DOCUMENTATION

for

MEDICATION DATA

in

MIDUS 3
BIOMARKER PROJECT
(P4)

University of Wisconsin ♦ Institute on Aging
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INTRODUCTION

This document provides an overview of the medication data collected in the MIDUS 3 (M3) 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 MIDUS 3 Biomarker (P4) Readme 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 as researchers continue to work with the MIDUS 3 Biomarker data. If there are suggestions or comments, please submit a message through the MIDUS HelpDesk (http://midus.wisc.edu/helpdesk.php).

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SECTION A: OVERVIEW OF MEDICATION DATA

The MIDUS 3 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 and MIDJA Biomarker Medication data and subsequently applied to the MIDUS Refresher and MIDUS 3 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 one of two mutually exclusive categories. Information about these procedures is included below in Sections D and E.

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.

The Medication data are collected at all three P4 sites. The data appear in the data file immediately following the Ankle Brachial Index (ABI) 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 “MIDUS 3 Biomarker Project (P4) Readme 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 3 character set “C4X”.

Medication Data Collection

Respondents are instructed to bring all their medications, in the original bottles, to the CRU (Clinical Research Unit) 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 four pages corresponding to the following four medication types:

- 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 the medication 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 3 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 a given 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:

- C4XTM – total number of medications
- C4XPMD, C4XOMD, C4XAMD – 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 (C4XPM, C4XOM, C4XAM 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:

- C4XOMV - Yes/No, taking a multivitamin?
- C4XOCS - 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 place holder 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
    - C4X_MID# - DrugID from the Lexi-Data database
    - C4X_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:
    - C4X_DD#, C4X_DU# – drug dosage (dosage, units)
    - C4X_R# - route of administration (oral, topical, etc.)
    - C4X_F#, C4X_FU# – how often the medication is taken (frequency, frequency units)
    - C4X_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).
    - C4X_T#, C4X_TU# – how long has the medication been taken (number, time units)

- Mutually exclusive code variables representing the reasons why the participant thinks s/he is taking the medication:
    - C4X_ICD10M# -- 3 character alphanumeric variables representing major categories in the International Classification of Diseases, 10th Revision.

    - C4X_MDC# – 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 3 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:

- C4XXM - indicates whether the participant has any additional medications.
- C4X_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:

- C4XM – Yes/No does the respondent have Any Medication Allergies?
- C4XMM – 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):

- C4XMMID# – text variable containing Multum DrugID code
- C4MMGN# - text variable containing the Multum generic drug name
- C4XMMRC# - 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.

Code	Category Name	Keywords
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 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: C4XTC_115 = 'Multum Therapeutic Class 115 - nutritional products: YES/NO?'
- Count variable: C4XTC_115_N = 'Multum Therapeutic Class 115 – nutritional products: HOW MANY?'

SECTION B: MEDICATION CHART

See Medication chart used in data collection below. M3 variable names are added to the chart.

MIDUS 3: **PRESCRIPTION MEDICATION** Site # _____ ID#_____

# of prescription medications? __[C4XPM]_____ Date_____

Drug Name	Dosage	Route	Frequency	Taken for how long?	Why are you taking it?
1. [C4XPN1]	[C4XPDD1] [C4XPDU1] [C4XPDU1S]	[C4XPR1]	[C4XPF1] [C4XPFU1] [C4XPFU1S]	[C4XPT1] [C4XPTU1]	[C4XPW1]
2. [C4XPN2]	[C4XPDD2] [C4XPDU2] [C4XPDU2S]	[C4XPR2]	[C4XPF2] [C4XPFU2] [C4XPFU2S]	[C4XPT2] [C4XPTU2]	[C4XPW2]
3. [C4XPN3]	[C4XPDD3] [C4XPDU3] [C4XPDU3S]	[C4XPR3]	[C4XPF3] [C4XPFU3] [C4XPFU3S]	[C4XPT3] [C4XPTU3]	[C4XPW3]
4. [C4XPN4]	[C4XPDD4] [C4XPDU4] [C4XPDU4S]	[C4XPR4]	[C4XPF4] [C4XPFU4] [C4XPFU4S]	[C4XPT4] [C4XPTU4]	[C4XPW4]
5. [C4XPN5]	[C4XPDD5] [C4XPDU5] [C4XPDU5S]	[C4XPR5]	[C4XPF5] [C4XPFU5] [C4XPFU5S]	[C4XPT5] [C4XPTU5]	[C4XPW5]
6. [C4XPN6]	[C4XPDD6] [C4XPDU6] [C4XPDU6S]	[C4XPR6]	[C4XPF6] [C4XPFU6] [C4XPFU6S]	[C4XPT6] [C4XPTU6]	[C4XPW6]
7. [C4XPN7]	[C4XPDD7] [C4XPDU7] [C4XPDU7S]	[C4XPR7]	[C4XPF7] [C4XPFU7] [C4XPFU7S]	[C4XPT7] [C4XPTU7]	[C4XPW7]
8. [C4XPN8]	[C4XPDD8] [C4XPDU8] [C4XPDU8S]	[C4XPR8]	[C4XPF8] [C4XPFU8] [C4XPFU8S]	[C4XPT8] [C4XPTU8]	[C4XPW8]
9. [C4XPN9]	[C4XPDD9] [C4XPDU9] [C4XPDU9S]	[C4XPR9]	[C4XPF9] [C4XPFU9] [C4XPFU9S]	[C4XPT9] [C4XPTU9]	[C4XPW9]
10. [C4XPN10]	[C4XPDD10] [C4XPDU10] [C4XPDU10S]	[C4XPR10]	[C4XPF10] [C4XPFU10] [C4XPFU10S]	[C4XPT10] [C4XPTU10]	[C4XPW10]
11. [C4XPN11]	[C4XPDD11] [C4XPDU11] [C4XPDU11S]	[C4XPR11]	[C4XPF11] [C4XPFU11] [C4XPFU11S]	[C4XPT11] [C4XPTU11]	[C4XPW11]

NON-PRESCRIPTION MEDICATION

Site #_____ ID#_____

(Over the Counter)

# of non-prescription medications? __[C4XOM]_____ Date_____

Drug Name	Dosage	Route	Frequency	Taken for how long?	Why are you taking it?
1. Multiple vitamin Y N [C4XOMV] [C4XON1]	[C4XODD1] [C4XODU1] [C4XODU1S]	[C4XOR1]	[C4XOF1] [C4XOFU1] [C4XOFU1S]	[C4XOT1] [C4XOTU1]	[C4XOW1]
2. Calcium Y N [C4XOCS] [C4XON2]	[C4XODD2] [C4XODU2] [C4XODU2S]	[C4XOR2]	[C4XOF2] [C4XOFU2] [C4XOFU2S]	[C4XOT2] [C4XOTU2]	[C4XOW2]
3. [C4XON3]	[C4XODD3] [C4XODU3] [C4XODU3S]	[C4XOR3]	[C4XOF3] [C4XOFU3] [C4XOFU3S]	[C4XOT3] [C4XOTU3]	[C4XOW3]
4. [C4XON4]	[C4XODD4] [C4XODU4] [C4XODU4S]	[C4XOR4]	[C4XOF4] [C4XOFU4] [C4XOFU4S]	[C4XOT4] [C4XOTU4]	[C4XOW4]
5. [C4XON5]	[C4XODD5] [C4XODU5] [C4XODU5S]	[C4XOR5]	[C4XOF5] [C4XOFU5] [C4XOFU5S]	[C4XOT5] [C4XOTU5]	[C4XOW5]
6. [C4XON6]	[C4XODD6] [C4XODU6] [C4XODU6S]	[C4XOR6]	[C4XOF6] [C4XOFU6] [C4XOFU6S]	[C4XOT6] [C4XOTU6]	[C4XOW6]
7. [C4XON7]	[C4XODD7] [C4XODU7] [C4XODU7S]	[C4XOR7]	[C4XOF7] [C4XOFU7] [C4XOFU7S]	[C4XOT7] [C4XOTU7]	[C4XOW7]
8. [C4XON8]	[C4XODD8] [C4XODU8] [C4XODU8S]	[C4XOR8]	[C4XOF8] [C4XOFU8] [C4XOFU8S]	[C4XOT8] [C4XOTU8]	[C4XOW8]
9. [C4XON9]	[C4XODD9] [C4XODU9] [C4XODU9S]	[C4XOR9]	[C4XOF9] [C4XOFU9] [C4XOFU9S]	[C4XOT9] [C4XOTU9]	[C4XOW9]
10. [C4XON10]	[C4XODD10] [C4XODU10] [C4XODU10S]	[C4XOR10]	[C4XOF10] [C4XOFU10] [C4XOFU10S]	[C4XOT10] [C4XOTU10]	[C4XOW10]

ALTERNATIVE MEDICATIONS (herbal, homeopathic, etc.)

Site #_____ ID#_____

# of alternative medications? ___[C4XAM]_____ Date_____

Drug Name	Dosage	Route	Frequency	Taken for how long?	Why are you taking it?
1. [C4XAN1]	[C4XADD1] [C4XADU1] [C4XADU1S]	[C4XAR1]	[C4XAF1] [C4XAFU1] [C4XAFU1S]	[C4XAT1] [C4XATU1]	[C4XAW1]
2. [C4XAN2]	[C4XADD2] [C4XADU2] [C4XADU2S]	[C4XAR2]	[C4XAF2] [C4XAFU2] [C4XAFU2S]	[C4XAT2] [C4XATU2]	[C4XAW2]
3. [C4XAN3]	[C4XADD3] [C4XADU3] [C4XADU3S]	[C4XAR3]	[C4XAF3] [C4XAFU3] [C4XAFU3S]	[C4XAT3] [C4XATU3]	[C4XAW3]
4. [C4XAN4]	[C4XADD4] [C4XADU4] [C4XADU4S]	[C4XAR4]	[C4XAF4] [C4XAFU4] [C4XAFU4S]	[C4XAT4] [C4XATU4]	[C4XAW4]
5. [C4XAN5]	[C4XADD5] [C4XADU5] [C4XADU5S]	[C4XAR5]	[C4XAF5] [C4XAFU5] [C4XAFU5S]	[C4XAT5] [C4XATU5]	[C4XAW5]
6. [C4XAN6]	[C4XADD6] [C4XADU6] [C4XADU6S]	[C4XAR6]	[C4XAF6] [C4XAFU6] [C4XAFU6S]	[C4XAT6] [C4XATU6]	[C4XAW6]
7. [C4XAN7]	[C4XADD7] [C4XADU7] [C4XADU7S]	[C4XAR7]	[C4XAF7] [C4XAFU7] [C4XAFU7S]	[C4XAT7] [C4XATU7]	[C4XAW7]
8. [C4XAN8]	[C4XADD8] [C4XADU8] [C4XADU8S]	[C4XAR8]	[C4XAF8] [C4XAFU8] [C4XAFU8S]	[C4XAT8] [C4XATU8]	[C4XAW8]
9. [C4XAN9]	[C4XADD9] [C4XADU9] [C4XADU9S]	[C4XAR9]	[C4XAF9] [C4XAFU9] [C4XAFU9S]	[C4XAT9] [C4XATU9]	[C4XAW9]
10. [C4XAN10]	[C4XADD10] [C4XADU10] [C4XADU10S]	[C4XAR10]	[C4XAF10] [C4XAFU10] [C4XAFU10S]	[C4XAT10] [C4XATU10]	[C4XAW10]

MEDICATION ALLERGIES

Site # _____ ID#_____

Does R have any medication allergies? (circle one) Yes No [C4XM] Date _____

# of medication allergies? _____ [C4XMM]

Drug Name	**Reaction**
1. [C4XMN1]	[C4XMR1]
2. [C4XMN2]	[C4XMR2]
3. [C4XMN3]	[C4XMR3]
4. [C4XMN4]	[C4XMR4]
5. [C4XMN5]	[C4XMR5]
6. [C4XMN6]	[C4XMR6]

SECTION C: DATA COLLECTION PROTOCOL

The following provides instructions for administering the Medication Chart for the MIDUS 3 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. To ensure that participants bring all their medications to the visit staff are instructed to use the following probes/reminders when communicating with participants ***before*** the visit:

- Are you taking/using –
  - Any medications that are injected?
  - Any creams/patches?
  - Any medications that are given at doctor visits / clinic visits? (*e.g.* infusions)
  - Use of an inhaler or nasal spray
- Any medications taken on a weekly basis?
- Any medications taken on a monthly basis?

The Medication Chart has four 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
Vitamin A
Vitamin B's
Vitamin C
Vitamin D
Vitamin E
Calcium
Chromium picolinate
Copper
Ferrous sulfate
Folic acid
Iron
Niacin
Magnesium
Phosphorus
Potassium
Protegra
Selenium
Zinc

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 they may be "prescribed" by a health care practitioner trained in a non-western tradition

Examples: Alternative Medications

Alfalfa
Alpha lipoic Acid
Adrenal Support
Bowel Aide
Billberry Extract
Homeopathic
Cayenne
Chondrochondroitin
Cod liver oil
Co Q 10
Colostrum
Cortislim
Cranberry Pill
Echinacea
Essential Fatty Acid
Flax Seed Oil
Fish Oil
Ginkgo biloba
Garlic
Ginseng
Ginger
Glucosamine/
glucosamine chondroitin
Kava kava
Kelp
Lecithin
Lutein
Lysine
Lymph gland cleanser
Melatonin
MSMw/GS
Mega-chel
Nutri-calm
Olive Leaf Extract
Osteobiflex
Primrose seed oil
St Johns wort
Saw Palmetto
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 CRU admission but before the nurse begins the admission assessments. The Medication Chart is completed in three steps. The first two are completed during the CRU visit. The third step can be completed after the subject has left the CRU.

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 CRU 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 be helpful 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.

    - If the name includes descriptors such as cream or patch or spray etc. as well as information such as % solution, so be sure to record that information as well. For example:
        - Novolin 70/30 (Insulin)
        - Astelin (nasal spray)

- Travatan eye drops .004%
- Albuterol Inhaler
- Bayer enteric coated ASA
- Tylenol Sinus
- Pepcid AC Max strength

- 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.
  - If the subject <u>is</u> taking non-prescription medications, circle "Yes" or "No" and fill in the appropriate information.
  - Be sure to include the full name of the multi-vitamin or calcium supplement. For example:
    - Nature's Code vitamin pack
    - Men's One A Day – Walgreen
    - Calcium with Vitamin D + magnesium
    - Also see the Sample Chart for examples.

  - If the subject <u>is not</u> taking any non-prescription medications ignore these two boxes.

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 40mg 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.

   - Variable Dosage Medications: Typically, the number of times the medication is taken and the amount are standardized. Sometimes however, dosage varies according to day of the week or time of day. In these instances be sure to record the dosage information as completely as possible. For example:

- Altenolol (for high blood pressure) may be taken twice a day, but at different dosages. This would be recorded as follows:

  Altenolol 50mg a.m. 100mg p.m.

- Warfarin (blood thinner) is taken once a day but the dosages varies from day to day (see the Sample form for an example).

- Combination Medications: Medications of this type contain two or more active ingredients and the dosage of each is often indicated separately. Please be sure to note the dosage for each active ingredient.
  - Prescription Medication Examples:
    - Triamterene HCTZ - 25 mg/37.5 mg
    - Acetaminophen-Hydrocodone - 325 mg-10 mg
    - Advicor 500/20 - 500 mg/20 mg
    - Advair Diskus (contains Fluticasone & Salmeterol) - 250/50 mcg (See Sample Chart for example)

  - Over-The-Counter and Alternative medications can also have multiple active ingredients. Some have only 2-3 (i.e. Calcium with Vitamin D, or Glucosamine Chondroitin) while others have many active ingredients (i.e. multi-vitamins.
    - If an OTC or Alternative has 2-3 active ingredients list them and note the dosages if available.
    - If an OTC or Alternative has more than 3 active ingredients do not list them but be sure to put the full name of the medication and the number of pills, tablets, etc. taken. See Sample Chart for examples.

3. Route: 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. Frequency: 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

   - Medications Taken As Needed (PRN):

     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 are generally 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.
    - 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 on *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 ……

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 CRU or Project Staff.

Review the Medication Chart with the subject. For each medication recorded on the chart:

1. 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.

2. 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.

3. 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 they 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”.

- Please be sure to ask this question for ALL medications.

4. 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: LINKING TO LEXI-DATA 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 are updated monthly. To link with MIDUS 3 medication data, we used September 2022 version. Data from the Lexi-Data database is added to the MIDUS 3 dataset by completing the following tasks:

- Linking MIDUS 3 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/MIDJA variable labels, as well as some parts of the documentation, may include references to Multum, the medical information company that originally developed the Lexicon/Lexi-Data database.

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

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

Linking 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 3 dataset.

At the end of the matching process about 3.8% of the MIDUS 3 medications could not be matched. The vast majority are ALT medications, 74% compared to 1% and 25% 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 Appendix C for a list of therapeutic class codes and category names.

Assigning TC Codes

All the matched MIDUS 3 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 3 medications can be assigned up to 6 PC categories, thus we created a set of 6 variables named and labeled according to the following convention, where the final digit is a value from 1-6:

__PC_ - Lexi-Data pharmacologic class codes

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

__PC1 – 971 = Antiaginal Agent
__PC2 – 980 = Antiarrythmic 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. Each response was coded into one of two mutually exclusive sets of categorical codes using a combination of more traditional procedures for coding text data and the IBM SPSS Text Analytics for Surveys described below. One set of codes is based on the International Disease Classification Codes, Version 10 (ICD-10) and the other was developed by MIDUS.

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

Two sets of mutually exclusive Reason codes were developed for inclusion in the data file.

1. **__ICD10M** – 3 character alphanumeric codes representing major categories in the International Classification of Diseases, 10th Revision. 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.
    a. The ICD10M codes correspond to the first 3 character of the ICD-10 codes. The value/category labels attached to the codes are based on the ICD-10 code labels.
    b. A primary resource for this coding was the free online searchable ICD-10 database created by Alkaline Software: http://www.icd10data.com/
2. **__MDC** - 5 character alphanumeric codes developed by MIDUS. These codes were assigned when a given reason for taking a medication could not be classified into an ICD-10 category. In general a MIDUS code was assigned when:
    a. The reason was too generic/vague to be assigned to a specific ICD-10 category. Examples include "Stress" or "Stomach Acid" which were reported often enough that they have their own MIDUS category.
    b. The medication was taken for preventive purposes rather than to treat an existing condition. For example 'family history of heart disease' or 'Detox' or 'Boost immune system' or 'Brain health' etc.
    c. The medication was taken because it was recommended by a clinician, family member or friend, or has been reported in some venue (i.e. T.V., news, etc.) as being a 'Good thing to do".
    d. Some reasons could not be assigned to any of the MIDUS categories or ICD10M categories were designated as "Unable to Classify'.
    e. Because of this, while the categories are mutually exclusive, Unable to Classify cases may be identified under both variables.
3. **MISSING VALUES** – Same missing value codes were used for both _ICD10M and _MDC as following:
    a. Z9996 – Unable to Classify
    b. Z9997 - Don't Know
    c. Z9998 – Missing
    d. Z9999 - INAPP

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

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

SECTION F: APPENDICES

Appendix A: Sample Completed Medication Chart

MIDUS 3: **PRESCRIPTION MEDICATION**

Site #____2____ID#___19999____

# of prescription medications? _____7_____

Date____2/17/17_____

Drug Name	**Dosage**	**Route**	**Frequency**	**Taken for how long?**	**Why are you taking it?**
1. Enalapril	20 mg	PO	QD	3 years	High blood pressure
2. Naproxen	500 mg	PO	BID	6 months	Arthritis
3. Warfarin	T,R,S, Sun=2 mg; M,W,F=4 mg	PO	QD	1 year	Blood thinner
4. Omeprazole	20 mg	PO	PRN -BID	2 weeks	Acid reflux
5. Advair Diskus 100/50	100 mcg/50 mcg	inhaler	BID	3 years	Asthma
6. EpiPen	0.3 mg	intramuscular	PRN	2 months	For allergic reaction
7. Levobunolol 0.5%	5% solution 1 drop per eye	topical	QD	7 months	Glaucoma
8.					
9.					
10.					
11.					

NON-PRESCRIPTION MEDICATION

(Over the Counter)

Site #____2____ID#___19999____

Date____2/17/17_____

# of non-prescription medications? _____6_____

Drug Name	Dosage	Route	Frequency	Taken for how long?	Why are you taking it?
1. Multiple vitamin (Y) N **Centrum Silver**	1 tab	PO	QD	8 years	General health
2. Calcium (Y) N **Citracal + D3**	500 mg/400 IU	PO	QD	6 years	Bone health
3. St. Joseph Aspirin	81 mg	PO	QD	3 years	Heart health
4. Tylenol	500 mg	PO	PRN	10 years	Headache
5. Prilosec OTC	20 mg	PO	QD	6 months	Acid reflux
6. Vitamin C	1000 mg	PO	QD	3 years	General health
7.					
8.					
9.					
10.					

ALTERNATIVE MEDICATIONS (herbal, homeopathic, etc.) Site #____2____ID#___19999_____

# of alternative medications? _____12_____ Date_____2/17/17_____

Drug Name	Dosage	Route	Frequency	Taken for how long?	Why are you taking it?
1. Fish oil	1200 mg	PO	QD	1 year	Heart health
2. Glucosamine Chondroitin	750mg/ 600mg	PO	QD	2 years	For joints
3. Melatonin	3 mg	PO	QD/PRN	4 years	To help sleep
4. Saw Palmetto	450 mg	PO	QD	4 years	For prostate health
5. St. John's Wort	350 mg	PO	QD	3 years	Depression
6. Cranberry	4200 mg	PO	QD	1 year	Urinary health
7. Ginko Biloba	120 mg	PO	BID	2 year	Circulation
8. Echinacea	400 mg	PO	PRN	3 years	Immune support
9. Ginseng	500 mg	PO	BID	1 year	Energy support
10. Black Cohosh	540 mg	PO	QD	1 year	Menopause

MEDICATION ALLERGIES: Does R have any medication allergies? (Circle one) Yes No *# of medication allergies ?* ___3___

Drug name	**Reaction**
1. Penicillin	Rash
2. Sulfa	Hives
3. Darvon	Nausea
4.	
5.	
6.	

MIDUS 3: ADDITIONAL MEDICATIONS LIST

Site #____2____ ID#____19999_____

Label the type of medication for each additional entry using the following abbreviations: **RX** (Prescription), **OTC** (Non-prescription), **ALT** (Alternative).

Date_____2/17/17_____

Drug Type	Drug Name	Dosage	Route	Frequency	Taken for how long?	Why are you taking it?
ALT	Garlic	2000 mg	PO	QD	1 year	Blood Pressure
ALT	Apple Cider Vinegar	450 mg	PO	QD	2 years	Joint Health

Appendix B: Generic Medication Names and DrugIDs

The following lists the Lexi-Data DrugIDs and Generic Names in the MIDUS 3 data files. The list is in order by DrugID and will be updated as needed with future data releases.

DRUG_ID	GENERIC_NAME
d00001	acyclovir
d00002	amiodarone
d00004	atenolol
d00011	ciprofloxacin
d00013	enalapril
d00015	ibuprofen
d00016	labetalol
d00019	naproxen
d00021	raNITIdine
d00022	warfarin
d00023	allopurinol
d00024	azaTHIOprine
d00032	propranolol
d00037	doxycycline
d00039	indomethacin
d00043	clindamycin
d00044	cloNIDine
d00045	dilTIAZem
d00047	rifAMPin
d00048	verapamil
d00049	acetaminophen
d00050	methadone
d00051	NIFEdipine
d00058	carBAMazepine
d00060	methotrexate
d00061	lithium
d00068	ethambutol
d00070	furosemide
d00083	valproic acid
d00086	amantadine
d00088	amoxicillin
d00089	amoxicillin-clavulanate
d00091	azithromycin
d00096	cephalexin
d00106	methenamine
d00110	minocycline
d00112	nitrofurantoin
d00118	sulfADIAZINE
d00124	sulfamethoxazole-trimethoprim
d00132	hydrALAZINE
d00134	metoprolol
d00140	cimetidine
d00141	famotidine
d00143	phenytoin
d00144	nortriptyline
d00146	amitriptyline
d00148	diazePAM
d00149	LORazepam
d00150	colchicine
d00168	ALPRAZolam
d00169	aMILoride
d00170	aspirin
d00176	betaxolol
d00179	bumetanide
d00181	buPROPion
d00182	busPIRone
d00191	chlorpheniramine
d00192	chlorthalidone
d00197	clonazePAM
d00206	dexamethasone
d00210	digoxin
d00211	dihydroergotamine
d00212	diphenhydrAMINE
d00231	felodipine
d00234	flecainide
d00236	FLUoxetine
d00239	flurbiprofen
d00241	folic acid
d00245	gemfibrozil
d00246	glipiZIDE
d00248	glyBURIDE
d00253	hydroCHLOROthiazide
d00254	hydrocortisone
d00259	imipramine
d00260	indapamide
d00269	isosorbide mononitrate
d00278	levothyroxine
d00280	lovastatin
d00284	medroxyPROGESTERone
d00289	mercaptopurine
d00293	methylPREDNISolone
d00298	metoclopramide
d00299	metOLazone
d00308	morphine
d00310	nabumetone
d00314	niacin
d00316	nicotine
d00321	nitroglycerin
d00325	omeprazole
d00328	oxybutynin
d00329	oxyCODONE
d00336	pentoxifylline
d00340	PHENobarbital
d00345	potassium chloride
d00348	pravastatin
d00350	predniSONE
d00352	primidone
d00355	prochlorperazine
d00363	pyridostigmine
d00365	quinapril
d00371	sotalol
d00373	spironolactone
d00377	sucralfate
d00381	tamoxifen
d00384	temazepam

d00386	terazosin
d00395	traZODone
d00396	triamterene
d00397	triazolam
d00402	vitamin A
d00405	vitamin E
d00409	riboflavin
d00412	pyridoxine
d00413	cyanocobalamin
d00425	calcium carbonate
d00426	ascorbic acid
d00440	sodium bicarbonate
d00484	selenium
d00488	lysine
d00497	omega-3 polyunsaturated fatty acids
d00537	estradiol
d00541	conjugated estrogens
d00550	progesterone
d00558	testosterone
d00563	finasteride
d00572	chorionic gonadotropin (HCG)
d00578	arginine
d00598	calcitonin
d00655	thyroid desiccated
d00658	liothyronine
d00683	lidocaine topical
d00689	amLODIPine
d00699	EPINEPHrine
d00704	phenylephrine
d00709	bisoprolol
d00717	guanFACINE
d00726	doxazosin
d00728	ramipril
d00730	benazepril
d00732	lisinopril
d00744	colestipol
d00746	simvastatin
d00749	albuterol
d00760	beclomethasone
d00762	acetylcysteine
d00769	pseudoephedrine
d00771	naphazoline ophthalmic
d00772	oxymetazoline nasal
d00773	tetrahydrozoline ophthalmic
d00787	promethazine
d00796	benzonatate
d00797	guaiFENesin
d00801	caffeine
d00806	phentermine
d00817	hydroxychloroquine
d00840	buprenorphine
d00848	diclofenac
d00859	meclizine
d00861	dimenhyDRINATE
d00867	ondansetron
d00880	sertraline
d00907	hydrOXYzine
d00910	zolpidem
d00960	carisoprodol
d00963	cyclobenzaprine
d00965	methocarbamol
d00967	baclofen
d00982	magnesium hydroxide
d00985	hyoscyamine
d00999	dicyclomine
d01002	pancrelipase
d01005	ursodiol
d01008	magnesium citrate
d01010	cascara sagrada
d01013	senna
d01015	bisacodyl
d01017	polycarbophil
d01018	psyllium
d01021	docusate
d01024	lactulose
d01025	loperamide
d01026	bismuth subsalicylate
d01027	simethicone
d01031	mesalamine
d01233	nystatin
d01241	clindamycin topical
d01245	ISOtretinoin
d01271	econazole topical
d01272	ciclopirox topical
d01274	tolnaftate topical
d01288	clobetasol topical
d01294	fluocinonide topical
d01296	fluticasone
d01298	halobetasol topical
d01300	mometasone topical
d01353	leuprolide
d01373	hydroxyurea
d01385	beta-carotene
d01423	potassium citrate
d03050	loratadine
d03052	hydrochlorothiazide-triamterene
d03075	HYDROcodone
d03126	calcitriol
d03128	ergocalciferol
d03129	cholecalciferol
d03130	thiamine
d03131	pantothenate
d03133	hydroxocobalamin
d03135	phytonadione
d03137	calcium-vitamin D
d03140	multivitamin
d03141	multivitamin with iron
d03145	multivitamin with minerals
d03148	multivitamin, prenatal
d03149	ascorbic acid-ferrous sulfate
d03154	doxylamine
d03157	PARoxetine
d03160	SUMAtriptan
d03181	venlafaxine
d03182	gabapentin
d03189	torsemide
d03192	zinc oxide topical
d03195	miconazole topical
d03197	betamethasone topical
d03201	acyclovir topical

d03202 ketoconazole topical
d03204 fluorouracil topical
d03205 hydrocortisone topical
d03206 triamcinolone topical
d03208 metroNIDAZOLE topical
d03212 atropine ophthalmic
d03221 prednisoLONE ophthalmic
d03238 ethinyl estradiol-norethindrone
d03264 hydrochlorothiazide-metoprolol
d03265 benazepril-hydrochlorothiazide
d03266 hydrochlorothiazide-lisinopril
d03292 ibuprofen-pseudoephedrine
d03379 guaifenesin-pseudoephedrine
d03400 dextromethorphan-guaifenesin
d03423 acetaminophen-codeine
d03428 acetaminophen-hydrocodone
d03431 acetaminophen-oxycodone
d03439 acetaminophen/aspirin/caffeine
d03445 acetaminophen-diphenhydramine
d03455 acetaminophen/butalbital/caffeine
d03457 aspirin/butalbital/caffeine
d03473 carbidopa-levodopa
d03520 naphazoline-pheniramine ophthalmic
d03536 dexamethasone-tobramycin ophthalmic
d03625 acetic acid-hydrocortisone otic
d03644 lactobacillus acidophilus
d03652 colchicine-probenecid
d03663 lecithin
d03665 menthol topical
d03668 methyl salicylate topical
d03669 menthol-methyl salicylate topical
d03689 calcium acetate
d03739 niacinamide
d03744 bisoprolol-hydrochlorothiazide
d03752 tacrolimus
d03768 ocular lubricant
d03770 emollients, topical
d03781 ethinyl estradiol-norgestimate
d03789 potassium gluconate
d03796 magnesium chloride
d03797 magnesium oxide
d03804 fluvoxaMINE
d03807 metFORMIN
d03809 lamoTRIgine
d03818 loratadine-pseudoephedrine
d03819 conjugated estrogens-medroxyprogesterone
d03821 losartan
d03822 ferrous gluconate
d03824 ferrous sulfate
d03826 traMADol
d03827 cetirizine
d03828 lansoprazole
d03830 hydrochlorothiazide-losartan
d03833 divalproex sodium
d03836 acitretin
d03838 valACYclovir
d03847 carvedilol
d03849 alendronate
d03864 glimepiride
d03866 calcium citrate
d03873 anastrozole
d03879 cannabis (Schedule I substance)
d03884 trolamine salicylate topical
d03897 lactase
d03953 electrolyte replacement solutions, oral
d04008 trandolapril
d04012 terbinafine
d04017 latanoprost ophthalmic
d04025 mirtazapine
d04035 amphetamine-dextroamphetamine
d04037 timolol ophthalmic
d04040 fexofenadine
d04047 midodrine
d04048 brimonidine ophthalmic
d04049 ammonium lactate topical
d04050 OLANZapine
d04056 zinc gluconate
d04058 melatonin
d04066 albuterol-ipratropium
d04068 azelastine nasal
d04099 donepezil
d04102 tiZANidine
d04105 atorvastatin
d04111 glatiramer
d04113 valsartan
d04115 topiramate
d04121 tamsulosin
d04125 imiquimod topical
d04138 tazarotene topical
d04142 chromium picolinate
d04145 pramipexole
d04156 letrozole
d04186 phenylephrine nasal
d04210 estradiol topical
d04215 rOPINIRole
d04220 QUEtiapine
d04222 irbesartan
d04223 mometasone nasal
d04233 triamcinolone nasal
d04241 potassium chloride-sodium chloride
d04242 sodium chloride nasal
d04245 hydrochlorothiazide-irbesartan
d04248 methylcellulose
d04258 clopidogrel
d04261 raloxifene
d04270 fexofenadine-pseudoephedrine
d04273 testosterone topical
d04276 budesonide
d04277 cloNIDine topical
d04280 manganese chloride
d04283 fluticasone nasal
d04284 fluticasone topical
d04285 naratriptan
d04286 fenofibrate
d04289 montelukast
d04293 hydrochlorothiazide-valsartan
d04294 tolterodine
d04299 sildenafil
d04300 risedronate
d04303 dorzolamide-timolol ophthalmic

d04313 fentanyl topical
d04322 candesartan
d04328 rizatriptan
d04332 citalopram
d04342 inFLIXimab
d04364 telmisartan
d04369 insulin regular
d04373 insulin lispro
d04375 estradiol-norethindrone
d04378 modafinil
d04380 celecoxib
d04395 clotrimazole topical
d04396 conjugated estrogens topical
d04399 nystatin topical
d04407 echinacea
d04410 feverfew
d04411 garlic
d04412 ginseng
d04413 ginkgo
d04414 ginger
d04415 saw palmetto
d04418 glucosamine
d04419 chondroitin
d04420 chondroitin-glucosamine
d04421 evening primrose
d04425 dehydroepiandrosterone (prasterone)
d04426 red yeast rice
d04440 perindopril
d04441 ketotifen ophthalmic
d04442 pioglitazone
d04448 RABEprazole
d04452 zaleplon
d04459 dofetilide
d04461 exemestane
d04463 grape seed oil
d04464 dong quai
d04466 milk thistle
d04467 cat's claw
d04470 cranberry
d04472 black cohosh
d04476 bilberry
d04487 peppermint
d04488 lavender
d04490 green tea
d04491 flax
d04492 fenugreek
d04499 levETIRAcetam
d04513 OXcarbazepine
d04514 pantoprazole
d04522 papaya
d04523 ubiquinone
d04524 s-adenosylmethionine
d04527 zonisamide
d04532 meloxicam
d04537 rivastigmine
d04538 insulin glargine
d04541 azelastine ophthalmic
d04572 formoterol
d04611 fluticasone-salmeterol
d04695 colesevelam
d04697 insulin aspart
d04708 zoledronic acid
d04711 candesartan-hydrochlorothiazide
d04722 diclofenac topical
d04723 calcium carbonate/famotidine/Mg hydroxide
d04726 5-hydroxytryptophan
d04740 tacrolimus topical
d04743 nateglinide
d04747 ziprasidone
d04749 esomeprazole
d04753 travoprost ophthalmic
d04754 bimatoprost ophthalmic
d04766 acetaminophen-tramadol
d04776 frovatriptan
d04784 pimecrolimus topical
d04788 dutasteride
d04795 budesonide-formoterol
d04797 alfuzosin
d04801 olmesartan
d04812 escitalopram
d04813 horse chestnut
d04821 peginterferon alfa-2a
d04824 ezetimibe
d04825 ARIPiprazole
d04829 tiotropium
d04836 cycloSPORINE ophthalmic
d04844 camphor-menthol topical
d04848 inulin
d04849 eletriptan
d04851 rosuvastatin
d04871 bortezomib
d04875 betaine
d04878 hydrochlorothiazide-olmesartan
d04881 omalizumab
d04896 tadalafil
d04899 memantine
d04916 capsicum
d05044 betamethasone-calcipotriene topical
d05214 bevacizumab
d05217 mycophenolic acid
d05234 hyaluronan
d05265 nebivolol
d05283 brimonidine-timolol ophthalmic
d05311 methylcobalamin
d05350 polyethylene glycol 3350
d05352 emtricitabine-tenofovir
d05355 DULoxetine
d05357 ibandronate
d05379 calcium carbonate/Mg hydroxide/simethicone
d05413 solifenacin
d05421 eszopiclone
d05436 insulin detemir
d05471 alpha-D-galactosidase
d05508 pregabalin
d05529 exenatide
d05612 rasagiline
d05660 hydroxyquinoline topical
d05696 lenalidomide
d05702 methylsulfonylmethane

d05703 chondroitin/glucosamine/ methylsulfonylmethane
d05719 ranolazine
d05736 lubiprostone
d05776 iodine
d05777 iodine-potassium iodide
d05807 varenicline
d05819 diphenhydramine-ibuprofen
d05848 rotigotine
d05851 levocetirizine
d05866 guar gum
d05896 SITagliptin
d05963 coagulation factor IX
d05965 factor IX complex
d06214 collagen
d06270 sodium chloride topical
d06370 turmeric
d06392 wheat dextrin
d06507 cinnamon
d06594 vitamin A topical
d06635 milnacipran
d06640 glycine
d06649 calcium carbonate-magnesium chloride
d06655 alpha-lipoic acid
d06663 lisdexamfetamine
d06720 metformin-sitagliptin
d06842 armodafinil
d06848 lutein
d06852 maraviroc
d06867 biotin
d07048 raltegravir
d07076 etravirine
d07113 desvenlafaxine
d07137 dabigatran
d07298 difluprednate ophthalmic
d07315 glutamine
d07354 silodosin
d07356 rivaroxaban
d07373 d-xylitol
d07376 medium chain triglycerides
d07395 dexlansoprazole
d07396 ustekinumab
d07400 bifidobacterium-lactobacillus
d07409 prasugrel
d07435 golimumab
d07440 amlodipine/hydrochlorothiazide/ valsartan
d07459 ferumoxytol
d07466 liraglutide
d07467 sAXagliptin
d07478 tafluprost ophthalmic
d07506 lactobacillus reuteri
d07634 dutasteride-tamsulosin
d07637 pitavastatin
d07640 denosumab
d07645 onabotulinumtoxinA
d07659 caffeine-magnesium salicylate
d07684 roflumilast
d07693 aspirin-calcium carbonate
d07705 lurasidone
d07740 vilazodone
d07767 linagliptin
d07804 apixaban
d07812 ruxolitinib
d07832 magnesium glycinate
d07868 azelastine-fluticasone nasal
d07876 mirabegron
d07891 icosapent
d07902 linaclotide
d07925 tofacitinib
d07928 dapagliflozin
d08054 insulin degludec
d08079 dimethyl fumarate
d08080 canagliflozin
d08100 fluticasone-vilanterol
d08125 vortioxetine
d08188 umeclidinium-vilanterol
d08247 apremilast
d08266 sucroferric oxyhydroxide
d08268 efinaconazole topical
d08269 calcium/melatonin/pyridoxine
d08275 empagliflozin
d08290 dulaglutide
d08349 diphenhydramine-naproxen
d08369 sacubitril-valsartan
d08374 alirocumab
d08383 evolocumab
d08401 eluxadoline
d08576 durvalumab
d08666 fluticasone/umeclidinium/vilanterol
d08688 semaglutide
d08919 cannabidiol
d09065 elderberry
d09345 menaquinone
d09350 upadacitinib
d09455 bacillus coagulans-calcium carbonate
d09886 ascorbic acid-collagen
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 MIDUS3 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 polyhierarchical and each therapeutic class has a unique code. See Section D above for details. The list below is organized in nested in numeric order. The top tier (Parent/Grandparent) class codes are in the leftmost column. All middle tier (Parent/Child) class codes are listed under their top tier parent code. Similarly, all bottom tier (Child/Grandchild) class codes are listed under their middle tier "Parent" codes. All category names are listed in the rightmost column. Color coding is used to help illustrate the relationships among the therapeutic classes.

Multum Therapeutic Classes

Top Tier (Parent/ Grandparent)	Middle Tier (Parent/ Child)	Bottom Tier (Child/ GrandChild)	Therapeutic Class Names
1			ANTI-INFECTIVES
	2		AMEBICIDES
	3		ANTHELMINTICS
	4		ANTIFUNGALS
		235	POLYENES
		236	AZOLE ANTIFUNGALS
		237	MISCELLANEOUS ANTIFUNGALS
	5		ANTIMALARIAL AGENTS
		238	ANTIMALARIAL QUINOLINES
		239	MISCELLANEOUS ANTIMALARIALS
	6		ANTITUBERCULOSIS AGENTS
		232	RIFAMYCIN DERIVATIVES
		234	MISCELLANEOUS ANTITUBERCULOSIS AGENTS
		457	HYDRAZIDE DERIVATIVES
	7		ANTIVIRAL AGENTS
		227	NNRTIS
		228	ADAMANTANE ANTIVIRALS
		229	PURINE NUCLEOSIDES
		281	NEURAMINIDASE INHIBITORS
		327	ANTIVIRAL COMBINATIONS
		330	ANTIVIRAL INTERFERONS

Top Tier (Parent/ Grandparent)	Middle Tier (Parent/ Child)	Bottom Tier (Child/ GrandChild)	Therapeutic Class Names
		364	ANTIVIRAL CHEMOKINE RECEPTOR ANTAGONIST
		366	INTEGRASE STRAND TRANSFER INHIBITOR
	9		CEPHALOSPORINS
		159	FIRST GENERATION CEPHALOSPORINS
		160	SECOND GENERATION CEPHALOSPORINS
		161	THIRD GENERATION CEPHALOSPORINS
	11		MACROLIDE DERIVATIVES
		304	MACROLIDES
	12		MISCELLANEOUS ANTIBIOTICS
	13		PENICILLINS
		224	AMINOPENICILLINS
		225	PENICILLINS BETA LACTAMASE INHIBITORS
	14		QUINOLONES
	15		SULFONAMIDES
	16		TETRACYCLINES
	17		URINARY ANTI INFECTIVES
	18		AMINOGLYCOSIDES
	240		LINCOMYCIN DERIVATIVES
20			ANTINEOPLASTICS
	23		ANTIMETABOLITES
	24		ANTINEOPLASTIC HORMONES
	25		MISCELLANEOUS ANTINEOPLASTICS
	397		MULTIKINASE INHIBITORS
	402		VEGF VEGFR INHIBITORS
	454		PROTEASOME INHIBITORS
	493		ANTI PD 1 MONOCLONAL ANTIBODIES
28			BIOLOGICALS
	34		IN VIVO DIAGNOSTIC BIOLOGICALS
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

Top Tier (Parent/ Grandparent)	Middle Tier (Parent/ Child)	Bottom Tier (Child/ GrandChild)	Therapeutic Class Names
	47		BETA ADRENERGIC BLOCKING AGENTS
		274	CARDIOSELECTIVE BETA BLOCKERS
		275	NON-CARDIOSELECTIVE BETA BLOCKERS
	48		CALCIUM CHANNEL BLOCKING AGENTS
	49		DIURETICS
		154	LOOP DIURETICS
		155	POTASSIUM-SPARING DIURETICS
		156	THIAZIDE AND THIAZIDE-LIKE DIURETICS
	50		INOTROPIC AGENTS
	51		MISCELLANEOUS CARDIOVASCULAR AGENTS
	52		PERIPHERAL VASODILATORS
	53		VASODILATORS
	54		VASOPRESSORS
	55		ANTIHYPERTENSIVE COMBINATIONS
		467	ACE INHIBITORS WITH THIAZIDES
		470	MISCELLANEOUS ANTIHYPERTENSIVE COMBINATIONS
		472	BETA BLOCKERS WITH THIAZIDES
		473	ANGIOTENSIN II INHIBITORS WITH THIAZIDES
		474	BETA BLOCKERS WITH CALCIUM CHANNEL BLOCKERS
		475	POTASSIUM SPARING DIURETICS WITH THIAZIDES
		476	ACE INHIBITORS WITH CALCIUM CHANNEL BLOCKING AGENTS
		479	ANGIOTENSIN II INHIBITORS WITH CALCIUM CHANNEL BLOCKERS
	56		ANGIOTENSIN II INHIBITORS
	303		AGENTS FOR PULMONARY HYPERTENSION
	340		ALDOSTERONE RECEPTOR ANTAGONISTS
	433		CATECHOLAMINE VASOPRESSORS
	482		ANGIOTENSIN RECEPTOR BLOCKERS AND NEPRILYSIN INHIBITORS
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

Top Tier (Parent/ Grandparent)	Middle Tier (Parent/ Child)	Bottom Tier (Child/ GrandChild)	Therapeutic Class Names
		278	COX-2 INHIBITORS
	64		ANTICONVULSANTS
		199	HYDANTOIN ANTICONVULSANTS
		200	SUCCINIMIDE ANTICONVULSANTS
		201	BARBITURATE ANTICONVULSANTS
		203	BENZODIAZEPINE ANTICONVULSANTS
		204	MISCELLANEOUS ANTICONVULSANTS
		311	DIBENZAZEPINE ANTICONVULSANTS
		345	FATTY ACID DERIVATIVE ANTICONVULSANTS
		347	GAMMA-AMINOBUTYRIC ACID ANALOGS
		348	TRIAZINE ANTICONVULSANTS
		350	PYRROLIDINE ANTICONVULSANTS
		351	CARBONIC ANHYDRASE INHIBITOR ANTICONVULSANTS
	65		ANTIEMETIC ANTIVERTIGO AGENTS
		195	5HT3 RECEPTOR ANTAGONISTS
		196	PHENOTHIAZINE ANTIEMETICS
		197	ANTICHOLINERGIC ANTIEMETICS
		198	MISCELLANEOUS ANTIEMETICS
	66		ANTIPARKINSON AGENTS
		205	ANTICHOLINERGIC ANTIPARKINSON AGENTS
		276	DOPAMINERGIC ANTIPARKINSONISM AGENTS
	67		ANXIOLYTICS SEDATIVES AND HYPNOTICS
		68	BARBITURATES
		69	BENZODIAZEPINES
		70	MISCELLANEOUS ANXIOLYTICS, SEDATIVES AND HYPNOTICS
	71		CNS STIMULANTS
	73		MUSCLE RELAXANTS
		74	NEUROMUSCULAR BLOCKING AGENTS
		178	SKELETAL MUSCLE RELAXANTS
	80		MISCELLANEOUS CENTRAL NERVOUS SYSTEM AGENTS
	253		ANOREXIANTS
	313		CHOLINESTERASE INHIBITORS
	378		DRUGS USED IN ALCOHOL DEPENDENCE
81			COAGULATION MODIFIERS
	82		ANTICOAGULANTS
		262	COUMARINS AND INDANEDIONES
		283	THROMBIN INHIBITORS

Top Tier (Parent/ Grandparent)	Middle Tier (Parent/ Child)	Bottom Tier (Child/ GrandChild)	Therapeutic Class Names
		285	FACTOR XA INHIBITORS
	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
		362	CHLORIDE CHANNEL ACTIVATORS
		455	GUANYLATE CYCLASE C AGONISTS
		490	PERIPHERAL OPIOID RECEPTOR MIXED AGONISTS ANTAGONISTS
97			HORMONES/HORMONE MODIFIERS
	98		ADRENAL CORTICAL STEROIDS
		301	GLUCOCORTICOIDS
		302	MINERALOCORTICOIDS
	101		SEX HORMONES
		102	CONTRACEPTIVES
		182	ANDROGENS AND ANABOLIC STEROIDS
		183	ESTROGENS
		184	GONADOTROPINS
		185	PROGESTINS
		186	SEX HORMONE COMBINATIONS
		279	GONADOTROPIN-RELEASING HORMONE AND ANALOGS
	103		THYROID HORMONES
	288		5 ALPHA REDUCTASE INHIBITORS
	411		CALCITONIN
	416		SOMATOSTATIN AND SOMATOSTATIN ANALOGS

Top Tier (Parent/ Grandparent)	Middle Tier (Parent/ Child)	Bottom Tier (Child/ GrandChild)	Therapeutic Class Names
	417		SELECTIVE ESTROGEN RECEPTOR MODULATORS
	418		PARATHYROID HORMONE AND ANALOGS
	420		ANTIANDROGENS
	423		AROMATASE INHIBITORS
105			MISCELLANEOUS AGENTS
	106		ANTIDOTES
	107		CHELATING AGENTS
	108		CHOLINERGIC MUSCLE STIMULANTS
	109		LOCAL INJECTABLE ANESTHETICS
	110		MISCELLANEOUS UNCATEGORIZED AGENTS
	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
	519		ALPHA-ADRENORECEPTOR ANTAGONISTS
115			NUTRITIONAL PRODUCTS
	116		IRON PRODUCTS
	117		MINERALS AND ELECTROLYTES
	118		ORAL NUTRITIONAL SUPPLEMENTS
	119		VITAMINS
	120		VITAMIN AND MINERAL COMBINATIONS
	121		INTRAVENOUS NUTRITIONAL PRODUCTS
122			RESPIRATORY AGENTS
	123		ANTIHISTAMINES
	124		ANTITUSSIVES
	125		BRONCHODILATORS
		126	METHYLXANTHINES
		180	ADRENERGIC BRONCHODILATORS
		181	BRONCHODILATOR COMBINATIONS
		299	ANTICHOLINERGIC BRONCHODILATORS
	127		DECONGESTANTS

Top Tier (Parent/ Grandparent)	Middle Tier (Parent/ Child)	Bottom Tier (Child/ GrandChild)	Therapeutic Class Names
	128		EXPECTORANTS
	130		RESPIRATORY INHALANT PRODUCTS
		296	INHALED CORTICOSTEROIDS
		407	INHALED ANTI INFECTIVES
	132		UPPER RESPIRATORY COMBINATIONS
	243		LEUKOTRIENE MODIFIERS
	297		MUCOLYTICS
	435		SELECTIVE PHOSPHODIESTERASE 4 INHIBITORS
133			TOPICAL AGENTS
	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
		248	TOPICAL EMOLLIENTS
		291	TOPICAL ANTIVIRALS
		292	TOPICAL ANTIFUNGALS
		381	TOPICAL DEPIGMENTING AGENTS
		382	TOPICAL ANTIHISTAMINES
		448	TOPICAL NON-STEROIDAL ANTI-INFLAMMATORIES
		450	TOPICAL ANTINEOPLASTICS
		453	TOPICAL RUBEFACIENT
		461	TOPICAL ANTI ROSACEA AGENTS
	146		MOUTH AND THROAT PRODUCTS
	147		OPHTHALMIC PREPARATIONS
		163	OPHTHALMIC ANTI-INFECTIVES
		164	OPHTHALMIC GLAUCOMA AGENTS
		165	OPHTHALMIC STEROIDS
		166	OPHTHALMIC STEROIDS WITH ANTI INFECTIVES
		167	OPHTHALMIC ANTI INFLAMMATORY AGENTS
		168	OPHTHALMIC LUBRICANTS AND IRRIGATIONS
		169	MISCELLANEOUS OPHTHALMIC AGENTS
		267	OPHTHALMIC ANTIHISTAMINES AND DECONGESTANTS
		286	MYDRIATICS

Top Tier (Parent/ Grandparent)	Middle Tier (Parent/ Child)	Bottom Tier (Child/ GrandChild)	Therapeutic Class Names
	148		OTIC PREPARATIONS
		171	OTIC STEROIDS WITH ANTI INFECTIVES
	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
153			PLASMA EXPANDERS
218			ALTERNATIVE MEDICINES
	219		NUTRACEUTICAL PRODUCTS
	220		HERBAL PRODUCTS
	363		PROBIOTICS
242			PSYCHOTHERAPEUTIC AGENTS
	249		ANTIDEPRESSANTS
		76	MISCELLANEOUS ANTIDEPRESSANTS
		208	SSRI ANTIDEPRESSANTS
		209	TRICYCLIC ANTIDEPRESSANTS
		306	PHENYLPIPERAZINE ANTIDEPRESSANTS
		307	TETRACYCLIC ANTIDEPRESSANTS
		308	SSNRI ANTIDEPRESSANTS
	251		ANTIPSYCHOTICS
		77	MISCELLANEOUS ANTIPSYCHOTIC AGENTS
		210	PHENOTHIAZINE ANTIPSYCHOTICS
		341	ATYPICAL ANTIPSYCHOTICS
	504		ANTIMANIC AGENTS
254			IMMUNOLOGIC AGENTS
	33		IMMUNE GLOBULINS
	104		IMMUNOSUPPRESSIVE AGENTS
		441	CALCINEURIN INHIBITORS
		442	TNF ALPHA INHIBITORS
		443	INTERLEUKIN INHIBITORS
		444	SELECTIVE IMMUNOSUPPRESSANTS
		445	OTHER IMMUNOSUPPRESSANTS
	437		IMMUNOSTIMULANTS
		439	OTHER IMMUNOSTIMULANTS
358			METABOLIC AGENTS
	19		ANTIHYPERLIPIDEMIC AGENTS

Top Tier (Parent/ Grandparent)	Middle Tier (Parent/ Child)	Bottom Tier (Child/ GrandChild)	Therapeutic Class Names
		173	HMG-COA REDUCTASE INHIBITORS
		174	MISCELLANEOUS ANTIHYPERLIPIDEMIC AGENTS
		241	FIBRIC ACID DERIVATIVES
		252	BILE ACID SEQUESTRANTS
		316	CHOLESTEROL ABSORPTION INHIBITORS
		484	PCSK9 INHIBITORS
	99		ANTIDIABETIC AGENTS
		213	SULFONYLUREAS
		214	BIGUANIDES
		215	INSULIN
		216	ALPHA-GLUCOSIDASE INHIBITORS
		271	THIAZOLIDINEDIONES
		282	MEGLITINIDES
		314	ANTIDIABETIC COMBINATIONS
		371	DIPEPTIDYL PEPTIDASE 4 INHIBITORS
		373	GLP 1 RECEPTOR AGONISTS
		458	SGLT 2 INHIBITORS
	194		ANTIGOUT AGENTS
	289		ANTIHYPERURICEMIC AGENTS
	409		BONE RESORPTION INHIBITORS
		217	BISPHOSPHONATES
		415	MISCELLANEOUS BONE RESORPTION INHIBITORS
999			INAPP

Pharmacologic Class Codes and Names

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

Multum Pharmacologic Classes

Codes	Class Names
901	ACNE PRODUCTS
902	ACETYLCHOLINESTERASE INHIBITOR
903	ACETYLCHOLINESTERASE INHIBITOR (CENTRAL)
909	ADRENERGIC AGONIST AGENT

Codes	Class Names
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
939	AMMONIUM DETOXICANT
943	ANALGESIC COMBINATION (OPIOID)
946	ANALGESIC, OPIOID
947	ANALGESIC NONOPIOID
951	ANALGESIC, TOPICAL
952	ANALGESIC, URINARY
953	ANALGESIC, MISCELLANEOUS
954	ANDROGEN
955	ANESTHETIC/CORTICOSTEROID
956	ANESTHETIC, TOPICAL
957	ANGIOTENSIN-CONVERTING ENZYME (ACE) INHIBITOR
958	ANGIOTENSIN II RECEPTOR BLOCKER
960	ANOREXIANT
961	ANTACID
963	ANTHELMINTIC
971	ANTIANGINAL AGENT
973	ANTIANXIETY AGENT, MISCELLANEOUS
976	ANTIARRHYTHMIC AGENT, CLASS IB
977	ANTIARRHYTHMIC AGENT, CLASS IC
978	ANTIARRHYTHMIC AGENT, CLASS II
979	ANTIARRHYTHMIC AGENT, CLASS III
980	ANTIARRHYTHMIC AGENT, CLASS IV
983	ANTIARRHYTHMIC AGENT, MISCELLANEOUS
989	ANTIBIOTIC, AMINOGLYCOSIDE
994	ANTIBIOTIC, CEPHALOSPORIN (FIRST GENERATION)
995	ANTIBIOTIC, CEPHALOSPORIN (SECOND GENERATION)
998	ANTIBIOTIC/CORTICOSTEROID, OPHTHALMIC
1000	ANTIBIOTIC CORTICOSTEROID TOPICAL
1002	ANTIBIOTIC, MACROLIDE
1004	ANTIBIOTIC, OPHTHALMIC
1005	ANTIBIOTIC, ORAL RINSE
1008	ANTIBIOTIC, PENICILLIN

Codes	Class Names
1009	ANTIBIOTIC, FLUOROQUINOLONE
1011	ANTIBIOTIC, SULFONAMIDE DERIVATIVE
1013	ANTIBIOTIC, TETRACYCLINE DERIVATIVE
1014	ANTIBIOTIC, TOPICAL
1017	ANTIBIOTIC, MISCELLANEOUS
1019	ANTICHOLINERGIC AGENT
1020	ANTICHOLINERGIC AGENT, OPHTHALMIC
1022	ANTICOAGULANT
1025	ANTICONVULSANT
1026	ANTICONVULSANT, BARBITURATE
1027	ANTICONVULSANT BENZODIAZEPINE
1029	ANTICONVULSANT, HYDANTOIN
1031	ANTICONVULSANT, SUCCINIMIDE
1032	ANTICONVULSANT, MISCELLANEOUS
1044	ANTIDEPRESSANT, ALPHA-2 ANTAGONIST
1050	ANTIDEPRESSANT, SELECTIVE SEROTONIN REUPTAKE INHIBITOR
1051	ANTIDEPRESSANT, SEROTONIN/NOREPINEPHRINE REUPTAKE INHIBITOR
1052	ANTIDEPRESSANT, SEROTONIN REUPTAKE INHIBITOR/ANTAGONIST
1057	ANTIDEPRESSANT, TRICYCLIC (SECONDARY AMINE)
1058	ANTIDEPRESSANT, TRICYCLIC (TERTIARY AMINE)
1063	ANTIDIABETIC AGENT, BIGUANIDE
1065	ANTIDIABETIC AGENT, SULFONYLUREA
1066	ANTIDIABETIC AGENT, THIAZOLIDINEDIONE
1069	ANTIDIARRHEAL
1073	CORTICOSTEROID PARENTERAL
1074	ANTIDOTE
1095	ANTIDOTE, EXTRAVASATION
1122	ANTIEMETIC
1125	ANTIFLATULENT
1126	ANTIFUNGAL AGENT, IMIDAZOLE DERIVATIVE
1130	ANTIFUNGAL AGENT, ORAL
1131	ANTIFUNGAL AGENT, ORAL NONABSORBED
1134	ANTIFUNGAL AGENT, TOPICAL
1135	ANTIFUNGAL AGENT, VAGINAL
1138	ANTIGOUT AGENT
1139	ANTIHEMOPHILIC AGENT
1156	ANTIHYPERTENSIVE
1162	ANTI-INFLAMMATORY AGENT
1169	ANTILIPEMIC AGENT, BILE ACID SEQUESTRANT
1170	ANTILIPEMIC AGENT, FIBRIC ACID

Codes	Class Names
1171	ANTILIPEMIC AGENT, HMG-COA REDUCTASE INHIBITOR
1172	ANTILIPEMIC AGENT, MISCELLANEOUS
1173	ANTIMALARIAL AGENT
1174	ANTIMANIC AGENT
1177	ANTIMIGRAINE AGENT
1181	ANTINEOPLASTIC AGENT
1189	ANTINEOPLASTIC AGENT, ANTIMETABOLITE
1195	ANTINEOPLASTIC AGENT, AROMATASE INHIBITOR
1205	ANTINEOPLASTIC AGENT, MONOCLONAL ANTIBODY
1213	ANTINEOPLASTIC AGENT, TYROSINE KINASE INHIBITOR
1216	ANTINEOPLASTIC AGENT, MISCELLANEOUS
1219	ANTI-PARKINSON'S AGENT, ANTICHOLINERGIC
1221	ANTI-PARKINSON'S AGENT, DOPAMINE AGONIST
1222	ANTI-PARKINSON AGENT, MAO TYPE B INHIBITOR
1225	ANTIPLATELET AGENT
1230	ANTIPSORIATIC AGENT
1253	ANTIRETROVIRAL, PROTEASE INHIBITOR (ANTI-HIV)
1254	ANTIRETROVIRAL, REVERSE TRANSCRIPTASE INHIBITOR, NON-NUCLEOSIDE (ANTI-HIV)
1255	ANTIRETROVIRAL, REVERSE TRANSCRIPTASE INHIBITOR, NUCLEOSIDE (ANTI-HIV)
1257	ANTIRETROVIRAL, REVERSE TRANSCRIPTASE INHIBITOR, NUCLEOTIDE (ANTI-HIV)
1259	ANTIRHEUMATIC, DISEASE MODIFYING
1260	ANTISEBORRHEIC AGENT TOPICAL
1263	ANTISPASMODIC AGENT, URINARY
1264	ANTITHYROID AGENT
1267	ANTITUBERCULAR AGENT
1268	ANTITUSSIVE
1277	ANTIVIRAL AGENT
1280	ANTIVIRAL AGENT, ORAL
1282	ANTIVIRAL AGENT, TOPICAL
1284	ASTRINGENT
1286	BARBITURATE
1289	BENZODIAZEPINE
1291	BETA-BLOCKER, BETA-1 SELECTIVE
1293	BETA-BLOCKER, NONSELECTIVE
1294	BETA-BLOCKER WITH ALPHA-BLOCKING ACTIVITY
1295	BETA BLOCKER WITH INTRINSIC SYMPATHOMIMETIC ACTIVITY
1299	BETA 2 AGONIST
1303	BIOLOGICAL, MISCELLANEOUS
1304	BIOTINIDASE DEFICIENCY TREATMENT AGENT

Codes	Class Names
1305	BISPHOSPHONATE DERIVATIVE
1307	BLOOD PRODUCT DERIVATIVE
1308	BLOOD VISCOSITY REDUCER AGENT
1313	CALCIUM CHANNEL BLOCKER
1314	CALCIUM SALT
1318	CARDIAC GLYCOSIDE
1320	CARDIOVASCULAR AGENT, MISCELLANEOUS
1326	CENTRAL NERVOUS SYSTEM DEPRESSANT
1337	CHOLINERGIC AGONIST
1343	CONTRACEPTIVE
1363	CORTICOSTEROID, INHALANT (ORAL)
1364	CORTICOSTEROID, NASAL
1365	CORTICOSTEROID, OPHTHALMIC
1367	CORTICOSTEROID, RECTAL
1369	CORTICOSTEROID, SYSTEMIC
1370	CORTICOSTEROID, TOPICAL
1379	COUGH PREPARATION
1380	DECONGESTANT
1382	DECONGESTANT/ANALGESIC
1390	DIAGNOSTIC AGENT
1428	DIETARY SUPPLEMENT
1435	DIURETIC, LOOP
1438	DIURETIC, POTASSIUM SPARING
1439	DIURETIC, THIAZIDE
1440	DIURETIC, THIAZIDE-RELATED
1443	DOPAMINE ANTAGONIST
1447	ELECTROLYTE SUPPLEMENT, ORAL
1448	ELECTROLYTE SUPPLEMENT, PARENTERAL
1449	ENZYME
1461	ERGOT DERIVATIVE
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
1492	GENITOURINARY IRRIGANT
1497	GONADOTROPIN
1504	HEMOSTATIC AGENT

Codes	Class Names
1507	HISTAMINE H 2 ANTAGONIST
1509	HOMOCYSTINURIA, TREATMENT AGENT
1510	HORMONE
1523	HYPNOTIC, MISCELLANEOUS
1528	IMMUNOSUPPRESSANT AGENT
1531	INTERFERON
1533	INTRAVENOUS NUTRITIONAL THERAPY
1534	IRON SALT
1536	KERATOLYTIC AGENT
1537	LAXATIVE
1539	LAXATIVE, BULK-PRODUCING
1543	LAXATIVE, OSMOTIC
1544	LAXATIVE, SALINE
1545	LAXATIVE, STIMULANT
1551	LEUKOTRIENE RECEPTOR ANTAGONIST
1554	LIPASE INHIBITOR
1557	LOCAL ANESTHETIC
1571	LUBRICANT, OCULAR
1576	MAGNESIUM SALT
1577	MAST CELL STABILIZER
1585	MONOCLONAL ANTIBODY
1587	MUCOLYTIC AGENT
1589	OPIOID ANTAGONIST
1597	NEUROMUSCULAR BLOCKER AGENT, TOXIN
1599	NONSTEROIDAL ANTI-INFLAMMATORY DRUG (NSAID)
1600	NONSTEROIDAL ANTI-INFLAMMATORY DRUG (NSAID), COX-2 SELECTIVE
1602	NONSTEROIDAL ANTI-INFLAMMATORY DRUG (NSAID), ORAL
1603	NONSTEROIDAL ANTI-INFLAMMATORY DRUG (NSAID), PARENTERAL
1604	NUTRITIONAL SUPPLEMENT
1607	OPHTHALMIC AGENT, ANTIGLAUCOMA
1609	OPHTHALMIC AGENT, MYDRIATIC
1611	OPHTHALMIC AGENT, TOXIN
1612	OPHTHALMIC AGENT, VASOCONSTRICTOR
1614	OPHTHALMIC AGENT, MISCELLANEOUS
1617	OTIC AGENT, ANTI-INFECTIVE
1620	OVULATION STIMULATOR
1627	PHENOTHIAZINE DERIVATIVE
1629	PHOSPHATE BINDER
1644	PROGESTIN
1646	PROSTAGLANDIN

Codes	Class Names
1647	PROSTAGLANDIN, OPHTHALMIC
1649	PROTECTANT TOPICAL
1651	PROTON PUMP INHIBITOR
1661	RETINOIC ACID DERIVATIVE
1662	RETINOID LIKE COMPOUND
1665	SALICYLATE
1670	SEDATIVE
1671	SELECTIVE ESTROGEN RECEPTOR MODULATOR (SERM)
1672	SELECTIVE 5-HT 3 RECEPTOR ANTAGONIST
1681	SKELETAL MUSCLE RELAXANT
1683	SKIN AND MUCOUS MEMBRANE AGENT
1687	SKIN AND MUCOUS MEMBRANE AGENT, MISCELLANEOUS
1688	SMOKING CESSATION AID
1690	SODIUM SALT
1691	SOMATOSTATIN ANALOG
1694	STOOL SOFTENER
1700	SYMPATHOMIMETIC
1710	THYROID PRODUCT
1712	TOPICAL SKIN PRODUCT
1713	TOPICAL SKIN PRODUCT, ACNE
1718	TRACE ELEMENT
1719	TRACE ELEMENT, PARENTERAL
1729	URICOSURIC AGENT
1742	VASODILATOR
1750	VITAMIN
1752	VITAMIN D ANALOG
1753	VITAMIN, FAT SOLUBLE
1756	VITAMIN, WATER SOLUBLE
1757	XANTHINE OXIDASE INHIBITOR
1762	SEROTONIN 5-HT 1B, 1D RECEPTOR AGONIST
1765	CENTRAL NERVOUS SYSTEM STIMULANT
1768	HISTAMINE H 1 ANTAGONIST
1770	ANTINEOPLASTIC AGENT, ESTROGEN RECEPTOR ANTAGONIST
1778	SEROTONIN 5 HT 4 RECEPTOR AGONIST
1779	5 ALPHA-REDUCTASE INHIBITOR
1781	ANTILIPEMIC AGENT, 2-AZETIDINONE
1808	MONOCLONAL ANTIBODY, ANTI-ASTHMATIC
1810	N-METHYL-D-ASPARTATE RECEPTOR ANTAGONIST
1811	PHOSPHODIESTERASE-5 ENZYME INHIBITOR
1814	GONADOTROPIN RELEASING HORMONE AGONIST

Codes	Class Names
1816	VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF) INHIBITOR
1820	ANTIRHEUMATIC, MISCELLANEOUS
1822	ANTINEOPLASTIC AGENT, ANTIMETABOLITE (ANTIFOLATE)
1824	SUBSTITUTED BENZIMIDAZOLE
1825	ANTISEPTIC, TOPICAL
1827	SECOND GENERATION (ATYPICAL) ANTIPSYCHOTIC
1828	FIRST GENERATION (TYPICAL) ANTIPSYCHOTIC
1830	AMINO ACID
1831	TUMOR NECROSIS FACTOR (TNF) BLOCKING AGENT
1833	MONOCLONAL ANTIBODY, SELECTIVE ADHESION-MOLECULE INHIBITOR
37021	PROBIOTIC
80421	ANTIVIRAL AGENT ADAMANTANE
309141	ANTIBIOTIC, LINCOSAMIDE
362681	ANGIOGENESIS INHIBITOR
369641	INSULIN, SHORT-ACTING
369942	INSULIN, INTERMEDIATE-ACTING
369943	INSULIN, LONG-ACTING
370141	INSULIN, RAPID-ACTING
486288	CHLORIDE CHANNEL ACTIVATOR
512625	PARTIAL NICOTINE AGONIST
515063	IMIDAZOLINE DERIVATIVE
580286	ANTIDIABETIC AGENT, DIPEPTIDYL PEPTIDASE IV (DPP-IV) INHIBITOR
787021	IRRIGANT
923978	ANTINEOPLASTIC AGENT, GONADOTROPIN-RELEASING HORMONE AGONIST
944618	ANTIRETROVIRAL, CCR5 ANTAGONIST (ANTI-HIV)
996578	ANTIRETROVIRAL, INTEGRASE INHIBITOR (ANTI-HIV)
996698	ANTINEOPLASTIC AGENT, ANTIMETABOLITE (PYRIMIDINE ANALOG)
1035979	ANILIDOPIPERIDINE OPIOID
1154061	RESCUE AGENT (CHEMOTHERAPY)
1154062	CHEMOTHERAPY MODULATING AGENT
1160459	BETA 2 -ADRENERGIC AGONIST, LONG-ACTING
1160479	BETA 2 AGONIST, LONG-ACTING
1163619	NONSTEROIDAL ANTI-INFLAMMATORY DRUG (NSAID), TOPICAL
1177583	HISTAMINE H 1 ANTAGONIST, SECOND GENERATION
1177584	HISTAMINE H 1 ANTAGONIST, FIRST GENERATION
1191179	VASODILATOR, DIRECT-ACTING
1274399	IMMUNOMODULATOR, SYSTEMIC
1284841	HISTONE DEACETYLASE INHIBITOR
1305420	PROTHROMBIN COMPLEX CONCENTRATE PCC

Codes	Class Names
1652446	INTERLEUKIN-12 INHIBITOR
1652447	INTERLEUKIN-23 INHIBITOR
1797079	CALCIUM CHANNEL BLOCKER, NONDIHYDROPYRIDINE
1797080	CALCIUM CHANNEL BLOCKER, DIHYDROPYRIDINE
1801719	CALCINEURIN INHIBITOR
1826674	ANTIPLATELET AGENT, THIENOPYRIDINE
2148013	ANTIDIABETIC AGENT, GLUCAGON-LIKE PEPTIDE-1 (GLP-1) RECEPTOR AGONIST
2759759	ANTI-PARKINSON'S AGENT, DECARBOXYLASE INHIBITOR
2759760	ANTI-PARKINSON'S AGENT, DOPAMINE PRECURSOR
2792400	ANTINEOPLASTIC AGENT, ANTIMETABOLITE (PURINE ANALOG)
2807279	TRANSIENT RECEPTOR POTENTIAL VANILLOID 1 (TRPV1) AGONIST
2952225	ALKYLAMINE DERIVATIVE
2952299	ETHANOLAMINE DERIVATIVE
2952340	PIPERAZINE DERIVATIVE
2952559	PIPERIDINE DERIVATIVE
2965759	FIBER SUPPLEMENT
2988377	ANALGESIC, OPIOID PARTIAL AGONIST
3015214	ANTIDEPRESSANT, SELECTIVE SEROTONIN REUPTAKE INHIBITOR/5-HT 1A RECEPTOR PARTIAL AGONIST
3020979	PHOSPHODIESTERASE-4 ENZYME INHIBITOR
3451903	BONE-MODIFYING AGENT
3501084	GABA ANALOG
3509782	ALPHA-ADRENERGIC AGONIST
3560984	JANUS ASSOCIATED KINASE INHIBITOR
3561022	ANTINEOPLASTIC AGENT, JANUS ASSOCIATED KINASE INHIBITOR
3819764	BETA 3 AGONIST
3861322	PHOSPHODIESTERASE ENZYME INHIBITOR, NONSELECTIVE
3964448	PYRIMIDINE SYNTHESIS INHIBITOR
3974202	ANTILIPEMIC AGENT, OMEGA-3 FATTY ACIDS
3988862	ANTICHOLINERGIC AGENT, LONG-ACTING
4081282	ANTINEOPLASTIC AGENT, VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF) INHIBITOR
4230723	SODIUM-GLUCOSE COTRANSPORTER 2 (SGLT2) INHIBITOR
4230724	ANTIDIABETIC AGENT, SODIUM-GLUCOSE COTRANSPORTER 2 (SGLT2) INHIBITOR
4230742	FUMARIC ACID DERIVATIVE
4472403	STEROID SYNTHETIC
4496663	CARBONIC ANHYDRASE INHIBITOR (OPHTHALMIC)
4649822	ANTIHEMORRHOIDAL AGENT
4720802	SEROTONIN 5-HT1A RECEPTOR AGONIST
4720803	SEROTONIN 5-HT3 RECEPTOR ANTAGONIST

Codes	Class Names
4857382	ANTIHEPADNAVIRAL, REVERSE TRANSCRIPTASE INHIBITOR, NUCLEOSIDE (ANTI-HBV)
4984762	MELATONIN RECEPTOR AGONIST
5002622	ANTICOAGULANT, FACTOR XA INHIBITOR
5002623	ANTICOAGULANT, VITAMIN K ANTAGONIST
5002625	ANTICOAGULANT, DIRECT THROMBIN INHIBITOR
5035166	ANTINEOPLASTIC AGENT, RETINOIC ACID DERIVATIVE
5251182	MEDICAL FOOD
5357662	ANTIDEPRESSANT, DOPAMINE/NOREPINEPHRINE-REUPTAKE INHIBITOR
5386202	ANTIDIABETIC AGENT, MEGLITINIDE ANALOG
5585170	MINERALOCORTICOID (ALDOSTERONE) RECEPTOR ANTAGONISTS
5725054	NEPRILYSIN INHIBITOR
5750863	ANTILIPEMIC AGENT, PCSK9 INHIBITOR
5944943	ANTINEOPLASTIC AGENT, PROTEASOME INHIBITOR
6004244	ANTIFUNGAL AGENT ORAL NONABSORBED PARTIALLY ABSORBED
6024732	DIRECT ORAL ANTICOAGULANT DOAC
6037265	ANTINEOPLASTIC AGENT ANTI PD L1 MONOCLONAL ANTIBODY
6038802	ANTINEOPLASTIC AGENT IMMUNE CHECKPOINT INHIBITOR
6433523	GUANYLATE CYCLASE C GC C AGONIST
6517106	RIFAMYCIN
6623184	ELECTROLYTE REPLACEMENT ORAL
6623192	REHYDRATION ORAL
6790404	CANNABINOID
6859832	IRON PREPARATIONS
6917926	P2Y12 ANTAGONIST
7014187	JANUS KINASE INHIBITOR
7218983	NONBENZODIAZEPINE BENZODIAZEPINE RECEPTOR ANTAGONIST
9999999	INAPP

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

This Appendix contains two lists of codes representing reasons why participants think they are taking medications reported on the Medication Chart. The list of modified ICD-10 (__ICD10M) codes and category names is presented first and then the list of MIDUS (__MDC) codes and category names. See Section E above for details about the coding process.

Modified ICD-10 Codes and Labels

The ICD10 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 CODE	ICD10 CODE LABEL	Key Words/Common Responses
A15	RESPIRATORY TUBERCULOSIS	tuberculosis
A37	WHOOPING COUGH	Whooping cough, pertussis
B00	HERPESVIRAL [HERPES SIMPLEX] INFECTIONS	Herpes, cold sores
B02	ZOSTER [HERPES ZOSTER]	Shingles
B07	VIRAL WARTS	Warts
B20	HUMAN IMMUNODEFICIENCY VIRUS [HIV] DISEASE	HIV, AIDS
B34	VIRAL INFECTION OF UNSPECIFIED SITE	Anti-viral, viral infection
B35	DERMATOPHYTOSIS	Athlete's foot, toe nail fungus, fungal infection, ringworm
B37	CANDIDIASIS	Yeast infection
B86	SCABIES	Scabies, sarcoptic mange
B96	OTHER BACTERIAL AGENTS AS THE CAUSE OF DISEASES CLASSIFIED ELSEWHERE	H. pylori, E. coli, Pseudomonas, B. fragilis
B99	OTHER AND UNSPECIFIED INFECTIOUS DISEASES	Other infectious disease
C15	MALIGNANT NEOPLASM OF ESOPHAGUS	Esophagus cancer
C44	OTHER AND UNSPECIFIED MALIGNANT NEOPLASM OF SKIN	Skin cancer

ICD10 CODE	ICD10 CODE LABEL	Key Words/Common Responses
C50	MALIGNANT NEOPLASM OF BREAST	Breast cancer
C61	MALIGNANT NEOPLASM OF PROSTATE	Prostate cancer
C67	MALIGNANT NEOPLASM OF BLADDER	Bladder cancer
C71	MALIGNANT NEOPLASM OF BRAIN	Brain tumor
C7A	MALIGNANT NEUROENDOCRINE TUMORS	Neuroendocrine carcinoid cancer
C80	MALIGNANT NEOPLASM WITHOUT SPECIFICATION OF SITE	Cancer non-specific
C92	ACUTE MYELOBLASTIC LEUKEMIA	Leukemia
D15	BENIGN NEOPLASM OF OTHER AND UNSPECIFIED INTRATHORACIC ORGANS	Thymoma
D25	LEIOMYOMA OF UTERUS	Fibroids, myoma of uterus
D50	IRON DEFICIENCY ANEMIA	Iron deficiency anemia
D51	VITAMIN B12 DEFICIENCY ANEMIA	Pernicious anemia
D64	OTHER ANEMIAS	Anemia
D69	PURPURA AND OTHER HEMORRHAGIC CONDITIONS	Low platelet count
D73	DISEASES OF SPLEEN	Splenomegaly, hypersplenism, splenic rupture
D75	OTHER AND UNSPECIFIED DISEASES OF BLOOD AND BLOOD-FORMING ORGANS	High platelet
D86	SARCOIDOSIS	Sarcoidosis
E01	IODINE-DEFICIENCY RELATED THYROID DISORDER AND ALLIED CONDITIONS	Iodine deficiency
E03	OTHER HYPOTHYROIDISM	Hypothyroidism, thyroiditis
E04	OTHER NONTOXIC GOITER	Goiters-thyroid med, keeps goiters away
E05	THYROTOXICOSIS (HYPERTHYROIDISM)	Grave's disease
E07	OTHER DISORDERS OF THYROID	Thyroid hormone, 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

ICD10 CODE	ICD10 CODE LABEL	Key Words/Common Responses
E27	OTHER DISORDERS OF ADRENAL GLAND	Adrenal gland disorder, adrenal gland dysfunction
E28	OVARIAN DYSFUNCTION	Polycystic ovarian syndrome
E29	TESTICULAR DYSFUNCTION	Low testosterone levels
E34	OTHER ENDOCRINE DISORDERS	Imbalance in endocrine system
E53	DEFICIENCY OF OTHER B GROUP VITAMINS	Low B12
E54	ASCORBIC ACID DEFICIENCY	Vitamin C deficiency
E55	VITAMIN D DEFICIENCY	Rickets, low vitamin D, vitamin D deficiency
E56	OTHER VITAMIN DEFICIENCY	Other vitamin deficiencies
E58	DIETARY CALCIUM DEFICIENCY	Calcium deficiency
E61	DEFICIENCY OF OTHER NUTRIENT ELEMENTS	Magnesium supplement, reduce phosphate, supplement iron
E78	DISORDERS OF LIPOPROTEIN METABOLISM AND OTHER LIPIDEMIAS	High cholesterol, hyperlipidemia, high neutral lipid
E79	DISORDERS OF PRINE AND PYRIMIDINE METABOLISM	High uric acid, hyperuricemia
E87	OTHER DISORDERS OF FLUID, ELECTROLYTE AND ACID-BASE BALANCE	Low potassium, hypokalemia
F10	ALCOHOL RELATED DISORDERS	Preventing craving alcohol
F11	OPIOID RELATED DISORDERS	Heroin or opioid addiction maintenance
F17	NICOTINE DEPENDENCE	Smoking cessation
F20	SCHIZOPHRENIA	Schizophrenia
F22	DELUSIONAL DISORDERS	Hallucinations, paranoia, symptoms of delusion
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 (single episode)
F33	MAJOR DEPRESSIVE DISORDER, RECURRENT	Depression, anti-depressant (recurrent)
F39	UNSPECIFIED MOOD DISORDER	Mood swings
F41	OTHER ANXIETY DISORDER	Tranquilizer, stay calm, anxiety, nervousness, stabilizer

ICD10 CODE	ICD10 CODE LABEL	Key Words/Common Responses
F43	REACTION TO SEVERE STRESS, AND ADJUSTMENT DISORDERS	Stress, PTSD
F90	ATTENTION-DEFICIT HYPERACTIVITY DISORDER	ADD, ADHD
G04	ENCEPHALITIS, MYELITIS AND ENCEPHALOMYELITIS	Myelitis
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
G47	SLEEP DISORDERS	Narcolepsy, insomnia, sleep aid
G50	DISORDERS OF TRIGEMINAL NERVE	Trigeminal neuralgia
G56	MONONEUROPHTHIES OF UPPER LIMB	Carpal tunnel syndrome
G64	OTHER DISORDERS OF PERIPHERAL NERVOUS SYSTEM	Disorders of peripheral nerve, improvement of peripheral nervous system
G70	MYASTHENIA GRAIVS AND OTHER MYONEURAL DISORDERS	Myasthenia gravis
G89	PAIN, NOT ELSEWHERE CLASSIFIED	Pain, pain in multiple locations
G90	DISORDERS OF AUTONOMIC NERVOUS SYSTEM	Neuropathy in heart
G96	OTHER DISORDERS OF CENTRAL NERVOUS SYSTEM	Neurological problems
H00	HORDEOLUM AND CHALAZION	Sty
H01	OTHER INFLAMMATION OF EYELID	Inflammation of eye, itchy eyes
H04	DISORDERS OF LACRIMAL SYSTEM	Dry eyes, lacrimal gland disorder
H10	CONJUNCTIVITIS	Eye infection
H16	KERATITIS	Ulcer in eye

ICD10 CODE	ICD10 CODE LABEL	Key Words/Common Responses
H18	OTHER DISORDERS OF CORNEA	Corneal problem
H25	AGE-RELATED CATARACT	Cataract
H33	RETINAL DETACHMENTS AND BREAKS	Retinal detachment
H35	OTHER RETINAL DISORDERS	Macular degeneration
H40	GLAUCOMA	Glaucoma, pressure in eye, lower ocular pressure
H61	OTHER DISORDERS OF EXTERNAL EAR	Ear wax buildup
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
I21	ACUTE MYOCARDIAL INFARCT	Myocardial infarction, cardiac infarction
I25	CHRONIC ISCHEMIC HEART DISEASE	Arterial sclerosis
I26	PULMONARY EMBOLISM	Heart pulmonary embolism
I34	NONHEUMATIC 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-DEFIEND DESCRIPTIONS OF HEART DISEASE	Cardiac disease, heart dilation, dysraphism of aortic valve
I61	NONTRAUMATIC INTRACEREBRAL HEMORRHAGE	Intracerebral hemorrhage, brain hemorrhage
I63	CEREBRAL INFARCTION	Cerebral infarction, cerebral thrombosis
I67	OTHER CEREBROVASCULAR DISEASES	Aneurysm
I70	ATHEROSCLEROSIS	Atherosclerosis

ICD10 CODE	ICD10 CODE LABEL	Key Words/Common Responses
I71	AORTIC ANEURYSM AND DISSECTION	Aortic aneurysm
I73	OTHER PERIPHERAL VASCULAR DISEASE	Raynaud's syndrome
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
I95	HYPOTENSION	Low blood pressure
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 POLYPS	Polyps in sinus
J34	OTHER AND UNSPECIFIED DISORDERS OF NOSE AND NASAL SINUSES	Deviated septum
J40	BRONCHITIS, NOT SPECIFIED AS ACUTE OR CHRONIC	Bronchitis
J43	EMPHYSEMA	Emphysema
J44	OTHER CHRONIC OBSTRUCTIVE PULMONARY DISEASE	COPD
J45	ASTHMA	Asthma
J84	OTHER INTERSTITIAL PULMONARY DISEASES	Repair damage to lung
J98	OTHER RESPIRATORY DISORDERS	Bronchial spasm prevention
K01	EMBEDDED AND IMPACTED TEETH	Extracted teeth, toothache
K02	DENTAL CARIES	Treatment for a tooth
K04	DISEASES OF PULP AND PERIAPICAL TISSUES	Dental abscess

ICD10 CODE	ICD10 CODE LABEL	Key Words/Common Responses
K05	GINGIVITIS AND PERIODONTAL DISEASES	Gum disease/problems
K09	CYSTS OF ORAL REGION, NOT ELSEWHERE CLASSIFIED	Root canal, root canal infection
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, gastritis, 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
K29	GASTRITIS AND DUODENITIS	Gastritis, duodenitis, inflammation of stomach
K30	FUNCTIONAL DYSPEPSIA	Dyspepsia, indigestion
K31	OTHER DISEASES OF STOMACH AND DEUDENUM	Gastric hyperacidity, neutralize/reduce gastric acid
K41	FEMORAL HERNIA	Hernia, Femoral
K42	UMBILICAL HERNIA	Hernia, Umbilical
K43	VENTRAL HERNIA	Hernia, Ventral
K44	DISPHRAGMATIC HERNIA	Hernia, High hiatal
K45	OTHER ABDOMINAL HERNIA	Hernia, other abdominal
K46	UNSPECIFIED ABDOMINAL HERNIA	Hernia, unspecified
K50	CROHN’S DISEASE [REGIONAL ENTERITIS]	Crohn's disease
K51	ULCERATIVE COLITIS	Inflammatory bowel, proctitis
K52	OTHER AND UNSPECIFIED NONINFECTIVE GASTROENTERITIS AND COLITIS	Colitis, gastroenteritis, inflammation of intestines
K57	DIVERTICULAR DISEASE OF INTESTINE	Diverticulitis
K58	IRRITABLE BOWEL SYNDROME	Irritable bowel

ICD10 CODE	ICD10 CODE LABEL	Key Words/Common Responses
K59	OTHER FUNCTIONAL INTESTINAL DISORDERS	Constipation, bowel movement, intestinal disorer
K63	OTHER DISEASES OF INTESTINE	Colon polyp
K64	HEMORRHOIDS AND PERIANAL VENOUS THROMBOSIS	Hemorrhoids
K74	FIBROSIS AND CIRRHOSIS OF LIVER	Primary biliary cirrhosis
K76	OTHER DISEASES OF LIVER	Liver disease
K80	CHOLELITHIASIS	Gall stone
K82	OTHER DISEASES OF GALLBLADDER	Gallbladder polyp
K90	INTESTINAL MALABSORPTION	Celiac disease nutrition
K92	GASTROINTESTINAL HEMORRHAGE	Abdominal bleeding
L03	CELLULITIS AND ACUTE LYMPHANGITIS	Cellulitis
L20	ATOPIC DERMATITIS	Atopic dermatitis
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	Skin palmoplantar pustulosis, psoriasis
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
L74	ECCRINE SWEAT DISORDERS	Miliaria
L89	PRESSURE ULCER	Sores in ears (hearing aid)
L90	ATROPHIC DISORDERS OF SKIN	Lichen (unspecified), scar
L91	HYPERTROPHIC DISORDERS OF SKIN	Reduce keloidosis

ICD10 CODE	ICD10 CODE LABEL	Key Words/Common Responses
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
M10	GOUT	Gout
M13	OTHER ARTHRITIS	Arthritis, arthritis pain
M19	OTHER AND UNSPECIFIED OSTEOARTHRITIS	Osteoarthritis
M25	OTHER JOINT DISORDER, NOT ELSEWHERE CLASSIFIED	Knee, shoulder, joint etc. pain or problem, arthralgia
M26	DENTOFACIAL ANOMALIES	Temporomandibular joint disorders, TMJ
M31	OTHER NECROTIZING VASCULOPATHIES	Wegener's disease
M32	SYSTEMIC LUPUS ERYTHEMATOSUS	Lupus in kidney, lupus (systemic)
M35	OTHER SYSTEMIC INVOLVEMENT OF CONNECTIVE TISSUE	Autoimmune disease
M45	ANKYLOSING SPONDYLITIS	Ankylosing spondylitis
M47	SPONDYLOSIS	Undifferentiated spondyloarthropathy
M48	OTHER SPONDYLOPATHIES	Lumbar canal stenosis
M51	THORACIC, THORACOLUMBAR, AND LUMBOSACRAL INTERVERTEBRAL DISC DISORDERS	Degenerative spine condition
M54	DORSALGIA	Cervical vertebra pain, pinched nerve, neck pain
M62	OTHER DISORDERS OF MUSCLE	Muscle spasm, back spasms
M70	SOFT TISSUE DISORDERS RELATED TO USE, OVERUSE AND PRESSURE	Bursitis
M75	SHOULDER LESIONS	Torn rotator cuff
M79	OTHER AND UNSPECIFIED SOFT TISSUE DISORDERS, NOT ELSEWHERE CLASSIFIED	Sore muscles, leg pain/cramps, muscle constriction, rheumatism, nerve damage
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 STRUCTURE	Osteopenia, pain in bone, low bone density

ICD10 CODE	ICD10 CODE LABEL	Key Words/Common Responses
M86	OSTEOMYELITIS	Osteomyelitis
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 dysfuction
N64	OTHER DISORDERS OF BREAST	Breast pain
N76	OTHER INFLAMMATION OF VAGINA AND VULVA	Vaginitis
N92	EXCESSIVE, FREQUENT AND IRREGULAR MENSTRUATION	Irregular period
N94	PAIN AND OTHER CONDITIONS ASSOCIATED WITH FEMALE GENITAL ORGANS AND MENSTRUAL CYCLE	Menstrual pain, dysmenorrhea, premenstrual tension
N95	MENOPAUSAL AND OTHER PERIMENOPAUSAL DISORDERS	Menopausal disorder, balancing hormones, stabilizer for menopause, menopause
N97	FEMALE INFERTILITY	Fertility, prepare uterus
Q21	CONGENITAL MALFORMATIONS OF CARDIAC SEPTA	Foramen ovale
Q61	CYSTIC KIDNEY DISEASE	Polycystic kidney disease
R01	CARDIAC MURMURS AND OTHER CARDIAC SOUNDS	Heart murmur
R06	ABNORMALITIES OF BREATHING	Difficulty breathing, short breath
R07	PAIN IN THROAT AND CHEST	Chest tightness, sore throat

ICD10 CODE	ICD10 CODE LABEL	Key Words/Common Responses
R09	OTHER SYMPTOMS AND SIGNS INVOLVING THE CIRCULATORY AND RESPIRATORY SYSTEM	Loosen phlegm, drippy/clogged nose, runny nose
R10	UNSPECIFIED ABDOMINAL PAIN	Stomach spasm, stomach cramp/pain, groin pain
R11	NAUSEA AND VOMITING	Nausea, vomiting
R12	HEARTBURN	Heartburn
R14	FLATULENCE AND RELATED CONDITIONS	Gassy
R19	OTHER SYMPTOMS AND SIGNS INVOLVING THE DIGESTIVE SYSTEM AND ABDOMEN	Diarrhea
R20	DISTURBANCES OF SKIN SENSATION	Sensitive to cold, numbness of feet/finger/legs
R21	RASH AND OTHER NONSPECIFIC SKIN ERUPTION	Rash
R22	LOCALIZED SWELLING, MASS AND LUMP OF SKIN AND SUBCUTANEOUS TISSUE	Swelling
R23	OTHER SKIN CHANGES	Blisters
R25	ABNORMAL INVOLUNTARY MOVEMENT	Tremor
R41	OTHER SYMPTOMS AND SIGNS INVOLVING COGNITIVE FUNCTIONS AND AWARENESS	Memory problem
R42	DIZZINESS AND GIDDINESS	Giddy, dizzy, vertigo (if not ear related)
R51	HEADACHE	Headache
R55	SYNCOPE AND COLLAPSE	Vas-vagal syncope
R60	EDEMA, NOT ELSEWHERE CLASSIFIED	Edema
R61	GENERALIZED HYPERHIDROSIS	Nightswweats
R63	SYMPTOMS AND SIGNS CONCERNING FOOD AND FLUID INTAKE	Anorexia, weight loss, appetite suppressant
R65	SYMPTOMS AND SIGNS SPECIFICALLY ASSOCIATED WITH SYSTEMIC INFLAMMATION AND INFECTION	Inflammation, infection (non-specific)
R68	OTHER GENERAL SYMPTOMS AND SIGNS	Dry mouth, tendonitis of jaw
R73	ELEVATED BLOOD GLUCOSE LEVEL	High blood sugar
R76	OTHER ABNORMAL IMMUNOLOGICAL FINDING IN SERUM	Positive TB test
S05	INJURY OF EYE AND ORBIT	Eye injury

ICD10 CODE	ICD10 CODE LABEL	Key Words/Common Responses
S32	FRACTURE OF LUMBAR SPINE AND PELVIS	Broken back bone
T39	POISONING BY, ADVERSE EFFECT OF AND UNDERDOSING OF NONOPIOID ANALGESIC, ANTIPYRETICS AND ANTIHEUMATICS	Counteract Naproxen
T70	EFFECTS OF AIR PRESSURE AND WATER PRESSURE	Altitude sickness
T75	OTHER AND UNSPECIFIED EFFECTS OF OTHER EXTERNAL CAUSES	Motion sickness
T78	ADVERSE EFFECTS, NOT ELSEWHERE CLASSIFIED	Allergy (non-specific)
T82	COMPLICATIONS OF CARDIAC AND VASCULAR PROSTHETIC DEVICES, IMPLANTS AND GRAFTS	Stent
Z91	PERSONAL RISK FACTORS, NOT ELSEWHERE CLASSIFIED	Food allergy
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 an "M" followed by a 4-digit numeric code. The exception is the codes for Unable to Classify, Don't Know, Missing, and INAPP which begin with a "Z" and the usual missing value codes.

MIDUS CODE	MIDUS CODE LABEL	Key words/Common Phrases
M1000	GENERAL HEALTH	Health, for health, maintain health
M1010	IMPROVE HEALTH	Improve health, strengthen the system, for healing, recovery from (cancer, surgery, etc.), getting better
M1020	ENERGY	Gives me a boost, when feel run down, increase energy, improve drive, when tired
M1030	GENERAL HEALTH, OTHERS	Beauty, aging, stay younger, detox, cleanse body
M1040	GENERAL HEALTH, PREVENTIVE	Preventive, prevention, prevent potential sickness
M2000	SUPPLEMENT	Supplement (just the word)
M2010	VITAMIN SUPPLEMENT	Lacking vitamins, to supply vitamins, get balance of vitamins
M2020	CALCIUM SUPPLEMENT	Calcium, need more calcium, don't drink milk
M2030	DIETARY SUPPLEMENT	Supplement diet, balance diet needs
M2040	ENSURE NUTRITIONAL INTAKES	Nutrient fortification, add nutrients, balance nutrition
M2050	POOR DIET	Diet, don't always eat well, dietary reasons
M2060	ANTIOXIDANT	Antioxidants, help with free radicals,
M2070	SUPPLEMENT, OTHERS	Iron pill, resupply iron, omega 3, fiber, probiotics
M3010	CARDIOVASCULAR HEALTH	Heart health, good for heart, cardiovascular health
M3011	CARDIOVASCULAR HEALTH, PREVENTIVE	Cardiac family history, prevent clots/stroke/heart attack/atherosclerosis
M3012	CARDIOVASCULAR HEALTH, BLOOD THINNER	Blood thinner
M3013	CARDIOVASCULAR HEALTH, OTHERS	Improve blood circulation, neutral fat,
M3020	MUSCULOSKELETAL HEALTH	Bone health, because of broken bones, health leg and hip
M3021	BONE STRENGTH/DENSITY	Bone strength/density/loss/mass
M3022	JOINT HEALTH	Healthy joints, good for bones-joints, maintain bone and joint health
M3023	MUSCULOSKELETAL HEALTH, PREVENTIVE	Prevent bone loss, prevent osteoporosis
M3024	MUSCULOSKELETAL HEALTH, OTHERS	Repair muscles, get older legs weaken, bone/muscle
M3030	DIGESTIVE HEALTH	Digestion, break down food, help digest food, condition of my stomach
M3031	INTESTINAL/COLON HEALTH	Colon health, cleans out colon, regularity, to condition intestinal functions

MIDUS CODE	MIDUS CODE LABEL	Key words/Common Phrases
M3032	STOMACH ACID	Stomach acid
M3040	PROSTATE HEALTH	Prostate health, prostate gland, prostate problem,
M3050	EYE HEALTH	Eye health, good for eyes, nutrients for eyes, tired eyes, eye problem, uveal tract
M3060	BRAIN HEALTH	Boost cognitive abilities, memory, good for your brain, brain health, brain function, avoid senile brain
M3070	IMMUNE HEALTH	Boost/support immune system, beneficial for immune system,
M3071	PREVENT COLDS	Prevent catching cold, improve sensitivity to colds
M3072	IMMUNOSUPRESSION	Immunosuppressant, immunosuppressant after kidney transplant
M3080	INTEGUMENT HEALTH	Hair/Skin/Nail health, dry skin/hair, for skin, to avoid tanning/sunburn, liver spot, rough hands
M3090	OTHER TARGETED HEALTH	Low frequency reasons that cannot be assigned elsewhere (e.g. Multiple organ/system support (i.e. eye & bone, prevent cancer and strokes), bladder protection, protect liver from alcohol, liver, chronic illness)
M4010	MD RECOMMEND	Doctor suggested/prescribed/recommended/ "told me to"
M4020	GOOD FOR YOU/ME	Good for me/you, everyone says it's a good idea, healthy thing to do, heard it's good for you, saw on TV etc.
M4030	FAMILY/FRIEND RECOMMEND	Friend, family member, mother, etc. recommended it, spouse puts it out
M5000	WEIGHT LOSS	Lose weight, weight management, diet plan pills
M5100	STRESS	For stress, helps with stress
M5200	CONTRACEPTION	Birth Control, prevent pregnancy
M5300	COUNTER/PREVENT DRUG SIDE EFFECTS	Counter the affects of statin, prevent side effect of Lipitor, help with side effects of atorvastatin, etc.
Z9996	UNABLE TO CLASSIFY	
Z9997	DON'T KNOW	
Z9998	MISSING	
Z9999	INAPP	