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Midlife in the United States (MIDUS 2): Biomarker Project, 2004-2009

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MIDUS & MIDJA Medication Documentation

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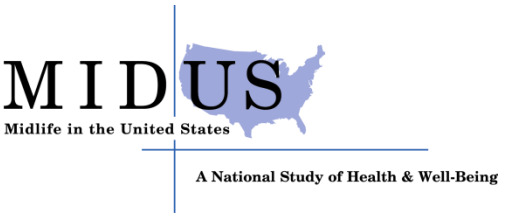

DOCUMENTATION
for
MIDUS & MIDJA
MEDICATION DATA

University of Wisconsin ♦ Institute on Aging
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INTRODUCTION

This document provides an overview of protocols used to process several types of medication data obtained during the MIDUS and MIDJA biomarker clinic visits. In particular it describes protocols used to 1) enhance data about individual medications via linkage to generic names and then to therapeutic and pharmacologic classes in the Lexicomp® Lexi-Data database, and 2) code text data about reasons for taking medications. This document also provides information about the creation and usage of related administrative and constructed variables.

Data users are also encouraged to review the README and DataFile Notes documentation files created for each wave of MIDUS and MIDJA Biomarker data collection. These documents provide information about naming conventions, administrative and filter variables, and the order in which variables appear in the data file. They also include information about how missing values are handled and other issues that arose over the course of a given study.

This document will be periodically revised and updated as more information is gathered, and researchers continue to work with the MIDUS and MIDJA data. If there are suggestions or comments, please contact Gayle Love (glove@wisc.edu) or Barry Radler (bradler@wisc.edu).

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SECTION A

OVERVIEW OF MEDICATION DATA PROCESSING

OVERVIEW OF MEDICATION DATA PROCESSING

The MIDUS and MIDJA Biomarker Clinic Visits include collection of comprehensive information about medications of all types, as well basic information about allergic reactions to any type of medication. Respondents were instructed to bring all their medications, or information about their medications, to the clinic visit to ensure that information about those medications was recorded accurately. Study specific details about collection of medication data along with copies of the culturally appropriate medication charts can be found in the wave specific (MIDUS_Biomarker Medication Data Documentation & MIDJA_ Clinic Visit Documentation). The current document describes general protocols applied to both studies thus references to both studies are included throughout. In the U.S. medications are classified into three groups (prescription, over-the-counter – OTC, alternative - ALT). In Japan prescription medications include herbals which are often prescribed by physicians while OTC and ALT medications are categorized as "Quasi" medications. In general these categories include the following:

- Prescription Medications:
    - U.S. - All FDA approved medications prescribed by someone authorized/licensed under the Western medical tradition, typically a physician.
    - Japan – medications prescribed by individuals authorized under Japanese law to prescribe Western and/or Eastern/Chinese traditional medicine.
- Quasi medications: include all medications in the following categories
    - *Over the Counter Medications*: Include vitamins, minerals, non-prescription pain relief, antacids, anti-diarrheals, fiber, lubricating eye or nose preparations etc. that the subject uses regularly and can be purchased "Over the Counter" (OTC) without a prescription.
    - *Alternative Medications:* Include herbs, herbal blends (not including herbal teas), homeopathic remedies, and other alternative remedies. These may be purchased over the counter or they may be "prescribed" by a health care practitioner trained in a non-western tradition.

The following information is obtained for each medication regardless of type:

- Medication name, dosage, and route of administration
- How often the medication is taken (frequency)
- How long the participant has been taking a given medication
- Why they think they are taking the medication

After basic cleaning protocols have been completed (i.e. value ranges and skip patterns checked, data entry errors corrected, missing values specified etc.) standardized protocols are applied to both MIDUS and MIDJA medication data to:

- Link medications first to Generic Names and associated DrugIDs and then to therapeutic and pharmacologic class information from the Lexicomp® Lexi-Data database
- Code text data describing reasons why participants think they are taking a given medication

The remainder of this document describes data file characteristics and protocols for completing the above tasks.

Data File Characteristics

The medication data are released in the traditional flat (wide) format as part of the larger MIDUS/MIDJA aggregate data files to facilitate their use in standard between person analyses. Details about the variables in those files are included in the documentation for those larger data sets (see MIDUS_Biomarker Medication Data Documentation & MIDJA_ Clinic Visit Documentation). The scope of the medication data however also lends itself to within person analysis of medication use, thus the medication data are also released in a standalone stacked (long) format. This stacked file is the focus of this document. The stacked file only contains data about medications used, thus it does not include any information about study participants who do not take any medications. It also does not include any data about medication allergies. This section describes the variables and variable naming conventions for the *stacked* files.

Note, this is relatively new data and thus release of the data files along with appropriate documentation is staggered and some files may not be available publicly as yet. Questions about file availability should be directed to Gayle Love (glove@wisc.edu) or Barry Radler (bradler@wisc.edu).

Variable Naming Conventions: MIDUS and MIDJA variable naming conventions (see the Naming and Coding Conventions documentation for MIDUS & MIDJA) specify that the first 3-4 characters of each variable name will identify the longitudinal wave in which the data were collected, the specific project, and the data type or method used to collect the data. The variable names for the Medication data have the following general format **a(a)bc** where:

a(a) = MIDUS wave 2 (**B**) or Refresher (**RA**) or MIDJA wave 1 (**J**) or 2 (**K**)
b = Biomarker Project (**4** - MIDUS; **2** - MIDJA)
c = Medication data (**X** - MIDUS; **M** - MIDJA)

For example, J2M__ indicates a MIDJA wave 1 Biomarker medication variable, while B4X__ indicates a MIDUS wave 2 Biomarker medication. Throughout the remainder of this document, unless otherwise noted, a '__' in front of a variable name is a place holder for these unique character sets indicating the study and wave.

Variables in Stacked File. The stacked file is created in SPSS by transposing the original flat medication file, thus it includes the same set of information reported for each medication, but is organized so that each row represents a single medication. The file also contains a number of other (e.g. administrative/flag, therapeutic and pharmacologic class codes linked to individual medications) variables that are not included in the flat files. These are described below or in later sections as noted. Variables that are unique to MIDUS or MIDJA or a particular wave of data collection are noted as appropriate.

Administrative/Flag Variables. The following administrative variables appear first in the file and can be used to facilitate linkage of the individual medications back to the larger Biomarker and other MIDUS or MIDJA datasets.

ID# - project specific ID number (i.e. MIDJA_IDs, M2ID, MRID)
__INDEX – this variable is used in combination with the ID variable to transpose the stacked file back to the flat format. It is created by SPSS when the original flat file is transposed to create the stacked file. The values for this variable are the variable names for the medication name variables from that original flat file.
__TYPE – categorical variable indicating medication type (Prescription, OTC, ALT, or QUASI)
__PM, __OM, __AM, __QM – these variables indicate the number of Prescription, OTC, ALT, or Quasi medications that the participant is taking.
__TM, – the Total number of medications the participant is taking. This variable will have a value of at least 1 for all cases as the stacked file only includes data for those individuals taking at least one medication.

The following administrative variables are found only in MIDUS:

M2FAMNUM – MIDUS 2 family number
SAMPLMAJ – MIDUS major sample identifier

Note, with the exception of the __INDEX variable, the administrative variables are not unique to a given medication, rather they apply to all medications for a given individual. If the file is sorted by the ID variable, then the values for the above variables will be the same for all medications having a given ID#.

The next set of variables (RA4XN to RA4XMDC) corresponds to the standardized set of variables reporting dosage, frequency of use, how long taken, and reasons for taking for a given medication in the flat file (see MIDUS_Biomarker Medication Data Documentation & MIDJA_ Clinic Visit Documentation). These standardized variables were used to create a set of flag variables which can be used to select subsets of cases for inclusion in analysis. Those flag variables appear next in the file and are described below.

__MT – categorical variable indicating whether or not the medication name reported by the participant was matched to a Lexi-Data Generic Medication Name (see below). This

variable has 3 codes
1 = Matched with the Lexion
2 = UnMatched Medication
3 = UnMatched, Insufficient Info

__DUP – categorical Yes/No variable indicates whether a participant is taking more than one Prescription medications with the same Generic Name. There are two circumstances in which a medication is coded 'Yes' for this variable:

- A medication is taken regularly, and also on an as needed (PRN) basis. This occurs most often for pain or allergy relief medications.
- An individual takes two medications with different brand names but the same Generic Name (e.g. Albuterol and Proventil; Actiq and Duragesic).

__VAR – categorical Yes/No variable used to flag medications that are taken in variable amounts. For example, some medications are taken in different amounts on alternate days or at different times of day.

__PRN – categorical Yes/No variable indicates whether a medication is taken on an 'as needed' (PRN) basis.

- Such medications are often taken just once at any given time as needed, in those instance the frequency variables (__F, __FU) will have the values 1 and 5=As Needed (PRN)), respectively.
- Sometimes respondents will provide additional details (i.e. 4 times a day, 1 time per week). In those instances, the variables (__F, __FU) will reflect the actual usage (e.g., be recorded as 4 and 1=Day, 1 and 3=Week, respectively).

MIDUS Only flag variables:

__CMB – categorical Yes/No variable indicating whether a medication contains two or more active ingredients. Due to differences in how dosage data was reported information about use of combination medications (i.e. medications with 2 or more active ingredients) was easily documented in MIDUS. In MIDJA however, dosage for such medications was typically reported in terms of the number of pills, tablets, etc. taken thus this variable is only created for MIDUS.

__CSA – is a categorical variable indicating the Federal Control Status for a given medication. In other words at what level, if at all, is it considered a controlled substance under the U.S. Controlled Substances Act at the time that the linkage was made. This classification was extracted from the Lexi-Data via linkage to the generic medication name, thus UnMatched medications are INAPP for this variable along with some alternative medications that have not been classified as yet. Since this reflects U.S. Federal Standards which may be different in Japan, this variable is not created for MIDJA.

The final set of variables in the stacked files are therapeutic and pharmacologic class codes created after the MIDUS/MIDJA medication data were linked to the Lexi-Data database. Details about these variables and the linking process are provided below in Section B.

Coding Open-Ended Text

The medication data includes code variables for two types of open-ended text responses. The first type contains verbatim text responses to the question "Why are you taking it?" which was asked for each medication reported. The protocol for coding these responses is described in Section C below. The second type contains verbatim descriptions of reactions to reported medication allergies. Medication allergy data are included in the aggregate flat file, but not the stacked file, thus coding details for medication allergies are included in the MIDUS_Biomarker Data Medication Documentation & MIDJA_ Clinic Visit Documentation.

SECTION B

LEXI-DATA LINKS:
GENERIC NAMES, THERAPEUTIC & PHARMACOLOGIC CLASS CODES

LINKING TO LEXI-DATA THERAPEUTIC AND PHARMACOLOGIC CLASSES

The Lexicomp® Lexi-Data database is a relational database containing information about all types of medications -prescription, OTC, and alternatives such as supplements and herbals. The information is comprehensive ranging from medication names (generic, brand, trade) and active ingredients to details about therapeutic and pharmacologic effects as well as information about relationships among these. The database contains multiple tables and several unique identifiers (primary keys) that are used to link the tables. Data from the Lexi-Data database is added to the MIDUS and MIDJA datafiles by completing the following tasks:

- Linking MIDUS/MIDJA medication names to Lexi-Data Generic Names and their corresponding DrugIDs
- Use DrugIDs to extract therapeutic and pharmacologic class information from the Lexi-Data database.

This section describes the procedures for completing the above tasks along with the variables created as a result.

Therapeutic class data from the Lexi-Data database has also been added to other large studies (i.e. The National Social Life, Health, and Aging Project –NSHAP; AHRQ Medical Expenditures Panel Study – MEPS). To facilitate comparisons to those studies we have adopted similar variable naming and labeling conventions. Thus some of the MIDUS/MIDJA variable labels, as well as some parts of the documentation, may include references to Multum, the medical information company that originally developed the Lexicon/Lexi-Data database.

NOTE: The Lexicomp® Lexi-Data base is a proprietary database. Pursuant to our license with them users of data derived from the Lexi-Data file should include the following in any publications or presentations:

> "Lexi-Data is a drug data solution offered by Wolters Kluwer Clinical Drug Information. Certain information about therapeutic effects and active ingredients of generic medications identified in the MIDUS (Midlife in the U.S.) or MIDJA study is derived from the Lexi-Data database and used under license from Lexi-Comp, Inc., which reserves all rights in that information."

Linking MIDUS/MIDJA Medication Names to Generic Names

The Lexi-Data database was created for use in the U.S. thus it includes all FDA approved medications and an extensive array of non-prescription medications, supplements and herbals. Therefore, names of prescription medications in MIDUS were easily matched to Generic Names. Many Japanese prescription medications, however, are not approved for use in the U.S. In addition, OTC, ALT and Quasi medication names are quite variable and not easily matched to Generic Names. To accommodate these differences, regardless of the study/wave, the following steps were followed when completing the matching step.

1. Direct match – A successful match required that MIDJA/MIDUS medication names be identical to the corresponding Generic Names. Thus, this first step was accomplished using an iterative process that relied on automatic merge functions as well as manual review.
    a. Automatic merge – medication names in MIDUS/MIDJA that were identical to Generic Names were matched.
    b. Manual review – medications names that were not matched at the preceding step (1a) were reviewed for typographical errors and formatting errors/inconsistencies and then modified to be consistent with the Lexi-Data Generic Names as appropriate. For example:
        i. 'Thyroid (desiccated)' changed to 'Thyroid Desiccated'
        ii. Replaced "+" with '-' (e.g.'Irbesartan + Hydrochlorothiazide' became 'Hydrochlorothiazide-Irbesartan')
        iii. 'cream' changed to 'topical'
        iv. 'eye drop' changed to 'ophthalmic'

c. The automatic merge and manual review were repeated until all possible matches had been made. Medications that could not be matched to a Generic Name were flagged as UnMatched for further review in the next step.

2. Reviewing UnMatched Medications – many of the UnMatched medications could not be directly matched to a Generic Name because the name was incomplete, or the medication was identified by a brand or trade name. The Lexi-Data database includes information about brand/trade names as well as active ingredients which are linked to DrugIDs (and therefore, Generic Names). UnMatched medications were reviewed and matched to a Generic Name using this additional information whenever possible. In general this review and matching process was straightforward, however the active ingredient for certain medications varies according to whether the medication is prescribed or obtained over the counter. The following rules were followed in those instances.
    a. Mineral supplements:
        i. Potassium:
            1. Prescription medication used DrugID d01423 (Potassium Citrate)
            2. OTC/Quasi medication used DrugID d00345 (Potassium Chloride), the most common form used in OTC potassium supplements
    b. Vitamins:
        i. Vitamin D:
            1. Prescription Vitamin D used DrugID d03128 (D2 Ergocalciferol)
            2. OTC/Quasi Vitamin D used DrugID d03129 (D3 Cholecalciferol)

Medications that could not be assigned a Generic Name/DrugID after this second round of review were assigned a DrugID of d99999 (Unmatched, no generic name). See Appendix A for a list of DrugIDs and Generic Names in the MIDUS and MIDJA data files.

At the end of the matching process about 4% of the over 7000 MIDUS medications could not be matched. The vast majority are ALT medications, 88% compared to 2% and 10% for prescription and OTC medications, respectively. A larger proportion of the MIDJA medications are unmatched, about 33% of prescription medications and closer to half or more of the Quasi meds (54% at MIDJA 1, 47% at MIDJA 2). The Lexi-Data database was developed for use in the U.S. thus this difference is not surprising.

Assigning Therapeutic and Pharmacologic Class Codes

The Lexi-Data includes classification systems for categorizing drugs according to their therapeutic effects (i.e. how they are used to treat health problems) and their pharmacologic effects (i.e. the mechanism by which they have a given therapeutic effect). MIDUS/MIDJA medications that were Matched to Generic Names were assigned to both therapeutic and pharmacologic classes based on the DrugIDs associated with those names. UnMatched MIDUS/MIDJA medications were assigned only to therapeutic classes. The protocols for assigning codes to these groups are described separately below. Regardless of Matched or UnMatched status, the protocols for assigning the therapeutic and pharmacologic codes relies on the inherent order of those codes in the Lexi-Data system.

<u>Therapeutic Class Codes</u>

The Therapeutic Classification (TC) system has three tiers consisting of a set of nested (parent-child) categories that parallels the ways in which clinicians think about medications. The system is polyhierarchical and each therapeutic class has a unique code, thus each drug can be associated with as many categories, sub-categories and sub-sub categories as needed. Multum also strictly enforces the relationships between categories and sub-categories so that a given drug can always be described in the context of those relationships (per the Lexi-Comp Drug Classification documentation). All medications in the Lexi-Data are assigned to at least one top tier (parent) class. In addition, many top tier therapeutic classes were also assigned to one or two sub-classes. The Lexi-Data database relational structure also allows for linkage of medications to more than one parent class and/or sub-class. They have found that there is no need, as yet, for more than three parent or top tier classes for any given medication or the sub- or sub-sub-classes for any given parent class. We relied on this inherent ordering when assigning a second parent class or sub-class to a given medication. Three sets of variables were created to indicate therapeutic class and position within the hierarchy. They are named and labeled according to the conventions described above (section A) in addition the '#' represents a digit from 1-3:

__TC# - Lexi-Data major therapeutic class codes
__TC#S# - Lexi-Data Sub-class codes for major therapeutic classes
__TC#S#_1 – Lexi-Data Sub-sub-class codes for major therapeutic classes

See Appendix C for a list of therapeutic class codes and category names.

Assigning TC Codes

All the matched MIDUS/MIDJA medications were assigned to at least one TC class (__TC#). Nearly all (99%) were then assigned to at least one sub-class (__TC#S#) with about 45% of MIDUS 2, 50% of MIDUS Refresher, and 25-35% of MIDJA, also assigned to at least one sub-sub-class (__TC#S#_1). The number of medications assigned to additional TC classes drops to less than 12% for the remaining TC variables. The TC codes begin at 1 and range into the 400's, but the codes are not rank ordered. In many instances the top tier code has the lowest value and the third tier has the highest but for some medications (example #2 Atorvastatin below), the value for the top parent category is much higher than the values for the child classes.

Examples:

1. Hydrochlorothiazide (HCTZ):
    a. __TC1 (Parent/Grandparent): 40 = Cardiovascular Agents
    b. __TC1S1 (Child/Sub-category): 49 = Diuretics
    c. __TC1S1_1 (Child/Sub-Sub category): 156 = Thiazide and Thiazide Like Diuretics
2. Atorvastatin –
    a. __TC1 (Parent/Grandparent): 358 = Metabolic Agent
    b. __TC1S1 (Child/Sub-category): 19 = Antihyperlipidemic Agents
    c. __TC1S1_1 (Child/Sub-Sub category): 173 = HMG COA Reductase Inhibitors

Assigning PC Codes

The Pharmacologic Classification (PC) system is flat and does not include parent/child relationships, but drugs can be assigned to multiple pharmacologic categories. Within MIDUS/MIDJA medications can be assigned to up to 6 PC categories, thus we created a set of 6 variables named and labeled according to the following convention, where the final digit is a value from 1-6:

__PC_ - Lexi-Data pharmacologic class codes

When a medication is assigned to more than one pharmacologic category, the codes are assigned in numeric order. For example Verapamil a blood pressure medication is assigned to four pharmacologic classes as follows:

__PC1 – 971 = Antiaginal Agent
__PC2 – 980 = Antiarrythmic Agent Class IV
__PC3 – 1313 = Calcium Channel Blocker
__PC4 – 1797079 = Calcium Channel Blocker Nondihydropyridine

See Appendix C for a list of pharmacologic class codes and category names.

TC and PC Codes for Combination Medications

The Multum Therapeutic classification system also includes codes for prescription combination medications (i.e. medications containing more than one active ingredient). The TC codes for a given active ingredient in the combination include the relevant codes for when it is used alone as well as when it is used combination with another active ingredient. All the relevant pharmacologic codes were assigned, thus they may be more informative for combination medications.

For example Hydrochlorothiazide is an active ingredient that is used to treat blood pressure. It can be used alone or in combination with other active ingredients.

1. When used alone it is assigned to TC & PC classes as follows:
    a. __TC1 (Parent/Grandparent): 40 = Cardiovascular Agents

b. __TC1S1 (Child/Sub category): 49 = Diuretics
c. __TC1S1_1 (Child/Sub-Sub category): 156 = Thiazide and Thiazide Like Diuretics
d. __PC1 – Diuretic Thiazide

2. When used in combination with other medications (i.e. Lisinopril, Losartan, Triamterene etc.) it is assigned to TC & PC classes as follows:
    a. All the combinations are assigned the following Therapeutic Classification:
        i. Tier 1 (Parent/Grandparent): 40 = Cardiovascular Agents
        ii. Tier 2 (Child/Sub category): 55 = Antihypertensive Combinations
        iii. Tier 3 (Child/Sub-Sub category): There is no 3rd level.
    b. Each combination is assigned to multiple Pharmacologic categories based on the specific combination of active ingredients:
        i. Hydrochlorothiazide-Lisinopril
            957 = Angiotensin Converting Enzyme ACE Inhibitor
            1439 = Diuretic Thiazide
        ii. Hydrochlorothiazide-Losartan
            958 = Angiotensin II Receptor Blocker
            1439 = Diuretic Thiazide
        iii. Hydrochlorothiazide-Triamterene
            1438 = Diuretic Potassium Sparing
            1439 = Diuretic Thiazide

Assigning TC Codes to *UnMatched* Medications

Many of the MIDJA medications were UnMatched along with a portion of the OTC/ALT medications in MIDUS. To maximize the inclusion of UnMatched medications in cross-cultural analysis and to promote research on OTC/ALT medications (which are understudied in the U.S. compared to prescription medications) they were assigned therapeutic class codes using a process informed by coding completed for NSHAP (The National Social Life, Health, and Aging Project, Qato etal, 2009). Throughout the coding process we adopted a conservative approach in which therapeutic class codes, but not pharmacologic class codes, were assigned as the latter required information that was not available in the self-reported data. The following describes the protocol and decision rules used to assign therapeutic class codes. Ultimately, all but a handful of MIDUS/MIDJA medications were assigned to at least one therapeutic class.

UnMatched medications often consisted of a single ingredient (e.g. a particular active ingredient, vitamin, herb, or mineral) but many were comprised of multiple ingredients for which the therapeutic use was not clear. This was true of the Japanese prescription medications as well as OTC/ALT and Quasi medications. To obtain information about these medications, Google™ was used to search for websites containing information about international prescription medications and/or containing product names and labels for OTC/ALT or Quasi medications. Many of these latter medications were listed by trade/product names, thus starting with a Google search was the most efficient way to confirm the product name and to also obtain information about active ingredients and the intended use of the medication. Information from Google searches was used as follows:

1. International Sites: The most frequently used website includes:
   - http://www.drugs.com/
   - http://www.rad-ar.or.jp/siori/english/kensaku.cgi
2. When a given product was found via a Google search ingredient lists and/or relevant information about the active components of a medication the web page was printed.
3. If necessary information about the intended use of the product was compared to participant data regarding route of administration and reason for taking to confirm that the correct product had been identified.
4. If it was determined that a medication name had been misspelled and was actually present in the Lexi-Data, or was comprised of ingredients that corresponded exactly to a single generic medication name in the Lexi-Data then the generic name for that medication was changed from “UnMatched” to the newly identified generic name.

See Appendix B for additional decision rules and a glossary of terms used to facilitate this process. Lexi-Data codes were assigned only if we were confident that the information obtained was for the medication recorded in our data file.

References

Qato, D.M., Schumm, L.P., Johnson, M., Mihai, A., and Lindau, S.T., (2009). Medication Data Collection and Coding in a Home-Based Survey of Older Adults. *Journal of Gerontology: Social Sciences, 64B(S1)*, i86-i93, doi:10.1093/geronb/gbp036.

Dummy and Count Variables for Therapeutic and Pharmacologic Classes

In addition to the therapeutic and pharmacologic class code variables described above we also created a set of dummy and count variables for commonly used categories of medications. To facilitate comparison with other studies such as AHRQ and NSHAP we created these dummy variables for the most frequently occurring therapeutic classes represented in the major class variables (__TC#) and the sub-class variables (__TC#S#) as well as the pharmacologic class variables (__PC#).

After identifying the set of TC and PC classes for which dummy variables would be created, count variables were generated to determine how many medications in a given class a given individual was taking. The count variables were created for the primary parent TC classes (__TC#), but they were not created for the TC Sub-classes (second tier). Note, these count variables are only included in the larger aggregate flat file, they are not included in the stacked file.

The variable names for these dummies incorporate the first 5-6 characters of the corresponding TC and PC variables as well as the numeric code for the TC or PC class. The variable label incorporates both the TC or PC class code and the category name. If a count variable was also created, then an “N” is added as the final character to the dummy variable name. For example a common parent (top tier) therapeutic class is 115=Nutritional Products. The dummy and count variables for this TC class are named/labeled as follows:

Dummy variable: __TC_115 = ‘Multum Therapeutic Class 115 - nutritional products: YES/NO?’

Count variable: __TC_115_N = ‘Multum Therapeutic Class 115 – nutritional products: HOW MANY?’

SECTION C

CODING REASONS FOR TAKING MEDICATONS

Coding Reasons for Taking Medications

The final piece of information recorded about a medication is the participant's response to the question "Why are you taking it?" Responses to this question were recorded verbatim to capture the participants understanding of why they think they are taking the medication. Many people were able to name specific conditions or diseases (high blood pressure, diabetes, asthma, arthritis etc.) as the reason for taking a medication, but others gave more general response (i.e. bone health, heart health, etc.). In addition, many people reported taking medications "to maintain health", "because Dr./Spouse/Friend/etc. recommended it" and so on. Each response was coded into one of two mutually exclusive sets of categorical codes using a combination of more traditional procedures for coding text data and the IBM SPSS Text Analytics for Surveys (Version 4) described below. One set of codes is based on the International Disease Classification Codes, Version 9 (ICD-9) and the other was developed by MIDUS.

NOTE: the codes assigned are based on the participant's report of why they are taking a given medication. In some instances, those reasons may not correspond to the reason that a clinician prescribed or recommended a medication.

At MIDUS 2 prior to data entry an ICD-9 was assigned to the reason for taking a given medication where possible. When that wasn't possible a general "Don't Know" code was assigned. When the medication data were reviewed for the Lexi-Data linkage these reason codes were reviewed and ultimately two sets of mutually exclusive Reason codes were developed for inclusion in the data file.

1. **__ICD9M** – 3 digit numeric codes representing major categories in the International Classification of Diseases, 9th Revision. This is in contrast to the full 5 digit codes ICD-9 codes reported in clinical settings. The MIDUS/MIDJA text data are subjective reports from participants thus we adopted the more conservative approach of coding to more general categories that clearly included the specific disease/condition/symptom reported by the participant.
    a. The ICD9M codes correspond to the first 3 digits in the 5 digit ICD-9 codes. The value/category labels attached to the codes are based on the ICD-9 code labels.
    b. The ICD9 codes extend up to 999, thus 4 digit codes are used for Unable to Classify (9996), Don't Know (9997), Missing (9998), and INAPP (9999)
    c. A primary resource for this coding was the free online searchable ICD-9 database created by Alkaline Software: http://www.icd9data.com/
2. **__MDC** - 5 character alphanumeric codes developed by MIDUS. These codes were assigned when a given reason for taking a medication could not be classified into an ICD-9 category. In general a MIDUS code was assigned when:
    a. The reason was too generic/vague to be assigned to a specific ICD-9 category. Examples include "Stress" or "Stomach Acid" which were reported often enough that they have their own MIDUS category.
    b. The medication was taken for preventive purposes rather than to treat an existing condition. For example 'family history of heart disease' or 'Detox' or 'Boost immune system' or 'Brain health' etc.
    c. The medication was taken because it was recommended by a clinician, family member or friend, or has been reported in some venue (i.e. T.V., news, etc.) as being a 'Good thing to do".
    d. Some reasons could not be assigned to any of the MIDUS categories or ICD9M categories were designated as "Unable to Classify'.

With the exception of medications for which the reason was "Don't Know" or "Missing" all medications having a valid code for one of the above variables will be designated as INAPP for the other code. These variables are included in both the stacked medication file and the larger flat aggregated data files.

The __MDC codes were originally developed using reason text data from MIDUS 2 data. The alphanumeric coding categories were elaborated according to standard coding techniques after __ICD9M codes were assigned to all possible responses. The remaining responses were reviewed, a preliminary set of codes developed and assigned, and then refined/elaborated through an iterative process of independent review and then joint discussion by MIDUS Core staff.

The set of __ICD9M and __MDC codes were developed using the MIDUS 2 data. They also form the basis for coding the subsequent MIDJA and MIDUS data which collectively include thousands of medications. These two sets of MIDUS 2 codes were combined into a coding template and then imported into the SPSS Text Analytics software. The codes were then applied to response text data from MIDJA and subsequent waves of MIDUS. Codes were added to the template, and/or refined, via an iterative process as new health conditions/diseases and other reasons that were not part of the MIDUS 2 data were identified. Ultimately the coded data were exported from Text Analysis for further review by independent coders prior to finalizing the codes. A copy of the __MDC coding scheme is available in Appendix D along with a list of the __ICD9M codes.

SECTION D

APPENDICES

A: GENERIC NAMES AND DRUGIDS
B: ASSIGNING THERAPEUTIC CLASS CODES TO UNMATCHED MEDICATIONS - DECISION RULES AND GLOSSARY
C: THERAPEUTIC AND PHARMACOLOGIC CLASS CODES AND NAMES
D: REASON FOR TAKING MEDICATION - CODES AND CATEGORY NAMES

APPENDIX A: GENERIC NAMES and DRUGIDs

The following lists the Lexi-Data DrugIDs and Generic Names in the MIDUS and MIDJA data files as of August 2017. The list is in order by DrugID and will be updated as needed with future data releases.

DRUG_ID	GENERIC_NAME
d00001	acyclovir
d00002	amiodarone
d00004	atenolol
d00006	captopril
d00011	ciprofloxacin
d00012	codeine
d00013	enalapril
d00015	ibuprofen
d00016	labetalol
d00018	nadolol
d00019	naproxen
d00021	ranitidine
d00022	warfarin
d00023	allopurinol
d00024	azaTHIOprine
d00025	chloramphenicol
d00027	haloperidol
d00028	ketoprofen
d00031	probenecid
d00032	propranolol
d00033	sulindac
d00034	zidovudine
d00037	doxycycline
d00039	indomethacin
d00043	clindamycin
d00044	cloNIDine
d00045	diltiazem
d00046	erythromycin
d00047	rifampin
d00048	verapamil
d00049	acetaminophen
d00050	methadone
d00051	NIFEdipine
d00056	cefuroxime
d00058	carBAMazepine
d00060	methotrexate
d00061	lithium
d00068	ethambutol
d00069	tobramycin
d00070	furosemide
d00071	fluconazole
d00078	didanosine
d00079	cycloSPORINE
d00083	valproic acid
d00084	prednisoLONE
d00086	amantadine
d00088	amoxicillin
d00089	amoxicillin-clavulanate
d00091	azithromycin
d00096	cephalexin
d00097	clarithromycin
d00101	isoniazid
d00102	itraconazole
d00106	methenamine
d00108	metroNIDAZOLE
d00110	minocycline
d00112	nitrofurantoin
d00117	pyrazinamide
d00124	sulfamethoxazole-trimethoprim
d00132	hydrALAZINE
d00134	metoprolol
d00135	minoxidil
d00137	pindolol
d00138	prazosin
d00140	cimetidine
d00141	famotidine
d00142	theophylline
d00143	phenytoin
d00144	nortriptyline
d00145	desipramine
d00146	amitriptyline
d00148	diazepam
d00149	LORazepam
d00150	colchicine
d00151	bacampicillin
d00164	adenosine
d00168	ALPRAZolam
d00169	aMILoride
d00170	aspirin
d00175	benztropine
d00176	betaxolol
d00179	bumetanide
d00181	buPROPion
d00182	busPIRone
d00191	chlorpheniramine
d00192	chlorthalidone
d00193	cholestyramine
d00197	clonazePAM
d00198	clorazepate
d00207	dextromethorphan
d00210	digoxin
d00212	diphenhydrAMINE
d00213	dipyridamole
d00217	doxepin
d00223	epoetin alfa
d00227	ethosuximide
d00231	felodipine
d00233	fentaNYL
d00234	flecainide
d00236	FLUoxetine
d00237	fluPHENAZine
d00241	folic acid
d00242	fosinopril

d00245	gemfibrozil
d00246	glipiZIDE
d00248	glyBURIDE
d00253	hydrochlorothiazide
d00254	hydrocortisone
d00255	HYDROmorphone
d00259	imipramine
d00260	indapamide
d00262	insulin
d00268	isosorbide dinitrate
d00269	isosorbide mononitrate
d00270	isradipine
d00273	ketorolac
d00275	leucovorin
d00278	levothyroxine
d00280	lovastatin
d00284	medroxyPROGESTERone
d00289	mercaptopurine
d00290	methimazole
d00293	methylPREDNISolone
d00298	metoclopramide
d00300	mexiletine
d00303	misoprostol
d00308	morphine
d00310	nabumetone
d00314	niacin
d00316	nicotine
d00321	nitroglycerin
d00322	nizatidine
d00325	omeprazole
d00328	oxybutynin
d00329	oxyCODONE
d00330	pancuronium
d00336	pentoxifylline
d00337	phenazopyridine
d00340	PHENobarbital
d00343	piroxicam
d00345	potassium chloride
d00346	povidone iodine topical
d00348	pravastatin
d00350	predniSONE
d00352	primidone
d00355	prochlorperazine
d00358	propafenone
d00363	pyridostigmine
d00365	quinapril
d00366	quiNINE
d00370	octreotide
d00371	sotalol
d00373	spironolactone
d00377	sucralfate
d00379	sulfaSALAzine
d00381	tamoxifen
d00384	temazepam
d00386	terazosin
d00395	traZODone
d00396	triamterene
d00397	triazolam
d00402	vitamin A
d00405	vitamin E
d00409	riboflavin
d00412	pyridoxine
d00413	cyanocobalamin
d00417	bioflavonoids
d00425	calcium carbonate
d00426	ascorbic acid
d00427	potassium phosphate-sodium phosphate
d00440	sodium bicarbonate
d00484	selenium
d00488	lysine
d00491	levOCARNitine
d00496	inositol
d00497	omega-3 polyunsaturated fatty acids
d00514	ticlopidine
d00529	tranexamic acid
d00534	estrone
d00537	estradiol
d00541	conjugated estrogens
d00542	esterified estrogens
d00543	estropipate
d00550	progesterone
d00555	norethindrone
d00557	levonorgestrel
d00558	testosterone
d00563	finasteride
d00572	chorionic gonadotropin (HCG)
d00578	arginine
d00583	desmopressin
d00595	glucose
d00598	calcitonin
d00608	fludrocortisone
d00609	cortisone
d00620	triamcinolone
d00628	betamethasone
d00646	trichlormethiazide
d00651	urea topical
d00653	isosorbide
d00655	thyroid desiccated
d00658	liothyronine
d00683	lidocaine topical
d00688	bepridil
d00689	amLODIPine
d00699	EPINEPHrine
d00701	mephentermine
d00704	phenylephrine
d00709	bisoprolol
d00726	doxazosin
d00728	ramipril
d00730	benazepril
d00732	lisinopril

d00743	sodium polystyrene sulfonate
d00746	simvastatin
d00749	albuterol
d00750	metaproterenol
d00755	pirbuterol
d00760	beclomethasone
d00761	flunisolide
d00762	acetylcysteine
d00769	pseudoephedrine
d00771	naphazoline ophthalmic
d00772	oxymetazoline nasal
d00773	tetrahydrozoline ophthalmic
d00787	promethazine
d00797	guaiFENesin
d00801	caffeine
d00806	phentermine
d00810	diethylpropion
d00813	benzocaine topical
d00814	methotrimeprazine
d00817	hydroxychloroquine
d00838	butorphanol
d00842	salsalate
d00848	diclofenac
d00851	etodolac
d00855	perphenazine
d00859	meclizine
d00861	dimenhyDRINATE
d00867	ondansetron
d00874	amoxapine
d00876	clomiPRAMINE
d00877	maprotiline
d00880	sertraline
d00900	methylphenidate
d00901	pemoline
d00907	hydrOXYzine
d00910	zolpidem
d00915	estazolam
d00960	carisoprodol
d00961	chlorphenesin
d00963	cyclobenzaprine
d00964	metaxalone
d00965	methocarbamol
d00966	orphenadrine
d00967	baclofen
d00970	trihexyphenidyl
d00972	biperiden
d00985	hyoscyamine
d00986	scopolamine
d00991	clidinium
d00992	glycopyrrolate
d00999	dicyclomine
d01002	pancrelipase
d01003	pancreatin
d01005	ursodiol
d01008	magnesium citrate
d01010	cascara sagrada
d01013	senna
d01015	bisacodyl
d01017	polycarbophil
d01018	psyllium
d01021	docusate
d01025	loperamide
d01026	bismuth subsalicylate
d01027	simethicone
d01031	mesalamine
d01032	olsalazine
d01133	immune globulin intravenous
d01185	apraclonidine ophthalmic
d01187	levobunolol ophthalmic
d01200	tropicamide ophthalmic
d01231	chlorhexidine topical
d01233	nystatin
d01244	tretinoin topical
d01256	etretinate
d01267	mupirocin topical
d01272	ciclopirox topical
d01274	tolnaftate topical
d01288	clobetasol topical
d01290	desonide topical
d01291	desoximetasone topical
d01293	fluocinolone topical
d01294	fluocinonide topical
d01296	fluticasone
d01300	mometasone topical
d01319	hydroquinone topical
d01321	capsaicin topical
d01322	aluminum chloride hexahydrate topical
d01325	arnica topical
d01333	benzalkonium chloride topical
d01353	leuprolide
d01373	hydroxyurea
d01376	PACLitaxel
d01385	beta-carotene
d01386	yohimbine
d01387	alprostadil
d01406	naltrexone
d01407	flumazenil
d01423	potassium citrate
d03050	loratadine
d03051	interferon beta-1b
d03052	hydrochlorothiazide-triamterene
d03061	butalbital
d03064	choline bitartrate
d03075	HYDROcodone
d03092	protease
d03126	calcitriol
d03128	ergocalciferol
d03129	cholecalciferol
d03130	thiamine
d03131	pantothenate
d03135	phytonadione

d03137 calcium-vitamin D
d03140 multivitamin
d03141 multivitamin with iron
d03145 multivitamin with minerals
d03148 multivitamin, prenatal
d03154 doxylamine
d03157 PARoxetine
d03159 choline
d03160 SUMAtriptan
d03180 risperiDONE
d03181 venlafaxine
d03182 gabapentin
d03183 fluvastatin
d03189 torsemide
d03191 terbinafine topical
d03195 miconazole topical
d03197 betamethasone topical
d03200 erythromycin topical
d03201 acyclovir topical
d03202 ketoconazole topical
d03204 fluorouracil topical
d03205 hydrocortisone topical
d03206 triamcinolone topical
d03208 metroNIDAZOLE topical
d03210 selenium sulfide topical
d03221 prednisoLONE ophthalmic
d03226 saliva substitutes
d03227 fluorometholone ophthalmic
d03229 levocabastine ophthalmic
d03238 ethinyl estradiol-norethindrone
d03241 ethinyl estradiol-norgestrel
d03242 ethinyl estradiol-levonorgestrel
d03245 esterified estrogens-methylTESTOSTERone
d03247 hydrochlorothiazide-spironolactone
d03258 atenolol-chlorthalidone
d03261 hydrochlorothiazide-propranolol
d03265 benazepril-hydrochlorothiazide
d03266 hydrochlorothiazide-lisinopril
d03289 acetaminophen-pseudoephedrine
d03292 ibuprofen-pseudoephedrine
d03296 acetaminophen-chlorpheniramine
d03298 chlorpheniramine-pseudoephedrine
d03300 chlorpheniramine-phenylephrine
d03311 brompheniramine-phenylephrine
d03313 chlorpheniramine/phenylephrine/pyrilamine
d03331 APAP/chlorpheniramine/phenylephrine
d03342 APAP/dextromethorphan/pseudoephedrine
d03349 acetaminophen/dextromethorphan/doxylamine/PSE
d03357 codeine-promethazine
d03359 chlorpheniramine-dextromethorphan
d03360 dextromethorphan-promethazine
d03379 guaiFENesin-pseudoephedrine
d03381 guaiFENesin-phenylephrine
d03389 estradiol-testosterone
d03393 codeine-guaifenesin
d03400 dextromethorphan-guaifenesin
d03409 dextromethorphan/guaiFENesin/pseudoephedrine
d03423 acetaminophen-codeine
d03425 APAP/butalbital/caffeine/codeine
d03428 acetaminophen-HYDROcodone
d03431 acetaminophen-oxyCODONE
d03432 aspirin-oxycodone
d03434 acetaminophen-propoxyphene
d03439 APAP/ASA/caffeine
d03443 APAP/Al hydroxide/ASA/caffeine/Mg hydroxide
d03445 acetaminophen-diphenhydrAMINE
d03449 aspirin-caffeine
d03455 APAP/butalbital/caffeine
d03456 acetaminophen-butalbital
d03459 APAP/dichloralphenazone/isometheptene
d03473 carbidopa-levodopa
d03478 Al hydroxide/Mg hydroxide/simethicone
d03485 atropine/hyoscyamine/PB/scopolamine
d03492 chlordiazePOXIDE-clidinium
d03495 belladonna/ergotamine/PHENobarbital
d03496 docusate-senna
d03506 atropine-diphenoxylate
d03517 benzoic acid/methenamine/sodium salicylate
d03524 bacitracin/neomycin/polymyxin B topical
d03536 dexamethasone-tobramycin ophthalmic
d03543 hydrocortisone/neomycin/polymyxin B otic
d03561 betamethasone-clotrimazole topical
d03562 nystatin-triamcinolone topical
d03566 captopril-hydrochlorothiazide
d03591 alginic acid/Al hydroxide/Mg carbonate
d03596 alginic acid/Al hydroxide/Mg trisilicate

d03640 budesonide nasal
d03644 lactobacillus acidophilus
d03650 candida albicans extract
d03655 lidocaine-prilocaine topical
d03663 lecithin
d03664 phenol topical
d03665 menthol topical
d03668 methyl salicylate topical
d03674 pectin
d03680 ASA/citric acid/Na bicarb
d03686 undecylenic acid topical
d03689 calcium acetate
d03740 enalapril-hydrochlorothiazide
d03744 bisoprolol-hydrochlorothiazide
d03751 dexbrompheniramine-pseudoephedrine
d03752 tacrolimus
d03756 bacitracin topical
d03759 salmeterol
d03760 diphenhydrAMINE topical
d03768 ocular lubricant
d03770 emollients, topical
d03781 ethinyl estradiol-norgestimate
d03782 desogestrel-ethinyl estradiol
d03788 calcipotriene topical
d03789 potassium gluconate
d03796 magnesium chloride
d03797 magnesium oxide
d03802 calcium lactate
d03803 calcium phosphate, tribasic
d03804 fluvoxaMINE
d03805 dorzolamide ophthalmic
d03807 metFORMIN
d03808 nefazodone
d03809 lamoTRIgine
d03818 loratadine-pseudoephedrine
d03819 conjugated estrogens-medroxyPROGESTERone
d03821 losartan
d03822 ferrous gluconate
d03823 iron polysaccharide
d03824 ferrous sulfate
d03825 nisoldipine
d03826 traMADol
d03827 cetirizine
d03828 lansoprazole
d03829 amLODIPine-benazepril
d03830 hydrochlorothiazide-losartan
d03833 divalproex sodium
d03835 moexipril
d03838 valACYclovir
d03839 mycophenolate mofetil
d03846 acarbose
d03847 carvedilol
d03848 azelaic acid topical
d03849 alendronate
d03850 bicalutamide
d03858 lamiVUDine
d03864 glimepiride
d03866 calcium citrate
d03873 anastrozole
d03879 cannabis (Schedule I substance)
d03884 trolamine salicylate topical
d03897 lactase
d03898 sodium chloride, hypertonic, ophthalmic
d03908 APAP/chlorpheniramine /dextromethorphan/PPA
d03922 acetaminophen-caffeine
d03923 acetaminophen-phenylephrine
d03957 calcium/ferrous fumarate /vitamin D
d03968 dexamethasone ophthalmic
d03984 ritonavir
d03990 carbamide peroxide otic
d04008 trandolapril
d04011 interferon beta-1a
d04012 terbinafine
d04015 adapalene topical
d04017 latanoprost ophthalmic
d04025 mirtazapine
d04029 nevirapine
d04031 pilocarpine
d04032 sulfacetamide sodium-sulfur topical
d04034 remifentanil
d04035 amphetamine-dextroamphetamine
d04037 timolol ophthalmic
d04039 carteolol ophthalmic
d04040 fexofenadine
d04047 midodrine
d04048 brimonidine ophthalmic
d04050 OLANZapine
d04052 pentosan polysulfate sodium
d04055 zinc chloride
d04056 zinc gluconate
d04057 zinc sulfate
d04058 melatonin
d04063 butenafine topical
d04066 albuterol-ipratropium
d04068 azelastine nasal
d04099 donepezil
d04101 ivermectin
d04102 tiZANidine
d04105 atorvastatin
d04106 fosfomycin
d04109 levofloxacin
d04111 glatiramer
d04113 valsartan
d04115 topiramate
d04117 olopatadine ophthalmic

d04120 caffeine-ergotamine
d04121 tamsulosin
d04125 imiquimod topical
d04141 hydrochlorothiazide-moexipril
d04142 chromium picolinate
d04145 pramipexole
d04156 letrozole
d04157 loperamide-simethicone
d04168 acetaminophen /diphenhydramine /pseudoephedrine
d04181 cysteine
d04186 phenylephrine nasal
d04195 chlorophyllin
d04197 hydrocortisone/neomycin /polymyxin B topical
d04210 estradiol topical
d04213 progesterone topical
d04215 rOPINIRole
d04219 lamivudine-zidovudine
d04220 QUEtiapine
d04222 irbesartan
d04223 mometasone nasal
d04233 triamcinolone nasal
d04235 ipratropium nasal
d04241 potassium chloride-sodium chloride
d04242 sodium chloride nasal
d04245 hydrochlorothiazide-irbesartan
d04248 methylcellulose
d04253 ZOLMitriptan
d04258 clopidogrel
d04261 raloxifene
d04266 eprosartan
d04267 repaglinide
d04268 dihydroergotamine nasal
d04270 fexofenadine-pseudoephedrine
d04271 diclofenac-misoprostol
d04273 testosterone topical
d04275 beclomethasone nasal
d04276 budesonide
d04279 flunisolide nasal
d04283 fluticasone nasal
d04284 fluticasone topical
d04285 naratriptan
d04286 fenofibrate
d04289 montelukast
d04290 calcium carbonate-magnesium hydroxide
d04292 loteprednol ophthalmic
d04293 hydrochlorothiazide-valsartan
d04294 tolterodine
d04298 phenylephrine topical
d04299 sildenafil
d04300 risedronate
d04303 dorzolamide-timolol ophthalmic
d04322 candesartan
d04328 rizatriptan
d04329 sodium hyaluronate
d04332 citalopram
d04341 estradiol-norethindrone topical
d04342 inFLIXimab
d04349 leflunomide
d04357 trastuzumab
d04362 copper gluconate
d04363 sevelamer
d04364 telmisartan
d04365 etanercept
d04369 insulin regular
d04370 insulin isophane
d04373 insulin lispro
d04374 insulin isophane-insulin regular
d04375 estradiol-norethindrone
d04376 abacavir
d04378 modafinil
d04380 celecoxib
d04382 cilostazol
d04395 clotrimazole topical
d04396 conjugated estrogens topical
d04399 nystatin topical
d04407 echinacea
d04408 St. John's wort
d04411 garlic
d04412 ginseng
d04413 ginkgo
d04414 ginger
d04415 saw palmetto
d04416 valerian
d04417 creatine
d04418 glucosamine
d04419 chondroitin
d04420 chondroitin-glucosamine
d04421 evening primrose
d04424 licorice
d04425 dehydroepiandrosterone
d04426 red yeast rice
d04427 levalbuterol
d04429 orlistat
d04432 carbonyl iron
d04434 rosiglitazone
d04440 perindopril
d04442 pioglitazone
d04448 RABEprazole
d04452 zaleplon
d04459 dofetilide
d04461 exemestane
d04460 entacapone
d04463 grape seed oil
d04465 gotu kola
d04466 milk thistle
d04467 cat's claw

d04469 bee pollen
d04470 cranberry
d04472 black cohosh
d04476 bilberry
d04477 slippery elm
d04478 wild yam
d04480 eyebright
d04481 royal jelly
d04484 shark cartilage
d04486 rose hips
d04487 peppermint
d04488 lavender
d04490 green tea
d04491 flax
d04499 levETIRAcetam
d04503 nedocromil ophthalmic
d04509 hydrochlorothiazide-quinapril
d04510 insulin lispro-insulin lispro protamine
d04513 OXcarbazepine
d04514 pantoprazole
d04521 nettles
d04522 papaya
d04523 ubiquinone
d04527 zonisamide
d04532 meloxicam
d04538 insulin glargine
d04541 azelastine ophthalmic
d04572 formoterol
d04611 fluticasone-salmeterol
d04695 colesevelam
d04697 insulin aspart
d04702 docosanol topical
d04703 glyBURIDE-metFORMIN
d04708 zoledronic acid
d04711 candesartan-hydrochlorothiazide
d04722 diclofenac topical
d04723 calcium carbonate/famotidine/Mg hydroxide
d04737 hydrochlorothiazide-telmisartan
d04740 tacrolimus topical
d04743 nateglinide
d04747 ziprasidone
d04749 esomeprazole
d04753 travoprost ophthalmic
d04754 bimatoprost ophthalmic
d04760 drospirenone-ethinyl estradiol
d04764 cetirizine-pseudoephedrine
d04765 hydrocortisone-lidocaine topical
d04766 acetaminophen-traMADol
d04773 ethinyl estradiol-etonogestrel
d04774 tenofovir
d04776 frovatriptan
d04778 valdecoxib
d04784 pimecrolimus topical
d04785 desloratadine
d04787 lovastatin-niacin
d04788 dutasteride
d04795 budesonide-formoterol
d04797 alfuzosin
d04798 tegaserod
d04801 olmesartan
d04803 voriconazole
d04806 sodium oxybate
d04812 escitalopram
d04813 horse chestnut
d04815 eplerenone
d04819 buprenorphine-naloxone
d04820 metFORMIN-rosiglitazone
d04823 glipiZIDE-metFORMIN
d04824 ezetimibe
d04825 ARIPiprazole
d04827 atomoxetine
d04828 teriparatide
d04829 tiotropium
d04835 adalimumab
d04836 cycloSPORINE ophthalmic
d04839 insulin aspart-insulin aspart protamine
d04844 camphor-menthol topical
d04849 eletriptan
d04851 rosuvastatin
d04857 gatifloxacin ophthalmic
d04860 moxifloxacin ophthalmic
d04875 betaine
d04878 hydrochlorothiazide-olmesartan
d04881 omalizumab
d04882 atazanavir
d04893 vardenafil
d04896 tadalafil
d04898 epinastine ophthalmic
d04899 memantine
d04901 fosamprenavir
d04929 trospium
d04939 sodium picosulfate
d05027 estriol
d05044 betamethasone-calcipotriene topical
d05048 amLODIPine-atorvastatin
d05062 carbocysteine
d05218 cinacalcet
d05234 hyaluronan
d05265 nebivolol
d05283 brimonidine-timolol ophthalmic
d05348 ezetimibe-simvastatin
d05350 polyethylene glycol 3350
d05352 emtricitabine-tenofovir
d05355 DULoxetine
d05357 ibandronate
d05365 dexchlorpheniramine /HYDROcodone/phenylephrin
d05413 solifenacin

d05414 natalizumab
d05421 eszopiclone
d05422 darifenacin
d05436 insulin detemir
d05471 alpha-D-galactosidase
d05488 pramlintide
d05508 pregabalin
d05526 alendronate-cholecalciferol
d05529 exenatide
d05578 ramelteon
d05583 APAP/dextromethorphan /phenylephrine
d05635 metFORMIN-pioglitazone
d05637 lactobacillus rhamnosus GG
d05646 saccharomyces boulardii lyo
d05702 methylsulfonylmethane
d05703 chondroitin/glucosamine /methylsulfonylmethane
d05719 ranolazine
d05748 brewer's yeast
d05770 omeprazole-sodium bicarbonate
d05776 iodine
d05807 varenicline
d05819 diphenhydrAMINE-ibuprofen
d05825 darunavir
d05847 efavirenz/emtricitabine/tenofovir
d05851 levocetirizine
d05856 glimepiride-pioglitazone
d05896 sitaGLIPtin
d05899 ciclesonide nasal
d05964 aloe vera
d06032 fluocinolone otic
d06214 collagen
d06297 paliperidone
d06370 turmeric
d06392 wheat dextrin
d06507 cinnamon
d06649 calcium carbonate-magnesium chloride
d06652 strontium gluconate
d06655 alpha-lipoic acid
d06662 amLODIPine-valsartan
d06663 lisdexamfetamine
d06720 metFORMIN-sitaGLIPtin
d06833 acetaminophen-aspirin
d06842 armodafinil
d06848 lutein
d06852 maraviroc
d06867 biotin
d06905 amlodipine-olmesartan
d07048 raltegravir
d07076 etravirine
d07113 desvenlafaxine
d07130 naproxen-SUMAtriptan
d07132 olopatadine nasal
d07137 dabigatran
d07315 glutamine
d07347 bifidobacterium infantis
d07349 lacosamide
d07354 silodosin
d07356 rivaroxaban
d07373 d-xylitol
d07374 bimatoprost topical ophthalmic
d07395 dexlansoprazole
d07397 febuxostat
d07400 bifidobacterium-lactobacillus
d07409 prasugrel
d07466 liraglutide
d07482 bepotastine ophthalmic
d07498 amLODIPine-telmisartan
d07505 copper
d07637 pitavastatin
d07639 acetaminophen/CPM /dextromethorphan/GG
d07640 denosumab
d07645 onabotulinumtoxinA
d07659 caffeine-magnesium salicylate
d07660 formoterol-mometasone
d07668 amlodipine/hydrochlorothiazide /olmesartan
d07693 aspirin-calcium carbonate
d07705 lurasidone
d07709 metformin-saxagliptin
d07717 acyclovir-hydrocortisone topical
d07740 vilazodone
d07754 azilsartan
d07764 famotidine-ibuprofen
d07767 linagliptin
d07804 apixaban
d07831 tyrosine
d07876 mirabegron
d07885 aclidinium
d07891 icosapent
d07902 linaclotide
d07905 teriflunomide
d07921 capsaicin-menthol topical
d08070 ospemifene
d08079 dimethyl fumarate
d08080 canagliflozin
d08117 dolutegravir
d08187 umeclidinium
d08272 tavaborole topical
d08275 empagliflozin
d08349 diphenhydramine-naproxen
d08362 olodaterol-tiotropium
d99999 Unmatched, no generic name

APPENDIX B: ASSIGNING THERAPEUTIC CLASS CODES TO UNMATCHED MEDICATIONS – DECISION RULES AND GLOSSARY

Introduction

A central objective of the coding task was to be as precise as possible based on the supporting information available. Thus, UnMatched medications (see Section B above for additional details) were assigned to all possible classes based on:

1. Ingredient lists – if individual ingredients appear in the Lexi-Data, this information is used to determine therapeutic class assignment.
2. Results of internet searches (e.g. intended use)
3. Information provided by study participants (e.g. route of administration and why participant is taking the medication)

The following rules that guided this process in combination with a glossary of terms (see below) that was created as a resource for use in making decisions about therapeutic class assignments.

Decision rules for linking Therapeutic Class (TC) codes to the UNMatched medications

UnMatched medications were reviewed and assigned TC codes according to the following guidelines.

1. If the medication contains a *single* ingredient:
    a. Assign the appropriate Generic Medication name if possible
    b. If not possible, assign the appropriate class code to as great a level of specificity as possible. For example:
        i. Alfalfa – TC1 = Alternative Medications; TC1S1 = Herbal Products
        ii. Silica –TC1= Nutritional Products; TC1S1=Minerals and Electrolytes
2. If the medication contains *multiple* ingredients **and**:
    a. All ingredients belong to a single therapeutic class, **and** the combination cannot be linked to a generic name, assign that Therapeutic Class code. For example:
        i. Cayenne Golden Seal (Cayenne Pepper and other herbs) – TC1 = Alternative Medications; TC1S1 = Herbal Products
        ii. Magnesium with Zinc – TC1= Nutritional Products; TC1S1=Minerals and Electrolytes

OR

    b. Ingredients belong to 2 or more therapeutic classes then specify all appropriate classes:
        i. Nu-Zimes – TC1= Gastrointestinal Agents; TC1S1=Digestive Enzyme and TC2=Alternative Medications; TC2S1=Probiotics
        ii. Estroven – TC1=Alternative Medications; TC1S1=Nutraceutical Products; TC1S2=Herbal Products

3. Additional Rules: MIDUS project staff coded the UnMatched medications and then the codes were reviewed by Dr. David Kiefer. The following rules were implemented based on that review and subsequent discussion with Dr. Love.
    a. Oils (e.g. borage, black currant, etc.) – are classified as both Herbals and Nutraceuticals if they are derived from plants.
    b. Chlorella is an alga, but algae are not plants, thus medications containing Chlorella should be classified as Nutraceuticals.
    c. Silver is a metal, not a mineral, thus it should be classified as a Nutraceutical.
    d. Quercitin – should be classified as an Herbal, as well as a Nutraceutical if it is derived from a plant.
    e. Foods (e.g. Vinegar, Maitake mushrooms, juices) are assigned to one or more therapeutic class if dose (i.e. reported in mg, capsule, tablespoons, ounces etc.) and reason for taking confirm medicinal use.
    f. Homeopathic remedies are classified as Alternative Medicines. Homeopathy seeks to stimulate the body's ability to heal itself by giving very small doses of highly diluted substances. This therapeutic method was developed by German physician Samuel Christian Hahnemann at the end of the 18th century. Homeopathic remedies are derived from natural substances that come from plants minerals, or animals. Common remedies include red onion, arnica (mountain herb), and stinging nettle plant. (downloaded on 4-3-12 from http://nccam.nih.gov/health/homeopathy)

Glossary of Terms

Most of UnMatched medications were reported as Alternative or Quasi, thus a glossary of terms was created as a resource for use in assigning therapeutic class codes. The website for the National Center for Complementary and Alternative Medicine (NCCAM; http://nccam.nih.gov/health) was a primary resource for these definitions. If relevant information was not available through NCCAM information was obtained through internet searches using the search engine Google™ (www.google.com) that typically led to one or more of the following websites.

- U.S. Food and Drug Administration: http://www.fda.gov
- American Association of Clinical Endocrinologists: https://www.aace.com/sites/default/files/Nutraceuticals2003.pdf
- Medical Dictionary: http://medical-dictionary.thefreedictionary.com
- UC Berkeley Wellness Newsletter: http://www.wellnessletter.com
- Wikipedia: http://en.wikipedia.org/wiki

The source of glossary definitions and the date the information was obtained is included in each listing. Included with the definitions are lists of generic medication names in these categories from the Lexicon as well as examples of MIDUS medications names that meet the categorical definitions but don't appear in the Lexicon. The glossary structure parallels the tiered therapeutic class structure in that the parent class is listed first and then the relevant child classes. Class codes are in parenthesis following the class name.

Gastrointestinal Agents (87)*:* Drugs used for their effects on the gastrointestinal system, as to control gastric acidity, regulate gastrointestinal motility and water flow, and improve digestion. (downloaded on 1-12-12 from http://www.reference.md/files/D005/mD005765.html)

a. **Digestive enzymes (91)**: proteins that catalyze reactions between other chemicals by reducing the energy required for the reactions. They include **salivary** (amylase), **gastric** (pepsin), **pancreatic** (trypsin, chymotrypsin, amylase, lipase), **small intestinal mucosa** (carbohydrases including isomaltase, lactase, maltase, sucrase, trehalase). (downloaded on 1-17-12 from http://medical-dictionary.thefreedictionary.com/Digestive+enzymes).

Examples from *Lexicon*:

- alpha-D-galactosidase, amylase/cellulase/lipase/protease,
- cellulase/hyoscyamin/pancrelipase/phenyltolox,
- digestive enzymes/hyoscyamine/phenyltoloxamin,
- lactase, lipase,
- pancreatin, pancrelipase, pepsin, phytase, protease,
- sacrosidase,

Examples from *MIDUS UnMatched*

- Enzaid, Nu-zimes, Colon Cleanse

b. **Laxatives (95)**: drugs that promote bowel movements. They are used to prevent or treat constipation. They are also used to prepare the bowel for an examination or surgical procedure. Laxatives work in different ways, by stimulating colon movement, adding bulk to the contents of the colon, or drawing fluid or fat into the intestine. Some laxatives work by combining these functions. Most primary care physicians recommend that patients try the bulk-producing laxatives first before taking saline or stimulant laxatives.

Note: when assigning TC codes the reason the person was taking a product that included psyllium or polycarbophil was used to determine the code assigned. If the participant reported taking the medication as a source of "Fiber" then the TC code for bulk-producing Laxative was assigned (see below).

i. Bisacodyl is a non-prescription stimulant laxative. It reduces short-term constipation and is also used to prepare the colon or rectum for an examination or surgical procedure. The drug works by stimulating colon movement (peristalsis); constipation is usually relieved within 15 minutes to one hour after administration of a suppository form and in 6 to 12 hours after taking the drug orally.

ii. Docusate Calcium/Docusate Sodium, a non-prescription laxative, helps a patient avoid constipation by softening the stool. It works by increasing the penetration of fluids into the stool by emulsifying feces, water and fat. Docusate prevents constipation and softens bowel movements and fecal impactions. This laxative should relieve constipation within one to three days.

iii. Senna/senokot is a non-prescription laxative that reduces constipation by promoting colon movement

Examples from *Lexicon*: psyllium, psyllium-senna, wheat dextrin, polycarbophil, sorbitol

Examples from *MIDUS UnMatched*: Natural vegetable laxative

Nutritional Products (115): Nutritional supplements include vitamins, minerals, herbs, meal supplements, sports nutrition products, natural food supplements, and other related products used to boost the nutritional content of the diet. Nutritional supplements are used for many purposes. They can be added to the diet to boost overall health and energy; to provide immune system support and reduce the risks of illness and age-related conditions; to improve performance in athletic and mental activities; and to support the healing process during illness and disease. However, most of these products are treated as food and not regulated as drugs are. (downloaded from http://medical-dictionary.thefreedictionary.com/Nutritional+Supplements 1-12-12)

a. **Minerals and Electrolytes (117)**:

Examples from *Lexicon*:

- ammonium chloride, ammonium molybdate tetrahydrate,
- calcium acetate, calcium acetate-magnesium carbonate, calcium carbonate, calcium carbonate-sodium fluoride, calcium chloride, calcium citrate, calcium glubionate, calcium gluceptate, calcium gluconate, calcium glycerophosphate, calcium glycerophosphate-calcium lactate, calcium lactate, calcium phosphate, tribasic,
- chromic chloride hexahydrate, chromium picolinate,
- citric acid, citric acid/K citrate/Na citrate, citric acid-potassium bicarbonate, citric acid-potassium citrate, citric acid-sodium citrate,
- copper chloride, copper gluconate, copper sulfate,

- electrolyte replacement solutions, oral,
- fluoride, fluoride topical,
- iodine, iodine-potassium iodide, lanthanum carbonate,
- magnesium amino acids chelate, magnesium aspartate, magnesium carbonate, magnesium chloride, magnesium gluconate, magnesium lactate, magnesium oxide, magnesium sulfate, magnesium trisilicate,
- manganese chloride, manganese sulfate,
- potassium acetate, potassium acetate/K bicarbonate/K citrate, potassium bicarbonate, potassium bicarbonate-potassium chloride, potassium bicarbonate-potassium citrate, potassium bitartrate, potassium chloride, potassium chloride-sodium chloride, potassium gluconate, potassium phosphate, potassium phosphate-sodium phosphate, potassium sulfate,
- selenium,
- sodium acetate, sodium bicarbonate, sodium chloride, sodium iodide, sodium lactate, sodium phosphate,
- strontium gluconate, tromethamine,
- zinc acetate, zinc chelazome, zinc chloride, zinc citrate, zinc gluconate, zinc glycinate, zinc sulfate

Examples from *MIDUS UnMatched*

- Juice Plus products
- Boost
- Essential Fatty Acids (product name)

b. **Oral Nutritional Supplements (118)**: Dextrose is a common oral nutritional supplement. It is used chiefly as a fluid and nutrient replenisher, and also as a diuretic and for various other clinical purposes. Dextrose is sometimes taken as a health supplement when blended with other substances, usually creatine and glutamine, according to Bodyactiveonline.com. Athletes, body builders and those seeking to lose weight can take a 50-mg dose just after working out to optimize the way the body processes protein and other nutrients. It also provides the body with a post-workout energy boost.)

Examples from *Lexicon*:

- Nutritional Supplments : bioflavonoids-zinc glycinate, cysteine, fluoride, lysine, medium chain triglycerides
- Oral Nutritional Supplements: Arginine, citicoline, d-xylitol, fat supplement, oral medium chain triglycerides, phytase-zinc citrate, potassium aminobenzoate

Examples from *MIDUS UnMatched*

- Nature's Plus Source of Life Energy Shake, Losol

Alternative Medications (218)*:* NCCAM (http://nccam.nih.gov/health/whatiscam) defines Complementary and Alternative Medicine (CAM) as a group of diverse medical and health care systems, practices, and products that are not generally considered part of conventional medicine. Conventional medicine (also called Western or allopathic medicine) is medicine as practiced by holders of M.D. (medical doctor) and D.O. (doctor of osteopathy medicine) degrees and by allied health professionals, such as physical therapists, psychologists, and registered nurses. The boundaries between CAM and conventional medicine are not absolute, and specific CAM practices may, over time, become widely accepted. "Complementary medicine" refers to use of CAM **together with** conventional medicine, such as using acupuncture in addition to usual care to help lessen pain. Most use of CAM by Americans is complementary. "Alternative medicine" refers to use of CAM **in place of** conventional medicine. "Integrative medicine" combines treatments from conventional medicine and CAM for which there is some high-quality evidence of safety and effectiveness. It is also called integrated medicine. CAM practices are often grouped into broad categories, such as natural products, mind and body and medicine, manipulative and body-based practices. Although these categories are not formally defined, they are useful for discussing CAM practices. Some CAM practices may fit into more than one category.

The Natural Products practice is most relevant for the coding medication. This area of CAM includes use of a variety of herbal medicines (also known as botanicals), vitamins, minerals, and other "natural products." Many are sold over the counter as dietary supplements. (Some uses of dietary supplements—e.g., taking a multivitamin to meet minimum daily nutritional requirements or taking calcium to promote bone health—are not thought of as CAM.) CAM "natural products" also include probiotics—live microorganisms (usually bacteria) that are similar to microorganisms normally found in the human digestive tract and that may have beneficial effects. Probiotics are available in foods (e.g., yogurts) or as dietary supplements. They are not the same thing as prebiotics—nondigestible food ingredients that selectively stimulate the growth and/or activity of microorganisms already present in the body.

Note: NCCAM does not identify nutraceuticals specifically as CAM but the following was obtained through a link on the NCCAM website. In addition the Lexicon identifies Nutraceuticals as a sub-class of Alternative Medications.

a. **Nutraceutical Products (219)**: dietary supplements that contain a concentrated form of a presumed bioactive substance originally derived from a food, but now present in a nonfood matrix, and used to enhance health in dosages exceeding those obtainable from normal foods (13). For instance, soy protein is a dietary supplement, but ipriflavone, a synthetic derivative of the isoflavone daidzein found in soy protein,

is a nutraceutical. One might not be able to ingest sufficient soy protein to provide the amounts of ipriflavone necessary to have effects on bone health. Another example is ingestion of concentrated omega-3 fatty acid (fish oil) capsules in comparison with eating the pounds of fish necessary for a cardioprotective effect. (downloaded 1-12-12 from -https://www.aace.com/sites/default/files/Nutraceuticals2003.pdf):

Examples from *Lexicon*:

- alpha-lipoic acid, betaine,
- choline, chondroitin, chondroitin/glucosamine/methylsulfonylmethane, chondroitin-glucosamine, creatine,
- dehydroepiandrosterone,
- genistein, glucosamine, glutamic acid, glutamine,
- inositol, lecithin, levOCARNitine, lutein, lysine,
- melatonin, methionine, methylsulfonylmethane,
- omega-3 polyunsaturated fatty acids,
- pycnogenol, red yeast rice, s-adenosylmethionine,
- threonine, tryptophan, ubiquinone

Examples from *MIDUS UnMatched*:

- Quercitin – plant derived flavonoid used in supplements, beverages, or foods.
- Inulin - a starchy substance found in a wide variety of fruits, vegetables, and herbs. It is most commonly obtained by soaking chicory roots in hot water. Inulin is not digested or absorbed in the stomach. It goes to the bowels where bacteria are able to use it to grow. It supports the growth of a special kind of bacteria that are associated with improving bowel function and general health. Inulin decreases the body's ability to make certain kinds of fats. It is also known as -Beta(2-1) fructans, Chicory Extract, Chicory Inulin, Dahlia Extract, Dahlia Inulin, Fructo-Oligosaccharides, Fructooligosaccharides, Inulina, Inuline, Long-chain Oligosaccharides, Oligosaccharides, Prebiotic.
- Ipriflavone
- Adrenal or other Animal tissue
- Concentrates from plans e.g. phytosterol
- Astaxanthin (carotenoid)
- Soy Products listed as “soy tablets” or “soy menopause supplements” are coded as nutraceuticals. Google searches of these products indicate that they typically contain soy isoflavones

b. ***Herbal Products***: An herb is a plant or plant part (such as leaves, flowers, or seeds) that is used for its flavor, scent, and/or therapeutic properties. "Botanical" is often used as a synonym for "herb." An herbal product may contain a single herb or mixtures of herbs (downloaded on 1-12-12 from - http://nccam.nih.gov/health/supplements/wiseuse.htm)

Examples from *Lexicon*:

- 5-hydroxytryptophan, aloe vera, aloe vera topical, arnica topical,
- barberry, bee pollen, bilberry, bilberry/evening primrose/flax, black cohosh, black haw, blue cohosh,
- capsicum, cat's claw, chamomile, chaparral, cinnamon, clove, comfrey, cranberry,
- damiana, dandelion, devil's claw, dong quai,
- Echinacea, evening primrose, eyebright,
- fennel, fenugreek, feverfew, flax,
- garlic, gentian, ginger, ginkgo, ginseng, Goldenseal, gotu kola, grape seed oil, green tea, guarana,
- horse chestnut, jojoba topical, kava, lavender, licorice, ma huang, milk thistle, nettles,
- papaya, pennyroyal, peppermint, pitcher plant, raspberry, rose hips, royal jelly,
- saw palmetto, skullcap, shark cartilage, slippery elm, St. John's wort,
- tea tree topical, turmeric, valerian, wild yam.

Examples from *MIDUS UnMatched*:

- Acai, Alfalfa, Black Currant Oil, Burdock Root

c. **Probiotics (363)**: Probiotics are live microorganisms (e.g., bacteria) that are either the same as or similar to microorganisms found naturally in the human body and may be beneficial to health. Also referred to as "good bacteria" or "helpful bacteria," probiotics are available to consumers in oral products such as dietary supplements and yogurts, as well as other products such as suppositories and creams. (downloaded on 1-12-12 from - http://nccam.nih.gov/health/probiotics/introduction.htm)

Examples from *Lexicon*:

- bifidobacterium infantis, bifidobacterium-lactobacillus, brewer's yeast,
- lactobacillus acidophilus, lactobacillus bulgaricus, lactobacillus casei, lactobacillus reuteri, lactobacillus rhamnosus GG,

- lactobacillus acidophilus and bulgaricus, lactobacillus acidophilus-lactobacillus casei,
- saccharomyces boulardii lyo

Examples from *MIDUS UnMatched*:

- Primal Defense, Probioplex Intensive Care, Lactozyme

APPENDIX C: THERAPEUTIC AND PHARMACOLOGIC CLASS CODES AND NAMES

This Appendix contains two lists 1) Therapeutic Class (TC) codes and category names, and 2) Pharmacologic Class (PC) codes and categories included in the MIDUS and MIDJA data files as of May 2017. These lists will be updated as needed at future releases. See MIDUS-MIDJA Biomarker Medication Documentation for details.

Therapeutic Class Codes and Names

The Therapeutic Classification (TC) system has three tiers consisting of a set of nested (parent-child) categories that parallels the ways in which clinicians think about medications. The system is polyhierarchical and each therapeutic class has a unique code. See Section B above for details. The list below is organized in nested in numeric order. The top tier (Parent/Grandparent) class codes are in the leftmost column. All middle tier (Parent/Child) class codes are listed under their top tier parent code. Similarly, all bottom tier (Child/Grandchild) class codes are listed under their middle tier "Parent" codes. All category names are listed in the rightmost column. Color coding is used to help illustrate the relationships among the therapeutic classes.

Multum Therapeutic Classes			
Top Tier (Parent/ Grandparent)	Middle Tier (Parent/ Child)	Bottom Tier (Child/ GrandChild)	Therapeutic Class Names
1			ANTI-INFECTIVES
	2		AMEBICIDES
	3		ANTHELMINTICS
	4		ANTIFUNGALS
		235	POLYENES
		236	AZOLE ANTIFUNGALS
		237	MISCELLANEOUS ANTIFUNGALS
	5		ANTIMALARIAL AGENTS
		238	ANTIMALARIAL QUINOLINES
		239	MISCELLANEOUS ANTIMALARIALS
	6		ANTITUBERCULOSIS AGENTS
		232	RIFAMYCIN DERIVATIVES
		234	MISCELLANEOUS ANTITUBERCULOSIS AGENTS
		457	HYDRAZIDE DERIVATIVES
	7		ANTIVIRAL AGENTS
		175	PROTEASE INHIBITORS

Top Tier (Parent/ Grandparent)	Middle Tier (Parent/ Child)	Bottom Tier (Child/ GrandChild)	Therapeutic Class Names
		176	NRTIS
		177	MISCELLANEOUS ANTIVIRALS
		227	NNRTIS
		229	PURINE NUCLEOSIDES
		281	NEURAMINIDASE INHIBITORS
		327	ANTIVIRAL COMBINATIONS
		364	ANTIVIRAL CHEMOKINE RECEPTOR ANTAGONIST
		366	INTEGRASE STRAND TRANSFER INHIBITOR
		480	ANTIVIRAL BOOSTERS
	9		CEPHALOSPORINS
		159	FIRST GENERATION CEPHALOSPORINS
		160	SECOND GENERATION CEPHALOSPORINS
		161	THIRD GENERATION CEPHALOSPORINS
	11		MACROLIDE DERIVATIVES
		304	MACROLIDES
	12		MISCELLANEOUS ANTIBIOTICS
	13		PENICILLINS
		224	AMINOPENICILLINS
		225	PENICILLINS BETA LACTAMASE INHIBITORS
	14		QUINOLONES
	15		SULFONAMIDES
	16		TETRACYCLINES
	17		URINARY ANTI INFECTIVES
	18		AMINOGLYCOSIDES
	240		LINCOMYCIN DERIVATIVES
20			ANTINEOPLASTICS
	23		ANTIMETABOLITES
	24		ANTINEOPLASTIC HORMONES
	454		PROTEASOME INHIBITORS
28			BIOLOGICALS
	34		IN VIVO DIAGNOSTIC BIOLOGICALS
40			CARDIOVASCULAR AGENTS
	42		ANGIOTENSIN CONVERTING ENZYME INHIBITORS

Top Tier (Parent/ Grandparent)	Middle Tier (Parent/ Child)	Bottom Tier (Child/ GrandChild)	Therapeutic Class Names
	43		ANTIADRENERGIC AGENTS PERIPHERALLY ACTING
	44		ANTIADRENERGIC AGENTS CENTRALLY ACTING
	45		ANTIANGINAL AGENTS
	46		ANTIARRHYTHMIC AGENTS
		385	GROUP I ANTIARRHYTHMICS
		386	GROUP II ANTIARRHYTHMICS
		387	GROUP III ANTIARRHYTHMICS
		388	GROUP IV ANTIARRHYTHMICS
		389	GROUP V ANTIARRHYTHMICS
	47		BETA ADRENERGIC BLOCKING AGENTS
		274	CARDIOSELECTIVE BETA BLOCKERS
		275	NON-CARDIOSELECTIVE BETA BLOCKERS
	48		CALCIUM CHANNEL BLOCKING AGENTS
	49		DIURETICS
		154	LOOP DIURETICS
		155	POTASSIUM-SPARING DIURETICS
		156	THIAZIDE AND THIAZIDE-LIKE DIURETICS
	50		INOTROPIC AGENTS
	51		MISCELLANEOUS CARDIOVASCULAR AGENTS
	52		PERIPHERAL VASODILATORS
	53		VASODILATORS
	54		VASOPRESSORS
	55		ANTIHYPERTENSIVE COMBINATIONS
		467	ACE INHIBITORS WITH THIAZIDES
		470	MISCELLANEOUS ANTIHYPERTENSIVE COMBINATIONS
		472	BETA BLOCKERS WITH THIAZIDES
		473	ANGIOTENSIN II INHIBITORS WITH THIAZIDES
		474	BETA BLOCKERS WITH CALCIUM CHANNEL BLOCKERS
		475	POTASSIUM SPARING DIURETICS WITH THIAZIDES
		476	ACE INHIBITORS WITH CALCIUM CHANNEL BLOCKING AGENTS

Top Tier (Parent/ Grandparent)	Middle Tier (Parent/ Child)	Bottom Tier (Child/ GrandChild)	Therapeutic Class Names
		479	ANGIOTENSIN II INHIBITORS WITH CALCIUM CHANNEL BLOCKERS
	56		ANGIOTENSIN II INHIBITORS
	303		AGENTS FOR PULMONARY HYPERTENSION
	340		ALDOSTERONE RECEPTOR ANTAGONISTS
	433		CATECHOLAMINE VASOPRESSORS
57			CENTRAL NERVOUS SYSTEM AGENTS
	58		ANALGESICS
		59	MISCELLANEOUS ANALGESICS
		60	NARCOTIC ANALGESICS
		61	NONSTEROIDAL ANTI-INFLAMMATORY AGENTS
		62	SALICYLATES
		63	ANALGESIC COMBINATIONS
		191	NARCOTIC ANALGESIC COMBINATIONS
		193	ANTIMIGRAINE AGENTS
		278	COX-2 INHIBITORS
	64		ANTICONVULSANTS
		199	HYDANTOIN ANTICONVULSANTS
		200	SUCCINIMIDE ANTICONVULSANTS
		201	BARBITURATE ANTICONVULSANTS
		203	BENZODIAZEPINE ANTICONVULSANTS
		204	MISCELLANEOUS ANTICONVULSANTS
		311	DIBENZAZEPINE ANTICONVULSANTS
		345	FATTY ACID DERIVATIVE ANTICONVULSANTS
		347	GAMMA-AMINOBUTYRIC ACID ANALOGS
		348	TRIAZINE ANTICONVULSANTS
		350	PYRROLIDINE ANTICONVULSANTS
		351	CARBONIC ANHYDRASE INHIBITOR ANTICONVULSANTS
	65		ANTIEMETIC ANTIVERTIGO AGENTS
		195	5HT3 RECEPTOR ANTAGONISTS
		196	PHENOTHIAZINE ANTIEMETICS
		197	ANTICHOLINERGIC ANTIEMETICS

Top Tier (Parent/ Grandparent)	Middle Tier (Parent/ Child)	Bottom Tier (Child/ GrandChild)	Therapeutic Class Names
		198	MISCELLANEOUS ANTIEMETICS
	66		ANTIPARKINSON AGENTS
		205	ANTICHOLINERGIC ANTIPARKINSON AGENTS
		276	DOPAMINERGIC ANTIPARKINSONISM AGENTS
	67		ANXIOLYTICS SEDATIVES AND HYPNOTICS
		68	BARBITURATES
		69	BENZODIAZEPINES
		70	MISCELLANEOUS ANXIOLYTICS, SEDATIVES AND HYPNOTICS
	71		CNS STIMULANTS
	73		MUSCLE RELAXANTS
		74	NEUROMUSCULAR BLOCKING AGENTS
		178	SKELETAL MUSCLE RELAXANTS
	80		MISCELLANEOUS CENTRAL NERVOUS SYSTEM AGENTS
	313		CHOLINESTERASE INHIBITORS
	378		DRUGS USED IN ALCOHOL DEPENDENCE
81			COAGULATION MODIFIERS
	82		ANTICOAGULANTS
		262	COUMARINS AND INDANEDIONES
		283	THROMBIN INHIBITORS
		285	FACTOR XA INHIBITORS
	83		ANTIPLATELET AGENTS
		211	PLATELET AGGREGATION INHIBITORS
	85		MISCELLANEOUS COAGULATION MODIFIERS
87			GASTROINTESTINAL AGENTS
	88		ANTACIDS
	90		ANTIDIARRHEALS
	91		DIGESTIVE ENZYMES
	92		GALLSTONE SOLUBILIZING AGENTS
	93		GI STIMULANTS
	94		H2 ANTAGONISTS
	95		LAXATIVES

Top Tier (Parent/ Grandparent)	Middle Tier (Parent/ Child)	Bottom Tier (Child/ GrandChild)	Therapeutic Class Names
	96		MISCELLANEOUS GI AGENTS
	272		PROTON PUMP INHIBITORS
	277		5 AMINOSALICYLATES
	355		FUNCTIONAL BOWEL DISORDER AGENTS
		89	ANTICHOLINERGICS ANTISPASMODICS
		455	GUANYLATE CYCLASE C AGONISTS
97			HORMONES/HORMONE MODIFIERS
	98		ADRENAL CORTICAL STEROIDS
		301	GLUCOCORTICOIDS
		302	MINERALOCORTICOIDS
	101		SEX HORMONES
		102	CONTRACEPTIVES
		182	ANDROGENS AND ANABOLIC STEROIDS
		183	ESTROGENS
		184	GONADOTROPINS
		185	PROGESTINS
		186	SEX HORMONE COMBINATIONS
		279	GONADOTROPIN-RELEASING HORMONE AND ANALOGS
	103		THYROID HORMONES
	288		5 ALPHA REDUCTASE INHIBITORS
	411		CALCITONIN
	416		SOMATOSTATIN AND SOMATOSTATIN ANALOGS
	417		SELECTIVE ESTROGEN RECEPTOR MODULATORS
	418		PARATHYROID HORMONE AND ANALOGS
	420		ANTIANDROGENS
	423		AROMATASE INHIBITORS
105			MISCELLANEOUS AGENTS
	106		ANTIDOTES
	107		CHELATING AGENTS
	108		CHOLINERGIC MUSCLE STIMULANTS
	109		LOCAL INJECTABLE ANESTHETICS
	110		MISCELLANEOUS UNCATEGORIZED AGENTS

Top Tier (Parent/ Grandparent)	Middle Tier (Parent/ Child)	Bottom Tier (Child/ GrandChild)	Therapeutic Class Names
	114		ILLICIT STREET DRUGS
	192		ANTIRHEUMATICS
	270		ANTIPSORIATICS
	284		VISCOSUPPLEMENTATION AGENTS
	320		SMOKING CESSATION AGENTS
113			GENITOURINARY TRACT AGENTS
	263		IMPOTENCE AGENTS
	264		URINARY ANTISPASMODICS
	265		URINARY PH MODIFIERS
	266		MISCELLANEOUS GENITOURINARY TRACT AGENTS
115			NUTRITIONAL PRODUCTS
	116		IRON PRODUCTS
	117		MINERALS AND ELECTROLYTES
	118		ORAL NUTRITIONAL SUPPLEMENTS
	119		VITAMINS
	120		VITAMIN AND MINERAL COMBINATIONS
	121		INTRAVENOUS NUTRITIONAL PRODUCTS
122			RESPIRATORY AGENTS
	123		ANTIHISTAMINES
	124		ANTITUSSIVES
	125		BRONCHODILATORS
		126	METHYLXANTHINES
		180	ADRENERGIC BRONCHODILATORS
		181	BRONCHODILATOR COMBINATIONS
		299	ANTICHOLINERGIC BRONCHODILATORS
	127		DECONGESTANTS
	128		EXPECTORANTS
	130		RESPIRATORY INHALANT PRODUCTS
		296	INHALED CORTICOSTEROIDS
		407	INHALED ANTI INFECTIVES
	132		UPPER RESPIRATORY COMBINATIONS
	243		LEUKOTRIENE MODIFIERS
133			TOPICAL AGENTS

Top Tier (Parent/ Grandparent)	Middle Tier (Parent/ Child)	Bottom Tier (Child/ GrandChild)	Therapeutic Class Names
	135		ANTISEPTIC AND GERMICIDES
	136		DERMATOLOGICAL AGENTS
		137	TOPICAL ANTI INFECTIVES
		138	TOPICAL STEROIDS
		139	TOPICAL ANESTHETICS
		140	MISCELLANEOUS TOPICAL AGENTS
		141	TOPICAL STEROIDS WITH ANTI INFECTIVES
		143	TOPICAL ACNE AGENTS
		248	TOPICAL EMOLLIENTS
		290	TOPICAL ANTIBIOTICS
		292	TOPICAL ANTIFUNGALS
		381	TOPICAL DEPIGMENTING AGENTS
		382	TOPICAL ANTIHISTAMINES
		448	TOPICAL NON-STEROIDAL ANTI-INFLAMMATORIES
		450	TOPICAL ANTINEOPLASTICS
		453	TOPICAL RUBEFACIENT
		461	TOPICAL ANTI ROSACEA AGENTS
	146		MOUTH AND THROAT PRODUCTS
	147		OPHTHALMIC PREPARATIONS
		163	OPHTHALMIC ANTI-INFECTIVES
		164	OPHTHALMIC GLAUCOMA AGENTS
		165	OPHTHALMIC STEROIDS
		166	OPHTHALMIC STEROIDS WITH ANTI INFECTIVES
		167	OPHTHALMIC ANTI INFLAMMATORY AGENTS
		168	OPHTHALMIC LUBRICANTS AND IRRIGATIONS
		169	MISCELLANEOUS OPHTHALMIC AGENTS
		267	OPHTHALMIC ANTIHISTAMINES AND DECONGESTANTS
		286	MYDRIATICS
	148		OTIC PREPARATIONS
		393	CERUMENOLYTICS
	151		VAGINAL PREPARATIONS
		268	VAGINAL ANTI-INFECTIVES

Top Tier (Parent/ Grandparent)	Middle Tier (Parent/ Child)	Bottom Tier (Child/ GrandChild)	Therapeutic Class Names
		269	MISCELLANEOUS VAGINAL AGENTS
	247		NASAL PREPARATIONS
		244	NASAL LUBRICANTS AND IRRIGATIONS
		245	NASAL STEROIDS
		246	NASAL ANTIHISTAMINES AND DECONGESTANTS
153			PLASMA EXPANDERS
218			ALTERNATIVE MEDICINES
	219		NUTRACEUTICAL PRODUCTS
	220		HERBAL PRODUCTS
	363		PROBIOTICS
242			PSYCHOTHERAPEUTIC AGENTS
	249		ANTIDEPRESSANTS
		76	MISCELLANEOUS ANTIDEPRESSANTS
		208	SSRI ANTIDEPRESSANTS
		209	TRICYCLIC ANTIDEPRESSANTS
		306	PHENYLPIPERAZINE ANTIDEPRESSANTS
		307	TETRACYCLIC ANTIDEPRESSANTS
		308	SSNRI ANTIDEPRESSANTS
	251		ANTIPSYCHOTICS
		77	MISCELLANEOUS ANTIPSYCHOTIC AGENTS
		210	PHENOTHIAZINE ANTIPSYCHOTICS
		341	ATYPICAL ANTIPSYCHOTICS
254			IMMUNOLOGIC AGENTS
	33		IMMUNE GLOBULINS
	104		IMMUNOSUPPRESSIVE AGENTS
		441	CALCINEURIN INHIBITORS
		442	TNF ALPHA INHIBITORS
		444	SELECTIVE IMMUNOSUPPRESSANTS
		445	OTHER IMMUNOSUPPRESSANTS
	437		IMMUNOSTIMULANTS
		439	OTHER IMMUNOSTIMULANTS
331			RADIOLOGIC AGENTS
	332		RADIOLOGIC ADJUNCTS

Top Tier (Parent/ Grandparent)	Middle Tier (Parent/ Child)	Bottom Tier (Child/ GrandChild)	Therapeutic Class Names
		374	CARDIAC STRESSING AGENTS
358			METABOLIC AGENTS
	19		ANTIHYPERLIPIDEMIC AGENTS
		173	HMG-COA REDUCTASE INHIBITORS
		174	MISCELLANEOUS ANTIHYPERLIPIDEMIC AGENTS
		241	FIBRIC ACID DERIVATIVES
		252	BILE ACID SEQUESTRANTS
		316	CHOLESTEROL ABSORPTION INHIBITORS
		317	ANTIHYPERLIPIDEMIC COMBINATIONS
	99		ANTIDIABETIC AGENTS
		213	SULFONYLUREAS
		214	BIGUANIDES
		215	INSULIN
		216	ALPHA-GLUCOSIDASE INHIBITORS
		271	THIAZOLIDINEDIONES
		282	MEGLITINIDES
		314	ANTIDIABETIC COMBINATIONS
		371	DIPEPTIDYL PEPTIDASE 4 INHIBITORS
		373	GLP 1 RECEPTOR AGONISTS
		458	SGLT 2 INHIBITORS
	194		ANTIGOUT AGENTS
	289		ANTIHYPERURICEMIC AGENTS
	293		GLUCOSE ELEVATING AGENTS
	359		PERIPHERALLY ACTING ANTIOBESITY AGENTS
	409		BONE RESORPTION INHIBITORS
		217	BISPHOSPHONATES
		415	MISCELLANEOUS BONE RESORPTION INHIBITORS
365			MEDICAL GAS
462			ALLERGENICS
999			INAPP

Pharmacologic Class Codes and Names

The Pharmacologic Classification (PC) system is flat thus the classes are in numeric order by class code. This system does not include parent/child relationships, but drugs can be assigned to multiple pharmacologic categories. Within MIDUS/MIDJA medications can be assigned to up to 6 PC categories. See Section B above for more details.

Multum Pharmacologic Classes	
Codes	Class Names
901	ACNE PRODUCTS
902	ACETYLCHOLINESTERASE INHIBITOR
903	ACETYLCHOLINESTERASE INHIBITOR (CENTRAL)
909	ADRENERGIC AGONIST AGENT
915	ALKALINIZING AGENT
918	ALPHA 1 AGONIST
919	ALPHA 1 BLOCKER
928	ALPHA-/BETA- AGONIST
930	ALPHA 2 -ADRENERGIC AGONIST
931	ALPHA 2 AGONIST, OPHTHALMIC
935	AMINOQUINOLINE (ANTIMALARIAL)
938	5-AMINOSALICYLIC ACID DERIVATIVE
943	ANALGESIC COMBINATION (OPIOID)
946	ANALGESIC, OPIOID
947	ANALGESIC NONOPIOID
951	ANALGESIC, TOPICAL
952	ANALGESIC, URINARY
953	ANALGESIC, MISCELLANEOUS
954	ANDROGEN
955	ANESTHETIC/CORTICOSTEROID
956	ANESTHETIC, TOPICAL
957	ANGIOTENSIN-CONVERTING ENZYME (ACE) INHIBITOR
958	ANGIOTENSIN II RECEPTOR BLOCKER
961	ANTACID
963	ANTHELMINTIC
971	ANTIANGINAL AGENT
973	ANTIANXIETY AGENT, MISCELLANEOUS
976	ANTIARRHYTHMIC AGENT, CLASS IB

Codes	Class Names
977	ANTIARRHYTHMIC AGENT, CLASS IC
978	ANTIARRHYTHMIC AGENT, CLASS II
979	ANTIARRHYTHMIC AGENT, CLASS III
980	ANTIARRHYTHMIC AGENT, CLASS IV
983	ANTIARRHYTHMIC AGENT, MISCELLANEOUS
989	ANTIBIOTIC, AMINOGLYCOSIDE
994	ANTIBIOTIC, CEPHALOSPORIN (FIRST GENERATION)
995	ANTIBIOTIC, CEPHALOSPORIN (SECOND GENERATION)
998	ANTIBIOTIC/CORTICOSTEROID, OPHTHALMIC
1000	ANTIBIOTIC CORTICOSTEROID TOPICAL
1002	ANTIBIOTIC, MACROLIDE
1004	ANTIBIOTIC, OPHTHALMIC
1005	ANTIBIOTIC, ORAL RINSE
1008	ANTIBIOTIC, PENICILLIN
1009	ANTIBIOTIC, FLUOROQUINOLONE
1011	ANTIBIOTIC, SULFONAMIDE DERIVATIVE
1013	ANTIBIOTIC, TETRACYCLINE DERIVATIVE
1014	ANTIBIOTIC, TOPICAL
1017	ANTIBIOTIC, MISCELLANEOUS
1019	ANTICHOLINERGIC AGENT
1022	ANTICOAGULANT
1026	ANTICONVULSANT, BARBITURATE
1027	ANTICONVULSANT BENZODIAZEPINE
1029	ANTICONVULSANT, HYDANTOIN
1031	ANTICONVULSANT, SUCCINIMIDE
1032	ANTICONVULSANT, MISCELLANEOUS
1044	ANTIDEPRESSANT, ALPHA-2 ANTAGONIST
1050	ANTIDEPRESSANT, SELECTIVE SEROTONIN REUPTAKE INHIBITOR
1051	ANTIDEPRESSANT, SEROTONIN/NOREPINEPHRINE REUPTAKE INHIBITOR
1052	ANTIDEPRESSANT, SEROTONIN REUPTAKE INHIBITOR/ANTAGONIST
1057	ANTIDEPRESSANT, TRICYCLIC (SECONDARY AMINE)
1058	ANTIDEPRESSANT, TRICYCLIC (TERTIARY AMINE)
1063	ANTIDIABETIC AGENT, BIGUANIDE
1065	ANTIDIABETIC AGENT, SULFONYLUREA

Codes	Class Names
1066	ANTIDIABETIC AGENT, THIAZOLIDINEDIONE
1069	ANTIDIARRHEAL
1073	CORTICOSTEROID PARENTERAL
1074	ANTIDOTE
1095	ANTIDOTE, EXTRAVASATION
1122	ANTIEMETIC
1125	ANTIFLATULENT
1126	ANTIFUNGAL AGENT, IMIDAZOLE DERIVATIVE
1130	ANTIFUNGAL AGENT, ORAL
1131	ANTIFUNGAL AGENT, ORAL NONABSORBED
1134	ANTIFUNGAL AGENT, TOPICAL
1135	ANTIFUNGAL AGENT, VAGINAL
1138	ANTIGOUT AGENT
1156	ANTIHYPERTENSIVE
1162	ANTI-INFLAMMATORY AGENT
1169	ANTILIPEMIC AGENT, BILE ACID SEQUESTRANT
1170	ANTILIPEMIC AGENT, FIBRIC ACID
1171	ANTILIPEMIC AGENT, HMG-COA REDUCTASE INHIBITOR
1172	ANTILIPEMIC AGENT, MISCELLANEOUS
1173	ANTIMALARIAL AGENT
1174	ANTIMANIC AGENT
1177	ANTIMIGRAINE AGENT
1189	ANTINEOPLASTIC AGENT, ANTIMETABOLITE
1195	ANTINEOPLASTIC AGENT, AROMATASE INHIBITOR
1216	ANTINEOPLASTIC AGENT, MISCELLANEOUS
1219	ANTI-PARKINSON'S AGENT, ANTICHOLINERGIC
1221	ANTI-PARKINSON'S AGENT, DOPAMINE AGONIST
1225	ANTIPLATELET AGENT
1253	ANTIRETROVIRAL, PROTEASE INHIBITOR (ANTI-HIV)
1254	ANTIRETROVIRAL, REVERSE TRANSCRIPTASE INHIBITOR, NON-NUCLEOSIDE (ANTI-HIV)
1255	ANTIRETROVIRAL, REVERSE TRANSCRIPTASE INHIBITOR, NUCLEOSIDE (ANTI-HIV)
1257	ANTIRETROVIRAL, REVERSE TRANSCRIPTASE INHIBITOR, NUCLEOTIDE (ANTI-HIV)

Codes	Class Names
1259	ANTIRHEUMATIC, DISEASE MODIFYING
1260	ANTISEBORRHEIC AGENT TOPICAL
1263	ANTISPASMODIC AGENT, URINARY
1268	ANTITUSSIVE
1277	ANTIVIRAL AGENT
1280	ANTIVIRAL AGENT, ORAL
1282	ANTIVIRAL AGENT, TOPICAL
1284	ASTRINGENT
1286	BARBITURATE
1289	BENZODIAZEPINE
1291	BETA-BLOCKER, BETA-1 SELECTIVE
1293	BETA-BLOCKER, NONSELECTIVE
1294	BETA-BLOCKER WITH ALPHA-BLOCKING ACTIVITY
1295	BETA BLOCKER WITH INTRINSIC SYMPATHOMIMETIC ACTIVITY
1299	BETA 2 AGONIST
1303	BIOLOGICAL, MISCELLANEOUS
1305	BISPHOSPHONATE DERIVATIVE
1308	BLOOD VISCOSITY REDUCER AGENT
1313	CALCIUM CHANNEL BLOCKER
1314	CALCIUM SALT
1318	CARDIAC GLYCOSIDE
1320	CARDIOVASCULAR AGENT, MISCELLANEOUS
1326	CENTRAL NERVOUS SYSTEM DEPRESSANT
1343	CONTRACEPTIVE
1363	CORTICOSTEROID, INHALANT (ORAL)
1364	CORTICOSTEROID, NASAL
1365	CORTICOSTEROID, OPHTHALMIC
1367	CORTICOSTEROID, RECTAL
1369	CORTICOSTEROID, SYSTEMIC
1370	CORTICOSTEROID, TOPICAL
1379	COUGH PREPARATION
1380	DECONGESTANT
1382	DECONGESTANT/ANALGESIC
1390	DIAGNOSTIC AGENT
1428	DIETARY SUPPLEMENT

Codes	Class Names
1435	DIURETIC, LOOP
1438	DIURETIC, POTASSIUM SPARING
1439	DIURETIC, THIAZIDE
1440	DIURETIC, THIAZIDE-RELATED
1447	ELECTROLYTE SUPPLEMENT, ORAL
1448	ELECTROLYTE SUPPLEMENT, PARENTERAL
1449	ENZYME
1463	ESTROGEN AND PROGESTIN COMBINATION
1464	ESTROGEN DERIVATIVE
1472	EXPECTORANT
1481	GALLSTONE DISSOLUTION AGENT
1486	GASTROINTESTINAL AGENT, PROKINETIC
1488	GASTROINTESTINAL AGENT, MISCELLANEOUS
1489	GENERAL ANESTHETIC
1497	GONADOTROPIN
1504	HEMOSTATIC AGENT
1507	HISTAMINE H 2 ANTAGONIST
1509	HOMOCYSTINURIA, TREATMENT AGENT
1510	HORMONE
1523	HYPNOTIC, MISCELLANEOUS
1528	IMMUNOSUPPRESSANT AGENT
1534	IRON SALT
1536	KERATOLYTIC AGENT
1537	LAXATIVE
1539	LAXATIVE, BULK-PRODUCING
1543	LAXATIVE, OSMOTIC
1544	LAXATIVE, SALINE
1545	LAXATIVE, STIMULANT
1551	LEUKOTRIENE RECEPTOR ANTAGONIST
1554	LIPASE INHIBITOR
1557	LOCAL ANESTHETIC
1576	MAGNESIUM SALT
1577	MAST CELL STABILIZER
1585	MONOCLONAL ANTIBODY
1589	OPIOID ANTAGONIST

Codes	Class Names
1597	NEUROMUSCULAR BLOCKER AGENT, TOXIN
1599	NONSTEROIDAL ANTI-INFLAMMATORY DRUG (NSAID)
1600	NONSTEROIDAL ANTI-INFLAMMATORY DRUG (NSAID), COX-2 SELECTIVE
1602	NONSTEROIDAL ANTI-INFLAMMATORY DRUG (NSAID), ORAL
1603	NONSTEROIDAL ANTI-INFLAMMATORY DRUG (NSAID), PARENTERAL
1604	NUTRITIONAL SUPPLEMENT
1607	OPHTHALMIC AGENT, ANTIGLAUCOMA
1611	OPHTHALMIC AGENT, TOXIN
1612	OPHTHALMIC AGENT, VASOCONSTRICTOR
1614	OPHTHALMIC AGENT, MISCELLANEOUS
1620	OVULATION STIMULATOR
1627	PHENOTHIAZINE DERIVATIVE
1629	PHOSPHATE BINDER
1644	PROGESTIN
1646	PROSTAGLANDIN
1647	PROSTAGLANDIN, OPHTHALMIC
1651	PROTON PUMP INHIBITOR
1661	RETINOIC ACID DERIVATIVE
1665	SALICYLATE
1670	SEDATIVE
1671	SELECTIVE ESTROGEN RECEPTOR MODULATOR (SERM)
1672	SELECTIVE 5-HT 3 RECEPTOR ANTAGONIST
1681	SKELETAL MUSCLE RELAXANT
1683	SKIN AND MUCOUS MEMBRANE AGENT
1687	SKIN AND MUCOUS MEMBRANE AGENT, MISCELLANEOUS
1688	SMOKING CESSATION AID
1691	SOMATOSTATIN ANALOG
1694	STOOL SOFTENER
1700	SYMPATHOMIMETIC
1710	THYROID PRODUCT
1712	TOPICAL SKIN PRODUCT
1713	TOPICAL SKIN PRODUCT, ACNE
1718	TRACE ELEMENT
1719	TRACE ELEMENT, PARENTERAL

Codes	Class Names
1729	URICOSURIC AGENT
1742	VASODILATOR
1750	VITAMIN
1752	VITAMIN D ANALOG
1753	VITAMIN, FAT SOLUBLE
1756	VITAMIN, WATER SOLUBLE
1757	XANTHINE OXIDASE INHIBITOR
1762	SEROTONIN 5-HT 1B, 1D RECEPTOR AGONIST
1765	CENTRAL NERVOUS SYSTEM STIMULANT
1768	HISTAMINE H 1 ANTAGONIST
1779	5 ALPHA-REDUCTASE INHIBITOR
1781	ANTILIPEMIC AGENT, 2-AZETIDINONE
1808	MONOCLONAL ANTIBODY, ANTI-ASTHMATIC
1810	N-METHYL-D-ASPARTATE RECEPTOR ANTAGONIST
1811	PHOSPHODIESTERASE-5 ENZYME INHIBITOR
1822	ANTINEOPLASTIC AGENT, ANTIMETABOLITE (ANTIFOLATE)
1824	SUBSTITUTED BENZIMIDAZOLE
1825	ANTISEPTIC, TOPICAL
1827	SECOND GENERATION (ATYPICAL) ANTIPSYCHOTIC
1828	FIRST GENERATION (TYPICAL) ANTIPSYCHOTIC
1830	AMINO ACID
1831	TUMOR NECROSIS FACTOR (TNF) BLOCKING AGENT
1833	MONOCLONAL ANTIBODY, SELECTIVE ADHESION-MOLECULE INHIBITOR
37021	PROBIOTIC
309141	ANTIBIOTIC, LINCOSAMIDE
369942	INSULIN, INTERMEDIATE-ACTING
369943	INSULIN, LONG-ACTING
370141	INSULIN, RAPID-ACTING
512625	PARTIAL NICOTINE AGONIST
515063	IMIDAZOLINE DERIVATIVE
580286	ANTIDIABETIC AGENT, DIPEPTIDYL PEPTIDASE IV (DPP-IV) INHIBITOR
944618	ANTIRETROVIRAL, CCR5 ANTAGONIST (ANTI-HIV)
996578	ANTIRETROVIRAL, INTEGRASE INHIBITOR (ANTI-HIV)
996698	ANTINEOPLASTIC AGENT, ANTIMETABOLITE (PYRIMIDINE ANALOG)

Codes	Class Names
1035979	ANILIDOPIPERIDINE OPIOID
1154061	RESCUE AGENT (CHEMOTHERAPY)
1154062	CHEMOTHERAPY MODULATING AGENT
1160459	BETA 2 -ADRENERGIC AGONIST, LONG-ACTING
1160479	BETA 2 AGONIST, LONG-ACTING
1163619	NONSTEROIDAL ANTI-INFLAMMATORY DRUG (NSAID), TOPICAL
1177583	HISTAMINE H 1 ANTAGONIST, SECOND GENERATION
1177584	HISTAMINE H 1 ANTAGONIST, FIRST GENERATION
1191179	VASODILATOR, DIRECT-ACTING
1274399	IMMUNOMODULATOR, SYSTEMIC
1284841	HISTONE DEACETYLASE INHIBITOR
1797079	CALCIUM CHANNEL BLOCKER, NONDIHYDROPYRIDINE
1797080	CALCIUM CHANNEL BLOCKER, DIHYDROPYRIDINE
1801719	CALCINEURIN INHIBITOR
1826674	ANTIPLATELET AGENT, THIENOPYRIDINE
2148013	ANTIDIABETIC AGENT, GLUCAGON-LIKE PEPTIDE-1 (GLP-1) RECEPTOR AGONIST
2759759	ANTI-PARKINSON'S AGENT, DECARBOXYLASE INHIBITOR
2759760	ANTI-PARKINSON'S AGENT, DOPAMINE PRECURSOR
2792400	ANTINEOPLASTIC AGENT, ANTIMETABOLITE (PURINE ANALOG)
2807279	TRANSIENT RECEPTOR POTENTIAL VANILLOID 1 (TRPV1) AGONIST
2952225	ALKYLAMINE DERIVATIVE
2952299	ETHANOLAMINE DERIVATIVE
2952340	PIPERAZINE DERIVATIVE
2952559	PIPERIDINE DERIVATIVE
2965759	FIBER SUPPLEMENT
2988377	ANALGESIC, OPIOID PARTIAL AGONIST
3015214	ANTIDEPRESSANT, SELECTIVE SEROTONIN REUPTAKE INHIBITOR/5-HT 1A RECEPTOR PARTIAL AGONIST
3451903	BONE-MODIFYING AGENT
3501084	GABA ANALOG
3509782	ALPHA-ADRENERGIC AGONIST
3819764	BETA 3 AGONIST
3861322	PHOSPHODIESTERASE ENZYME INHIBITOR, NONSELECTIVE
3964448	PYRIMIDINE SYNTHESIS INHIBITOR

Codes	Class Names
3974202	ANTILIPEMIC AGENT, OMEGA-3 FATTY ACIDS
3988862	ANTICHOLINERGIC AGENT, LONG-ACTING
4230723	SODIUM-GLUCOSE COTRANSPORTER 2 (SGLT2) INHIBITOR
4230724	ANTIDIABETIC AGENT, SODIUM-GLUCOSE COTRANSPORTER 2 (SGLT2) INHIBITOR
4230742	FUMARIC ACID DERIVATIVE
4496663	CARBONIC ANHYDRASE INHIBITOR (OPHTHALMIC)
4649822	ANTIHEMORRHOIDAL AGENT
4857382	ANTIHEPADNAVIRAL, REVERSE TRANSCRIPTASE INHIBITOR, NUCLEOSIDE (ANTI-HBV)
5002622	ANTICOAGULANT, FACTOR XA INHIBITOR
5002623	ANTICOAGULANT, VITAMIN K ANTAGONIST
5002625	ANTICOAGULANT, DIRECT THROMBIN INHIBITOR
5251182	MEDICAL FOOD
5357662	ANTIDEPRESSANT, DOPAMINE/NOREPINEPHRINE-REUPTAKE INHIBITOR
5585170	MINERALOCORTICOID (ALDOSTERONE) RECEPTOR ANTAGONISTS
6004244	ANTIFUNGAL AGENT ORAL NONABSORBED PARTIALLY ABSORBED
6024732	DIRECT ORAL ANTICOAGULANT DOAC
6433523	GUANYLATE CYCLASE C GC C AGONIST
9999999	INAPP

APPENDIX D: REASON FOR TAKING MEDICATIONS – CODES AND CATEGORY NAMES

This Appendix contains two lists of codes representing reasons why participants think they are taking medications reported on the Medication Chart. See MIDUS Documentation for Medication Data, Section B, or MIDJA Clinic Visit Documentation, Section E, Appendix A, for copy of chart with SVNs. The list of modified ICD-9 (__ICD9M) codes and category names is presented first and then the list of MIDUS (__MDC) codes and category names. See Section C above for details about the coding process. The lists begin on the next page.

Modified ICD-9 Codes and Labels

The ICD9M category labels are based on clinical descriptions of diseases etc., thus this table also contains a column listing key words/common phrases indicating the conditions/symptoms etc. included in a given category.

ICD9M CODE	ICD9 CODE LABEL	Key Words/Common Responses
10	PRIMARY TUBERCULOUS INFECTION	Tuberculosis bacillus
41	BACT INF IN OTH DIS/NOS	Infectious disease
42	HUMAN IMMUNO VIRUS DIS	HIV
53	HERPES ZOSTER	Shingles
54	HERPES SIMPLEX	Cold sores, herpes
78	OTHER VIRAL DISEASE	Warts
79	VIRAL INFECTION	Anti-viral, viral infection
110	DERMATOPHYTOSIS	Athlete's foot, toe nail fungus, fungal infection, ringworm
112	CANDIDIASIS	Yeast infection
133	SCABIES	Scabies
135	SARCOIDOSIS	Sarcoidosis
150	MALIGNANT NEOPLASM OF ESOPHAGUS	Esophagus cancer
173	OTHER MALIGNANT NEOPLASM OF SKIN	Skin cancer
174	MALIG NEO FEMALE BREAST	Breast cancer
185	MALIGN NEOPL PROSTATE	Prostate cancer
188	MALIGN NEOPL BLADDER	Bladder cancer
209	NEUROENDOCRINE TUMORS	Neuroendocrine carcinoid cancer

ICD9M CODE	ICD9 CODE LABEL	Key Words/Common Responses
211	BENIGN NEOPLASM OF OTHER PARTS OF DIGESTIVE SYSTEM	Colon polyp
212	BENIGN NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS	Thymoma
218	UTERINE LEIOMYOMA	Fibroids, myoma of uterus
239	UNSPECIFIED NEOPLASM	Cancer non-specific
240	GOITER	Goiters-thyroid med, keeps goiters away
242	TOXIC DIFFUSE GOITER	Grave's disease
244	ACQUIRED HYPOTHYROIDISM	Hypothyroidism, thyroiditis
246	OTH DISORDERS OF THYROID	Thyroid hormone, thyroid
250	DIABETES MELLITUS	Diabetes, high blood sugar
251	OTH PANCREATIC DISORDER	Hypoglycemia
255	ADRENAL GLAND DISORDERS	Adrenal gland disorder, adrenal gland dysfunction
256	OVARIAN DYSFUNCTION	Polycystic ovarian syndrome
257	TESTICULAR DYSFUNCTION	Low testosterone levels
259	OTH ENDOCRINE DISORDERS	Imbalance in endocrine system
266	B-COMPLEX DEFICIENCIES	Low B12
267	ASCORBIC ACID DEFICIENCY	Vitamin C deficiency
268	VITAMIN D DEFICIENCY	Rickets, low vitamin D, vitamin D deficiency
269	OTH NUTRITION DEFICIENCY	Iodine deficiency, calcium deficiency
272	PURE HYPERCHOLESTEROLEM	High cholesterol, hyperlipidemia, high neutral lipid,
274	GOUT	Gout

ICD9M CODE	ICD9 CODE LABEL	Key Words/Common Responses
275	DIS MINERAL METABOLISM	Magnesium supplement, reduce phosphate, supplement iron
276	FLUID/ELECTROLYTE DIS	Low potassium, hypokalemia
279	DISORDER OF IMMUNE MECHANISM	Autoimmune disease
280	IRON DEFICIENCY ANEMIA	Iron deficiency
281	PERNICIOUS ANEMIA	Pernicious anemia
285	ANEMIA NEC/NOS	Anemia
287	PURPURA & OTH HEMOR COND	Low platelet count
295	SCHIZOPHRENIC DISORDERS	Schizophrenia
296	AFFECTIVE PSYCHOSES	Bipolar disorder, mood swings
297	DELUSIONAL DISORDERS	Hallucinations, paranoia, ease up on symptoms of delusion
298	OTH NONORGANIC PSYCHOSES	Psychosis
300	NEUROTIC DISORDERS	Tranquilizer, stay calm, anxiety, nervousness, stabilizer
302	SEXUAL DISORDERS	Impotence, erectile dysfunction
303	ALCOHOL DEPENDENCE	Preventing craving alcohol
304	DRUG DEPENDENCE	Heroin addiction maintenance
305	NONDEPENDENT DRUG ABUSE	Smoking cessation
308	ACUTE REACTION TO STRESS	Stress
309	ADJUSTMENT REACTION	PTSD
311	DEPRESSIVE DISORDER NEC	Depression, anti-depressant
314	HYPERKINETIC SYNDROME	ADD, ADHD

ICD9M CODE	ICD9 CODE LABEL	Key Words/Common Responses
323	ENCEPHALITIS, MYELITIS, AND ENCEPHALOMYELITIS	Myelitis
331	CEREBRAL DEGENERATION	Alzheimer's
332	PARKINSON'S DISEASE	Parkinson's disease
333	EXTRAPYRAMIDAL DIS NEC	Restless leg syndrome, tick in eye, tremors, Huntington's disease
337	AUTONOMIC NERVE DISORDER	Treat disorder of peripheral nerve, neuropathy in heart
338	PAIN, NOT ELSEWHERE CLASSIFIED	Pain, pain in multiple locations,
340	MULTIPLE SCLEROSIS	MS, Multiple sclerosis, muscle fatigue
345	EPILEPSY	Epilepsy, seizure disorder, focal seizures
346	MIGRAINE	Migraine
347	CATAPLEXY AND NARCOLEPSY	Narcolepsy
349	CNS DISORDER NEC/NOS	Neurological problems
350	TRIGEMINAL NERVE DISORDERS	Trigeminal neuralgia
354	CARPAL TUNNEL SYNDROME	Carpal tunnel syndrome
356	HERED & IDIOPATH PERIPH NEUROPATHY	Improvement of peripheral nervous system
358	MYONEURAL DISORDERS	Myasthenia gravis
361	RETINAL DETACHMENTS AND DEFEATS	Retinal detachment
362	RETINAL DISORDERS NEC	Macular degeneration
365	GLAUCOMA	Glaucoma, pressure in eye, lower ocular pressure
366	CATARACT	Cataract
370	KERATITIS	Ulcer in eye
371	CORNEAL OPACITY/DISORDER	Corneal problem

ICD9M CODE	ICD9 CODE LABEL	Key Words/Common Responses
372	DISORDERS OF CONJUNCTIVA	Prevent eye infection
373	INFLAMMATION OF EYELIDS	Sty, blepharitis
375	LACRIMAL SYSTEM DISORDER	Dry eyes, lacrimal gland disorder
379	EYE DISORDERS NEC	Inflammation of eye, itchy eyes
380	DISORDER OF EXTERNAL EAR	Ear infection
386	VERTIGINOUS SYNDROMES	Meniere's disease, inner ear
388	DISORDERS OF EAR NEC	Ringing ears, tinnitus, ear pain, dry ear
389	HEARING LOSS	Helps with hearing, hearing loss
401	ESSENTIAL HYPERTENSION	High blood pressure, hypertension, reduce/lower blood pressure, blood pressure, anti-hypertensive
410	ACUTE MYOCARDIAL INFARCT	Myocardial infarction, cardiac infarction
413	ANGINA PECTORIS	Angina pectoris, angina
414	OTH CHR ISCHEMIC HRT DIS	Arterial sclerosis
415	ACUTE PULMONARY HEART DISEASE	Heart pulmonary embolism
424	OTH ENDOCARDIAL DISEASE	Mitral stenosis, prolapsed mitral valve
427	CARDIAC DYSRHYTHMIAS	Irregular pulse, atrial fibrillation
428	HEART FAILURE	Heart failure
429	ILL-DEFINED HEART DIS	Cardiac disease, heart dilation, dysraphism of aortic valve
431	INTRACEREBRAL HEMORRHAGE	Intracerebral hemorrhage, brain hemorrhage
434	CEREBRAL ARTERY OCCLUS	Cerebral infarction sequelae, cerebral thrombosis, mini stroke

ICD9M CODE	ICD9 CODE LABEL	Key Words/Common Responses
435	TRANSIENT CEREB ISCHEMIA	TIA
440	ATHEROSCLEROSIS	Atherosclerosis
441	AORTIC ANEURYSM AND DISSECTION	Aortic aneurysm
442	OTHER ANEURYSM	Aneurysm
443	RAYNAUD'S SYNDROME	Raynaud's syndrome
446	POLYARTERIT NODOSA ET AL	Wegener's disease
447	OTHER ARTERIAL DISEASE	Twisted carotid artery, vasculitis
451	THROMBOPHLEBITIS	Recurring phlebitis
453	OTH VENOUS THROMBOSIS	Anticoagulant, thrombosis, prevent thrombosis, prevent blood clot, thrombus
455	HEMORRHOIDS	Hemorrhoids
458	HYPOTENSION	Low blood pressure
460	ACUTE NASOPHARYNGITIS	Treat Cold, acute upper respiratory infection
461	ACUTE SINUSITIS	Acute sinus problems, post nasal drip, nasal inflammation, nasal mucus
470	DEVIATED NASAL SEPTUM	Deviated septum
471	NASAL POLYPS	Polyps in sinus
472	CHR PHARYNG/NASOPHARYNG	Rhinitis, chronic nasal congestion, reduce swelling of nasal passages
473	CHRONIC SINUSITIS	Chronic sinus
477	ALLERGIC RHINITIS	Hay fever, dust allergy, allergic rhinitis
478	OTH UPPR RESPIRATORY DIS	Drippy/clogged nose

ICD9M CODE	ICD9 CODE LABEL	Key Words/Common Responses
486	PNEUMONIA, ORGANISM NOS	Pneumonia
487	INFLUENZA	Flu
490	BRONCHITIS NOS	Bronchitis
492	EMPHYSEMA	Emphysema
493	ASTHMA	Asthma, pulmonary emphysema, emphysema
496	CHR AIRWAY OBSTRUCT NEC	COPD
518	OTHER LUNG DISEASES	Repair damage to lung
519	OTHER DISEASES OF RESPIRATORY SYSTEM	Bronchial spasm prevention
523	GINGIVAL/PERIODONTAL DIS	Gum disease/problems
524	DENOFACIAL ANOMALIES	Temporomandibular joint disorders, TMJ
525	OTHER DENTAL DISORDER	Extracted teeth, treatment for a tooth, toothache
526	DISEASES OF THE JAWS	Root canal, root canal infection
527	SALIVARY GLAND DISEASES	Dry mouth
528	ORAL SOFT TISSUE DISEASE	Stomatitis, chapped lips, canker sores, dental abscess
529	TONGUE DISORDERS	Geographic tongue
530	DISEASES OF ESOPHAGUS	Acid reflux, GERD, gastritis, esophagus trouble, backward flow of gastric acid,
531	GASTRIC ULCER	Gastric ulcer
532	DUODENAL ULCER	Duodenal ulcer
533	PEPTIC ULCER, SITE NOS	Helicobacter pylori, gastric & duodenal ulcer, peptic ulcer
535	GASTRITIS AND DUODENITIS	Inflammation of stomach

ICD9M CODE	ICD9 CODE LABEL	Key Words/Common Responses
536	STOMACH FUNCTION DISORD	Gastric hyperacidity, dyspepsia, neutralize/reduce gastric acid, stomach pain
553	OTHER ABDOMINAL HERNIA	Hernia, high hiatal hernia
555	REGIONAL ENTERITIS	Crohn's disease
556	IDIOPATHIC PROCTOCOLITIS	Colitis
558	OTH NONINF GASTROENTERIT	Diarrhea, gastroenteritis
562	DIVERTICULA OF INTESTINE	Diverticulitis
564	FUNCT DIGESTIVE DIS NEC	Constipation, bowel movement, colon cramps, irritable bowel
569	OTH INTESTINAL DISORDERS	Intestinal disorder, inflammation of intestines, proctitis
571	CHR LIVER DIS/CIRRHOSIS	Liver disease, primary biliary cirrhosis
574	CHOLELITHIASIS	Gall stone
575	OTHER DISORDERS OF GALLBLADDER	Gallbladder polyp
579	INTESTINAL MALABSORPTION	Celiac disease nutrition
583	NEPHRITIS NOS	Lupus in kidneys
585	CHRONIC RENAL FAILURE	Kidney disease
586	RENAL FAILURE NOS	Renal failure
590	KIDNEY INFECTION	Kidney infection, antibiotics for kidney
592	RENAL/URETERAL CALCULUS	Kidney stones
593	OTH RENAL & URETERAL DIS	Prevention/help with renal insufficiency
596	OTHER BLADDER DISORDERS	Bladder tone, neurogenic bladder
599	OTH URINARY TRACT DISOR	Urinary tract infection, UTI

ICD9M CODE	ICD9 CODE LABEL	Key Words/Common Responses
600	HYPERPLASIA OF PROSTATE	Prostatic hypertrophy, prostatic hyperplasia
601	PROSTATIC INFLAMMATION	Prostatitis, enlarged prostate, help reduce swelling of prostate
607	DISORDER OF PENIS	Due to prostate cancer/vitality
608	MALE GENITAL DIS NEC	Transitions
611	OTHER BREAST DISORDERS	Breast pain
616	INFLAMMATORY DISEASE OF CERVIX, VAGINA, AND VULVA	Vaginitis
625	FEMALE GENITAL SYMPTOMS	Dysmenorrhea, premenstrual tension
626	DISORDER OF MENSTRUATION	Menstrual pain, irregular period
627	MENOPAUSAL DISORDERS	Menopausal disorder, balancing hormones, stabilizer for menopause, menopause
628	FEMALE INFERTILITY	Fertility, prepare uterus
682	CELLULITIS AND ABSCESS, UNSPEC	Cellulitis
686	OTHER LOCAL INFECTIONS OF SKIN AND SUBCUTANEOUS TISSUE	Skin palmoplantar pustulosis
690	ERYTHEMATOSQUAMOUS DERM	Dry scalp
691	ATOPIC DERMATITIS AND RELATED CONDITIONS	Atopic dermatitis
692	CONTACT DERMATITIS	Eczema, dermatitis, poison oak
695	ERYTHEMATOUS CONDITIONS	Rosacea, lupus
696	PSORIASIS/LIKE DISORDERS	Psoriasis
697	LICHEN	Lichen

ICD9M CODE	ICD9 CODE LABEL	Key Words/Common Responses
698	PRURITUS & LIKE COND	Itch, itching
702	OTHER DERMATOSES	Actinic keratosis
704	HAIR & FOLLICLE DISEASE	Hair thinning
705	DISORDERS OF SWEAT GLANDS	Miliaria
706	SEBACEOUS GLAND DISEASE	Acne
707	CHRONIC ULCER OF SKIN	Sores in ears (hearing aid), sores under arms
708	URTICARIA	Hives, chronic urticaria
709	OTHER SKIN DISORDERS	Scar
714	RHEUMATOID & OTH INFLAMM POLYARTHROP	Rheumatoid arthritis, RA
715	OSTEOARTHROSIS ET AL	Osteoarthritis
716	ARTHROPATHIES NEC/NOS	Arthritis, arthritis pain
718	OTHER JOINT DERANGEMENT	Pain in hip
719	JOINT DISORDER NEC & NOS	Knee, shoulder, joint etc. pain or problem, athralgia,
721	SPONDYLOSIS AND ALLIED DISORDERS	Undifferentiated spondyloarthropathy
722	INTERVERTEBRAL DISC DIS	Degenerative spine condition
723	OTHER CERVICAL SPINE DIS	Cervical vertebra pain, pinched nerve, neck pain
724	BACK DISORDER NEC & NOS	Back pain, sciatica, lumbar canal stenosis, back spasms
726	PERIPH ENTHESOPATHIES	Torn rotator cuff, tendonitis of jaw
727	OTH DIS SYNOV/TEND/BURSA	Bursitis
728	DIS OF MUSCLE/LIG/FASCIA	Muscle spasm

ICD9M CODE	ICD9 CODE LABEL	Key Words/Common Responses
729	OTHER SOFT TISSUE DIS	Sore muscles, leg pain/cramps, muscle constriction, rheumatism
730	OSTEOMYELITIS, PERIOSTITIS, AND OTHER INFECTIONS INVOLVING BONE	Osteomyelitis
731	OSTEITIS DEFORMANS	Paget's disease, brittle bone
733	OTH BONE & CARTILAGE DIS	Osteoporosis, osteopenia, pain in bone, low bone density
745	CARDIAC SEPTAL CLOS ANOM	Foramen ovale
753	CONGENITAL ANOMALIES OF URINARY SYSTEM	Polycystic kidney disease
780	GENERAL SYMPTOMS	Sleep aid, night sweats, vasovagal syncope, sensitive to cold, stiff, giddy, insomnia, vertigo, memory problems
781	NERV/MUSCULSKEL SYS SYMP	Tremor
782	SKIN/OTH INTEGUMENT SYMP	Rash, numbness of feet/finger/legs, reduce keloidosis, reduce skin inflammation, edema
783	NUTRIT/METAB/DEVEL SYMP	Anorexia, weight loss, appetite suppressant
784	SYMPTOMS INVOL HEAD/NECK	Headache, sore throat
785	CARDIOVASCULAR SYS SYMP	Heart murmur
786	RESP SYS/OTH CHEST SYMP	Difficulty breathing, loosen phlegm, short breath, whooping cough, chest tightness
787	GI SYSTEM SYMPTOMS	Gassy, heartburn, nausea

ICD9M CODE	ICD9 CODE LABEL	Key Words/Common Responses
788	URINARY SYSTEM SYMPTOMS	Urination disorder, frequent urination, urination trouble/problem, bladder control
789	OTH ABDOMEN/PELVIS SYMP	Stomach spasm, stomach cramp, groin pain
790	NONSPECIFIC FINDINGS ON EXAMINATION OF BLOOD	High uric acid, hyperuricemia
795	ABN HISTOLOG/IMMUNO FIND	Positive TB test
797	SENILITY WITHOUT MENTION OF PSYCHOSIS	Memory
805	FRACTURE OF VERTEBRAL COLUMN WITHOUT MENTION OF SPINAL CORD INJURY	Broken back bone
904	INJURY TO BLOOD VESSELS OF LOWER EXTREMITY AND UNSPECIFIED SITES	Blood vessel injury
918	SUPERFICIAL INJURY OF EYE AND ADNEXA	Eye injury
919	SUPERFICIAL INJ OTH SITE	Blisters
957	INJURY TO NERVE NEC/NOS	Nerve damage
965	POIS-ANALGESIC/ANTIPYRET	Counteract Naproxen
993	EFFECTS OF AIR PRESSURE	Altitude sickness
994	EFFECT EXTERNAL CAUS NEC	Motion sickness
995	CERTAIN ADVERSE EFF NEC	Inflammation, food allergy, allergy (non-specific)
9996	UNABLE TO CLASSIFY	
9997	DON'T KNOW	
9998	MISSING	
9999	INAPP	

MIDUS Codes and Labels

To assist users in understanding the type of responses in the MIDUS code categories this table also contains a column listing key words/common phrases used to assign a response to a given category. Note all the MIDUS codes are alphanumeric and begin with an "M" followed by a 4 digit numeric code. The exception is the codes for Unable to Classify, Don't Know, Missing, and INAPP which begin with a "Z" and the usual missing value codes.

MIDUS CODE	MIDUS CODE LABEL	Key words/Common Phrases
M1000	GENERAL HEALTH	Health, for health, maintain health
M1010	IMPROVE HEALTH	Improve health, strengthen the system, for healing, recovery from (cancer, surgery, etc.), getting better
M1020	ENERGY	Gives me a boost, when feel run down, increase energy, improve drive, when tired
M1030	GENERAL HEALTH, OTHERS	Beauty, aging, stay younger, detox, cleanse body
M1040	GENERAL HEALTH, PREVENTIVE	Preventive, prevention, prevent potential sickness
M2000	SUPPLEMENT	Supplement (just the word)
M2010	VITAMIN SUPPLEMENT	Lacking vitamins, to supply vitamins, get balance of vitamins
M2020	CALCIUM SUPPLEMENT	Calcium, need more calcium, don't drink milk
M2030	DIETARY SUPPLEMENT	Supplement diet, balance diet needs
M2040	ENSURE NUTRITIONAL INTAKES	Nutrient fortification, add nutrients, balance nutrition
M2050	POOR DIET	Diet, don't always eat well, dietary reasons
M2060	ANTIOXIDANT	Antioxidants, help with free radicals,
M2070	SUPPLEMENT, OTHERS	Iron pill, resupply iron, omega 3, fiber, probiotics
M3010	CARDIOVASCULAR HEALTH	Heart health, good for heart, cardiovascular health
M3011	CARDIOVASCULAR HEALTH, PREVENTIVE	Cardiac family history, prevent clots/stroke/heart attack/atherosclerosis
M3012	CARDIOVASCULAR HEALTH, BLOOD THINNER	Blood thinner
M3013	CARDIOVASCULAR HEALTH, OTHERS	Improve blood circulation, neutral fat,
M3020	MUSCULOSKELETAL HEALTH	Bone health, because of broken bones, health leg and hip
M3021	BONE STRENGTH/DENSITY	Bone strength/density/loss/mass

MIDUS CODE	MIDUS CODE LABEL	Key words/Common Phrases
M3022	JOINT HEALTH	Healthy joints, good for bones-joints, maintain bone and joint health
M3023	MUSCULOSKELETAL HEALTH, PREVENTIVE	Prevent bone loss, prevent osteoporosis
M3024	MUSCULOSKELETAL HEALTH, OTHERS	Repair muscles, get older legs weaken, bone/muscle
M3030	DIGESTIVE HEALTH	Digestion, break down food, help digest food, condition of my stomach
M3031	INTESTINAL/COLON HEALTH	Colon health, cleans out colon, regularity, to condition intestinal functions
M3032	STOMACH ACID	Stomach acid
M3040	PROSTATE HEALTH	Prostate health, prostate gland, prostate problem,
M3050	EYE HEALTH	Eye health, good for eyes, nutrients for eyes, tired eyes, eye problem, uveal tract
M3060	BRAIN HEALTH	Boost cognitive abilities, memory, good for your brain, brain health, brain function, avoid senile brain
M3070	IMMUNE HEALTH	Boost/support immune system, beneficial for immune system,
M3071	PREVENT COLDS	Prevent catching cold, improve sensitivity to colds
M3072	IMMUNOSUPRESSION	Immunosuppressant, immunosuppressant after kidney transplant
M3080	INTEGUMENT HEALTH	Hair/Skin/Nail health, dry skin/hair, for skin, to avoid tanning/sunburn, liver spot, rough hands
M3090	OTHER TARGETED HEALTH	Low frequency reasons that cannot be assigned elsewhere (e.g. Multiple organ/system support (i.e. eye & bone, prevent cancer and strokes), bladder protection, protect liver from alcohol, liver, chronic illness)
M4010	MD RECOMMEND	Doctor suggested/prescribed/recommended/ "told me to"
M4020	GOOD FOR YOU/ME	Good for me/you, everyone says it's a good idea, healthy thing to do, heard it's good for you, saw on TV etc.

MIDUS CODE	MIDUS CODE LABEL	Key words/Common Phrases
M4030	FAMILY/FRIEND RECOMMEND	Friend, family member, mother, etc. recommended it, spouse puts it out
M5000	WEIGHT LOSS	Lose weight, weight management, diet plan pills
M5100	STRESS	For stress, helps with stress
M5200	CONTRACEPTION	Birth Control, prevent pregnancy
M5300	COUNTER/PREVENT DRUG SIDE EFFECTS	Counter the affects of statin, prevent side effect of Lipitor, help with side effects of atorvastatin, etc.
Z9996	UNABLE TO CLASSIFY	
Z9997	DON'T KNOW	
Z9998	MISSING	
Z9999	INAPP	