DOCUMENTATION

for

MEDICATION DATA

in

MIDUS 2
BIOMARKER PROJECT
(P4)

University of Wisconsin ♦ Institute on Aging
March 2024

INTRODUCTION

This document provides an overview of the medication data collected in the MIDUS 2 Biomarker Project (P4). It describes the protocols for collecting and recording medication data, as well as coding medications and diagnoses. It also provides information about the construction and usage of related administrative and constructed variables.

Data users are also encouraged to review the "M2 P4 Biomarker Project Data File Notes". This document provides information about naming conventions, as well as administrative and filter variables included in the data file. It also includes information about how we handled missing values and other issues that arose over the course of the study. For example, there are instances when variables were added or sections of an instrument were expanded for data entry purposes to accommodate additional information provided by the respondent.

This document will be periodically revised and updated as more information is gathered, and researchers continue to work with the MIDUS 2 Biomarker data. If there are suggestions or comments, please contact midus_help@aging.wisc.edu.

Table of Contents

SECTION A: OVERVIEW OF MEDICATION DATA

The MIDUS 2 Biomarker Project (P4) includes comprehensive data about the medications study participants are taking at the time of data collection. Specifically, information is recorded about the following medications types, as well as medication allergies:

- Prescription
- Over-The-Counter (OTC)
- Alternative Medications

These basic data are enhanced, in two ways, via a standardized set of procedures developed with the MIDUS 2 Biomarker Medication data. First, medication names are linked to Generic Names and corresponding DrugIDs via linkage to the Lexi-Data database and then linked to their associated therapeutic and pharmacologic class codes. Second, reasons for taking medications are reviewed and coded into ICD9 and ICD10 categories, for the cases could not be classified into any ICD categories, the MIDUS diagnose codes are used to supplement the ICD codes. Information about these procedures is included below in Sections D and E.

The Medication data are collected at all three P4 sites. The data appear in the data file immediately following the Bone Scan data. A copy of the Medication Chart appears in Section B below. The variable names have been added to the instrument in the cell where the data they represent is recorded. As described in "M2 P4 Biomarker Project Data File Notes", the naming convention organizes variables according to the data type or method used for data collection. The variable names for the medication data begin with the unique three character set "B4X".

Revision in the 2024 Update Release

The following updates include both the flat aggregated data file and the Stacked medication data file:

a. To indicate why a medication is being taken, an ICD-10 code has been added to each medication, in addition to the ICD-9 code previously available. For the cases that could not be classified into an ICD-10 category, the MIDUS diagnose codes are used to supplement the ICD-10 codes.

b. Lexicon assigns all the related Pharmacologic categories (PC) codes to the drug with the same Generic name, regardless of Route of administration. This resulted in some medications being assigned codes with conflicting information, such as having both the oral code and the parenteral code. We identified all the medications with route specific PC codes and reviewed the PC codes along with the Route reported by the Respondents to determine if the PC codes should be modified. For example, Ibuprofen associated with PC codes 1602 (NSAID, oral) and 1603 (NSAID, parenteral). If the Respondent reported using this medication orally, we kept the code 1602 and removed the code 1603.

Medication Data Collection

Respondents are instructed to bring all their medications, in the original bottles, to the GCRC (General Clinical Research Center) when they come for their visit. We ask them to do this to

ensure that we are able to record medication names and dosages accurately. The Medication Chart has three pages and includes sections to record information about:

- Prescription Medications: All FDA approved medications prescribed by someone authorized/licensed under the Western medical tradition, typically a physician.

- Over the Counter Medications: Include vitamins, minerals, non-prescription pain, antacids, anti-diarrheas, 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.

- Medication Allergies: Any medication (prescription, OTC, alternative) that the subject reports being allergic to.

During the visit project staff record the following information about medications on themedication chart:
- Medication name, dosage, and route of administration
- How often the medication is taken
- How long the participant has been taking a given medication
- Why the participant thinks s/he is taking the medication

A standardized protocol for collecting medication data was implemented at all three sites. A copy of this protocol appears in Section C.

NOTE: The order in which medications are recorded on the form is random and determined by the order in which the participant choses to report them. Thus there will be little direct correspondence between the medications or medication allergies reported in any given row of the form from one wave of data collection to another. The one exception is the first two rows in the OTC, which are reserved for reporting multi-vitamin and calcium supplement usage.

Data File Structure

The medication data are released in the traditional flat (wide) format as part of the larger MIDUS Biomarker aggregate data file to facilitate their use in standard between person analyses. Details about the variables in this file are included in the current document. 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. 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.

The aggregate (flat) file includes some administrative variables indicating whether or not the participant takes medication of the indicated type and, if yes, the number of medications. It also includes a standardized variable set characterizing each medication recorded along with information about medication allergies. The final section of the medication data is a set of variables indicating therapeutic and pharmacologic classification of the medications reported.

The remainder of this section provides additional details about these variables.

Administrative Variables

There are 4 administrative variables at the beginning of the medication section:

- B4XTM – total number of medications
- B4XPMD, B4XOMD, B4XAMD – administrative variables indicating if the respondent takes medications of the indicated type or not

The first variable at the beginning of the Prescription, OTC, and Alternative medication sections indicates the total number of medications of a given type that the participant takes (B4XPM, B4XOM, B4XAM respectively). In addition, as noted above, the first two rows of the OTC medication section are designated for Multivitamins and Calcium Supplements, thus it also includes the following 2 administrative variables:

- B4XOMV – Yes/No, taking a multivitamin?
- B4XOCS – Yes/No, taking a calcium supplement?

Prescription, OTC, and Alternative Medications: Standardized Variable Sets

These variables appear in the following order for each medication reported. The "_" in the variable name is a placeholder for the character indicating the medication type (P = Prescription, O = OTC, A = Alternative) while the "#' at the end of the variable names is a place holder for the row number on the chart where information about a given medication is reported.

- Created variables from the Lexi-Data database
  - B4X_MID# - DrugID from the Lexi-Data database
  - B4X_GN# - Generic Drug Name associated with the DrugID

    A list of DrugIDs and Generic Drug Names can be found in Section F, Appendix B below.
- Variables based on information from the medication chart:
  - B4X_DD#, B4X_DU# – drug dosage (dosage, units)
  - B4X_R# – route of administration (oral, topical, etc.)
  - B4X_F#, B4X_FU# – how often the medication is taken (frequency, frequency units)
  - B4X_PRN# - these variables indicate whether or not a given medication is taken as needed (PRN=Pro Re Nata) rather than on a regular basis. This flag is created for each set of medication variables within each medication type. It can be used to filter out medications that are taken occasionally (i.e. aspirin for acute pain management) or in emergent situations (i.e. rescue inhaler during an asthma attack).
  - B4X_T#, B4X_TU# – how long has the medication been taken (number, time units)
- Two sets of mutually exclusive code variables representing the reasons why the participant thinkss/he is taking the medication:
  In the first set, we coded the reasons taken the medication using ICD-9 categories. For the cases could not be classified into an ICD-9 category, we developed a list of MIDUS diagnose codes to supplement the ICD-9 codes. This set of variables were added to MIDUS 2 medication data in the 2018 release.
  - B4X_ICD9M# – 3-digit numeric codes representing major categories in the International Classification of Diseases, 9th Revision.

- o B4X_MDC9_# – 5-character alphanumeric variables representing a set of codes used to categorize reasons for taking a medication that could not be classified into an ICD-9 category.

  In the second set, we coded the reasons taken the medication using ICD-10 categories. For the cases could not be classified into an ICD-10 category, the MIDUS diagnose codes are used to supplement the ICD-10 codes. This set of variables were added to MIDUS 2 medication data in this new 2023 update release.
- o B4X_ICD10M# – 3-character alphanumeric variables representing major categories in the International Classification of Diseases, 10th Revision.
- o B4X_MDC10_# – 5-character alphanumeric variables representing a set of codes used to categorize reasons for taking a medication that could not be classified into an ICD-10 category.

  A list of codes and category names for the two sets of code variables can be found in Section F, Appendix D, below.

There are 15 sets of Prescription medication variables, 12 sets of OTC medication variables, and 12 sets of Alternative medication variables in the MIDUS 2 Biomarker file. Some participants report more medications in a given category than the data file allows for (i.e. takes 15 OTC medications). These additional medications are not included in the flat file as they would potentially add over a hundred variables (10 variables per medication) most of which would be designated as INAPP. These additional medications are however included in the stacked file. Cases with additional medications can be identified by looking at the following variables:
- B4XXM – indicates whether the participant has any additional medications.
- B4X_M – frequency distributions of these variables, representing the number of medications of a given type that the participant takes, will help users identify the type of medication for which there are additional medications.

Medication Allergies: Standardized Variable Sets

The final section of the Medication Chart is for reporting medication allergies. There are 2 administrative variables at the beginning of that section:
- B4XM – Yes/No does the respondent have Any Medication Allergies?
- B4XMM – number of allergies

There are 3 additional variables for each medication allergy reported (the # in the variable name indicates the row number in the chart):
- B4XMMID# – text variable containing Multum DrugID code
- B4MMGN# – text variable containing the Multum generic drug name
- B4XMMRC# – codes representing the allergic reaction to the medication (see below for details.

Note, the allergy variables are only included in the Flat file.

Coding Medication Allergy Reactions

Participant descriptions of allergic reactions to medications were recorded verbatim. The number of medication allergies reported was relatively small compared to the larger set of medication data thus they were coded using standard manual approaches. Medical definitions

of common types of reactions and anaphylactic shock were used as a reference for making decisions about coding categories. Most of the categories correspond to specific individual reactions reported (e.g. rash, nausea). If the participant reported multiple individual reactions that are part of the overall anaphylactic response, then the code for anaphylaxis was assigned. Sometimes participants reported reactions that could not be identified as being either part of the anaphylactic response or a known reaction to a particular medication. In those instances, the reaction was coded as 'Other'. The categories, codes, and key words are summarized below.

Code	Category Name	Keywords
1	ANAPHYLAXIS	Anaphylaxis, difficulty breathing, faint, wheezing, swelling &hives, sweating/shaking
2	RASH	Rash, Eczema
3	HIVES	Hives, eruptions, urticaria, blisters, welts
4	VOMITING	Vomiting, throwing up,
5	SWELLING	Swelling, swollen –hands, face, feet etc.
6	STOMACH UPSET	Upset stomach, feeling sick
7	ITCHING	Itching,
8	NAUSEA	Nausea
9	PSYCHOSIS	Psychosis, hallucinations, agitation, delirium, jitters
10	DIARRHEA	Diarrhea
11	OTHER	Joints ache, no energy, headache, sweats, etc.

Therapeutic and Pharmacologic Classes

The final section of the data file contains a series of dummy variables indicating whether or not the participant takes medications in commonly occurring categories of therapeutic (TC) and pharmacologic (PC) classes identified following linkage to the Lexi-Data database. The Lexi-Data linkage and creation of these variables along with corresponding count variables are described in the in Section D. A list of the Therapeutic and Pharmacologic class codes and category names can be found in Section F, Appendix C, below.

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 follow:

- Dummy variable: B4XTC_115 = 'Multum Therapeutic Class 115 – nutritional products: YES/NO?'
- Count variable: B4XTC_115_N = 'Multum Therapeutic Class 115 – nutritional products: HOW MANY?'

SECTION B: MEDICATION CHART

See Medication chart used in data collection below. M2 variable names are added to the chart.

MIDUS PROJECT 4: **PRESCRIPTION MEDICATION**   Site #_____   ID#_____

# of prescription medications? __[B4XPM]____   Date_____

Drug code	Drug name and dosage	Route	Frequency	Taken for how long?	Why are you taking it?	Diagnosis code
[B4XPC1]	1. [B4XPDD1] [B4XPDU1]	[B4XPR1]	[B4XPF1] [B4XPFU1]	[B4XPT1] [B4XPTU1]		[B4XPDC1]
[B4XPC2]	2. [B4XPN2] [B4XPDD2] [B4XPDU2]	[B4XPR2]	[B4XPF2] [B4XPFU2]	[B4XPT2] [B4XPTU2]		[B4XPDC2]
[B4XPC3]	3. [B4XPN3] [B4XPDD3] [B4XPDU3]	[B4XPR3]	[B4XPF3] [B4XPFU3]	[B4XPT3] [B4XPTU3]		[B4XPDC3]
[B4XPC4]	4. [B4XPN4] [B4XPDD4] [B4XPDU4]	[B4XPR4]	[B4XPF4] [B4XPFU4]	[B4XPT4] [B4XPTU4]		[B4XPDC4]
[B4XPC5]	5. [B4XPN5] [B4XPDD5] [B4XPDU5]	[B4XPR5]	[B4XPF5] [B4XPFU5]	[B4XPT5] [B4XPTU5]		[B4XPDC5]
[B4XPC6]	6. [B4XPN6] [B4XPDD6] [B4XPDU6]	[B4XPR6]	[B4XPF6] [B4XPFU6]	[B4XPT6] [B4XPTU6]		[B4XPDC6]
[B4XPC7]	7. [B4XPN7] [B4XPDD7] [B4XPDU7]	[B4XPR7]	[B4XPF7] [B4XPFU7]	[B4XPT7] [B4XPTU7]		[B4XPDC7]
[B4XPC8]	8. [B4XPN8] [B4XPDD8] [B4XPDU8]	[B4XPR8]	[B4XPF8] [B4XPFU8]	[B4XPT8] [B4XPTU8]		[B4XPDC8]
[B4XPC9]	9. [B4XPN9] [B4XPDD9] [B4XPDU9]	[B4XPR9]	[B4XPF9] [B4XPFU9]	[B4XPT9] [B4XPTU9]		[B4XPDC9]
[B4XPC10]	10. [B4XPN10] [B4XPDD10] [B4XPDU10]	[B4XPR10]	[B4XPF10] [B4XPFU10]	[B4XPT10] [B4XPTU10]		[B4XPDC10]
[B4XPC11]	11. [B4XPN11] [B4XPDD11] [B4XPDU11]	[B4XPR11]	[B4XPF11] [B4XPFU11]	[B4XPT11] [B4XPTU11]		[B4XPDC11]

NON-PRESCRIPTION MEDICATION
(Over the Counter)

Site #_____   ID#_____

# of non-prescription medications? __[B4XOM]____   Date_____

Drug code	Drug name and dosage	Route	Frequency	Taken for how long?	Why are you taking it?	Diagnosis code
[B4XOC1]	1. Multiple vitamin Y N [B4XOMV] [B4XODD1] [B4XODU1]	[B4XOR1]	[B4XOF1] [B4XOFU1]	[B4XOT1] [B4XOTU1]		[B4XODC1]
[B4XOC2]	2. Calcium Y N [B4XOCS] [B4XODD2] [B4XODU2]	[B4XOR2]	[B4XOF2] [B4XOFU2]	[B4XOT2] [B4XOTU2] [B4XOTU2S]		[B4XODC2]
[B4XOC3]	3. [B4XODD3] [B4XODU3]	[B4XOR3]	[B4XOF3] [B4XOFU3]	[B4XOT3] [B4XOTU3]		[B4XODC3]
[B4XOC4]	4. [B4XODD4] [B4XODU4]	[B4XOR4]	[B4XOF4] [B4XOFU4]	[B4XOT4] [B4XOTU4]		[B4XODC4]
[B4XOC5]	5. [B4XODD5] [B4XODU5]	[B4XOR5]	[B4XOF5] [B4XOFU5]	[B4XOT5] [B4XOTU5]		[B4XODC5]
[B4XOC6]	6. [B4XODD6] [B4XODU6]	[B4XOR6]	[B4XOF6] [B4XOFU6]	[B4XOT6] [B4XOTU6]		[B4XODC6]
[B4XOC7]	7. [B4XODD7] [B4XODU7]	[B4XOR7]	[B4XOF7] [B4XOFU7]	[B4XOT7] [B4XOTU7]		[B4XODC7]
[B4XOC8]	8. [B4XODD8] [B4XODU8]	[B4XOR8]	[B4XOF8] [B4XOFU8]	[B4XOT8] [B4XOTU8]		[B4XODC8]
[B4XOC9]	9. [B4XODD9] [B4XODU9]	[B4XOR9]	[B4XOF9] [B4XOFU9]	[B4XOT9] [B4XOTU9]		[B4XODC9]
[B4XOC10]	10. [B4XODD10] [B4XODU10]	[B4XOR10]	[B4XOF10] [B4XOFU10]	[B4XOT10] [B4XOTU10]		[B4XODC10]

ALTERNATIVE MEDICATIONS (herbal, homeopathic, etc.)   Site # _____   ID#_____

of alternative medications?____[B4XAM]_____   Date_____

Drug code	Drug name and dosage	Route	Frequency	Taken how long?	Why are you taking it?	Diagnosis code
[B4XAC1]	1. [B4XADD1] [B4XADU1]	[B4XAR1]	[B4XAF1] [B4XAFU1]	[B4XAT1] [B4XATU1]		[B4XADC1]
[B4XAC2]	2. [B4XADD2] [B4XADU2]	[B4XAR2]	[B4XAF2] [B4XAFU2]	[B4XAT2] [B4XATU2]		[B4XADC2]
[B4XAC3]	3. [B4XADD3] [B4XADU3]	[B4XAR3]	[B4XAF3] [B4XAFU3]	[B4XAT3] [B4XATU3]		[B4XADC3]
[B4XAC4]	4. [B4XADD4] [B4XADU4]	[B4XAR4]	[B4XAF4] [B4XAFU4]	[B4XAT4] [B4XATU4]		[B4XADC4]

* Up to 8 alternative medications recorded in the actual data file. The variable names for record 5-8 follow the same convention as shown here for record 1-4.

MEDICATION ALLERGIES   Does R have any medication allergies? (circle one)   Yes   No [B4XM] [B4XMM]

Drug code	Drug name	Reaction
[B4XMC1]	1.	
[B4XMC2]	2.	
[B4XMC3]	3.	
[B4XMC4]	4.	

* Up to 6 medication allergies recorded in the actual data file. The variable names for record 5-6 follow the same convention as shown here for record 1-4.

SECTION C: DATA COLLECTION PROTOCOL

The following provides instructions for administering the Medication Chart for the MIDUS 2 Biomarker Project (P4).

Background

Respondents are instructed to bring all their medications in the original bottles. We ask them to do this to ensure that we are able to record medication names and dosages accurately.

The Medication Chart has three pages and includes sections to record information about:

Prescription Medications:

>All FDA approved medications prescribed by someone authorized/licensed under the Western medical tradition, typically physician.

>Note: Some vitamins (e.g. Folic Acid, Niacin /Niaspan below) are prescription strength and would be in a prescription bottle.

Over the Counter Medications:

>Include vitamins, minerals, non-prescription pain, 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.

>There are two notable exceptions;
>- Folic Acid is a prescription medication if the dosage is 800 mcg or more.
>- Niacin (Niaspan) is a prescription medication if the dosage is 500 mg or more.

Examples: Over the Counter (non-prescription) General Medications

Advil	Fiber supplements	Motrin
Acetaminophen APAP	Fiber Con	Naproxen
Alleve	Floride Rinse	Nasalcrom
Ascriptin	Ibuprofen	Nasal spray (saline)
Aspirin	Immodium	Pepto Bismol
Benadryl	Hydrocortisone cream	Psyllium
Citrucel	Legatrim	Sennakot
Diphenhydramine	Loperimide	Simethicone
Docusate	Lactaid	Tums
Eye drops - artificial tears	Maalox	Tylenol
Excedrine	Metamucil	

Examples: Over the Counter (non-prescription) Vitamins & Minerals

Multi vitamin	Chromium picolinate	Phosphorus
Vitamin A	Copper	Potassium
Vitamin B's	Ferrous sulfate	Protegra
Vitamin C	Folic acid	Selenium
Vitamin D	Iron	Zinc
Vitamin E	Niacin	
Calcium	Magnesium	

Alternative Medications:

Include herbs, herbal blends (not including herbal teas), homeopathic remedies, and other alternative remedies. These may be purchased OTC (over the counter) or theymay be "prescribed" by a health care practitioner trained in a non-western tradition.

Examples: Over the Counter (non-prescription) Vitamins & Minerals

Alfalfa	Echinacea	Lutein
Alpha lipoic Acid	Essential Fatty Acid	Lysine
Adrenal Support	Flax Seed Oil	Lymph gland cleanser
Bowel Aide	Fish Oil	Melatonin
Billberry Extract	Ginkgo biloba	MSMw/GS
Homeopathic	Garlic	Mega-chel
Cayenne	Ginseng	Nutri-calm
Chondrochondroitin	Ginger	Olive Leaf Extract
Cod liver oil	Glucosamine/	Osteobiflex
Co Q 10	glucosamine chondroitin	Primrose seed oil
Colostrum	Kava kava	St Johns wort
Cortislim	Kelp	Saw Palmetto
Cranberry Pill	Lecithin	Valerian

Medication Allergies

Include any medication (prescription, OTC, alternative) that the subject believes s/he is allergic to.

Instructions for Completing the Medication Chart

General Guidelines:

1. If a respondent is taking multiple drugs of a particular type, or to treat a particular condition, record information about all the medications. For example, a respondent may take two different types of insulin, or is taking multiple medications to treat high blood pressure.

2. Additional Medications: Some respondents will take more medications than our forms allow. To accommodate these situations, Project staff should carry an extra copy of the Medication Chart and use the appropriate page to record information about additional medications. Specifically, staff should:
   a. Write "See additional sheet" at the end of the appropriate section of the chart
   b. Fill out the appropriate additional sheet and *paper clip* it to the back of the completed chart.
   c. Make sure that the "# of_____medications?" line reflects the total number of medications of that type that the respondent takes.

3. Medications Not Currently Being Taken: If the respondent brings in prescription medication that they are no longer taking, do not record it on the form (or remove it during field editing).

Specific Instructions:

Collect medications from the participant after GCRC admission but before the nurse begins the admission assessments. The Medication Chart is completed in three steps. The first two are completed during the GCRC visit. The third step can be completed after the subject has left the GCRC.

An example of a completed Medication Chart can be found in Section F, Appendix A.

Step 1: *To ensure that medications are correctly organized by type*, please complete this step while GCRC nurse is conducting admission assessment or while subject is eating dinner. Return the medications to the subject after completing this step.

Staff will ask subjects to confirm the dosage information recorded in this step, thus it will behelpful to use a pencil.

If the subject is not taking medications of a certain type, record a 0 in the space for "# of ____ medications".

For all medications the subject is taking record the following:

1. Drug name: Copy from label on bottle.

   - Many subjects are likely to be taking a multiple vitamin or calcium supplement. Therefore, the first two lines on the chart for Non-Prescription Medications are reserved for these two medications.
     o If the subject is not taking any non-prescription medications ignore these two boxes.
     o If the subject is taking non-prescription medications, circle "Yes" or "No" and fill in the appropriate information.

2. <u>Dosage</u>: we want to know how much of the drug they take at any given time that they take it. Copy from label on bottle and ask respondents if this is how they actually take the drug. Write the exact dosage they take. For example, if the label reads:

- Lipitor 80mg, take half tablet once a day & the respondent confirms taking only ½ tablet daily, then record 40 mg as the dosage.

- Atenolol 20 mg, take one tablet in the morning and one at bedtime, & the respondent confirms this, then record 20 mg as the dosage.

- Alfalfa 500mg per tablet & the respondent reports taking 6 tablets three times per day, then record 3,000 mg as the dosage.

- Inhaled Medications: Dosage information for inhalers can be listed in two forms.
    - It may be listed in the standard units (e.g. mcg, mg etc.) reflecting the total dosage for the contents of the inhaler.
    - It should also be listed in terms of the number of puffs that person should inhale reflecting the amount taken when the inhaler is used. <u>Please be sure to record # of puffs as this is the dosage that we want to record.</u>

    <u>Note</u>: On rare occasions alternative medications may report dosage information in grains rather than mg, cc's, etc. This may be indicated by the word "grain" in the medication name. In those instances, record the full name of the medication, but report the dose in terms of the number of pills, tablets etc. that the respondent takes.

3. <u>Route</u>: this the route by which the medication is taken. The following abbreviations can be used:

PO	oral (tablets, capsules, liquid)
IM	intramuscular (Vitamin B12 shots)
SC or SQ	subcutaneous (insulin injections)
Inh	inhaled (nasal spray, asthma inhalers)
Top	topical (creams, eye drops, patches)
SL	sub-lingual (under the tongue)

4. <u>Frequency</u>: this tells us how often they take the dose recorded at # 2 above. The following abbreviations can be used:

QD	once daily
BID	twice a day
TID	three times a day
QID	four times a day
PRN	as needed

- <u>Medications Taken As Needed (PRN)</u>:

    PRN ONLY – This refers to PRN medications that are taken irregularly in response to an acute need (e.g. cold medicine, sleep aids, antibiotics), they aregenerally OTC or alternative medications, but can be prescribed.
    - If a medication is taken PRN at a specific time of day, please only record "PRN". For example if the respondent takes a sleep aid in the evening as needed and both PRN and QD or at bedtime is recorded, it implies the respondent is taking the medication on both a regular schedule *and* as

needed.
- o The key piece of information is that it is taken '***as needed***'

- OTC medications taken for a single occurrence of some condition or illness that has not recurred for at least 3 months should not be recorded.
- OTC medications taken on an irregular basis for recurring conditions (e.g. eczema, sinusitis) should be recorded.

PRN Supplemental – This refers to PRN medications that are taken as needed to supplement a regularly scheduled dosage, under certain circumstances.
- In those instances record the regular dosage on a single line then repeat the information on the next line for the PRN usage. This is the only instance in which information about a single medication should appear ton *two* lines.

For example, asthmatics may have an inhaler that is used daily, but could also be used PRN in emergencies. This would be recorded as follows:

1. Albuterol 2 puffs   BID ….
2. Albuterol 1 puff   PRN ……

- o Medications Taken More Than Once A Day:
  - Typically, the number of times the medication is taken and the amount are standardized. Sometimes the dosage is the same every time the medication is taken, other times the dosage taken in the morning time is different from that taken later in the day. As long as the amounts and time of day are standardized, the medication and all dosage information should be recorded on the same line.

  For example, someone with high Blood Pressure may be taking Altenolol twice a day, but atdifferent dosages. This would be recorded as follows:

  1. Altenolol 50 mg a.m., 100 m.g. p.m.   BID ….
  2. (next medication)

5. After recording the above information in the appropriate location for each medication the subject is taking, record the total number of medications of each type in the "# of _____ medications" line.

Step 2: This step can be performed in conjunction with the Medical History or the Physical Exam at the discretion of GCRC or Project Staff.

Review the Medication Chart with the subject. For each medication recorded on the chart:
6. Confirm that subject is taking the medication as indicated on the bottle. Sometimes the prescribed dosage is a certain amount but it is modified at the doctor's recommendation or the subject prefers not to take the recommended dose for a non-prescription or alternative medication.

7. Ask the subject how long s/he has been taking the medication, record days, months or years as appropriate.

- If the respondent reports the year, or a month and year that they started taking a medication please convert to the appropriate number of years, months etc.

8. Ask the subject why s/he is taking the medication. Medications are typically taken for specific reasons, but subjects sometimes take them for other atypical reasons or don't really understand why they are taking a particular medication. We want to know why <u>they</u> think they are taking particular medications. Record the reason the subject is taking the drug verbatim.

- If the respondent says "The Dr. prescribed it" probe for more information (e.g. condition, symptom, prevention)

  - If after probing it is clear that the respondent does not know why they are taking the medication, then record "Don't Know".

- <u>Please be sure to ask this question for ALL medications</u>.

9. Ask the subject if s/he has any medication allergies. If 'Yes' record the medication name(s) and the nature of the reaction(s) experienced.

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

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. The database is updated monthly. MIDUS 2 medication data were linked with the database in 2017, using May 2017 version. Data from the Lexi-Data database is added to the MIDUS 2 dataset by completing the following tasks:

- Linking MIDUS 2 medication names to Lexi-Data Generic Names and their corresponding DrugIDs
- Use DrugIDs to extract therapeutic class and pharmacologic category 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 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.) study is derived from the Lexi-Data database and used under license from Lexi-Comp, Inc., which reserves all rights in that information."

Linking Medication Names to Generic Names

The Lexi-Data database 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. However, OTC, and ALT medication names are quite variable and not easily matched to Generic Names. To accommodate these differences, the following steps were followed when completing the matching step.

1. Direct match – A successful match required that 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 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 B for a list of DrugIDs and Generic Names in the MIDUS 2 dataset.

At the end of the matching process about 4.2% of the MIDUS 2 medications could not be matched. The vast majority are ALT medications, 88% compared to 2% and 10% for prescription and OTC medications, respectively.

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 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 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.

Therapeutic Class Codes

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 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 Section F, Appendix C for a list of therapeutic class codes and category names.

Assigning TC Codes

All the matched MIDUS 2 medications were assigned to at least one TC class (__TC#) and at least one sub-class (__TC#S#), with about 48% also assigned to at least one sub-sub-class (__TC#S#_1). 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. MIDUS 2 medications can be assigned up to 5 PC categories, thus we created a set of 5 variables named and labeled according to the following convention, where the final digit is a value from 1-5:

  __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 five pharmacologic classes as follows:
  __PC1 – 971 = Antianginal Agent

  __PC2 – 980 = Antiarrhythmic Agent, Class IV
  __PC3 – 1156 = Antihypertensive
  __PC4 – 1313 = Calcium Channel Blocker
  __PC5 – 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: 1156 = Antihypertensive
    e. __PC2: 1439 = 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. Hydrochlorothiazide-Lisinopril
        i. __TC1 (Parent/Grandparent): 40 = Cardiovascular Agents
        ii. __TC1S1 (Child/Sub category): 55 = Antihypertensive Combinations
        iii. __TC1S1_1 (Child/Sub-Sub category): 467 = ACE Inhibitors with Thiazides
        iv. __PC1: 957 = Angiotensin-Converting Enzyme ACE Inhibitor
        v. __PC2: 1156 = Antihypertensive
        vi. __PC3: 1439 = Diuretic, Thiazide

    b. Hydrochlorothiazide-Losartan or Hydrochlorothiazide-Valsartan
        i. __TC1 (Parent/Grandparent): 40 = Cardiovascular Agents
        ii. __TC1S1 (Child/Sub category): 55 = Antihypertensive Combinations
        iii. __TC1S1_1 (Child/Sub-Sub category): 473=Angiotensin II Inhibitors with Thiazides
        iv. __PC1: 958 = Angiotensin II Receptor Blocker
        v. __PC2: 1156 = Antihypertensive
        vi. __PC3: 1439 = Diuretic, Thiazide

    c. Hydrochlorothiazide-Triamterene
        i. __TC1 (Parent/Grandparent): 40 = Cardiovascular Agents
        ii. __TC1S1 (Child/Sub category): 55 = Antihypertensive Combinations
        iii. __TC1S1_1 (Child/Sub-Sub category): 475=Potassium Sparing Diuretics with Thiazide
        iv. __PC1: 1156 = Antihypertensive
        v. __PC2: 1438 = Diuretic Potassium Sparing
        vi. __PC3: 1439 = Diuretic, Thiazide

Assigning TC Codes to *UnMatched* Medications

A central objective of the coding task was to be as precise as possible based on the supporting information available. Thus, UnMatched medications 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. Gayle 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 medication, 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

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 E: CODING REASONS FOR TAKING MEDICATION

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.

Codes for reasons for taking medication were added to MIDUS 2 Biomarker data in the 2018 public release. Each response was coded into one of two mutually exclusive categorical codes using a combination of more traditional procedures for coding text data and the IBM SPSS Text Analytics for Surveys described below. One code is based on the International Disease Classification Codes, Version 9 (ICD-9) and the other was developed by MIDUS, to supplement the cases could not be classified into existing ICD-9 codes.

In 2023, when coding MIDUS 3 medication data, ICD-10 classification were used. In this update release of MIDUS 2 biomarker data, we added the ICD-10 codes, in additional to previously available ICD-9 codes, making MIDUS 2 data more comparable to MIDUS 3 data.

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.

Now, two sets of mutually exclusive reason codes were developed for inclusion in the data file. These variables are included in both the stacked medication file and the larger flat aggregated data files.

1. The first two variable set, **_ICD9M** and **_MDC9**, first available in 2018 release and continue to be available in 2023 release.
    a. **_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 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.
        i. 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.
        ii. A primary resource for this coding was the free online searchable ICD-9 database created by Alkaline Software: http://www.icd9data.com/
    b. **_MDC9 -** 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. These variables were named as _MDC in previous release. There were renamed as _MDC9 in current release, to distinguish with the supplement MIDUS diagnose code to ICD-10 codes. In general, a MIDUS code was assigned when:
        i. 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.
        ii. 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.

   iii. 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".

   iv. Some reasons could not be assigned to any of the MIDUS categories or ICD10M categories were designated as "Unable to Classify'.

   v. Because of this, while the categories are mutually exclusive, Unable to Classify cases may be identified under both variables.

2. The second mutually exclusive two variable set of diagnose codes, **_ICD10M** and **_MDC10**, are newly added in 2023 update release. Besides using ICD-10 code instead of ICD-9, same coding rules are used as the first set of diagnose variables.

  a. **_ICD10M** – 3-character alphanumeric codes representing major categories in the International Classification of Diseases, 10th Revision.

  b. **_MDC10** – 5-character alphanumeric codes developed by MIDUS, same as _MDC9, used to categorize reasons for taking a medication that could not be classified into an ICD-10 category.

3. **MISSING VALUES** – Two sets of variables are both mutually exclusive, as MDC codes are supplements for ICD codes, with the exception of missing values, for which the reason was "Don't Know" or "Missing". In these situations, same missing value codes were used for both ICD codes and MDC codes.

  a. For numeric variable _ICD9M:
    o 9996 – Unable to Classify
    o 9997 – Don't know
    o 9998 – Missing
    o 9999 - INAPP

  b. For string variables _ICD10M, _MDC9, _MDC10:
    o Z9996 - Unable to Classify
    o Z9997 - Don't Know
    o Z9998 - Missing
    o Z9999 - INAPP

SECTION F: APPENDICES

Appendix A: Sample Completed Medication Chart

PRESCRIPTION MEDICATION

# of prescription medications? ___3___

Site # __2__   ID# __12345__

Date __3/25/04__

Drug code	Drug name and dosage	Route	Frequency	Taken for how long?	Why are you taking it?	Diagnosis code
	1. Celebrex 100mg	PO	BID	2mos	arthritis	
	2. Synthroid 75mcg	PO	QD	2yrs	hypo-thyroid.	
	3. Nasonex 2sprays	inh	QD	6mos	allergies	
	4.					
	5.					
	6.					
	7.					
	8.					
	9.					
	10.					
	11.					

NON-PRESCRIPTION MEDICATION
(Over the Counter)

Site # 2   ID# 12345

# of non-prescription medications? 5

Date 3/25/04

Drug code	Drug name and dosage	Route	Frequency	Taken for how long?	Why are you taking it?	Diagnosis code
	1. Multiple vitamin ⒴ N	PO	QD	5 yrs	gen health	
	2. Calcium Y Ⓝ					
	3. aspirin 81mg	PO	QD	6mos	heart health	
	4. Vit C 500mg	PO	QD	5yrs	gen health	
	5. Tylenol 1000mg	PO	PRN	5yrs	pain or headache	
	6. Metamucil 1 Tbsp	PO	QD	6mos	fiber supplement	
	7.					
	8.					
	9.					
	10.					

29

ALTERNATIVE MEDICATIONS (herbal, homeopathic, etc.)   Site #___2___   ID#__12345__

Date __3/25/04__

# of alternative medications? ___2___

Drug code	Drug name and dosage	Route	Frequency	Taken how long?	Why are you taking it?	Diagnosis code
	1 Glucosamine Sulfate 1500mg	PO	TID	1yr	arthritis	
	2. 2caps Immune Aide	PO	BID	2yrs	allergies	
	3.					
	4.					

MEDICATION ALLERGIES   Does R have any medication allergies? (circle one)   No (Yes)

Drug code	Drug name	Reaction
	1 penicillin	hives
	2 Codeine	hallucinations
	3.	
	4.	

30

Appendix B: Generic Medication Names and DrugIDs

The following lists the Lexi-Data DrugIDs and Generic Names in the MIDUS 2 data files. The list is in order by DrugID.

DRUG ID	GENERIC NAME	DRUG ID	GENERIC NAME
d00001	acyclovir	d00096	cephalexin
d00002	amiodarone	d00097	clarithromycin
d00004	atenolol	d00101	isoniazid
d00006	captopril	d00102	itraconazole
d00011	ciprofloxacin	d00106	methenamine
d00013	enalapril	d00110	minocycline
d00015	ibuprofen	d00112	nitrofurantoin
d00016	labetalol	d00124	sulfamethoxazole-trimethoprim
d00018	nadolol	d00132	hydrALAZINE
d00019	naproxen	d00134	metoprolol
d00021	ranitidine	d00135	minoxidil
d00022	warfarin	d00137	pindolol
d00023	allopurinol	d00138	prazosin
d00024	azaTHIOprine	d00140	cimetidine
d00028	ketoprofen	d00141	famotidine
d00032	propranolol	d00142	theophylline
d00033	sulindac	d00143	phenytoin
d00034	zidovudine	d00144	nortriptyline
d00037	doxycycline	d00146	amitriptyline
d00043	clindamycin	d00148	diazepam
d00044	cloNIDine	d00149	LORazepam
d00045	diltiazem	d00150	colchicine
d00046	erythromycin	d00168	ALPRAZolam
d00048	verapamil	d00169	aMILoride
d00049	acetaminophen	d00170	aspirin
d00050	methadone	d00175	benztropine
d00051	NIFEdipine	d00176	betaxolol
d00058	carBAMazepine	d00179	bumetanide
d00060	methotrexate	d00181	buPROPion
d00061	lithium	d00182	busPIRone
d00070	furosemide	d00191	chlorpheniramine
d00071	fluconazole	d00193	cholestyramine
d00078	didanosine	d00197	clonazePAM
d00079	cycloSPORINE	d00198	clorazepate
d00086	amantadine	d00210	digoxin
d00088	amoxicillin	d00212	diphenhydrAMINE
d00089	amoxicillin-clavulanate	d00213	dipyridamole
d00091	azithromycin	d00217	doxepin

DRUG ID	GENERIC NAME
d00223	epoetin alfa
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
d00268	isosorbide dinitrate
d00269	isosorbide mononitrate
d00270	isradipine
d00273	ketorolac
d00278	levothyroxine
d00280	lovastatin
d00284	medroxyPROGESTERone
d00289	mercaptopurine
d00290	methimazole
d00293	methylPREDNISolone
d00298	metoclopramide
d00308	morphine
d00310	nabumetone
d00314	niacin
d00316	nicotine
d00321	nitroglycerin
d00325	omeprazole
d00328	oxybutynin
d00329	oxyCODONE
d00336	pentoxifylline
d00337	phenazopyridine
d00343	piroxicam
d00345	potassium chloride
d00348	pravastatin

DRUG ID	GENERIC NAME
d00350	predniSONE
d00355	prochlorperazine
d00365	quinapril
d00366	quiNINE
d00371	sotalol
d00373	spironolactone
d00379	sulfaSALAzine
d00381	tamoxifen
d00384	temazepam
d00386	terazosin
d00395	traZODone
d00396	triamterene
d00402	vitamin A
d00405	vitamin E
d00409	riboflavin
d00412	pyridoxine
d00413	cyanocobalamin
d00417	bioflavonoids
d00425	calcium carbonate
d00426	ascorbic acid
d00440	sodium bicarbonate
d00484	selenium
d00488	lysine
d00491	levOCARNitine
d00497	omega-3 polyunsaturated fatty acids
d00534	estrone
d00537	estradiol
d00541	conjugated estrogens
d00542	esterified estrogens
d00543	estropipate
d00550	progesterone
d00555	norethindrone
d00558	testosterone
d00563	finasteride
d00578	arginine
d00583	desmopressin
d00595	glucose
d00598	calcitonin
d00608	fludrocortisone
d00609	cortisone

DRUG ID	GENERIC NAME	DRUG ID	GENERIC NAME
d00620	triamcinolone	d00910	zolpidem
d00653	isosorbide	d00960	carisoprodol
d00655	thyroid desiccated	d00963	cyclobenzaprine
d00683	lidocaine topical	d00964	metaxalone
d00689	amLODIPine	d00965	methocarbamol
d00699	EPINEPHrine	d00966	orphenadrine
d00704	phenylephrine	d00967	baclofen
d00709	bisoprolol	d00985	hyoscyamine
d00726	doxazosin	d00991	clidinium
d00728	ramipril	d00992	glycopyrrolate
d00730	benazepril	d00999	dicyclomine
d00732	lisinopril	d01002	pancrelipase
d00746	simvastatin	d01005	ursodiol
d00749	albuterol	d01008	magnesium citrate
d00750	metaproterenol	d01010	cascara sagrada
d00755	pirbuterol	d01013	senna
d00760	beclomethasone	d01015	bisacodyl
d00762	acetylcysteine	d01017	polycarbophil
d00769	pseudoephedrine	d01018	psyllium
d00771	naphazoline ophthalmic	d01021	docusate
d00772	oxymetazoline nasal	d01025	loperamide
d00773	tetrahydrozoline ophthalmic	d01026	bismuth subsalicylate
d00787	promethazine	d01027	simethicone
d00797	guaiFENesin	d01031	mesalamine
d00801	caffeine	d01032	olsalazine
d00806	phentermine	d01185	apraclonidine ophthalmic
d00810	diethylpropion	d01187	levobunolol ophthalmic
d00813	benzocaine topical	d01231	chlorhexidine topical
d00817	hydroxychloroquine	d01233	nystatin
d00838	butorphanol	d01244	tretinoin topical
d00842	salsalate	d01288	clobetasol topical
d00848	diclofenac	d01291	desoximetasone topical
d00851	etodolac	d01293	fluocinolone topical
d00859	meclizine	d01294	fluocinonide topical
d00861	dimenhyDRINATE	d01296	fluticasone
d00867	ondansetron	d01300	mometasone topical
d00880	sertraline	d01322	aluminum chloride hexahydrate topical
d00900	methylphenidate	d01325	arnica topical
d00901	pemoline	d01333	benzalkonium chloride topical
d00907	hydrOXYzine	d01353	leuprolide

DRUG ID	GENERIC NAME
d01373	hydroxyurea
d01376	PACLitaxel
d01385	beta-carotene
d01386	yohimbine
d01387	alprostadil
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
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
d03195	miconazole topical
d03197	betamethasone topical
d03201	acyclovir topical
d03202	ketoconazole topical
d03204	fluorouracil topical
d03205	hydrocortisone topical
d03206	triamcinolone topical
d03208	metroNIDAZOLE topical

DRUG ID	GENERIC NAME
d03221	prednisoLONE ophthalmic
d03226	saliva substitutes
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
d03298	chlorpheniramine-pseudoephedrine
d03300	chlorpheniramine-phenylephrine
d03311	brompheniramine-phenylephrine
d03313	chlorpheniramine/phenylephrine/pyrilamine
d03331	APAP/chlorpheniramine/phenylephrine
d03342	APAP/dextromethorphan/pseudoephedrine
d03359	chlorpheniramine-dextromethorphan
d03379	guaiFENesin-pseudoephedrine
d03381	guaiFENesin-phenylephrine
d03409	dextromethorphan/guaiFENesin/pseudoephedrine
d03423	acetaminophen-codeine
d03425	APAP/butalbital/caffeine/codeine
d03428	acetaminophen-HYDROcodone
d03431	acetaminophen-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

DRUG ID	GENERIC NAME
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
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
d03663	lecithin
d03665	menthol 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
d03759	salmeterol
d03760	diphenhydrAMINE topical
d03768	ocular lubricant
d03781	ethinyl estradiol-norgestimate
d03782	desogestrel-ethinyl estradiol
d03788	calcipotriene topical
d03789	potassium gluconate
d03796	magnesium chloride

DRUG ID	GENERIC NAME
d03797	magnesium oxide
d03803	calcium phosphate, tribasic
d03807	metFORMIN
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
d03847	carvedilol
d03848	azelaic acid topical
d03849	alendronate
d03858	lamiVUDine
d03864	glimepiride
d03866	calcium citrate
d03873	anastrozole
d03879	cannabis (Schedule I substance)
d03884	trolamine salicylate topical
d03897	lactase
d03908	APAP/chlorpheniramine/dextromethorphan/PPA
d03922	acetaminophen-caffeine
d03923	acetaminophen-phenylephrine
d03957	calcium/ferrous fumarate/vitamin D
d03984	ritonavir
d04011	interferon beta-1a
d04017	latanoprost ophthalmic
d04025	mirtazapine
d04031	pilocarpine

DRUG ID	GENERIC NAME
d04032	sulfacetamide sodium-sulfur topical
d04034	remifentanil
d04035	amphetamine-dextroamphetamine
d04037	timolol ophthalmic
d04039	carteolol ophthalmic
d04040	fexofenadine
d04048	brimonidine ophthalmic
d04056	zinc gluconate
d04057	zinc sulfate
d04058	melatonin
d04066	albuterol-ipratropium
d04068	azelastine nasal
d04099	donepezil
d04102	tiZANidine
d04105	atorvastatin
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
d04195	chlorophyllin
d04210	estradiol topical
d04215	rOPINIRole
d04220	QUEtiapine
d04222	irbesartan
d04223	mometasone nasal
d04233	triamcinolone nasal
d04235	ipratropium nasal
d04242	sodium chloride nasal
d04245	hydrochlorothiazide-irbesartan
d04248	methylcellulose

DRUG ID	GENERIC NAME
d04253	ZOLMitriptan
d04258	clopidogrel
d04261	raloxifene
d04266	eprosartan
d04267	repaglinide
d04268	dihydroergotamine nasal
d04270	fexofenadine-pseudoephedrine
d04271	diclofenac-misoprostol
d04275	beclomethasone nasal
d04279	flunisolide nasal
d04283	fluticasone nasal
d04284	fluticasone topical
d04285	naratriptan
d04286	fenofibrate
d04289	montelukast
d04290	calcium carbonate-magnesium hydroxide
d04293	hydrochlorothiazide-valsartan
d04294	tolterodine
d04298	phenylephrine topical
d04299	sildenafil
d04300	risedronate
d04303	dorzolamide-timolol ophthalmic
d04322	candesartan
d04329	sodium hyaluronate
d04332	citalopram
d04341	estradiol-norethindrone topical
d04342	inFLIXimab
d04349	leflunomide
d04357	trastuzumab
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
d04395	clotrimazole topical

DRUG ID	GENERIC NAME
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
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
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
d04478	wild yam
d04480	eyebright
d04481	royal jelly
d04484	shark cartilage
d04486	rose hips
d04487	peppermint
d04488	lavender

DRUG ID	GENERIC NAME
d04490	green tea
d04491	flax
d04503	nedocromil ophthalmic
d04510	insulin lispro-insulin lispro protamine
d04514	pantoprazole
d04522	papaya
d04523	ubiquinone
d04532	meloxicam
d04538	insulin glargine
d04572	formoterol
d04611	fluticasone-salmeterol
d04695	colesevelam
d04697	insulin aspart
d04703	glyBURIDE-metFORMIN
d04708	zoledronic acid
d04711	candesartan-hydrochlorothiazide
d04737	hydrochlorothiazide-telmisartan
d04740	tacrolimus topical
d04743	nateglinide
d04749	esomeprazole
d04753	travoprost ophthalmic
d04754	bimatoprost ophthalmic
d04760	drospirenone-ethinyl estradiol
d04764	cetirizine-pseudoephedrine
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
d04812	escitalopram
d04813	horse chestnut

DRUG ID	GENERIC NAME
d04820	metFORMIN-rosiglitazone
d04823	glipiZIDE-metFORMIN
d04824	ezetimibe
d04825	ARIPiprazole
d04827	atomoxetine
d04829	tiotropium
d04835	adalimumab
d04836	cycloSPORINE ophthalmic
d04839	insulin aspart-insulin aspart protamine
d04849	eletriptan
d04851	rosuvastatin
d04860	moxifloxacin ophthalmic
d04875	betaine
d04878	hydrochlorothiazide-olmesartan
d04893	vardenafil
d04896	tadalafil
d04898	epinastine ophthalmic
d04899	memantine
d04901	fosamprenavir
d05027	estriol
d05044	betamethasone-calcipotriene topical
d05048	amLODIPine-atorvastatin
d05218	cinacalcet
d05348	ezetimibe-simvastatin
d05350	polyethylene glycol 3350
d05355	DULoxetine
d05357	ibandronate
d05365	dexchlorpheniramine/HYDROcodone/phenylephrin
d05413	solifenacin
d05421	eszopiclone
d05422	darifenacin
d05471	alpha-D-galactosidase
d05488	pramlintide
d05508	pregabalin
d05526	alendronate-cholecalciferol
d05578	ramelteon
d05583	APAP/dextromethorphan/phenylephrine
d05635	metFORMIN-pioglitazone

DRUG ID	GENERIC NAME
d05702	methylsulfonylmethane
d05703	chondroitin/glucosamine/methylsulfonylmethane
d05719	ranolazine
d05748	brewer's yeast
d05770	omeprazole-sodium bicarbonate
d05776	iodine
d05807	varenicline
d05819	diphenhydrAMINE-ibuprofen
d05856	glimepiride-pioglitazone
d05896	sitaGLIPtin
d05964	aloe vera
d06032	fluocinolone otic
d06392	wheat dextrin
d06507	cinnamon
d06652	strontium gluconate
d06655	alpha-lipoic acid
d06720	metFORMIN-sitaGLIPtin
d06848	lutein
d06867	biotin
d07130	naproxen-SUMAtriptan
d07132	olopatadine nasal
d07315	glutamine
d07505	copper
d07693	aspirin-calcium carbonate
d99999	Unmatched, no generic name

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 2 data files.

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 poly-hierarchical and each therapeutic class has a unique code. See Section B above for details. The list below is organized in nested 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 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
	4		ANTIFUNGALS
		235	POLYENES
		236	AZOLE ANTIFUNGALS
	5		ANTIMALARIAL AGENTS
		238	ANTIMALARIAL QUINOLINES
		239	MISCELLANEOUS ANTIMALARIALS
	6		ANTITUBERCULOSIS AGENTS
		457	HYDRAZIDE DERIVATIVES
	7		ANTIVIRAL AGENTS
		175	PROTEASE INHIBITORS
		176	NRTIS
		228	ADAMANTANE ANTIVIRALS
		229	PURINE NUCLEOSIDES
		480	ANTIVIRAL BOOSTERS
	9		CEPHALOSPORINS
		159	FIRST GENERATION CEPHALOSPORINS
	11		MACROLIDE DERIVATIVES
		304	MACROLIDES
	12		MISCELLANEOUS ANTIBIOTICS
	13		PENICILLINS
		224	AMINOPENICILLINS
		225	PENICILLINS BETA LACTAMASE INHIBITORS
	14		QUINOLONES
	15		SULFONAMIDES

Top Tier (Parent/ Grandparent)	Middle Tier (Parent/ Child)	Bottom Tier (Child/ Grandchild)	Therapeutic Class Names
			Multum Therapeutic Classes
	16		TETRACYCLINES
	17		URINARY ANTI INFECTIVES
	240		LINCOMYCIN DERIVATIVES
20			ANTINEOPLASTICS
	23		ANTIMETABOLITES
	24		ANTINEOPLASTIC HORMONES
	26		MITOTIC INHIBITORS
	405		HER2 INHIBITORS
28			BIOLOGICALS
	34		IN VIVO DIAGNOSTIC BIOLOGICALS
	36		ERYTHROPOIESIS-STIMULATING AGENTS
40			CARDIOVASCULAR AGENTS
	42		ANGIOTENSIN CONVERTING ENZYME INHIBITORS
	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
	53		VASODILATORS
	54		VASOPRESSORS
	55		ANTIHYPERTENSIVE COMBINATIONS
		467	ACE INHIBITORS WITH THIAZIDES
		470	MISCELLANEOUS ANTIHYPERTENSIVE COMBINATIONS
		472	BETA BLOCKERS WITH THIAZIDES

Multum Therapeutic Classes			
Top Tier (Parent/ Grandparent)	Middle Tier (Parent/ Child)	Bottom Tier (Child/ Grandchild)	Therapeutic Class Names
		473	ANGIOTENSIN II INHIBITORS WITH THIAZIDES
		475	POTASSIUM SPARING DIURETICS WITH THIAZIDES
		476	ACE INHIBITORS WITH CALCIUM CHANNEL BLOCKING AGENTS
	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
		203	BENZODIAZEPINE ANTICONVULSANTS
		311	DIBENZAZEPINE ANTICONVULSANTS
		345	FATTY ACID DERIVATIVE ANTICONVULSANTS
		347	GAMMA-AMINOBUTYRIC ACID ANALOGS
		348	TRIAZINE ANTICONVULSANTS
		351	CARBONIC ANHYDRASE INHIBITOR ANTICONVULSANTS
	65		ANTIEMETIC ANTIVERTIGO AGENTS
		195	5HT3 RECEPTOR ANTAGONISTS
		196	PHENOTHIAZINE ANTIEMETICS
		197	ANTICHOLINERGIC ANTIEMETICS
		198	MISCELLANEOUS ANTIEMETICS
	66		ANTIPARKINSON AGENTS
		205	ANTICHOLINERGIC ANTIPARKINSON AGENTS
		276	DOPAMINERGIC ANTIPARKINSONISM AGENTS
	67		ANXIOLYTICS SEDATIVES AND HYPNOTICS
		68	BARBITURATES
		69	BENZODIAZEPINES

Top Tier (Parent/ Grandparent)	Middle Tier (Parent/ Child)	Bottom Tier (Child/ Grandchild)	Therapeutic Class Names
		70	MISCELLANEOUS ANXIOLYTICS, SEDATIVES AND HYPNOTICS
	71		CNS STIMULANTS
	73		MUSCLE RELAXANTS
		178	SKELETAL MUSCLE RELAXANTS
	80		MISCELLANEOUS CENTRAL NERVOUS SYSTEM AGENTS
	253		ANOREXIANTS
	312		CHOLINERGIC AGONISTS
	313		CHOLINESTERASE INHIBITORS
81			COAGULATION MODIFIERS
	82		ANTICOAGULANTS
		262	COUMARINS AND INDANEDIONES
	83		ANTIPLATELET AGENTS
		211	PLATELET AGGREGATION INHIBITORS
	85		MISCELLANEOUS COAGULATION MODIFIERS
	488		ANTICOAGULANT REVERSAL AGENTS
87			GASTROINTESTINAL AGENTS
	88		ANTACIDS
	90		ANTIDIARRHEALS
	91		DIGESTIVE ENZYMES
	92		GALLSTONE SOLUBILIZING AGENTS
	93		GI STIMULANTS
	94		H2 ANTAGONISTS
	95		LAXATIVES
	96		MISCELLANEOUS GI AGENTS
	272		PROTON PUMP INHIBITORS
	277		5 AMINOSALICYLATES
	355		FUNCTIONAL BOWEL DISORDER AGENTS
		89	ANTICHOLINERGICS ANTISPASMODICS
		356	SEROTONINERGIC NEUROENTERIC MODULATORS
97			HORMONES/HORMONE MODIFIERS
	98		ADRENAL CORTICAL STEROIDS
		301	GLUCOCORTICOIDS
		302	MINERALOCORTICOIDS
	101		SEX HORMONES
		102	CONTRACEPTIVES
		182	ANDROGENS AND ANABOLIC STEROIDS

Multum Therapeutic Classes

Top Tier (Parent/ Grandparent)	Middle Tier (Parent/ Child)	Bottom Tier (Child/ Grandchild)	Therapeutic Class Names
			Multum Therapeutic Classes
		183	ESTROGENS
		185	PROGESTINS
		186	SEX HORMONE COMBINATIONS
		279	GONADOTROPIN-RELEASING HORMONE AND ANALOGS
	103		THYROID HORMONES
	288		5 ALPHA REDUCTASE INHIBITORS
	411		CALCITONIN
	414		ANTIDIURETIC HORMONES
	417		SELECTIVE ESTROGEN RECEPTOR MODULATORS
	422		ANTITHYROID AGENTS
	423		AROMATASE INHIBITORS
	495		CALCIMIMETICS
105			MISCELLANEOUS AGENTS
	106		ANTIDOTES
	110		MISCELLANEOUS UNCATEGORIZED AGENTS
	114		ILLICIT STREET DRUGS
	192		ANTIRHEUMATICS
	270		ANTIPSORIATICS
	284		VISCOSUPPLEMENTATION AGENTS
	320		SMOKING CESSATION AGENTS
	460		PHOSPHATE BINDERS
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
122			RESPIRATORY AGENTS
	123		ANTIHISTAMINES
	124		ANTITUSSIVES
	125		BRONCHODILATORS
		126	METHYLXANTHINES

Multum Therapeutic Classes			
Top Tier (Parent/ Grandparent)	Middle Tier (Parent/ Child)	Bottom Tier (Child/ Grandchild)	Therapeutic Class Names
		180	ADRENERGIC BRONCHODILATORS
		181	BRONCHODILATOR COMBINATIONS
		299	ANTICHOLINERGIC BRONCHODILATORS
	127		DECONGESTANTS
	128		EXPECTORANTS
	130		RESPIRATORY INHALANT PRODUCTS
		296	INHALED CORTICOSTEROIDS
		297	MUCOLYTICS
	132		UPPER RESPIRATORY COMBINATIONS
	243		LEUKOTRIENE MODIFIERS
133			TOPICAL AGENTS
	134		ANORECTAL PREPARATIONS
	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
		144	TOPICAL ANTIPSORIATICS
		290	TOPICAL ANTIBIOTICS
		291	TOPICAL ANTIVIRALS
		292	TOPICAL ANTIFUNGALS
		382	TOPICAL ANTIHISTAMINES
		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
		267	OPHTHALMIC ANTIHISTAMINES AND DECONGESTANTS

Top Tier (Parent/Grandparent)	Middle Tier (Parent/Child)	Bottom Tier (Child/Grandchild)	Therapeutic Class Names
			Multum Therapeutic Classes
	148		OTIC PREPARATIONS
		171	OTIC STEROIDS WITH ANTI-INFECTIVES
		370	OTIC STEROIDS
	151		VAGINAL PREPARATIONS
		268	VAGINAL ANTI-INFECTIVES
		269	MISCELLANEOUS VAGINAL AGENTS
	247		NASAL PREPARATIONS
		244	NASAL LUBRICANTS AND IRRIGATIONS
		245	NASAL STEROIDS
		246	NASAL ANTIHISTAMINES AND DECONGESTANTS
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
	104		IMMUNOSUPPRESSIVE AGENTS
		441	CALCINEURIN INHIBITORS
		442	TNF ALPHA INHIBITORS
		444	SELECTIVE IMMUNOSUPPRESSANTS
		445	OTHER IMMUNOSUPPRESSANTS
	437		IMMUNOSTIMULANTS
		256	INTERFERONS
		439	OTHER IMMUNOSTIMULANTS
331			RADIOLOGIC AGENTS
	332		RADIOLOGIC ADJUNCTS

Multum Therapeutic Classes			
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
		271	THIAZOLIDINEDIONES
		282	MEGLITINIDES
		314	ANTIDIABETIC COMBINATIONS
		371	DIPEPTIDYL PEPTIDASE 4 INHIBITORS
		372	AMYLIN ANALOGS
	194		ANTIGOUT AGENTS
	289		ANTIHYPERURICEMIC AGENTS
	293		GLUCOSE ELEVATING AGENTS
	359		PERIPHERALLY ACTING ANTIOBESITY AGENTS
	409		BONE RESORPTION INHIBITORS
		217	BISPHOSPHONATES
997			DON'T KNOW
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 2, medications can be assigned up to 5 PC categories.

Multum Pharmacologic Classes	
Codes	**Class Names**
901	ACNE PRODUCTS
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
954	ANDROGEN
957	ANGIOTENSIN-CONVERTING ENZYME (ACE) INHIBITOR
958	ANGIOTENSIN II RECEPTOR BLOCKER
960	ANOREXIANT
961	ANTACID
971	ANTIANGINAL AGENT
973	ANTIANXIETY AGENT, MISCELLANEOUS
977	ANTIARRHYTHMIC AGENT, CLASS IC
978	ANTIARRHYTHMIC AGENT, CLASS II
979	ANTIARRHYTHMIC AGENT, CLASS III
980	ANTIARRHYTHMIC AGENT, CLASS IV
983	ANTIARRHYTHMIC AGENT, MISCELLANEOUS
994	ANTIBIOTIC, CEPHALOSPORIN (FIRST GENERATION)
998	ANTIBIOTIC/CORTICOSTEROID, OPHTHALMIC
999	ANTIBIOTIC/CORTICOSTEROID, OTIC
1002	ANTIBIOTIC, MACROLIDE
1004	ANTIBIOTIC, OPHTHALMIC

Multum Pharmacologic Classes	
Codes	**Class Names**
1005	ANTIBIOTIC, ORAL RINSE
1006	ANTIBIOTIC, OTIC
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
1027	ANTICONVULSANT BENZODIAZEPINE
1029	ANTICONVULSANT, HYDANTOIN
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)
1061	ANTIDIABETIC AGENT
1063	ANTIDIABETIC AGENT, BIGUANIDE
1065	ANTIDIABETIC AGENT, SULFONYLUREA
1066	ANTIDIABETIC AGENT, THIAZOLIDINEDIONE
1069	ANTIDIARRHEAL
1074	ANTIDOTE
1095	ANTIDOTE, EXTRAVASATION
1122	ANTIEMETIC
1125	ANTIFLATULENT
1126	ANTIFUNGAL AGENT, IMIDAZOLE DERIVATIVE
1130	ANTIFUNGAL AGENT, ORAL
1132	ANTIFUNGAL AGENT, PARENTERAL
1134	ANTIFUNGAL AGENT, TOPICAL
1138	ANTIGOUT AGENT
1139	ANTIHEMOPHILIC AGENT
1156	ANTIHYPERTENSIVE
1162	ANTI-INFLAMMATORY AGENT
1169	ANTILIPEMIC AGENT, BILE ACID SEQUESTRANT
1170	ANTILIPEMIC AGENT, FIBRIC ACID

	Multum Pharmacologic Classes
Codes	**Class Names**
1171	ANTILIPEMIC AGENT, HMG-COA REDUCTASE INHIBITOR
1172	ANTILIPEMIC AGENT, MISCELLANEOUS
1173	ANTIMALARIAL AGENT
1174	ANTIMANIC AGENT
1177	ANTIMIGRAINE AGENT
1189	ANTINEOPLASTIC AGENT, ANTIMETABOLITE
1193	ANTINEOPLASTIC AGENT, ANTIMICROTUBULAR
1195	ANTINEOPLASTIC AGENT, AROMATASE INHIBITOR
1205	ANTINEOPLASTIC AGENT, MONOCLONAL ANTIBODY
1216	ANTINEOPLASTIC AGENT, MISCELLANEOUS
1219	ANTI-PARKINSON'S AGENT, ANTICHOLINERGIC
1220	ANTI-PARKINSON AGENT, COMT INHIBITOR
1221	ANTI-PARKINSON'S AGENT, DOPAMINE AGONIST
1225	ANTIPLATELET AGENT
1253	ANTIRETROVIRAL, PROTEASE INHIBITOR (ANTI-HIV)
1255	ANTIRETROVIRAL, REVERSE TRANSCRIPTASE INHIBITOR, NUCLEOSIDE (ANTI-HIV)
1257	ANTIRETROVIRAL, REVERSE TRANSCRIPTASE INHIBITOR, NUCLEOTIDE (ANTI-HIV)
1259	ANTIRHEUMATIC, DISEASE MODIFYING
1260	ANTISEBORRHEIC AGENT TOPICAL
1262	ANTISPASMODIC AGENT, GASTROINTESTINAL
1263	ANTISPASMODIC AGENT, URINARY
1264	ANTITHYROID AGENT
1267	ANTITUBERCULAR AGENT
1268	ANTITUSSIVE
1271	ANTITUSSIVE/DECONGESTANT/EXPECTORANT
1277	ANTIVIRAL AGENT
1280	ANTIVIRAL AGENT, ORAL
1282	ANTIVIRAL AGENT, TOPICAL
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

Multum Pharmacologic Classes	
Codes	Class Names
1308	BLOOD VISCOSITY REDUCER AGENT
1313	CALCIUM CHANNEL BLOCKER
1314	CALCIUM SALT
1318	CARDIAC GLYCOSIDE
1320	CARDIOVASCULAR AGENT, MISCELLANEOUS
1337	CHOLINERGIC AGONIST
1342	COLONY STIMULATING FACTOR
1343	CONTRACEPTIVE
1363	CORTICOSTEROID, INHALANT (ORAL)
1364	CORTICOSTEROID, NASAL
1365	CORTICOSTEROID, OPHTHALMIC
1366	CORTICOSTEROID, OTIC
1367	CORTICOSTEROID, RECTAL
1369	CORTICOSTEROID, SYSTEMIC
1370	CORTICOSTEROID, TOPICAL
1380	DECONGESTANT
1382	DECONGESTANT/ANALGESIC
1390	DIAGNOSTIC AGENT
1428	DIETARY SUPPLEMENT
1435	DIURETIC, LOOP
1438	DIURETIC, POTASSIUM SPARING
1439	DIURETIC, THIAZIDE
1440	DIURETIC, THIAZIDE-RELATED
1447	ELECTROLYTE SUPPLEMENT, ORAL
1449	ENZYME
1461	ERGOT DERIVATIVE
1462	ESTROGEN AND ANDROGEN COMBINATION
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
1504	HEMOSTATIC AGENT
1507	HISTAMINE H 2 ANTAGONIST
1509	HOMOCYSTINURIA, TREATMENT AGENT
1510	HORMONE

	Multum Pharmacologic Classes
Codes	**Class Names**
1511	HORMONE, POSTERIOR PITUITARY
1523	HYPNOTIC, MISCELLANEOUS
1528	IMMUNOSUPPRESSANT AGENT
1531	INTERFERON
1534	IRON SALT
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
1587	MUCOLYTIC AGENT
1599	NONSTEROIDAL ANTI-INFLAMMATORY DRUG (NSAID)
1600	NONSTEROIDAL ANTI-INFLAMMATORY DRUG (NSAID), COX-2 SELECTIVE
1602	NONSTEROIDAL ANTI-INFLAMMATORY DRUG (NSAID), ORAL
1604	NUTRITIONAL SUPPLEMENT
1607	OPHTHALMIC AGENT, ANTIGLAUCOMA
1612	OPHTHALMIC AGENT, VASOCONSTRICTOR
1613	OPHTHALMIC AGENT, VISCOELASTIC
1614	OPHTHALMIC AGENT, MISCELLANEOUS
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

Multum Pharmacologic Classes	
Codes	**Class Names**
1687	SKIN AND MUCOUS MEMBRANE AGENT, MISCELLANEOUS
1688	SMOKING CESSATION AID
1694	STOOL SOFTENER
1700	SYMPATHOMIMETIC
1710	THYROID PRODUCT
1712	TOPICAL SKIN PRODUCT
1713	TOPICAL SKIN PRODUCT, ACNE
1718	TRACE ELEMENT
1742	VASODILATOR
1748	VASOPRESSIN ANALOG, SYNTHETIC
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
1770	ANTINEOPLASTIC AGENT, ESTROGEN RECEPTOR ANTAGONIST
1779	5 ALPHA-REDUCTASE INHIBITOR
1781	ANTILIPEMIC AGENT, 2-AZETIDINONE
1783	NOREPINEPHRINE REUPTAKE INHIBITOR, SELECTIVE
1810	N-METHYL-D-ASPARTATE RECEPTOR ANTAGONIST
1811	PHOSPHODIESTERASE-5 ENZYME INHIBITOR
1814	GONADOTROPIN RELEASING HORMONE AGONIST
1819	CALCIMIMETIC
1820	ANTIRHEUMATIC, MISCELLANEOUS
1822	ANTINEOPLASTIC AGENT, ANTIMETABOLITE (ANTIFOLATE)
1824	SUBSTITUTED BENZIMIDAZOLE
1826	COSMETIC AGENT, IMPLANT
1827	SECOND GENERATION (ATYPICAL) ANTIPSYCHOTIC
1828	FIRST GENERATION (TYPICAL) ANTIPSYCHOTIC
1830	AMINO ACID
1831	TUMOR NECROSIS FACTOR (TNF) BLOCKING AGENT
1877	AMYLINOMIMETIC
37021	PROBIOTIC
80421	ANTIVIRAL AGENT, ADAMANTANE
309141	ANTIBIOTIC, LINCOSAMIDE

Multum Pharmacologic Classes	
Codes	**Class Names**
369641	INSULIN, SHORT-ACTING
369941	INSULIN, COMBINATION
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
923978	ANTINEOPLASTIC AGENT, GONADOTROPIN-RELEASING HORMONE AGONIST
973043	THIOAMIDE
996698	ANTINEOPLASTIC AGENT, ANTIMETABOLITE (PYRIMIDINE ANALOG)
1017558	ANTINEOPLASTIC AGENT, TAXANE DERIVATIVE
1035979	ANILIDOPIPERIDINE OPIOID
1118479	ANTIBIOTIC, RESPIRATORY FLUOROQUINOLONE
1160459	BETA 2 -ADRENERGIC AGONIST, LONG-ACTING
1177583	HISTAMINE H 1 ANTAGONIST, SECOND GENERATION
1177584	HISTAMINE H 1 ANTAGONIST, FIRST GENERATION
1191179	VASODILATOR, DIRECT-ACTING
1797079	CALCIUM CHANNEL BLOCKER, NONDIHYDROPYRIDINE
1797080	CALCIUM CHANNEL BLOCKER, DIHYDROPYRIDINE
1801719	CALCINEURIN INHIBITOR
1826674	ANTIPLATELET AGENT, THIENOPYRIDINE
2759759	ANTI-PARKINSON'S AGENT, DECARBOXYLASE INHIBITOR
2759760	ANTI-PARKINSON'S AGENT, DOPAMINE PRECURSOR
2792400	ANTINEOPLASTIC AGENT, ANTIMETABOLITE (PURINE ANALOG)
2952225	ALKYLAMINE DERIVATIVE
2952299	ETHANOLAMINE DERIVATIVE
2952340	PIPERAZINE DERIVATIVE
2952559	PIPERIDINE DERIVATIVE
2965759	FIBER SUPPLEMENT
2988377	ANALGESIC, OPIOID PARTIAL AGONIST
3501084	GABA ANALOG
3509782	ALPHA-ADRENERGIC AGONIST
3689942	ERYTHROPOIESIS-STIMULATING AGENT (ESA)
3791615	ANTINEOPLASTIC AGENT, ANTI-HER2
3861322	PHOSPHODIESTERASE ENZYME INHIBITOR, NONSELECTIVE
3974202	ANTILIPEMIC AGENT, OMEGA-3 FATTY ACIDS

Multum Pharmacologic Classes	
Codes	**Class Names**
3988862	ANTICHOLINERGIC AGENT, LONG-ACTING
4496663	CARBONIC ANHYDRASE INHIBITOR (OPHTHALMIC)
4649822	ANTIHEMORRHOIDAL AGENT
4857382	ANTIHEPADNAVIRAL, REVERSE TRANSCRIPTASE INHIBITOR, NUCLEOSIDE (ANTI-HBV)
4857402	ANTIHEPADNAVIRAL, REVERSE TRANSCRIPTASE INHIBITOR, NUCLEOTIDE (ANTI-HBV)
4984762	MELATONIN RECEPTOR AGONIST
5002623	ANTICOAGULANT, VITAMIN K ANTAGONIST
5039722	HEMATOPOIETIC AGENT
5119421	ANTIFUNGAL AGENT, AZOLE DERIVATIVE
5251182	MEDICAL FOOD
5357662	ANTIDEPRESSANT, DOPAMINE/NOREPINEPHRINE-REUPTAKE INHIBITOR
5386202	ANTIDIABETIC AGENT, MEGLITINIDE ANALOG
5585170	MINERALOCORTICOID (ALDOSTERONE) RECEPTOR ANTAGONISTS
6004244	ANTIFUNGAL AGENT ORAL NONABSORBED PARTIALLY ABSORBED
9999999	INAPP

Appendix D: Reason for Taking Medications – Codes and Category Names

This Appendix contains three lists of codes representing reasons why participants think they are taking medications reported on the Medication Chart. The list of modified ICD-9 (ICD9M) codes and category names is presented first, followed by the list of modified ICD-10 (ICD10M) codes and category names, and then the list of MIDUS (MDC) codes and category names. See Section E above for details about the coding process.

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
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
110	DERMATOPHYTOSIS	Athlete's foot, Toe nail fungus, Fungal infection, Ringworm
112	CANDIDIASIS	Yeast infection
133	SCABIES	Scabies
174	MALIG NEO FEMALE BREAST	Breast cancer
185	MALIGN NEOPL PROSTATE	Prostate cancer
188	MALIGN NEOPL BLADDER	Bladder cancer
218	UTERINE LEIOMYOMA	Fibroids, Myoma of uterus
239	UNSPECIFIED NEOPLASM	Cancer non-specific
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
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
271	DIS CARBOHYDRATE METABOL	diabetic ketoacidosis, hyperosmolar

ICD9M CODE	ICD9 CODE LABEL	Key Words/Common Responses
272	PURE HYPERCHOLESTEROLEM	High cholesterol, Hyperlipidemia, High neutral lipid
274	GOUT	Gout
275	DIS MINERAL METABOLISM	Magnesium supplement, Reduce phosphate, Supplement iron
276	FLUID/ELECTROLYTE DIS	Low potassium, Hypokalemia
279	DISORDER OF IMMUNE MECHANISM	Autoimmune disease
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
298	OTH NONORGANIC PSYCHOSES	Psychosis
300	NEUROTIC DISORDERS	Tranquilizer, Stay calm, Anxiety, nervousness, 'Stabilizer'
302	SEXUAL DISORDERS	Impotence, Erectile Dysfunction
304	DRUG DEPENDENCE	Heroin addiction maintenance
305	NONDEPENDENT DRUG ABUSE	Smoking cessation
309	ADJUSTMENT REACTION	PTSD
311	DEPRESSIVE DISORDER NEC	Depression, Anti-depressant
314	HYPERKINETIC SYNDROME	ADD, ADHD
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
354	CARPAL TUNNEL SYNDROME	Carpal Tunnel
356	HERED & IDIOPATH PERIPH NEUROPATHY	Improvement of peripheral nervous system
362	RETINAL DISORDERS NEC	Macular degeneration
365	GLAUCOMA	Glaucoma, pressure in eye, lower ocular pressure
366	CATARACT	Cataract

ICD9M CODE	ICD9 CODE LABEL	Key Words/Common Responses
370	KERATITIS	Ulcer in eye
371	CORNEAL OPACITY/DISORDER	Corneal problem
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
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
434	CEREBRAL ARTERY OCCLUS	Cerebral infarction sequelae, Cerebral thrombosis, Mini stroke
435	TRANSIENT CEREB ISCHEMIA	TIA
438	LATE EFF CEREBROVASC DIS	Cerebrovascular, speech, hemiplegia, monoplegia
442	OTHER ANEURYSM	Aneurysm
443	RAYNAUD'S SYNDROME	Raynaud's
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
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

ICD9M CODE	ICD9 CODE LABEL	Key Words/Common Responses
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
486	PNEUMONIA, ORGANISM NOS	Pneumonia
487	INFLUENZA	Flu
490	BRONCHITIS NOS	Bronchitis
493	ASTHMA	Asthma, Pulmonary emphysema, Emphysema
496	CHR AIRWAY OBSTRUCT NEC	COPD
518	OTHER LUNG DISEASES	Repair damage to lung
523	GINGIVAL/PERIODONTAL DIS	Gum disease/problems
525	OTHER DENTAL DISORDER	Extracted teeth, Treatment for a tooth, Toothache
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
533	PEPTIC ULCER, SITE NOS	Helicobacter pylori, Gastric & duodenal ulcer, Peptic Ulcer
535	GASTRITIS AND DUODENITIS	Inflammation of stomach
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
583	NEPHRITIS NOS	Lupus in kidneys
585	CHRONIC RENAL FAILURE	Kidney disease
586	RENAL FAILURE NOS	Renal failure

ICD9M CODE	ICD9 CODE LABEL	Key Words/Common Responses
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
600	HYPERPLASIA OF PROSTATE	Prostatic hypertrophy, Prostatic hyperplasia
601	PROSTATIC INFLAMMATION	Prostatitis, Enlarged prostate, Help reduce swelling of prostate
608	MALE GENITAL DIS NEC	Transitions
611	OTHER BREAST DISORDERS	Breast pain
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
690	ERYTHEMATOSQUAMOUS DERM	Dry scalp
692	CONTACT DERMATITIS	Eczema, Dermatitis, Poison Oak
695	ERYTHEMATOUS CONDITIONS	Rosacea, Lupus
696	PSORIASIS/LIKE DISORDERS	Psoriasis
697	LICHEN	Lichen
698	PRURITUS & LIKE COND	Itch, Itching
702	OTHER DERMATOSES	Actinic keratosis
704	HAIR & FOLLICLE DISEASE	Hair thinning
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, Arthralgia,
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

ICD9M CODE	ICD9 CODE LABEL	Key Words/Common Responses
727	OTH DIS SYNOV/TEND/BURSA	Bursitis
728	DIS OF MUSCLE/LIG/FASCIA	Muscle spasm
729	OTHER SOFT TISSUE DIS	Sore muscles, Leg pain/cramps, Muscle constriction, Rheumatism
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
780	GENERAL SYMPTOMS	Sleep aid, Night sweats, Vas-vagal 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
788	URINARY SYSTEM SYMPTOMS	Urination disorder, Frequent urination, Urination trouble/problem, Bladder control
789	OTH ABDOMEN/PELVIS SYMP	Stomach spasm, Stomach cramp, Groin pain
795	ABN HISTOLOG/IMMUNO FIND	Positive TB test
797	SENILITY WITHOUT MENTION OF PSYCHOSIS	memory
919	SUPERFICIAL INJ OTH SITE	Blisters
957	INJURY TO NERVE NEC/NOS	Nerve damage
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	

Medical Claim ICD-10 Codes and Labels

The ICD10 CM 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.

ICD10 CM CODE	ICD10 CM CODE LABEL	Key Words/Common Responses
A37	WHOOPING COUGH	Whooping cough
A49	STAPHYLOCOCCAL INFECTION, UNSPECIFIED SITE	MRSA, staph infections
B00	HERPESVIRAL [HERPES SIMPLEX] INFECTIONS	Cold sores, Herpes
B02	ZOSTER [HERPES ZOSTER]	Shingles
B07	VIRAL WARTS	Warts
B20	HUMAN IMMUNODEFICIENCY VIRUS [HIV] DISEASE	HIV
B35	DERMATOPHYTOSIS	Athlete's foot, Toe nail fungus, Fungal infection, Ringworm, Jock itch
B37	CANDIDIASIS	Yeast infection, Candida
B86	SCABIES	Scabies
B99	OTHER AND UNSPECIFIED INFECTIOUS DISEASES	Infectious disease, bacterial infection
C50	MALIGNANT NEOPLASM OF BREAST	Breast cancer
C61	MALIGNANT NEOPLASM OF PROSTATE	Prostate cancer
C67	MALIGNANT NEOPLASM OF BLADDER	Bladder cancer
C80	MALIGNANT NEOPLASM WITHOUT SPECIFICATION OF SITE	Cancer non-specific
D25	LEIOMYOMA OF UTERUS	Fibroids, Myoma of uterus
D51	VITAMIN B12 DEFICIENCY ANEMIA	Pernicious anemia
D64	OTHER ANEMIAS	Anemia
D69	PURPURA AND OTHER HEMORRHAGIC CONDITIONS	Low platelet count
D89	OTHER DISORDERS INVOLVING THE IMMUNE MECHANISM, NOT ELSEWHERE CLASSIFIED	Autoimmune disease, poor immune system
E01	IODINE-DEFICIENCY RELATED THYROID DISORDER AND ALLIED CONDITIONS	Iodine deficiency
E03	OTHER HYPOTHYROIDISM	Hypothyroidism, Thyroiditis, low thyroid, inactive thyroid function
E05	THYROTOXICOSIS (HYPERTHYROIDISM)	Grave's disease, hyper thyroid
E07	OTHER DISORDERS OF THYROID	Thyroid hormone, thyroid issue, thyroid problem, thyroid health, thyroid
E10	TYPE 1 DIABETES MELLITUS	Diabetes, type 1
E11	TYPE 2 DIABETES MELLITUS	Diabetes, type 2; Diabetes (unspecified)
E16	OTHER DISORDERS OF PANCREATIC INTERNAL SECRETION	Hypoglycemia
E27	OTHER DISORDERS OF ADRENAL GLAND	Adrenal gland disorder, Adrenal gland dysfunction

ICD10 CM CODE	ICD10 CM CODE LABEL	Key Words/Common Responses
E29	TESTICULAR DYSFUNCTION	Low testosterone levels
E34	OTHER ENDOCRINE DISORDERS	Imbalance in endocrine system
E53	DEFICIENCY OF OTHER B GROUP VITAMINS	Low B vitamin level, B12 deficiency,
E54	ASCORBIC ACID DEFICIENCY	Vitamin C deficiency
E55	VITAMIN D DEFICIENCY	Low Vitamin D, Vitamin D deficiency, Vitamin D rickets
E56	OTHER VITAMIN DEFICIENCIES	Vitamin, vitamin E deficiency
E58	DIETARY CALCIUM DEFICIENCY	Calcium deficiency
E61	DEFICIENCY OF OTHER NUTRIENT ELEMENTS	Magnesium supplement, Reduce phosphate, Supplement iron, iron deficiency (without anemia)
E73	LACTOSE INTOLERANCE	Lactose intolerance, helps with lactose digestion
E78	DISORDERS OF LIPOPROTEIN METABOLISM AND OTHER LIPIDEMIAS	High cholesterol, Hyperlipidemia, High neutral lipid
E87	OTHER DISORDERS OF FLUID, ELECTROLYTE AND ACID-BASE BALANCE	Low potassium, Potassium deficiency, Hypokalemia
F11	OPIOID RELATED DISORDERS	Heroin addiction maintenance
F17	NICOTINE DEPENDENCE	Smoking cessation
F20	SCHIZOPHRENIA	Schizophrenia
F29	UNSPECIFIED PSYCHOSIS NOT DUE TO A SUBSTANCE OR KNOWN PHYSIOLOGICAL CONDITION	Psychosis
F31	BIPOLAR DISORDER	Bipolar disorder
F32	MAJOR DEPRESSIVE DISORDER, SINGLE EPISODE	Depression, Anti-depressant (Use this code if depression is linked to an acute event)
F33	MAJOR DEPRESSIVE DISORDER, RECURRENT	Depression, Anti-depressant (Recurrent or unspecified)
F39	UNSPECIFIED MOOD DISORDER	Mood swings, mood stabilizer, mood balance
F41	OTHER ANXIETY DISORDER	Tranquilizer, Stay calm, Anxiety, nervousness, 'Stabilizer'
F43	REACTION TO SEVERE STRESS, AND ADJUSTMENT DISORDERS	Stress, PTSD
F90	ATTENTION-DEFICIT HYPERACTIVITY DISORDER	ADD, ADHD
G10	HUNTINGTON'S DISEASE	Huntington's disease
G20	PARKINSON'S DISEASE	Parkinson's disease
G25	OTHER EXTRAPYRAMIDAL AND MOVEMENT DISORDERS	Restless leg syndrome, Tick in eye, Tremors
G30	ALZHEIMER'S DISEASE	Alzheimer's
G35	MULTIPLE SCLEROSIS	MS, Multiple sclerosis, Muscle fatigue
G40	EPILEPSY AND RECURRENT SEIZURES	Epilepsy, Seizure disorder, Focal seizures
G43	MIGRAINE	Migraine
G45	TRANSIENT CEREBRAL ISCHEMIC ATTACKS AND RELATED SYNDROMES	Mini stroke, TIA

ICD10 CM CODE	ICD10 CM CODE LABEL	Key Words/Common Responses
G47	SLEEP DISORDERS	Narcolepsy, Insomnia, Sleep aid
G56	MONONEUROPATHIES OF UPPER LIMB	Carpal Tunnel
G64	OTHER DISORDERS OF PERIPHERAL NERVOUS SYSTEM	Improvement of peripheral nervous system, disorder of peripheral nerve
G89	PAIN, NOT ELSEWHERE CLASSIFIED	Chronic pain syndrome, pain related to nervous system
G90	DISORDERS OF AUTONOMIC NERVOUS SYSTEM	Neuropathy in heart
G96	OTHER DISORDERS OF CENTRAL NERVOUS SYSTEM	Neurological problems
H01	OTHER INFLAMMATION OF EYELID	Blepharitis, Inflammation of eye
H04	DISORDERS OF LACRIMAL SYSTEM	Dry eyes, Lacrimal gland disorder
H10	CONJUNCTIVITIS	Eye infection
H16	KERATITIS	Ulcer in eye
H18	OTHER DISORDERS OF CORNEA	Corneal problem
H25	AGE-RELATED CATARACT	Cataract
H35	OTHER RETINAL DISORDERS	Macular degeneration
H40	GLAUCOMA	Glaucoma, pressure in eye, lower ocular pressure
H66	SUPPURATIVE AND UNSPECIFIED OTITIS MEDIA	Ear infection
H81	DISORDERS OF VESTIBULAR FUNCTION	Meniere's disease (Inner ear), Vertigo (if Ear related)
H91	OTHER AND UNSPECIFIED HEARING LOSS	Helps with hearing, Hearing loss
H93	OTHER DISORDERS OF EAR, NOT ELSEWHERE CLASSIFIED	Ringing ears, Tinnitus, Ear pain, Dry ear
I10	ESSENTIAL (PRIMARY) HYPERTENSION	High blood pressure, Hypertension, Reduce/lower blood pressure, Blood pressure, Anti-hypertensive
I20	ANGINA PECTORIS	Angina pectoris, Angina
I25	CHRONIC ISCHEMIC HEART DISEASE	Arterial Sclerosis
I34	NONRHEUMATIC MITRAL VALVE DISORDERS	Mitral stenosis, Prolapsed mitral valve
I48	ATRIAL FIBRILLATION AND FLUTTER	Atrial fibrillation
I49	OTHER CARDIAC ARRHYTHMIAS	Irregular pulse
I50	HEART FAILURE	Heart Failure
I51	COMPLICATIONS AND ILL-DEFINED DESCRIPTIONS OF HEART DISEASE	Cardiac disease, Heart dilation, Dysraphism of aortic valve
I67	OTHER CEREBROVASCULAR DISEASES	Aneurysm
I70	ATHEROSCLEROSIS	Atherosclerosis
I73	OTHER PERIPHERAL VASCULAR DISEASE	Raynaud's
I77	OTHER DISORDERS OF ARTERIES AND ARTERIOLES	Twisted carotid artery, Vasculitis
I80	PHLEBITIS AND THROMBOPHLEBITIS	Recurring phlebitis
I82	OTHER VENOUS EMBOLISM AND THROMBOSIS	Anticoagulant, Thrombosis, Prevent thrombosis, Prevent blood clot, Thrombus

ICD10 CM CODE	ICD10 CM CODE LABEL	Key Words/Common Responses
J00	ACUTE NASOPHARYNGITIS [COMMON COLD]	Treat Cold, Acute Upper respiratory infection
J01	ACUTE SINUSITIS	Acute sinus problems, Post nasal drip, Nasal inflammation, Nasal mucus
J11	INFLUENZA DUE TO UNIDENTIFIED INFLUENZA VIRUS	Flu
J18	PNEUMONIA, UNSPECIFIED ORGANISM	Pneumonia
J30	VASOMOTOR AND ALLERGIC RHINITIS	Hay fever, Dust allergy, Allergic rhinitis
J31	CHRONIC RHINITIS, NASOPHARYNGITIS AND PHARYNGITIS	Rhinitis, Chronic nasal congestion, Reduce swelling of nasal passages
J32	CHRONIC SINUSITIS	Chronic sinus
J33	NASAL POLYP	Polyps in sinus
J34	OTHER AND UNSPECIFIED DISORDERS OF NOSE AND NASAL SINUSES	Deviated septum
J40	BRONCHITIS, NOT SPECIFIED AS ACUTE OR CHRONIC	Bronchitis
J44	OTHER CHRONIC OBSTRUCTIVE PULMONARY DISEASE	COPD
J45	ASTHMA	Asthma
J84	OTHER INTERSTITIAL PULMONARY DISEASES	Repair damage to lung
K01	EMBEDDED AND IMPACTED TEETH	Toothache
K04	DISEASES OF PULP AND PERIAPICAL TISSUES	Dental abscess, root canal, root canal infection
K05	GINGIVITIS AND PERIODONTAL DISEASES	Gum disease/problems
K12	STOMATITIS AND RELATED LESIONS	Stomatitis, Canker sores
K13	OTHER DISEASES OF LIP AND ORAL MUCOSA	Chapped lips
K14	DISEASES OF TONGUE	Geographic tongue
K21	GASTRO-ESOPHAGEAL REFLUX DISEASE	Acid Reflux, GERD, Backward flow of gastric acid
K22	OTHER DISEASES OF ESOPHAGUS	Esophagus trouble
K25	GASTRIC ULCER	Gastric ulcer
K26	DUODENAL ULCER	Duodenal ulcer
K27	PEPTIC ULCER, SITE UNSPECIFIED	Peptic Ulcer, Helicobacter pylori, pylori ulcer, ulcers
K29	GASTRITIS AND DUODENITIS	Gastritis, Inflammation of stomach
K30	FUNCTIONAL DYSPEPSIA	Dyspepsia, indigestion
K31	OTHER DISEASES OF STOMACH AND DUODENUM	Gastric hyperacidity, Neutralize/reduce gastric acid, stomach acid
K44	DIAPHRAGMATIC HERNIA	Hernia, High hiatal, hiatal hernia
K50	CROHN'S DISEASE [REGIONAL ENTERITIS]	Crohn's disease
K52	OTHER AND UNSPECIFIED NONINFECTIVE GASTROENTERITIS AND COLITIS	Gastroenteritis, Colitis, Inflammation of intestines
K57	DIVERTICULAR DISEASE OF INTESTINE	Diverticulitis
K58	IRRITABLE BOWEL SYNDROME	Irritable bowel, IBS

ICD10 CM CODE	ICD10 CM CODE LABEL	Key Words/Common Responses
K59	OTHER FUNCTIONAL INTESTINAL DISORDERS	Constipation, Bowel movement, Intestinal disorder, laxative
K62	OTHER DISEASES OF ANUS AND RECTUM	Rectal, perirectal discomfort
K64	HEMORRHOIDS AND PERIANAL VENOUS THROMBOSIS	Hemorrhoids
K74	FIBROSIS AND CIRRHOSIS OF LIVER	Primary biliary cirrhosis
L21	SEBORRHEIC DERMATITIS	Dry scalp
L25	UNSPECIFIED CONTACT DERMATITIS	Poison Oak
L29	PRURITUS	Itch, Itching
L30	OTHER AND UNSPECIFIED DERMATITIS	Eczema, Dermatitis, reduce skin inflammation
L40	PSORIASIS	Psoriasis, skin palmoplantar pustulosis
L43	LICHEN PLANUS	Lichen planus
L50	URTICARIA	Hives, Chronic urticaria
L57	SKIN CHANGES DUE TO CHRONIC EXPOSURE TO NONIONIZING RADIATION	Actinic keratosis
L65	OTHER NONSCARRING HAIR LOSS	Hair thinning
L70	ACNE	Acne
L71	ROSACEA	Rosacea
L85	OTHER EPIDERMAL THICKENING	Scar, dry skin
L89	PRESSURE ULCER	Sores in ears (hearing aid)
L90	ATROPHIC DISORDERS OF SKIN	Lichen sclerosis
L93	LUPUS ERYTHEMATOSUS	Lupus, non-systemic
L98	OTHER DISORDERS OF SKIN AND SUBCUTANEOUS TISSUE, NOT ELSEWHERE CLASSIFIED	Sores under arms
M05	RHEUMATOID ARTHRITIS WITH RHEUMATOID FACTOR	Rheumatoid arthritis, RA, (based on rarity of RA diagnosis without Rheumatoid factor)
M10	GOUT	Gout
M13	OTHER ARTHRITIS	Arthritis, Arthritis pain
M19	OTHER AND UNSPECIFIED OSTEOARTHRITIS	Osteoarthritis
M25	OTHER JOINT DISORDER, NOT ELSEWHERE CLASSIFIED	Knee, shoulder, hip, joint etc. pain or problem, Arthralgia
M26	DENTOFACIAL ANOMALIES	Temporomandibular joint dysfunction, TMJ
M27	OTHER DISEASES OF JAWS	Root canal, root canal infection
M31	OTHER NECROTIZING VASCULOPATHIES	Wegener's disease
M45	ANKYLOSING SPONDYLITIS	Ankylosing spondylitis
M48	OTHER SPONDYLOPATHIES	Lumbar canal stenosis
M51	THORACIC, THORACOLUMBAR, AND LUMBOSACRAL INTERVERTEBRAL DISC DISORDERS	Degenerative spine condition
M54	DORSALGIA	Cervical vertebra pain, Pinched nerve,

ICD10 CM CODE	ICD10 CM CODE LABEL	Key Words/Common Responses
		Neck pain, Back pain, Sciatica
M62	OTHER DISORDERS OF MUSCLE	Muscle spasm, Back spasms, muscle pain, muscle relaxant
M70	SOFT TISSUE DISORDERS RELATED TO USE, OVERUSE AND PRESSURE	Bursitis
M75	SHOULDER LESIONS	Torn rotator cuff
M77	OTHER ENTHESOPATHIES	Tennis elbow
M79	OTHER AND UNSPECIFIED SOFT TISSUE DISORDERS, NOT ELSEWHERE CLASSIFIED	Leg pain, limb pain, neuralgia, fibromyalgia, nerve pain, foot pain
M80	OSTEOPOROSIS WITH CURRENT PATHOLOGICAL FRACTURE	Osteoporosis (with presence of fracture)
M81	OSTEOPOROSIS WITHOUT CURRENT PATHOLOGICAL FRACTURE	Osteoporosis (without fracture)
M85	OTHER DISORDERS OF BONE DENSITY AND STRUTURE	Osteopenia, pain in bone, low bone density
M87	OSTEONECROSIS	Vascular necrosis pain
M88	OSTEITIS DEFORMANS [PAGET'S DISEASE OF BONE]	Paget's disease, Brittle bone
N10	ACUTE PYELONEPHRITIS	Kidney infection, antibiotics for kidney
N18	CHRONIC KIDNEY DISEASE (CKD)	Kidney disease, Prevention/help with renal insufficiency
N19	UNSPECIFIED KIDNEY FAILURE	Renal failure
N20	CALCULUS OF KIDNEY AND URETER	Kidney stones,
N31	NEUROMUSCULAR DYSFUNCTION OF BLADDER, NOT ELSEWHERE CLASSIFIED	Neurogenic bladder
N32	OTHER DISORDERS OF BLADDER	Bladder tone
N39	OTHER DISORDERS OF URINARY SYSTEM	Urinary tract infection, UTI, Urination disorder, Frequent urination, Urination trouble/problem, Bladder control
N40	BENIGN PROSTATIC HYPERPLASIA	Prostatic hypertrophy, Prostatic hyperplasia
N41	INFLAMMATORY DISEASES OF PROSTATE	Prostatitis, Enlarged prostate, Help reduce swelling of prostate
N52	MALE ERECTILE DYSFUNCTION	Impotence, Erectile dysfunction, due to prostate cancer/vitality
N64	OTHER DISORDERS OF BREAST	Breast pain
N92	EXCESSIVE, FREQUENT AND IRREGULAR MENSTRUATION	Irregular period
N94	PAIN AND OTHER CONDITIONS ASSOCIATED WITH FEMALE GENITAL ORGANS AND MESTRUAL CYCLE	Dysmenorrhea, Premenstrual tension, Menstrual pain
N95	MENOPAUSAL AND OTHER PERIMENOPAUSAL DISORDERS	Menopausal disorder, Balancing hormones, Stabilizer for menopause, Menopause, hot flashes
N97	FEMALE INFERTILITY	Fertility, Prepare uterus
Q21	CONGENITAL MALFORMATIONS OF CARDIAC SEPTA	Foramen ovale
R01	CARDIAC MURMURS AND OTHER CARDIAC	Heart murmur

ICD10 CM CODE	ICD10 CM CODE LABEL	Key Words/Common Responses
	SOUNDS	
R05	COUGH	Cough
R06	ABNORMALITIES OF BREATHING	Difficulty breathing, shortness of breath, breathing issues
R07	PAIN IN THROAT AND CHEST	Chest tightness, Sore throat
R09	OTHER SYMPTOMS AND SIGNS INVOLVING THE CIRCULATORY AND RESPIRATORY SYSTEM	Loosen phlegm, nasal congestion, stuffy nose, decongestion
R10	UNSPECIFIED ABDOMINAL PAIN	Stomach spasm, Stomach cramp, Groin pain, Stomach pain, Colon cramps
R11	NAUSEA AND VOMITING	Nausea
R12	HEARTBURN	Heartburn
R14	FLATULENCE AND RELATED CONDITIONS	Gassy, gas, anti-gas, relieve gas
R19	OTHER SYMPTOMS AND SIGNS INVOLVING THE DIGESTIVE SYSTEM AND ABDOMEN	Diarrhea
R20	DISTURBANCES OF SKIN SENSATION	Numbness of feet/finger/legs, sensitive to cold
R21	RASH AND OTHER NONSPECIFIC SKIN ERUPTION	Rash, skin irritation
R22	LOCALIZED SWELLING, MASS AND LUMP OF SKIN AND SUBCUTANEOUS TISSUE	Swelling, facial swelling, leg swelling, feet swelling
R23	OTHER SKIN CHANGES	Blisters
R25	ABNORMAL INVOLUNTARY MOVEMENT	Muscle spasm/cramps, Tremor
R41	OTHER SYMPTOMS AND SIGNS INVOLVING COGNITIVE FUNCTIONS AND AWARENESS	Memory problems
R42	DIZZINESS AND GIDDINESS	Giddy, dizzy, vertigo (if not ear related)
R50	FEVER OF OTHER AND UNKNOWN ORIGIN	Fever
R51	HEADACHE	Headache
R52	PAIN, UNSPECIFIED	Pain, pain relief, body aches. (Use this code if R specified multiple locations of pain)
R53	MALAISE AND FATIGUE	Lack of energy (RX meds only, use MIDUS code for OTC/ALT meds)
R55	SYNCOPE AND COLLAPSE	Vas-vagal syncope, syncope, prevent fainting
R56	CONVULSIONS, NOT ELSEWHERE CLASSIFIED	Seizures
R60	EDEMA, NOT ELSEWHERE CLASSIFIED	Edema
R61	GENERALIZED HYPERHIDROSIS	Night sweats, excessive sweating
R63	SYMPTOMS AND SIGNS CONCERNING FOOD AND FLUID INTAKE	Anorexia, Weight loss, Appetite suppressant (RX meds only, use MIDUS code for OTC/ALT meds)
R65	SYMPTOMS AND SIGNS SPECIFICALLY ASSOCIATED WITH SYSTEMIC INFLAMMATION AND INFECTION	Inflammation, anti-inflammatory, infection (non-specific)
R68	OTHER GENERAL SYMPTOMS AND SIGNS	Tendonitis of jaw, Dry mouth, saliva production

ICD10 CM CODE	ICD10 CM CODE LABEL	Key Words/Common Responses
R73	ELEVATED BLOOD GLUCOSE LEVEL	High blood sugar, pre-diabetic, borderline diabetes
R76	OTHER ABNORMAL IMMUNOLOGICAL FINDING IN SERUM	Positive TB test
S39	OTHER AND UNSPECIFIED INJURIES OF ABDOMEN, LOWER BACK, PELVIS AND EXTERNAL GENITALS	Back injury
T70	EFFECTS OF AIR PRESSURE AND WATER PRESSURE	Altitude sickness
T75	OTHER AND UNSPECIFIED EFFECTS OF OTHER EXTERNAL CAUSES	Motion sickness
Z29	ENCOUNTER FOR OTHER PROPHYLACTIC MEASURES	Prophylactic (RX meds only, use MIDUS code for OTC/ALT meds)
Z48	ENCOUNTER FOR OTHER POSTPROCEDURAL AFTERCARE	Eye surgery, eye support for surgery recovery, to aid healing from prostate surgery
Z79	LONG TERM (CURRENT) DRUG THERAPY	Diuretic, Blood thinner (RX meds only, use MIDUS code for OTC/ALT meds)
Z87	PERSONAL HISTROY OF OTHER DISEASES AND CONDITIONS	Transgender, transitions
Z91	PERSONAL RISK FACTORS, NOT ELSEWHERE CLASSIFIED	Bug bites, prevent infection
Z94	TRANSPLANTED ORGAN AND TISSUE STATUS	Kidney transplant, immunosuppressant after kidney transplant
Z98	OTHER POSTPROCEDURAL STATES	GH gastric bypass surgery, extracted tooth
Z9996	UNABLE TO CLASSIFY	
Z9997	DON'T KNOW	
Z9998	MISSING	
Z9999	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 a "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
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

MIDUS CODE	MIDUS CODE LABEL	Key words/Common Phrases
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
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.
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 effects 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	