites, supplied by Massachusetts General Hospital)

COS92   Computer-Stored Ambulatory Records (COSTAR). Boston (MA):
           Massachusetts General Hospital, 1992. (List of terms that occur frequently
           at 3 COSTAR sites, supplied by Massachusetts General Hospital)

COS93   Computer-Stored Ambulatory Records (COSTAR). Boston (MA):
           Massachusetts General Hospital, 1993. (List of terms that occur frequently
           at 3 COSTAR sites, supplied by Massachusetts General Hospital)

COS95   Computer-Stored Ambulatory Records (COSTAR). Boston (MA):
           Massachusetts General Hospital, 1995. (List of terms that occur frequently
           at 3 COSTAR sites, supplied by Massachusetts General Hospital)

CPM93   Columbia Presbyterian Medical Center Medical Entities Dictionary. New
           York (NY): Columbia Presbyterian Medical Center, 1993.

CPT2002   Physicians' Current Procedural Terminology (CPT). 4th ed. Chicago (IL):
           American Medical Association, 2002.

CPT01SP   Current Procedural Terminology (CPT), Spanish Translation. 4th ed.
           Chicago (IL): American Medical Association, 2001.

CSP2001   Computer Retrieval of Information on Scientific Projects (CRISP). Bethesda (MD): National Institutes of Health, Division of Research Grants, Research Documentation Section, 2001.

CST95   Coding Symbols for Thesaurus of Adverse Reaction Terms (COSTART). 5th ed. Rockville (MD): U.S. Food and Drug Administration, Center for Drug Evaluation and Research, 1995.

DDB00   Diseases Database 2000. London (England): Medical Object Oriented Software Enterprises Ltd., 2000.

DMD2002   German translation of MeSH. Cologne (Germany): Deutsches Institut fuer Medizinische Dokumentation und Information, 2002.

DMDICD   Internationale Klassifikation der Krankheiten 10 [German translation of ICD10]. Cologne (Germany): Deutsches Institut fuer Medizinische Dokumentation und Information, 1998.

DMDUMD   Die Nomenklatur fuer Medizinprodukte UMDNS [German translation of UMDNS]. Cologne (Germany): Deutsches Institut fuer Medizinische Dokumentation und Information, 2000.

DSM3R   Diagnostic and Statistical Manual of Mental Disorders (DSM-III-R). 3rd ed. rev. Washington (DC): American Psychiatric Association, 1987.

DSM4   Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). Washington (DC): American Psychiatric Association, 1994.

DUT2001   Nederlandse vertaling van Mesh (Dutch translation of MeSH). Amsterdam, The Netherlands: Nederlands Tijdschrift voor Geneeskunde (Dutch Journal of Medicine), 2001.

DXP94   DXplain (An expert diagnosis program). Boston (MA): Massachusetts General Hospital.

FIN2002   Finnish translation of MeSH. Helsinki (Finland): Finnish Medical Society Duodecim, 2002.

HCDT3   HCPCS Version of Current Dental Terminology (CDT). Version 3. Washington (DC): Health Care Financing Administration, 2002.

HCPCS02   Healthcare Financing Administration Common Procedure Coding System (HCPCS). Washington (DC): Health Care Financing Administration, 2002.

HCPT02   HCPCS Version of Current Procedural Terminology (CPT). Washington
              (DC): Health Care Financing Administration, 2002.

HHC96   Saba, Virginia. Home Health Care Classification of Nursing Diagnoses
              and Interventions. Washington (DC): Georgetown University, 1996.

HL7   Health Level Seven Vocabulary (HL7). Ann Arbor (MI): Health Level
              Seven, 1998.

ICD10   International Statistical Classification of Diseases and Related Health
              Problems (ICD-10). 10th rev. Geneva (Switzerland): World Health
              Organization, 1998.

ICD10AE   International Statistical Classification of Diseases and Related Health
              Problems (ICD-10): Americanized Version. 10th rev. Geneva
              (Switzerland): World Health Organization, 1998.

ICD10AM   International Statistical Classification of Diseases and Related Health
              Problems, 10th Revision, Australian Modification; 2nd Edition, published
              January 2000.

ICD2002   The International Classification of Diseases: 9th revision, Clinical
              Modification (ICD-9-CM). 6th ed. Washington (DC): Health Care
              Financing Administration, July, 2001.

ICPC93   The International Classification of Primary Care (ICPC). Denmark: World
              Organisation of Family Doctors, 1993.

ICPC2E   International Classification of Primary Care (ICPC) / prepared by the
              Classification Committee of the World Organization of National Colleges,
              Academies, and Academic Associations of General Practitioners/Family
              Physicians (WONCA), known more briefly as the World Organization of
              Family Doctors. 2nd ed. Henk Lamberts and Inge Hofmans-Okkes, 1998.
ICPC2AE   American English equivalent of the ICPC2E terms, produced by NLM.
              2nd edition, 1998.

ICPC2P   International Classification of Primary Care, Version 2-Plus, Australian
              Modification. January, 2000.

ICPCPAE   American English equivalent of the ICPC2P terms, produced by NLM.
              Version 2-Plus, January, 2000.

ICPCBAQ   Basque translation of ICPC93; see ICPC93

ICPCDAN   Danish translation of ICPC93; see ICPC93

ICPCDUT   Dutch translation of ICPC93; see ICPC93

ICPCFIN   Finnish translation of ICPC93; see ICPC93

ICPCFRE   French translation of ICPC93; see ICPC93

ICPCGER   German translation of ICPC93; see ICPC93

ICPCHEB   Hebrew translation of ICPC93; see ICPC93

ICPCHUN   Hungarian translation of ICPC93; see ICPC93

ICPCITA   Italian translation of ICPC93; see ICPC93

ICPCNOR   Norwegian translation of ICPC93; see ICPC93

ICPCPOR   Portuguese translation of ICPC93; see ICPC93

ICPCSPA   Spanish translation of ICPC93; see ICPC93

ICPCSWE   Swedish translation of ICPC93; see ICPC93

INS2002   Thesaurus Biomedical Francais/Anglais [French translation of MeSH].
           Paris (France): Institut National de la Sante et Recherche Medicale, 2002.

ITA2002   Italian translation of MeSH. Istituto Superiore di Sanita Servizio
           Documentazione, Viale Regina Elena, 229 00616 Rome, Italy; 2002.

JABL99   Online Congenital Multiple Anomaly/Mental Retardation Syndromes.
           Stanley Jablonski. Bethesda (MD): National Library of Medicine, 1999.

LCH90   Library of Congress Subject Headings. 12th ed. Washington (DC): Library
           of Congress, 1989.

LNC203   Logical Observation Identifiers, Names and Codes (LOINC). Version
           2.03. Indianapolis (IN): The Regenstrief Institute, 2001.

MCM92   Glossary of Methodologic Terms for Clinical Epidemiologic Studies of
           Human Disorders. Canada: McMaster University.

MDDB99   First DataBank Master Drug Data Base (MDDB). San Bruno (CA): First
           DataBank Inc., 1999.

MDR41   Medical Dictionary for Regulatory Activities Terminology (MedDRA)
           Version 4.1. International Conference on Harmonization of Technical

Requirements for Registration of Pharmaceuticals for Human Use (ICH), November 2001.

MDRAE41   Medical Dictionary for Regulatory Activities Terminology (MedDRA), American English Equivalents, Version 4.1. International Conference on Harmonization of Technical Requirements for Registration of Pharmaceuticals for Human Use (ICH), November 2001.

MDREA41   Medical Dictionary for Regulatory Activities Terminology (MedDRA), American English, with expanded abbreviations, Version 4.1. International Conference on Harmonization of Technical Requirements for Registration of Pharmaceuticals for Human Use (ICH), November 2001.

MDREX41   Medical Dictionary for Regulatory Activities Terminology (MedDRA),with expanded abbreviations, Version 4.1. International Conference on Harmonization of Technical Requirements for Registration of Pharmaceuticals for Human Use (ICH), November 2001.

MIM93   Online Mendelian Inheritance in Man (OMIM). Baltimore (MD): Johns Hopkins University, Center for Biotechnology Information, 1994.

MMSL01   Multum MediSource Lexicon. Denver (CO): Multum Information Services, Inc., July 2001.

MMX01   Micromedex DRUGDEX. Englewood (CO): Micromedex, 2001.

MSH2002_02_10   Medical Subject Headings (MeSH). Bethesda (MD): National Library of Medicine, February 10, 2002.

MTH   UMLS Metathesaurus. Bethesda (MD): National LIbrary of Medicine.

MTHCH02   Metathesaurus Hierarchical CPT Terms (These terms were created by the NLM to provide contextual information for CPT). Bethesda (MD): National Library of Medicine.

MTHHH02   Metathesaurus Hierarchical HCPCS Terms (These terms were created by the NLM to provide contextual information for HCPCS). Bethesda (MD): National Library of Medicine.

MTHICD9   NLM-generated entry terms for ICD-9. Bethesda (MD): National Library of Medicine.

MTHMST2001   Metathesaurus Version of Minimal Standard Terminology Digestive Endoscopy: International Edition April 22, 1998.

MTHMSTFRE   Metathesaurus Version of Minimal Standard Terminology Digestive

     Endoscopy: French Edition April 22, 1998.

MTHMSTITA Metathesaurus Version of Minimal Standard Terminology Digestive
     Endoscopy: Italian Edition April 22, 1998.

NAN99   Carroll-Johnson, Rose Mary, editor. Classification of Nursing Diagnoses.
     Proceedings of the 10th conference, 1999.

NCBI2001 NCBI Taxonomy, Bethesda (MD): National Center for Biotechnology
     Information, 2001.

NCI2001a NCI Thesaurus. Version 3.0. Bethesda (MD): National Cancer Institute,
     National Institutes of Health, July 2001.

NDDF01   National Drug Data File. San Bruno (CA): First DataBank Inc., 2001.

NEU99   Bowden, Douglas M., Martin, Richard F., Dubach, Joev G. Neuronames
     Brain Hierarchy. Seattle (WA): University of Washington, Primate
     Information Center, 1999.

NIC99   McCloskey, Joanne C., Bulechek, Gloria M., editors. Nursing
     interventions classification (NIC): Iowa intervention project. St. Louis
     (MO): Mosby-Year Book, 1999.

NLM02   RxNorm work done by the National Library of Medicine (NLM).
     Bethesda (MD): National Library of Medicine.

NOC97   Johnson, Marion, Maas, Meridean, editors. Nursing Outcomes
     Classification (NOC): Iowa Outcomes Project. St. Louis (MO): Mosby-
     Year Book, 1997.

OMS94   Martin, Karen S., Scheet, Nancy J. The Omaha System: Applications for
     Community Health Nursing. Philadelphia (PA): W.B. Saunders, 1992
     (with 1994 corrections).

PCDS97   Ozbolt, Judy Grace. Patient Care Data Set (PCDS). Version 4.0. Nashville
     (TN): Vanderbilt University School of Nursing, 1998.

PDQ2001 Physician Data Query Online System (PDQ). Bethesda (MD): National
     Cancer Institute, July 1 2001.

PPAC98   Pharmacy Practice Activity Classification (PPAC). Washington (DC):
     American Pharmaceutical Association. January, 1998.

PSY2001 Thesaurus of Psychological Index Terms. Ninth edition. Washington
     (DC): American Psychological Association, 2001.

QMR96   Quick Medical Reference (QMR). San Bruno (CA): First Databank, 1997.

RAM99   Randolph A. Miller Clinically Related Concepts. Nashville (TN): Vanderbilt University, 1999.

RCD99   Clinical Terms Version 3 (Read Codes) (Q199). England: National Health Service Centre for Coding and Classification, March, 1999.

RCDAE   American English equivalent of the Read Thesaurus terms produced by NLM. Version 3 (Q199). Bethesda (MD): National Library of Medicine, UMLS project, 1999.

RCDSA   American English equivalent of synthesized terms from the Read Thesaurus produced by NLM. Version 3 (Q199). Bethesda (MD): National Library of Medicine, UMLS project, 1999.

RCDSY   Synthesized Read terms (without initial bracketed letters) of the Read Thesaurus produced by NLM. Version 3 (Q199). Bethesda (MD): National Library of Medicine, UMLS project, 1999.

RUS2002   Russian Translation of MeSH. Moscow (Russia): State Central Scientific Medical Library, 2002.

SNM2   Cote, Roger A., editor. Systematized nomenclature of medicine. 2nd ed. Skokie (IL): College of American Pathologists, 1979. SNOMED update, 1982. Skokie (IL): College of American Pathologists, 1982.

SNMI98   Cote, Roger A., editor. Systematized Nomenclature of Human and Veterinary Medicine: SNOMED International. Version 3.5. Northfield, (IL): College of American Pathologists; Schaumburg (IL): American Veterinary Medical Association, 1998.

SPN99   Standard Product Nomenclature (SPN). Rockville (MD): U.S. Food and Drug Administration, 1999.

SRC   UMLS Metathesaurus Source Terminologies. Bethesda (MD): National Library of Medicine.

ULT93   Bell, Douglas. Ultrasound Structured Attribute Reporting (UltraSTAR). Boston (MA): Brigham & Womens Hospital, 1993.

UMD2002   Universal Medical Device Nomenclature System: Product Category Thesaurus. Plymouth Meeting (PA): ECRI, 2002.

UWDA155   University of Washington Digital Anatomist (UWDA). v. 1.55, Seattle
           (WA): University of Washington, January 2001.

VANDF01   U.S. Department of Veterans Affairs, Veterans Health Administration
           National Drug File. Department of Veterans Affairs, Washington, DC.,
           September 5, 2001.

WHO97   WHO Adverse Drug Reaction Terminology (WHOART). Uppsala
           (Sweden): WHO Collaborating Centre for International Drug Monitoring,
           1997.

WHOFRE   French translation of WHO97; see WHO97

WHOGER   German translation of WHO97; see WHO97

WHOPOR   Portuguese translation of WHO97; see WHO97

WHOSPA   Spanish translation of WHO97; see WHO97

B.2.1 Sources of additional (non-concept name) information

Complete list of source information with the new updates and new sources for 2002AB
included:

A small number of sources contribute information to the Metathesaurus but do not
contribute concept names (i.e., the SAB does not appear in MRSO). For example, a
source may contribute relationships between concepts, but not actually name the
concepts. The following SABs do not appear in MRSO:

HDA99   Health devices alerts. Plymouth Meeting, PA: ECRI.

HLREL   ICPC2E-ICD10 relationships from Dr. Henk Lamberts (HLREL).
           University of Amsterdam. Contact: H.Lamberts@AMC.UVA.NL.

HPC99   Healthcare product comparison system. Plymouth Meeting, PA: ECRI.

MBD02   MEDLINE (1992-1996)

MED02   MEDLINE (1997-2002)

NCISEER   NCI Surveillance, Epidemiology, and End Results (SEER) conversions
           between ICD-9-CM and ICD-10 neoplasm codes. National Cancer

Institute, Bethesda, MD. Release Date: June 1999. URL: http://www-seer.ims.nci.nih.gov/Admin/ConvProgs/ Phone: 301-496-8510.

NLM   National Library of Medicine (NLM). Bethesda (MD): National Library of Medicine.

NLM03   RxNorm relationship work done by the National Library of Medicine (NLM). Bethesdsa (MD): National Library of Medicine.

OMIM97   Online Mendelian Inheritance in Man (OMIM). Bethesda (MD): National Center for Biotechnology Information, 1997. Contact: http://www3.ncbi.nlm.nih.gov/Omim.

B.3 Number of Strings from Each Source

Complete list of string counts with the new updates and new sources for 2002AB included:

AIR93	685
ALT2000	4878
AOD99	20669
BI98	1251
BRMP2002	42109
BRMS2002	40512
CCPSS99	15840
CCS99	1608
CDT3	508
COS89	776
COS92	735
COS93	626
COS95	1324
CPM93	536
CPT01SP	7894
CPT2002	16253
CSP2001	20261
CST95	6444
DDB00	256
DMD2002	48078
DMDICD	12003
DMDUMD	4449
DSM3R	467
DSM4	490
DUT2001	36399
DXP94	10113
FIN2002	20369

HCDT3	508
HCPCS02	4596
HCPT02	8336
HHC96	335
HL7	635
ICD10	13505
ICD10AE	1107
ICD10AM	25891
ICD2002	19860
ICDAMAE	2405
ICPC2AE	210
ICPC2E	3757
ICPC2P	13383
ICPC93	1053
ICPCBAQ	695
ICPCDAN	723
ICPCDUT	723
ICPCFIN	722
ICPCFRE	723
ICPCGER	723
ICPCHEB	485
ICPCHUN	718
ICPCITA	723
ICPCNOR	722
ICPCPAE	901
ICPCPOR	723
ICPCSPA	723
ICPCSWE	723
INS2002	30959
ITA2002	21209
JABL99	3260
LCH90	6652
LNC203	84604
MCM92	43
MDDB99	18239
MDR41	71313
MDRAE41	1008
MDREA41	15
MDREX41	451
MIM93	250
MMSL01	38789
MMX01	11536
MSH2002_02_10	497560
MTH	30270
MTHCH02	905
MTHHH02	323

MTHICD9	18356
MTHMST2001	1945
MTHMSTFRE	1833
MTHMSTITA	1799
NAN99	169
NCBI2001	138262
NCI2001a	2276
NDDF01	20088
NEU99	3796
NIC99	10187
NLM02	25119
NOC97	3056
OMS94	539
PCDS97	2229
PDQ2001	18778
PPAC98	380
PSY2001	7671
QMR96	943
RAM99	258
RCD99	347568
RCDAE	17315
RCDSA	1185
RCDSY	22186
RUS2002	42361
SNM2	44274
SNMI98	164179
SPN99	4851
SRC	328
ULT93	84
UMD2002	12373
UWDA155	79463
VANDF01	15795
WHO97	3831
WHOFRE	3717
WHOGER	3402
WHOPOR	3751
WHOSPA	3106

B.4 Types of Names in a Vocabulary - the TTY

New Term Types included in 2002AB:

CMN	Common name
EQ	Equivalent name

PCN	Preferred common name
SCN	Scientific name
UCN	Unique common name
UPC	Unique preferred common name
USN	Unique scientific name
USY	Unique synonym

B.5 Order of Precedence of Source Concept Names as Distributed

New Precedence for the 2002AB release:

MTH/PN
MTH/MM
MSH2002_02_10/MH
MSH2002_02_10/HT
MSH2002_02_10/TQ
MSH2002_02_10/EP
MSH2002_02_10/EN
MSH2002_02_10/XQ
MSH2002_02_10/NM
NLM02/SCD
NLM02/SCDC
NLM02/IN
DSM4/PT
DSM3R/PT
SNMI98/PT
SNMI98/PX
SNMI98/HT
SNMI98/HX
VANDF01/CD
VANDF01/HT
VANDF01/IN
NDDF01/CD
NDDF01/IN
MDDB99/CD
MMX01/CD
MMX01/IN
RCDSA/PT
RCDSY/PT
RCDAE/PT
RCD99/PT
MSH2002_02_10/N1
MSH2002_02_10/CE
RCDSA/OP
RCDSY/OP
RCDAE/OP
RCD99/OP

SNM2/PT
SNMI98/RT
SNM2/RT
SNMI98/SY
SNMI98/SX
RCDSA/SY
RCDSY/SY
RCDAE/SY
RCD99/SY
RCDSA/IS
RCDSY/IS
RCDAE/IS
RCD99/IS
RCDAE/AT
RCD99/AT
RCD99/AS
SNMI98/AD
SNM2/SY
SNM2/RS
CPM93/PT
DDB00/PT
DDB00/SY
NEU99/HT
NEU99/PT
NEU99/SY
UWDA155/PT
UWDA155/SY
UMD2002/PT
UMD2002/ET
UMD2002/RT
MMSL01/CD
MMSL01/BD
MMSL01/SC
MMSL01/MS
MMSL01/GN
MMSL01/BN
MMSL01/IN
SPN99/PT
MDRAE41/HG
MDR41/HG
MDREA41/HG
MDREX41/HG
MDRAE41/PT
MDR41/PT
MDREA41/PT
MDREX41/PT
MDR41/OS
MDRAE41/HT
MDR41/HT
MDREA41/HT
MDRAE41/SC
MDREX41/HT
MDR41/SC
MDRAE41/LT
MDR41/LT
MDREA41/LT

MDREX41/LT
CST95/PT
WHO97/OS
WHO97/HT
WHO97/PT
WHO97/IT
AIR93/HT
AIR93/FI
AIR93/DI
AIR93/SY
ULT93/PT
CPT2002/PT
CPT2002/SY
CPT2002/MP
HCPT02/PT
HCPCS02/PT
CDT3/PT
HCDT3/PT
HCPCS02/MP
HCPT02/MP
ICD10AE/PT
ICD10/PT
ICD10AE/PX
ICD10/PX
ICD10AE/PS
ICD10/PS
ICDAMAE/PT
ICD10AM/PT
ICDAMAE/PX
ICD10AM/PX
ICDAMAE/PS
ICD10AM/PS
PDQ2001/PT
PDQ2001/SY
NCI2001a/PT
NCI2001a/SY
NCI2001a/AB
ICPC2AE/PT
ICPC2E/PT
ICPC2AE/PX
ICPC2E/PX
ICPC93/PX
ICPC93/PT
ICPC2AE/PS
ICPC2E/PS
ICPC2AE/ET
ICPC2E/ET
ICPC93/PS
ICPC93/PC
ICPC93/CX
ICPC93/CP
ICPC93/CS
ICPC93/CC
ICPC2E/CO
ICPC93/CO
ICPC2AE/AB

ICPC2E/AB
CCPSS99/TX
CCPSS99/TC
CCPSS99/PT
CCPSS99/MP
ICPCPAE/SF
ICPCPAE/SY
ICPC2P/SF
ICPC2P/SY
ICPCPAE/PX
ICPC2P/PX
ICPCPAE/PT
ICPC2P/PT
ICPCPAE/PS
ICPC2P/PS
AOD99/DE
AOD99/DS
AOD99/XD
AOD99/FN
AOD99/ET
AOD99/ES
AOD99/EX
AOD99/NP
AOD99/NS
AOD99/NX
HCPCS02/OP
CDT3/OP
HCDT3/OP
HCPT02/OP
HCPCS02/OM
HCPT02/OM
JABL99/PC
JABL99/PT
JABL99/SS
JABL99/SY
MIM93/PT
PDQ2001/RT
NCBI2001/USN
NCBI2001/SCN
NCBI2001/UPC
NCBI2001/PCN
NCBI2001/USY
NCBI2001/SY
NCBI2001/UCN
NCBI2001/CMN
NCBI2001/EQ
BI98/PT
BI98/SY
BI98/RT
LNC203/LX
LNC203/LN
LNC203/LO
LNC203/CX
LNC203/CN
LNC203/SX
LNC203/SN

LNC203/LS
LNC203/RX
LNC203/RN
DSM4/HT
DSM3R/HT
SNM2/HT
ICD2002/PT
MDRAE41/OL
MDR41/OL
MDREX41/OL
ICD2002/HT
CCS99/HT
CCS99/MD
CCS99/SD
CCS99/MV
CCS99/SP
ICD10AE/HT
ICD10/HT
ICD10AE/HX
ICD10/HX
ICD10AE/HS
ICD10/HS
ICDAMAE/HT
ICD10AM/HT
UMD2002/HT
ICPC93/HT
RAM99/PT
RAM99/RT
QMR96/PT
HL7/PT
HL7/DF
HL7/DFA
HL7/VS
MTHCH02/HT
MTHHH02/HT
HHC96/DX
BI98/AB
HHC96/IV
HHC96/CO
NIC99/IV
NIC99/HC
NAN99/PT
NAN99/HT
NAN99/RT
OMS94/MT
OMS94/PR
OMS94/TG
OMS94/HT
OMS94/PQ
OMS94/IV
OMS94/SI
NIC99/AC
NIC99/SA
NOC97/OC
NOC97/IX
NOC97/ID

PCDS97/GO
PCDS97/OR
PCDS97/PR
NIC99/HT
NOC97/HT
NOC97/HC
HHC96/MP
PCDS97/CO
PCDS97/HX
PCDS97/HT
COS95/PT
COS93/PT
COS92/PT
COS89/PT
DXP94/DI
DXP94/FI
DXP94/SY
MCM92/PT
MCM92/RT
PPAC98/DO
PPAC98/CL
PPAC98/AC
PPAC98/ST
PPAC98/TA
ALT2000/PT
ALT2000/SY
ALT2000/HT
MTH/PT
MTH/SY
MTH/RT
DSM3R/SY
DSM3R/RT
MTHICD9/ET
CST95/SC
CST95/HT
CST95/GT
PSY2001/PT
PSY2001/HT
PSY2001/ET
MTHMST2001/PT
MTHMST2001/SY
LCH90/PT
MSH2002_02_10/PM
RCDSA/AB
RCDSY/AB
RCDAE/AB
RCD99/AB
RCDSA/OA
RCDSY/OA
RCDAE/OA
RCD99/OA
RCDAE/AA
RCD99/AA
CSP2001/PT
CSP2001/SY
CSP2001/ET

MTH/DT
BRMP2002/MH
BRMS2002/MH
DUT2001/MH
DMD2002/MH
FIN2002/MH
FIN2002/EP
INS2002/MH
ITA2002/MH
RUS2002/MH
BRMP2002/SY
BRMS2002/SY
DUT2001/SY
DMD2002/SY
INS2002/SY
ITA2002/SY
RUS2002/SY
BRMP2002/EP
BRMS2002/EP
DUT2001/EP
DMD2002/EP
DMDUMD/PT
DMDUMD/ET
DMDUMD/RT
WHOFRE/OS
WHOGER/OS
WHOPOR/OS
WHOSPA/OS
WHOFRE/HT
WHOGER/HT
WHOPOR/HT
WHOSPA/HT
WHOFRE/PT
WHOGER/PT
WHOPOR/PT
WHOSPA/PT
WHOFRE/IT
WHOGER/IT
WHOPOR/IT
WHOSPA/IT
CPT01SP/PT
DMDICD/PT
DMDICD/HT
ICPCBAQ/PT
ICPCDAN/PT
ICPCDUT/PT
ICPCFIN/PT
ICPCFRE/PT
ICPCGER/PT
ICPCHEB/PT
ICPCHUN/PT
ICPCITA/PT
ICPCNOR/PT
ICPCPOR/PT
ICPCSPA/PT
ICPCSWE/PT

ICPCBAQ/CP
ICPCDAN/CP
ICPCDUT/CP
ICPCFIN/CP
ICPCFRE/CP
ICPCGER/CP
ICPCHEB/CP
ICPCHUN/CP
ICPCITA/CP
ICPCNOR/CP
ICPCPOR/CP
ICPCSPA/CP
ICPCSWE/CP
MTHMSTFRE/PT
MTHMSTITA/PT
SRC/PT
SRC/SY
SRC/HT
SRC/AB

B.6 Relationship Attributes not Listed in the Semantic Network

Additions to the list for 2002AB:

form_of
has_form
has_tradename
tradename_of

Deletions from the list for 2002AB:

No deletions