

DOCUMENTATION
for
MIDJA 1
CLINIC VISIT
DATA COLLECTION
PROTOCOLS

University of Wisconsin ♦ Institute on Aging
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INTRODUCTION

This document provides an overview of the data collection protocols implemented at the Clinic Visit for the MIDJA 1 Biomarker Protocol. It describes the protocols for assessment of vital signs and morphometrics, collecting and processing tissue samples, and also provides information about the construction and usage of related administrative and constructed variables. In addition, it contains descriptions of the biomarker assay methods including details about assay ranges, reference ranges, and inter-, and intra- assay covariation.

Data users are also encouraged to review the MIDJA 1 Biomarker DataFile Notes.doc. This document provides information about naming conventions, administrative and filter variables, and the order in which variables appear 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.

This document will be periodically revised and updated as more information is gathered, and researchers continue to work with the MIDJA 1 Biomarker data. If there are suggestions or comments, please contact midus_help@aging.wisc.edu.

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SECTION A

OVERVIEW OF DATA FILE AND COLLECTION PROTOCOLS

OVERVIEW OF DATA AND COLLECTION PROTOCOLS

The MIDJA Biomarker clinic visit includes collection of:

- Vital signs and morphometrics:
 - blood pressure
 - height, weight, waist and hip
- Blood samples for biomarker assay
- Medication data

As described in “MIDJA Biomarker Data File Notes”, the naming convention organizes variables according to the data type or method used for data collection. The variable names for the Clinic Visit data, unless otherwise noted below, begin with the unique 3 character set “J2C”.

The remainder of this section provides some administrative details as well as an overview of the following sections.

Vital Signs & Morphometrics

A copy of the form completed during the clinic visit appears in Section B. This section also includes detailed instructions for obtaining vital signs and morphometrics according to the same protocols for collecting the corresponding data in the MIDUS Biomarker study.

Blood Assays

The blood samples allow for assessment of multiple indicators within the following major systems as follows:

- *Cardiovascular*: Cholesterol Panel (Total, HDL), Glycosylated Hemoglobin (HA1c)
- *Neuroendocrine*: DHEA, DHEA-S, Creatinine
- *Inflammatory*: CRP(C-Reactive Protein), IL6 (InterLeukin 6), sIL6r (soluble IL-6 receptor), Fibrinogen

Blood samples were collected and processed into fresh and frozen aliquots using standardized protocols. Details about these protocols appear in Section C. The aliquots were then sent to Syowa Medical Service Co. LTD, in Tokyo, Japan (SMS) for further processing and some assays as follows:

- Fresh aliquots are assayed by SMS for:
 - Glycosylated hemoglobin (HA1c) – this MIDUS biomarker requires whole blood that is fresh or has been refrigerated for just a few days thus it is conducted in Japan.
 - Life Style Assessments – these are routine tests performed as a part of clinic visits in Japan and include: tests of cholesterol, HDL and LDL cholesterol, tryglycerides, liver function (GPT, gamma GPT, GOT), kidney function (BUN, uric acid), blood glucose, and anemia (e.g. red cell count, hematocrit).
- Frozen aliquots were packaged and shipped to the MIDUS BioCore lab at the University of Wisconsin. Samples were shipped to the U.S. so they could be assayed at the same labs that were used for MIDUS biomarker assays.

Details about the methods used to assay the tissue samples appear in Section D. This section includes details about assay method and sensitivity for inclusion in manuscripts, as well as information about any changes in assay method and subsequent corrections to the data. Assays corresponding to MIDUS measures are listed first followed by the Lifestyle assays done at the Syowa Laboratory in Tokyo. A table summarizing assay ranges, reference ranges, and

intra- and inter-assay co-variation appears at the end of this section.

Please also note the following:

- Variable names for assays performed in the U.S begin with the unique 3 character set “J2B”.
- Although saliva samples are collected at home details about the saliva cortisol assay and sensitivity are also include in Section D.
- Variable names for the saliva data begin with the unique 3 character set “J2S”.

Medication Data

Participants are instructed to bring medications or information about medications to the clinic visit. At the end of the visit staff record medication names, dosage, route of administration, frequency, how long the participant has been taking the medication and why they think they are taking it. A copy of the form used to collect this information and additional details about data collection and processing are included in Section E along with details about the structure of the data and basic processing.

MIDJA medication data are also processed (i.e. reasons for taking medications are coded, therapeutic and pharmacologic class codes are added) according to a standardized set of procedures developed with the MIDUS Biomarker Medication data. ***These protocols are described in a separate document that applies to data from both studies. (See Documentation for MIDUS and MIDJA Medication Data).***

SECTION B

CLINIC VISIT FORM AND INSTRUCTIONS

CLINIC VISIT RECORD FORM

#ID _____

DATE _____

NAME _____

◆ Record of Last Meal :

When did you have a meal last time?

DATE: _____ TIME: _____

◆ Record of Body Measurement :

HEIGHT (cm)	WEIGHT (kg)

WAIST (cm)	ABDOMINAL GIRTH (cm)	HIP (cm)

BLOOD PRESSURE 1 (high/low)	BLOOD PRESSURE 2 (high/low)	BLOOD PRESSURE 3 (high/low)

◆ Blood Sample :

① Took blood → ☐ Yes ☐ No

(Reason : _____)

② Date and time of taking blood → Date: _____, Time: _____

Data Collection Protocols: Vital Signs and Morphometrics

The following provides a general overview of the steps completed by project staff to obtain the indicated measurements. More detailed instructions are provided at item B, below as appropriate.

A. General Instructions:

1. *Hip and Waist:* measured using a Gulik II Tape measure according to the detailed according to the instructions below
2. *Weight and Height:*
 - a. For weight measurement, participants should take off their shoes and empty their pockets.
 - b. They do not have to take off any other clothing.
3. *Blood Pressure:*
 - a. Have respondent sit quietly for 5 minutes
 - b. Measure blood pressure 3 times allowing a maximum of 30 seconds between each measurement.

B. Detailed Instructions: Hip & Waist Measurement

Project staff use a Gulik II Tape Measure to obtain hip and measurements. These measurements are recorded to 1 decimal place. The following standard is used for 'rounding':

If less than 0.05 (centimeters) round down

If greater than or equal to 0.05 (centimeters) round up

Measurements should be made directly on skin or over a single layer of clothing.

If, for some reason, these measurements have to be done over loose clothing, make sure to smooth the clothing as flat as possible DO NOT BUNCH the material.

Have participant stand erect with feet placed shoulder width apart and toes pointing forward.

1. Waist Circumference is measured directly on skin or over a single layer of clothing if the garment is a camisole or undershirt. DO NOT measure over a loose fitting blouse or shirt):
 - a. Place tape around narrowest point between ribs and the iliac crest (tips of the large bones of the pelvis).
 - b. Be sure the tape goes around evenly (parallel to the floor).
 - c. Record measurement to the nearest millimeter (1 decimal place).
2. Hip Circumferences is measured over a single layer of clothing, typically subject's underwear:
 - a. 1st circumference (Iliac Crest):
 - Ask subject to point to their hipbone.
 - Place the tape measure at the iliac crest and wrap around the body.
 - Make sure the measure is parallel to the floor.
 - Record measurement to the nearest millimeter (1 decimal place).
 - b. 2nd circumference (Maximum Extension):
 - Place the tape measure at the maximum diameter of the buttocks and wrap it around the body.
 - Stand to the side of the participant to see that the tape is placed at the point of maximum buttock extension.
 - Record measurement to the nearest millimeter (1 decimal place).

SECTION C

BLOOD COLLECTION AND PROCESSING PROTOCOLS

Blood Collection Protocol

Blood samples are collected in the order described below. Collect blood samples and process as follows:

- a. Preparation for blood draw
 - i. Use non-dominant arm if possible.
 - ii. Make reasonable number of attempts to get needed samples (e.g., 3 or so tries is generally sufficient – if unable to obtain samples, indicate this on Clinic Visit form, above)
 - iii. Subject should avoid strenuous activity before blood draw.
- b. Fill tubes in the following order and then process as indicated:
 - i. Three 8.5-ml SST (Serum Separator Tube) tubes, gently invert tube 3-5 times after draw.
 - ii. Two 1.8ml citrated tubes.
 - iii. One 2.0-ml FNa tube (whole blood for HA1c), gently invert tube 3-5 times after draw and cool at 4 degree.
 - iv. One 2.0-ml EDTA2K tube (for blood counts for lifestyle assessment), gently invert tube 3-5 times after draw and cool at 4 degrees.
- c. Complete the Clinic Visit Record Form
 - i. Record the time that the participant last ate, using 24-hour clock
 - ii. Record date and time blood draw began using 24-hour clock.
 - iii. Indicate if the blood draw was completed or not.
If no blood was drawn record the reason it was not collected.
 - iv. Record any problems encountered or other information regarding aspects of the collection that are not standard (per protocol).

Blood Sample Processing Protocol

Blood samples were processed by study staff on the University of Tokyo (UT) campus at the time of the clinic visit and then sent to Syowa Medical services for HbA1c testing, lifestyle assessments, and storage until shipment to the Biocore lab in Madison WI, USA, as indicated below.

1. FNa tube containing fresh blood is cooled at 4°C and tested for HA1c at Syowa.
2. EDTA2K tube containing fresh blood is cooled at 4°C and sent to Syowa for blood counts.
3. Two 1.8 ml Citrate tubes:
 - a. Centrifuge as soon as possible to separate plasma
 - i. Use refrigerated centrifuge (4°C).
 - ii. Centrifuge samples for 15 minutes.
 - iii. Set speed at 2000-3000 rpm.
 - iv. On form, record time centrifuge begun.
 - b. From two citrate tube, aliquot all plasma into two tubes, with 1.0ml plasma in each tube, apply blue label.
 - c. On form, indicate amount of plasma aliquoted into vial.
 - d. Store in a MIDJA freezer in designated freezer (-60 to -80 degrees) for delivery to Syowa for shipment to the US.
 - e. Record the time the specimens were stored in freezer on the form.
4. Three 8.5-ml SST tubes (Serum Separator Tube).
 - a. Let stand for 15-30 minutes after draw (maximum of 2 hours allowed between draw and centrifuging).
 - b. Centrifuge to separate sera at UT.
 - i. Use refrigerated centrifuge (4°C)
 - ii. Centrifuge samples for 10 minutes.
 - iii. Set speed at 2000-3000 rpm.

- iv. Record the time centrifugation was begun on the form.
- c. From three SST tubes, aliquot sera into two 10 ml vials (4 ml sera in each tube) for shipment to UW.
- d. Aliquot the remaining 2 or more ml of sera into a 10ml vial for Syowa.
- e. On form, indicate number of aliquots filled of each type.
- f. If none were filled or fewer than number specified were filled, please indicate why.
- g. Store two red capped tubes in MIDJA storage box in designated freezer (-60 to -80 degrees) for delivery to Syowa for shipment to the US. The remaining tube is kept at 4 degree and sent to Syowa for measurement of biochemical indicators at Syowa.
- h. Record the time specimens were stored in freezer on the form.

SECTION D

BLOOD ASSAY DOCUMENTATION

Blood Assay Descriptions
Assay Sensitivity Summary Table

SECTION E

MEDICATION DATA

Medication Data Collection and Processing Protocol

Data File Structure:

Administrative Variables

Prescription and Quasi Medications

Medication Allergies & Coding

Therapeutic and Pharmacologic Classes

Appendix A: Medication Chart

Appendix B: Generic Medication Names and DrugIDs

**Appendix C: Reasons for Taking Medication – Codes and
Category Names**

**Appendix D: Therapeutic and Pharmacologic Class Codes and
Names**

MEDICATION DATA COLLECTION AND PROCESSING PROTOCOLS

The MIDJA Biomarker data includes details about medications study participants are taking at the time of the clinic visit. Specifically information is recorded about the following:

- Prescription Medications
- Quasi Medications (i.e. non-prescription medications, equivalent to Over-The-Counter (OTC) and Alternative Medications in the U.S.)
- Medication Allergies

The Medication data appear at the end of the data file immediately following the Saliva data. A copy of the Medication Chart is included in Appendix A below. As described in “MIDJA Biomarker 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 “J2M”.

The remainder of this section provides general information about data collection as well as the structure and content of the medication data. The following also includes references to additional variables related to reasons for taking medications as well as therapeutic and pharmacologic class variables added to the data file following linkage to the Lexi-Data database. ***These variables are created using procedures that are applied to both MIDUS and MIDJA medication data, thus details are included in a unified document, ‘Documentation for MIDUS and MIDJA Medications’ that can be used for both studies.*** Appendices B, C, and D below contain lists of medication names and corresponding drugIDs, and coding schemes related to reasons for taking medications along with lists of therapeutic and pharmacologic class codes and category names, respectively. Note, these lists are based on medication data collected in both MIDJA and MIDUS, thus some items listed may not appear in the MIDJA data.

Data Collection

In Japan, to help manage medications hospitals provide lists of medications individuals are taking and pharmacies also provide descriptions of medications. Thus, participants were asked to bring all their medications to the clinic or the list of medications provided by a hospital. We do this to ensure that we are able to record medication names and dosages accurately. Staff recorded detailed information (medication name, dosage, etc.) on the medication chart. If a participant did not bring medications or a list, staff asked participants about medication use and recorded their responses. The Medication Chart has three pages and includes sections to record information about:

- Prescription Medications: Medications prescribed by someone authorized/licensed in Japan, typically a physician.
- Quasi Medications: that include vitamins, minerals, non-prescription pain, antacids, anti-diarrheas, fiber, lubricating eye or nose preparations etc. as well as other supplements, herbs and homeopathics that the participant uses regularly and can be purchased “Over the Counter” (OTC) without a prescription.
- Medication Allergies: Any medication (prescription, OTC, alternative) that the participant reports being allergic to.

At the end of 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 they think they are taking the medication

NOTE: The order in which medications are recorded on the form is random and determined by the order in which the participant chooses 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 wave to wave within a study or between MIDUS and MIDJA. The one exception is the first two rows in the Quasi section (OTC in MIDUS) which, as noted above, 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 MIDJA 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. Details about the stacked file can be found in the Documentation for MIDUS and MIDJA Medications.

The aggregate (flat) file includes some administrative variables indicating whether or not the participant takes medication of the indicated type and, in some instances 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 3 administrative variables at the beginning of the medication section:

- J2MTM – total number of medications
- J2MPMD – Yes/No, taking any prescription medications?
- J2MQMD – Yes/No, taking any quasi medications?

The first variable at the beginning of the Prescription and Quasi medication indicates the total number of medications of a given type that the participant takes (J2MPM, J2MQM, respectively). In addition, as noted above, the first two rows of the Quasi medication section are designated for Multivitamins and Calcium Supplements, thus it also includes the following 2 administrative variables:

- J2MQMV - Yes/No, taking a multivitamin?
- J2MQCS - Yes/No, taking a calcium supplement?

Prescription and Quasi 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, Q = Quasi) 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 (see Documentation of MIDUS and

MIDJA Medications for details, See Appendix B for a list of medication names and DrugIDs):

J2M_MID# - DrugID from the Lexi-Data database

J2M_GN# - Generic Drug Name associated with the DrugID

- Based on information from the medication chart:
J2M_DD#, J2M_DU# – drug dosage (dosage, units)
J2M_R# - route of administration (i.e. oral, inhaled, etc.)
J2M_F#, J2M_FU# – how often the medication is taken (frequency, frequency units)
J2M_T#, J2M_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 (See Documentation of MIDUS and MIDJA Medications for details about the coding process, See Appendix C below for a list of codes and category names):
J2M_ICD9M -- 3 digit numeric codes representing major categories in the International Classification of Diseases, 9th Revision.
J2M_MDC – 5 character alphanumeric variables representing a set of codes used to code reasons for taking a medication that could not be classified into an ICD-9 category

There are 13 sets of Prescription medication variables and 10 sets of Quasi medication variables in the MIDJA 1 Biomarker file. A few participants report more medications in a given category than the data file allows for (i.e. takes 13 Quasi 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 frequency distribution for the number of Prescription (J2MPM) and Quasi (J2MQM) medications.

Medication Allergies

The final section of the Medication Chart is for reporting medication allergies. There are 2 administrative variables at the beginning of that section:

- J2ML – Yes/No does the respondent have Any Medication Allergies?
- J2MLM – number of allergies

There are 2 additional variables for each medication allergy reported (the # in the variable name indicates the row number in the chart):

- J2MLN# – text variable listing the medication name as reported by the participant
- J2MLRC# - 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. Note, the same set of category codes is used for both MIDJA and MIDUS thus some categories (i.e. psychosis) may not appear in all files.

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

Therapeutic and Pharmacologic Classes

The final section of the data file contains a series of 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 (see Appendix D for a list of these category names and class codes). The Lexi-Data linkage and creation of these variables along with corresponding count variables are described in the Documentation of MIDUS and MIDJA Medication.

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: J2MTC_115 = 'Multum Therapeutic Class 115 - nutritional products: YES/NO?'

Count variable: J2MTC_115_N = 'Multum Therapeutic Class 115 – nutritional products: HOW MANY?'

APPENDIX A: MIDJA MEDICATION CHART

お医者様に処方された薬(prescribed medicine)

全部で何種類の薬を飲んでいらっしゃいますか?

(how many medicine all together) _____種類

薬の名前、1回の分量	飲み方	回数	期間?	どうして飲むことになりましたか?
Medication Name/Dosage	Route	Frequency	How long Taking?	Reason for taking?
1.				
2.				
3.				
4.				
5.				

お医者の方によらない薬(医薬部外品など)

Without prescription,such as quasi-drug

全部で何種類の薬を飲んでいらっしゃいますか?

(how many medicine all together) _____種類

薬の名前、1回の分量	飲み方	回数	期間?	どうして飲むことになりましたか?
Medication Name/Dosage	Route	Frequency	How long Taking?	Reason for taking?
1. ビタミン剤 はい いいえ vitamin yes no				
2. カルシウム はい いいえ Calcium Supplement yes no				
3.				
4.				
5.				

その他の薬や処方（ハーブや同毒療法など）

Other medicine or prescription (herbal, homeopathy)

全部で何種類の飲んでいらっしゃいますか? _____種類((how many medicine all together)

薬の名前、1回の分量	飲み方	回数	期間?	どうして飲むことになりましたか?
Medication Name/Dosage	Route	Frequency	How long Taking?	Reason for taking?
1.				
2.				
3.				
4.				
5.				

薬物アレルギー(alegy)

お薬でアレルギーがでたことがありますか? はい ・ いいえ(Have you had a allergy, yes no)

薬の名前	アレルギー反応
Medication Name	Reaction
1.	
2.	
3.	
4.	
5.	

APPENDIX B: GENERIC NAMES and DRUGIDs

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

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

d00236	FLUoxetine	d00381	tamoxifen
d00237	fluPHENAZine	d00384	temazepam
d00241	folic acid	d00386	terazosin
d00242	fosinopril	d00395	traZODone
d00245	gemfibrozil	d00396	triamterene
d00246	glipiZIDE	d00397	triazolam
d00248	glyBURIDE	d00402	vitamin A
d00253	hydrochlorothiazide	d00405	vitamin E
d00254	hydrocortisone	d00409	riboflavin
d00255	HYDROmorphone	d00412	pyridoxine
d00259	imipramine	d00413	cyanocobalamin
d00260	indapamide	d00417	bioflavonoids
d00262	insulin	d00425	calcium carbonate
d00268	isosorbide dinitrate	d00426	ascorbic acid
d00269	isosorbide mononitrate	d00427	potassium phosphate-sodium phosphate
d00270	isradipine	d00440	sodium bicarbonate
d00273	ketorolac	d00484	selenium
d00275	leucovorin	d00488	lysine
d00278	levothyroxine	d00491	levOCARNitine
d00280	lovastatin	d00496	inositol
d00284	medroxyPROGESTERone	d00497	omega-3 polyunsaturated fatty acids
d00289	mercaptopurine	d00514	ticlopidine
d00290	methimazole	d00529	tranexamic acid
d00293	methylPREDNISolone	d00534	estrone
d00298	metoclopramide	d00537	estradiol
d00300	mexiletine	d00541	conjugated estrogens
d00303	misoprostol	d00542	esterified estrogens
d00308	morphine	d00543	estropipate
d00310	nabumetone	d00550	progesterone
d00314	niacin	d00555	norethindrone
d00316	nicotine	d00557	levonorgestrel
d00321	nitroglycerin	d00558	testosterone
d00322	nizatidine	d00563	finasteride
d00325	omeprazole	d00572	chorionic gonadotropin (HCG)
d00328	oxybutynin	d00578	arginine
d00329	oxyCODONE	d00583	desmopressin
d00330	pancuronium	d00595	glucose
d00336	pentoxifylline	d00598	calcitonin
d00337	phenazopyridine	d00608	fludrocortisone
d00340	PHENobarbital	d00609	cortisone
d00343	piroxicam	d00620	triamcinolone
d00345	potassium chloride	d00628	betamethasone
d00346	povidone iodine topical	d00646	trichlormethiazide
d00348	pravastatin	d00651	urea topical
d00350	predniSONE	d00653	isosorbide
d00352	primidone	d00655	thyroid desiccated
d00355	prochlorperazine	d00658	liothyronine
d00358	propafenone	d00683	lidocaine topical
d00363	pyridostigmine	d00688	bepidil
d00365	quinapril	d00689	amLODIPine
d00366	quiNINE	d00699	EPINEPHrine
d00370	octreotide	d00701	mephentermine
d00371	sotalol	d00704	phenylephrine
d00373	spironolactone	d00709	bisoprolol
d00377	sucrafate		
d00379	sulfaSALAzine		

d00726	doxazosin	d01003	pancreatin
d00728	ramipril	d01005	ursodiol
d00730	benazepril	d01008	magnesium citrate
d00732	lisinopril	d01010	cascara sagrada
d00743	sodium polystyrene sulfonate	d01013	senna
d00746	simvastatin	d01015	bisacodyl
d00749	albuterol	d01017	polycarbophil
d00750	metaproterenol	d01018	psyllium
d00755	pirbuterol	d01021	docusate
d00760	beclomethasone	d01025	loperamide
d00761	flunisolide	d01026	bismuth subsalicylate
d00762	acetylcysteine	d01027	simethicone
d00769	pseudoephedrine	d01031	mesalamine
d00771	naphazoline ophthalmic	d01032	olsalazine
d00772	oxymetazoline nasal	d01133	immune globulin intravenous
d00773	tetrahydrozoline ophthalmic	d01185	apraclonidine ophthalmic
d00787	promethazine	d01187	levobunolol ophthalmic
d00797	guaifENesin	d01200	tropicamide ophthalmic
d00801	caffeine	d01231	chlorhexidine topical
d00806	phentermine	d01233	nystatin
d00810	diethylpropion	d01244	tretinoin topical
d00813	benzocaine topical	d01256	etretinate
d00814	methotrimprazine	d01267	mupirocin topical
d00817	hydroxychloroquine	d01272	ciclopirox topical
d00838	butorphanol	d01274	tolnaftate topical
d00842	salsalate	d01288	clobetasol topical
d00848	diclofenac	d01290	desonide topical
d00851	etodolac	d01291	desoximetasone topical
d00855	perphenazine	d01293	fluocinolone topical
d00859	meclizine	d01294	fluocinonide topical
d00861	dimenhyDRINATE	d01296	fluticasone
d00867	ondansetron	d01300	mometasone topical
d00874	amoxapine	d01319	hydroquinone topical
d00876	clomiPRAMINE	d01321	capsaicin topical
d00877	maprotiline	d01322	aluminum chloride hexahydrate topical
d00880	sertraline	d01325	arnica topical
d00900	methylphenidate	d01333	benzalkonium chloride topical
d00901	pemoline	d01353	leuprolide
d00907	hydrOXYzine	d01373	hydroxyurea
d00910	zolpidem	d01376	PACLitaxel
d00915	estazolam	d01385	beta-carotene
d00960	carisoprodol	d01386	yohimbine
d00961	chlorphenesin	d01387	alprostadil
d00963	cyclobenzaprine	d01406	naltrexone
d00964	metaxalone	d01407	flumazenil
d00965	methocarbamol	d01423	potassium citrate
d00966	orphenadrine	d03050	loratadine
d00967	baclofen	d03051	interferon beta-1b
d00970	trihexyphenidyl	d03052	hydrochlorothiazide-triamterene
d00972	biperiden	d03061	butalbital
d00985	hyoscyamine	d03064	choline bitartrate
d00986	scopolamine	d03075	HYDROcodone
d00991	clidinium	d03092	protease
d00992	glycopyrrolate	d03126	calcitriol
d00999	dicyclomine	d03128	ergocalciferol
d01002	pancrelipase		

d03129	cholecalciferol	d03342	APAP/dextromethorphan
d03130	thiamine		/pseudoephedrine
d03131	pantothenate	d03349	acetaminophen
d03135	phytonadione		/dextromethorphan/doxylamine
d03137	calcium-vitamin D		/PSE
d03140	multivitamin	d03357	codeine-promethazine
d03141	multivitamin with iron	d03359	chlorpheniramine-
d03145	multivitamin with minerals		dextromethorphan
d03148	multivitamin, prenatal	d03360	dextromethorphan-promethazine
d03154	doxylamine	d03379	guaifenesin-pseudoephedrine
d03157	PARoxetine	d03381	guaifenesin-phenylephrine
d03159	choline	d03389	estradiol-testosterone
d03160	SUMatriptan	d03393	codeine-guaifenesin
d03180	risperidone	d03400	dextromethorphan-guaifenesin
d03181	venlafaxine	d03409	dextromethorphan/guaifenesin
d03182	gabapentin		/pseudoephedrine
d03183	fluvastatin	d03423	acetaminophen-codeine
d03189	torsemide	d03425	APAP/butalbital/cafeine/codeine
d03191	terbinafine topical	d03428	acetaminophen-HYDROcodone
d03195	miconazole topical	d03431	acetaminophen-oxyCODONE
d03197	betamethasone topical	d03432	aspirin-oxycodone
d03200	erythromycin topical	d03434	acetaminophen-propoxyphene
d03201	acyclovir topical	d03439	APAP/ASA/cafeine
d03202	ketoconazole topical	d03443	APAP/Al hydroxide
d03204	fluorouracil topical		/ASA/cafeine/Mg hydroxide
d03205	hydrocortisone topical	d03445	acetaminophen-diphenhydramine
d03206	triamcinolone topical	d03449	aspirin-cafeine
d03208	metronidazole topical	d03455	APAP/butalbital/cafeine
d03210	selenium sulfide topical	d03456	acetaminophen-butalbital
d03221	prednisolone ophthalmic	d03459	APAP/dichloralphenazone
d03226	saliva substitutes		/isometheptene
d03227	fluorometholone ophthalmic	d03473	carbidopa-levodopa
d03229	levocabastine ophthalmic	d03478	Al hydroxide/Mg hydroxide
d03238	ethinyl estradiol-norethindrone		/simethicone
d03241	ethinyl estradiol-norgestrel	d03485	atropine/hyoscyamine/PB
d03242	ethinyl estradiol-levonorgestrel		/scopolamine
d03245	esterified estrogens-	d03492	chlordiazepoxide-clidinium
	methyltestosterone	d03495	belladonna/ergotamine
d03247	hydrochlorothiazide-		/phenobarbital
	spironolactone	d03496	docusate-senna
d03258	atenolol-chlorthalidone	d03506	atropine-diphenoxylate
d03261	hydrochlorothiazide-propranolol	d03517	benzoic acid/methenamine
d03265	benazepril-hydrochlorothiazide		/sodium salicylate
d03266	hydrochlorothiazide-lisinopril	d03524	bacitracin/neomycin/polymyxin B
d03289	acetaminophen-pseudoephedrine		topical
d03292	ibuprofen-pseudoephedrine	d03536	dexamethasone-tobramycin
d03296	acetaminophen-chlorpheniramine		ophthalmic
d03298	chlorpheniramine-	d03543	hydrocortisone/neomycin
	pseudoephedrine		/polymyxin B otic
d03300	chlorpheniramine-phenylephrine	d03561	betamethasone-clotrimazole
d03311	brompheniramine-phenylephrine		topical
d03313	chlorpheniramine/phenylephrine	d03562	nystatin-triamcinolone topical
	/pyrilamine	d03566	captopril-hydrochlorothiazide
d03331	APAP/chlorpheniramine	d03591	alginate acid/Al hydroxide/Mg
	/phenylephrine		carbonate

d03596	alginate acid/Al hydroxide/Mg trisilicate	d03848	azelaic acid topical
d03640	budesonide nasal	d03849	alendronate
d03644	Lactobacillus acidophilus	d03850	bicalutamide
d03650	Candida albicans extract	d03858	lamiVUDine
d03655	lidocaine-prilocaine topical	d03864	glimepiride
d03663	lecithin	d03866	calcium citrate
d03664	phenol topical	d03873	anastrozole
d03665	menthol topical	d03879	cannabis (Schedule I substance)
d03668	methyl salicylate topical	d03884	trolamine salicylate topical
d03674	pectin	d03897	lactase
d03680	ASA/citric acid/Na bicarb	d03898	sodium chloride, hypertonic, ophthalmic
d03686	undecylenic acid topical	d03908	APAP/chlorpheniramine /dextromethorphan/PPA
d03689	calcium acetate	d03922	acetaminophen-caffeine
d03740	enalapril-hydrochlorothiazide	d03923	acetaminophen-phenylephrine
d03744	bisoprolol-hydrochlorothiazide	d03957	calcium/ferrous fumarate /vitamin D
d03751	dexbrompheniramine-pseudoephedrine	d03968	dexamethasone ophthalmic
d03752	tacrolimus	d03984	ritonavir
d03756	bacitracin topical	d03990	carbamide peroxide otic
d03759	salmeterol	d04008	trandolapril
d03760	diphenhydramine topical	d04011	interferon beta-1a
d03768	ocular lubricant	d04012	terbinafine
d03770	emollients, topical	d04015	adapalene topical
d03781	ethinyl estradiol-norgestimate	d04017	latanoprost ophthalmic
d03782	desogestrel-ethinyl estradiol	d04025	mirtazapine
d03788	calcipotriene topical	d04029	nevirapine
d03789	potassium gluconate	d04031	pilocarpine
d03796	magnesium chloride	d04032	sulfacetamide sodium-sulfur topical
d03797	magnesium oxide	d04034	remifentanyl
d03802	calcium lactate	d04035	amphetamine-dextroamphetamine
d03803	calcium phosphate, tribasic	d04037	timolol ophthalmic
d03804	fluvoxamine	d04039	carteolol ophthalmic
d03805	dorzolamide ophthalmic	d04040	fexofenadine
d03807	metFORMIN	d04047	midodrine
d03808	nefazodone	d04048	brimonidine ophthalmic
d03809	lamoTRigine	d04050	OLANzapine
d03818	loratadine-pseudoephedrine	d04052	pentosan polysulfate sodium
d03819	conjugated estrogens-medroxyPROGESTERone	d04055	zinc chloride
d03821	losartan	d04056	zinc gluconate
d03822	ferrous gluconate	d04057	zinc sulfate
d03823	iron polysaccharide	d04058	melatonin
d03824	ferrous sulfate	d04063	butenafine topical
d03825	nisoldipine	d04066	albuterol-ipratropium
d03826	traMADol	d04068	azelastine nasal
d03827	cetirizine	d04099	donepezil
d03828	lansoprazole	d04101	ivermectin
d03829	amLODIPine-benazepril	d04102	tiZANidine
d03830	hydrochlorothiazide-losartan	d04105	atorvastatin
d03833	divalproex sodium	d04106	fosfomycin
d03835	moexipril	d04109	levofloxacin
d03838	valACYclovir	d04111	glatiramer
d03839	mycophenolate mofetil	d04113	valsartan
d03846	acarbose		
d03847	carvedilol		

d04115	topiramate	d04299	sildenafil
d04117	olopatadine ophthalmic	d04300	risedronate
d04120	caffeine-ergotamine	d04303	dorzolamide-timolol ophthalmic
d04121	tamsulosin	d04322	candesartan
d04125	imiquimod topical	d04328	rizatriptan
d04141	hydrochlorothiazide-moexipril	d04329	sodium hyaluronate
d04142	chromium picolinate	d04332	citalopram
d04145	pramipexole	d04341	estradiol-norethindrone topical
d04156	letrozole	d04342	inFLIXimab
d04157	loperamide-simethicone	d04349	leflunomide
d04168	acetaminophen /diphenhydramine /pseudoephedrine	d04357	trastuzumab
d04181	cysteine	d04362	copper gluconate
d04186	phenylephrine nasal	d04363	sevelamer
d04195	chlorophyllin	d04364	telmisartan
		d04365	etanercept
		d04369	insulin regular
d04197	hydrocortisone/neomycin /polymyxin B topical	d04370	insulin isophane
d04210	estradiol topical	d04373	insulin lispro
d04213	progesterone topical	d04374	insulin isophane-insulin regular
d04215	rOPINIRole	d04375	estradiol-norethindrone
d04219	lamivudine-zidovudine	d04376	abacavir
d04220	QUETiapine	d04378	modafinil
d04222	irbesartan	d04380	celecoxib
d04223	mometasone nasal	d04382	cilostazol
d04233	triamcinolone nasal	d04395	clotrimazole topical
d04235	ipratropium nasal	d04396	conjugated estrogens topical
d04241	potassium chloride-sodium chloride	d04399	nystatin topical
d04242	sodium chloride nasal	d04407	echinacea
d04245	hydrochlorothiazide-irbesartan	d04408	St. John's wort
d04248	methylcellulose	d04411	garlic
d04253	ZOLMitriptan	d04412	ginseng
d04258	clopidogrel	d04413	ginkgo
d04261	raloxifene	d04414	ginger
d04266	eprosartan	d04415	saw palmetto
d04267	repaglinide	d04416	valerian
d04268	dihydroergotamine nasal	d04417	creatine
d04270	fexofenadine-pseudoephedrine	d04418	glucosamine
d04271	diclofenac-misoprostol	d04419	chondroitin
d04273	testosterone topical	d04420	chondroitin-glucosamine
d04275	beclomethasone nasal	d04421	evening primrose
d04276	budesonide	d04424	licorice
d04279	flunisolide nasal	d04425	dehydroepiandrosterone
d04283	fluticasone nasal	d04426	red yeast rice
d04284	fluticasone topical	d04427	levalbuterol
d04285	naratriptan	d04429	orlistat
d04286	fenofibrate	d04432	carbonyl iron
d04289	montelukast	d04434	rosiglitazone
d04290	calcium carbonate-magnesium hydroxide	d04440	perindopril
d04292	loteprednol ophthalmic	d04442	pioglitazone
d04293	hydrochlorothiazide-valsartan	d04448	RABEprazole
d04294	tolterodine	d04452	zaleplon
d04298	phenylephrine topical	d04459	dofetilide
		d04461	exemestane
		d04460	entacapone
		d04463	grape seed oil
		d04465	gotu kola

d04466	milk thistle	d04784	pimecrolimus topical
d04467	cat's claw	d04785	desloratadine
d04469	bee pollen	d04787	lovastatin-niacin
d04470	cranberry	d04788	dutasteride
d04472	black cohosh	d04795	budesonide-formoterol
d04476	bilberry	d04797	alfuzosin
d04477	slippery elm	d04798	tegaserod
d04478	wild yam	d04801	olmesartan
d04480	eyebright	d04803	voriconazole
d04481	royal jelly	d04806	sodium oxybate
d04484	shark cartilage	d04812	escitalopram
d04486	rose hips	d04813	horse chestnut
d04487	peppermint	d04815	eplerenone
d04488	lavender	d04819	buprenorphine-naloxone
d04490	green tea	d04820	metFORMIN-rosiglitazone
d04491	flax	d04823	glipiZIDE-metFORMIN
d04499	levETIRAcetam	d04824	ezetimibe
d04503	nedocromil ophthalmic	d04825	ARIPiprazole
d04509	hydrochlorothiazide-quinapril	d04827	atomoxetine
d04510	insulin lispro-insulin lispro protamine	d04828	teriparatide
d04513	OXcarbazepine	d04829	tiotropium
d04514	pantoprazole	d04835	adalimumab
d04521	nettles	d04836	cycloSPORINE ophthalmic
d04522	papaya	d04839	insulin aspart-insulin aspart protamine
d04523	ubiquinone	d04844	camphor-menthol topical
d04527	zonisamide	d04849	eletriptan
d04532	meloxicam	d04851	rosuvastatin
d04538	insulin glargine	d04857	gatifloxacin ophthalmic
d04541	azelastine ophthalmic	d04860	moxifloxacin ophthalmic
d04572	formoterol	d04875	betaine
d04611	fluticasone-salmeterol	d04878	hydrochlorothiazide-olmesartan
d04695	colesevelam	d04881	omalizumab
d04697	insulin aspart	d04882	atazanavir
d04702	docosanol topical	d04893	varafenafil
d04703	glyBURIDE-metFORMIN	d04896	tadalafil
d04708	zoledronic acid	d04898	epinastine ophthalmic
d04711	candesartan-hydrochlorothiazide	d04899	memantine
d04722	diclofenac topical	d04901	fosamprenavir
d04723	calcium carbonate/famotidine/Mg hydroxide	d04929	trospium
d04737	hydrochlorothiazide-telmisartan	d04939	sodium picosulfate
d04740	tacrolimus topical	d05027	estriol
d04743	nateglinide	d05044	betamethasone-calcipotriene topical
d04747	ziprasidone	d05048	amLODIPine-atorvastatin
d04749	esomeprazole	d05062	carbocysteine
d04753	travoprost ophthalmic	d05218	cinacalcet
d04754	bimatoprost ophthalmic	d05234	hyaluronan
d04760	drospirenone-ethinyl estradiol	d05265	nebivolol
d04764	cetirizine-pseudoephedrine	d05283	brimonidine-timolol ophthalmic
d04765	hydrocortisone-lidocaine topical	d05348	ezetimibe-simvastatin
d04766	acetaminophen-traMADol	d05350	polyethylene glycol 3350
d04773	ethinyl estradiol-etonogestrel	d05352	emtricitabine-tenofovir
d04774	tenofovir	d05355	DULoxetine
d04776	frovatriptan	d05357	ibandronate
d04778	valdecoxib		

d05365	dexchlorpheniramine /HYDROcodone/phenylephrin	d07113	desvenlafaxine
d05413	solifenacin	d07130	naproxen-SUMatriptan
d05414	natalizumab	d07132	olopatadine nasal
d05421	eszopiclone	d07137	dabigatran
d05422	darifenacin	d07315	glutamine
d05436	insulin detemir	d07347	bifidobacterium infantis
d05471	alpha-D-galactosidase	d07349	lacosamide
d05488	pramlintide	d07354	silodosin
d05508	pregabalin	d07356	rivaroxaban
d05526	alendronate-cholecalciferol	d07373	d-xylitol
d05529	exenatide	d07374	bimatoprost topical ophthalmic
d05578	ramelteon	d07395	dexlansoprazole
d05583	APAP/dextromethorphan /phenylephrine	d07397	febuxostat
d05635	metFORMIN-pioglitazone	d07400	bifidobacterium-lactobacillus
d05637	lactobacillus rhamnosus GG	d07409	prasugrel
d05646	saccharomyces boulardii lyo	d07466	liraglutide
d05702	methylsulfonylmethane	d07482	bepotastine ophthalmic
d05703	chondroitin/glucosamine /methylsulfonylmethane	d07498	amLODIPine-telmisartan
d05719	ranolazine	d07505	copper
d05748	brewer's yeast	d07637	pitavastatin
d05770	omeprazole-sodium bicarbonate	d07639	acetaminophen/CPM /dextromethorphan/GG
d05776	iodine	d07640	denosumab
d05807	varenicline	d07645	onabotulinumtoxinA
d05819	diphenhydrAMINE-ibuprofen	d07659	caffeine-magnesium salicylate
d05825	darunavir	d07660	formoterol-mometasone
d05847	efavirenz/emtricitabine/tenofovir	d07668	amlodipine/hydrochlorothiazide /olmesartan
d05851	levocetirizine	d07693	aspirin-calcium carbonate
d05856	glimepiride-pioglitazone	d07705	lurasidone
d05896	sitaGLIPTin	d07709	metformin-saxagliptin
d05899	ciclesonide nasal	d07717	acyclovir-hydrocortisone topical
d05964	aloe vera	d07740	vilazodone
d06032	fluocinolone otic	d07754	azilsartan
d06214	collagen	d07764	famotidine-ibuprofen
d06297	paliperidone	d07767	linagliptin
d06370	turmeric	d07804	apixaban
d06392	wheat dextrin	d07831	tyrosine
d06507	cinnamon	d07876	mirabegron
d06649	calcium carbonate-magnesium chloride	d07885	aclidinium
d06652	strontium gluconate	d07891	icosapent
d06655	alpha-lipoic acid	d07902	linaclotide
d06662	amLODIPine-valsartan	d07905	teriflunomide
d06663	lisdexamfetamine	d07921	capsaicin-menthol topical
d06720	metFORMIN-sitaGLIPTin	d08070	ospemifene
d06833	acetaminophen-aspirin	d08079	dimethyl fumarate
d06842	armodafinil	d08080	canagliflozin
d06848	lutein	d08117	dolutegravir
d06852	maraviroc	d08187	umeclidinium
d06867	biotin	d08272	tavaborole topical
d06905	amlodipine-olmesartan	d08275	empagliflozin
d07048	raltegravir	d08349	diphenhydramine-naproxen
d07076	etravirine	d08362	olodaterol-tiotropium
		d99999	Unmatched, no generic name

**APPENDIX C: REASON FOR TAKING MEDICATIONS –
CODES AND CATEGORY NAMES**

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

Modified ICD-9 Codes and Labels

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

ICD9M CODE	ICD9 CODE LABEL	Key Words/Common Responses
10	PRIMARY TUBERCULOUS INFECTION	Tuberculosis bacillus
41	BACT INF IN OTH DIS/NOS	Infectious disease
42	HUMAN IMMUNO VIRUS DIS	HIV
53	HERPES ZOSTER	Shingles
54	HERPES SIMPLEX	Cold sores, herpes
78	OTHER VIRAL DISEASE	Warts
79	VIRAL INFECTION	Anti-viral, viral infection
110	DERMATOPHYTOSIS	Athlete's foot, toe nail fungus, fungal infection, ringworm
112	CANDIDIASIS	Yeast infection
133	SCABIES	Scabies
135	SARCOIDOSIS	Sarcoidosis
150	MALIGNANT NEOPLASM OF ESOPHAGUS	Esophagus cancer
173	OTHER MALIGNANT NEOPLASM OF SKIN	Skin cancer
174	MALIG NEO FEMALE BREAST	Breast cancer
185	MALIGN NEOPL PROSTATE	Prostate cancer
188	MALIGN NEOPL BLADDER	Bladder cancer
209	NEUROENDOCRINE TUMORS	Neuroendocrine carcinoid cancer
211	BENIGN NEOPLASM OF OTHER PARTS OF DIGESTIVE SYSTEM	Colon polyp
212	BENIGN NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS	Thymoma
218	UTERINE LEIOMYOMA	Fibroids, myoma of uterus
239	UNSPECIFIED NEOPLASM	Cancer non-specific

ICD9M CODE	ICD9 CODE LABEL	Key Words/Common Responses
240	GOITER	Goiters-thyroid med, keeps goiters away
242	TOXIC DIFFUSE GOITER	Grave's disease
244	ACQUIRED HYPOTHYROIDISM	Hypothyroidism, thyroiditis
246	OTH DISORDERS OF THYROID	Thyroid hormone, thyroid
250	DIABETES MELLITUS	Diabetes, high blood sugar
251	OTH PANCREATIC DISORDER	Hypoglycemia
255	ADRENAL GLAND DISORDERS	Adrenal gland disorder, adrenal gland dysfunction
256	OVARIAN DYSFUNCTION	Polycystic ovarian syndrome
257	TESTICULAR DYSFUNCTION	Low testosterone levels
259	OTH ENDOCRINE DISORDERS	Imbalance in endocrine system
266	B-COMPLEX DEFICIENCIES	Low B12
267	ASCORBIC ACID DEFICIENCY	Vitamin C deficiency
268	VITAMIN D DEFICIENCY	Rickets, low vitamin D, vitamin D deficiency
269	OTH NUTRITION DEFICIENCY	Iodine deficiency, calcium deficiency
272	PURE HYPERCHOLESTEROLEM	High cholesterol, hyperlipidemia, high neutral lipid,
274	GOUT	Gout
275	DIS MINERAL METABOLISM	Magnesium supplement, reduce phosphate, supplement iron
276	FLUID/ELECTROLYTE DIS	Low potassium, hypokalemia
279	DISORDER OF IMMUNE MECHANISM	Autoimmune disease
280	IRON DEFICIENCY ANEMIA	Iron deficiency
281	PERNICIOUS ANEMIA	Pernicious anemia
285	ANEMIA NEC/NOS	Anemia
287	PURPURA & OTH HEMOR COND	Low platelet count
295	SCHIZOPHRENIC DISORDERS	Schizophrenia
296	AFFECTIVE PSYCHOSES	Bipolar disorder, mood swings

ICD9M CODE	ICD9 CODE LABEL	Key Words/Common Responses
297	DELUSIONAL DISORDERS	Hallucinations, paranoia, ease up on symptoms of delusion
298	OTH NONORGANIC PSYCHOSES	Psychosis
300	NEUROTIC DISORDERS	Tranquilizer, stay calm, anxiety, nervousness, stabilizer
302	SEXUAL DISORDERS	Impotence, erectile dysfunction
303	ALCOHOL DEPENDENCE	Preventing craving alcohol
304	DRUG DEPENDENCE	Heroin addiction maintenance
305	NONDEPENDENT DRUG ABUSE	Smoking cessation
308	ACUTE REACTION TO STRESS	Stress
309	ADJUSTMENT REACTION	PTSD
311	DEPRESSIVE DISORDER NEC	Depression, anti-depressant
314	HYPERKINETIC SYNDROME	ADD, ADHD
323	ENCEPHALITIS, MYELITIS, AND ENCEPHALOMYELITIS	Myelitis
331	CEREBRAL DEGENERATION	Alzheimer's
332	PARKINSON'S DISEASE	Parkinson's disease
333	EXTRAPYRAMIDAL DIS NEC	Restless leg syndrome, tick in eye, tremors, Huntington's disease
337	AUTONOMIC NERVE DISORDER	Treat disorder of peripheral nerve, neuropathy in heart
338	PAIN, NOT ELSEWHERE CLASSIFIED	Pain, pain in multiple locations,
340	MULTIPLE SCLEROSIS	MS, Multiple sclerosis, muscle fatigue
345	EPILEPSY	Epilepsy, seizure disorder, focal seizures
346	MIGRAINE	Migraine
347	CATAPLEXY AND NARCOLEPSY	Narcolepsy
349	CNS DISORDER NEC/NOS	Neurological problems
350	TRIGEMINAL NERVE DISORDERS	Trigeminal neuralgia

ICD9M CODE	ICD9 CODE LABEL	Key Words/Common Responses
354	CARPAL TUNNEL SYNDROME	Carpal tunnel syndrome
356	HERED & IDIOPATH PERIPH NEUROPATHY	Improvement of peripheral nervous system
358	MYONEURAL DISORDERS	Myasthenia gravis
361	RETINAL DETACHMENTS AND DEFEATS	Retinal detachment
362	RETINAL DISORDERS NEC	Macular degeneration
365	GLAUCOMA	Glaucoma, pressure in eye, lower ocular pressure
366	CATARACT	Cataract
370	KERATITIS	Ulcer in eye
371	CORNEAL OPACITY/DISORDER	Corneal problem
372	DISORDERS OF CONJUNCTIVA	Prevent eye infection
373	INFLAMMATION OF EYELIDS	Sty, blepharitis
375	LACRIMAL SYSTEM DISORDER	Dry eyes, lacrimal gland disorder
379	EYE DISORDERS NEC	Inflammation of eye, itchy eyes
380	DISORDER OF EXTERNAL EAR	Ear infection
386	VERTIGINOUS SYNDROMES	Meniere's disease, inner ear
388	DISORDERS OF EAR NEC	Ringling ears, tinnitus, ear pain, dry ear
389	HEARING LOSS	Helps with hearing, hearing loss
401	ESSENTIAL HYPERTENSION	High blood pressure, hypertension, reduce/lower blood pressure, blood pressure, anti-hypertensive
410	ACUTE MYOCARDIAL INFARCT	Myocardial infarction, cardiac infarction
413	ANGINA PECTORIS	Angina pectoris, angina
414	OTH CHR ISCHEMIC HRT DIS	Arterial sclerosis
415	ACUTE PULMONARY HEART DISEASE	Heart pulmonary embolism
424	OTH ENDOCARDIAL DISEASE	Mitral stenosis, prolapsed mitral valve
427	CARDIAC DYSRHYTHMIAS	Irregular pulse, atrial fibrillation
428	HEART FAILURE	Heart failure

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

ICD9M CODE	ICD9 CODE LABEL	Key Words/Common Responses
487	INFLUENZA	Flu
490	BRONCHITIS NOS	Bronchitis
492	EMPHYSEMA	Emphysema
493	ASTHMA	Asthma, pulmonary emphysema, emphysema
496	CHR AIRWAY OBSTRUCT NEC	COPD
518	OTHER LUNG DISEASES	Repair damage to lung
519	OTHER DISEASES OF RESPIRATORY SYSTEM	Bronchial spasm prevention
523	GINGIVAL/PERIODONTAL DIS	Gum disease/problems
524	DENOFACIAL ANOMALIES	Temporomandibular joint disorders, TMJ
525	OTHER DENTAL DISORDER	Extracted teeth, treatment for a tooth, toothache
526	DISEASES OF THE JAWS	Root canal, root canal infection
527	SALIVARY GLAND DISEASES	Dry mouth
528	ORAL SOFT TISSUE DISEASE	Stomatitis, chapped lips, canker sores, dental abscess
529	TONGUE DISORDERS	Geographic tongue
530	DISEASES OF ESOPHAGUS	Acid reflux, GERD, gastritis, esophagus trouble, backward flow of gastric acid,
531	GASTRIC ULCER	Gastric ulcer
532	DUODENAL ULCER	Duodenal ulcer
533	PEPTIC ULCER, SITE NOS	Helicobacter pylori, gastric & duodenal ulcer, peptic ulcer
535	GASTRITIS AND DUODENITIS	Inflammation of stomach
536	STOMACH FUNCTION DISORD	Gastric hyperacidity, dyspepsia, neutralize/reduce gastric acid, stomach pain
553	OTHER ABDOMINAL HERNIA	Hernia, high hiatal hernia
555	REGIONAL ENTERITIS	Crohn's disease
556	IDIOPATHIC PROCTOCOLITIS	Colitis
558	OTH NONINF GASTROENTERIT	Diarrhea, gastroenteritis

ICD9M CODE	ICD9 CODE LABEL	Key Words/Common Responses
562	DIVERTICULA OF INTESTINE	Diverticulitis
564	FUNCT DIGESTIVE DIS NEC	Constipation, bowel movement, colon cramps, irritable bowel
569	OTH INTESTINAL DISORDERS	Intestinal disorder, inflammation of intestines, proctitis
571	CHR LIVER DIS/CIRRHOSIS	Liver disease, primary biliary cirrhosis
574	CHOLELITHIASIS	Gall stone
575	OTHER DISORDERS OF GALLBLADDER	Gallbladder polyp
579	INTESTINAL MALABSORPTION	Celiac disease nutrition
583	NEPHRITIS NOS	Lupus in kidneys
585	CHRONIC RENAL FAILURE	Kidney disease
586	RENAL FAILURE NOS	Renal failure
590	KIDNEY INFECTION	Kidney infection, antibiotics for kidney
592	RENAL/URETERAL CALCULUS	Kidney stones
593	OTH RENAL & URETERAL DIS	Prevention/help with renal insufficiency
596	OTHER BLADDER DISORDERS	Bladder tone, neurogenic bladder
599	OTH URINARY TRACT DISOR	Urinary tract infection, UTI
600	HYPERPLASIA OF PROSTATE	Prostatic hypertrophy, prostatic hyperplasia
601	PROSTATIC INFLAMMATION	Prostatitis, enlarged prostate, help reduce swelling of prostate
607	DISORDER OF PENIS	Due to prostate cancer/vitality
608	MALE GENITAL DIS NEC	Transitions
611	OTHER BREAST DISORDERS	Breast pain
616	INFLAMMATORY DISEASE OF CERVIX, VAGINA, AND VULVA	Vaginitis
625	FEMALE GENITAL SYMPTOMS	Dysmenorrhea, premenstrual tension
626	DISORDER OF MENSTRUATION	Menstrual pain, irregular period

ICD9M CODE	ICD9 CODE LABEL	Key Words/Common Responses
627	MENOPAUSAL DISORDERS	Menopausal disorder, balancing hormones, stabilizer for menopause, menopause
628	FEMALE INFERTILITY	Fertility, prepare uterus
682	CELLULITIS AND ABSCESS, UNSPEC	Cellulitis
686	OTHER LOCAL INFECTIONS OF SKIN AND SUBCUTANEOUS TISSUE	Skin palmoplantar pustulosis
690	ERYTHEMATOSQUAMOUS DERM	Dry scalp
691	ATOPIC DERMATITIS AND RELATED CONDITIONS	Atopic dermatitis
692	CONTACT DERMATITIS	Eczema, dermatitis, poison oak
695	ERYTHEMATOUS CONDITIONS	Rosacea, lupus
696	PSORIASIS/LIKE DISORDERS	Psoriasis
697	LICHEN	Lichen
698	PRURITUS & LIKE COND	Itch, itching
702	OTHER DERMATOSES	Actinic keratosis
704	HAIR & FOLLICLE DISEASE	Hair thinning
705	DISORDERS OF SWEAT GLANDS	Miliaria
706	SEBACEOUS GLAND DISEASE	Acne
707	CHRONIC ULCER OF SKIN	Sores in ears (hearing aid), sores under arms
708	URTICARIA	Hives, chronic urticaria
709	OTHER SKIN DISORDERS	Scar
714	RHEUMATOID & OTH INFLAMM POLYARTHROP	Rheumatoid arthritis, RA
715	OSTEOARTHROSIS ET AL	Osteoarthritis
716	ARTHROPATHIES NEC/NOS	Arthritis, arthritis pain
718	OTHER JOINT DERANGEMENT	Pain in hip
719	JOINT DISORDER NEC & NOS	Knee, shoulder, joint etc. pain or problem, athralgia,
721	SPONDYLOSIS AND ALLIED DISORDERS	Undifferentiated spondyloarthropathy
722	INTERVERTEBRAL DISC DIS	Degenerative spine condition

ICD9M CODE	ICD9 CODE LABEL	Key Words/Common Responses
723	OTHER CERVICAL SPINE DIS	Cervical vertebra pain, pinched nerve, neck pain
724	BACK DISORDER NEC & NOS	Back pain, sciatica, lumbar canal stenosis, back spasms
726	PERIPH ENTHESOPATHIES	Torn rotator cuff, tendonitis of jaw
727	OTH DIS SYNOV/TEND/BURSA	Bursitis
728	DIS OF MUSCLE/LIG/FASCIA	Muscle spasm
729	OTHER SOFT TISSUE DIS	Sore muscles, leg pain/cramps, muscle constriction, rheumatism
730	OSTEOMYELITIS, PERIOSTITIS, AND OTHER INFECTIONS INVOLVING BONE	Osteomyelitis
731	OSTEITIS DEFORMANS	Paget's disease, brittle bone
733	OTH BONE & CARTILAGE DIS	Osteoporosis, osteopenia, pain in bone, low bone density
745	CARDIAC SEPTAL CLOS ANOM	Foramen ovale
753	CONGENITAL ANOMALIES OF URINARY SYSTEM	Polycystic kidney disease
780	GENERAL SYMPTOMS	Sleep aid, night sweats, vasovagal syncope, sensitive to cold, stiff, giddy, insomnia, vertigo, memory problems
781	NERV/MUSCULSKEL SYS SYMP	Tremor
782	SKIN/OTH INTEGUMENT SYMP	Rash, numbness of feet/finger/legs, reduce keloidosis, reduce skin inflammation, edema
783	NUTRIT/METAB/DEVEL SYMP	Anorexia, weight loss, appetite suppressant
784	SYMPTOMS INVOL HEAD/NECK	Headache, sore throat
785	CARDIOVASCULAR SYS SYMP	Heart murmur
786	RESP SYS/OTH CHEST SYMP	Difficulty breathing, loosen phlegm, short breath, whooping cough, chest tightness
787	GI SYSTEM SYMPTOMS	Gassy, heartburn, nausea
788	URINARY SYSTEM SYMPTOMS	Urination disorder, frequent urination, urination trouble/problem, bladder control
789	OTH ABDOMEN/PELVIS SYMP	Stomach spasm, stomach cramp, groin pain

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

MIDUS Codes and Labels

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

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

MIDUS CODE	MIDUS CODE LABEL	Key words/Common Phrases
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
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	IMMUNOSUPPRESSION	Immunosuppressant, immunosuppressant after kidney transplant
M3080	INTEGUMENT HEALTH	Hair/Skin/Nail health, dry skin/hair, for skin, to avoid tanning/sunburn, liver spot, rough hands
M3090	OTHER TARGETED HEALTH	Low frequency reasons that cannot be assigned elsewhere (e.g. Multiple organ/system support (i.e. eye & bone, prevent cancer and strokes), bladder protection, protect liver from alcohol, liver, chronic illness)
M4010	MD RECOMMEND	Doctor suggested/prescribed/recommended/ "told me to"
M4020	GOOD FOR YOU/ME	Good for me/you, everyone says it's a good idea, healthy thing to do, heard it's good for you, saw on TV etc.

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