Technical Notes for the 2007 NHHCS
Medication Public-use File (Revised 02/02/2011)

Link to each section in the document:

(Text begins on next page with Data Collection.)

Data Collection
The 2007 National Home and Hospice Care Survey, one of the National Health Care Surveys, collected medication data (in the Patient Health module) on sampled current home health care patients and sampled hospice care discharges for the first time in the survey's history. Up to 10 current home health care patients/hospice care discharges were sampled in each agency. Using information in current home health care patient/hospice care discharge medical records, the designated agency respondent answered the following medication-related question (item PH76 in the patient health module) asked about each sampled current home health care patient/hospice care discharge:

- For current home health care patients: *What are the names of all the medications and drugs he/she is currently taking? Please include any standing, routine, or PRN medications.*
- For hospice care discharges: *What are the names of all the medications and drugs he/she was taking the seven days prior to and on the day of his/her discharge/death? Please include any standing, routine, or PRN medications.*

Only the medication name—brand name or generic name, whichever was provided—was collected. Information on dosage, strength, route, and frequency of administration was not collected. The computer-assisted personal interviewing (CAPI) instrument allowed the interviewer to enter up to 25 medication names.

A drug look-up table within the CAPI instrument facilitated the entry of medication data. The interviewer's keystrokes automatically scrolled to the medication names beginning with the first letters entered. Although not every medication was in the look-up table, many medications commonly prescribed in home health and hospice care settings were in the table.

Medication Coding
The medication data collected in item PH76 of the 2007 NHHCS have been coded, using a unique classification scheme developed by NCHS. This in-house coding system uses a five-digit coding scheme (i.e., PMCODE1B through PMCODE25B in the public-use file), which is updated regularly to include new products. It also includes a special code, 90000, for non-medications. An example of a non-medication is a glucose strip to test for blood glycemic level. Additionally, the medications reported in the 2007 NHHCS have been assigned therapeutic classification codes according to the Multum system, which is described in the next section.

When the interviewer came across a medication that was not in the look-up table, the medication was entered into the "Other, Specify" field. When data collection was completed, the contractor matched the "Other, Specify" entries with medications in the NCHS in-house coding system database to see if an exact match existed. If an exact match was found, the "Other, Specify" entry was coded accordingly. Drug entries without an exact match were sent in a list of "Other, Specify" medications to NCHS, where the medications were assigned a unique NCHS drug code. Medications that were not understandable and, therefore, were not coded by NCHS were assigned the code 99980 (uncodeable).

Lists of the medications taken by the sampled current home health care patients/hospice care discharges accompany these technical notes on the NHHCS web page. Further details about these spreadsheets are discussed in the section, Supplemental Drug Information.

The Medication Public-use File

The medication public-use file contains not only drug name codes but also drug characteristics, which are discussed in more detail in the following pages. The medication file contains 9,416 records on 4,683 current home health care patients and on 4,733 hospice care discharges. There is one record for each sampled home health patient/hospice discharge. Each record contains 534 variables. Each record has a home health care patient/hospice care discharge record number (PATNUM), the agency record number (PTAGYNUM), the drug name codes for each medication taken by the patients/discharges (i.e., PMCODE1B through PMCODE25B, which are the drug name codes for the medications reported to the interviewer at the time of the survey), and the drug characteristics listed below for each medication.

a. **Generic drug code (variable label root is DRUGID)**: Drugs are coded in terms of their generic components and therapeutic classifications using Lexicon Plus®, a proprietary database of Cerner Multum, Inc., also used by the National Ambulatory Medical Care Survey, the National Hospital Ambulatory Medical Care Survey, and the National Health and Nutrition Examination Survey, NCHS. The Lexicon Plus is a comprehensive database of all prescription and some nonprescription drug products available in the U.S. drug market.

In accordance with the Multum Lexicon End-User License Agreement (see Appendix I), NCHS publications, tabulations, and software applications should cite the Multum Lexicon as the source and basis for the coding and classification of NHHCS drug data. For additional information on the Multum Lexicon Drug Database, please refer to the following Web site: http://www.multum.com/Lexicon.htm.

All drug codes based on entry name (using NCHS' classification system discussed previously) were also assigned a unique generic drug code from Multum's Lexicon Drug Database where possible. The structure of the Multum database is such that multiple ingredient drugs are assigned a single generic drug code, encompassing all of a drug's ingredients rather than being assigned generic drug codes for each ingredient, as was done for the 2004 National Nursing Home Survey (NNHS), using the National Drug Code classification system.

For example, in the 2004 NNHS, Tylenol No. 3 was assigned a drug entry code of 32920 to reflect the entry of Tylenol No. 3. Using the NCHS generic classification, it was also given a code of 51380 in the generic code field to represent a combination product, and then received separate ingredient codes for acetaminophen and codeine. Under Multum, there is a single generic code that reflects the combination of acetaminophen with codeine: d03423.

The format of the generic drug code—DRUGID—is a 6-digit numeric code, beginning with the letters "a", "c" or "d". All Multum codes begin with the letter "d", but there were some drug names reported by NHHCS participants that were not found in the Multum Lexicon Drug Database. These have been assigned unique drug codes beginning with an "a" where a drug's ingredients could be determined, or a "c" in the case where a drug's ingredients could not be determined. The variables DRUGID1 through DRUGID25 reflect the generic codes for each drug reported in the survey.

b. **Prescription status code (variable label root is PRESCR)**: A code designed to identify the legal status (prescription or nonprescription) of the drug entry.

c. **Controlled substance status code (variable label root is CONTSUB)**: A code used to denote the degree of potential abuse and federal control of a drug entry.

d. **Composition status code (variable label root is COMSTAT)**: A code used to distinguish between single-ingredient and combination drugs.

e. **Therapeutic category code (variable label root is RXCAT)**: A code, based on the Multum Lexicon, used to identify the therapeutic class(es) to which a drug ingredient belongs. The Multum Lexicon provides a three-level nested category system that assigns a therapeutic classification to each drug and each ingredient of the drug (e.g., for naproxen: the broadest category is central nervous system agents [level 1]; the more detailed category is analgesics [level 2]; and the most detailed category is nonsteroidal anti-inflammatory agents [level 3]). Not all drugs have three classification levels; some may only have two [e.g., for digoxin: cardiovascular agents [level 1]; inotropic agents [level 2]), while others only have one. See Appendix II for the complete Multum category levels.

Each DRUGID can have up to four drug (i.e., therapeutic) categories. The variables RX1CAT1 through RX25CAT4 reflect the unique Multum drug categories for a particular drug; these are character values with codes from 001 through 899. **The RXCAT variables will always show the most detailed therapeutic level available of a particular drug.** For example, psychotherapeutic agents in Multum are further classified into a second more detailed level, as antidepressants or antipsychotics. Antidepressants are further classified into seven subcategories (i.e., miscellaneous antidepressants, SSRI antidepressants, tricyclic antidepressants, monoamine oxidase inhibitors, phenylpiperazine antidepressants, tetracyclic antidepressants, and SSNRI antidepressants); antipsychotics are further classified into five subcategories. A drug categorized as a tetracyclic antidepressant would have a drug category code of 307, reflecting the Level 3 code.

Other drugs may have only two levels available, such as immunologic agents. There are eight Level 2 categories of immunologic agents, and no further breakdowns into a third level in the Multum system. Therefore, RX1CAT1 would reflect only a second level code in that case. So, using RX1CAT1–RX25CAT4 will allow one to identify the most specific level of a drug, but **will not, by itself, identify whether that code reflects the first, second, or third level.**

In order to understand each level of the Multum hierarchy, the file contains additional variables that show the full first, second, and third levels, if applicable, for each drug category for each drug. For example, the tetracyclic antidepressant Remeron (PMCODE=157), whose generic name is mirtazapine (DRUGID=d04025), has the code RX1CAT1=307. But there are three additional variables corresponding to that drug's first therapeutic category. RX1V1C1 (meaning Drug 1, Level 1 of Therapeutic Category 1) would be 242 (psychotherapeutic agents), RX1V2C1 (Drug 1, Level 2 of Therapeutic Category 1) would be 249 (antidepressants), and RX1V3C1 (Drug 1, Level 3 of Therapeutic Category 1) would be 307 (tetracyclic antidepressants). If there was no second or third level for a particular category, the entry would be blank ( ). This is repeated for each of the drug's maximum of four therapeutic categories. The three levels can easily be concatenated by data users if they wish to obtain a complete code showing the full level structure applicable to each drug's therapeutic categories. An advantage of having separate levels is that it allows data users to aggregate drugs at any level desired.

All drugs were coded using Multum drug categories, even those drugs not found in Multum's drug database. "Unspecified" drugs were assigned to their respective therapeutic category (e.g., hormones – unspecified: category id=097, category name=hormones). Drugs that could not be assigned to any drug entry name (code=99980) were not assigned a therapeutic drug category. **In some cases, NCHS was able to categorize a drug's therapeutic class at the first or second Multum level, but not at the more detailed level. When this occurred, the undetermined level is designated as 999 in the data.**

Multum uses a "combination" category for some multiple ingredient drugs. These include antihypertensive combinations, antiasthmatic combinations, upper respiratory combinations, psychotherapeutic combinations, bronchodilator combinations, sex hormone combinations, skeletal muscle relaxant combinations, and narcotic analgesic combinations. This categorization may be sufficient for certain analyses but not for others because it lacks information about the therapeutic effect of the individual ingredients that make up the combination. For example, the drug hydrochlorothiazide; losartan is identified as an antihypertensive combination. Therefore, we know that this drug has an antihypertensive drug effect. However, based on this combination category we do not know that the drug's single ingredients have the therapeutic effects of a diuretic and angiotensin II inhibitor, which is relevant for some analyses. It is best to search for these drugs individually in the list of generic names provided (i.e., *Generic Names and Multum Drug Categories for Medications Taken by Current Home Health Care Patients* and *Generic Names and Multum Drug Categories for Medications Taken by Hospice Care Discharges*), which are discussed in the Supplemental Drug Information section, to find out if it they are listed. If they are not listed in these files, then you should contact the Long-Term Care Statistics Branch at NCHS at (301) 458-4747 to request that information.

In the case of single ingredient drugs, the therapeutic categories are the same as the therapeutic categories for the drug name entered into the CAPI system, which is identified by PMCODE1B through PMCODE25B in the public-use file.

Naming Convention for Medication Variables
The naming convention for the medication variables in the public-use file is provided below to orient the data user to the many medication variables that are similar, but different, in the public-use file. The variable labels for the medications often differ by just a few numbers. The variable labels for the first medication in the public-use file is shown below and on the next page, along with the response options, which apply to the remaining variables in the medication file. The variable labels for medication #2 are also provided below. The remaining variable labels are provided in the data dictionary found at ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Dataset_Documentation/NHHCS/2007.

> [**PMCODE1B**] MEDICATION #1
> 00001-99227 = 00001-99227
> 90000 = non-medication
>
> [**DRUGID1**] DRUG ID
> a10001-a71037 = NCHS code (for drugs not found in Multum but for which ingredients could be determined)
> c00012-c00899 = NCHS code (for drugs not found in Multum and with undetermined ingredients)
> d00001-d06848 = Multum code

[**PRESCR1**] PRESCRIPTION STATUS CODE
1 = Prescription Drug
2 = Nonprescription Drug
3 = Undetermined

[**CONTSUB1**] CONTROLLED SUBSTANCE STATUS CODE
1 = Schedule I (Research Only)
2 = Schedule II   5 = Schedule V
3 = Schedule III   6 = No Control
4 = Schedule IV   7 = Undetermined

[**COMSTAT1**] COMPOSITION STATUS CODE
1 = Single Entity Drug
2 = Combination Drug
3 = Undetermined

[**RX1CAT1**] MULTUM DRUG CATEGORY # 1
Reflects the most detailed therapeutic level to which the drug can be classified. For some drugs, Multum Level 1 (broadest level) is the most detailed, while others can be coded to Level 2, but the majority can be coded to Level 3 (most detailed level). For more on the Multum classification system, please see the discussion about therapeutic category codes in the previous section. The complete Multum Classification Directory is shown in Appendix II.

"   " = Blank/Not applicable
001−899 = Drug category
999 = Undetermined category

[**RX1V1C1**] Level 1 of MULTUM DRUG CATEGORY # 1
[**RX1V2C1**] Level 2 of MULTUM DRUG CATEGORY # 1
[**RX1V3C1**] Level 3 of MULTUM DRUG CATEGORY # 1

[**RX1CAT2**] MULTUM DRUG CATEGORY # 2
See RX1CAT1.
[**RX1V1C2**] Level 1 of MULTUM DRUG CATEGORY # 2
[**RX1V2C2**] Level 2 of MULTUM DRUG CATEGORY # 2
[**RX1V3C2**] Level 3 of MULTUM DRUG CATEGORY # 2

[**RX1CAT3**] MULTUM DRUG CATEGORY # 3
See RX1CAT1.
[**RX1V1C3**] Level 1 of MULTUM DRUG CATEGORY # 3
[**RX1V2C3**] Level 2 of MULTUM DRUG CATEGORY # 3
[**RX1V3C3**] Level 3 of MULTUM DRUG CATEGORY # 3

[**RX1CAT4**] MULTUM DRUG CATEGORY # 4
See RX1CAT1.
[**RX1V1C4**] Level 1 of MULTUM DRUG CATEGORY # 4
[**RX1V2C4**] Level 2 of MULTUM DRUG CATEGORY # 4
[**RX1V3C4**] Level 3 of MULTUM DRUG CATEGORY # 4

NAMING CONVENTION FOR MEDICATION #2

[**PMCODE2B**] MEDICATION #2

[**DRUGID2**] DRUG ID

[**PRESCR2**] PRESCRIPTION STATUS CODE

[**CONTSUB2**] CONTROLLED SUBSTANCE STATUS CODE

[**COMSTAT2**] COMPOSITION STATUS CODE

[**RX2CAT1**] MULTUM DRUG CATEGORY # 1
[**RX2V1C1**] Level 1 of MULTUM DRUG CATEGORY # 1
[**RX2V2C1**] Level 2 of MULTUM DRUG CATEGORY # 1
[**RX2V3C1**] Level 3 of MULTUM DRUG CATEGORY # 1

[**RX2CAT2**] MULTUM DRUG CATEGORY # 2
[**RX2V1C2**] Level 1 of MULTUM DRUG CATEGORY # 2
[**RX2V2C2**] Level 2 of MULTUM DRUG CATEGORY # 2
[**RX2V3C2**] Level 3 of MULTUM DRUG CATEGORY # 2

[**RX2CAT3**] MULTUM DRUG CATEGORY # 3
[**RX2V1C3**] Level 1 of MULTUM DRUG CATEGORY # 3
[**RX2V2C3**] Level 2 of MULTUM DRUG CATEGORY # 3
[**RX2V3C3**] Level 3 of MULTUM DRUG CATEGORY # 3

[**RX2CAT4**] MULTUM DRUG CATEGORY # 4
[**RX2V1C4**] Level 1 of MULTUM DRUG CATEGORY # 4
[**RX2V2C4**] Level 2 of MULTUM DRUG CATEGORY # 4
[**RX2V3C4**] Level 3 of MULTUM DRUG CATEGORY # 4

Supplemental Drug Information
The documentation for the medication public-use file contains crude estimates for drugs reported in the 2007 NHHCS. A spreadsheet consisting of four tabs with information on these drugs is available at http://www.cdc.gov/nchs/nhhcs.htm and the tabs are labeled as follows:

- *Drug Characteristics and Estimates for Medications Taken by Current Home Health Care Patients in 2007 NHHCS* lists the drug name code (PMCODE, which is the name of the medication that was reported at the time of survey), drug name, composition status code (COMSTAT), prescription status code (PRESCR), DEA status code (CONTSUB), unweighted* number of drug mentions (in the 2007 NHHCS), weighted** number of drug mentions (in the 2007 NHHCS), rate per 10,000 home health patients (in the 2007 NHHCS).

- *Generic Names and Multum Drug Categories for Medications Taken by Current Home Health Care Patients in 2007 NHHCS* lists drugs by generic or ingredient name (DRUGID) and provides the Multum therapeutic class code(s) for the generic/ingredient name (RXCAT).

- *Drug Characteristics and Estimates for Medications Taken by Hospice Care Discharges in 2007 NHHCS* lists the drug name code (PMCODE, which is the name of the medication that was reported at the time of survey), drug name, composition status code (COMSTAT), prescription status code (PRESCR), DEA status code (CONTSUB), unweighted* number of drug mentions (in the 2007 NHHCS), weighted** number of drug mentions (in the 2007 NHHCS), rate per 10,000 hospice discharges (in the 2007 NHHCS).
- *Generic Names and Multum Drug Categories for Medications Taken by Hospice Care Discharges in 2007 NHHCS* lists drugs by generic or ingredient name (DRUGID) and provides the Multum therapeutic class code(s) for the generic/ingredient name (RXCAT).

*According to NCHS guidelines, unweighted estimates based on fewer than 30 sample cases are not reported. Estimates based on 30−59 cases or on 60 or more cases and a relative standard error (RSE) of 30% or more are reported but should not be assumed reliable. Estimates based on 60 or more cases and an RSE less than 30% are reported and are considered reliable.
**These weighted numbers, which are weighted for the inverse of the probability of selection, will differ slightly from the weighted numbers obtained using the public-use file.

Recodes

An additional variable was created and added to the medication public-use file after data collection was completed: TOTALRX. This variable provides the total number of medications taken by the sampled patient/discharge. The valid range for RXTOTAL is 0 to 25. There were 80 current home health patients for whom medication information was not ascertained and 7 current home health patients for whom medication information was refused. There were 65 hospice discharges for whom medication information was not obtained.

Downloading the Medication Public-use File

The SAS and ASCII versions of the medication public-use file can be accessed at ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Datasets/NHHCS/2007 and downloaded. Also available at this website are the following documents: medication public-use file data dictionary, SAS, SPSS and STATA input statements and variable labels, medication name and generic name label statements for the medications reported in the survey, and format statements for the Multum categories.

Linking the Medication Public-use File to the Patient/Discharge Public-use File

The analytic value of the medication public-use file is maximized when the medication file is linked to the patient/discharge file (by PATNUM), which contains demographic information, health status information, and information on the services obtained by the current home health care patients/hospice care discharges. (The patient/discharge file data dictionary can be accessed at ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Dataset_Documentation/NHHCS/2007/PatientPUF_DataDictionary_2007NHHCS.pdf.)

The following SAS code shows how to link the medication file to the patient/discharge file, using the PATNUM variable.

```
LIBNAME patient 'filepath'; /*patient*/
LIBNAME meds 'filepath'; /*medication*/

data patient; set patient.file_name; run;
```

```
proc sort data=meds; by patnum;
proc sort data=patient; by patnum;

data merged;
merge meds patients(in=patient.file_name keep=[list variables to include in
analysis, including agtype own chain pstrata poppat popagn samwt];
by patnum;
```

Analyzing the Medication Data Using SAS and SUDAAN

To explore the characteristics of the current home health care patients/hospice care discharges who took a specific therapeutic subclass, NCHS recommends analyzing the data at the DRUGID level. This can be done by running an array, similar to the one below, to create a file of the current home health care patients/hospice care discharges who took the subclass of interest. This example provides code to find current home health patients/hospice care discharges who took cephalosporins, which is a subclass of anti-infectives. The Multum category IDs for cephalosporins are 159 (first generation), 160 (second generation), 161 (third generation), 162 (fourth generation), and 379 (next generation). This code will create a data set of the current home health care patients/hospice care discharges who took one or more medications that are assigned to these therapeutic subclasses. **Analyses for current home health care patients and hospice care discharges must be conducted separately to obtain correct estimates for each group.**

```
LIBNAME LIBRARY 'filepath'; *format library;
LIBNAME meds 'filepath'; /*medication*/
LIBNAME patient 'filepath'; /*patient*/

data meds; set meds.file_name; run;
data patient; set patient.file_name; run;

proc sort data=meds; by patnum;

data merged;
merge meds patient(in=patient_file_name keep=ptagynum phtype sex ageatint
ageatdis racerecd marstat veteran wholiv adx1 cddx1 cddx2 cddx3 cddx4 cddx5
cddx6 cddx7 cddx8 cddx9 cddx10 cddx11 cddx12 cddx13 cddx14 cddx15 totaladl
agtype own chain samwt); /*specify variables to include in analytic file*/
by patnum; run;


data list;
set merged;
Array meds(25) pmcode1B pmcode2B pmcode3B pmcode4B pmcode5B pmcode6B pmcode7B
pmcode8B pmcode9B pmcode10B pmcode11B pmcode12B pmcode13B pmcode14B pmcode15B
pmcode16B pmcode17B pmcode18B pmcode19B pmcode20B pmcode21B pmcode22B
pmcode23B pmcode24B pmcode25B; /*use this code if you want to identify unique
patient use of a given drug*/
array cat1 (25,4)      rx1cat1 rx1cat2 rx1cat3 rx1cat4
                      rx2cat1 rx2cat2 rx2cat3 rx2cat4
                      rx3cat1 rx3cat2 rx3cat3 rx3cat4
                      rx4cat1 rx4cat2 rx4cat3 rx4cat4
                      rx5cat1 rx5cat2 rx5cat3 rx5cat4
```

```
                              rx6cat1 rx6cat2 rx6cat3 rx6cat4
                              rx7cat1 rx7cat2 rx7cat3 rx7cat4
                              rx8cat1 rx8cat2 rx8cat3 rx8cat4
                              rx9cat1 rx9cat2 rx9cat3 rx9cat4
                              rx10cat1 rx10cat2 rx10cat3 rx10cat4
                              rx11cat1 rx11cat2 rx11cat3 rx11cat4
                              rx12cat1 rx12cat2 rx12cat3 rx12cat4
                              rx13cat1 rx13cat2 rx13cat3 rx13cat4
                              rx14cat1 rx14cat2 rx14cat3 rx14cat4
                              rx15cat1 rx15cat2 rx15cat3 rx15cat4
                              rx16cat1 rx16cat2 rx16cat3 rx16cat4
                              rx17cat1 rx17cat2 rx17cat3 rx17cat4
                              rx18cat1 rx18cat2 rx18cat3 rx18cat4
                              rx19cat1 rx19cat2 rx19cat3 rx19cat4
                              rx20cat1 rx20cat2 rx20cat3 rx20cat4
                              rx21cat1 rx21cat2 rx21cat3 rx21cat4
                              rx22cat1 rx22cat2 rx22cat3 rx22cat4
                              rx23cat1 rx23cat2 rx23cat3 rx23cat4
                              rx24cat1 rx24cat2 rx24cat3 rx24cat4
                              rx25cat1 rx25cat2 rx25cat3 rx25cat4;

*program will output at patient level;


subcat_count=0;*setting counter to zero;
do i=1 to 25;
      do j=1 to 4;
            if cat1(I,j) ne '' then do;
            ncat1 = cat1(I,j);
            *this can change according to drug class being reviewed;
            if ncat1 in ('159', '160', '161', '162', '379') then
subcat_count=subcat_count+1;
            end;
      end;
end;
keep ptagynum patnum phtype sex popagn poppat subcat_count samwt;
run;

data list2;
set list;
if subcat_count >=1 then subcat=1;
else subcat=2; run;

proc format;
value  cat
1='ceph prescribed'


proc freq data=list2;
weight samwt;
tables subcat;
format subcat cat.; run;
```

To run a crosstab of the weighted percent estimates of current home health care patients/hospice care discharges who took cephalosporins, by sex, the analyst can use the following code.

```
proc sort data=list2;
by pstrata ptagynum phtype; run;

proc crosstab data=list2 design=WOR;
NEST PSTRATA PTAGYNUM PHTYPE/MISSUNIT;
TOTCNT POPAGN _ZERO_ POPPAT;
weight SAMWT;
subpopn PHTYPE=1; /*for home health patients; PHTYPE=2 for hospice
discharges*/
class sex subcat;
tables sex * subcat;
test chisq llchisq;
```

Contact information:
For technical assistance with the 2007 NHHCS medication file, contact the Long-term Care Statistics Branch at (301) 458-4747. Our website can be accessed at http://www.cdc.gov/nchs/nhhcs.htm.

An NCHS methods report on the redesign and operations of the 2007 NHHCS will be available in the near future.

Appendix I: Multum Lexicon End-User License Agreement

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Appendix II: MULTUM CLASSIFICATION DIRECTORY

LEVEL 1 CATEGORY		LEVEL 2 CATEGORY		LEVEL 3 CATEGORY	
CAT ID	CATEGORY NAME	CAT ID	CATEGORY NAME	CAT ID	CATEGORY NAME
001	anti-infectives	002	amebicides		.
001	anti-infectives	003	anthelmintics		.
001	anti-infectives	004	antifungals	235	polyenes
001	anti-infectives	004	antifungals	236	azole antifungals
001	anti-infectives	004	antifungals	237	miscellaneous antifungals
001	anti-infectives	004	antifungals	310	echinocandins
001	anti-infectives	005	antimalarial agents	238	antimalarial quinolines
001	anti-infectives	005	antimalarial agents	239	miscellaneous antimalarials
001	anti-infectives	005	antimalarial agents	328	antimalarial combinations
001	anti-infectives	006	antituberculosis agents	230	aminosalicylates
001	anti-infectives	006	antituberculosis agents	231	nicotinic acid derivatives
001	anti-infectives	006	antituberculosis agents	232	rifamycin derivatives
001	anti-infectives	006	antituberculosis agents	233	streptomyces derivatives
001	anti-infectives	006	antituberculosis agents	234	Misc. antituberculosis agents
001	anti-infectives	006	antituberculosis agents	329	antituberculosis combinations
001	anti-infectives	007	antiviral agents	175	protease inhibitors
001	anti-infectives	007	antiviral agents	176	NRTIs
001	anti-infectives	007	antiviral agents	177	miscellaneous antivirals
001	anti-infectives	007	antiviral agents	227	NNRTIs
001	anti-infectives	007	antiviral agents	228	adamantane antivirals
001	anti-infectives	007	antiviral agents	229	purine nucleosides
001	anti-infectives	007	antiviral agents	281	neuraminidase inhibitors
001	anti-infectives	007	antiviral agents	327	antiviral combinations
001	anti-infectives	007	antiviral agents	330	antiviral interferons
001	anti-infectives	007	antiviral agents	364	antiviral chemokine receptor antagonist
001	anti-infectives	007	antiviral agents	366	integrase strand transfer inhibitor
001	anti-infectives	008	carbapenems		.
001	anti-infectives	009	cephalosporins	159	first generation cephalosporins
001	anti-infectives	009	cephalosporins	160	second generation cephalosporins
001	anti-infectives	009	cephalosporins	161	third generation cephalosporins
001	anti-infectives	009	cephalosporins	162	fourth generation cephalosporins
001	anti-infectives	009	cephalosporins	379	next generation cephalosporins
001	anti-infectives	010	leprostatics		.

LEVEL 1		LEVEL 2		LEVEL 3	
CAT ID	CATEGORY NAME	CAT ID	CATEGORY NAME	CAT ID	CATEGORY NAME
001	anti-infectives	011	macrolide derivatives	304	macrolides
001	anti-infectives	011	macrolide derivatives	305	ketolides
001	anti-infectives	012	miscellaneous antibiotics		.
001	anti-infectives	013	penicillins	222	penicillinase resistant penicillins
001	anti-infectives	013	penicillins	223	antipseudomonal penicillins
001	anti-infectives	013	penicillins	224	aminopenicillins
001	anti-infectives	013	penicillins	225	beta-lactamase inhibitors
001	anti-infectives	013	penicillins	226	natural penicillins
001	anti-infectives	014	quinolones		.
001	anti-infectives	015	sulfonamides		.
001	anti-infectives	016	tetracyclines		.
001	anti-infectives	017	urinary anti-infectives		.
001	anti-infectives	018	aminoglycosides		.
001	anti-infectives	240	lincomycin derivatives		.
001	anti-infectives	315	glycylcyclines		.
020	antineoplastics	021	alkylating agents		.
020	antineoplastics	022	antibiotics/antineoplastics		.
020	antineoplastics	023	antimetabolites		.
020	antineoplastics	024	hormones/antineoplastics		.
020	antineoplastics	025	miscellaneous antineoplastics		.
020	antineoplastics	026	mitotic inhibitors		.
020	antineoplastics	323	antineoplastic monoclonal antibodies		.
020	antineoplastics	324	antineoplastic interferons		.
020	antineoplastics	343	tyrosine kinase inhibitors		.
020	antineoplastics	383	antineoplastic detoxifying agents		.
028	biologicals	030	antitoxins and antivenins		.
028	biologicals	032	colony stimulating factors		.
028	biologicals	034	in vivo diagnostic biologicals		.
028	biologicals	036	recombinant human erythropoietins		.
028	biologicals	390	hematopoietic stem cell mobilizer		.
040	cardiovascular agents	041	agents for antihyp. emergencies		.
040	cardiovascular agents	042	angiotensin converting enzyme inhib.		.
040	cardiovascular agents	043	antiadrenergic agents, periph. acting		.
040	cardiovascular agents	044	antiadrenergic agents, centrally acting		.
040	cardiovascular agents	045	antianginal agents		.

LEVEL 1		LEVEL 2		LEVEL 3	
CAT ID	CATEGORY NAME	CAT ID	CATEGORY NAME	CAT ID	CATEGORY NAME
040	cardiovascular agents	046	antiarrhythmic agents	385	group I antiarrhythmics
040	cardiovascular agents	046	antiarrhythmic agents	386	group II antiarrhythmics
040	cardiovascular agents	046	antiarrhythmic agents	387	group III antiarrhythmics
040	cardiovascular agents	046	antiarrhythmic agents	388	group IV antiarrhythmics
040	cardiovascular agents	046	antiarrhythmic agents	389	group V antiarrhythmics
040	cardiovascular agents	047	beta-adrenergic blocking agents	274	cardioselective beta blockers
040	cardiovascular agents	047	beta-adrenergic blocking agents	275	non-cardio selective beta blockers
040	cardiovascular agents	048	calcium channel blocking agents		.
040	cardiovascular agents	049	diuretics	154	loop diuretics
040	cardiovascular agents	049	diuretics	155	potassium-sparing diuretics
040	cardiovascular agents	049	diuretics	156	thiazide diuretics
040	cardiovascular agents	049	diuretics	157	carbonic anhydrase inhibitors
040	cardiovascular agents	049	diuretics	158	miscellaneous diuretics
040	cardiovascular agents	050	inotropic agents		.
040	cardiovascular agents	051	misc. cardiovascular agents		.
040	cardiovascular agents	052	peripheral vasodilators		.
040	cardiovascular agents	053	vasodilators		.
040	cardiovascular agents	054	vasopressors		.
040	cardiovascular agents	055	antihypertensive combinations		.
040	cardiovascular agents	056	angiotensin II inhibitors		.
040	cardiovascular agents	303	agents for pulmonary hypertension		.
040	cardiovascular agents	319	vasopressin antagonists		.
040	cardiovascular agents	325	sclerosing agents		.
040	cardiovascular agents	340	aldosterone receptor antagonists		.
040	cardiovascular agents	342	renin inhibitors		.
057	CNS agents	058	analgesics	059	miscellaneous analgesics
057	CNS agents	058	analgesics	060	narcotic analgesics
057	CNS agents	058	analgesics	061	NSAID agents
057	CNS agents	058	analgesics	062	salicyates
057	CNS agents	058	analgesics	063	analgesic combinations
057	CNS agents	058	analgesics	191	narcotic analgesic combinations
057	CNS agents	058	analgesics	193	antimigraine agents
057	CNS agents	058	analgesics	278	COX-2 inhibitors
057	CNS agents	064	anticonvulsants	199	hydantoin anticonvulsants
057	CNS agents	064	anticonvulsants	200	succinimide anticonvulsants

LEVEL 1		LEVEL 2		LEVEL 3	
CAT ID	CATEGORY NAME	CAT ID	CATEGORY NAME	CAT ID	CATEGORY NAME
057	CNS agents	064	anticonvulsants	201	barbiturate anticonvulsants
057	CNS agents	064	anticonvulsants	202	oxazolidinedione anticonvulsants
057	CNS agents	064	anticonvulsants	203	benzodiazepine anticonvulsants
057	CNS agents	064	anticonvulsants	204	misc. anticonvulsants
057	CNS agents	064	anticonvulsants	311	dibenzazepine anticonvulsants
057	CNS agents	064	anticonvulsants	345	fatty acid derivative anticonvulsants
057	CNS agents	064	anticonvulsants	346	gamma-aminobutyric acid reuptake inhibitors
057	CNS agents	064	anticonvulsants	347	gamma-aminobutyric acid analogs
057	CNS agents	064	anticonvulsants	348	triazine anticonvulsants
057	CNS agents	064	anticonvulsants	349	carbamate anticonvulsants
057	CNS agents	064	anticonvulsants	350	pyrrolidine anticonvulsants
057	CNS agents	064	anticonvulsants	351	carbonic anhydrase inhibitor anticonvulsants
057	CNS agents	064	anticonvulsants	352	urea anticonvulsants
057	CNS agents	065	antiemetic/antivertigo agents	195	5HT3 receptor antagonists
057	CNS agents	065	antiemetic/antivertigo agents	196	phenothiazine antiemetics
057	CNS agents	065	antiemetic/antivertigo agents	197	anticholinergic antiemetics
057	CNS agents	065	antiemetic/antivertigo agents	198	miscellaneous antiemetics
057	CNS agents	066	antiparkinson agents	205	anticholinergic antiparkison agents
057	CNS agents	066	antiparkinson agents	206	misc. antiparkinson agents
057	CNS agents	066	antiparkinson agents	276	dopaminergic antiparkinson agents
057	CNS agents	067	anxiolytics, sedatives, and hypnotics	068	barbiturates
057	CNS agents	067	anxiolytics, sedatives, and hypnotics	069	benzodiazepines
057	CNS agents	067	anxiolytics, sedatives, and hypnotics	070	misc. anxiolytics, sedatives, & hypnotics
057	CNS agents	071	CNS stimulants		.
057	CNS agents	072	general anesthetics		.
057	CNS agents	073	muscle relaxants	074	neuromuscular blocking agents
057	CNS agents	073	muscle relaxants	178	skeletal muscle relaxants
057	CNS agents	073	muscle relaxants	179	skeletal muscle relaxant combinations
057	CNS agents	080	miscellaneous CNS agents		.
057	CNS agents	253	anorexiants		.
057	CNS agents	312	cholinergic agonists		.
057	CNS agents	313	cholinesterase inhibitors		.
057	CNS agents	378	drugs used in alcohol dependence		.

LEVEL 1		LEVEL 2		LEVEL 3	
CAT ID	CATEGORY NAME	CAT ID	CATEGORY NAME	CAT ID	CATEGORY NAME
081	coagulation modifiers	082	anticoagulants	261	heparins
081	coagulation modifiers	082	anticoagulants	262	coumarins and indandiones
081	coagulation modifiers	082	anticoagulants	283	thrombin inhibitors
081	coagulation modifiers	082	anticoagulants	285	factor Xa inhibitors
081	coagulation modifiers	083	antiplatelet agents	211	platelet aggregation inhibitors
081	coagulation modifiers	083	antiplatelet agents	212	glycoprotein platelet inhibitors
081	coagulation modifiers	084	heparin antagonists		.
081	coagulation modifiers	085	misc. coagulation modifiers		.
081	coagulation modifiers	086	thrombolytics		.
081	coagulation modifiers	384	platelet-stimulating agents		.
087	gastrointestinal agents	088	antacids		.
087	gastrointestinal agents	090	antidiarrheals		.
087	gastrointestinal agents	091	digestive enzymes		.
087	gastrointestinal agents	092	gallstone solubilizing agents		.
087	gastrointestinal agents	093	GI stimulants		.
087	gastrointestinal agents	094	H2 antagonists		.
087	gastrointestinal agents	095	laxatives		.
087	gastrointestinal agents	096	miscellaneous GI agents		.
087	gastrointestinal agents	272	proton pump inhibitors		.
087	gastrointestinal agents	277	5-aminosalicylates		.
087	gastrointestinal agents	354	H. pylori eradication agents		.
087	gastrointestinal agents	355	functional bowel disorder agents	089	anticholinergics/antispasmodics
087	gastrointestinal agents	355	functional bowel disorder agents	356	serotoninergic neuroenteric modulators
087	gastrointestinal agents	355	functional bowel disorder agents	362	chloride channel activators
087	gastrointestinal agents	355	functional bowel disorder agents	375	peripheral opioid receptor antagonists
097	hormones	098	adrenal cortical steroids	300	corticotrophins
097	hormones	098	adrenal cortical steroids	301	glucocorticoids
097	hormones	098	adrenal cortical steroids	302	mineralocorticoids
097	hormones	100	miscellaneous hormones		.
097	hormones	101	sex hormones	102	contraceptives
097	hormones	101	sex hormones	182	androgens and anabolic steroids
097	hormones	101	sex hormones	183	estrogens
097	hormones	101	sex hormones	184	gonadotropins
097	hormones	101	sex hormones	185	progestins

LEVEL 1		LEVEL 2		LEVEL 3	
CAT ID	CATEGORY NAME	CAT ID	CATEGORY NAME	CAT ID	CATEGORY NAME
097	hormones	101	sex hormones	186	sex hormone combinations.
097	hormones	101	sex hormones	187	miscellaneous sex hormones
097	hormones	101	sex hormones	279	gonadotropin releasing hormones
097	hormones	101	sex hormones	288	5-alpha reductase inhibitors
097	hormones	103	thyroid drugs		.
097	hormones	217	bisphosphonates		.
097	hormones	295	growth hormones		.
097	hormones	318	insulin-like growth factor		.
097	hormones	357	growth hormone receptor blockers		.
097	hormones	373	incretin mimetics		.
097	hormones	377	prolactin inhibitors		.
105	miscellaneous agents	106	antidotes		.
105	miscellaneous agents	107	chelating agents		.
105	miscellaneous agents	108	cholinergic muscle stimulants		.
105	miscellaneous agents	109	local injectable anesthetics		.
105	miscellaneous agents	110	misc. uncategorized agents		.
105	miscellaneous agents	111	psoralens		.
105	miscellaneous agents	113	genitourinary tract agents	263	impotence agents
105	miscellaneous agents	113	genitourinary tract agents	264	urinary antispasmodics
105	miscellaneous agents	113	genitourinary tract agents	265	urinary pH modifiers
105	miscellaneous agents	113	genitourinary tract agents	266	miscellaneous genitourinary tract agents
105	miscellaneous agents	114	illicit (street) drugs		.
105	miscellaneous agents	192	antirheumatics		.
105	miscellaneous agents	270	antipsoriatics		.
105	miscellaneous agents	284	viscosupplementation agents		.
105	miscellaneous agents	320	smoking cessation products		.
115	nutritional products	116	Iron products		.
115	nutritional products	117	minerals and electrolytes		.
115	nutritional products	118	oral nutritional supplements		.
115	nutritional products	119	vitamins		.
115	nutritional products	120	vitamin & mineral combinations		.
115	nutritional products	121	intravenous nutritional products		.
122	respiratory agents	123	antihistamines		.
122	respiratory agents	124	antitussives		.

LEVEL 1		LEVEL 2		LEVEL 3	
CAT ID	CATEGORY NAME	CAT ID	CATEGORY NAME	CAT ID	CATEGORY NAME
122	respiratory agents	125	bronchodilators	126	methylxanthines
122	respiratory agents	125	bronchodilators	180	adrenergic bronchodilators
122	respiratory agents	125	bronchodilators	181	bronchodilator combinations
122	respiratory agents	125	bronchodilators	299	anticholinergic bronchodilators
122	respiratory agents	127	decongestants		.
122	respiratory agents	128	expectorants		.
122	respiratory agents	129	Misc. respiratory agents		.
122	respiratory agents	130	respiratory inhalant products	296	inhaled corticosteroids
122	respiratory agents	130	respiratory inhalant products	297	mucolytics
122	respiratory agents	130	respiratory inhalant products	298	mast cell stabilizers
122	respiratory agents	131	antiasthmatic combinations		.
122	respiratory agents	132	upper respiratory combinations		.
122	respiratory agents	243	leukotriene modifiers		.
122	respiratory agents	273	lung surfactants		.
133	topical agents	134	anorectal preparations		.
133	topical agents	135	antiseptics and germicides		.
133	topical agents	136	dermatological agents	137	topical anti-infectives
133	topical agents	136	dermatological agents	138	topical steroids
133	topical agents	136	dermatological agents	139	topical anesthetics
133	topical agents	136	dermatological agents	140	miscellaneous topical agents
133	topical agents	136	dermatological agents	141	topical steroids with anti-infectives
133	topical agents	136	dermatological agents	143	topical acne agents
133	topical agents	136	dermatological agents	144	topical antipsoriatics
133	topical agents	136	dermatological agents	248	topical emollients
133	topical agents	136	dermatological agents	290	topical antibiotics
133	topical agents	136	dermatological agents	291	topical antivirals
133	topical agents	136	dermatological agents	292	topical antifungals
133	topical agents	136	dermatological agents	380	topical debriding agents
133	topical agents	136	dermatological agents	381	topical depigmenting agents
133	topical agents	136	dermatological agents	382	topical antihistamines
133	topical agents	136	dermatological agents	393	topical astringents
133	topical agents	146	mouth and throat products		.
133	topical agents	147	ophthalmic preparations	163	ophthalmic anti-infectives
133	topical agents	147	ophthalmic preparations	164	ophthalmic glaucoma agents

21

LEVEL 1		LEVEL 2		LEVEL 3	
CAT ID	CATEGORY NAME	CAT ID	CATEGORY NAME	CAT ID	CATEGORY NAME
133	topical agents	147	ophthalmic preparations	165	ophthalmic steroids
133	topical agents	147	ophthalmic preparations	166	ophthalmic steroids with anti-infectives
133	topical agents	147	ophthalmic preparations	167	ophthalmic anti-inflammatory agents
133	topical agents	147	ophthalmic preparations	168	ophthalmic lubricants and irrigations
133	topical agents	147	ophthalmic preparations	169	miscellaneous ophthalmic agents
133	topical agents	147	ophthalmic preparations	267	ophthalmic antihistamines and decongestants
133	topical agents	147	ophthalmic preparations	286	mydriatics
133	topical agents	147	ophthalmic preparations	287	ophthalmic anesthetics
133	topical agents	147	ophthalmic preparations	321	ophthalmic diagnostic agents
133	topical agents	147	ophthalmic preparations	322	ophthalmic surgical agents
133	topical agents	147	ophthalmic preparations	353	anti-angiogenic ophthalmic agents
133	topical agents	148	otic preparations	170	otic anti-infectives
133	topical agents	148	otic preparations	171	otic steroids with anti-infectives
133	topical agents	148	otic preparations	172	miscellaneous otic agents
133	topical agents	148	otic preparations	370	otic steroids
133	topical agents	148	otic preparations	393	cerumenolytics
133	topical agents	150	sterile irrigating solutions		.
133	topical agents	151	vaginal preparations	149	spermicides
133	topical agents	151	vaginal preparations	268	vaginal anti-infectives
133	topical agents	151	vaginal preparations	269	miscellaneous vaginal agents
133	topical agents	247	nasal preparations	244	nasal lubricants and irrigations
133	topical agents	247	nasal preparations	245	nasal steroids
133	topical agents	247	nasal preparations	246	nasal antihistamines and decongestants
133	topical agents	247	nasal preparations	344	nasal anti-infectives
153	plasma extenders				.
218	alternative medicines	219	nutraceutical products		.
218	alternative medicines	220	herbal products		.
218	alternative medicines	363	probiotics		.
242	psychotherapeutic agents	249	antidepressants	076	miscellaneous antidepressants
242	psychotherapeutic agents	249	antidepressants	208	SSRI antidepressants
242	psychotherapeutic agents	249	antidepressants	209	tricyclic antidepressants
242	psychotherapeutic agents	249	antidepressants	250	monoamine oxidase inhibitors
242	psychotherapeutic agents	249	antidepressants	306	phenylpiperazine antidepressants
242	psychotherapeutic agents	249	antidepressants	307	tetracyclic antidepressants

LEVEL 1 CATEGORY		LEVEL 2 CATEGORY		LEVEL 3 CATEGORY	
CAT ID	CATEGORY NAME	CAT ID	CATEGORY NAME	CAT ID	CATEGORY NAME
242	psychotherapeutic agents	249	antidepressants	308	SSNRI antidepressants
242	psychotherapeutic agents	251	antipsychotics	077	miscellaneous antipsychotic agents
242	psychotherapeutic agents	251	antipsychotics	079	psychotherapeutic combinations
242	psychotherapeutic agents	251	antipsychotics	210	phenothiazine antipsychotics
242	psychotherapeutic agents	251	antipsychotics	280	thioxanthenes
242	psychotherapeutic agents	251	antipsychotics	341	atypical antipsychotics
254	immunologic agents	031	bacterial vaccines		.
254	immunologic agents	033	immune globulins		.
254	immunologic agents	037	toxoids		.
254	immunologic agents	038	viral vaccines		.
254	immunologic agents	039	miscellaneous biologicals		.
254	immunologic agents	104	immunosuppressive agents		.
254	immunologic agents	256	interferons		.
254	immunologic agents	257	immunosuppressive monoclonal antibodies		
331	radiologic agents	027	radiopharmaceuticals	338	diagnostic radiopharmaceuticals
331	radiologic agents	027	radiopharmaceuticals	339	therapeutic radiopharmaceuticals
331	radiologic agents	112	radiocontrast agents	333	miscellaneous iodinated contrast media
331	radiologic agents	112	radiocontrast agents	334	lymphatic staining agents
331	radiologic agents	112	radiocontrast agents	335	magnetic resonance imaging contrast media
331	radiologic agents	112	radiocontrast agents	336	non-iodinated contrast media
331	radiologic agents	112	radiocontrast agents	337	ultrasound contrast media
331	radiologic agents	112	radiocontrast agents	368	non-ionic iodinated contrast media
331	radiologic agents	112	radiocontrast agents	369	ionic iodinated contrast media
331	radiologic agents	332	radiologic adjuncts	374	cardiac stressing agents
331	radiologic agents	332	radiologic adjuncts	376	radiologic conjugating agents
358	metabolic agents	019	antihyperlipidemic agents	173	HMG-COA reductase inhibitors
358	metabolic agents	019	antihyperlipidemic agents	174	miscellaneous antihyperlipidemic agents
358	metabolic agents	019	antihyperlipidemic agents	241	fibric acid derivatives
358	metabolic agents	019	antihyperlipidemic agents	252	bile acid sequestrants
358	metabolic agents	019	antihyperlipidemic agents	316	cholesterol absorption inhibitors

LEVEL 1 CATEGORY		LEVEL 2 CATEGORY		LEVEL 3 CATEGORY	
CAT ID	CATEGORY NAME	CAT ID	CATEGORY NAME	CAT ID	CATEGORY NAME
358	metabolic agents	019	antihyperlipidemic agents	317	antihyperlipidemic combinations
358	metabolic agents	099	antidiabetic agents	213	sulfonylureas
358	metabolic agents	099	antidiabetic agents	214	non-sulfonylureas
358	metabolic agents	099	antidiabetic agents	215	insulins
358	metabolic agents	099	antidiabetic agents	216	alpha-glucosidase inhibitors
358	metabolic agents	099	antidiabetic agents	271	thiazolidinediones
358	metabolic agents	099	antidiabetic agents	282	meglitinides
358	metabolic agents	099	antidiabetic agents	309	miscellaneous antidiabetic agents
358	metabolic agents	099	antidiabetic agents	314	antidiabetic combinations
358	metabolic agents	099	antidiabetic agents	371	dipeptidyl peptidase 4 inhibitors
358	metabolic agents	099	antidiabetic agents	372	amylin analogs
358	metabolic agents	194	antigout agents		.
358	metabolic agents	289	antihyperuricemic agents		.
358	metabolic agents	293	glucose elevating agents		.
358	metabolic agents	359	peripherally acting antiobesity agents		.
358	metabolic agents	360	lysosomal enzymes		.
358	metabolic agents	361	miscellaneous metabolic agents		.
365	medical gas				.
899	pharmaceutical aids				

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