

ARIC Visit 2

Derived Variable Dictionary

September 2007

ARIC Visit 2 Derived Variable Dictionary

Updated Derive File	UC #	Variables added	Variables removed
July 2006 (Derive 28)		DERIVE 9 + UBMD4 ECGMA03 PULM STROKE01	
September 2007 (Derive29)	UC4764	DERIVE 28+ CHDRISK10YR_21 + STROKERISK10YR_21+ DIABETESRISK9YR_21+ HYPTMDCODE21+ CHOLMDCODE21 + CHOLMDCODE22	HYPTERMD23, CHOLMD23, CHOLMD24

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Variables are in DERIVE28 unless otherwise noted.

November, 2004

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2 Alcohol Use

2.1 DRNKR21 (V2 Drinker Status)

DRNKR21	Frequency	Percent
.	31	0.22
1	8054	56.13
2	3033	21.14
3	3227	22.49
4	3	0.02

This is a numeric variable with values ranging from 1 to 4. These values are explained below.

- 1 - Current drinker
- 2 - Former drinker
- 3 - Never drinker
- 4 - Unknown

Note: This variable includes a historical component, but no use of Visit 1 data has been made.

Table of assignment of values to DRNKR21

HHXB59: HAVE YOU EVER CONSUMED ALCOHOLIC BEVERAGES?	HHXB58: DO YOU PRESENTLY DRINK ALCOHOLIC BEVERAGES?		
	Y	N	MISSING
Y	1	2	4 (d)
N	Missing (a)	3	3 (b)
Missing	1	4 (c)	Missing

- (a) Bad data (contradictory answers)
- (b) Even though Q58 is not answered, Q59 clearly defines the person as a never drinker
- (c) Could be either former or never drinker
- (d) Could be either former or current drinker

2.2 ETHANL24 (V2 usual Ethanol Intake in g/wk)

Variable	N	Mean	Median	Std Dev	Minimum	Maximum
ETHANL24	14307	37.0	0.0	93.35	0.0	2106.9

This is a numeric variable that replaced ETHANL23.

- i. Current drinker (DRNKR21 =1)

Note: This variable includes a historical component, but no use of Visit 1 data has been made.

Algorithm:

$$\begin{aligned} \text{ETHANL24} = & [(\text{HHXB64}) \times 10.8] \\ & + [(\text{HHXB65}) \times 13.2] \\ & + [(\text{HHXB66}) \times 15.1] \end{aligned}$$

- ii. Former or never drinker
[(DRNKR21 = 2) or (DRNKR21 =3)]

$$\text{ETHANL24} = 0$$

- iii. Any of the following could not be determined:

- a. Drinking status
- b. Amount of wine
- c. Amount of beer
- d. Amount of hard liquor

$$\text{ETHANL24} = \text{missing}$$

HHXB64: Number of glasses of wine per week
{4 oz. glasses; round down }

HHXB65: Number of bottles/cans of beer per week
{12 oz. bottles/cans; round down }

HHXB66: Number of drinks of hard liquor per week
{1.5 oz. shots; round down }

2.3 CURDRK21 (Current Drinker)

CURSMK21	Frequency	Percent
T	33	0.23
0	11106	77.40
1	3209	22.37

CURDRK21 is a categorical variable that takes values according to the definition table below:

CURDRK21	HHXB58	HHXB59
1	Y	Y or Missing
0	N	any
	Missing	N
T	Y	N
	Missing	Not N

HHXB58: Do you presently drink alcoholic beverages? Y, N

HHXB59: Have you ever consumed alcoholic beverages? Y, N

2.4 FORDRK21 (Former Drinker)

FORDRK21	Frequency	Percent
T	34	0.24
0	11281	78.62
1	3033	21.14

FORDRK21 is a categorical variable that takes values according to the definition table below:

FORDRK21	HHXB58	HHXB59
1	N	Y
0	Y	Y or Missing
	N or Missing	N

.T	N	Missing
	Y	N
	Missing	Y or .

HHXB58: Do you presently drink alcoholic beverages? Y, N

HHXB59: Have you ever consumed alcoholic beverages? Y, N

2.5 EVRDRK21 (Ever Drinker)

EVRDRK21	Frequency	Percent
T	34	0.24
0	3227	22.49
1	11087	77.27

EVRDRK21 is a categorical variable that takes values according to the definition table below:

EVRDRK21	HHXB58	HHXB59
1	Y	Missing
	any	Y
0	not Y	N
.T	Y	N
	not Y	Missing

HHXB58: Do you presently drink alcoholic beverages? Y, N

HHXB59: Have you ever consumed alcoholic beverages? Y, N

3 Anthropometry

3.1 BMI21 (V2 Body Mass Index in Kg/m²)

Variable	N	Mean	Median	Std Dev	Minimum	Maximum
BMI21	14320	28.0	27.2	5.41	13.7	67.3

This is a numeric variable.

Algorithm:

$$\text{Body Mass Index} = \left[\frac{\text{Weight (lbs)}}{2.20} \right] / \left[\frac{\text{Height (cm)}}{100} \right]^2$$
$$\text{BMI21} = (\text{ANTB01} / 2.20) / (\text{ANTA01} / 100)^2$$

= missing, if either or both measure is missing

ANTB01 is weight to nearest pound.
ANTA01 is the standing height in Visit 1.

3.2 MNTRCP21 (V2 Mean Triceps in mm)

Variable	N	Mean	Median	Std Dev	Minimum	Maximum
MNTRCP21	14335	22.6	22.0	9.32	3.0	65.0

Mean of both Triceps measurements (mm)

$$\text{MNTRCP21} = \text{Mean} (\text{ANTB02A}, \text{ANTB02B})$$

= missing, if both measures are missing

3.3 MNSSCP21 (V2 Mean Subscapular in mm)

Variable	N	Mean	Median	Std Dev	Minimum	Maximum
MNSSCP21	14328	22.0	20.5	10.11	0.0	68.0

Mean of both Subscapular measurements (mm)

$$\text{MNSSCP21} = \text{Mean} (\text{ANTB03A}, \text{ANTB03B})$$

= missing, if both measures are missing

3.4 WSTHPR21 (V2 Waist-to-Hip Ratio)

Variable	N	Mean	Median	Std Dev	Minimum	Maximum
WSTHPR21	14328	0.9	0.9	0.08	0.5	1.6

This is a numeric variable.

$$\text{WSTHPR21} = \text{ANTB04A} / \text{ANTB04B}$$

ANTB04A: Girth of Waist in cm

ANTB04B: Girth of Hip in cm

3.5 B-Mode (Descriptions of B-Mode Ultrasound Variables) (File UBME)

Original Derived Variables (See diagram for graphic illustration)

1. mx23: maximum near wall thickness is the maximum of all available (up to eleven) distances between pairs of points on the near wall, using splined data when five or more points were actually read in an interface, or using only observed data when four or less points were read.

There is a *mx23 for every site, where A*≡ is one of the prefixes listed in Appendix A, corresponding to the specific site.

lanbm _{x23}	lbibm _{x23}	linbm _{x23}	lopbm _{x23}	lpobm _{x23}	qc1bm _{x23}
ranbm _{x23}	rbibm _{x23}	rinbm _{x23}	ropbm _{x23}	rpobm _{x23}	qc2bm _{x23}

2. mx45: is similarly defined, for the far wall

There is a *mx45 for every site, where A*= is one of the prefixes listed in Appendix A, corresponding to the specific site.

lanbm _{x45}	lbibm _{x45}	linbm _{x45}	lopbm _{x45}	lpobm _{x45}	qc1bm _{x45}
ranbm _{x45}	rbibm _{x45}	rinbm _{x45}	ropbm _{x45}	rpobm _{x45}	qc2bm _{x45}

3. av45: mean far wall thickness, is the arithmetic mean of all available (up to eleven) distances between pairs of points on the far wall, using splined data when five or more points were actually read in an interface, or using only observed data when four or less points were read.

There is a *av45 for every site, where A*≡ is one of prefixes listed in Appendix A, corresponding to the specific site.

lanbav ₄₅	lbibav ₄₅	linbav ₄₅	lobav ₄₅	lpobav ₄₅	qc1bav ₄₅
ranbav ₄₅	rbiabv ₄₅	rinbav ₄₅	ropbav ₄₅	rpobav ₄₅	qc2bav ₄₅

4. av23: is similarly defined, for the rear wall

there is a *av23 for every site, where A*≡ is one of the prefixes listed in Appendix A, corresponding to the specific site.

lanbav ₂₃	lbibav ₂₃	linbav ₂₃	lobav ₂₃	lpobav ₂₃	qc1bav ₂₃
ranbav ₂₃	rbibav ₂₃	rinbav ₂₃	ropbav ₂₃	rpobav ₂₃	qc2bav ₂₃

5. av25: arterial diameter is similarly defined, as the mean of all available 2-5 distances

There is a *av25 for every site, where A*≡ is one of the prefixes listed in Appendix A,

corresponding to the specific site.

lanbav25	lbibav25	linbav25	lopbav25	lpobav25	qc1bav25
ranbav25	rbibav25	rinbav25	ropbav25	rpobav25	qc2bav25

6. mn34: minimum lumen diameter, is the minimum of all available (up to eleven) distances between pairs of points on the 3-4 interfaces, using splined data when five or more points were actually read in an interface, or using only observed data when four or less points were read.

There is a *mn34 for every site, where A*≡ is one of the prefixes listed in Appendix A, corresponding to the specific site.

lanbmn34	lbibmn34	linbmn34	lopbmn34	lpobmn34	qc1bmn34
ranbmn34	rbibmn34	rinbmn34	ropbmn34	rpobmn34	qc2bmn34

7. DEPTH21 is the overall average depth in pixels
8. DEPTH22 is the overall average depth in millimeters
9. QC21 is the site name of the first repeat site scanned
10. QC22 is the site name of the second repeat site scanned
11. QCCNT2 is the number of QC sites with repeated scans

3.6 Imputed Ultrasound Data for Far Wall Thickness

This section contains details concerning the imputed ultrasound datasets provided on the ARIC Visit 2 data tapes. The topics covered are:

- * description of data set contents
- * data sets and variable naming conventions
- * imputed versus unimputed data

Description of Data Set Contents

Included on the updated data tapes are four data sets containing imputed ultrasound values. The data set names and variables included in each data set are described below.

Data Set and Variable Naming Conventions

Data Sets Containing Imputed Values

Because gender-race specific regression models were used to perform the imputation, a separate

data set exists for White Males, White Females, Black Males, and Black Females. Each data set name consists of UBME (indicating ultrasound) + WM, WF, BF, or BM (indicating the specific gender-race group) + 4 (updated version number). For example, the data set containing imputed ultrasound data for white males is named UBMEWM4. Similarly, the data set containing imputed ultrasound data for black females is named UBMEBF4. A similar pattern holds for the other gender-race groups.

The variables contained within the data sets are summarized in the table below. Most variable names consist of LBIB, RBIB, LOPB, ROPB, LINB, or RINB (indicating location) + DA or WA (indicating the type of statistic) +45 (indicating that the measurement is of the far wall). There are a few other summary variables which have unique names. These are included in the following list.

VARIABLE	DESCRIPTION	TYPE
ID	Participant ID number	Character
*DA45	Imputed site-specific average far wall thickness *=LBIB, RBIB, LOPB, ROPB, LINB, RINB	Continuous
*WA45	Weight for site-specific imputed average wall thickness *=LBIB, RBIB, LOPB, ROPB, LINB, RINB	Continuous
SUM45_23	Z score summary statistic for *DA45	Continuous
SUM2WT45	Number of observed values / 6 = weight for Sum45_21, 2, or 3	Continuous

Imputed versus Unimputed Data

You may want to rerun analyses previously run on unimputed (observed) ultrasound data (using the UBME4 data set), on imputed data (using the UBME_{xx}4 data sets, where _{xx} can be BM, BF, WM, or WF). Because of the naming conventions used, this should be a relatively easy task. Note that the data set containing unimputed ultrasound data (UBME) contains variables of average far wall width, such as LINBAV45 and LBIBAV45. These unimputed variables on the UBME data set correspond to the imputed variables LINBDA45 and LBIBDA45, respectively, on the UBME_{xx}4 data sets. Thus, only the middle component of the variable name must be changed for AV (unimputed average) to DA (imputed average). This logic holds true for all of the site-specific averages.

Use of Weights

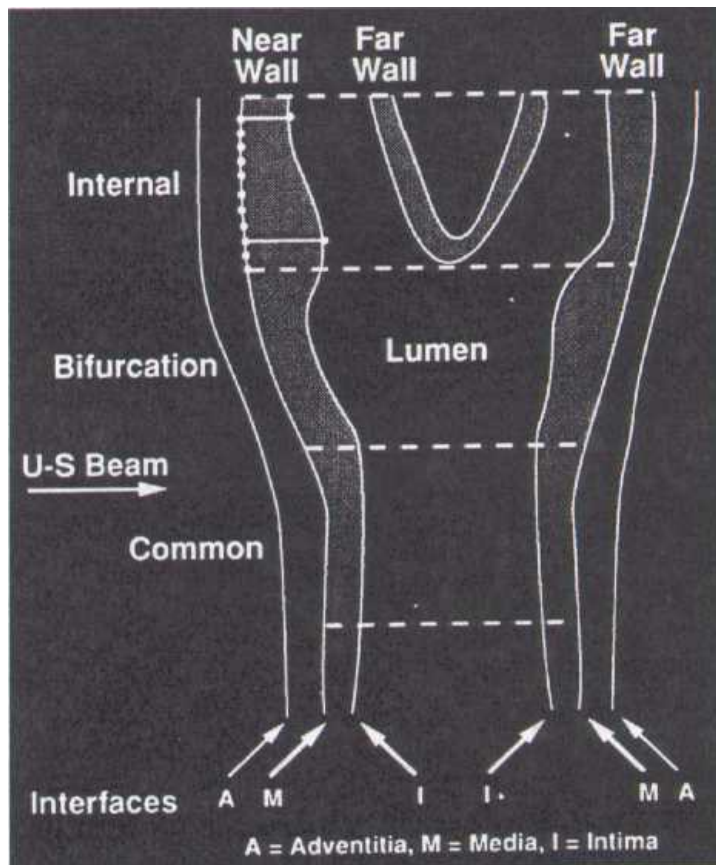
The weights are a measure of precision which varies by number of sites observed. Regression estimates, using *DA45 or SUM45_21 as dependent variables, will generally be more precise if weighted regression is used.

4 Appendix A

B-Mode Derived Variable Site Prefixes

LAN	Left Common Carotid: Anterior Angle
RAN	Right Common Carotid: Anterior Angle
LBI	Left Bifurcation
RBI	Right Bifurcation
LIN	Left Internal Carotid
RIN	Right Internal Carotid
LOP	Left Common Carotid: Optimal Angle
ROP	Right Common Carotid: Optimal Angle
LPO	Left Common Carotid: Posterior Angle
RPO	Right Common Carotid: Posterior Angle
LPP	Left Popliteal
RPP	Right Popliteal
QC1	First QC Repeat Scan (refer to QC01 for site identification)
QC2	Second QC Repeat Scan (refer to QC02 for site identification)

Schematic Overview of Carotid Artery B-Mode Ultrasound Measurements



- Interfaces:**
- 1- Boundary between the periaortic adventitia and adventitia of the near wall (not measured)
 - 2- Boundary between the adventitia and media of the near wall
 - 3- Boundary between the intima of the near wall and the blood
 - 4- Boundary between blood and intima of the far wall
 - 5- Boundary between media and adventitia of the far wall
 - 6- Boundary between adventitia and periaortic adventitia of the far wall (not measured)

Max 23 = B-A; Max 45 = D-C; Min 34 = H-G

The extracranial carotid system is divided into one-centimeter segments: I = internal carotid; II = carotid bifurcation; III = common carotid. A maximum of eleven measurements is made by URC readers on each arterial wall interface, in each arterial segment. These measurements are placed equidistant at 1 millimeter intervals, represented by the eleven points placed on interface B2 on the internal carotid. Also shown on this schematic is the definition of a maximum and a minimum wall thickness variable. Computational formulae for these variables are shown in this appendix.

4.1 Reader Trend Adjusted Derived Variables for Far Wall Thickness

Because of method drift over the visit and systematic differences between readers, an additional set of far wall thickness variables was derived to adjust for these problems. These are the Reader Trend Adjusted (RTA) variables for the far wall thickness (ie boundaries 4 and 5) as illustrated in the schematic in Appendix A. The following variables appear in the RTA data files.

<u>Variable Name</u>	<u>Description</u>
id	Aric subject id
lbibr45	Imputed RTA far wall thickness, LBIB
lbibwt45	Weight for lbibr45
linbr45	Imputed RTA far wall thickness, LINB
linbwt45	Weight for linbr45
lopbr45	Imputed RTA far wall thickness, LOPB
lopbwt45	Weight for lopbr45
mnb45_1	Mean of the *rt45 variables
rbibr45	Imputed RTA far wall thickness, RBIB
rbibwt45	Weight for rbiart45 variables
rinbr45	Imputed RTA far wall thickness, RINB
rinbwt45	Weight for rinart45 variables
ropbr45	Imputed RTA far wall thickness, ROPB
ropbwt45	Weight for ropart45

Data Set Names

The data sets containing these variables are: rtabf2?, rtabm2?, rtawf2?, and rtawm2? where rta indicates the variables are reader trend adjusted, the next two letters indicate the gender-race group, the 2 indicates it is a Visit 2 data set, and ? is a placeholder for the version of the data set.

4.2 Reader Trend Adjusted Shifted Derived Variables for Far Wall Thickness

Similar to the reader trend adjusted variables described in section 3.3, but includes a race/sex/site specific constant added at visit2 and visit3 old equipment and at visit3 new equipment to make mean wall thickness the same as at visit1 for the same race/sex/site/age/BMI.

<u>Variable Name</u>	<u>Description</u>
ID	ARIC SUBJECT ID (CIR)
LBIBJS45	Imputed R/T adjusted av45, shifted, LBI
LBIBWT45	Weight for LBIBJS45: < 1 implies Imputed
LINBJS45	Imputed R/T adjusted av45, shifted, LIN
LINBWT45	Weight for LINBJS45: < 1 implies Imputed

LOPJS45	Imputed R/T adjusted av45, shifted, LOP
LOPBWT45	Weight for LOPJS45: < 1 implies Imputed
MNB45_1S	MEAN OF THE JS45 VARIABLES
RBIBJS45	Imputed R/T adjusted av45, shifted, RBI
RBIBWT45	Weight for RBIBJS45: < 1 implies Imputed
RINBJS45	Imputed R/T adjusted av45, shifted, RIN
RINBWT45	Weight for RINBJS45: < 1 implies Imputed
ROPJS45	Imputed R/T adjusted av45, shifted, ROP
ROPBWT45	Weight for ROPJS45: < 1 implies Imputed
SUMWTB45	Weight for MNB45_1S (=no. of obs sites/6)

Data Set Names

The data sets containing these variables are: RTA**03 where **=BF, BM, WF, WM for 4 race-sex groups.

5 Disease Prevalence

5.1 DIABTS22 (Diabetes - Lower Cutpoint 140 mg/dL)

DIABTS22	Frequency	Percent
.	75	0.52
0	12598	87.80
1	1675	11.67

DIABTS22 is a categorical Visit 2 variable which assumes the following values according to the table below.

Value	Description
1	Diabetes = Yes
0	Diabetes = No
.T	Diabetes = Missing

Table of assignment of values to DIABTS22

DIABTS22	CHMB07	FAST0822	HHXB05D	MSRB02	MSRB24F
1	≥ 200	any	any	any	any
	≥ 140	1	any	any	any
	Any	any	Y	any	any
	Any	any	any	not T	Y
0	not missing and <140	any	N or U	any	not Y
.T	Any	0	not Y	any	not Y
	not ≥ 140	any	missing	any	not Y
	not ≥ 140	any	not Y	not T	missing

CHMB07: Blood Glucose Level in mg/dL
 FAST0822: 8 hours or more of fasting time
 HHXB05D: Diabetes (Sugar in Blood)? Y, N, U (Unsure).
 MSRB02*: Took no medications in past 2 weeks? T (no meds) F
 MSRB24F: Were any of the medications you took for Diabetes or high blood sugar?
 Y, N, U (Unknown)

* A value of T on this item skips the patient over MSRB24F.

5.2 DIABTS23 (Diabetes - Lower Cutpoint 126 mg/dL)

DIABTS23	Frequency	Percent
.	33	0.23
T	52	0.36
0	12104	84.36
1	2159	15.05

DIABTS23 is a categorical Visit 2 variable which assumes the following values according to the table below.

Value	Description
1	Diabetes = Yes
0	Diabetes = No
.T	Diabetes = Missing

Table of assignment of values to DIABTS23

DIABTS23	CHMB07	FAST0822	HHXB05D	MSRB02	MSRB24F
1	≥200	any	any	any	any
	≥126	1	any	any	any
	Any	any	Y	any	any
	Any	any	any	not T	Y
0	not missing and <126	any	N or U	any	not Y
.T	Any	0	not Y	any	not Y
	not ≥ 126	any	missing	any	not Y
	not ≥ 126	any	not Y	not T	missing

CHMB07: Blood Glucose Level in mg/dL
 FAST0822: 8 hours or more of fasting time
 HXB05D: Diabetes (Sugar in Blood)? Y, N, U (Unsure).
 MSRB02*: Took no medications in past 2 weeks? T (no meds) F
 MSRB24F: Were any of the medications you took for Diabetes or high blood sugar?
 Y, N, U (Unknown)

* A value of T on this item skips the patient over MSRB24F

5.3 QWAVE24A (Diagnostic Q-wave present from Adjudicated Data)

QWAVE24A	Frequency	Percent
.	78	0.54
T	43	0.30
0	14058	97.98
1	169	1.18

In this definition, diagnostic Q-wave corresponds to Minnesota codes in 1-1-x to 1-2-x, but without ST-T changes (Minnesota codes 4 or 5). This numeric Visit 2 variable does not correspond with definitions provided in the ARIC ECG manual. The variable assumes the following values according to the table below.

Value	Description
1	Diagnostic Q-wave present = Yes
0	Diagnostic Q-wave present = No
.T or .	Missing value

Table of assignment of values to QWAVE24A

QWAVE24A	ECGMBFLG	ECGMB09*	ECGMB10*	ECGMB11*
1	1	11-25 OR 27	Any	any
		any	11-25 OR 27	any
		any	Any	11-25 or 27
0	1	nonmiss & not 11-25 & not 27	nonmiss & not 11-25 & not 27	nonmiss & not 11-25 & not 27
.T	0	any	Any	any
missing	Any other combination of values			

* The values for these variables in this table correspond to the last two digits of the Minnesota codes: that is, the initial 1 contained in the Minnesota codes has been dropped.

Variable	Description	Range of Possible Values
ECGMBFLG	Whether ECG Form present or not	
ECGMB09	Q-Q.S. Pattern I, aVL, V6	1-1-x, 1-2-x, 1-3-x

ECGMB10
ECGMB11

Q-Q.S. Pattern II, III, aVF
Q-Q.S. Pattern V1-V5

1-1-x, 1-2-x, 1-3-x
1-1-x, 1-2-x, 1-3-x

5.4 QWAVE27A

(Major Q-Wave present with no 7-1-1, 7-1-2, or 7-4, from Adjudicated ECG

QWAVE27A	Frequency	Percent
.	79	0.55
M	43	0.30
T	10	0.07
0	14149	98.61
1	67	0.47

In this definition, major Q-waves correspond to Minnesota codes 1-1-x. This numeric Visit 2 variable is based on definition A in the ARIC ECG Manual and assumes the following values according to the table below.

Value	Description
1	Diagnostic Q-wave present = Yes
0	Diagnostic Q-wave present = No
.T or .M or .	Missing value

Table of assignment of values to QWAVE27A

QWAVE27A	ECGMBFLG	ECGMB09*	ECGMB10*	ECGMB11*	ECGMB24**
1	1	11-17	any	Any	nonmiss & not 4 and not 1 or 11
		any	11-17	Any	
		any	any	11-17	
0	1	nonmiss & not 11-17	nonmiss & not 11-17	nonmiss & not 11-17	any
.T	1	11-17	any	any	4 or 1 or 11 or missing
		any	11-17	any	
		any	any	11-17	
.M	0	any	any	any	any
Missing	Any other combination of values				

* The values for these variables in this table correspond to the last two digits of the Minnesota codes: that is, the initial 1 contained in the Minnesota codes has been dropped.

** A value of 1 for this variable corresponds to Minnesota codes 7-1-1 or 7-1-2. A value of 4 corresponds to

Minnesota code 7-4.

Variable	Description	Range of Possible Values
ECGMBFLG	Whether composite ECG Record with Adjudicated Values is present or not	
ECGMB09	Q-Q.S. Pattern I, aVL, V6	1-1-x, 1-2-x, 1-3-x
ECGMB10	Q-Q.S. Pattern II, III, aVF	1-1-x, 1-2-x, 1-3-x
ECGMB11	Q-Q.S. Pattern V1-V5	1-1-x, 1-2-x, 1-3-x
ECGMB24	Ventricular Conduction Defect	7-1-1 through 7-8

5.5 QWAVEM27

(Major Q-wave present with no 7-1-1, 7-1-2, or 7-4, from Original Machine Coded ECG Records)

QWAVEM27	Frequency	Percent
.	104	0.72
M	43	0.30
T	23	0.16
0	14080	98.13
1	98	0.68

In this definition, major Q-waves correspond to Minnesota codes 1-1-x. This numeric Visit 2 variable is based on definition A in the ARIC ECG Manual and assumes the following values according to the table below.

Value	Description
1	Major Q-wave present = Yes
0	Major Q-wave present = No
.T or .M or .	Missing value

Table of assignment of values to QWAVEM27

QWAVEM27	ECGCFLAG	ECGC09*	ECGC10*	ECGC11*	ECGC24*
1	1	11-17	any	any	nonmiss & not 4 and not 1 or 11
		any	11-17	any	
		any	any	11-17	
0	1	nonmiss & not 11- 17	Nonmiss & not 11- 17	nonmiss & not 11-17	any
.T	1	11-17	any	any	4 or 1 or 11 or missing
		any	11-17	any	
		any	any	11-17	
.M	0	any	any	any	any
Missing	Any other combination of values				

* The values for these variables in this table correspond to the last two digits of the Minnesota codes: that is, the initial 1 contained in the Minnesota codes has been dropped.

** A value of 1 for this variable corresponds to Minnesota codes 7-1-1 or 7-1-2. A value of 4 corresponds to

Minnesota code 7-4.

Variable	Description	Range of possible values
ECGCFLAG	Whether composite ECG Record with Adjudicated Values is present or not	
ECGC09	Q-Q.S. Pattern I, aVL, V6	1-1-x, 1-2-x, 1-3-x
ECGC10	Q-Q.S. Pattern II, III, aVF	1-1-x, 1-2-x, 1-3-x
ECGC11	Q-Q.S. Pattern V1-V5	1-1-x, 1-2-x, 1-3-x
ECGC24	Ventricular Conduction Defect	7-1-1 through 7-8

5.6 QWAVE28B

(Minor Q-Wave present with ST or T codes and no 7-1-1, 7-1-2, or 7-4 codes from Adjudicated ECG Records)

QWAVE28B	Frequency	Percent
.	79	0.55
M	43	0.30
0	14208	99.02
1	18	0.13

In this definition, minor Q-wave corresponds to Minnesota codes 1-2-x, ST segment corresponds to codes 4-x, and T-wave corresponds to definition B in the ARIC ECG Manual. The variable assumes the following values according to the table below.

Value	Description
1	Minor Q-wave present = Yes.
0	Minor Q-wave present = No.
T or M. or .	Missing value.

Table of assignment of values to QWAVE28B

QWAVE28B	ECGMBFLG	ECGMB09, 10, 11*	ECGMB12 - ECGMB17**	ECGMB24⁺
1	1	ECGMB09= (21-25, 27, or 28) or ECGMB10= (21-25, 27, or 28) or	ECGMB12 = 2, 11, or 12 ECGMB13 = 2, 11 or 12 ECGMB14 = 2, 11, or 12 ECGMB15 = 1 or 2 ECGMB16 = 1 or 2	nonmiss and not (1, 4, or 11)

		ECGMB11= (21-25, 27, or 28)	ECGMB17 = 1 or 2	
0	1	nonmiss & not (21-25, 27, or 28)	any	any
		any	(ECGMB12, ECGMB13, and ECGMB14 not missing & not 2, 11, & 12) and (ECGMB15, ECGMB16, and ECGMB17 not 1 & 2 and not missing)	any
.T	1	Values of ECGMB09-11 and ECGMB12-17 that would give QWAVE28B = 1		1, 4, or 11 or missing
.M	0	any	any	any
missing	Any other combination of values			

* The values for these variables in this table correspond to the last two digits of the Minnesota codes: that is, the initial 1 contained in the Minnesota codes has been dropped.

** The values for these variables correspond to the last one or two digits of the Minnesota codes: that is, for variables ECGMB12-ECGMB14, the initial 4 contained in the Minnesota codes has been dropped, and for variables ECGMB15-ECGMB17, the initial 5 contained in the Minnesota codes has been dropped.

+ A value of 1 for this variable corresponds to Minnesota codes 7-1-1 or 7-1-2. A value of 4 corresponds to Minnesota code 7-4.

Variable Values	Description	Range of Possible
ECGMBFLG	Whether composite ECG Record with Adjudicated Values is present or not	
ECGMB09	Q-Q.S. Pattern I, aVL, V6	1-1-x, 1-2-x, 1-3-x
ECGMB10	Q-Q.S. Pattern II, III, aVF	1-1-x, 1-2-x, 1-3-x
ECGMB11	Q-Q.S. Pattern V1-V5	1-1-x, 1-2-x, 1-3-x
ECGMB12	ST Junction & Segment Depression I, aVL, V6	4-1-1 through 4-4
ECGMB13	ST Junction & Segment Depression II, III, aVF	4-1-1 through 4-4
ECGMB14	ST Junction & Segment Depression V1-V5	4-1-1 through 4-4
ECGMB15	T Wave I, aVL, V6	5-1 through 5-4

ECGMB16	T Wave II, III, aVF	5-1 through 5-4
ECGMB17	T Wave V1-V5	5-1 through 5-4
ECGMB24	Ventricular Conduction Defect	7-1-1 through 7-8

5.7 QWVEM28B

(Minor Q-wave present with ST or T codes and no 7-1-1, 7-1-2, or 7-4 codes, from Original Machine Coded ECG Records)

QWVEM28B	Frequency	Percent
.	79	0.55
M	43	0.30
0	14177	98.81
1	49	0.34

In this definition, minor Q-wave corresponds to Minnesota codes 1-2-x, ST segment corresponds to codes 4-x, and T-wave corresponds to codes 5-1 or 5-2. This numeric Visit 2 variable is based on definition B in the ARIC ECG Manual. The variable assumes the following values according to the table below.

Value	Description
1	Minor Q-wave present = Yes.
0	Minor Q-wave present = No.
T or M. or .	Missing value.

Table of assignment of values to QWVEM28B

QWVEM28B	ECGCFLAG	ECGC09, 10, 11*	ECGC12-ECGC17**	ECGC24+
1	1	ECGC09= (21-25, 27, or 28) or ECGC10= (21-25, 27, or 28) or ECGC11= (21-25, 27, or 28)	ECGC12 = 2, 11 or 12	nonmiss and not (1,4,or 11)
		nonmiss & not (21-25, 27, or 28)	ECGC13 = 2, 11 or 12 ECGC14 = 2, 11 or 12 ECGC15 = 1 or 2	any

1	1		ECGC16 = 1 or 2	
			ECGC17 = 1 or 2	
			any	
0	1		(ECGC12, ECGC13, and ECGC14 not missing & not 2, 11, & 12) and (ECGC15, ECGC16, and ECGC17 not missing & not 1 & 2)	any
			Values of ECGC09-11 and ECGC12-17 that would give QWVEM28B = 1	1, 4, 11, or missing
.T	0	any	any	a y
.M	Any other combination of values			

* The values for these variables in this table correspond to the last two digits of the Minnesota codes: that is, the initial 1 contained in the Minnesota codes has been dropped.

** The values for these variables correspond to the last one or two digits of the Minnesota codes: that is, for variables ECGC12-ECGC14, the initial 4 contained in the Minnesota codes has been dropped, and for variables ECGC15-ECGC17, the initial 5 contained in the Minnesota codes has been dropped.

+ A value of 1 for this variable corresponds to Minnesota codes 7-1-1 or 7-1-2. A value of 4 corresponds to Minnesota code 7-4.

Variable	Description	Range of Possible Values
ECGCFLAG	Whether original machine coded ECG is present or not	
ECGC09	Q-Q.S. Pattern I, aVL, V6	1-1-x, 1-2-x and 1-3-x
ECGC10	Q-Q.S. Pattern II, III, aVF	1-1-x, 1-2-x and 1-3-x
ECGC11	Q-Q.S. Pattern V1-V5	1-1-x, 1-2-x and 1-3-x
ECGC12	ST Junction & Segment Depression I, aVL, V6	4-1-1 through 4-4
ECGC13	ST Junction & Segment Depression II, III, aVF	4-1-1 through 4-4
ECGC14	ST Junction & Segment Depression V1-V5	4-1-1 through 4-4

ECGC15	T Wave I, aVL, V6	5-1 through 5-4
ECGC16	T Wave II, III, aVF	5-1 through 5-4
ECGC17	T Wave V1-V5	5-1 through 5-4
ECGC24	Ventricular Conduction Defect	7-1-1 through 7-8

5.8 PRVCHD21
(UC3508.02)

(V2 Prevalent Coronary Heart Disease: Reported history of CHD at V1 + adjudicated CHD events by V2)

PRVCHD21	Frequency	Percent
.	303	2.11
0	13221	92.15
1	824	5.74

This is a numeric variable which assumes the following values according to the table below.

Value	Description
1	Coronary Heart Disease = Yes.
0	Coronary Heart Disease = No.
.T or .	Missing value

	PRVCHD05	IN_97SP	DATEISP
PRVCHD21 = 1	1	any	
	any	1	< V1DATE01 + 3*365
PRVCHD21 = 0	0	not 1	any
	0	1	> V1DATE01 + 3*365
PRVCHD21 = .	Any other combination of values		

PRVCHD05: Reported history of Coronary Heart Disease at V1.

IN_97SP: Fatal CHD, MI, silent MI, coronary artery bypass surgery, angioplasty by 1997.

DATEISP: Date of IN_97SP

V1DATE01: Visit 1 date

5.9 PRVCHD22 (V2 Prevalent CHD - unverified)
(UC3508.02)

PRVCHD22	Frequency	Percent
.	165	1.15
T	115	0.80
0	13023	90.77
1	1045	7.28

This is a numeric Visit 2 variable which assumes the following values according to the table below.

Value	Description
1	Coronary Heart Disease = Yes.
0	Coronary Heart Disease = No.
.T or .	Missing value.

PRVCHD22	ECGMI24	HXOFMI21	PHEB04	PHEB05A	PHEB06	PHEB07A
1	1	any	any	any	any	any
	any	1	any	any	any	any
	any	any	not N	Y	any	any
	any	any	any	any	not N	Y
0	0	0	any	N	any	N
			N	not Y	any	N
			N	not Y	N	not Y
			N	not Y	N	not Y
.T	missing	not 1	any	not Y	any	not Y
	not 1	missing	any	not Y	not N	not Y
	not 1	not 1	N	Y	any	not Y
			Y	missing		
	not 1	not 1	any	not Y	N	Y
				Y	missing	
missing	Any other combination of values					

ECGMI24: V2 MI According to Adjudicated ECG.
MDDXMI21: V2 MD Diagnosed Myocardial Infarction.
PHEB04: Heart, neck or leg surgery? Y, N
PHEB05A: Coronary Bypass. Y, N

PHEB06: Balloon angioplasty on heart or legs? Y, N
PHEB07A: Angioplasty of Coronary Artery (ies). Y, N

5.10 MDDXMI21 (V2 MD Diagnosed Myocardial Infarction)

MDDXMI21	Frequency	Percent
0	13594	94.74
1	754	5.26

This is a numeric Visit 2 variable which assumes the following values according to the table below.

Value	Description
1	Reported MD Diagnosed MI = Yes.
0	Reported MD Diagnosed MI = No.
.T or .	Missing value.

Table of assignment of values to MDDXMI21

MDDXMI21	HHXB05C	CONSIDER CONTACT YEARS 2, 3, 4			
		AFUx07	AFUx17	AFUx18	AFUx19
1	Y	any	any	any	any
	any	Y	Y	Y	H
0	N	any	any	any	not H
	not Y	Y	Y	Y	0
	not Y	Y	Y	N	missing
	not Y	Y	N	N or missing	missing
	not Y	N	N or missing	missing	missing
.T		missing	any	any	any
		Y	missing	any	any
		Y	Y	Y	missing
		Y	Y	missing	any
		Y	N	Y	any
		Y	N	missing	H or O

		N	Y	any	any
		N	missing	Y or N	any
		N	missing	missing	H or O
missing	any other pattern of response				

HHXB05C: Has a doctor ever told you that you had a heart attack? Y, N, U (Unknown)
 AFUx07: Have you ever had any pain or discomfort in your chest? Y, N

AFUx17: Have you ever had a severe pain across the front of your chest lasting for half an hour or more? Y, N

AFUx18: Did you see a doctor because of this pain? Y, N

AFUx19: What did he say it was? H (Heart Attack), O (Other Disorder)

Note: The algorithm below requires use of Annual Follow-up (AFUx) variables from contact years 2, 3, 4 (afua223, afua323, afub323, afub423, afuc323, afuc423).

Algorithm:

1. If HHXB05C = Y or
 ((AFUx07 = Y) and (AFUx17 = Y) and (AFUx18 = Y) and (AFUx19 = H))

then set MDDXMI21 = 1 (Positive)

2. If (HHXB05C = N & AFUx19 ne H) or
 [(AFUx07 = Y & AFUx17 = Y) & (AFUx18 = Y and AFUx19 = O)] or
 [(AFUx07 = Y & AFUx17 = Y) & (AFUx18 = N and AFUx19 = missing)] or
 [(AFUx07 = Y & AFUx17 = N) & (AFUx18 = missing & AFUx19 = missing)] or
 [(AFUx07 = N & AFUx17 = missing) & (AFUx18 = missing & AFUx19 = missing)]

then set MDDXMI21 = 0. (Negative)

3. If [(AFUx07 = missing)] or
 [(AFUx07 = Y) and (AFUx17 = missing)] or
 [(AFUx07 = Y) and (AFUx17 = Y) and (AFUx18 = Y) & (AFUx19 = missing)] or
 [(AFUx07 = Y) and (AFUx17 = Y) and (AFUx18 = missing)] or
 [(AFUx07 = Y) and (AFUx17 = N) and (AFUx18 = Y or AFUx18 = N)] or
 [(AFUx07 = Y) and (AFUx17 = N) and
 (AFUx18 = missing) and (AFUx19 = H or AFUx19 = 0)] or
 [(AFUx07 = N) and (AFUx17 = Y or AFUx17 = N)] or
 [(AFUx07 = N) and (AFUx17 = missing) and (AFUx18 = Y or AFUx18 = N)] or
 [(AFUx07 = N) and (AFUx17 = missing) and
 (AFUx18 = missing) and (AFUx19 = H or AFUx19 = 0)]

then set MDDXMI21 to missing.

5.11 HXOFMI21 (V2 History of Myocardial Infarction)

HXOFMI21	Frequency	Percent
0	13484	93.98
1	864	6.02

This is a numeric Visit 2 variable which assumes the following values according to the table below.

Value	Description
1	Self or Physician-Reported Heart Attack = Yes.
0	Self or Physician-Reported Heart Attack = No.
.T or .	Missing value.

Table of assignment of values to HXOFMI21

	MDDXMI21	AFUX30
HXOFMI21 = 1	1	any
	any	Y
HXOFMI21 = 0	0	N or U
HXOFMI21 = .T	Not 1	missing
	missing	N or U

HXOFMI21 = . Any other combination of values

MDDXMI21: MD Diagnosed Myocardial Infarction.

AFUx30: Have you been hospitalized for a heart attack? Y, N, U (Unknown)

Note: Definition requires use of Annual Follow-up (AFUx) variables from contact years 2, 3, 4 (afua223, afua323, afub323, afub423, afuc323, afuc423).

5.12 ECGMI24

(Prevalent Myocardial Infarction from Adjudicated Electrocardiograms)

ECGMI24	Frequency	Percent
T	132	0.92
0	14132	98.49
1	84	0.59

This is a numeric Visit 2 variable which assumes the following values according to the table below.

Value	Description
1	MI from ECG = Yes.
0	MI from ECG = No.
.T or .	Missing value.

Table of assignment of values to ECGMI24

	QWAVE27A	QWAVE28B
ECGMI24 = 1	1	any
	any	1
ECGMI24 = 0	0	0
ECGMI24 = .T	missing	not 1
	not 1	missing
ECGMI24 = .	Any other combination of values	

QWAVE27A: Major Q-Wave present with no 7-1-1 or 7-4.

QWAVE28B: Minor Q-Wave present with S or ST and no 7-1-1 or 7-4.

5.13 MACHMI22

(Prevalent Myocardial Infarction from Original Machine Coded Electrocardiograms)

MACHMI22	Frequency	Percent
T	170	1.18
0	14035	97.82
1	143	1.00

This is a numeric Visit 2 variable which assumes the following values according to the table below.

Value	Description
1	MI from ECG = Yes.
0	MI from ECG = No.
.T or .	Missing value.

Table of assignment of values to MACHMI22

	QWAVEM27	QWVEM28B
MACHMI22 = 1	1	any
	Any	1
MACHMI22 = 0	0	0
MACHMI22 = .T	Missing	not 1
	not 1	missing
MACHMI22 = .	Any other combination of values	

QWAVEM27: Major Q-wave present with no 7-1-1 or 7-4.

QWVEM28B: Minor Q-wave present with S or ST and no 7-1-1 or 7-4.

5.14 PRVCHD23 (Prevalence of CHD at Visit 2, definition 3)

PRVCHD23	Frequency	Percent
.	303	2.11

PRVCHD23	Frequency	Percent
0	13216	92.11
1	829	5.78

PRVCHD23= 1 if PRVCHD05=1 or (IN_00SP=1 and ‘.’< DATISP<=V2DATE21) or (IN_00SP=1 and V2DATE21= ‘.’ and DATEISP<=V1DATE01 +3*365.25).

PRVCHD23= 0 if PRVCHD05=0 and (IN_00SP=0 or DATISP>V2DATE21>‘.’) or (V2DATE21= ‘.’ and DATEISP>V1DATE01 +3*365.25)

Else PRVCHD23= ‘.’ (missing)

5.15 PRVSTR21 (Prevalence of Stroke at Visit 2)

PRVSTR21	Frequency	Percent
.	33	0.23
0	14040	97.85
1	275	1.92

PRVSTR23= 1 if HOM10D=1 or (IN00DP=1 and .<ED00DP<=V2DATE21) or (IN00DP=1 and V2DATE21=. and ED00DP<=V1DATE01 +3*365.25).

PRVSTR23= 0 if HOM10D=0 and (IN00DP=0 or ED00DP>V2DATE21>.) or (V2DATE21=. and ED00DP>V1DATE01 +3*365.25).

Else PRVSTR23=. (missing)

ECG Derived Variables (Descriptions of ECG Variables)

5.16 ECGMB22 Data Set (ECG Composite File at Visit 2)

The ECGMB22 data set is the final study ECG data set for Visit 2. There is 1 ECG Machine coded data set ECGC. The Visual Coded record from the ECG Reading Center in Minnesota is the ETLB record. Roughly 1 in every 5 ECG records were sent to be visually coded at Minnesota in Visit 2. About half of the visual coded records were sent for quality control purposes and the remainder sent because an algorithm determined these records needed visual coding. Of these roughly 3500 visual coded (ETLB) records, about one third were found to have some significant differences between the visual and machine coding. The ECG Visual Reading Center was requested to re-code the portions of the records where differences occurred. These are the adjudicated ECAB records.

The ECGMB22 data set utilizes all of the different ECG data sets to some extent. First, if there

is only an ECGC record for a particular ID, the ECGC record for that ID is duplicated in the ECGMB22 data set. Second, if there is a Visual Coded record for an ID but there was no need for adjudication, the ECGC record for that ID is duplicated in the ECGMB22 data set. Lastly, when there is an ECAB adjudicated record, the ECGC record is written to the ECGMB22 data set with the exception that the adjudicated values overwrite the original ECGC values when machine coded value is not in substantial agreement with the visual coded value. Details of the criteria for agreement can be found in Section 2.1.2 of ARIC Manual #5. Thus, records with ECAB adjudicated values are the only records that are potentially different from the original ECGC records in the ECGMB22 data set.

Attached is a listing of variables contained in the ECGMB22 data set. Unless specifically requested otherwise, these variables should be used in official ARIC analyses, although the ECGC (*Machine Coding*) and ETLB (*Visual Coding*) records are also distributed.

5.17 ESMA Data Set (ECG Serial Changes at Visit 2)

The ECGMB22 data set was compared with the baseline ECG composite file (ECGMA03). Potential cases with ECG serial changes were selected by computer algorithm at CSCC. The ECG machine coding center also compared ECGC data with baseline ECG (ECGX02) to select potential cases with ECG serial changes by NOVA codes. The two serial changes listing were sent to the ECG Visual Reading Center for determination of serial changes using their algorithm. The result file is ESMA.

SAS NAME: ECGMB22

Variable	Description
ECGMB09	MINNESOTA CODE L1
ECGMB10	MINNESOTA CODE F1
ECGMB11	MINNESOTA CODE V1
ECGMB12	MINNESOTA CODE L4
ECGMB13	MINNESOTA CODE F4
ECGMB14	MINNESOTA CODE V4
ECGMB15	MINNESOTA CODE L5
ECGMB16	MINNESOTA CODE F5
ECGMB17	MINNESOTA CODE V5
ECGMB18	MINNESOTA CODE L92
ECGMB19	MINNESOTA CODE F92
ECGMB20	MINNESOTA CODE V92
ECGMB21	MINNESOTA CODE C2
ECGMB22	MINNESOTA CODE C3
ECGMB23	MINNESOTA CODE C6
ECGMB24	MINNESOTA CODE C7
ECGMB25	MINNESOTA CODE C91
ECGMB26	MINNESOTA CODE C93
ECGMB27	MINNESOTA CODE C94
ECGMB28	MINNESOTA CODE C95
ECGMB29	MINNESOTA CODE E7

ECGMB22 VARIABLES

<u>VARIABLE</u>	<u>TYPE</u>	<u>INFORMATION</u>
ECGMB09	CHAR	Minnesota Code L1 Q and QS Patterns Anterolateral Sites (Leads I, AVL, V6)
	Blank	No Minnesota Code Equivalent
	0	No Minnesota Code Equivalent
	11	Code 1-1-1
	12	Code 1-1-2
	13	Code 1-1-3
	21	Code 1-2-1
	22	Code 1-2-2
	23	Code 1-2-3
	28	Code 1-2-8
	31	Code 1-3-1
	33	Code 1-3-3

ECGMB10 CHAR Minnesota Code F1
Q and QS Patterns
Posterior (Inferior) Site (Leads II, III, AVF)

Blank	No Minnesota Code Equivalent
0	No Minnesota Code Equivalent
11	Code 1-1-1
12	Code 1-1-2
14	Code 1-1-4
15	Code 1-1-5
21	Code 1-2-1
22	Code 1-2-2
23	Code 1-2-3
24	Code 1-2-4
25	Code 1-2-5
26	Code 1-2-6
31	Code 1-3-1
34	Code 1-3-4
35	Code 1-3-5
36	Code 1-3-6

ECGMB11 CHAR Minnesota Code V1
Q and QS Patterns
Anterior Site (Leads V1, V2, V3, V4, V5)

Blank	No Minnesota Code Equivalent
0	No Minnesota Code Equivalent
11	Code 1-1-1
12	Code 1-1-2
16	Code 1-1-6
17	Code 1-1-7
21	Code 1-2-1
22	Code 1-2-2
27	Code 1-2-7
28	Code 1-2-8
31	Code 1-3-1
32	Code 1-3-2

ECGMB12 CHAR Minnesota Code L4
ST Junction (J) and Segment Depression
Anterolateral Site (Leads I, AVL, V6)

Blank	No Minnesota Code Equivalent
0	No Minnesota Code Equivalent
11	Code 4-1-1
12	Code 4-1-2
2	Code 4-2
3	Code 4-3

4 Code 4-4

ECGMB13 CHAR Minnesota Code F4
ST Junction (J) and Segment Depression
Posterior (Inferior) Site (Leads II, III, AVF)

Blank No Minnesota Code Equivalent
0 No Minnesota Code Equivalent
11 Code 4-1-1
12 Code 4-1-2
2 Code 4-2
3 Code 4-3
4 Code 4-4

ECGMB14 CHAR Minnesota Code V4
ST Junction (J) and Segment Depression
Anterior Site (Leads V1, V2, V3, V4, V5)

Blank No Minnesota Code Equivalent
0 No Minnesota Code Equivalent
11 Code 4-1-1
12 Code 4-1-2
2 Code 4-2
3 Code 4-3
4 Code 4-4

ECGMB15 CHAR Minnesota Code L5
T-Wave Items
Anterolateral Site (Leads I, AVL, V6)

Blank No Minnesota Code Equivalent
0 No Minnesota Code Equivalent
1 Code 5-1
2 Code 5-2
3 Code 5-3
4 Code 5-4

ECGMB16 CHAR Minnesota Code F5
T-Wave Items
Posterior (Inferior) Site (Leads II, III, AVF)

Blank No Minnesota Code Equivalent
0 No Minnesota Code Equivalent
1 Code 5-1
2 Code 5-2
3 Code 5-3
4 Code 5-4

- ECGMB17 CHAR Minnesota Code V5
T-Wave Items
Anterior Site (Leads V2, V3, V4, V5)
- | | |
|-------|------------------------------|
| Blank | No Minnesota Code Equivalent |
| 0 | No Minnesota Code Equivalent |
| 1 | Code 5-1 |
| 2 | Code 5-2 |
| 3 | Code 5-3 |
| 4 | Code 5-4 |
- ECGMB18 CHAR Minnesota Code L92
ST Segment Elevation
Anterolateral Site (Leads I, AVL, V6)
- | | |
|-------|------------------------------|
| Blank | No Minnesota Code Equivalent |
| 0 | No Minnesota Code Equivalent |
| 2 | Code 9-2 |
- ECGMB19 CHAR Minnesota Code F92
ST Segment Elevation
Posterior (Inferior) Site (Leads II, III, AVF)
- | | |
|-------|------------------------------|
| Blank | No Minnesota Code Equivalent |
| 0 | No Minnesota Code Equivalent |
| 2 | Code 9-2 |
- ECGMB20 CHAR Minnesota Code V92
ST Segment Elevation
Anterior Site (Leads V1, V2, V3, V4, V5)
- | | |
|-------|------------------------------|
| Blank | No Minnesota Code Equivalent |
| 0 | No Minnesota Code Equivalent |
| 2 | Code 9-2 |
- ECGMB21 CHAR Minnesota Code C2
QRS Axis Deviation Codes
- | | | | |
|-------|------------------------------|---------------------|---------------|
| Blank | No Minnesota Code Equivalent | | |
| 0 | Code 2-0 | 0 - 90 Degrees | Minn Code 2-0 |
| 11 | Code 2-1-1 | 0 - -30 Degrees | Minn Code 2-0 |
| 12 | Code 2-1-2 | -30 - -90 Degrees | Minn Code 2-1 |
| 21 | Code 2-2-1 | 90 - 120 Degrees | Minn Code 2-3 |
| 22 | Code 2-2-2 | 120 - 150 Degrees | Minn Code 2-2 |
| 3 | Code 2-3 | -150 - -190 Degrees | Minn Code 2-4 |
| 4 | Code 2-4 | UNDETERMINATE | Minn Code 2-5 |
- ECGMB22 CHAR Minnesota Code C3

High Amplitude R Wave Codes

Blank	No Minnesota Code Equivalent
0	Code 3-0 No Minnesota Code Equivalent
11	Code 3-1-1 Equivalent to Minn Code 3-4
12	Code 3-1-2 {the SUM of 3-1-2 + 3-1-3 + 3-1-4 Equals Minn 13 Code 3-1-3 Code 3-1}
14	Code 3-1-4
2	Code 3-2 Equivalent to Minn Code 3-2
31	Code 3-3-1 {the SUM of 3-3-3 + 3-3-2 Equals Minn Code 3-3}
32	Code 3-3-2

ECGMB23 CHAR Minnesota Code C6

AV Conduction Defect Codes

Blank	No Minnesota Code Equivalent
0	Code 6-0 No Minnesota Code Equivalent
11	Code 6-1-1 Equivalent to Minn Code 6-1-1
2	Code 6-2 Equivalent to Minn Code 6-2-1 OR 6-2-2 OR 6-2-3
3	Code 6-3 Equivalent to Minn Code 6-3
4	Code 6-4 Equivalent to Minn Code 6-4-1 OR 6-2-3
5	Code 6-5 Equivalent to Minn Code 6-5

ECGMB24 CHAR Minnesota Code C7

Ventricular Conduction Defect Codes

Blank	No Minnesota Code Equivalent
0	Code 7-0 No Minnesota Code Equivalent
1	Code 7-1 Equivalent to Minn Code 7-1-1 OR 7-1-2
2	Code 7-2 Equivalent to Minn Code 7-2-1 OR 7-2-3
3	Code 7-3 Equivalent to Minn Code 7-3
4	Code 7-4 Equivalent to Minn Code 7-4
5	Code 7-5 Equivalent to Minn Code 7-5
6	Code 7-6 Equivalent to Minn Code 7-6
7	Code 7-7 Equivalent to Minn Code 7-7
8	Code 7-8 Equivalent to Minn Combination of 7-2 and 7-7

ECGMB25 CHAR Minnesota Code C91

Low QRS Amplitude

Blank	No Minnesota Code Equivalent
0	No Minnesota Code Equivalent
1	Code 9-1

ECGMB26 CHAR Minnesota Code C93

P-Wave Amplitude \geq 2.5 MM In Any of Leads II, III, AVF in Majority of Beats

Blank No Minnesota Code Equivalent
0 No Minnesota Code Equivalent
3 Code 9-3

ECGMB27 CHAR Minnesota Code C94
QRS Transition Zone

Blank No Minnesota Code Equivalent
0 No Minnesota Code Equivalent
1 Code 9-4-1
2 Code 9-4-2

ECGMB28 CHAR Minnesota Code C95
T-Wave Amplitude

Blank No Minnesota Code Equivalent
0 No Minnesota Code Equivalent
5 Code 9-5

ECGMB29 CHAR Minnesota Code E7
Duration Criteria for R-E Score for LVH

Blank No Minnesota Code Equivalent
0 No Minnesota Code Equivalent
7 QRS Duration \geq 90 MS OR Intrinsic Deflection V5 OR V6 \geq 50 MS

6 Hypertension

6.1 HYPERT24 (V2 Hypertension, definition 4)

HYPERT24	Frequency	Percent
.	58	0.40
0	10005	69.73
1	4285	29.86

HYPERT24 = 1 if (SBPB22 \geq 90) OR
 [(MSRB24A = Y) and (MSRB02 not equal T)]

 = 0 if (0 \neq SBPB22 < 90) AND
 {MSRB24A = N or
 [(MSRB24A = missing) and
 (MSRA02 = T)] }

 = missing Otherwise

6.2 HYPERT25 (V2 Hypertension, definition 5)

HYPERT25	Frequency	Percent
.	51	0.36
0	9134	63.66
1	5163	35.98

HYPERT25 = 1 if (SBPB22 \geq 90) or
 (SBPB21 \geq 140) or
 [(MSRB24A = y) and
 (MSRB02 \neq T)]

 = 0 if (0 \neq SBPB22 < 90) and
 (0 < SBPB21 < 140) and
 {MSRB24A = N or [(MSRB24A
 = missing) and (MSRB02 = T)] }

 = missing Otherwise

6.3 HYPERT26 (V2 Hypertension, definition 6)

HYPERT26	Frequency	Percent
.	59	0.41
0	10038	69.96
1	4251	29.63

HYPERT26 = 1 if (SBPB22 ≥ 95) OR
 (SBPB21 ≥ 160) or [(MSRB24A = Y)
 and (MSRB02 = T)]

= 0 if (0 ≠ SBPB22 < 95) and
 (0 < SBPB21 < 160) and {MSRB24A = N
 or [(MSRB24A = missing) and
 (MSRB02 = T)]}

= missing Otherwise

SBPB21: Systolic blood pressure

SBPB22: Diastolic blood pressure

MSRB24A: Were any of the medications you took during the past two weeks for high blood pressure? Y, N, U (Unknown)

7. Lipids Recalculated

6.4 LDL22 (V2 Recalculated LDL Cholesterol)

Variable	N	Mean	Median	Std Dev	Minimum	Maximum
LDL22	14007	133.5	131.2	36.85	0.0	467.4

This is a numeric variable.

Algorithm:

LDL22 = LIPB01A - LIPB03A - (LIPB02A/5).

1. If (LIPB01A = missing) or
 (LIPB02A = missing) or
 (LIPB03A = missing) or
 (LIPB02A > 400)

then set LDL22 = missing. (Missing)

2. If LDL22 = negative

then set LDL22 = 0. (Negative)

SAS Code:

```
LDL22 = LIPB01A - LIPB03A - LIPB02A/5;  
if LIPB02A > 400 then LDL22 = .;  
if .z < LDL22 < 0 then LDL22 = 0;
```

LIPB01A : Total cholesterol in mg/dL.

LIPB02A : Total triglycerides in mg/dL.

LIPB03A : HDL cholesterol in mg/dL.

6.5 HDL221 (V2 HDL2 Cholesterol)

Variable	N	Mean	Median	Std Dev	Minimum	Maximum
HDL221	13734	14.1	12.0	8.88	0.0	146.0

This is a numeric variable.

Algorithm:

HDL221=LIPB03A-LIPB04A.

1. If (LIPB03A = missing) or
(LIPB04A = missing)

then set HDL221 = missing. (Missing)

2. If HDL221 = negative

then set HDL221 = 0. (Negative)

SAS Code:

```
HDL221=LIPB03A-LIPB04A;  
if .z < HDL221 < 0 then HDL221 = 0;
```

LIPB03A : HDL cholesterol in mg/dL.

LIPB04A : HDL (3) cholesterol in mg/dL.

7 Medication Use

Medication records were collected at each clinic visit. Participants were reminded to bring all medications used in the previous two weeks. Names of the medications were transcribed and coded by the ARIC medication coding system, developed by a pharmacist at UNC. The ARIC medication codes were then mapped to Medi-Span Therapeutic Classification (MTC) codes and American Hospital formulary Service Classification Compilation (AHFSCC) codes. Variable names for the MTC codes are MSRMTTC1-MSRMTTC17, and MSRAHF1-MSRAHF17 for AHFSCC codes (in file MSRCOD24 for Visit 2). Definitions of the MTC and AHFSCC codes are given in Appendices A and B.

7.1 CHOLMD23 (Discontinued: Replaced by CHOLMDCODE21)

7.2 CHOLMD24 (Discontinued: Replaced by CHOLMDCODE22)

7.3 CHOLMDCODE21(Cholesterol Lowering Medication using 2004 Med Code)

CHOLMDCODE21	Frequency	Percent
T	45	0.31
0	13388	93.31
1	915	6.38

Algorithm.

If CODE1-CODE17 have at least one of the following: 771030, 390000--399999, then FOUND1 = 1. Else FOUND1 = 0. If all CODE1-CODE17 = missing then ALLMISS = 1. Else ALLMISS = 0.

1. If (MSRB02 = F or MSRB02 = missing) and ALLMISS=1 then CHOLMDCODE21 = .T .
2. Else if [MSRB02 NE T] and FOUND1=1 then set CHOLMDCODE21 = 1.
3. Else if [MSRB02 = T and ALLMISS=1] or FOUND1=0 then set CHOLMDCODE21 = 0.
4. Otherwise, set CHOLMDCODE21 = .

	FOUND1	ALLMISS	MSRB02
CHOLMDCODE21 = 1	1	0	Not T
CHOLMDCODE21 = 0	0	Any	Any
	Any	1	T

CHOLMDCODE21 = .T	Any	1	F or missing
-------------------	-----	---	--------------

CODE1--17: Updated Medication Code number.

MSRB02: Reason why did not bring all medications.
T (Took no medications),
F (Forgot or was unable to bring medications).

7.4 CHOLMDCODE22 (Medications Which Secondarily Affect Cholesterol Using 2004 Med Code)

CHOLMDCODE22	Frequency	Percent
T	45	0.32
0	10444	72.78
1	3859	26.90

Algorithm:

If CODE1-CODE17 have at least one of the following: 331000, 332000, 340000, 363000, 369920, 372000, 376000, 379900 and 379910, then FOUND2 = 1. Else FOUND2 = 0.

If all CODE1-CODE17 = missing then ALLMISS = 1. Else ALLMISS = 0.

1. If (MSRB02 = F or MSRB02 = missing) and ALLMISS=1 then CHOLMDCODE22 = .T .

2. Else if [MSRB02 NE T] and FOUND2=1 then CHOLMDCODE22 = 1.

3. Else if [MSRB02 = T and ALLMISS=1] or FOUND2=0 then CHOLMDCODE22 = 0.

4. Otherwise, set CHOLMDCODE22 = .

	FOUND2	ALLMISS	MSRB02
CHOLMDCODE22 = 1	1	0	Not T
CHOLMDCODE22 = 0	0	Any	Any
	Any	1	T
CHOLMDCODE22 = .T	Any	1	F or missing

CODE1--17: Updated Medication Code number.

MSRB02: Reason why did not bring all medications.
T (Took no medications),
F (Forgot or was unable to bring medications).

7.5 HYPTMD21 (V2 Hypertension Medications in Past 2 Weeks: Self-reported)

HYPTMD21	Frequency	Percent
T	66	0.46
0	10389	72.41
1	3893	27.13

This is numeric Visit 2 variable which assumes the following values according to the table below.

<u>Value</u>	<u>Description</u>
1	Took Hypertension Lowering Med. = Yes
0	Took Hypertension Lowering Med. = No

Table of assignment of values to HYPTMD21

	MSRB02	MSRB24A
HYPTMD21 = 1	Not T	Y
HYPTMD21 = 0	T	missing
	any	N
HYPTMD21 = .T	Not T	U or missing
	T	Y or U

MSRB02 : Reason why did not bring all medications.
T (Took no medications).
F (Forgot or was unable to bring medications).

MSRB24A : High blood pressure medications in past 2 weeks.
Y, N, U (Unknown).

Algorithm:

- If (MSRB02 NE T)] and (MSRB24A = Y)
then set HYPTMD21 = Yes.

2. If (MSRB02 = T and MSRB24A = missing) or
(MSRB24A = N)

then set HYPTMD21 = No.

3. If (MSRBO2 NE T) and
(MSRB24A = U or MSRB24A = missing)

then set HYPTMD21 to missing.

7.6 HYPTMD23 (Discontinued: Replaced with HYPERTMDCODE01)

7.7 HYPTMDCODE21 (Hypertension Lowering Medication within past 2 weeks using updated medication codes)

HYPTMDCODE21	Frequency	Percent
0	9610	66.97
1	4738	33.03

HYPTMDCODE21, using updated medication codes, replaces HYPTMD23.

HYPTMDCODE21 is a categorical variable that takes on the values of:

- 1 Participant has taken hypertension lowering medication in past two weeks
- 0 Participant has not taken hypertension lowering medication in past two weeks
- Z Unknown whether participant has taken hypertension lowering medication in past two weeks

Definition:

If participants are on medications and reported to have taken an antihypertensive medications within the last two weeks or taking a medication which is classified as an antihypertensive then set HYPTMDCODE21=1.

If participants did not bring any medications because no medications were being taken, and subsequently confirmed they had not taken any medication to lower blood pressure in the last two weeks or confirmed they had no medications listed, or participants who were taking medications but did not report having taken an antihypertensive within the last two weeks/did not know if they were taking an antihypertensive medication within the last two weeks and none of their listed medications could be classified as an antihypertensive then HYPTMDCODE21=0.

Classify all other participants who meet neither the criteria for 1 or 0 as missing.

Algorithm

I Create variable ALLMISS: ALLMISS= 1 if all the CODE1-17 are blank. Otherwise, ALLMISS=0.

II Create variables HBPMED

a. HBPMED=1 if ALLMISS=0 AND at least one of the CODE1-17= 330000-339999 or 340000-349999 or 360000-369999 or 370000-379999

b. HBPMED=0 if ALLMISS=1 or [ALLMISS=0 AND none of the CODE1-17=330000-339999 or 340000-349999 or 360000-369999 or 370000-379999]

III. Create HYPTMDCODE21

HYPTMDCODE21=1

If (MSRB02 ^T & Msrb24a = Y) or (MSRB02^T & HBPMED=1)

HYPTMDCODE21 = 0

If MSRB02 = T & Msrb24a=N

Or

If MSRB02=T & Msrb24a=Blank & ALLMISS=1

Or

If MSRB02^=T & Msrb24a^=Y & HBPMED= 0

HYPTMDCODE21= Missing otherwise

Table of Assignment

	MSRB02	MSRB24A	HBPMED	ALLMISS
Hyptmdcode21 = 1	Not T	Y	Any	Any
		Any	1	Any
Hyptmdcode21 = 0	T	N	Any	Any
		Blank	Any	1
	Not T	N, U, Blank	0	Any
Hyptmdcode21 = Missing	Any other combinations			

MSRB02: Reason why did not bring all medications.
 T (Took no medications),
 F (Forgot or was unable to bring medications).

CODE1--17: Updated Medication Code number.

MSRB24A: High blood pressure medications in past two weeks.
Y, N, U (Unknown)

Algorithm:

1. If [(MSRB02 NE T)] and [(MSRB24A = Y) or (MSBM04B-MSBM20B have at least one of the following MTC codes: 330000-333000, 340000-349999, 360000-369920, 370000-379920)]

then set HYPTMD23 = 1
2. If [(MSRB02 = T) and (all MSBM04B-MSBM20B = missing) and (MSRB24A = Blank] or [(MSRB02 = T and MSRB24A = N] or [(MSRB02 NE T) and (MSRB24A = N or MSRB24A = U or MSRB24A = missing) and (MSBM04B-MSBM20B do not have any of the following MTC codes: 330000-333000, 340000-349999, 360000-369920, 370000-379920)]

then set HYPTMD23 = 0.
3. If none of the above conditions are met

then set HYPTMD23 to missing.

MSRB02 : Reason why did not bring all medications.
T (Took no medications),
F (Forgot or was unable to bring medications)

MSBMO4B-MSBM20B : Medication Code number.

MSRB24A : High blood pressure medications in past two weeks.
Y, N, U (Unknown)

MTC code 330000 : Beta Blockers.
MTC code 331000 : Beta Blockers, non-selective.
MTC code 332000 : Beta Blockers, cardio-selective.
MTC code 333000 : Beta Blockers, Alpha-beta blockers.
MTC code 340000 : Calcium Channel Blockers.
MTC code 360000 : Antihypertensive.
MTC code 361000 : ACE Inhibitors.
MTC code 362000 : Adrenolytic Antihypertensive.
MTC code 362010 : Adrenolytic Antihypertensive - Central.
MTC code 362020 : Adrenolytic Antihypertensive - Peripheral.
MTC code 362030 : Reserpine.
MTC code 363000 : Alpha-blockers.
MTC code 364000 : Vasodilators.
MTC code 365000 : Antihypertensive - MAOIs.
MTC code 366000 : Miscellaneous Antihypertensive.
MTC code 369900 : Antihypertensive combinations.
MTC code 369910 : Antihypertensive combinations Reserpine.
MTC code 369920 : Antihypertensive combinations Beta-blockers.
MTC code 370000 : Diuretics.

MTC code 371000 : Carbonic Anhydrase Inhibitors.
MTC code 372000 : Loop Diuretics.
MTC code 373000 : Mercurial Diuretics.
MTC code 374000 : Osmotic Diuretics.
MTC code 375000 : Potassium Sparing Diuretics.
MTC code 376000 : Thiazides.
MTC code 379900 : Combination Diuretics.
MTC code 379910 : Diuretics - Potassium
MTC code 379920 : Non-prescription Diuretics.

8 Nutrition Derived Variables

(File TOTNUT2)

8.1 Nutrition Derived Variables

Note: The variables contained in the TOTNUT2 data were created from a program developed by Tomoko Shimakawa and were approved by the ARIC Nutrition Working Group. These variables replaced the variables in the NUTRV2 data set and, unless specifically requested otherwise, should be used in official ARIC analyses.

The data set containing nutrition derived variables is named TOTNUT2. It contains 77 variables: 65 daily nutrient intake variables, 11 variables containing percentages of energy from macronutrients, and ID. These variables, unlike the variables contained in the DTIB data set, include nutrient intake from food. Only values for participants meeting the ARIC Nutrition Working Group's criteria for analysis are included in this data set (see description of variable INCLUDE in attached memo).

The attached memo describes in detail how values for these variables are calculated.

Table 1: Names and descriptions of 78 variables (nutrients from beer, wine and hard liquor are included).

Number	Variable names	Description
<i>65 total nutrient variables</i>		
1	TCAL	energy intake in kilocalories
2	PROT	protein in grams
3	AFAT	animal fat in grams
4	VFAT	vegetable fat in grams
5	CARB	carbohydrate in grams
6	CFIB	crude fiber in grams
7	DFIB	dietary fiber in grams
8	CALC	calcium in milligrams
9	IRON	iron in milligrams
10	MAGN	magnesium in milligrams
11	PHOS	phosphorus in milligrams
12	POTA	potassium in milligrams
13	ZINC	zinc in milligrams
14	VITC	vitamin C in milligrams
15	VITB1	thiamine in milligrams
16	VITB2	riboflavin in milligrams
17	NIAC	niacin in milligrams
18	VITB6	vitamin B6 in milligrams
19	FOLA	folate in micrograms
20	RETI	retinol in International Units

Number	Variable names	Description
21	CARO	total carotenoid in International Units
22	VITA	total vitamin A in International Units
23	SFAT	saturated fat in grams
24	MFAT	monounsaturated fat in grams
25	F181	fatty acid 18.1 in grams
26	PFAT	polyunsaturated fat in grams
27	F182	fatty acid 18.2 in grams
28	CHOL	dietary cholesterol in milligrams
29	METH	methionine in grams
30	VITD	vitamin D in International Units
31	ALCO	alcohol intake in grams
32	VITE	alpha-tocopherol in milligrams
33	CAFF	caffeine in milligrams
34	VITB12	vitamin B12 in micrograms
35	PANT	pantothenic acid in milligrams
36	SUCR	sucrose in grams
37	SODI	sodium in milligrams
38	APROT	animal protein in grams
39	LACT	lactose in grams
40	TRYP	tryptophan in milligrams
41	MANG	manganese in milligrams
42	OMEGA	fatty acids w20.5 and w22.6 in grams
43	COPP	copper in milligrams
44	FRUC	fructose in grams
45	F183	fatty acid 18.3 in grams
46	F40	fatty acid 4.0 in grams
47	F60	fatty acid 6.0 in grams
48	F80	fatty acid 8.0 in grams
49	F100	fatty acid 10.0 in grams
50	F120	fatty acid 12.0 in grams
51	F140	fatty acid 14.0 in grams
52	F160	fatty acid 16.0 in grams
53	F180	fatty acid 18.0 in grams
54	F161	fatty acid 16.1 in grams
55	F201	fatty acid 20.1 in grams
56	F221	fatty acid 22.1 in grams
57	F184	fatty acid 18.4 in grams
58	F204	fatty acid 20.4 in grams
59	F205	fatty acid 20.5 in grams
60	F225	fatty acid 22.5 in grams
61	F226	fatty acid 22.6 in grams
62	GLUT	glutamic acid in grams
63	ASPA	aspartic acid in grams
64	FATE	animal fat without visible fat in grams
65	CALF	energy intake without visible fat in kilocalories

Number	Variable names	Description
<i>11 derived variables</i>		
66	TFAT	total fat in grams = AFAT+VFAT
67	P.TFAT	percentages of daily total energy intake from total fat
68	P.ALC	percentages of daily total energy intake from alcohol
69	P.PROT	percentages of daily total energy intake from protein
70	P.AFAT	percentages of daily total energy intake from animal fat
71	P.VFAT	percentages of daily total energy intake from vegetable fat
72	P.CARB	percentages of daily total energy intake from carbohydrate
73	P.SFAT	percentages of daily total energy intake from saturated fat
74	P.MFAT	percentages of daily total energy intake from monounsaturated fat
75	P.PFAT	percentages of daily total energy intake from polyunsaturated fat
$KeysScore = 1.26(2_P.SFAT - P.PFAT) + 1.5\sqrt{CHOL_}$		
76	KEYS	
<i>Other variables</i>		
77	INCLUDE	YES, NO1, NO2
78	ID	

8.2 Description of my SAS program

The goal of my program is to create a new SAS data set TOTNUT2 that contains 78 variables: ID, 65 daily total nutrient values (sum of daily nutrient intakes from 66 food items and nutrient intakes from alcoholic beverages), 11 nutrient variables that are derived from these total nutrient values including percentages of energy from macronutrients, and a binary variable INCLUDE to indicate participants who meet the ARIC Nutrition Working Group's inclusion criteria for analysis. Table 1 lists names and brief descriptions of these variables.

The attached hard copy of my program is written for Exam 1 data, but it can be used for Exam 2 data by replacing data set names and variable names. The rest of my memo describes these 78 variables in detail and explains how these variables are created in my SAS program.

1. Description of 65 total nutrient variables

Total nutrient variables are sums of daily nutrient intakes from 66 foods and daily nutrient intakes from alcoholic beverages. The ARIC SAS data set NUTRV2 contains participants' daily intakes of 90 nutrients that are calculated from the ARIC 66 food item-frequency questionnaire by Willett. Another ARIC SAS data set DTIB contains participants' weekly frequencies of consuming wine, beer, and liquor. Using the weekly alcohol consumption data and Willett's nutrient database for wine, beer, and liquor, daily intakes of 90 nutrients from alcoholic beverages will be computed. However, the calculation of daily nutrient intakes from alcoholic beverages depends on each participant's alcohol drinking status. Classify each participant into a current drinker, a former drinker, or a never drinker using the definition for the DRNKR01 variable in the ARIC SAS data set DERIVED. Do not use the DRNKR01 variable to classify participants unless DRNKR01 is updated using the latest DTIB data.

X If a participant is a current drinker, compute daily intakes of 90 nutrients from wine,

beer and liquor using weekly consumption data of these beverages (DTIB96 - DTIB98 in the ARIC SAS data set DTIB) and Willett's nutrient database for these beverages (entered in pages 1-2 of my SAS program as a data set ALCDRNK). These daily intakes of 90 nutrients from wine, beer and liquor will be added to daily intakes of 90 nutrients from 66 food items (NUTRV2A01 - NUTRV2A90) to obtain daily total intakes of 90 nutrients (TNUTA01 - TNUTA90). See page 3 or my SAS program for computation.

The ALCDRNK data contains 274 variables; weight of one serving of wine (4oz glass = 116g), 90 nutrient values (NUTRV2A01 - NUTRV2A90) for one serving of wine, weight of one serving of beer (12oz can = 360g), 90 nutrient values (NUTRV2A01 - NUTRV2A90) for one serving of beer, weight of one serving of liquor (1.5oz shot = 45g), 90 nutrient values (NUTRV2A01 - NUTRV2A90) for one serving of liquor, and a new variable MERGEID (= 1).

- X If a participant is a former drinker or a never drinker, assign a zero value to the daily total alcohol intake TNUT33. Other 89 daily total nutrients (TNUTA01 - TNUTA32, TNUTA34 - TNUTA90) will be the same as 89 nutrient intakes from 66 food items (NUTRV2A01 - NUTRV2A32, NUTRV2A34 - NUTRV2A90).
- X If a participant's drinking status cannot be determined, assign a null value to TNUTA33. Other 89 daily total nutrients (TNUTA01 - TNUTA32, TNUTA34 - TNUTA90) will be the same as 89 nutrient intakes from 66 food items (NUTRV2A01 - NUTRV2A32, NUTRV2A34 - NUTRV2A90).

25 of 90 daily total nutrient intakes (TNUTA numbers 8, 9, 13, 14, 15, 16, 18, 19, 20, 22, 30, 31, 32, 35, 36, 40, 42, 45, 46, 47, 48, 49, 52, 53, 88) are not useful to use because they are not calculated by Willett's algorithm. See Table 1 for 65 daily total nutrient intakes that will be included in our new SAS data set TOTNUT2.

2. Description of 11 derived variables

Using variables defined in Section 1, eleven variables will be created. See Table 1. Calculate the total fat intake by adding the animal fat intake to the vegetable fat intake. To calculate percentages of daily total energy intakes from 8 nutrients, assume that one gram of fat, alcohol, protein and carbohydrate contains 9 kilocalories, 7 kilocalories, 4 kilocalories and 4 kilocalories of energy, respectively. Calculate Keys score as follows: $1.26(2S - P) + 1.5Z$, where S is the percentage of energy from saturated fat, P is the percentage of energy from polyunsaturated fat, and Z is the square root of dietary cholesterol, expressed as mg/1,000kcal/day. This equation is from a paper by Anderson *et al.* on Preventive Medicine 1979;8:525-37.

3. Description of a binary variable INCLUDE

A binary variable INCLUDE will be created to indicate participants who meet our inclusion criteria for dietary analysis. Participants will have a value AYES \cong if they meet the following four criteria. See pages 5-6 of my SAS program.

1. Both DTIB and NUTRV2 data exist.

2. The GENDER variable is either female or male. The GENDER variable is necessary because gender specific energy value will be used as an inclusion criterion.
3. Less than 10 blanks in our 66 food item-frequency questionnaire (DTIB01 - DTIB66).
4. Total energy intake TCAL is between 500 and 3600 kcal for women and between 600 and 4200 kcal for men.

If a participant does not meet the above criteria and number of blanks is greater than or equal to 10, assign ANO1≅ to INCLUDE variable. If a participant cannot take either AYES≅ or ANO1≅ and if his or her TCAL value is outside of our acceptable TCAL range (500-3600 kcal for women and 600-4200 kcal for men), assign ANO2≅ to INCLUDE variable.

9 Plaque Derived Variables

9.1 BIFSHD21 (Shadowing in either carotid bifurcation)

BIFSHD21	Frequency	Percent
.	392	2.73
T	44	0.31
0	13086	91.20
1	826	5.76

<u>Value</u>	<u>Description</u>
1	Shadow
0	No Shadow

Algorithm

1. If [LBIFSHAD = >y=] or [RBIFSHAD = >y=]
then set BIFSHD21 to 1.
2. Else if [LBIFSHAD = >n=] or [RBIFSHAD = >n=]
then set BIFSHD21 to 0.
3. Else set BIFSHD21 to missing (.T).

LBIFSHAD: Shadowing in the left carotid bifurcation.

RBIFSHAD: Shadowing in the right carotid bifurcation.

9.2 INTSHD21 (Shadowing in either internal carotid artery)

INTSHD21	Frequency	Percent
.	392	2.73
T	164	1.14
0	13430	93.60
1	362	2.52

<u>Value</u>	<u>Description</u>
1	Shadow
0	No Shadow

INTSHD21 is derived in a similar manner to BIFSHD21 using the following variables:

LINTSHAD: Shadowing in the left internal carotid artery.

RINTSHAD: Shadowing in the right internal carotid artery.

9.3 COMSHD21 (Shadowing in either common carotid artery)

COMSHD21	Frequency	Percent
.	392	2.73
T	19	0.13
0	13902	96.89
1	35	0.24

This variable is a numeric variable which takes on the following values:

<u>Value</u>	<u>Description</u>
1	Shadow
0	No Shadow

Algorithm

1. If [LOPTSHAD = >y=] or [ROPTSHAD = >y=]
then set COMSHD21 to 1.
2. Else if [LOPTSHAD = >n=] or [ROPTSHAD = >n=]
then set COMSHD21 to 0.
3. Else set COMSHD21 to missing (.T)

LOPTSHAD: Shadowing in the left common carotid artery measured from the optimal angle.

ROPTSHAD: Shadowing in the right common carotid artery measured from the optimal angle.

9.4 BIFPLQ21 (Plaque in either carotid bifurcation)

BIFPLQ21	Frequency	Percent
.	392	2.73
T	44	0.31
0	9870	68.79
1	4042	28.17

<u>Value</u>	<u>Description</u>
1	Plaque
0	No Plaque

Algorithm

1. If [LBIFPLAQ = >y=] or [RBIFPLAQ = >y=]

- then set BIFPLQ21 to 1.
2. Else if [LBIFPLAQ = >n=] or [RBIFPLAQ = >n=]
then set BIFPLQ21 to 0.
 3. Else set BIFPLQ21 to missing (.T).
- LBIFPLAQ: Plaque in the left carotid bifurcation.
RBIFPLAQ: Plaque in the right carotid bifurcation.

9.5 INTPLQ21 (Plaque in either internal carotid artery)

INTPLQ21	Frequency	Percent
.	392	2.73
T	164	1.14
0	11661	81.27
1	2131	14.85

<u>Value</u>	<u>Description</u>
1	Plaque
0	No plaque

INTPLQ21 is derived in a similar manner to BIFPLQ21 using the following variables:

LINTPLAQ: Plaque in the left internal carotid artery.
RINTPLAQ: Plaque in the right internal carotid artery.

9.6 COMPLQ21 (Plaque in either common carotid artery)

COMPLQ21	Frequency	Percent
.	392	2.73
T	19	0.13
0	12981	90.47
1	956	6.66

This variable is a numeric variable which takes on the following values:

<u>Value</u>	<u>Description</u>
1	Plaque
0	No Plaque

Algorithm

1. If [LOPTPLAQ = >y=] or [ROPTPLAQ = >y=]
then set COMPLQ21 to 1.
2. Else if [LOPTPLAQ = >n=] or [ROPTPLAQ = >n=]

then set COMPLQ21 TO 0.

3. Else set COMPLQ21 to missing (.T).

LOPTPLAQ: Plaque in the left common carotid artery measured from the optimal angle.

ROPTPLAQ: Plaque in the right common carotid artery measured from the optimal angle.

9.7 LCOMPS21

(Plaque/shadowing (both, 1 w/o other, neither) in the left common carotid)

LCOMPS21	Frequency	Percent
.	392	2.73
T	375	2.61
1	13	0.09
2	512	3.57
3	1	0.01
4	13055	90.99

This variable is a numeric variable which takes on the following values:

<u>Value</u>	<u>Description</u>
1	Plaque and shadowing
2	Plaque only
3	Shadowing only
4	No plaque or shadow

Algorithm

1. If [LOPTSHAD = >=] or [LOPTPLAQ = >=]
then set LCOMPS21 to missing (.T).
2. Else if [[LOPTSHAD = >y=] and [LOPTPLAQ = >y=]]
then set LCOMPS21 to 1.
3. Else if [LOPTPLAQ = >y=]
then set LCOMPS21 to 2.
4. Else if [LOPTSHAD = >y=]
then set LCOMPS21 to 3.
5. Else if [LOPTSHAD = >n=] and [LOPTPLAQ = >n=]
then set LCOMPS21 to 4.

LOPTSHAD: Shadowing in the left common carotid artery measured from the optimal angle.

LOPTPLAQ: Plaque in the left common carotid artery measured from the optimal angle.

The following are derived in a similar manner using the variables indicated:

9.8 RCOMPS21

(Plaque/shadowing (both, 1 w/o other, neither) in the right common carotid)

RCOMPS21	Frequency	Percent
.	392	2.73
T	286	1.99
1	20	0.14
2	561	3.91
3	4	0.03
4	13085	91.20

<u>Value</u>	<u>Description</u>
1	Plaque and shadowing
2	Plaque only
3	Shadowing only
4	No plaque or shadow

ROPTSHAD: Shadowing in the right common carotid artery measured from the optimal angle.

ROPTPLAQ: Plaque in the right common carotid artery measured from the optimal angle.

9.9 LBIFPS21

(Plaque/shadowing (both, 1 w/o other, neither) in the left carotid bifurcation)

LBIFPS21	Frequency	Percent
.	392	2.73
T	338	2.36
1	460	3.21
2	2077	14.48
3	37	0.26
4	11044	76.97

<u>Value</u>	<u>Description</u>
1	Plaque and shadowing
2	Plaque only
3	Shadowing only
4	No plaque or shadow

LBIFSHAD: Shadowing in the left carotid bifurcation.

LBIFPLAQ: Plaque in the left carotid bifurcation.

9.10 RBIFPS21

(Plaque/shadowing(both,1 w/o other,neither)in the right carotid bifurcation)

RBIFPS21	Frequency	Percent
.	392	2.73
T	274	1.91
1	408	2.84
2	2246	15.65
3	35	0.24
4	10993	76.62

<u>Value</u>	<u>Description</u>
1	Plaque and shadowing
2	Plaque only
3	Shadowing only
4	No plaque or shadow

RBIFSHAD: Shadowing in the right carotid bifurcation.

RBIFPLAQ: Plaque in the right carotid bifurcation.

9.11 LINTPS21

(Plaque/shadowing(both,1 w/o other,neither)in the left internal carotid)

LINTPS21	Frequency	Percent
.	392	2.73
T	661	4.61
1	153	1.07
2	1045	7.28
3	5	0.03
4	12092	84.28

<u>Value</u>	<u>Description</u>
1	Plaque and shadowing
2	Plaque only
3	Shadowing only
4	No plaque or shadow

LINTSHAD: Shadowing in the left internal carotid.

LINTPLAQ: Plaque in the left internal carotid.

9.12 RINTPS21

(Plaque/shadowing(both,1 w/o other,neither)in the right internal carotid)

RINTPS21	Frequency	Percent
.	392	2.73
T	764	5.32
1	228	1.59
2	1115	7.77
3	10	0.07
4	11839	82.51

<u>Value</u>	<u>Description</u>
1	Plaque and shadowing
2	Plaque only
3	Shadowing only
4	No plaque or shadow

RINTSHAD: Shadowing in the right internal carotid.

RINTPLAQ: Plaque in the right internal carotid.

9.13 COMPS21

(Plaque/shadowing(both,1 w/o other,neither)in either common carotid)

COMPS21	Frequency	Percent
.	392	2.73
T	19	0.13
1	31	0.22
2	925	6.45
3	4	0.03
4	12977	90.44

This variable is a numeric variable which takes on the following values:

<u>Value</u>	<u>Description</u>
1	Plaque and shadowing (same side)
2	Plaque only
3	Shadowing only
4	No plaque or shadow (on either side)

Algorithm

1. If [LCOMPS21 = 1] or [RCOMPS21 = 1]
then set COMPS21 to 1.

2. Else if [LCOMPS21 = 2] or [RCOMPS21 =2]
then set COMPS21 to 2.
3. Else if [LCOMPS21 = 3] or [RCOMPS21 = 3]
then set COMPS21 to 3.
4. Else if [LCOMPS21 = 4] or [RCOMPS21 = 4]
then set COMPS21 to 4.
5. Else set COMPS21 to missing (.T).

LCOMPS21: Plaque/shadowing in the left common carotid.

RCOMPS21: Plaque/shadowing in the right common carotid.

The following are derived in a similar manner using the variables indicated:

9.14 **BIFPS21**

(Plaque/shadowing(both,1 w/o other,neither)in either carotid bifurcation)

BIFPS21	Frequency	Percent
.	392	2.73
T	44	0.31
1	763	5.32
2	3279	22.85
3	54	0.38
4	9816	68.41

<u>Value</u>	<u>Description</u>
1	Plaque and shadowing (same side)
2	Plaque only
3	Shadowing only
4	No plaque or shadow (on either side)

LBIFPS: Plaque/shadowing in the left carotid bifurcation.

RBIFPS: Plaque/shadowing in the right carotid bifurcation.

9.15 **INTPS21**

(Plaque/shadowing(both,1 w/o other,neither)in either internal carotid)

INTPS21	Frequency	Percent
.	392	2.73
T	164	1.14
1	347	2.42
2	1784	12.43

INTPS21	Frequency	Percent
3	15	0.10
4	11646	81.17

<u>Value</u>	<u>Description</u>
1	Plaque and shadowing (same side)
2	Plaque only
3	Shadowing only
4	No plaque or shadow (on either side)

LINTPS21: Plaque/shadowing in the left internal carotid.

RINTPS21: Plaque/shadowing in the right internal carotid.

9.16 LPLQSD21

(Plaque/shadowing(both,1 w/o other,neither)in any left carotid site)

LPLQSD21	Frequency	Percent
.	392	2.73
T	964	6.72
1	527	3.67
2	2475	17.25
3	35	0.24
4	9955	69.38

This variable is a numeric variable which takes on the following values:

<u>Value</u>	<u>Description</u>
1	Plaque and shadowing (any site)
2	Plaque only
3	Shadowing only
4	No plaque or shadow (at both sites)

Algorithm

1. If [LCOMPS21 = .T] or [LBIFPS21 = .T] or [LINTPS21 = .T]
then set LPLQSD21 to missing (.T).
2. Else if [LCOMPS21 = 1] or [LBIFPS21 = 1] or [LINTPS21 = 1]
then set LPLQSD21 to 1.
3. Else if [[LCOMPS21 = 2] or [LBIFPS21 = 2] or [LINTPS21 = 2]
then set LPLQSD21 to 2.
4. Else if [LCOMPS21 = 3] or [LBIFPS21 = 3] or [LINTPS21 = 3]
then set LPLQSD21 to 3.
5. Else if [LCOMPS21 = 4] and [LBIFPS21 = 4] and [LINTPS21 = 4]
then set LPLQSD21 to 4.

LCOMPS21: Plaque/shadowing in the left common carotid.

LBIFPS21: Plaque/shadowing in the left bifurcation carotid.
LINTPS21: Plaque/shadowing in the left internal carotid.

9.17 RPLQSD21

(Plaque/shadowing(both,1 w/o other,neither)in any right carotid site)

RPLQSD21	Frequency	Percent
.	392	2.73
T	1030	7.18
1	535	3.73
2	2659	18.53
3	31	0.22
4	9701	67.61

<u>Value</u>	<u>Description</u>
1	Plaque and shadowing (any site)
2	Plaque only (any site)
3	Shadowing only (any site)
4	No plaque or shadow (at both sites)

RPLQSD21 is created in a similar mannerto LPLQSD21 using the following variables:

- RCOMPS21: Plaque/shadowing in the right common carotid.
- RBIFPS21: Plaque/shadowing in the right bifurcation carotid.
- RINTPS21: Plaque/shadowing in the right internal carotid.

9.18 PLQSHD21(Plaque/shadowing(both,1 w/o other,neither)in any carotid site)

PLQSHD21	Frequency	Percent
.	392	2.73
T	1793	12.50
1	852	5.94
2	3507	24.44
3	44	0.31
4	7760	54.08

This variable is a numeric variable which takes on the following values:

<u>Value</u>	<u>Description</u>
1	Plaque and shadowing (any site)
2	Plaque only (any site)
3	Shadowing only (any site)
4	No plaque or shadow (at both sites)

Algorithm

1. If [LPLQSD21 = .T] or [RPLQSD21 = .T]
then set PLQSHD21 to missing (.T).
2. Else if [LPLQSD21 = 1] or [RPLQSD21 = 1]
then set PLQSHD21 to 1.
3. Else if [LPLQSD21 = 2] or [RPLQSD21 = 2]
then set PLQSHD21 to 2.
4. Else if [LPLQSD21 = 3] or [RPLQSD21 = 3]
then set PLQSHD21 to 3.
5. Else if [LPLQSD21 = 4] and [RPLQSD21 = 4]
then set PLQSHD21 to 4.

LPLQSD21: Plaque/shadowing (both, 1 w/o other, neither) in any left carotid site.

RPLQSD21: Plaque/shadowing (both, 1 w/o other, neither) in any right carotid site.

9.19 PLAQUE21

(Plaque (with or without shadowing) in any carotid site)

PLAQUE21	Frequency	Percent
.	392	2.73
T	1793	12.50
0	7804	54.39
1	4359	30.38

This variable is a numeric variable which takes on the following values:

<u>Value</u>	<u>Description</u>
1	Plaque
0	No plaque

Algorithm

1. If [PLQSHD21 = .T]
then set PLAQUE21 to missing (.T).
2. Else if [PLQSHD21 = 1] or [PLQSHD21 = 2]
then set PLAQUE21 to 1.
3. Else set PLAQUE21 to 0.

PLQSHD21: Plaque/shadowing (both, 1 w/o other, neither) in any carotid site.

9.20 PLAQUE23 (Plaque in any carotid site - alternative definition)

PLAQUE23	Frequency	Percent
.	392	2.73
T	10	0.07
0	9137	63.68
1	4809	33.52

This variable is a numeric variable which takes on the following values:

<u>Value</u>	<u>Description</u>
1	Plaque
0	No plaque

Algorithm

1. If [LOPTPLAQ = >y=] or [LBIFPLAQ = >y=] or [LINTPLAQ = >y=] or [ROPTPLAQ = >y=] or [RBIFPLAQ = >y=] or [RINTPLAQ = >y=] then set PLAQUE23 =1.
2. Else if [LOPTPLAQ = >n=] or [LBIFPLAQ = >n=] or [LINTPLAQ = >n=] or [ROPTPLAQ = >n=] or [RBIFPLAQ = >n=] or [RINTPLAQ = >n=] then set PLAQUE23 =0.
3. Else set PLAQUE23 = .T.

10 Pulmonary Derived Variables

(File PULM21)

Pulmonary Derived Variables

The following pulmonary derived variables are stored in the PULM21 data set. These variables replace the variables contained in the PFTB data set and should be used in any pulmonary data analyses.

Variable Label

FVC22	FVC Predicted (liters)
FEV_522	FEV(.5) Predicted (liters)
FEV_122	FEV(1) Predicted (liters)
FEV_322	FEV(3) Predicted (liters)
PEFR22	PEFR Predicted
FEF2522	FEF(25) Predicted
FEF5022	FEF(50) Predicted
FEF7522	FEF(75) Predicted
FF25752	FEF(25-75) Predicted
FEV1FVC2	FEV(1)/FVC Predicted (%)
FEV3FVC2	FEV(3)/FVC Predicted (%)

These variables were created using the gender/race specific equations listed below. For height, the variable ANTA01 was used; for age, the variable V2AGE22 was used; for race, the variable RACEGRP was used; and for gender, the variable GENDER was used.

For each variable, any missing value for age, race, height, etc. resulted in a missing value for the created variable.

Equations for White Males:

FVC22	= (.06*ANTA01) - (.0214*V2AGE22) - 4.65
FEV_522	= (.0327*ANTA01) - (.0152*V2AGE22) - 1.914
FEV_122	= (.0414*ANTA01) - (.0244*V2AGE22) - 2.19
FEV_322	= (.0535*ANTA01) - (.0271*V2AGE22) - 3.512
PEFR22	= (.094*ANTA01) - (.035*V2AGE22) - 5.993
FEF2522	= (.088*ANTA01) - (.035*V2AGE22) - 5.618
FEF5022	= (.069*ANTA01) - (.015*V2AGE22) - 5.4
FEF7522	= (.044*ANTA01) - (.012*V2AGE22) - 4.143
FF25752	= (.0204*ANTA01) - (.038*V2AGE22) + 2.133
FEV1FVC2	= (-.13*ANTA01) - (.152*V2AGE22) + 110.49
FEV3FVC2	= (-.0627*ANTA01) - (.145*V2AGE22) + 112.09

Equations for Non-white Males:

The same values for the variables for nonwhite males are calculated the same as for white males less 12%:

$$\begin{aligned} \text{FVC22} &= .88*((.06*\text{ANTA01}) - (.0214*\text{V2AGE22}) - 4.65) \\ \text{FEV}_522 &= .88*((.0327*\text{ANTA01}) - (.0152*\text{V2AGE22}) - 1.914) \\ \text{FEV}_122 &= .88*((.0414*\text{ANTA01}) - (.0244*\text{V2AGE22}) - 2.19) \\ \text{FEV}_322 &= .88*((.0535*\text{ANTA01}) - (.0271*\text{V2AGE22}) - 3.512) \\ \text{PEFR22} &= .88*((.094*\text{ANTA01}) - (.035*\text{V2AGE22}) - 5.993) \\ \text{FEF2522} &= .88*((.088*\text{ANTA01}) - (.035*\text{V2AGE22}) - 5.618) \\ \text{FEF5022} &= .88*((.069*\text{ANTA01}) - (.015*\text{V2AGE22}) - 5.4) \\ \text{FEF7522} &= .88*((.044*\text{ANTA01}) - (.012*\text{V2AGE22}) - 4.143) \\ \text{FF25752} &= .88*((.0204*\text{ANTA01}) - (.038*\text{V2AGE22}) + 2.133) \\ \text{FEV1FVC2} &= .88*((-.13*\text{ANTA01}) - (.152*\text{V2AGE22}) + 110.49) \\ \text{FEV3FVC2} &= .88*((-.0627*\text{ANTA01}) - (.145*\text{V2AGE22}) + 112.09) \end{aligned}$$

Equations for White Females:

$$\begin{aligned} \text{FVC22} &= (.0491*\text{ANTA01}) - (.0216*\text{V2AGE22}) - 3.59 \\ \text{FEV}_522 &= (.0238*\text{ANTA01}) - (.0185*\text{V2AGE22}) - .809 \\ \text{FEV}_122 &= (.0342*\text{ANTA01}) - (.0255*\text{V2AGE22}) - 1.578 \\ \text{FEV}_322 &= (.0442*\text{ANTA01}) - (.0257*\text{V2AGE22}) - 2.745 \\ \text{PEFR22} &= (.049*\text{ANTA01}) - (.025*\text{V2AGE22}) - .735 \\ \text{FEF2522} &= (.043*\text{ANTA01}) - (.025*\text{V2AGE22}) - .132 \\ \text{FEF5022} &= (.035*\text{ANTA01}) - (.013*\text{V2AGE22}) - .444 \\ \text{FEF7522} &= 3.042 - (.014*\text{V2AGE22}) \\ \text{FF25752} &= (.0154*\text{ANTA01}) - (.046*\text{V2AGE22}) + 2.683 \\ \text{FEV1FVC2} &= (-.202*\text{ANTA01}) - (.252*\text{V2AGE22}) + 126.58 \\ \text{FEV3FVC2} &= (-.0937*\text{ANTA01}) - (.163*\text{V2AGE22}) + 118.16 \end{aligned}$$

Equations for Non-white Females:

The values for the variables for nonwhite females are calculated the same as for white females less 12%:

$$\begin{aligned} \text{FVC22} &= .88((.0491*\text{ANTA01}) - (.0216*\text{V2AGE22}) - 3.59) \\ \text{FEV}_522 &= .88((.0238*\text{ANTA01}) - (.0185*\text{V2AGE22}) - .809) \\ \text{FEV}_122 &= .88((.0342*\text{ANTA01}) - (.0255*\text{V2AGE22}) - 1.578) \\ \text{FEV}_322 &= .88((.0442*\text{ANTA01}) - (.0257*\text{V2AGE22}) - 2.745) \\ \text{PEFR22} &= .88((.049*\text{ANTA01}) - (.025*\text{V2AGE22}) - .735) \\ \text{FEF2522} &= .88((.043*\text{ANTA01}) - (.025*\text{V2AGE22}) - .132) \\ \text{FEF5022} &= .88((.035*\text{ANTA01}) - (.013*\text{V2AGE22}) - .444) \\ \text{FEF7522} &= .88(3.042 - (.014*\text{V2AGE22})) \\ \text{FF25752} &= .88((.0154*\text{ANTA01}) - (.046*\text{V2AGE22}) + 2.683) \\ \text{FEV1FVC2} &= .88((- .202*\text{ANTA01}) - (.252*\text{V2AGE22}) + 126.58) \\ \text{FEV3FVC2} &= .88((- .0937*\text{ANTA01}) - (.163*\text{V2AGE22}) + 118.16) \end{aligned}$$

11 SI Unit Change

11.1 GLUSIU21 (V2 blood glucose in SI Units)

Variable	N	Mean	Median	Std Dev	Minimum	Maximum
GLUSIU21	14292	6.4	5.7	2.44	1.1	33.6

This variable expresses blood glucose level in the System International (SI) unit system.

PRESENT SYSTEM	CONVERSION FACTOR (CF)	SI UNIT SYSTEM
mg/dL	0.05551	Mmol/L

$$GLUSIU21 = CHMB07 \times CF$$

CHMB07 : Blood Glucose Level in mg/dL

11.2 TCHSIU21 (V2 Total Cholesterol in SI Units)

Variable	N	Mean	Median	Std Dev	Minimum	Maximum
TCHSIU21	14262	5.4	5.4	1.02	2.1	14.4

This variable expresses total cholesterol in the System International (SI) unit system.

PRESENT SYSTEM	CONVERSION FACTOR (CF)	SI UNIT SYSTEM
mg/dL	0.02586	mmol/L

$$TCHSIU21 = LIPBO1A \times CF$$

LIPBO1A : Total Cholesterol in mg/dL.

11.3 HDLSIU21 (V2 HDL Cholesterol in SI Units)

Variable	N	Mean	Median	Std Dev	Minimum	Maximum
HDLSIU21	14219	1.3	1.2	0.43	0.1	5.2

This variable expresses HDL cholesterol level in the System International (SI) unit system.

PRESENT SYSTEM	CONVERSION FACTOR (CF)	SI UNIT SYSTEM

mg/dL	0.02586	mmol/L
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$$\text{HDLSIU21} = \text{LIPB03A} \times \text{CF}$$

LIPB03A: HDL Cholesterol in mg/dL

11.4 HD3SIU21 (V2 HDL (3) Cholesterol in SI Units)

Variable	N	Mean	Median	Std Dev	Minimum	Maximum
HD3SIU21	13758	0.9	0.9	0.29	0.0	2.4

This variable expresses HDL (3) cholesterol level in the System International (SI) unit system.

PRESENT SYSTEM	CONVERSION FACTOR (CF)	SI UNIT SYSTEM
mg/dL	0.02586	mmol/L

$$\text{HD3SIU21} = \text{LIPB04A} \times \text{CF}$$

LIPB04A: HDL (3) Cholesterol in mg/dL

11.5 HD2SIU21 (V2 HDL (2) Cholesterol in SI Units)

Variable	N	Mean	Median	Std Dev	Minimum	Maximum
HD2SIU21	13734	0.4	0.3	0.23	0.0	3.8

This variable expresses HDL (2) cholesterol level in the System International (SI) unit system.

PRESENT SYSTEM	CONVERSION FACTOR (CF)	SI UNIT SYSTEM
mg/dL	0.02586	mmol/L

$$\text{HD3SIU02} = \text{HDL221} \times \text{CF}$$

HDL221: HDL (2) Cholesterol in mg/dL

11.6 APASIU21 (V2 Apolipoprotein AI in SI Units)

Variable	N	Mean	Median	Std Dev	Minimum	Maximum
APASIU21	14073	1293.8	1260.0	311.85	310.0	4090.0

This variable expresses Apolipoprotein AI level in the System International (SI) unit system.

PRESENT SYSTEM	CONVERSION FACTOR (CF)	SI UNIT SYSTEM
mg/dL	10.0	mg/L

$$APASIU21 = RIAA01A \times CF$$

RIAA01A : Apolipoprotein AI in mg/dL

11.7 APBSIU21 (V2 Apolipoprotein B in SI Units)

Variable	N	Mean	Median	Std Dev	Minimum	Maximum
APBSIU21	14092	956.2	920.0	285	0.0	3360.0

This variable expresses Apolipoprotein B level in the System International (SI) unit system.

PRESENT SYSTEM	CONVERSION FACTOR (CF)	SI UNIT SYSTEM
mg/dL	10.0	mg/L

$$APBSIU21 = RIAA02A \times CF$$

RIAA02A: Apolipoprotein B in mg/dL

11.8 LDLSIU22 (V2 Recalculated LDL Cholesterol in SI Units)

Variable	N	Mean	Median	Std Dev	Minimum	Maximum
LDLSIU22	14007	3.5	3.4	0.95	0.0	12.1

This variable expresses LDL cholesterol level in the System International (SI) unit system.

PRESENT SYSTEM	CONVERSION FACTOR (CF)	SI UNIT SYSTEM
mg/dL	0.02586	mmol/L

$$\text{LDLSIU22} = \text{LDL22} \times \text{CF}$$

LDL22: LDL re-calculated Cholesterol in mg/dL

11.9 TRGSIU21 (V2 Triglycerides in SI Units)

Variable	N	Mean	Median	Std Dev	Minimum	Maximum
TRGSIU21	14260	1.5	1.3	1.02	0.1	26.8

This variable expresses Total Triglycerides in the System International (SI) unit system.

PRESENT SYSTEM	CONVERSION FACTOR (CF)	SI UNIT SYSTEM
mg/dL	0.01129	mmol/L

$$\text{TRGSIU21} = \text{LIPB02A} \times \text{CF}$$

LIPB02A : Total Triglycerides in mg/dL

12 Smoking

12.1 CIGT21 (V2 Cigarette smoking status)

CIGT21	Frequency	Percent
.	33	0.23
1	3209	22.37
2	5420	37.78
3	5686	39.63

This is a numeric variable which assumes the following values according to the table below:

Value	Description
1	Current smoker
2	Former smoker
3	Never smoker
4	Unknown, but one of the above three categories may be ruled out.
Missing	No responses or contradictory answers.

Note: This variable includes a historical component, but no use of Visit 1 data has been made.

Table of assignment of values to CIGT21

HHX Q44: HAVE YOU EVER SMOKED CIGARETTES?	HHX Q45: DO YOU NOW SMOKE CIGARETTES?		
	Y	N	Missing
Y	1	2	4 (d)
N	Missing (a)	3	3
Missing	1 (b)	4 (c)	Missing

Footnotes to the table:

- (a) Bad data (contradictory answers)
- (b) Even though Q44 is not answered, Q45 defines the person as a current smoker
- (c) Could be either former or never smoker
- (d) Could be either former or current smoker

12.2 CURSMK21 (Current cigarette smoker)

CURDRK21	Frequency	Percent
T	31	0.22

CURDRK21	Frequency	Percent
0	6263	43.65
1	8054	56.13

CURSMK21 is a categorical variable that takes values according to the definition table below:

CURSMK21	HHXB44	HHXB45
1	Y or Missing	Y
0	N	Not Y
	Y or Missing	N
T	N	Y
	not N	Missing

HHXB44: Have you ever smoked cigarettes? Yes, No

HHXB45: Do you now smoke cigarettes? Yes, No

12.3 FORSMK21 (Former cigarette smoker)

FORSMK21	Frequency	Percent
T	33	0.23
0	8895	61.99
1	5420	37.78

FORSMK21 is a categorical variable that takes values according to the definition table below:

FORSMK21	HHXB44	HHXB45
1	Y	N
0	N	N or Missing
	Y or Missing	Y
T	N	Y
	Y	Missing
	Missing	Missing or N

HHXB44: Have you ever smoked cigarettes? Yes, No

HHXB45: Do you now smoke cigarettes? Yes, No

12.4 EVRSMK21 (Ever smoked cigarettes)

EVRSMK21	Frequency	Percent
T	33	0.23
0	5686	39.63
1	8629	60.14

EVRSMK21 is a categorical variable that takes values according to the definition table below:

EVRSMK21	HHXB44	HHXB45
1	Y	any
	Missing	Y
0	N	not Y
T	N	Y
	Missing	not Y

HHXB44: Have you ever smoked cigarettes? Yes, No

HHXB45: Do you now smoke cigarettes? Yes, No

13 TIA/Stroke

(File STROKE2)

13.1 Description of the TIA/Stroke Variables

The diagnostic computer algorithm creates variables for each of six symptoms:

Symptom	Variable Name
speech	SPCDIA21
vision	VISDIA21
double vision	DBLDIA21
numbness	NUMDIA21
paralysis	PARDIA21
dizziness	DIZDIA21

For simplicity, this group of variables will be referred to in this document as *DIA21.

The values of the *DIA21 variables indicate whether a TIA or stroke occurred in what arterial distribution. The arterial distributions include left carotid artery (LC), right carotid artery (RC), and vertebrobasilar system (VBI or VB). Thus, the possible values for the *DIA21 variables are: TIALC, TIARC, TIAVBI, STROKELC, STROKERC, STROKEVB, UNKNOWN, MISSING.

13.2 Creation of TIA Intermediate Variables

If one or more of the *DIA21 variables are equal to TIALC, then the intermediate categorical variable TIALC21 is set to Y. If no *DIA21 variable has a value of TIALC and one or more of the *DIA21 variables have the value UNKNOWN, then TIALC21 is set to U. If no *DIA21 variable has a value of TIALC or UNKNOWN and one or more of the *DIA21 variables are MISSING or blank, then TIALC21 is set to M. If none of the preceding conditions is satisfied then TIALC21 is set to N.

Similar logic is used to create intermediate variables for the other two arterial distributions: right carotid artery (TIARC21) and vertebrobasilar system (TIAVB21).

13.3 Creation of STROKE Intermediate Variables

Three intermediate variables for stroke (STKLC21, STKRC21, and STKVB21) are created in much the same manner as the variables for TIA described in 2 above; that is, the STROKE variables are defined by replacing TIA with STROKE in the description above.

13.4 Creation of TIA/STROKE Intermediate Variables

Three intermediate variables STIAC21, STIARC21, and STIAVB21, are created based on the values of the TIA and STROKE intermediate variables defined above.

	TIALC21	STKLC21
STIALC21 = Y	Y	ANY
	ANY	Y
STIALC21 = N	N	N
STIALC21 = M	N	MISSING
	MISSING	N
	MISSING	MISSING

	TIARC21	STKRC21
STIARC21 = Y	Y	ANY
	ANY	Y
STIARC21 = N	N	N
STIARC21 = M	N	MISSING
	MISSING	N
	MISSING	MISSING

	TIAVB21	STKVB21
STIAVB21 = Y	Y	ANY
	ANY	N
STIAVB21 = N	N	N
	N	MISSING

STIAVB21 = M	MISSING	N
	MISSING	MISSING

13.5 Creation of Variable TIA21

	TIALC21	TIARC21	TIABV21
TIA21 = Y	Y	ANY	ANY
	ANY	Y	ANY
	ANY	ANY	Y
TIA21 = N	N	N	N
TIA21 = U	U	Not Y	Not Y
	Not Y	U	Not Y
	Not Y	Not Y	U

TIA21 = M if other combinations

13.6 Creation of Variable STROKE21

	STKLC21	STKRC21	STKVB21
STROKE21 = Y	Y	ANY	ANY
	ANY	Y	ANY
	ANY	ANY	Y
STROKE21 = N	N	N	N
STROKE21 = U	U	Not Y	Not Y
	Not Y	U	Not Y
	Not Y	Not Y	U

STROKE21 = M if other combinations

13.7 Creation of Variable STIA21

	TIA21	STROKE21
STIA21 = Y	Y	Any
	Any	Y
STIA21 = N	N	N
STIA21 = U	U	Not Y
	Not Y	U

STIA21 = M if other combinations

14 Other Variables

14.1 V2DATE21 (Visit 2 Date)

Search the Visit 2 dates on Visit 2 forms in the following order:

FTRB01, SBPB23, ANTB06

V2DATE21 is the first non-missing date that is found.

Notes:

- a. V2DATE21 = FTRB01 for all persons
- b. Consistency checks among the dates are not performed.

14.2 V2AGE22 (Age at Visit 2)

Variable	N	Mean	Median	Std Dev	Minimum	Maximum
V2AGE22	14348	57.0	57.0	5.73	46.0	70.0

V2AGE22 is calculated as the difference in years between BIRTHDAT (Birth date) and V2DATE21 (Derived Visit 2 date).

- i. Birthday is prior to the visit 2 day:
 - a. (birth month) < (month of visit)
 - b. (birth month) = (month of visit) and (birth day) ≤ (day of visit)

$$V2AGE22 = (\text{year of visit}) - (\text{birth year})$$

- ii. Birthday is on or after the visit 2 day:
 - a. (birth month) > (month of visit)
 - b. (birth month) = (month of visit) and (birth day) > (day of visit)

$$V2AGE22 = (\text{year of visit}) - (\text{birth year}) - 1$$

- iii. Any of the following cannot be determined:
 - a. Relationship between birthday and visit 2 day.
 - b. Year of visit.
 - c. Birth year.

V2AGE22 = missing.

Notes:

- a. Birth month, day, and year are determined from BIRTHDAT for birth date.
- b. Visit month, day, and year are determined from the derived variable, V2DATE21, for visit date.

V2AGE22 has been created using the uncorrected birth date (BIRTHDAT in DERIVE26), and V2CORAGE has been created using the corrected birth date (CORBIRT1 in UNOFF23). Since many analyses were already done using the uncorrected variable, the Executive Committee has recommended to use the uncorrected age variable (V2AGE22) for Visit 2 and longitudinal analyses. The corrected version could be used for cross-sectional analyses.

14.3 FAST0823 (8 Hours or More of Fasting Time)

FAST0823	Frequency	Percent
T	42	0.29
0	447	3.12
1	13859	96.59

This is a categorical variable that takes on the values of:

- 0 Not fasting 8 hours or more
- 1 Fasting 8 hours or more
- .T Missing (fasting status cannot be determined)

Definition:

If either the FTRB or VENB form (or both) is missing or either form has a missing date (FTRB02 or VENB02 = missing), then

- A. Set FAST0823 to missing.

If both dates are present and equal (FTRB02 = VENB02), then

- A. Compute CLINTIME, the time between the FTRB interview time (FTRB03A) and venipuncture time (VENB03). Convert FTRB interview time and/or venipuncture time to a 24-hour clock value if the hour value (FTRB03AH, VENB03H) falls in the range 1-11 and the time of day (FTRB04C, VENB03A) is PM. Do this by adding 12 to the hour value.
- B. If time of consumption of last meal is >before yesterday= (FTRB04A = B) or the total time between consumption of last meal and blood draw is ≥ 8 hours, then set FAST0823 to 1 if blood draw is before consumption of the snack (VENB04 = Y or blank).
- C. If the snack was consumed before blood draw (VENB04 = N) or the total time between consumption of last meal and blood draw is not missing and < 8 hours, then set FAST0823 to 0.
- D. If neither B nor C above is met, set FAST0823 to missing if either FRTA05 or CLINTIME is missing.

If both dates are present and FTRB visit occurred before VENB visit (FTRB02 < VENB02) then

- A. In this case, the clinic is assumed to have changed the fasting information, so that FTRB04A and FTRB05 refer to the VENB visit day. Assign a value of 1 to FAST0823 if FTRB05 ≥ 8 ; assign a value of 0 if FTRB03 is nonmissing and < 8 .

If both dates are present and FTRB visit occurred after VENB visit (FTRB02 > VENB02) then

- A. Set FAST0823 to missing.

CLINTIME : A temporary variable to determine the total elapsed times since the participant provided their fasting information and when venipuncture was performed.

FTRB01 : Date of visit in mmddyy.

FTRB02 : Date of fasting determination.

FTRB03AH : Time of visit hour component.

FTRB03AM : Time of visit minute component.

FTRB04C : Time of visit: AM or PM.

FTRB04A : Day last consumed.
T (Today), Y (Yesterday), B (Before yesterday)

FTRB05 : Computed fasting time in hours.

VENB02 : Date of blood drawing in mmddyy.

VENB03A : Time of blood drawing: AM or PM.

VENB03H : Time of blood drawing hour component.

VENBO3M : Time of blood drawing minute component.

VENB04 : Was blood drawn before the snack? Y, N

14.4 FAST1223 (12 Hours or more of Fasting Time)

FAST1223	Frequency	Percent
T	44	0.31
0	848	5.91
1	13456	93.78

This is a categorical variable that takes on the values of:

0 Not fasting 12 hours or more
1 Fasting 12 hours or more
.T Missing (fasting status cannot be determined)

Definition:

If either the FTRB or VENB form (or both) is missing or either form has a missing date (FTRB01A or VENB02 = missing), then

A. Set FAST1223 to missing.

If both dates are present and equal (FTRB02 = VENB02) then

- A. Compute CLINTIME, the time between the FTRB interview time (FTRB03A) and venipuncture time (VENB03). Convert FTRB interview time and/or venipuncture time to a 24-hour clock value if the hour value (FTRB03AH, VENB03H) falls in the range 1-11 and the time of day (FTRB04C, VENB03A) is PM. Do this by adding 12 to the hour value.
- B. If time of consumption of last meal is >before yesterday= (FTRB04A = B) or the total time between consumption of last meal and blood draw is ≥ 12 hours, then set FAST1223 to 1 if blood draw is before consumption of the snack (VENB04 = Y or blank).
- C. If the snack was consumed before blood draw (VENB04 = N) or the total time between consumption of last meal and blood draw is not missing and < 12 hours, then set FAST1223 to 0.
- D. If neither B or C above is met, set FAST1223 to missing if either FTRB05 or CLINTIME is missing.

If both dates are present and FTRB visit occurred before VENB visit (FTRB02 < VENB02) then

- A. In this case, the clinic is assumed to have changed the fasting information, so that FTRB02 and FTRB05 refer to the VENB visit day. Assign a value of 1 to FAST1223 if FTRB05 ≥ 12 ; assign a value of 0 if FTRB05 is nonmissing and < 12 .

If both dates are present and FTRB visit occurred after VENB visit (FTRB02 > VENB02) then

- A. Set FAST1223 to missing.

- CLINTIME : A temporary variable to determine the total elapsed time since the participant provided their fasting information and when venipuncture was performed.
- FTRB01 : Date of visit in mmddyy.
- FTRB02 : Date of fasting determination.
- FTRB03AH : Time of visit hour component.
- FTRB03AM : Time of minute component.
- FTRB04C : Time of visit: AM or PM.
- FTRB04A : Day last consumed.
T (Today), Y (Yesterday), B (Before yesterday).

- FTRB05 : Computed fasting time in hours.
- VENB02 : Date of blood drawing in mmddyy.
- VENB03A : Time of blood drawing: AM or PM.
- VENB03H : Time of blood drawing hour component.
- VENB03M : Time of blood drawing minute component.
- VENB04 : Was blood drawn before the snack? Y, N

14.5 TGLEFH21 (Triglycerides less than or equal to 400 mg/dL)

TGLEFH21	Frequency	Percent
.	88	0.61
0	209	1.46
1	14051	97.93

This is a numeric Visit 2 variable which assumes the following values according to the table below.

<u>Value</u>	<u>Description</u>
1	Triglycerides under 400 mg/dL = Yes.
0	Triglycerides under 400 mg/dL = No.

Table of assignment of values to TGLEFH21

	LIPB02A (MG/DL)
TGLEFH21 = 1	Not missing and Less than or equal to 400
TGLEFH21 = 0	More than 400
TGLEFH21 = missing	Missing

LIPB02A: Total Triglycerides (mg/dL).

14.6 MENOPS21 (Menopausal Status)

MENOPS21	Frequency	Percent
.	6451	44.96
T	11	0.08
1	4	0.03
2	799	5.57
3	665	4.63
4	4331	30.19
5	1313	9.15
6	739	5.15
7	15	0.10
8	20	0.14

MENOPS21 is a categorical variable that takes on the values 1 through 8 as follows:

- 1=Primary Amenorrhea
- 2=Premenopause
- 3=Perimenopause
- 4=Post Natural
- 5=Post Surgical
- 6=Unknown Ovarian
- 7=Post Radiation
- 8=Post Unknown
- .T=Special Missing
- .=missing

Values are assigned according to the conditions defined below:

[Note: MENOPS02 is menopausal status at Visit 1]

1. If {MENOPS02=1}
then set MENOPS21=1 (Primary Amenorrhea)

2. If the above condition is not met and the following condition is met
then set MENOPS21=2 (Premenopause)
 - If {hhxb15=Yes and hhxb42=Both and (hhxb18=No or (hhxb17=0 and hhxb18=missing))}

3. If none of the above conditions are met and the following condition is met then set MENOPS21=.T (Special Missing)

If {hhxb15=Yes and hhxb42=Both and (hhxb18=No or (hhxb17=0 and hhxb18=missing))}

4. If none of the above conditions are met and the following condition is met then set MENOPS21=3 (Perimenopause)

If { hhxb15=Yes and ((hhxb18=Yes or hhxb18=Unknown) or (hhxb18=missing and hhxb42=Both)) }

5. If none of the above conditions are met and at least one of the following conditions is met then set MENOPS21=4 (Post Natural)

If {menops02=4 and rhxa48=Both}

or

{menops02=4 and rhxa48=Both and rhxa49 > .Z and rhxa08 > .Z and rhxa49 > rhxa08}

or

{hhxb15=No and (hhxb20=Natural or hhxb20=Unknown) }

or

{hhxb15=No and ((hhxb20=Surgery or hhxb20=Missing) and hhxb39=No) }

or

{hhxb15=Missing and (hhxb18=Yes or hhxb20=Natural and hhxb39=No) }

or

{hhxb15=No and (hhxb20=Missing or hhxb20=Surgery) and hhxb42=No and v2age21 >= 55}

or

{menops02=6 and v1age01 >= 55 and rhxa48=Unknown and hhxb42=Unknown}

or

{menops02=6 and v2age21 >= 55 and rhxa48=Unknown and hhxb42=Unknown}

or

{rhxa04=Yes and rhxa07=Yes and rhxa09=Natural and [rhxa45=No or (rhxa45=Yes and

rhxa48=One)] and (hhxb14=missing or hhxb14=No) and (hhxb37=No or

hhxb37=missing or

hhxb37=Yes) and (hhxb39=No or hhxb39=missing) and hhxb15=missing }

6. If none of the above conditions are met and at least one of the following conditions is met then set MENOPS21=5 (Post Surgical)

If {menops02=5}

or

{menops02=4 and rhxa48=Both and rhxa49 <= rhxa08 and rhxa49 > .Z and rhxa08 > .Z}

or

{hhxb15=No and (hhxb20=Surgery or hhxb20=missing) and hhxb42=Both}

or

{menops02=3 and ((rhxa48=Both and hhxb15=Yes) or (hhxb42=Both and hxb20 =Natural and hhxb15=Yes)) }

7. If none of the above conditions are met and at least one of the following conditions is met then set MENOPS21=6 (Unknown Ovarian)

If {menops02=6 and hhxb14=No and 44 <= v2age21 < 55}

or

{hhxb15=No and hhxb18=Yes and hhxb20=Surgery and hhxb39=Yes and hhxb40=No and hhxb42=One}

or

{hhxb15=No and (hhxb20=Surgery or hhxb20=missing) and hhxb42=Unknown}

or

{hhxb15=No and hhxb18=Yes and hhxb20=Surgery and (hhxb39=Yes or hhxb39=Unknown) and (hhxb42=missing or hhxb42=Both or hhxb42=Surgery) }

or

{hhxb15=No and hhxb18=Unknown and hhxb20=missing and hhxb39=Yes and hhxb40=Yes and hhxb42=missing}

or

{hhxb40=Yes and hhxb42=Both and (hhxb19 = hhxb41) and hhxb19 > .Z and hhxb41 < .Z and hhxb20 =Natural}

OR

{hhxb15=No and (hhxb20=Surgery or hhxb20=missing) and (hhxb42=No or hhxb42=One) and 44 <= v2age21 < 55}

or

{menops02=6 and rhxa48=Unknown and v2age21 >= 55}

or

{menops02=3 and rhxa04=Yes and rhxa07=Yes and rhxa09=Surgery and rhxa45=Yes and rhxa46=Yes and rhxa48=No and hhxb14=Yes and hhxb15=No and hhxb16=missing and hhxb18=Yes and hhxb20=Surgery and (hhxb37=Yes or hhxb37=missing) and hhxb39=missing and hhxb40=missing and hhxb42=missing}

8. If none of the above conditions are met and the following condition is met then set MENOPS21=7 (Post Radiation)

If menops02 = 7 or {hhxb15=No and hhxb20=Radiation and rhxa09=□Natural}

9. If none of the above conditions are met and at least one of the following conditions is met then set MENOPS21=8 (Post Unknown)

If {(menops02=2 or menops02=3) and ((rhxa07=Yes and rhxa09=Natural and rhxa48=Both and rhxa45=Yes) or (rhxa07=Yes and rhxa09=Surgery and rhxa48=□Both) or (hhxb18=Yes and hhxb20=Surgery and hhxb42=□Both))}

10. If none of the above conditions are met and the following condition is met then set MENOPS21=6 (Unknown Ovarian)

{menops02=6 and rhxa04=No and rhxa07=Yes and rhxa09=Surgery and rhxa45=Yes and rhxa46=Yes and rhxa48=No and hhxb14=missing and hhxb15=missing and hhxb16=missing and hhxb18=missing}

11. If none of the above conditions are met and the following condition is met then set MENOPS21=6

{menops02=2 and rhxa04=Yes and rhxa07=missing and rhxa09=missing and rhxa45=Yes and rhxa46=Yes and rhxa48=No and hhxb14=Yes and hhxb15=No and hhxb16=missing and hhxb18=No and hhxb20=missing and hhxb37=Yes and hhxb39=missing and hhxb40=missing and hhxb42=missing}

12. If none of the above conditions are met then set MENOPS21=missing

RHXA01: Approximately how old were you when your menstrual periods started?

RHXA04: Have you had any menstrual periods during the past two years?

RHXA06: In the past 2 years how many periods did you miss?

RHXA07: Have you reached menopause? Y,N,U (Unknown)
 RHXA08:
 RHXA09: Was your menopause natural or the result of surgery or radiation?
 N(Natural), S (Surgery), R (Radiation), U (Unknown)
 RHXA45: Have you had surgery to have your uterus or ovaries removed? Y, N, U (Unknown)
 RHXA46: Was your uterus (womb) removed? Y, N, U (Unknown)
 RHXA47: How old were you when this operation was performed? (Refers to RHXA46)

 RHXA48: Have you had either one or both ovaries removed?
 O (Yes, One), B (Yes, Both), N (No), U (Unknown)
 RHXA49: How old were you when this operation was performed? (Refers to RHXA48)

 HHXB14: Did the participant have menstrual periods within 2 years prior to Visit 2? Y, N, U
 (Unknown)
 HHXB15: Have you had any menstrual periods during the last 2 years? Y, N, U (Unknown)
 HHXB16: In what month and year was your last menstrual period?
 HHXB17: In the past 2 years how many periods did you miss?
 HHXB18: Have you reached menopause? Y, N, U (Unknown)
 HHXB19: At approximately what age did menopause begin?
 HHXB20: Was your menopause natural or the result of surgery or radiation?
 N(Natural), S (Surgery), R (Radiation), U (Unknown)
 HHXB37: Did the participant have a partial or total hysterectomy or oophorectomy at the time
 of Visit 2? Y, N, U (Unknown)
 HHXB39: Have you had surgery to have your uterus or ovaries removed? Y, N, U (Unknown)
 HHXB40: Has your uterus (womb) been removed? Y, N, U (Unknown)
 HHXB41: How old were you when this operation was performed? (Refers to HHXB40)
 HHXB42: Have you had either one or both ovaries removed?
 O (Yes, One), B (Yes, Both), N (No), U (Unknown)

14.7 BIRTHDAT (Date of Birth)

While we have been tracking all known errors, we found that 48 Ids had birth date incorrectly specified in our consolidated database. The uncorrected birth-date variable (BIRTHDAT) stays in DERIVE26 and the corrected birth-date variable (CORBIRT1) stays in UNOFF23. Since many analyses were already done using the uncorrected variable, the Executive Committee has recommended to use the uncorrected birth-date variable (BIRTHDAT) for Visit 1 and longitudinal analyses. The corrected version could be used for cross-sectional analyses other than Visit 1.

14.8 HORMON22 (Use of Hormones, Female Participants) (UC2188)

HORMON22	Frequency	Percent
.	7690	53.60
1	1353	9.43
2	633	4.41
3	4330	30.18
4	342	2.38

This is a numeric, categorical variable that can take the values 1 through 4 as follows:

- 1 = Current Estrogen User
- 2 = Current Estrogen and Progestin User
- 3 = Never Used Hormones
- 4 = Former Hormone User or Former User of other medications reported by participants as hormones*
- . = Missing

*This group reported hormone codes which had been taken since the last exam to the HHXB (Health History Form), but some of the hormone codes reported by participants as hormones failed to be classified into one of the following hormones: Estrogen, Progest, Oral Cont, Estcrm, Androg, Estrandr, and Unkgonad. Note that this group is defined as former hormone users who possibly misunderstood non-hormones as hormones. We don't highly recommend use of this group.

Table of assignment of values to HORMON22

HORMON22 =	1	IF CURR2 = 1 THEN HORMON22 = 1;
=	2	if CURR2 = 2 then HORMON22 = 2;
=	3	if HORMTIM2 = 3 then HORMON22 = 3;
=	4	if HORMTIM2 = 4 & ((ESTROGE2 = 'Y' or PROGEST2 = 'Y' or ORALCON2 = 'Y' OR ESTRCRM2 = 'Y' OR ANDROG2 = 'Y' or ESTRAND2 = 'Y' or UNKGONA2 = 'Y' or OTHER2='Y')) then HORMON22 = 4;
=	.	else HORMON22 = . ;

For men this variable is automatically set to missing.

Values of HORMON22 are assigned according to the values of intermediate variables. The creating logic for each intermediate variable is described below. In some instances, variables from Visit 1 are used.

The following intermediate variables designate use of hormones based on the Visit 2 HHXB

dataset. The logic follows that of HORMON02 for Visit 1, except that Visit 2 data are used. Each variable can take values of 'Y' = yes or 'N'= no. For each hormone, there are two variables: one designates whether it was ever used; the other designates whether it is currently being used. Two variables from Visit 1 are included here: ORALCON1 and CORALCO1; they are used in determination of ORALTIM2.

Variable Description

Variables to designate "ever used":

ESTROGE2	'Estrogen at v2'
PROGEST2	'Progest at v2'
ORALCON1	'Oral Cont at v1'
ORALCON2	'Oral Cont at v2'
ESTRCRM2	'Estrcrm at v2'
ANDROG2	'Androg at v2'
ESTRAND2	'Estrandr at v2'
UNKGONA2	'Unkgonad at v2'
OTHER2	'Other at v2'

Variables to designate "current use":

CESTROG2	'Current Estrogen Use at v2'
CPROGES2	'Current Progest Use at v2'
CORALCO1	'Current Oral Cont Use at v1'
CORALCO2	'Current Oral Cont Use at v2'
CESTRCR2	'Current Estrcrm Use at v2'
CANDROG2	'Current Androg Use at v2'
CESTRAN2	'Current Estrand Use at v2'
CUNKGON2	'Current Unkgonad Use at v2'
COTHER2	'Current Other Use at v2';

The following table shows the MTC codes and labels for the preceding intervening variables. The MTC code is equivalent to the first six digits of the GPI code. MTC labels are from the Medispan Master Drug Data Base, Appendix E, Therapeutic Classification System.

INTERVENING VARIABLE	VARIABLE LABEL	MTC CODE	MTC LABEL
ESTROGE2	'Estrogen at v2'	240000	Estrogens
		249920	Estrogen & Antianxiety Agent
PROGEST2	'Progest at v2'	260000	Progestins
ORALCON2, ORALCON1	'Oral Cont at v2' 'Oral Cont at V1'	250000	Contraceptives, Oral
		259900	Combinations, OC's

		259920	Triphasic OC's
ESTRCRM2	'Estrcrm at v2'	553500	Vaginal Estrogens
ANDROG2	'Androg at v2'	231000	Androgens
ESTRAND2	'Estrandr at v2'	249910	Estrogen & Androgen
UNKGONA2	'Unkgonad at v2'	300000	Miscellaneous Endocrine
OTHER2	'Other at v2'	other	

The MTC values for the variables designating current use of hormones are, of course, identical.

The table on the following page presents the algorithm for a value of 'Y' (yes) for each of the intervening variables listed above.

Variable Name	Condition(s) for Variable = 'Y'
ESTROGE2	If hormone code 1 [HHX24] or hormone code 2 [HHX31] maps to MTC 240000, 249920
PROGEST2	Else if hormone code 1 [HHX24] or hormone code 2 [HHX31] maps to MTC 260000
ORALCON2	Else if hormone code 1 [HHX24] or hormone code 2 [HHX31] maps to MTC 250000, 259900, 259920
ESTRCRM2	Else if hormone code 1 [HHX24] or hormone code 2 [HHX31] maps to MTC 553500
ANDROG2	Else if hormone code 1 [HHX24] or hormone code 2 [HHX31] maps to MTC 231000
ESTRAND2	Else if hormone code 1 [HHX24] or hormone code 2 [HHX31] maps to MTC 249910
UNKGONA2	Else if hormone code 1 [HHX24] or hormone code 2 [HHX31] maps to MTC 300000
OTHER2	Else if hormone code 1 [HHX24] or hormone code 2 [HHX31] not blank
CESTROG2	(If hormone code 1 [HHX24] = ESTROGE2 & current use [HHXB26] = 'Y') or (hormone code 2 [HHX31] maps to ESTROGE2 & current use [HHXB33] = 'Y')
CPROGES2	(Else if hormone code 1 [HHX24] = PROGEST2 & current use [HHXB26] = 'Y') or (hormone code 2 [HHX31] = PROGEST2 & current use [HHXB33] = 'Y')
CORALCO2	(Else if hormone code 1 [HHX24] = ORALCON2 & current use [HHXB26] = 'Y') or (hormone code 2 [HHX31] = ORALCON2 & current use [HHXB33] = 'Y')
CESTRCR2	(Else if hormone code 1 [HHX24] = ESTRCRM2 & current use [HHXB26] = 'Y') or (hormone code 2 [HHX31] = ESTRCRM2 & current use [HHXB33] = 'Y')
CANDROG2	(Else if hormone code 1 [HHX24] = ANDROG2 & current use [HHXB26] = 'Y') or (hormone code 2 [HHX31] = ANDROG2 & current use [HHXB33] = 'Y')
CESTRAN2	(Else if hormone code 1 [HHX24] = ESTRAND2 & current use [HHXB26] = 'Y') or (hormone code 2 [HHX31] = ESTRAND2 & current use [HHXB33] = 'Y')

CUNKGON2	(Else if hormone code 1 [HHX24] = UNKGONA2 & current use [HHXB26] = 'Y') or (hormone code 2 [HHX31] = UNKGONA2 & current use [HHXB33] = 'Y')
COTHER2	(Else if hormone code 1 [HHX24] = OTHER2 & current use [HHXB26] = 'Y') or (hormone code 2 [HHX31] = OTHER2 & current use [HHXB33] = 'Y')
The following two Visit 1 intervening vars. are used in computing ORALTIM2	
ORALCON1	If hormone code 1 [RHXA17] or code 2 [RHXA24] or code 3 [RHXA31] or code 4 [RHXA38] map to MTC 250000, 259900, 259920
CORALCO1	If ORALCON1 = 'Y' and associated "Current Use" variable [RHXA20, RHXA27, RHXA34, RHXA41] = 'Y'

The intermediate variables CURR2, HORMTIM2, and ORALTIM2 are used directly to determine HORMON22. They are created by using values from the hormone use variables that are described above. The possible values and algorithms for these variables are given below:

CURR2

Checks for current use of specific hormones:

- 1 = Current estrogen user only.
- 2 = Current estrogen and progestin user.
- 3 = User of other hormones or other medications reported by participants as hormones (oral contraceptives, estrogen creams, androgens).
- 4 = All other participants.

The values for CURR2 are determined based on Visit 2 intermediate variables that are equivalent to Visit 1 intermediate variables. Logic is parallels that used to create CURRUSE for HORMON02 (Visit 1).

Table of assignment of values to CURR2

CURR2 =	1	IF (ESTROGE2 = 'Y' & CESTROG2 = 'Y') & (CPROGES2 = 'N' & CORALCO2 = 'N' & CESTRCR2 = 'N' & CANDROG2 = 'N' & CESTRAN2 = 'N' & CUNKGON2 = 'N' & COTHER2 = 'N') THEN CURR2 = 1;
=	2	if (ESTROGE2 = 'Y' & CESTROG2 = 'Y' & PROGEST2 = 'Y' & CPROGES2 = 'Y') & (CORALCO2 = 'N' & CESTRCR2 = 'N' & CANDROG2 = 'N' & CESTRAN2 = 'N' & CUNKGON2 = 'N' & COTHER2 = 'N') then CURR2 = 2;
=	3	if (ESTROGE2 = >N= or CESTROG2 = >N=) & ((ORALCON2 = 'Y' & CORALCO2 = 'Y') or (ESTRCRM2 = 'Y' & CESTRCR2 = 'Y') or (PROGEST2 = 'Y' & CPROGES2 = 'Y') or (ANDROG2 = 'Y' & CANDROG2 = 'Y') or (ESTRAND2='Y' & CESTRAN2 = 'Y') or (UNKGONA2 = 'Y' & CUNKGON2 = 'Y') or (OTHER2='Y' & COTHER2='Y')) then CURR2 = 3;
=	4	else CURR2=4;

HORMTIM2

Checks for current, past, never use of hormones.
 This is a numeric variable which assumes values according to the table below. It uses datasets from both Visit 1 and Visit 2.

- 1 = Unknown
- 2 = Currently taking hormones.
- 3 = Never took hormones.
- 4 = Former hormone user or Former user of other medications reported by participants as hormones.
- . = Missing value.

*Table of assignment of values to HORMTIM2

HORMTIM2 =	1	IF RHXA16 = 'U' OR RHXA16 = '' OR HHXB22 = '' OR HHXB22 = 'U'
=	2	if HHXB22='Y' & ((HHXB26='Y' and HHX24 ne ' ') or (HHXB33='Y' and HHX31 ne ' '))
=	3	if (RHXA16 ='N' or HORMTIM1 = 3) and HHXB22='N'
=	4	if (HORMTIM1 = 2 and HHXB22 = 'N') or ((HHXB22 = 'Y' and HHXB26 = 'N') and (HHXB33 = 'N' or HHXB33 = ' ')) or ((ESTROGE2 ='Y'and CESTROG2 = 'N') or (PROGEST2 = 'Y' and CPROGES2='N') or (ORALCON2 = 'Y' and CORALCO2='N') or (ESTRCRM2 ='Y' and CESTRCR2='N') or (ANDROG2 ='Y' and CANDROG2='N') or (ESTRAND2 ='Y' and CESTRAN2='N') or (UNKGONA2 ='Y' and CUNKGON2='N') or (OTHER2 ='Y' and COTHER2 ='N'))

Note: HORMTIM2 = 1 has been modified from the original version of algorithm by adding "or HHXB22 = 'U'".

ORALTIM2

Checks for current, past, never use of oral birth control. This is a numeric variable which assumes values according to the table below. It uses datasets from both Visit 1 and Visit 2.

- 1 = Never took oral contraceptives
- 2 = Currently taking oral contraceptives

3 = Past user of oral contraceptives

4 = Unknown

Table of assignment of values to ORALTIM2

ORALTIM2 =	1	IF ORALCON2='N' & ORALCON1='N' THEN ORALTIM2=1;
=	2	if (ORALCON2 = 'Y' & CORALCO2 = 'Y') then ORALTIM2 = 2;
=	3	if (ORALCON1 = 'Y' & (ORALCON2 = 'N' or CORALCO2 = 'N' or CORALCO1 = 'N')) or (ORALCON2 = 'Y' & CORALCO2 = 'N') then ORALTIM2 = 3;
=	4	if ORALCON1 = 'N' and (RHXA11 ne 'Y' and RHXA11 ne 'N') then ORALTIM2 = 4;

The intervening variable HORMTIM1, the Visit 1 version of HORMTIM2, is used in deriving HORMTIM2. The algorithm for HORMTIM1 follows:

1 = Unknown

2 = Currently taking hormones.

3 = Never took hormones.

4 = Former hormone user

. = Missing value.

Table of assignment of values to HORMTIM1

HORMTIM1 =	1	IF (RHXA16 = 'U' OR RHXA16 = '')
=	2	if RHXA16='Y' & ((RHXA20='Y' and RHXA17 ne ' ') or (RHXA27='Y' and RHXA24 ne ' ') or (RHXA34='Y' and RHXA31 ne ' ') or (RHXA41='Y' and RHXA38 ne ' '))
=	3	if RHXA16 ='N'
=	4	if RHXA16 = >Y= and (RHXA20 = 'N') and (RHXA27 = AN≅ or >=) and (RHXA34 = >N= or >=) and (RHXA41 ==N= or >=)

The table below lists the datasets and variables that are used to create HORMON22.

DATASETS AND VARIABLES USED TO CREATE HORMON22

SUBDIR\DATASET Variable	Variable Label
V1FINAL\RHXA	
RHXA11	EVER taken birth control pills
RHXA16	EVER taken female hormones
RHXA17	Female Hormone 1
RHXA20	Currently taking Hormone 1
RHXA24	Female Hormone 2
RHXA27	Currently taking Hormone 2
RHXA31	Female Hormone 3
RHXA34	Currently taking Hormone 3
RHXA38	Female Hormone 4
RHXA41	Currently taking Hormone 4
V2FINAL\HHXB	
HHXB22	Use Hormone since last Visit
HHXB31	Hormone 2 Code
HHXB26	Currently Taking Hormone 1
HHXB31	Hormone 2 Code
HHXB33	Currently Taking Hormone 2
V2FINAL\HHXCOD21	
HHX24	Hormone 1 Code
HHX31	Hormone 2 Code

NOTES: HORMON22 was created by request from Aaron Folsom. The SAS code, algorithm, and output were reconciled with versions created by Sue Winkhart, which were sent to the CC along with the request.

The algorithms have been modified by the addition of "or HHXB22 = 'U'" to logic that creates

HORMTIM2 = 1 (see above).

14.9 GENDER (Sex)

GENDER	Frequency	Percent
F	7944	55.37
M	6404	44.63

During the closure of the AFU Medical History Data, it came to our attention that there are two ARIC Ids with gender incorrectly identified in our consolidated database. Both Ids (J252435 & J327948) involve female participants who were incorrectly identified as male in our database. The uncorrected gender variable (GENDER) stays in DERIVE26 and the corrected gender variable (CORGEN1) stays in UNOFF23. Since many analyses were already done using the UNCORRECTED gender variable, the Executive Committee has recommended to use the uncorrected gender variable (GENDER) for Visit 1 and longitudinal analyses. The corrected version could be used for cross-sectional analyses other than Visit 1.

14.10 RACEGRP (Race)

RACEGRP	Frequency	Percent
A	32	0.22
B	3577	24.93
I	10	0.07
W	10729	74.78

While we have been tracking all known errors, we found there are two Ids with race group incorrectly identified in our consolidated database. Both Ids (F134145 & F158363) were incorrectly identified as Whites in our database. Now F134145 is Asian and F158363 is Black. The uncorrected race variable (RACEGRP) stays in DERIVE26 and the corrected race variable (CORRACE1) stays in UNOFF23. Since many analyses were already done using the uncorrected race variable, the Executive Committee has recommended to use the uncorrected race variable (RACEGRP) for Visit 1 and longitudinal analyses. The corrected version could be used for cross-sectional analyses other than Visit 1.

14.11 CENTER (Field Center)

CENTER	Frequency	Percent
F	3679	25.64
J	3148	21.94

CENTER	Frequency	Percent
M	3827	26.67
W	3694	25.75

The ARIC Study collects data in four diverse communities. This design was chosen so that data could be obtained for groups which differ by geography, race, and socio-economic status. The ARIC study was not designed to select a random or representative sample of the entire U.S. population.

This is a character variable that takes on the values of:

- F: Forsyth County, North Carolina
- J: The city of Jackson, Mississippi
- W: Selected northwestern suburbs of Minneapolis, Minnesota
- M: Washington County, Maryland

14.12 V2CENTER (Visit 2 Field Center)

V2CENTER	Frequency	Percent
F	3675	25.61
J	3147	21.93
M	3828	26.68
W	3698	25.77

If ARIC study participants move into another field center at visit 2, V2CENTER value is assigned to that field center. If not, V2CENTER is the same as CENTER.

15 Cornell Voltage LVH

15.1 LVHSCR21

Variable	N	Mean	Median	Std Dev	Minimum	Maximum
LVHSCR21	14209	1247.2	1178.0	555.92	104.0	6925.0

LVHSCR21 is a continuous Visit 2 variable defined to be the absolute value of ECGRA198 plus ECGRA170.

$$\begin{aligned} \text{LVHSCR21} &= |\text{ECGRA198}| + \text{ECGRA170} \\ &= \text{Missing if } |\text{ECGRA198}| + \text{ECGRA170} < 100 \text{ uV} \end{aligned}$$

ECGRA198: S amplitude in V3.
ECGRA170: R amplitude in AVL.

15.2 NLVHSC21

Variable	N	Mean	Median	Std Dev	Minimum	Maximum
NLVHSC21	14209	12.5	11.8	5.56	1.0	69.3

NLVHSC21 is a continuous Visit 2 variable defined to be LVHSCR21 divided by 100.

$$\text{NLVHSC21} = \text{LVHSCR21} / 100.$$

15.3 CLVH21

CLVH21	Frequency	Percent
	139	0.97
0	13849	96.52
1	360	2.51

CLVH21 is a dichotomous Visit 2 LVH variable. The algorithm for computation of CLVH21 is given in the table below.

CLVH21	GENDER	NLVHSC21
1	Male	Greater than 28
	Female	Greater than 22

0	Male	Less than or Equal to 28
	Female	Less than or Equal to 22

16 Incident Risk Factors

16.1 CHDRISK10yr_21: 10 Year Incident Risk Score for CHD at Visit 2

(uc4677)

CHDRISK10yr_21 is the predicted 10 year risk of incident coronary heart disease (CHD). It is a percentage variable thus can take values from 0 to 100 or missing. The beta-coefficients used for the prediction are given below. The beta coefficients were obtained from an output found in uc467701 and were published in ARIC manuscript 661(for those without diabetes)¹ and ARIC manuscript 781 (for those with diabetes)². If a participant had prevalent CHD or had a missing value for at least one of the variables used, then predicted risk was not calculated and a missing value was assigned.

Participants were separated based on gender, race, and diabetes status. The predicted 10 year risk of incident CHD was then calculated using the following Cox regression equation:

$$CHDRISK10yr_21 = 100 * \left[1 - (1 - P_0)^{\exp(RS - RS_0)} \right]$$

Where P_0 is a constant

RS_0 is a constant

RS is a linear combination of B-coefficients times the risk factor variables (see table below).

CHDRISK10yr_21 = Missing

if any risk factor variable is missing

or

if $PREVCHD23 \wedge = 0$

Risk Factor Variables	Beta Coefficients			
	Black Females	White Females	Black Males	White Males
newage	0.31989	0.39378	0.63186	0.36528
newage_2	-0.090856	-0.22346	-0.15692	-0.27146
tccat2	0.1173	0.64727	0.33314	0.44555
tccat3	0.1173*	0.80937	0.37726	0.77279
tccat4	0.81459	0.9329	0.69569	0.77279
hdlcat1	1.07081	1.20919	0.79192	1.27295
hdlcat2	0.39727	0.91366	0.43293	0.9178
hdlcat3	0.3927	0.91366	0.43293	0.65401
hdlcat4	0.23253	0.56967	0.28026	0.61373
sbbp21	0.024899	0.015023	0.002253654	0.013634

Hyptmdcode21	0.8091	0.58733	0.6937	0.12
cursmk21	1.01048	1.10297	0.63094	0.37602
1-P ₀	0.99126	0.99391	0.97262	0.97262
RS ₀	2.93014	1.74618	0.20343	0.20343

* In this and other cases the repeating of a coefficient from the row above is not an error. The adjacent categories were collapsed for the particular population, for sample size reasons.

[1] Chambless LE, Folsom AR, Sharrett AR, Sorlie P, Couper D, Szklo M, Neito FJ. Coronary heart disease risk prediction in the ARIC Study. J Clin Epidemiol 2003;56:880-90.

[2] Folsom AR, Chambless LE, Duncan BB, Gilbert AC, Pankow JS. Prediction of coronary heart disease in middle-aged adults with diabetes. Diabetes Care 2003;10:2777-84.

Table 2: CHD Risk for those with Diabetes:
10-year CHD risk score beta coefficients, RS₀, and 1-P₀ values for participants with diabetes

Risk Factor Variables	Beta Coefficients	
	Females	Males
racegrp	0.51819	0.49764
newage	0.11855	0.41088
newage_2	0.008189254	-0.26545
tccat23	0.66224	0.49266
tccat4	1.0978	1.04681
hdlcat12	0.38941	0.67931
hdlcat3	0.33487	-0.14568
sbpb21	0.15579	0.004552397
Hyptmdcode21	0.38741	-0.019692
cursmk21	0.091353	0.18137
1-P ₀	0.97643	0.9291
RS ₀	1.84209	0.49799

Continuous Variables used:
NEWAGE= (V2AGE21-55)/10
NEWAGE_2= (NEWAGE)²

Categorical Variables used:
Total Cholesterol (all measured in mg/dl)
TCCAT1= 1 if LIPB01a <200
TCCAT2= 1 if 200 <= LIPB01a < 240
TCCAT3= 1 if 240 <= LIPB01a < 280
TCCAT4=1 if LIPB01a >=280
TCAT23= 1 if 200<= LIPB01a <280 (combine tccat2 & tccat3)

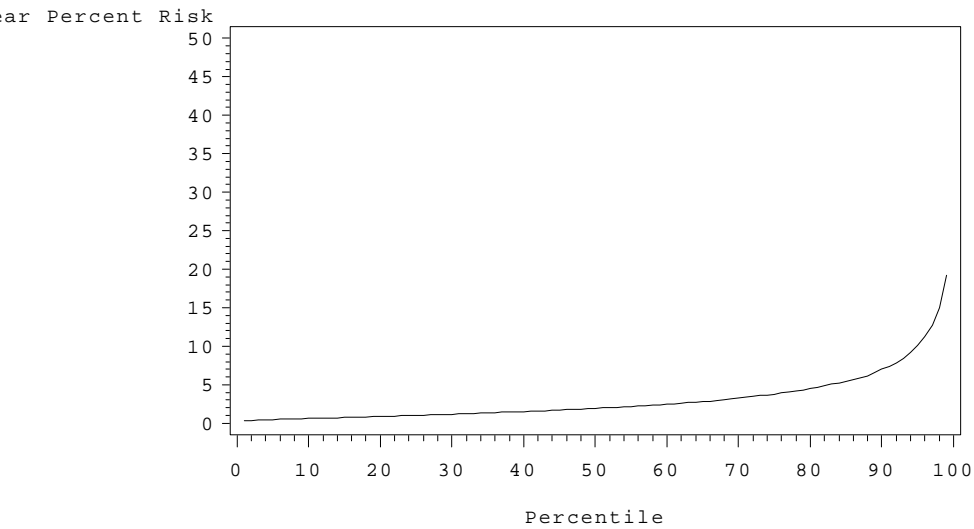
High Density Lipids (all measured in mg/dl)
HDLCAT1=1 if LIPB03A< 35
HDLCAT2=1 if 35<=LIPB03A<45
HDLCAT3=1 if 45<=LIPB03A<50
HDLCAT4=1 if 50<=LIPB03A<60
HDLCAT5=1 if LIPB03A>=60
HDLCAT12=1 if LIPB03A<45 (combine hdlcat1 & hdlcat2)

General Term	Description
PRVCHD23	Prevalent Coronary Heart Disease
RACE	Race
GENDER	Gender
CURSMK21	Current Smoker
DIABTS23	Diabetic
V2AGE22	Age a Visit '2
LIPB03A	HDL-High Density Lipids (mg/dL)
HYPTMDCODE21	Took Medication for hypertension w/in 2wks using 2004 medication coding
SBPB21	SBP (2nd & 3rd Average) (mmHg)
LIPB01a	Total Cholesterol (mg-dL)

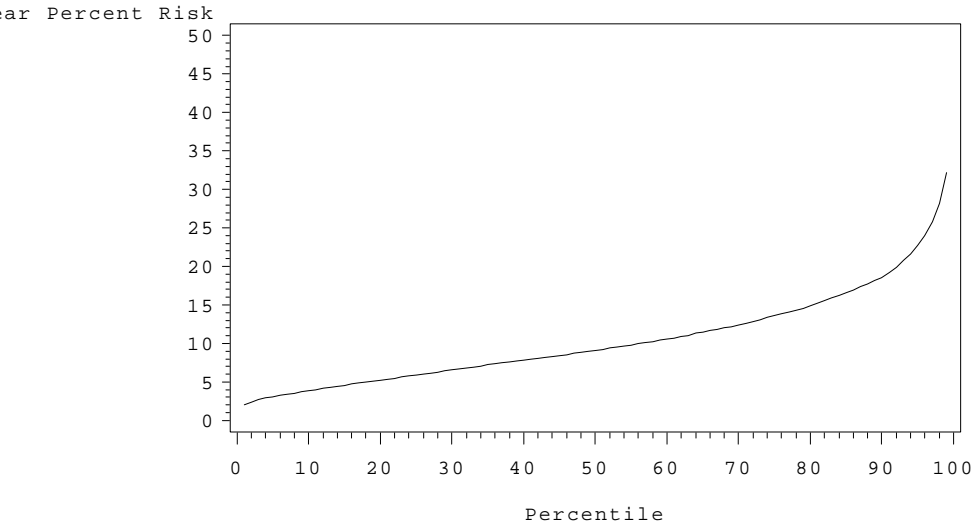
Gender	N	Min	1st Pctl	5th Pctl	10th Pctl	25th Pctl	50th Pctl	75th Pctl	90th Pctl	95th Pctl	99th Pctl	Max
All	11187	0.20	0.33	0.57	0.80	1.64	4.20	9.04	14.67	18.45	28.23	67.11
Females	6417	0.20	0.30	0.46	0.61	1.02	1.93	3.77	6.99	10.08	19.16	67.11
Males	4770	1.14	2.07	3.06	3.84	5.90	9.08	13.60	18.57	22.72	32.16	49.66

***Percentile Statistics for 10 Year CHD Risk at Visit 2
(Without Diabetes)***

10-year CHD Risk for Females at Visit 2
(without Diabetes)

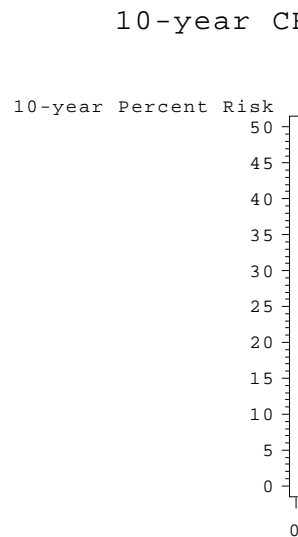


10-year CHD Risk for Males at Visit 2
(without Diabetes)

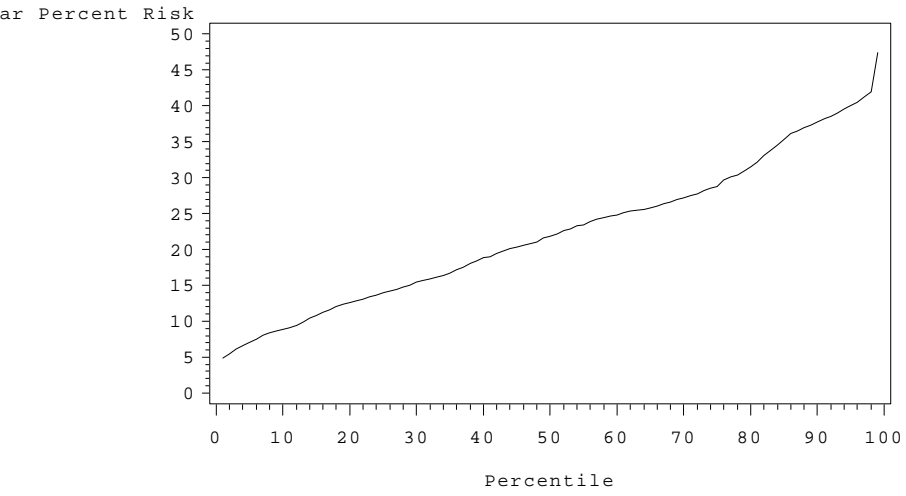


**Percentile Statistics for 10 Year CHD Risk at Visit 2
(With Diabetes)**

Gender	N	Min	1st Pctl	5th Pctl	10th Pctl	25th Pctl	50th Pctl	75th Pctl	90th Pctl	95th Pctl	99th Pctl	Max
All	1859	1.64	2.49	3.76	5.02	8.27	14.34	24.34	33.88	38.51	47.39	98.46
Females	1046	1.64	2.15	3.20	4.01	6.22	9.99	16.87	25.53	33.30	46.35	98.46
Males	813	2.96	4.91	7.01	8.82	13.96	21.85	28.77	37.81	40.01	47.39	64.78



10-year CHD Risk for Males at Visit 2
(with Diabetes)



16.2 STROKERISK10YR_21: 10 Year Incident Stroke Risk Score at Visit 2:

(uc4678)

STROKERISK10YR_21 is the predicted 10 year risk of incident Ischemic Stroke. It is a percentage variable thus can take values from 0 to 100 or missing. The beta-coefficients used for the prediction are given below. The beta coefficients were obtained from an output found in UC4077_3b¹ and were published in ARIC manuscript #824². If a participant had prevalent stroke or had a missing value for at least one of the variables used, then the predicted risk was not calculated and a missing value was assigned.

Participants were separated based on gender. The 10 year predicted risk of incident Ischemic Stroke was then calculated using the following Cox regression equation:

$$\text{STROKERISK 10YR}_21 = 100 * \left[1 - (1 - P_0)^{\exp(RS - RS_0)} \right]$$

Where P₀ is a constant

RS₀ is a constant

RS is a linear combination of B-coefficients times the risk factor variables

(see table below).

STROKERISK10YR_21= Missing
 if any risk factor variables are missing
 or
 if PRVSTR21^=0

Table2: Calculating Risk: Categorical and continuous variables w/ Beta -coefficients used to calculate 10-year stroke risk.

	Female	Male
racegrp	0.4155701	0.3514973
cursmk21	0.8002466	0.6931732
v2age41	0.0689097	0.0807621
prvchd23	0.6298822	0.7332341
hyptmdcode21	0.4072694	0.4544168
clvh21	0.808223	0.386121
diabts23	1.1371047	0.8892109
sbpb21	0.0174648	0.0184501
RS ₀	5.79944	6.55671
1-P ₀	0.99390574	0.989928

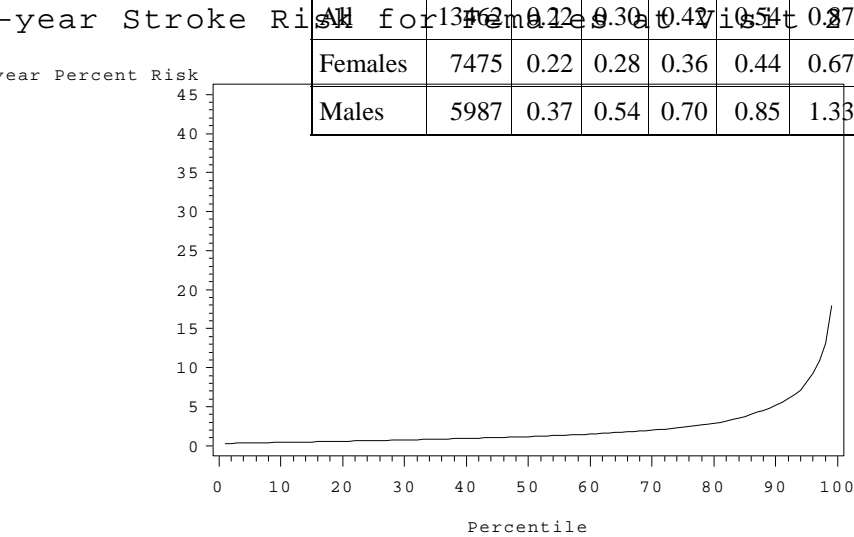
Variables Used	Description
V2DATE21	Date of Visit X
GENDER	Gender
RACE	Race
CURSMK21	Current Smoker
V2AGE22	Age at Visit X
PRVCHD23	Prevalent CHD definition 3
HYPTMD21	Took Medication for hypertension w/in 2wks using 2004 medication coding
CLVH21	Left Ventricle hypertrophy
DIABTS23	Diabetes
SBPB21	Systolic BP (Ave)
PREVSTR21	Prevalant Stroke

[1] J:\aric\sc\source\archive\zip\uc4077.zip

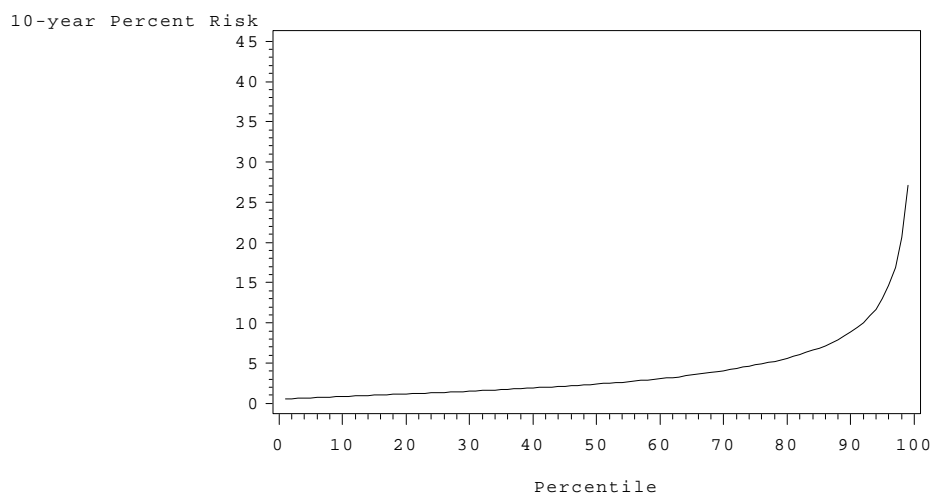
[2] Chambless LE, Heiss G, Shahar E, Earp MJ, Toole J. Ischemic stroke risk prediction in the Atherosclerosis Risk in Communities study. Am J Epidemiol 2004;160:259-269.

Percentile Statistics for 10 Year Stroke Risk at Visit 2

Gender	N	Min	1st Pctl	5th Pctl	10th Pctl	25th Pctl	50th Pctl	75th Pctl	90th Pctl	95th Pctl	99th Pctl	Max
All for Females	13762	0.22	0.30	0.47	0.54	0.87	1.65	3.45	6.96	10.64	23.65	87.28
Females	7475	0.22	0.28	0.36	0.44	0.67	1.18	2.37	5.19	8.17	17.93	81.16
Males	5987	0.37	0.54	0.70	0.85	1.33	2.40	4.78	8.87	12.97	27.14	87.28



10-year Stroke Risk for Males at Visit 2



16.3 DIABETESRISK9YR_21: 9 Year Incident Diabetes Risk at Visit 2

(uc4679)

DIABETESRISK9YR_21 is the predicted 9 year risk of incident type two diabetes. It is a percentage variable thus can take values from 0 to 100 or missing. The beta-coefficients used for the prediction are given below. The beta coefficients were obtained from an output found in uc439216¹ and were published in ARIC manuscript 808b². If a participant had prevalent diabetes or had a missing value for at least one of the variables used, then the predicted risk was not calculated and a missing value was assigned.

$$DIABETES\ 9\ yr\ _21 = \frac{1}{1 + e^{-RS}}$$

DIABETES9yr_21= Missing

If DIABTS23^=0

Or if any risk factor variables are missing

RS is a linear combination of B-coefficients times the risk factor variables.

$$RS = -9.98078 + 0.017254*(V2AGE21) + 0.44330*(BLACK) + 0.49810*(FAMDIABETES) + 0.0880*(CHMB07_{[mg/dl]}) + 0.011097*(SBPB21_{[mmHg]}) - 0.032616*(ANTA01_{[cm]}) + 0.027316*(ANTA07a_{[cm]}) - 0.012227*(LIPB03a_{[mg/dL]}) + 0.002710939*(LIPB02a_{[mg/dL]})$$

BLACK= 1 if RACEGRP="B"

BLACK=0 if RACEGRP="W"

BLACK=missing otherwise.

FAMDIABETES- if either participants mother or father had diabetes then FAMDIABETES=1

Neither mother nor father had diabetes then FAMDIABETES=0

FAMDIABETES=1 if HOM15B='Y' or HOM18B='Y' or HOM23B='Y' or HOM26B='Y'
 FAMDIABETES =0 if (HOM15B='N' or HOM18B='N') and if (HOM23B='N' or HOM26B='N')
 FAMDIABETES = . Otherwise

List of Variables Used

Generic Term	Description	Visit 1	Visit 2	Visit 3	Visit 4
V2AGE21	Age at Visit X	v1age01	v2age22	v3age31	v4age41
RACEGRP	Race	racegrp	racegrp	racegrp	racegrp
LIPB03a	High density lipids (mg/dl)	hdl01	lipb03a	lipc3a	lipd3a
CHMB07	Fasting Glucose Value (mg/dl) [recalibrated]	glucos01	chmb07	lipc4a	lipd4a
DIABTS23	Prevalent Diabetes?	diabts03	diabts23	diabts34	diabts42
SBPB21	SBP- Systolic BP 2nd & 3rd average (mmHg)	sbpa21	sbpb21	sbpc22	sbpd19
LIPB02a	Triglycerides (mg/dl)	lipa02	lipb02a	lipc2a	lipd2a
ANTA01	Height (cm)	anta01	anta01	anta01	anta01
ANTA07a	Waist size (cm)	anta07a	anta07a	anta07a	anta07a
HOM15B	Natural Mother ever have Diabetes?	hom15b	hom15b	hom15b	hom15b
HOM18B	Natural Mother ever have Diabetes?	hom18b	hom18b	hom18b	hom18b
HOM23B	Natural Father ever have Diabetes	hom23b	hom23b	hom23b	hom23b
HOM26B	Natural Father ever have Diabetes	hom26b	hom26b	hom26b	hom26b

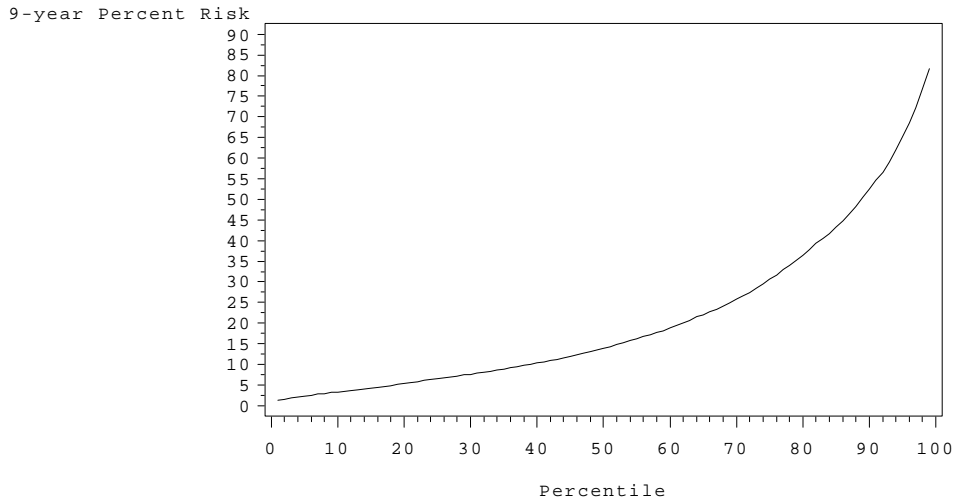
[1] j:\aric\sc\source\archive\zip\uc4392.zip

[2] Schmidt MI, Duncan BB, Bang H, Pankow J, Ballantyne CM, Golden S, Folsom AR, Chambless LE. Identifying individuals at high risk for diabetes: The Atherosclerosis Risk in Communities Study Diabetes Care 2005;28:2013-18.

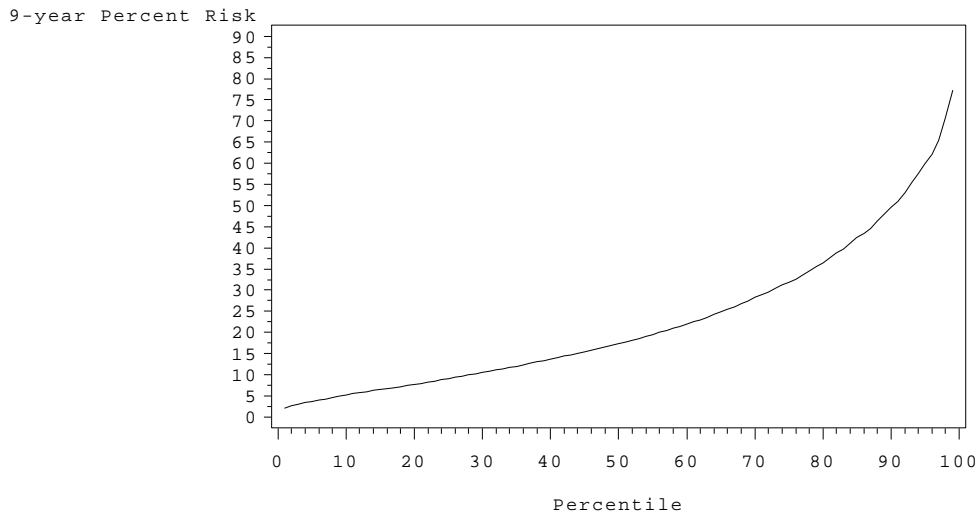
Quintile Statistics for 9 Year Diabetes Risk at Visit 2

Gender	N	Min	1st Pctl	5th Pctl	10th Pctl	25th Pctl	50th Pctl	75th Pctl	90th Pctl	95th Pctl	99th Pctl	Max
All	10912	0.12	1.04	1.94	2.76	5.20	10.93	22.99	40.42	51.69	71.87	94.46
Females	6101	0.12	0.91	1.64	2.35	4.57	9.87	22.72	41.66	53.79	73.35	92.84
Males	4811	0.19	1.38	2.47	3.57	6.24	12.09	23.18	38.72	48.81	68.43	94.46

9-year Diabetes Risk for Females at Visit 2



9-year Stroke Risk for Males at Visit 2



APPENDIX A - MEDI-SPAN=S THERAPEUTIC CLASSIFICATION SYSTEM

The classification listings are current as of the time of this printing. Medi-Span may make revisions to the TCS to increase usefulness which may impact existing GPI values. This listing may be reproduced by printing the Record Types 1 through 3 from the optional Therapeutic Classification Reference File. (Refer to Chapter 21 for more information.)

Value \$MTCNAME "000000" = "PLACEBO"

GROUPS 1-16 ANTI-INFECTIVE AGENTS

"010000"="PENICILLINS"
"011000"="PENICILLIN G"
"012000"="AMPICILLINS"
"013000"="PENICILLINASE-RESISTANT"
"014000"="EXTENDED SPECTRUM"
"015000"="AMIDINOPENICILLIN"
"019900"="PENICILLIN COMBINATIONS"
"020000"="CEPHALOSPORINS"
"021000"="CEPHALOSPORINS - 1ST GENERATION"
"022000"="CEPHALOSPORINS - 2ND GENERATION"
"023000"="CEPHALOSPORINS - 3RD GENERATION"
"030000"="MACROLIDE ANTIBIOTICS"
"031000"="ERYTHROMYCINS"
"031099"="ERYTHROMYCIN COMBINATIONS"
"032000"="TROLEANDOMYCIN"
"033000"="LINCOMYCINS"
"034000"="AZITHROMYCIN"
"035000"="CLARITHROMYCIN"
"035500"="MIOCAMYCIN"
"035700"="ROXITHROMYCIN"
"036000"="SPIRAMYCIN"
"040000"="TETRACYCLINES"
"049900"="TETRACYCLINE COMBINATIONS"
"050000"="FLUROQUINOLONES"
"060000"="R E S E R V E D"
"070000"="AMINOGLYCOSIDES"
"080000"="SULFONAMIDES"
"089900"="SULFA COMBINATIONS"
"090000"="ANTIMYCOBACTERIAL AGENTS"
"099900"="ANTI TB COMBINATIONS"
"100000"="R E S E R V E D"
"110000"="ANTIFUNGALS"
"120000"="ANTIVIRAL "
"129900"="ANTIVIRAL COMBINATIONS"
"130000"="ANTIMALARIAL "
"139900"="ANTI MALARIAL COMBINATIONS"
"140000"="AMEBICIDES"
"149900"="AMEBICIDE COMBINATIONS"
"150000"="ANTHELMINTIC"
"159900"="ANTHELMINTIC COMBINATIONS"
"160000"="MISC. ANTI-INFECTIVES"
"161000"="POLYMYXINS"
"162000"="CHLORAMPHENICOLS"

"163000"="LEPROSTATICS"
"164000"="ANTIPROTOZOAL AGENTS"
"165000"="ANTIINFECTIVE ADJUVANTS"
"169900"="MISC. ANTIINFECTIVE COMBINATIONS"

GROUPS 17-20 BIOLOGICALS

"170000"="VACCINES"
"171000"="VIRAL VACCINES"
"171099"="VACCINE COMBINATIONS"
"172000"="BACTERIAL VACCINES"
"180000"="TOXOIDS"
"189900"="TOXOID COMBINATIONS"
"190000"="ANTISERA"
"191000"="IMMUNE SERUMS"
"192000"="ANTITOXINS-ANTIVENINS"
"199900"="ANTISERA COMBINATIONS"
"200000"="BIOLOGICALS MISC"
"201000"="ALLERGENIC EXTRACTS"

GROUPS 21 - ANTINEOPLASTIC AGENTS

"210000"="ANTINEOPLASTICS"
"211000"="ALKYLATING AGENTS"
"211010"="NITROGEN MUSTARDS"
"211020"="NITROSOUREAS"
"212000"="ANTINEOPLASTIC ANTIBIOTICS"
"213000"="ANTIMETABOLITES"
"214000"="ANTINEOPLASTIC HORMONES"
"214020"="ANDROGENS-ANTINEOPLASTIC"
"214030"="ESTROGENS-ANTINEOPLASTIC "
"214040"="PROGESTINS-ANTINEOPLASTIC"
"214050"="ANTINEOPLASTIC HORMONES MISC."
"215000"="MIOTIC INHIBITORS"
"216000"="RADIOPHARMACEUTICALS"
"217000"="ANTINEOPLASTICS MISC."
"217030"="ANTINEOPLASTICS - INTERLUEKINS"
"218000"="INVESTIGATIONAL-ANTINEOPLASTIC"
"219900"="ANTINEOPLASTIC COMBINATIONS"

GROUPS 22-30 ENDOCRINE AND METABOLIC DRUGS

"220000"="CORTICOSTEROIDS"
"221000"="GLUCOCORTICOSTEROIDS"
"221099"="STEROID COMBINATIONS"

"222000"="MINERALOCORTICIDS "
"230000"="ANDROGEN-ANABOLIC"
"231000"="ANDROGENS"
"231099"="ANDROGEN COMBINATIONS"
"232000"="ANABOLIC STEROIDS"
"240000"="ESTROGENS"
"249900"="ESTROGEN COMBINATIONS"
"249910"="ESTROGEN-ANDROGEN"
"249920"="ESTROGEN-ANTIANSXIETY AGENT"
"249930"="ESTROGEN-PROGESTIN"
"249940"="ESTROGEN-ANDROGEN-PROGESTIN"
"250000"="CONTRACEPTIVES"
"251000"="PROGESTIN OC'S"
"251500"="PROGESTIN CONTRACEPTIVES - INJECTABLE"
"252000"="PROGESTERONE IUD"
"253000"="PROGESTIN IMPLANTS"
"259800"="COMBINATION CONTRACEPTIVES - INJECTABLE"
"259900"="COMBINATIONS OC'S"
"259910"="BIPHASIC OC'S"
"259920"="TRIPHASIC OC'S"
"260000"="PROGESTINS"
"270000"="ANTIDIABETIC"
"271000"="INSULIN"
"271010"="MIXED INSULIN"
"271020"="BEEF INSULIN"
"271030"="PORK INSULIN"
"271040"="HUMAN INSULIN"
"272000"="SULFONYLUREAS"
"272099"="SULFOYLUREA COMBINATIONS"
"273000"="DIABETIC OTHER"
"274000"="ALDOSE REDUCTASE INHIBITORS"
"280000"="THYROID"
"281000"="THYROID HORMONES"
"283000"="ANTITHYROID AGENTS"
"290000"="OXYTOCICS"
"292000"="ABORTIFACIENTS"
"292010"="PROSTAGLANDINS"
"300000"="MISC. ENDOCRINE"
"301000"="GROWTH HORMONE"
"302000"="POSTERIOR PITUITARY"
"302010"="VASOPRESSIN"
"303000"="CORTICOTROPIN"
"309900"="MISC. ENDOCRINE COMBINATIONS"

GROUPS 31-40 CARDIOVASCULAR AGENTS

"310000"="CARDIOTONICS"

"311000"="AMRINONE"
"312000"="DIGITALIS"
"320000"="ANTIANGINAL AGENTS"
"321000"="NITRATES"
"322000"="ANTIANGINALS - OTHER"
"329900"="ANTIANGINAL COMBINATIONS"
"329910"="PETN COMBINATIONS"
"330000"="BETA BLOCKERS"
"331000"="BETA BLOCKERS NON-SELECTIVE"
"332000"="BETA BLOCKERS CARDIO-SELECTIVE"
"333000"="ALPHA-BETA BLOCKERS"
"340000"="CALCIUM BLOCKERS"
"350000"="ANTIARRHYTHMIC"
"350500"="ANTIARRHYTHMICS TYPE I -- NONSPECIFIC"
"351000"="ANTIARRHYTHMICS TYPE 1-A"
"352000"="ANTIARRHYTHMICS TYPE 1-B"
"353000"="ANTIARRHYTHMICS TYPE 1-C"
"354000"="ANTIARRHYTHMICS TPYE III"
"355000"="MISC. ANTIARRHYTHMIC"
"360000"="ANTIHYPERTENSIVE"
"361000"="ACE INHIBITORS"
"362000"="ADRENOLYTIC ANTIHYPERTENSIVES"
"362010"="ADRENOLYTICS - CENTRAL"
"362020"="ADRENOLYTICS - PERIPHERAL"
"362030"="RESERPINE"
"363000"="ALPHA BLOCKERS"
"364000"="VASODILATORS "
"364010"="FLUOROQUINOLONE VASODIALATORS"
"365000"="ANTIHYPERTENSIVE - MAOIS"
"366000"="MISC. ANTIHYPERTENSIVES"
"369900"="ANTIHYPERTENSIVE COMBINATIONS"
"369910"="RESERPINE COMBINATIONS"
"369920"="BETA BLOCKER COMBINATIONS"
"370000"="DIURETICS"
"371000"="CARBONIC ANHYDRASE INHIBITORS"
"372000"="LOOP DIURETICS"
"373000"="MERCURIAL DIURETICS"
"374000"="OSMOTIC DIURETICS"
"375000"="POTASSIUM SPARING DIURETICS"
"376000"="THIAZIDES"
"379000"="MISC. DIURETICS"
"379900"="COMBINATION DIURETICS"
"379910"="DIURETICS & POTASSIUM"
"379920"="NON-PRESCRIPTION DIURETICS"
"380000"="PRESSORS"
"389000"="EMERGENCY KITS"
"390000"="ANTIHYPERLIPIDEMIC"

"391000"="BILE SEQUESTRANTS"
"400000"="MISC. CARDIOVASCULAR"
"401000"="PERIPHERAL VASODILATORS"
"401099"="VASODILATOR COMBINATIONS"
"401500"="MICROVASODILATORS"
"402000"="CARDIOPLEGIC SOLN"
"402500"="VASOCONSTRICTOR INHIBITORS"

GROUPS 41-45 RESPIRATORY AGENTS

"410000"="ANTIHIAMINES"
"411000"="ANTIHIAMINES - ALKYLAMINES"
"412000"="ANTIHIAMINES - ETHANOLAMINES"
"413000"="ANTIHIAMINES - ETHYLENEDIAMINES"
"414000"="ANTIHIAMINES - PHENOTHIAZINES"
"415000"="ANTIHIAMINES - PIPERIDINES"
"415500"="ANTIHIAMINES - NON-SEDATING"
"416000"="ANTIHIAMINES - MISC."
"419900"="ANTIHIAMINE COMBINATIONS"
"419910"="ANTIHIAMINE MIXTURES"
"419920"="ANTIHIAMINE - ANTICHOLINERGICS"
"420000"="DECONGESTANTS"
"421000"="SYMPATHOMIMETICS"
"421010"="SYSTEMIC DECONGESTANTS"
"421020"="TOPICAL DECONGESTANTS"
"421030"="NASAL INHALERS"
"422000"="NASAL STEROIDS"
"425000"="MISC. NASAL PREPARATIONS"
"425099"="MISC. NASAL COMBINATION PREPARATIONS"
"429900"="NASAL COMBINATIONS"
"429910"="DECONGESTANT-ANTIHIAMINE"
"430000"="COUGH/COLD"
"431000"="ANTITUSSIVES"
"431010"="ANTITUSSIVE - NARCOTIC"
"431020"="ANTITUSSIVE - NONNARCOTIC"
"432000"="EXPECTORANTS"
"432020"="IODINE EXPECTORANTS"
"432099"="EXPECTORANT MIXTURES"
"433000"="MUCOLYTICS"
"434000"="MISC. RESPIRATORY INHALENTS"
"434010"="AROMATIC INHALANTS"
"439900"="COUGH/COLD COMBINATIONS"
"439910"="DECONGESTANT-ANALGESIC"
"439915"="DECONGESTANT-ANALGESIC-ANTICHOLINERGIC"
"439920"="ANTIHIAMINE-ANALGESIC"
"439925"="ANTIHIAMINE-ANALGESIC-ANTICHOLINERGIC"

"439930"="DECONGESTANT & ANTIHISTAMINE"
 "439935"="DECONGEST-ANTIHISTAMINE-ANTICHOLINERGIC"
 "439940"="DECONGESTANT-ANTIHISTAMINE-ANALGESIC"
 "439945"="DECONGEST-ANTIHIST-ANALGESIC-ANTICHOLIN"
 "439950"="ANTITUSSIVE COMBOS-NARCOTIC"
 "439951"="NARCOTIC ANTITUSSIVE-DECONGESTANT"
 "439952"="NARCOTIC ANTITUSSIVE-ANTIHISTAMINE"
 "439953"="NARCOTIC ANTITUSSIVE-DECONGEST-ANTIHIST"
 "439954"="NARC ANTITUSS-DECONGEST-ANTIHISTA-ANALG"
 "439955"="ANTITUSSIVE COMBOS-NON-NARCOTIC"
 "439956"="NON-NARC ANTITUSSIVE-DECONGESTANT"
 "439957"="NON-NARC ANTITUSSIVE-ANTIHISTAMINE"
 "439958"="NON-NARC ANTITUSS-DECONGEST-ANTIHIST"
 "439959"="NON-NARC ANTITUSS-DECONG-ANTIHISTA-ANALG"
 "439960"="EXPECTORANT COMBINATIONS"
 "439962"="DECONGESTANT W/EXPECTORANT"
 "439964"="ANTIHISTAMINE W/EXPECTORANT"
 "439966"="DECONGESTANT-ANTIHISTAMINE W/EXPECTORANT"
 "439968"="DECONGEST-ANTIHIST-ANALGESIC E/EXPECT"
 "439970"="ANTITUSSIVE-EXPECTORANT"
 "439973"="ANTITUSSIVE-EXPECTORANT-DECONGESTANT"
 "439975"="ANTITUSSIVE-EXPECTORANT-ANTIHISTAMINE"
 "439978"="ANTITUSSIVE-EXPECTORANT-ANALGESIC"
 "439980"="ANTITUSSIVE-EXPECTOR-DECONGEST-ANTIHIST"
 "439983"="ANTITUSSIVE-EXPECTOR-DECONGEST-ANALGESIC"
 "439985"="ANTITUSSIVE-EXPECTOR-ANTIHISTA-ANALGESIC"
 "439988"="ANTITUSS-EXPECTOR-DECONG-ANTIHISTA-ANALG"
 "439990"="MISC. RESPIRATORY COMBINATIONS"
 "440000"="ANTIASTHMATICS"
 "441000"="ANTICHOLINERGICS"
 "441500"="ANTI-INFLAMMATORY AGENTS"
 "442000"="SYMPATHOMIMETICS"
 "442010"="BETA ADRENERGICS"
 "442020"="MIXED ADRENERGICS"
 "442099"="ADRENERGIC COMBINATIONS"
 "443000"="XANTHINES"
 "444000"="STEROID INHALANTS"
 "449900"="ASTHMA COMBINATIONS"
 "449910"="XANTHINE-EXPECTORANTS"
 "449920"="XANTHINE-SYMPATHOMIMETICS"
 "449922"="XANTHINE-SYMPATHOMIMETIC-EXPECTORANT"
 "449925"="XANTHINE-BARBITURATES"
 "449927"="SYMPATHOMIMETIC-BARBITURATE"
 "449930"="XANTHINE-SYMPATHOMIMETIC-BARBITURATE"
 "449932"="XANTHINE-SYMPATHO-BARBIT-EXPECTOR"
 "449940"="SYMPATHOMIMETIC-EXPECTORANTS"
 "449950"="XANTHINE-ANTITUSSIVE"

"449990"="MISC. ANTI-ASTHMATIC PRODUCTS"
"450000"="MISC. RESPIRATORY"
"451000"="ALPHA-PROTEINASE INHIBITOR (HUMAN)"

GROUPS 46-52 GASTROINTESTINAL AGENTS

"460000"="LAXATIVES"
"461000"="SALINE LAXATIVES"
"461099"="SALINE LAXATIVE MIXTURES"
"462000"="STIMULANT LAXATIVES"
"463000"="BULK LAXATIVES"
"464000"="LUBRICANT LAXATIVES"
"465000"="SURFACTANT LAXATIVES"
"466000"="MISC. LAXATIVES"
"469900"="LAXATIVE COMBINATIONS"
"469910"="LAXATIVES & DSS"
"469920"="BOWEL PREP KITS"
"470000"="ANTIDIARRHEALS"
"471000"="ANTIPERISTALTIC AGENTS"
"472000"="GI ADSORBANTS"
"473000"="MISC. ANTIDIARRHEAL AGENTS"
"479900"="ANTIDIARRHEAL COMBINATIONS"
"479910"="DIARRHEA COMBINATIONS-OPIATE"
"479920"="DIARRHEA COMBINATIONS-ANTICHOLINERGIC"
"480000"="ANTACIDS"
"481000"="ANTACIDS - ALUMINUM SALTS"
"482000"="ANTACIDS - BICARBONATE"
"482099"="ANTACIDS - BICARBONATE COMBINATIONS"
"483000"="ANTACIDS - CALCIUM SALTS"
"484000"="ANTACIDS - MAGNESIUM SALTS"
"489900"="ANTACID COMBINATIONS"
"489905"="ANTACID & DIMETHICONE"
"489910"="ANTACID-SIMETHICONE"
"490000"="ULCER DRUGS"
"491000"="GI ANTISPASMODICS - ANTICHOLINERGICS"
"491010"="BELLADONNA ALKALOIDS"
"491020"="QUATERNARY ANTICHOLINERGICS"
"491030"="ANTISPASMODICS"
"491040"="ANTICHOLINERGICS"
"491099"="ANTICHOLINERGIC COMBINATIONS"
"492000"="H-2 ANTAGONISTS"
"492500"="PROSTAGLANDINS"
"493000"="MISC. ANTI-ULCER"
"500000"="ANTIEMETICS"
"501000"="ANTIEMETICS - ANTIDOPAMINERGIC"
"502000"="ANTIEMETICS - ANTICHOLINERGIC"
"503000"="ANTIEMETICS MISC."

"503099"="ANTIEMETICS COMBINATIONS"
"510000"="DIGESTIVE AIDS"
"511000"="CHOLERETICS"
"511099"="BILE COMBINATIONS"
"512000"="DIGESTIVE ENZYMES"
"512099"="DIGESTIVE ENZYME COMBINATIONS"
"513000"="GASTRIC ACIDIFIERS"
"514000"="HYDROCHOLERETICS"
"519900"="DIGESTIVE AIDS - MIXTURES"
"519910"="DIGESTIVE MIXTURES W/ SIMETHICONE"
"519920"="DIGESTIVE MIXTURES W/ ANTICHOLINERGICS"
"520000"="MISC. GI"
"521000"="GALLSTONE SOLUBILIZING AGENTS"
"522000"="ANTIFLATULENTS"
"522099"="ANTIFLATULENTS COMBINATIONS"
"523000"="GI STIMULANTS"
"523099"="GI STIMULANTS COMBINATIONS"
"524000"="INTESTINAL ACIDIFIERS"
"525000"="INFLAMMATORY BOWEL AGENTS"
"526000"="HEPATOTROPIC"

GROUPS 53-56 GENITOURINARY PRODUCTS

"530000"="URINARY ANTIINFECTIVES"
"539900"="COMBINATION URINARY ANTIINFECTIVES"
"539905"="METHENAMINE COMBINATIONS"
"539910"="URINARY ANTIINFECTIVE & ANALGESIC"
"539920"="URINARY ANTISEPTIC - ANTISPASMODIC"
"539930"="URINARY ANTIINFECTIVE-ANTISPASM-ANALGESIC"
"540000"="URINARY ANTISPASMODICS"
"549900"="URINARY ANTISPASMODIC COMBINATIONS"
"550000"="VAGINAL PRODUCTS "
"551000"="VAGINAL ANTIINFECTIVES"
"551010"="MISC. VAGINAL ANTIINFECTIVES"
"551099"="VAGINAL ANTIINFECTIVE COMBINATIONS"
"551500"="VAGINAL ANTIINFLAMMATORY AGENTS"
"551510"="VAGINAL CORTICOSTEROIDS"
"552000"="DOUCHE PRODUCTS"
"553000"="SPERMICIDES"
"553500"="VAGINAL ESTROGENS"
"554000"="MISC. VAGINAL PRODUCTS"
"554110"="FERTILITY ENHANCERS"
"560000"="MISC. GENITOURINARY PRODUCTS"
"561000"="ACIDIFIERS"
"561010"="PHOSPHATES"
"561020"="SYSTEMIC ACIDIFIERS"

"562000"="ALKALINIZERS"
"562020"="CITRATES"
"563000"="URINARY ANALGESICS"
"565000"="DMSO"
"566000"="URINARY STONE AGENTS"
"567000"="G U IRRIGANTS"
"567010"="ANTIINFECTIVE GU IRRIGANTS"
"568000"="UROPROTECTANTS"
"568500"="PROSTATIC HYPERTROPHY AGENTS"

GROUPS 57-63 CENTRAL NERVOUS SYSTEM DRUGS

"570000"="ANTIANKXIETY AGENTS"
"571000"="BENZODIAZEPINES"
"571020"="BENZODIAZEPINE ANTAGONISTS"
"572000"="MISC. ANTIANKXIETY AGENTS"
"580000"="ANTIDEPRESSANTS"
"581000"="MAO INHIBITORS"
"582000"="TRICYCLIC AGENTS"
"583000"="MISC. ANTIDEPRESSANTS"
"590000"="ANTIPSYCHOTICS"
"591000"="BUTYROPHENONES"
"591500"="DIBENZODIAZEPINES"
"592000"="PHENOTHIAZINES"
"593000"="THIOXANTHINES "
"594000"="MISC. ANTIPSYCHOTICS"
"595000"="LITHIUM"
"600000"="HYPNOTICS"
"601000"="BARBITURATE HYPNOTICS"
"602000"="NON-BARBITURATE HYPNOTICS"
"602010"="BENZODIAZEPINE HYPNOTICS"
"602040"="IMIDAZOPYRIDINE HYPNOTICS"
"603000"="ANTI-HISTAMINE HYPNOTICS"
"603099"="ANTI-HISTAMINE HYPNOTIC COMBINATIONS"
"609900"="HYPNOTIC COMBINATIONS"
"610000"="STIMULANTS"
"611000"="AMPHETAMINES"
"611099"="AMPHETAMINE MIXTURES"
"612000"="ANOREXICANTS NON-AMPHETAMINE"
"612099"="ANOREXICANT COMBINATIONS"
"613000"="ANALEPTICS"
"613099"="ANALEPTIC COMBINATIONS"
"614000"="MISC. STIMULANTS"
"620000"="MISC. PSYCHOTHERAPEUTIC"
"621000"="SMOKING DETERRENTS"
"621099"="SMOKING DETERRENT COMBINATIONS"

"629900"="COMBINATION PSYCHOTHERAPEUTICS"
"630000"="R E S E R V E D"

GROUPS 64-71 ANALGESICS AND ANESTHETICS

"640000"="ANALGESICS - NONNARCOTIC"
"641000"="SALICYLATES"
"641099"="SALICYLATE COMBINATIONS"
"642000"="ANALGESICS OTHER"
"642099"="ANALGESICS - OTHER COMBINATIONS"
"649900"="ANALGESIC COMBINATIONS"
"649910"="ANALGESIC-SEDATIVES"
"649920"="ANALGESIC-ANTICHOLINERGICS"
"650000"="ANALGESICS - NARCOTIC"
"651000"="NARCOTIC AGONISTS"
"652000"="NARCOTIC PARTIAL AGONISTS"
"654000"="NARCOTIC ANTAGONISTS"
"659900"="NARCOTIC COMBINATIONS"
"659910"="CODEINE COMBINATIONS"
"659913"="DIHYDROCODEINONE COMBINATIONS"
"659917"="HYDROCODONE COMBINATIONS"
"659920"="PROPOXYPHENE COMBINATIONS"
"659930"="MEPERIDINE COMBINATIONS"
"659940"="PENTAZOCINE COMBINATIONS"
"660000"="ANTI-RHEUMATIC"
"661000"="NSAIA'S"
"661010"="PHENYLBUTAZONES"
"661099"="NSAIA COMBINATIONS"
"662000"="GOLD COMPOUNDS"
"662500"="ANTI-RHEUMATIC ANTIMETABOLITE"
"663000"="MISC. ANTI-RHEUMATIC"
"663099"="MISC. ANTI-RHEUMATIC COMBINATIONS"
"670000"="MIGRAINE PRODUCTS"
"679900"="MIGRAINE COMBINATION"
"679910"="ERGOT COMBINATIONS"
"680000"="GOUT"
"681000"="URICOSURICS"
"689900"="COMBINATION GOUT DRUGS"
"690000"="LOCAL ANESTHETICS - PARENTERAL "
"691000"="LOCAL ANESTHETICS - AMIDES"
"692000"="LOCAL ANESTHETICS - ESTERS"
"699900"="LOCAL ANESTHETIC COMBINATIONS"
"699910"="LOCAL ANESTHETIC & EPINEPHRINE"
"700000"="GENERAL ANESTHETICS"
"700500"="ANESTHETIC GASSES"
"701000"="BARBITURATE ANESTHETICS"

"702000"="VOLATLE ANESTHETICS"
"704000"="MISC. ANESTHETICS"
"704099"="ANESTHETIC COMBINATIONS"
"710000"="R E S E R V E D"

GROUPS 72-76 NEUROMUSCULAR DRUGS

"720000"="ANTICONVULSANT"
"721000"="BENZODIAZEPINES"
"722000"="HYDANTOINS"
"723000"="OXAZOLIDINEDIONES"
"724000"="SUCCINIMIDES"
"725000"="VALPROIC ACID"
"726000"="MISC. ANTICONVULSANTS"
"726099"="ANTICONVULSANT COMBINATIONS"
"730000"="ANTIPARKINSONIAN"
"731000"="ANTIPARKINSONIAN ANTICHOLINERGICS"
"732000"="ANTIPARKINSONIAN DOPAMINERGIC"
"732099"="CARBIDOPA-LEVODOPA"
"733000"="ANTIPARKINSONIAN MONOAMINE OXIDASE INHIBITOR"
"740000"="NEUROMUSCULAR BLOCKERS"
"741000"="DEPLOARIZING MUSCLE RELAXANTS"
"742000"="NONDEPLOARIZING MUSCLE RELAXANTS"
"750000"="SKELETAL MUSCLE RELAXANTS"
"751000"="CENTRAL MUSCLE RELAXANTS"
"752000"="DIRECT MUSCLE RELAXANTS"
"753000"="MISC. MUSCLE RELAXANTS"
"759900"="MUSCLE RELAXANT COMBINATIONS"
"760000"="ANTIMYASTHENIC AGENTS"
"769900"="ANTIMYASTHENIC COMBINATIONS"

GROUPS 77-81 NUTRITIONAL PRODUCTS

"770000"="VITAMINS"
"771000"="WATER SOLUBLE VITAMINS"
"771010"="VITAMIN B-1"
"771020"="VITAMIN B-2"
"771030"="VITAMIN B-3"
"771040"="VITAMIN B-5"
"771050"="VITAMIN B-6"
"771060"="BIOTIN"
"771070"="PABA"
"771080"="VITAMIN C"
"772000"="OIL SOLUBLE VITAMINS"
"772010"="VITAMIN A"

"772020"="VITAMIN D"
 "772030"="VITAMIN E"
 "772040"="VITAMIN K"
 "773000"="MISC. NUTRITIONAL FACTORS"
 "773030"="BIOFLAVINOIDS"
 "773099"="MISC. NATURAL VITAMINS"
 "780000"="MULTIVITAMINS"
 "781000"="VITAMIN MIXTURES"
 "781010"="VITAMINS A & D"
 "781015"="VITAMINS A & D W/ C"
 "781017"="VITAMINS A, C, D & E"
 "781020"="VITAMINS ACE & ZN"
 "781030"="VITAMINS B 1-2-3"
 "781040"="VITAMINS C & E"
 "781045"="NIACIN W/ C"
 "781050"="VITAMINS B1 & B6"
 "781060"="VITAMINS B1, B6 & B12"
 "781100"="B-COMPLEX VITAMINS"
 "781110"="BREWERS YEAST"
 "781200"="B-COMPLEX W/ C"
 "781205"="B-COMPLEX W/ C & MG"
 "781210"="B-COMPLEX W/ C + MG ZN"
 "781220"="B-COMPLEX W/ C & E"
 "781225"="B-COMPLEX W/ C & E + ZN"
 "781300"="B-COMPLEX W/ FOLIC ACID"
 "781330"="B-COMPLEX W/ C FOLIC ACID"
 "781400"="B-COMPLEX W/ IRON"
 "781500"="B-COMPLEX W/ MINERALS"
 "781600"="BIOFLAVONOID PRODUCTS"
 "782000"="MULTIPLE VITAMINS"
 "782010"="HEXAVITAMINS"
 "782100"="MULTIPLE VITAMINS W/ IRON"
 "783000"="MULTIPLE VITAMINS & MINERALS"
 "783100"="MULTIPLE VITAMINS W/ MINERALS"
 "783400"="MULTIPLE VITAMINS W/ FLUORIDE"
 "783500"="MULTIPLE VITAMINS W/ CALCIUM"
 "784000"="PEDIATRIC VITAMINS"
 "784015"="PEDIATRIC VITAMINS A & D W/ C"
 "784100"="PEDIATRIC MULTIPLE VITAMINS"
 "784200"="PED MULTIPLE VITAMINS W/ MINERALS"
 "784300"="PED MV W/ IRON"
 "784400"="PED MV W/ FLUORIDE"
 "784405"="PED VITAMINS ACD W/FLUORIDE"
 "784410"="PED MV W/FLUORIDE"
 "784500"="PED MULTIPLE VITAMINS W/FL & FE"
 "784520"="PED VITAMINS ACD FLUORIDE & IRON"
 "785000"="SPECIALTY VITAMINS PRODUCTS"

"785100"="PRENATAL VITAMINS"
 "785110"="PRENATAL MV & MINERALS W/ IRON"
 "785120"="PRENATAL MV & MINERALS W/ IRON & FA"
 "785130"="PRENATAL MV & MINERALS W/ FA"
 "785200"="VITAMINS W/ LIPOTROPICS"
 "785300"="VITAMINS W/ HORMONES"
 "786000"="HEMATINIC-VITAMIN PRODUCTS"
 "786100"="IRON W/ VITAMINS"
 "786200"="B-12 W/ VITAMINS"
 "786300"="IRON & B12 W/ VITAMINS"
 "790000"="MINERALS - ELECTROLYTES"
 "790500"="BICARBONATES"
 "791000"="CALCIUM"
 "791099"="CALCIUM COMBINATIONS"
 "792000"="CHLORIDE"
 "793000"="FLUORIDE"
 "793500"="IODINE PRODUCTS"
 "794000"="MAGNESIUM"
 "794099"="MAGNESIUM COMBINATIONS"
 "795000"="MANGANESE"
 "796000"="PHOSPHATE"
 "797000"="POTASSIUM"
 "797099"="POTASSIUM COMBINATIONS"
 "797500"="SODIUM"
 "798000"="ZINC"
 "798099"="ZINC COMBINATIONS"
 "798500"="MINERAL COMBINATIONS"
 "799000"="TRACE MINERALS"
 "799099"="TRACE MINERAL COMBINATIONS"
 "799900"="ELECTROLYTE MIXTURES"
 "799910"="ELECTROLYTES ORAL"
 "799920"="ELECTROLYTES PARENTERAL"
 "799930"="ELECTROLYTES & DEXTROSE"
 "799940"="ELECTROLYTES & INVERT SUGAR"
 "799950"="PARENTERAL ELECTROLYTES W/ FRUCTOSE"
 "800000"="NUTRIENTS"
 "801000"="CARBOHYDRATE"
 "802000"="LIPIDS"
 "803000"="PROTEIN"
 "803010"="PROTEIN PRODUCTS"
 "803020"="AMINO ACID MIXTURES"
 "803030"="AMINO ACIDS-SINGLE"
 "804000"="LIPOTROPICS"
 "804099"="LIPOTROPIC COMBINATIONS"
 "805000"="MISC. NUTRITIONAL SUBSTANCES"
 "805099"="MISC. NUTRITIONAL SUBSTANCES COMBINATIONS"
 "810000"="DIETARY PRODUCTS"

"811000"="INFANT FOODS"
"812000"="NUTRITIONAL SUPPLEMENTS"
"812010"="NUTRITIONAL SUPPLEMENTS - DIET AIDS"
"813000"="TUBE FEEDINGS"
"814000"="NUTRITIONAL SUBSTITUTES"
"814010"="SALT SUBSTITUTES"
"814020"="SWEETNERS"
"819000"="NUTRITIONAL MODIFIERS"

GROUPS 82-85 HEMATOLOGICAL AGENTS

"820000"="HEMATOPOETIC AGENTS"
"821000"="COBALAMINES"
"821010"="LIVER PREPARATIONS"
"821500"="INTRINSIC FACTOR"
"822000"="FOLIC ACID"
"823000"="IRON"
"823099"="IRON COMBINATIONS "
"824000"="COLONY STIMULATING FACTOR"
"824010"="ERYTHROPOIETINS"
"824020"="LEUKOCYTES"
"824030"="PLATELETS"
"827000"="MISC. HEMATOPOETIC AGENTS"
"829900"="HEMATOPOETIC MIXTURES"
"829910"="COBALAMINE COMBINATIONS"
"829920"="IRON COMBINATIONS"
"829930"="IRON W/ B12"
"829940"="IRON W/ FOLIC ACID"
"829950"="IRON-B12-FOLATE"
"830000"="ANTICOAGULANTS"
"831000"="HEPARINS"
"831010"="LOW MOLECULAR WEIGHT HEPARINS"
"832000"="COUMARIN ANTICOAGULANTS"
"833000"="INDANDIONE ANTICOAGULANTS"
"834000"="IN VIRO ANTICOAGULANTS"
"840000"="HEMOSTATICS"
"841000"="HEMOSTATICS - SYSTEMIC"
"841099"="SYSTEMIC HEMOSTATIC COMBINATIONS"
"842000"="HEMOSTATICS - TOPICAL"
"850000"="MISC. HEMATOLOGICAL "
"851000"="ANTIHEMOPHILIC PRODUCTS"
"851500"="ANTIPLATELET"
"851599"="ANTIPLATELET COMBINATIONS"
"852000"="HEMATORHEOLOGICAL "
"852500"="HEMIN"
"853000"="PLASMA EXPANDERS"

"854000"="PLASMA PROTEINS"
"855000"="PROTAMINE"
"856000"="THROMBOLYTIC ENZYMES"
"856010"="TISSUE PLASMINOGEN ACTIVATOR"
"857000"="HEMATOLOGIC OXYGEN TRANSPORTER"

GROUPS 86-91 TOPICAL PRODUCTS

"860000"="OPHTHALMIC"
"861000"="OPHTHALMIC ANTIINFECTIVES"
"861010"="OPHTHALMIC ANTIBIOTICS"
"861020"="OPHTHALMIC SULFONAMIDES"
"861030"="OPHTHALMIC ANTIVIRALS"
"861040"="OPHTHALMIC ANTIFUNGAL"
"861050"="OPHTHALMIC ANTISEPTICS"
"861099"="OPHTHALMIC ANTIINFECTIVE COMBINATIONS"
"862000"="ARTIFICIAL TEARS AND LUBRICANTS"
"862010"="ARTIFICIAL TEAR SOLUTIONS"
"862020"="ARTIFICIAL TEAR OINTMENTS"
"862030"="ARTIFICIAL TEAR INSERT"
"862040"="GONIOSCOPIIC SOLUTION"
"862500"="BETA-BLOCKERS - OPHTHALMIC"
"863000"="OPHTHALMIC STEROIDS"
"863099"="OPHTHALMIC STEROID COMBINATIONS"
"863500"="CYCLOPLEGICS"
"863599"="CYCLOPLEGIC COMBINATIONS"
"864000"="OPHTHALMIC DECONGESTANTS"
"864099"="OPHTHALMIC DECONGESTANT COMBINATIONS"
"865000"="MIOTICS"
"865010"="MIOTICS - DIRECT ACTING"
"865020"="MIOTICS - CHOLINESTERASE INHIBITORS"
"865099"="MIOTIC COMBINATIONS"
"866000"="ADRENERGIC MYDRIATICS"
"867500"="OPHTHALMIC LOCAL ANESTHETICS"
"868000"="MISC. OPHTHALMICS"
"868010"="OPHTHALMIC ENZYMES"
"868020"="OPHTHALMIC ANTIALLERGIC"
"868030"="OPHTHALMIC IRRIGATION SOLUTIONS"
"868040"="OPHTHALMIC HYPEROSMOLAR PRODUCTS"
"868050"="OPHTHALMIC NSAIA'S AGENT"
"868060"="OPHTHALMIC DIAGNOSTIC PRODUCTS"
"868070"="MISC. OPHTHALMICS"
"869000"="CONTACT LENS SOLUTIONS"
"869010"="HARD LENS PRODUCTS"
"869020"="SOFT LENS PRODUCTS"
"869030"="OXYGEN PERMEABLE LENS PRODUCTS"

"870000"="OTIC"
 "871000"="OTIC ANTIBIOTICS"
 "871099"="OTIC ANTIBIOTIC COMBINATIONS"
 "872000"="OTIC ANALGESICS"
 "873000"="OTIC STEROIDS"
 "874000"="OTIC MISC."
 "879900"="OTIC COMBINATIONS"
 "879910"="OTIC STEROID COMBINATIONS"
 "879920"="OTIC ANALGESIC COMBINATIONS"
 "879930"="OTIC ANTIFUNGAL COMBINATIONS"
 "880000"="MOUTH - THROAT (LOCAL)"
 "881000"="ANTIINFECTIVES - THROAT"
 "881099"="MISC. ANTIINFECTIVES - THROAT"
 "881500"="ANTISEPTICS - MOUNT/THROAT"
 "881599"="ANTISEPTIC COMBINATIONS - MOUTH/THROAT"
 "882000"="LOZENGES"
 "825000"="STEROIDS - MOUTH"
 "883000"="MOUTHWASHES"
 "883500"="ANESTHETICS, TOPICAL ORAL"
 "883599"="ANESTHETICS, TOPICAL ORAL - COMBOS 8"
 "884000"="DENTAL PRODUCTS"
 "884010"="FLUORIDE DENTAL RINSE"
 "884020"="FLUORIDE DENTAL GEL "
 "884030"="FLUORIDE TOOTHPASTE"
 "885000"="MISC. THROAT PRODUCTS"
 "885010"="ARTIFICIAL SALIVA"
 "885020"="PROTECTANTS"
 "890000"="ANORECTAL "
 "891000"="RECTAL STEROIDS"
 "891500"="INTRARECTAL STEROIDS"
 "892000"="RECTAL LOCAL ANESTHETICS"
 "893000"="MISC. RECTAL PRODUCTS"
 "894000"="RECTAL PROTECTANTS - EMOLLIENTS"
 "899900"="RECTAL COMBINATIONS"
 "889910"="RECTAL ANESTHETIC/STEROIDS"
 "899920"="RECTAL ANESTHETIC COMBINATIONS"
 "899930"="RECTAL STEROID COMBINATIONS"
 "899940"="MISC. RECTAL COMBINATIONS"
 "900000"="DERMATOLOGICAL"
 "900500"="ACNE PRODUCTS"
 "900510"="ACNE ANTIBIOTICS"
 "900520"="ACNE CLEANSERS"
 "900599"="ACNE COMBINATIONS"
 "900700"="ANALGESICS"
 "901000"="ANTIBIOTICS - TOPICAL"
 "991098"="ANTIBIOTIC MIXTURES TOPICAL "
 "901099"="ANTIBIOTIC STEROID COMBINATIONS"

"901500"="ANTIFUNGALS - TOPICAL"
"901599"="ANTIFUNGALS - TOPICAL COMBINATIONS"
"902000"="ANTIHISTAMINES-TOPICAL"
"902099"="ANTIHISTAMINES - TOPICAL COMBINATIONS"
"902100"="ANTIINFLAMMATORY AGENTS"
"902200"="ANTIPRURITICS"
"902299"="ANTIPRURITICS - COMBINATIONS"
"902500"="ANTIPSORATICS"
"902510"="ANTIPSORATIC, TAR CONTAINING"
"902599"="ANTIPSORATIC COMBINATIONS"
"903000"="ANTISEBORRHEIC PRODUCTS"
"903099"="ANTISEBORRHEIC COMBINATIONS"
"903500"="ANTIVIRAL - TOPICAL"
"904000"="BATH PRODUCTS"
"904500"="BURN PRODUCTS"
"905000"="CAUTERIZING AGENTS"
"905099"="CAUTERIZING AGENT COMBINATIONS"
"905200"="TAR PRODUCTS"
"905299"="TAR COMBINATIONS"
"905500"="CORTICOSTEROIDS - TOPICAL"
"905598"="STEROID-LOCAL ANESTHETICS"
"905599"="TOPICAL STEROID COMBINATIONS"
"906000"="DIAPER RASH PRODUCTS"
"906500"="EMOLLIENTS"
"906599"="EMOLLIENT COMBINATIONS"
"907000"="ENZYMES - TOPICAL"
"907099"="ENZYME MIXTURES - TOPICAL"
"907500"="KERATOLYTICS"
"907599"="KERATOLYTIC COMBINATIONS"
"908000"="LIMINENTS"
"908500"="LOCAL ANESTHETICS - TOPICAL"
"908510"="TOPICAL ANESTHETIC GASSES"
"908599"="TOPICAL ANESTHETIC COMBINATIONS"
"908700"="PIGMENTING-DEPIGMENTING AGENTS"
"908710"="PIGMENTING AGENTS"
"908720"="DEPIGMENTING AGENTS"
"909000"="SCABICIDES & PEDICULOCIDES"
"909099"="SCABICIDE COMBINATIONS"
"909200"="SUNSCREENS"
"909500"="POISON IVY PRODUCTS"
"909700"="MISC. TOPICAL"
"909710"="ASTRINGENTS"
"909720"="SKIN PROTECTANTS"
"909730"="SOAPS"
"909740"="SHAMPOOS"
"909750"="POWDERS"
"909760"="SKIN OILS"

"909770"="LUBRICANTS"
"909800"="PODIATRIC PRODUCTS"
"909900"="MISC. DERMATOLOGICAL PRODUCTS"
"910000"="R E S E R V E D"

GROUPS 92-99 MISCELLANEOUS PRODUCTS

"920000"="ANTISEPTICS & DISINFECTANTS"
"921000"="CHLORINE ANTISEPTICS"
"921099"="CHLORINE ANTISEPTIC COMBINATIONS"
"922000"="IODINE ANTISEPTICS"
"922099"="IODINE ANTISEPTIC COMBINATIONS"
"923000"="MERCURY ANTISEPTICS"
"924000"="SILVER ANTISEPTICS"
"929900"="ANTISEPTIC COMBINATIONS"
"930000"="ANTIDOTES"
"931000"="CHELATING AGENTS"
"939900"="ANTIDOTE KITS"
"940000"="DIAGNOSTIC PRODUCTS"
"941000"="DIAGNOSTIC REAGANTS"
"941010"="INFECTION TESTS"
"941075"="CONTROL REAGENTS"
"941099"="MULTIPLE URINE TESTS"
"942000"="DIAGNOSTIC DRUGS"
"943000"="DIAGNOSTIC BIOLOGICALS"
"943099"="MULTIPLE SKIN TESTS"
"944000"="RADIOGRAPHIC CONTRAST MEDIA"
"944010"="BARIUM"
"944020"="IODINATED"
"945000"="NON-RADIOGRAPHIC CONTRAST MEDIA"
"946000"="DIAGNOSTIC PRODUCTS, MISC."
"950000"="R E S E R V E D"
"960000"="CHEMICALS"
"961000"="ACIDS, BASES, & BUFFERS"
"961010"="ACIDS"
"961020"="BASES"
"961030"="BUFFERS"
"962000"="LIQUIDS"
"962010"="SOLVENTS"
"962020"="FIXED OILS"
"962025"="ESSENTIAL OILS"
"963000"="SOLIDS"
"963099"="SOLID COMBINATIONS"
"964000"="SEMI-SOLIDS"
"970000"="MEDICAL DEVICES"
"970500"="PARENTERAL THERAPY SUPPLIES"

"970510"="NEEDLES & SYRINGES"
"970520"="IV SETS/TUBING"
"970530"="BLOOD ADMINISTRATION SETS"
"970540"="INFUSION PUMPS"
"971000"="RESPIRATORY THERAPY SUPPLIES"
"971010"="NEBULIZERS"
"971020"="HUMIDIFIERS"
"971200"="RESPIRATORY AIDS"
"971210"="MASKS"
"971500"="GI-GU OSTOMY - IRRIGATION SUPPLIES"
"971505"="CATHETERS"
"971510"="OSTOMY SUPPLIES"
"971520"="INCONTINENCE SUPPLIES"
"971525"="IRRIGATION - TYPE SYRINGES"
"971530"="URINARY DRAINAGE & IRRIGATION SUPPLIES"
"971700"="PERITONEAL DIALYSIS"
"972000"="DIABETIC SUPPLIES"
"972010"="INSULIN ADMINISTRATION SUPPLIES"
"972020"="GLUCOSE MONITORING TEST SUPPLIES"
"972500"="ENTERAL NUTRITION SUPPLIES"
"972510"="FEEDING TUBES"
"973000"="BANDAGES - DRESSINGS - TAPE"
"973010"="ADHESIVE BANDAGES"
"973020"="GAUZE BANDAGES"
"973030"="GAUZE PADS & DRESSINGS"
"973040"="ADHESIVE TAPE"
"973500"="ELASTIC BANDAGES - SUPPORTS"
"973700"="HEATING AIDS"
"973710"="HEATING PADS"
"973720"="HOT PACKS"
"973800"="COOLING AIDS"
"973810"="COLD PACKS"
"973900"="BACK PLASTERS"
"974000"="CONTRACEPTIVES"
"974010"="CONDOMS"
"974020"="DIAPHRAGMS"
"974030"="IUD'S"
"974040"="CONTRACEPTIVE SPONGE"
"974500"="FEMALE PERSONAL CARE PRODUCTS"
"974510"="SANITARY NAPKINS & TAMPONS"
"974520"="DOUCHE SUPPLIES"
"975000"="ORAL HYGIENE PRODUCTS"
"975005"="DENTAL SUPPLIES"
"975010"="DENTURE CARE PRODUCTS"
"975020"="TOOTHBRUSHES - FLOSS"
"975030"="DENTIFRICES"
"975500"="INFANT CARE PRODUCTS"

"975510"="FEEDING SUPPLIES"
"975520"="DIAPERS"
"975530"="NURSING PADS"
"976000"="OPTICAL SUPPLIES"
"976010"="CONTACT LENS CARE SUPPLIES"
"976020"="EYEGLOSS CARE SUPPLIES"
"976030"="EYE PATCHES"
"976500"="DURABLE MEDICAL EQUIPMENT"
"977000"="MISC. DEVICES"
"977010"="THERMOMETERS"
"977020"="DISPOSABLE GLOVES"
"977030"="APPLICATORS, COTTON BALLS, ETC."
"977040"="RUBBER GOODS"
"977070"="RAZORS AND BLADES"
"977080"="SPONGES"
"978000"="FOOT CARE PRODUCTS"
"978500"="FIRST AID KITS"
"980000"="PHARMACEUTICAL ADJUVANTS"
"981000"="ANITMICROBIAL AGENTS"
"982000"="ANTIOXIDANTS"
"983000"="COLORING AGENTS"
"983500"="PHARMACEUTICAL EXCIPIENTS"
"983510"="EXTERNAL VEHICLE INGREDIENTS"
"984000"="LIQUID VEHICLE"
"984010"="PARENTERAL VEHICLES"
"984020"="ORAL VEHICLES"
"984030"="EXTERNAL VEHICLES"
"985000"="PRESERVATIVES, OTHER"
"986000"="SEMISOLID VEHICLE"
"990000"="UNCLASSIFIED"
"991000"="CARDIOPLEGIC SOLUTION"
"992000"="CHELATING AGENTS"
"993000"="COLLAGEN IMPLANT"
"993500"="ENZYMES"
"994000"="IMMUNOSUPPRESSIVE AGENTS"
"994500"="K REMOVING RESIN"
"995000"="PROSTAGLANDINS"
"996500"="SCLEROSING AGENTS"
"997000"="PERITONEAL DIALYSIS SOLUTIONS"
"997500"="IRRIGATION SOLUTIONS"
"998000"="ORGAN PRESERVATION SOLUTION"
"998500"="MISC. NATURAL PRODUCTS"
"999000"="NOT CLASSIFIED"
"999030"="UNCLASSIFIED OTC PRODUCT"
"\$\$\$\$\$\$" = "NON-MEDICATIONS" ;

Date Last Changed: 06/01/95

**APPENDIX B B AMERICAN HOSPITAL
FORMULARY SERVICE CLASSIFICATION
COMPILATION NUMBER
(AFHSCC THERAPEUTIC CLASS CODE)**

<u>Class Code</u>	<u>Therapeutic Class</u>
"040000"=	"ANTI-HISTAMINE DRUGS"
"080000"=	"ANTI-INFECTION AGENTS"
"080400"=	"AMEBICIDES"
"080800"=	"ANTHELMINTICS"
"081200"=	"ANTIBIOTICS"
"081202"=	"AMINOGLYCOSIDES"
"081204"=	"ANTIFUNGAL ANTIBIOTICS"
"081206"=	"CEPHALOSPORINS"
"081207"=	"MISCELLANEOUS BETA-LACTAM ANTIBIOTICS"
"081208"=	"CHLORAMPHENICOL"
"081212"=	"MACROLIDES"
"081216"=	"PENICILLINS"
"081224"=	"TETRACYCLINES"
"081228"=	"MISCELLANEOUS ANTIBIOTICS"
"081600"=	"ANTITUBERCULOSIS AGENTS"
"081800"=	"ANTIVIRALS"
"082000"=	"ANTIMALARIAL AGENTS"
"082200"=	"QUINOLONES"
"082400"=	"SULFONAMIDES"
"082600"=	"SULFONES"
"082800"=	"ANTITREPONEMAL AGENTS"
"083200"=	"ANTITRICHOMONAL AGENTS"
"083600"=	"URINARY ANTI-INFECTION AGENTS"
"084000"=	"MISCELLANEOUS ANTI-INFECTION AGENTS"
"100000"=	"ANTI-NEOPLASTIC AGENTS"
"120000"=	"AUTONOMIC DRUGS"
"120400"=	"PARASYMPATHOMIMETIC (CHOLINERGIC) AGENTS"
"120800"=	"ANTICHOLINERGIC AGENTS "
"120804"=	"ANTIPARKINSONIAN AGENTS"
"120808"=	"ANTIMUSCARINICS/ANTISPASMODICS"
"121200"=	"SYMPATHOMIMETIC (ADRENERGIC) AGENTS"
"121600"=	"SYMPATHOLYTIC (ADRENERGIC BLOCK) AGENTS"
"122000"=	"SKELETAL MUSCLE RELAXANTS"
"129200"=	"MISCELLANEOUS AUTONOMIC DRUGS"
"160000"=	"BLOOD DERIVATIVES"
"200000"=	"BLOOD FORMATION AND COAGULATION"
"200400"=	"ANTI-ANEMIA DRUGS"
"200404"=	"IRON PREPARATIONS"

"200408"= "LIVER AND STOMACH PREPARATIONS"
 "201200"= "COAGULANTS AND ANTICOAGULANTS"

Class **Therapeutic**
Code **Class**

"201204"= "ANTICOAGULANTS"
 "201208"= "ANTIHEPARIN AGENTS"
 "201212"= "COAGULANTS"
 "201216"= "HEMOSTATOCs"
 "201600"= "HEMATOPOIETIC AGENTS"
 "202400"= "HEMORRHEOLOGIC AGENTS"
 "204000"= "THROMBOLYTIC AGENTS"
 "240000"= "CARDIOVASCULAR DRUGS"
 "240400"= "CARDIAC DRUGS"
 "240600"= "ANTILIPEMIC AGENTS"
 "240800"= "HYPOTENSIVE AGENTS"
 "241200"= "VASODILATING AGENTS"
 "241600"= "SCLEROSING AGENTS"
 "280000"= "CENTRAL NERVOUS SYSTEM DRUGS"
 "280400"= "GENERAL ANESTHETICS"
 "280800"= "ANALGESICS AND ANTIPYRETICS"
 "280804"= "NONSTEROIDAL ANTI-INFLAMMATORY AGENTS"
 "280808"= "OPIATE AGONISTS"
 "280812"= "OPIATE PARTIAL AGONISTS"
 "280892"= "MISC ANALGESICS AND ANTIPYRETICS"
 "281000"= "OPIATE ANTAGONISTS"
 "281200"= "ANTICONVULSANTS"
 "281204"= "BARBITURATES"
 "281208"= "BENZODIAZEPINES"
 "281212"= "HYDANTOINS"
 "281216"= "OXAZOLIDINEDIONES"
 "281220"= "SUCCINIMIDES"
 "281292"= "MISCELLANEOUS ANTICONVULSANTS"
 "281600"= "PSYCHOTHERAPEUTIC AGENTS"
 "281604"= "ANTIDEPRESSANTS "
 "281608"= "TRANQUILIZERS"
 "281612"= "MISCELLANEOUS PSYCHOTHERAPEUTIC AGENTS"
 "282000"= "RESPIRATORY AND CEREBRAL STIMULANTS"
 "282400"= "ANXIOLYTICS, SEDATIVES, AND HYPNOTICS"
 "282404"= "BARBITURATES"
 "282408"= "BENZODIAZEPINES"
 "282492"= "MISC ANXIOLYTICS, SEDATIVES, AND HYPNOTICS"
 "282800"= "ANTIMANIC AGENTS"
 "320000"= "CONTRACEPTIVES (E.G.,FOAMS, DEVICES)"
 "340000"= "DENTAL AGENTS"
 "360000"= "DIAGNOSTIC AGENTS"

"360400"= "ADRENOCORTICAL INSUFFICIENCY"

<u>Class Code</u>	<u>Therapeutic Class</u>
"360800"=	"AMYLOIDOSIS"
"361200"=	"BLOOD VOLUME"
"361600"=	"BRUCELLOSIS "
"361800"=	"CARDIAC FUNCTION"
"362400"=	"CIRCULATION TIME"
"362600"=	"DIABETES MELLITUS"
"362800"=	"DIPHThERIA"
"363000"=	"DRUG HYPERSENSITIVITY"
"363200"=	"FUNGI"
"363400"=	"GALLBLADDER FUNCTION"
"363600"=	"GASTRIC FUNCTION"
"363800"=	"INTESTINAL ABSORPTION"
"364000"=	"KIDNEY FUNCTION"
"364400"=	"LIVER FUNCTION"
"364800"=	"LYMPHOGRANULOMA VENEREUM"
"365200"=	"MUMPS"
"365600"=	"MYASHTENIA GRAVIS"
"366000"=	"THYROID FUNCTION"
"366100"=	"PANCREATIC FUNCTION"
"366200"=	"PHENYLKETONURIA"
"366400"=	"PNEOCHROMOCYTOMA"
"366600"=	"PITUITARY FUNCTION"
"366800"=	"ROENTGENOGRAPHY"
"367200"=	"SCARLET FEVER"
"367600"=	"SWEATING"
"368000"=	"TRICHINOSIS"
"368400"=	"TUBERCULOSIS"
"368800"=	"URINE AND FECES CONTENTS"
"368812"=	"KETONES"
"368820"=	"OCCULT BLOOD"
"368824"=	"PH"
"368828"=	"PROTEIN"
"368840"=	"SUGAR"
"380000"=	"DISINFECTANTS (AGENTS USED ON OTHER THAN SKIN)"
"400000"=	"ELECTROLYTIC, CALORIC, AND WATER BALANCE"
"400400"=	"ACIDIFYING AGENTS"
"400800"=	"ALKALINIZING AGENTS"
"401000"=	"AMMONIA DETOXICANTS"
"401200"=	"REPLACEMENT PREPARATIONS"
"401600"=	"SODIUM REMOVING RESINS"

"401700"= "CALCIUM REMOVING RESINS"
"401800"= "POTASSIUM REMOVING RESINS"

<u>Class Code</u>	<u>Therapeutic Class</u>
"402000"=	"CALORIC AGENTS"
"402400"=	"SALT AND SUGAR SUBSTITUTES"
"402800"=	"DIURETICS"
"402810"=	"POTASSIUM SPARING DIURETICS"
"403600"=	"IRRIGATING SOLUTIONS"
"404000"=	"URICOSURIC AGENTS"
"440000"=	"ENZYMES"
"480000"=	"ANTITUSSIVES, EXPECTORANTS, AND MUCOLYTIC AGENTS"
"480800"=	"ANTITUSSIVES"
"481600"=	"EXPECTORANTS"
"482400"=	"MUCOLYTIC AGENTS"
"520000"=	"EYE, EAR, NOSE, AND THROAT PREPARATIONS"
"520400"=	"ANTI-INFECTIVES"
"520404"=	"ANTIBIOTICS"
"520405"=	"ANTIFUNGALS"
"520406"=	"ANTIVIRALS"
"520408"=	"SULFONAMIDES"
"520412"=	"MISCELLANEOUS ANTI-INFECTIVES"
"520800"=	"ANTI-INFLAMMATORY AGENTS"
"521000"=	"CARBONIC ANHYDRASE INHIBITORS"
"521200"=	"CONTACT LENS SOLUTIONS"
"521600"=	"LOCAL ANESTHETICS"
"522000"=	"MIOTICS"
"522400"=	"MYDRIATICS"
"522800"=	"MOUTHWASHES AND GARGLES"
"523200"=	"VASOCONSTRICTORS"
"523600"=	"MISCELLANEOUS EENT DRUGS"
"560000"=	"GASTROINTESTINAL DRUGS"
"560400"=	"ANTACIDS AND ABSORBENTS"
"560800"=	"ANTIDIARRHEA AGENTS"
"561000"=	"ANTIFLATULENTS"
"561200"=	"CATHARTICS AND LAXATIVES"
"561400"=	"CHOLELITHOLYTIC AGENTS"
"561600"=	"DIGESTANTS"
"562000"=	"EMETICS"
"562200"=	"ANTIEMETICS"
"562400"=	"LIPOTROPICS AGENTS"
"564000"=	"MISCELLANEOUS GI DRUGS"

"600000"= "GOLD COMPOUNDS"
 "640000"= "HEAVY METAL ANTAGONISTS"
 "680000"= "HORMONES AND SYNTHETIC SUBSTITUTES"
 "680400"= "ADRENALS"

<u>Class Code</u>	<u>Therapeutic Class</u>
"680800"=	"ANDROGENS"
"681200"=	"CONTRACEPTIVES"
"681600"=	"ESTROGENS"
"681800"=	"GONADOTROPINS"
"682000"=	"ANTIDIABETIC AGENTS"
"682008"=	"INSULINS"
"682020"=	"SULFONYLUREAS"
"682092"=	"MISCELLANEOUS ANTIDIABETIC AGENTS"
"682400"=	"PARATHYROID"
"682800"=	"PITUITARY"
"683200"=	"PROGESTINS"
"683400"=	"OTHER CORPUS LUTEUM HORMONES"
"683600"=	"THYROID AND ANTITHYROID"
"683604"=	"THYROID AGENTS"
"683608"=	"ANTITHYROID AGENTS"
"720000"=	"LOCAL ANESTHETICS"
"760000"=	"OXYTOCICS"
"780000"=	"RADIOACTIVE AGENTS"
"800000"=	"SERUMS, TOXOIDS, AND VACCINES"
"800400"=	"SERUMS"
"800800"=	"TOXOIDS"
"801200"=	"VACCINES"
"840000"=	"SKIN AND MUCOUS MEMBRANE PREPARATIONS"
"840400"=	"ANTI-INFECTIVES"
"840404"=	"ANTIBIOTICS"
"840406"=	"ANTIVIRALS"
"840408"=	"ANTIFUNGALS"
"840412"=	"SCABICIDES AND PEDICULICIDES"
"840416"=	"MISCELLANEOUS LOCAL ANTI-INFECTIVES"
"840600"=	"ANTI-INFLAMMATORY AGENTS"
"840800"=	"ANTI-PRURITICS AND LOCAL ANESTHETICS"
"841200"=	"ASTRINGENTS"
"841600"=	"CELL STIMULANTS AND PROLIFERANTS"
"842000"=	"DETERGENTS"
"842400"=	"EMOLLIENTS, DEMULCENTS, AND PROTECTANTS"
"842404"=	"BASIC LOTIONS AND LINIMENTS"

"842408"= "BASIC OILS AND OTHER SOLVENTS"
 "842412"= "BASIC OINTMENTS AND PROTECTANTS"
 "842416"= "BASIC POWDERS AND DEMULCENTS"
 "842800"= "KERATOLYTIC AGENTS"
 "843200"= "KERATOPLASTIC AGENTS"
 "843600"= "MISC SKIN AND MUCOUS MEMBRANE AGENTS"

<u>Class Code</u>	<u>Therapeutic Class</u>
"845000"=	"DEPIGMENTING AND PIGMENTING AGENTS"
"845004"=	"DEPIGMENTING AGENTS"
"845006"=	"PIGMENTATION AGENTS"
"848000"=	"SUNSCREEN AGENTS"
"860000"=	"SMOOTH MUSCLE RELAXANTS"
"860800"=	"GASTROINTESTINAL SMOOTH MUSCLE RELAXANTS"
"861200"=	"GENITOURINARY SMOOTH MUSCLE RELAXANTS"
"861600"=	"RESPIRATORY SMOOTH MUSCLE RELAXANTS"
"880000"=	"VITAMINS"
"880400"=	"VITAMIN A"
"880800"=	"VITAMIN B COMPLEX"
"881200"=	"VITAMIN C"
"881600"=	"VITAMIN D"
"882000"=	"VITAMIN E"
"882400"=	"VITAMIN K ACTIVITY"
"882800"=	"MULTIVITAMIN PREPARATIONS"
"920000"=	"UNCLASSIFIED THERAPEUTIC AGENTS"
"940000"=	"DEVICES"
"960000"=	"PHARMACEUTICAL AIDS"
"999999"=	"UNKNOWN THERAPEUTIC CLASS";

Date Last Changed: 06/01/95

Archival data may include the value of 99 99 98 which also indicates drug products not classified by AHFS.