MEDICATION SURVEY FORM

ID NUMBER: | | | | | | | |

FORM CODE: | M | S | R |

DATE: 09/18/2017
Version 3.0

ADMINISTRATIVE INFORMATION

0a. Completion Date: | | | / | | | / | | | | | (Month / Day / Year)

0b. Staff ID: | | | |

A. Reception

"As you know, ARIC is recording all prescription and over-the-counter medications used by participants in the past four weeks, including cold and allergy medications, vitamins, herbal remedies, and other supplements. These medications include solid and non-solid formulations that you may swallow, inhale, apply to the skin or hair, inject, implant, or place in the ears, eyes, nose, mouth, or any other part of the body. The letter you received about this appointment included a plastic bag for all your current medications and asked you to bring them to the clinic."

1. Did you bring all the medications that you used in the past four weeks, or their containers?
   - Yes, all of them ..... ☐ → **GO TO SECTION B, ITEM 5**
   - No, some of them ..... ☐ → **GO TO SECTION A, ITEM 3**
   - No, none of them ..... ☐

2. Is this because you forgot, because you have not taken any medications at all in the last four weeks, or because you could not bring your medications?
   - Took no medication..... ☐ → **GO TO SECTION C, ITEM 33**
   - Forgot or was unable to bring medication .... ☐

"That's all right. Since the information on medications is so important, we would still like to ask you about it during the interview."

3. May we follow up on this after the visit so that we can get the information from the other medication labels? *(Explain follow-up options)*
   - Yes..... ☐
   - No or not applicable .. ☐ → *Scan/transcribe what you can in Section B. Attempt to convert Refusals. Indicate this on tracking form.*

4. Describe method of follow-up to be used:_____

B. Medication Record

Copy the MEDICATION UPC / NDC from each medication label. For each medication, begin with the left most space in fields a-c and the rightmost space in field d. Using upper case letters, carefully copy the MEDICATION NAME. Using periods to indicate decimal points, copy the formulation STRENGTH (weight for solids and concentration for nonsolids). Using upper case letters and standard abbreviations, copy the UNITS used to measure strength. For combination medications, use a forward slash (/) to separate active ingredients, corresponding strengths, and units.

#	(b) Medication UPC / NDC		Medication name (a)
5.	☐☐☐☐☐☐☐☐☐☐☐☐		
	(c) Strength	(d) Units	
6.	☐☐☐☐☐☐☐☐☐☐☐☐		
	(c) Strength	(d) Units	
7.	☐☐☐☐☐☐☐☐☐☐☐☐		
	(c) Strength	(d) Units	
8.	☐☐☐☐☐☐☐☐☐☐☐☐		
	(c) Strength	(d) Units	
9.	☐☐☐☐☐☐☐☐☐☐☐☐		
	(c) Strength	(d) Units	
10.	☐☐☐☐☐☐☐☐☐☐☐☐		
	(c) Strength	(d) Units	
11.	☐☐☐☐☐☐☐☐☐☐☐☐		
	(c) Strength	(d) Units	
12.	☐☐☐☐☐☐☐☐☐☐☐☐		
	(c) Strength	(d) Units	
13.	☐☐☐☐☐☐☐☐☐☐☐☐		
	(c) Strength	(d) Units	
14.	☐☐☐☐☐☐☐☐☐☐☐☐		
	(c) Strength	(d) Units	

#	(b) Medication UPC		Medication name (a)
15.			
	(c) Strength	(d) Units	
16.			
	(c) Strength	(d) Units	
17.			
	(c) Strength	(d) Units	
18.			
	(c) Strength	(d) Units	
19.			
	(c) Strength	(d) Units	
20.			
	(c) Strength	(d) Units	
21.			
	(c) Strength	(d) Units	
22.			
	(c) Strength	(d) Units	
23.			
	(c) Strength	(d) Units	
24.			
	(c) Strength	(d) Units	
25.			
	(c) Strength	(d) Units	

#	(b) Medication UPC		Medication name (a)
26.	☐☐☐☐☐☐☐☐☐☐☐☐		
	(c) Strength	(d) Units	
27.	☐☐☐☐☐☐☐☐☐☐☐☐		
	(c) Strength	(d) Units	
28.	☐☐☐☐☐☐☐☐☐☐☐☐		
	(c) Strength	(d) Units	
29.	☐☐☐☐☐☐☐☐☐☐☐☐		
	(c) Strength	(d) Units	

30. Total number of medications in bag ..... ☐☐

31. Number of medications in bag unable to successfully scan or transcribe ..... ☐☐

32. Staff ID number of person scanning / transcribing medications

a. Scanner / transcriber (items 5-29): ..... ☐☐☐

b. Date of scanning / transcription: ..... ☐☐/☐☐/☐☐☐☐
Month Day Year

C. Medication Use Interview

"Now I would like to ask about a few specific medications."

33. Were any of the medications you took during the last four weeks for: *(If "Yes", verify that the medication NAME is on the medication record.)*

	Yes	No	Unknown
a. Asthma	☐	☐	☐
b. Chronic bronchitis or emphysema	☐	☐	☐
c. High blood sugar or diabetes	☐	☐	☐
d. High blood pressure or hypertension	☐	☐	☐
e. High blood cholesterol	☐	☐	☐
f. Chest pain or angina	☐	☐	☐
g. Abnormal heart rhythm	☐	☐	☐
h. Heart failure	☐	☐	☐
i. Blood thinning	☐	☐	☐
j. Stroke	☐	☐	☐
k. Mini-stroke or TIA	☐	☐	☐
l. Leg pain while walking or claudication	☐	☐	☐

INSTRUCTIONS FOR THE MEDICATION SURVEY FORM (MSR)

I. General Instructions

The purpose of the Medication Survey is to assess medication usage in the four weeks preceding the examination date. Information on both prescription and over-the-counter medications is ascertained via scanning of bar code symbols, transcription of labels, and interview. To obtain this information, the participant is asked prior to the clinic visit to bring to the field center all medications, over-the counter preparations, vitamins, minerals, and dietary supplements taken in the four-week period preceding the visit, or their containers. Notification of this request is mailed to the participant with the written instructions for the exam visit, and is re-stated during the appointment reminder call. At that time participants are asked to assemble and bring to the ARIC center all prescription, over-the-counter, and research medications, including medications that are solid or non-solid, that may be swallowed, inhaled, applied to the skin or hair, injected, implanted, or placed in the ears, eyes, nose, mouth, or any other part of the body.

Interviewers require certification in interviewing techniques and familiarity with the data entry procedures for paper and electronic versions of the form (references: Data Entry System [DES] manual and the "General Instructions for Completing Paper Forms"). Paper data entry and subsequent keying will only be used in the event of equipment malfunction or DES inaccessibility. Scanners / transcribers of medication information also require certification.

II. Detailed Instructions for each Item

A. RECEPTION

Item 1: Read the question as written.

1. Did you bring all the medications that you used in the past four weeks, or their containers?

Yes, all of them ..... Y → **GO TO SECTION B ITEM 5**
No, **S**ome of them ..... S → **GO TO SECTION A, ITEM 3**
No, **N**one of them ..... N

If the response is "Yes, all of them", go to Section B (MEDICATION RECORD) and begin the scanning / transcription. This can take place at the reception station or while the participant proceeds with the clinic visit. As the participant delivers the medications, indicate where (and by whom) they will be returned before he / she leaves. Mention that medication names will be scanned / copied from the labels, and that if required, medications will be taken out of their container only in the presence of, and with approval of the participant. Finally, indicate that a trained interviewer will later ask a few questions about some specific medications. Verify that the medications bag is clearly identified with the participant's name. Do not open the medications bag or scan / transcribe medications until the participant has signed the informed consent.

If the response is "No, Some of them", go to Item 3 to make arrangements for those medications which were not brought and scan / transcribe those medications which were brought in Section B (MEDICATION RECORD).

If the response is “No, None of them”, proceed to the next item.

Item 2: Read the question as written.

2. Is this because you forgot, because you have not taken any medications at all in the last four weeks, or because you could not bring your medications?

Took no medications ..... T → **GO TO SECTION C, ITEM 34**
Forgot or was unable to bring medications ..... F

If the response is “Took no medications” in the past four weeks, Section A ends here. Leave Section B (MEDICATION RECORD) blank and skip to INTERVIEW, Section C (field or screen forward). Item 33 is left blank, and the interviewer continues administering item 34, either at the reception desk or a subsequent workstation.

If the response is “Forgot or was unable to bring medications”, reassure the respondent and proceed to the next item.

Items 3-4: Read item 3 as written.

3. May we follow up on this after the visit so that we can get the information from the other medication labels? (Explain follow-up options)

No or not applicable ..... N → **Scan / transcribe what you can in Section B.** Attempt to convert refusals and indicate this on tracking form

Yes..... Y

If the participant agrees to follow-up, make arrangements for obtaining the information Describe the method of follow-up in item 4. If the participant brought some medications, complete as much of Section B (MEDICATION RECORD) as possible before going on to Item 33.

In case of deliberate omission to bring medications to the field center, attempt participant conversion at the reception desk or a subsequent workstation. If participant conversion is to be attempted after reception, write a note to that effect on the tracking form. Leave Section B (MEDICATION RECORD) blank if no medications were brought in. Even if the participant declines to bring in (or provide medication names by telephone interview), attempt to complete as much of Section C (INTERVIEW) as possible. If the participant has not brought his / her medications, but remembers the medication name, strength and units of all medications taken during the previous four weeks with confidence, the interviewer should record this information, but arrange a follow-up to confirm its accuracy.

B. MEDICATION RECORD

Section B (MEDICATION RECORD) is designed to document information about each medication used by participants. Scanning / Transcription includes recording the medication UPC / NDC bar code or selecting from the medication drop down list in section (a), and when that is not successful, recording the name in section (b), the strength in section (c), and the units in section (d) for each medication used

within the four weeks prior to the interview.

Medication UPC / NDC, Medication Name, Strength, and Units (Items 5-29a-d)

Overview: Open the participant's medications bag and remove all medication containers. Separate the medications into those with and without a UPC-labeled container. Attempt to scan the UPC-labeled containers. Set aside containers that are scanned *successfully*. *Success* is when the medication name, strength and units in the drop-down list match the same information on the medication container. For medications in UPC-labeled containers that cannot be scanned *successfully* (as defined above), transcribe the UPCs. When UPCs are not available or cannot be transcribed *successfully*, transcribe NDCs When UPCs and NDCs are not available or cannot be transcribed *successfully*, transcribe medication names. In each situation, select the matching medication name, strength, and units from the drop-down list to facilitate automatic data entry and coding. If a matching medication name, strength and units do not appear on the drop-down list, manually transcribe as much information as possible in sections [b-d].

Scanning: A UPC bar code symbol is a pattern of black bars and white spaces, below (or above) which are twelve numbers. In example [1], the first six numbers—614141—comprise the globally unique company prefix assigned by the Uniform Code Council. The next five—54321—comprise the item reference. The last—2—is a computer-generated check digit used to verify accuracy. The symbol encodes all twelve numbers (collectively referred to as the Global Trade Item Number [GTIN]). In this context, we informally refer to the GTIN as a Universal Product Code (UPC). A ten- or eleven-digit National Drug Code (NDC), which by federal law is assigned to all pharmaceuticals sold in the U.S., is often represented within the UPC and recorded elsewhere on medication packaging. Several variations in UPC / NDC spacing, and hyphenation are illustrated in examples [2-3]. Scan the bar code symbol with the wand to capture the UPC / NDC. Rescan it as needed. Judge success of the scan by verifying that the medication name, strength, and units in the drop-down list match the same information on the medication container.

UPC / NDC:	306030048167	311017110010
Name:	Azo-Septic	Dr. Scholl's Clear Away Plantar
Strength:	95	40
Units:	MG	%

Transcription: Transcribe all medications without a UPC-labeled container *and* those with a UPC-labeled container that cannot be scanned *successfully* (as defined above). Specifically, in section (a), transcribe the unsuccessfully scanned UPC, if possible. If the UPC cannot be transcribed *successfully*, transcribe the NDC in section (a). The NDC is often recorded elsewhere on the medication packaging. If the NDC cannot be transcribed *successfully*, transcribe the medication name. As you type the first few alphanumeric characters of the UPC / NDC or medication name, suggested matches may appear in the drop-down list. Additional suggestions may appear as you type more. If the medication name, strength, and units appear in the drop-down list and match the same information on the medication container, select them with the mouse to facilitate automatic data entry and coding. If a match does not appear in the drop-down list as you type the UPC / NDC or medication name, then you must transcribe in section (b) the complete medication name as written on the container. Medication labels may contain standard abbreviations (Table 1). In section (c), transcribe the numeric strength (weight for

solids and concentration for non-solids). In section (d), transcribe the units that measure strength using a standard abbreviation (Table 3). Formatting and transcription standards are detailed below.

Standard Format: Beginning with item 5, transcribe all parts of (a) the numeric UPC / NDC, (b) medication name as written on the container, (c) numeric strength, and (d) standard units. If using the paper form, carefully transcribe medication name and units in UPPER CASE CHARACTERS (CAPITAL LETTERS). When necessary, use a period (.) to indicate the location of a decimal point in strength and a forward slash (/) to separate active ingredients of generic products, their respective strengths and units. In every case, transcribe in standard format even when the same information or a portion of the information appears in the previous item. Do not use ditto marks (") to indicate a repeat of the previous item.

Medication UPC / NDC (Items 5a-29a): Transcribe the UPC / NDC in (a) when it cannot be scanned *successfully* (as defined above). Be sure to transcribe the first and last numbers of the UPC which may be found in the lower (middle or upper) left and right regions of the UPC bar code symbol (e.g. 6 and 2 in example [1], above). If the medication UPC/NDC is in the coding database, it will appear in the drop-down list. If the medication UPC / NDC does not appear in the drop-down list, transcribe the medication name in (a) and use the mouse to select the medication name, strength, and units from the drop down list that match the same information on the medication container.

Medication Name (Items 5b-29b): If a matching medication name, strength and units do not appear on the drop-down list, transcribe the medication name in (b) using a forward slash (/) to separate active ingredients of generic medications, but do not transcribe e.g. flavors, whether medications are sugar-free, or low-sodium. Since a few companies have trademarked their formulation (dosage form), the complete medication name may include it. Although we do not transcribe the number of pills dispensed, the prescribed dose, actual dose, or frequency of medications taken, medication names also may include numbers or characters that can be mistaken for number dispensed, dose or frequency. If in doubt, it is preferable to include questionable information in the medication name to facilitate identification, coding and classification. Therefore, transcribe all formulations, numbers and characters that may be part of the medication name. Examples are provided in Table 2. Standard abbreviations of medication names are provided in Table 1.

Table 1. Standard abbreviations for medication names

Medication Name	Abbreviation	Medication Name	Abbreviation	Medication Name	Abbreviation
A Acetaminophen	APAP	Aluminum	AL	Amitriptyline	AMITRIP
Antibiotic	ANTIBIO	Antihistamine	ANTIHIST	Arthritic	ARTHR
Aspirin	ASA	Aspirin, phenacetin & caffeine	APC	Ammononium	AMMON
B Balanced Salt Solution	BSS	Buffered	BUF		
C Caffeine	CAFF	Calcium	CA	Capsules	CAP
Carbonate	CARBON	Chewable	CHEW	Chlordiazepoxide	CHLORDIAZ
Chloride	CL	Chlorpheniramine	CHLORPHEN	Codeine	COD
Compound	CPD or CMP or CMPD	Concentrate	CON		
D Decongestant	DECONG	Dextromethorphan	DM	Dioctylsodium sulfosuccinate	DSS
E Expectorant	EXP	Extra	EX		
F Ferrous	FE	Fluoride	FL	Formula	FORM
G Gluconate	GLUCON	Glyceryl Guacolate	GG	Guaifenesin	GG
H Hydrochloride	HCL	Hydrochlorthiazide	HCTZ	Hydrocortisone	HC
Hydroxide	HYDROX				
I Inhalation	INHAL	Injection	INJ	Intravenous	IV
J Junior	JR				
L Laxative	LAX	Liquid	LIQ	Long acting	LA
Lotion	LOT				
M Magnesium	MG	Maximum	MAX	Minerals	M
Multivitamins	MULTIVIT				
N Nitroglycerin	NTGN				
O Ointment	OINT	Ophthalmic	OPTH		
P Penicillin	PCN	Pediatric	PED	Perphenazine	PERPHEN
Phenobarbitol	PB	Phenylephrine	PE	Phenylpropanolamine	PPA
Potassium	K	Potassium Chloride	KCL	Potassium Iodide	KI
Powder	PWD	Pyrilamine	PYRIL		
R Reliever	REL				
S Simethicone	SIMETH	Sodium	SOD	Solution	SOLN
Strength	STR	Suppository	SUPP	Suspension	SUSP
Sustained action	SA	Sustained release	SR	Syrup	SYR
T Tablets	TAB	Theophyllin	THEOPH	Therapeutic	T
Time disintegration	TD				
V Vaccine	VAC	Vitamin	VIT		
W With	W				

Table 2. Examples of medication names that include special formulations, numbers or characters

Medication Name	
DILANTIN KAPSEALS*	ORTHO-NOVUM 10/11-28
ASA ENSEALS†	STUARTNATAL 1 + 1
ANACIN-3	NPH ILETIN I
ACEROLA-C	SK-AMPICILLIN
TRIAMINIC-12	CALTRATE 600 PLUS VITAMIN D
OVRAL-28	HCTZ/TRIAMTERENE‡

*Kapseals = capsules. †Enseals = enteric-coated capsules. ‡The "/" separates HCTZ (hydrochlorothiazide) and triamterene, two active ingredients.

Strength (Items 5c-29c): The strength of most solid medications is given in number of milligrams. Transcribe the numeric strength (weight for solids and concentration for non-solids) using a period (.) to indicate the location of a decimal point and a forward slash (/) to separate the strength of active ingredients of generic products (e.g. medication name = HCTZ/TRIAMTERENE, strength = 25/37.5).

Units (Items 5d-29d): Transcribe the metric units that measure strength using one of the standard abbreviations in Table 3 (continuing the above example, units = MG/MG). Prior metric conversion of non-standard units (e.g. for liquids: 1 fluid ounce = 30 ML; 1 tablespoon = 15 ML; 1 teaspoon = 5 ML; and for solids: 1 grain = 65 MG; 1 ounce = 31 GM) may be necessary in unusual cases. Note that for insulin, strength is often given in number of units per milliliter (e.g. 100U/ML, 100/ML and U100). All three of these non-standard abbreviations are equivalent to the preferred format (strength = 100; units = UNIT/ML).

Table 3. Standard abbreviations of metric units

Units	Standard Abbreviation	Units	Standard Abbreviation
Anti-Clotting Factor Xa International Units/Milliliter	A-XA IU/ML	Milligram/Drop	MG/DROP
Billion Cells of Lactobacilli	B CELL	Milligram/Gram	MG/GM
Bioequivalent Allergy Units/Milliliter	BAU/ML	Milligram/Inhalation‡	MG/INH
Actuation*	ACT	Milligram/Hour	MG/HR
Enzyme-Linked Immunosorbent Assay Units/Milliliter	ELU/ML	Milligram/Milligram	MG/MG
Gram†	GM	Milligram/Milliliter	MG/ML
Gram/Dose	GM/DOSE	Milligram/Spray	MG/SPRAY
Gram/Gram	GM/GM	Milligram/Teaspoon§	MG/TSP
Gram/Milliliter	GM/ML	Milliliter	ML
Kallikrien Inactivator Units/Milliliter	KIU/ML	Milliliter/Milliliter	ML/ML
Flocculation Units	LFU	Millimole	MMOLE
Megabecquerels/Milliliter	MBQ/ML	Millimole/Milliliter	MMOLE/ML
Microgram†	MCG	Million International Units	MIU
Microgram/Actuation	MCG/ACT	Million International Units/Milliliter	MIU/ML
Microgram/Hour	MCG/HR	Million Units	MU
Microgram/Inhalation‡	MCG/INH	Million Units/Gram	MU/GM
Microgram/Milliliter	MCG/ML	Million Units/Milliliter	MU/ML
Microgram/Spray	MCG/SPRAY	Minim	MINIM
Microgram/Square Centimeter	MCG/SQCM	Minim/Milliliter	MINIM/ML
Millicuries/Milliliter	MCI/ML	Percent	%
Milliequivalent	MEQ	Plaque Forming Units/Milliliter	PFU/ML
Milliequivalent/Gram	MEQ/GM	Protein Nitrogen Units/Milliliter¶	PNU/ML
Milliequivalent/Liter	MEQ/L	Unit	UNIT
Milliequivalent/Milligram	MEQ/MG	Unit/Actuation	UNIT/ACT
Milliequivalent/Milliliter	MEQ/ML	Unit/Gram	UNIT/GM
Milligram†	MG	Unit/Milligram	UNIT/MG
Milligram/Actuation	MG/ACT	Unit/Milliliter	UNIT/ML

*Actuation = activation of a dispensing device. †1 GM = 1000 MG; 1 MG = 1000 MCG. ‡Of aerosolized powder. §Of e.g. powdered or granulated oral medications. ¶Of allergenic extracts.

Combination Medications: Combination medications contain multiple active ingredients (two or more medications in a single formulation). For example, consider a brand name combination of HCTZ 25 MG and TRIAMTERENE 37.5 MG called DYAZIDE. In the U.S., DYAZIDE is sold only in this fixed combination. Because fixed combination medications do not generally list a strength (c) or units (d), these fields may be left blank when transcribing them in (b) (i.e. medication name = DYAZIDE; strength = [blank] ; units = [blank]). Other combination medications are sold in more than one fixed combination. For example, consider a brand name combination of HCTZ and PROPRANOLOL called INDERIDE (LA). In the U.S., it is sold in many different combinations (HCTZ 25 or 50 MG and PROPRANOLOL 40, 80, 120 or 160 MG). Because variable combination medications generally list the strength and units, complete these fields when transcribing them (i.e. medication name = INDERIDE; strength =25/40 or 25/80; units = MG/MG; or medication name = INDERIDE LA; strength = 50/80, 50/120 or 50/160; units = MG/MG).

Examples: Feosol Iron Supplement Therapy 45 mg

#	(a) Medication UPC / NDC												Medication name (b)
5.	**3**	**4**	**9**	**6**	**9**	**2**	**9**	**4**	**1**	**6**	**0**	**5**	FEOSOL IRON SUPPLEMENT THERAPY
	(c) Strength						(d) Units						
	45						MG						

Lipitor 10 mg

#	(a) Medication UPC / NDC												Medication name (b)
6.	**3**	**0**	**0**	**7**	**1**	**0**	**1**	**5**	**5**	**2**	**3**	**7**	LIPITOR
	(c) Strength						(d) Units						
	10						MG						

Regular Strength Tylenol 325 mg

#	(a) Medication UPC / NDC												Medication name (b)
7.	**5**	**0**	**5**	**8**	**0**	**4**	**9**	**6**	**6**	**0**			REGULAR STRENGTH TYLENOL
	(c) Strength						(d) Units						
	325						MG						

Neosynephrine Regular Strength ½ percent

#	(a) Medication UPC / NDC												Medication name (b)
8.	**3**	**0**	**0**	**2**	**4**	**1**	**3**	**5**	**3**	**0**	**1**	**0**	NEOSYNEPHRINE REGULAR STRENGTH
	(c) Strength						(d) Units						
	0.5						%						

Metamucil 3.4 g per dose

#	(a) Medication UPC / NDC												Medication name (b)
9.	**0**	**3**	**7**	**0**	**0**	**0**	**7**	**4**	**0**	**7**	**8**	**0**	METAMUCIL
	(c) Strength						(d) Units						
	3.4						G/DOSE						

Robitussin 100 mg per teaspoon

#	(a) Medication UPC / NDC												Medication name (b)
10.	**3**	**0**	**0**	**3**	**1**	**8**	**6**	**2**	**4**	**1**	**2**	**8**	ROBITUSSIN
	(c) Strength						(d) Units						
	100/5						MG/ML						

Magnesium Citrate Solution 1.745 g per ounce

#	(a) Medication UPC / NDC												Medication name (b)
11.	**8**	**4**	**0**	**9**	**8**	**6**	**0**	**1**	**0**	**2**	**5**	**5**	MAGNESIUM CITRATE SOLUTION
	(c) Strength						(d) Units						
	1.745/30						G/ML						

Prioritizing Transcription: Polypharmacy tends to increase with age, but even if a participant is using more than 25 medications, only 25 can be transcribed in items (5-29). Therefore, prioritize transcription if there are more than 25 medications. If it is clearly necessary to defer prioritization, transcribe the UPC / NDC (a), name (b), strength (c), and units (d) of additional medications on a sheet of paper Deferral may allow more effective prioritization based on the number and type of medications available for transcription. In any case, use the following algorithm to guide prioritization: [1] prescription medications; then [2] aspirin, aspirin-containing medications and non-steroidal anti-inflammatory drugs (e.g. Alka-Seltzer, headache powders, cold or arthritis medications, et cetera); followed by [3] other over-the-counter preparations; and finally [4] vitamins and food supplements.

The Medication Dictionary: The automated medication dictionary lists medication names (trade / brand and generic ingredient) in alphabetical order. Medication names that begin with a number, ditto ("), or a hyphen (-) are listed first. If a medication name is separated by a hyphen (-), the portion of the name preceding the hyphen is listed in alphabetical order.

Preparing to Use the Medication Dictionary: Before using the medication dictionary to look up a medication, first check the spelling of its transcribed name against its container's label. Verify that numbers referring to quantity dispensed, dose, or frequency were not inappropriately transcribed as part of the medication name because they should not be used in the matching process. Be aware that while some pharmacists use standardized abbreviations (Table 1, above) others do not. Also be aware that some medications use suffixes to distinguish between different combinations containing the same primary ingredient (Table 4).

Table 4. Examples of medication suffixes used to distinguish combinations

Medication Name	1° Ingredient	2° Ingredients	
DARVON	propoxyphene hydrochloride		
DARVON N	propoxyphene napsylate		
DARVON W ASA	propoxyphene hydrochloride	aspirin	
DARVON CMPD	propoxyphene hydrochloride	aspirin	caffeine

Using the Medication Dictionary: Use the dictionary as needed to look up medications (that when scanned or transcribed) do not automatically populate section (a) with an appropriate match or list of potential matches from which to choose. For medication names containing more than one word, look for a match of the complete medication name in the dictionary. If the complete name matches, enter the corresponding UPC. If a complete match cannot be found, but the dictionary contains a single entry for the ingredient(s) in the medication (usually the first word of the medication name), and there are no other entries containing this word, select the corresponding UPC. This often occurs when [1] the brand *and* generic medication name are transcribed, but only one is in the dictionary; [2] the formulation of the medication is transcribed, but is not in the dictionary; [3] the manufacturer name is transcribed, but is not in the dictionary; or [4] words referring to other ingredients are transcribed, but are not in the dictionary or are in the dictionary in a different order (Table 5). If a medication name is not in the dictionary, do not guess at a match. Simply set the status code to Q (questionable) so that the Collaborative Studies Coordinating Center can investigate.

Table 5. Examples of medication names that may not automatically populate sections [a-d]

Medication Name Transcribed As	Reason For Failure	Re-Transcribe As
CORDARONE/AMIODARONE	CORDARONE is the brand name for AMIODARONE	AMIODARONE
DIMETAPP ELIXIR	ELIXER is the formulation	DIMETAPP
ECKERD ALLERGY RELIEF TABS	ECKERD is the manufacturer	ALLERGY RELIEF
TYLENOL NO. 3	NO. 3 refers to another active ingredient (codeine)	APAP W CODEINE

Items 30-31: Once all medications that can be successfully scanned or transcribed have been processed, count the total number of different medications (including those that cannot be successfully

scanned or transcribed). Enter this number in Item 30. Count the actual medications to determine the total. Do not refer to the record numbers on the screen or form. Set aside loose pills, containers that are unmarked, unclearly labeled, or hold more than one medication (e.g. medisets), if necessary in consultation with another trained staff person, for later examination by a trained interviewer. Add the number of medications that you are unable to successfully scan or transcribe. Enter this number in Item 31. For example, if there were 7 medications in the bag, and you were able to successfully scan or transcribe 5 of them, Items 30 and 31 would be completed as follows:

30. Total number of medications in bag..... .....| 0 | 7 |

31. Number of medications unable to successfully scan or transcribe…| 0 | 2 |

Items 32a,b: The staff person scanning / transcribing the medications must enter their ARIC ID number in item 32a and the date of medication scanning / transcription in item 32b. Return the medications to their bag. If necessary, make a note on the Medication Survey form, and inform the participant that a trained interviewer will ask for help identifying loose pills and medications in containers that are unmarked, unclearly labeled, or hold more than one medication. Place the Medication Survey paper form (if appropriate) in the medication bag and take it to the workstation where the interview will be administered or to a secure place at the physical exam workstation. AT NO TIME SHOULD MEDICATIONS BE LEFT UNATTENDED IN THE RECEPTION AREA OR MEDICATION CONTAINERS BE OPENED IN THE ABSENCE OF THE PARTICIPANT.

Identifying Unknown Medications: Determine from Item 31 on the form at the end Section B whether there are any medications in the bag that were not successfully scanned or transcribed including loose pills, medications in containers that are unmarked, unclearly labeled, or hold more than one medication. With the help of the participant and a magnifying glass, read the imprint(s) on each unknown pill, then search [1] the *U.S. National Library of Medicine Pillbox* (http://pillbox.nlm.nih.gov/pillimage/search.php), or if necessary, [2] the *Drugs.com Pill Identifier* (http://www.drugs.com/imprints.php) to identify each pill from its imprint(s), shape, and / or color. If possible, record the UPC / NDC (a) or medication name (b) and if not transcribed *successfully* (as defined above), its strength (c) and units (d). If the medication cannot be identified, record UNKNOWN and the imprint(s) under medication name (b) and draw two horizontal lines (=) through the boxes for the UPC / NDC (a). If additional medications can be identified and recorded, adjust the total for item 31 accordingly. Thereafter, probe the participant about any other medications that may have been taken in the previous four weeks. For additional medications recalled by the participant, record with as much detail as possible the medication name (b), and if not automatically linked to information in sections [c-d] that matches information provided by the participant, strength (c), and units (d). If there is any doubt, arrange for follow-up to obtain more accurate information from the participant.

During the remainder of the Medication Survey interview or during a subsequent interview, the participant may recall other medications taken during the past four weeks. Transcribe the medication UPC (a), name (b), strength (c) and units (d) of each just as if they had been in the medication bag. However, do not adjust the total for item 31. This documents that information on some medications was provided from the participant's memory.

C. MEDICATION USE INTERVIEW

Items 33a-l: Following the transition statement provided, ask if medications were taken in the past four weeks for the twelve listed reasons. Synonyms that may be used in response to participant questions are listed below (Table 6).

Table 6. Synonyms that may be used in response to participant questions about items 33a-k

Question text	Synonyms
a. Asthma	--
b. Chronic bronchitis or emphysema	Chronic obstructive pulmonary (or lung) disease / COPD
c. High blood sugar	Diabetes
d. High blood pressure	Hypertension
e. High blood cholesterol	Hypercholesterolemia
f. Chest pain	Angina / heart pains
g. Abnormal heart rhythm	Arrhythmia / Fast or irregular heart rate or heart beats
h. Heart failure	Congestive heart failure or CHF / Not heart attack
i. Blood thinning	Anticoagulation / Deep vein thrombosis or DVT / Pulmonary embolism or PE
j. Stroke	Cerebrovascular accident or CVA
k. Mini-stroke	Slight stroke / Transient ischemic attack or TIA (< 24 hr)
l. Leg pain while walking	Claudication / Peripheral vascular disease or PVD

For example, if the participant had taken medication for asthma and claudication and no other listed conditions, code item 33 as follows:

	Yes	No	Unknown
a. Asthma	(Y)	N	U
b. Chronic bronchitis or emphysema	Y	(N)	U
c. High blood sugar or diabetes	Y	(N)	U
d. High blood pressure or hypertension	Y	(N)	U
e. High blood cholesterol	Y	(N)	U
f. Chest pain or angina	Y	(N)	U
g. Abnormal heart rhythm	Y	(N)	U
h. Heart failure	Y	(N)	U
i. Blood thinning	Y	(N)	U
j. Stroke	Y	(N)	U
k. Mini-stroke or TIA	Y	(N)	U
l. Leg pain while walking or claudication	(Y)	N	U

If any of the conditions are answered affirmatively, be sure that the medication is recorded in Section B by asking “Did we include that medicine in the list I just transcribed?”. DO NOT ask the participant to identify which medication was used to treat any of the conditions. For example, if the participant reported taking a medication to lower blood pressure during the last four weeks (Item 33d), and no recognized antihypertensive medications were recorded in Section B, DO NOT probe to determine if the names of all medications taken during the last two weeks were recorded. If the participant indicates that the names of all his / her medications have been transcribed, DO NOT probe further to determine which medication was used to treat the high blood pressure. Regardless of whether the participant reported taking any medications during the past four weeks or whether they brought any medication to the field center, proceed with the next item.

Items 34-38: Items 34-38 have been disabled in CDART2.

Item 39: Read this final question to all participants to assess how they pay for their medication. Many participants may use more than one method of payment, so it is important to encourage them to indicate all methods that apply to them. For payment options that require a copay (eg, Medicare Part D, Medicaid, etc.), the copay is implied so an additional option will not be selected unless an additional method other than cash is used (e.g., Medicare Part D plus Other public programs). A participant may not have any medication coverage in which case the last option “No coverage (self-pay only, entirely out-of-pocket)” applies.

Yes, all of them

No, some of them

No, none of them

Q. 1

Took no medication

Forgot or was unable to bring medication

Q. 2

Medicare part D (co-pay included)

Medicaid (co-pay included)

Veteran Administration (VA) (co-pay included)

Prescription assistance programs (co-pay included)

Other public programs (co-pay included)

Private or employer insurance (co-pay included)

No coverage (self-pay only, entirely out-of-pocket)

Q. 39