



## The Multi-Ethnic Study of Atherosclerosis

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## MESA Exam 1 Datasets

**NOTE:** A password is required to access these data files. The password is changed every week. To obtain the current password, send an email request to Norma Dermond at [ndermond@u.washington.edu](mailto:ndermond@u.washington.edu). You will then be contacted by phone with the password. For security reasons, the password will not be disseminated via email.

This page contains data sets and documentation for Exam 1. Specifically, clinic data for all of the 6814 enrolled MESA participants are available. Data was originally posted May 13, 2003 and May 19, 2003. Please see dates listed next to each file.

### ■ Data Documentation

The following documents contain descriptions of all variables included in the main and Reading Center data sets, including created variables. Review of documentation prior to initiating analyses is strongly recommended.

File Name	Posted Date
<a href="#">Descriptive Data of Major Exam 1 Variables</a>	January 27, 2005
<a href="#">Exam 1 Data - Updates Completed</a>	July 12, 2005
<a href="#">Main Data File Documentation, by Form</a>	February 7, 2005
<a href="#">Reading Center Data Documentation</a>	January 3, 2005
<a href="#">Pulsewave Data Dictionary</a>	March 25, 2005
<a href="#">Created Variables Data Dictionary</a>	June 30, 2005
<a href="#">MESA Blood Group 1, 2, and 3 Assay Methods</a>	March 29, 2004
Diet Data File Documentation - <a href="#">General Variable List</a>	August 31, 2004
<a href="#">Analysis Recommendations</a>	October 1, 2004
<a href="#">Consent Status by Field Center</a>	February 24, 2005

### ■ Data Use Agreement

If you are accessing and using MESA data, please complete, sign, and fax the Data Use Agreement to [Karen Hansen](#) at the CC (fax - 206.616.4075). The guidelines described in this document should be followed when using and sharing MESA data.

- [Data Distribution Agreement for Affiliated Investigators](#)
- [Data and Materials Distribution Agreements for Collaborating Investigators \[3/23/2005\]](#)

## ■ Data Sets

Reading Center (RC) data are also included for a subset of these enrollees depending on the receipt and availability of clean data at the CC. Data sets are provided in two formats: SPSS and SAS. In particular, the following data files are contained within the .zip links for each format:

- **Main file:** This file includes variables from clinic procedures and questionnaires, created analytic variables (e.g. body mass index), and key RC variables (e.g. average total calcium score).
- **Reading Center (RC) files:** A separate data file is provided for each RC that contains all the RC variables collected. The following RC data sets are included: ECG, CT, MRI, IMT, Distensibility, Blood, and Urine. Note that the CT files contain multiple (up to two) scans per enrollee.

### NOTE:

- **US-Brachial/Endothelial data has been pulled until further notice.**
- **Pulse wave are not available at this time.**

### SPSS files, with variables labels (.zip)

	File Name	Posted Date
<a href="#">Main</a>	MESAFINAL1_label_spss.zip	March 9, 2005
<a href="#">Diet</a>	Diet_label_spss.zip	August 31, 2004
<a href="#">Lipids</a>	lipids_label_spss.zip	May 13, 2003
<a href="#">Blood Group 2</a>	lipids_blood_group2_label_spss.zip	October 14, 2004
<a href="#">Blood Group 3</a>	lipids_blood_group3_label_spss.zip	October 14, 2004
<a href="#">sICAM 1</a>	sICAM1_label_spss.zip	November 30, 2004
<a href="#">CT</a>	ct_label_spss.zip	March 16, 2004
<a href="#">ECG</a>	ecg_label_spss.zip	July 12, 2005
<a href="#">MRI</a>	mri_label_spss.zip	January 26, 2005
<a href="#">Ultrasound: Distensibility</a>	disten_label_spss.zip	May 13, 2003
<a href="#">Ultrasound: IMT</a>	imt_label_spss.zip	May 13, 2003
<a href="#">Urine</a>	urine_label_spss.zip	May 13, 2003
<a href="#">Pulsewave</a>	pulsewave_label_spss.zip	March 25, 2005

### SAS files, with variables labels (.zip)

[How to open SAS datasets in a PC Environment.](#)

	File Name	Posted Date
<a href="#">Main</a>	mesafinal1_label_sas.zip	March 9, 2005
<a href="#">Diet</a>	Diet_label_sas.zip	August 31, 2004
<a href="#">Lipids</a>	lipids_label_sas.zip	October 17, 2003
<a href="#">Blood Group 2</a>	lipids_blood_group2_label_sas.zip	October 14, 2004
<a href="#">Blood Group 3</a>	lipids_blood_group3_label_sas.zip	October 14, 2004
<a href="#">sICAM 1</a>	sICAM1_label_sas.zip	November 30, 2004
<a href="#">CT</a>	ct_label_sas.zip	March 16, 2004

<a href="#">ECG</a>	ecg_label_sas.zip	July 12, 2005
<a href="#">MRI</a>	mri_label_sas.zip	January 26, 2005
<a href="#">Ultrasound: Distensibility</a>	disten_label_sas.zip	October 17, 2003
<a href="#">Ultrasound: IMT</a>	imt_label_sas.zip	October 17, 2003
<a href="#">Urine</a>	urine_label_sas.zip	October 17, 2003
<a href="#">Pulsewave</a>	pulsewave_label_sas.zip	March 25, 2005

■ **Notes:**

Although these data have been extensively checked and cleaned, data errors may still be encountered as the variables are included in analyses. If you find errors in the data or in the data documentation files, please document the nature and type of error found and contact [Norma Dermond](#).

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MESA Coordinating Center, Seattle, WA

Send questions or comments about this web site to the [webmaster](#).

Exam 1

**07-12-05**

Ecg dataset, 7 values added to MC71

**04-04-05**

Extra subjects from diet data removed from posted data set.

**03-25-05**

Pulsewave data set posted

**03-09-05**

Main dataset

Metsyn1c updated

**03-02-05**

Main dataset

metsyn1c was recalculated

fr10yr1c & fhrisk1c were both recalculated

**01-26-05 UPDATE**

MRI dataset

Aodis1c was recalculated

Main dataset

Aodis1c was recalculated

DIABET1C was recalculated into 4 categories and renamed DM971C

DM031C was created using 4 categories and the 2003 ADA update of the original 1997 definition for diabetes.

**01-03-05 UPDATE**

MRI dataset

End systolic mass “olvesm1” removed.

Main dataset

End systolic mass “olvesm1” removed.

**12-21-04 UPDATE**



## Exam 1

### MRI dataset

End systolic mass “olvesm1” added.

### Main dataset

End systolic mass “olvesm1” added.

## **12-14-04 UPDATE DONE**

Splanx1c (Spielberger trait anxiety scale) was recalculated.

## **11-30-04 UPDATE DONE**

Lipids sICAM Dataset created because this vble (icam1) formerly group 2 and then group 3 now fits neither designation. It is made from the first third of the cohort + group 3 observations.

### Main Dataset

Icam1 added.

## **11-16-04 UPDATE DONE**

### Main Dataset

Hrtrate1c (ECG heart rate) was added.

## **11-9-04 UPDATE DONE**

### Main Dataset

Age1c, agecat1c and race1c updated. New vble fr10yr1c (Framingham: risk of CHD within 10 years) added.

## **11-2-04 UPDATE DONE**

### Main Dataset

Diabet1c (the ADA Diabetes vble) was recalculated without using diabet1 (self reported hx of diabetes).

## **10-13-04 UPDATES DONE**

### Lipids/Blood Group 2

Ddimer1 and f81 (factor 8) added. Ddcom1 and f8com1, comment vbles for ddimer1 and f81, added.

### Lipids/Blood Group 3

Vwf1 (von Willebrand Factor) and vwfcom1 (comment vble for vwf1) added.

### Main Dataset

## Exam 1

Ddimer1, f81, vwf1, fhrisk1 (Framingham Risk Score) and metsyn1c (Metabolic Syndrome) added.

### **8-31-04 UPDATE DONE**

#### Diet Data

Posted the Diet dataset and documentation.

### **7-27-04 UPDATES DONE**

#### MRI dataset

End systolic mass “olvesm1” pulled.

#### Lipids/Blood Group2

Pap1, il61 and fib1 (fibrinogen) added to the dataset.

#### US Brachial Dataset

All data pulled until further notice.

#### Main Dataset

US Brachial Data (s1dma1, s2dma1, rdma1, rsda1, v1raw1c, v2raw1c, v1rpc1c, v2rpc1c) pulled.

Lipids/Blood Group2 data added: pap1, il61, fib1 (fibrinogen).

MRI olvesm1 pulled.

### **5-12-04 UPDATES DONE**

#### Main dataset

For the brachial vble “rsda1” 0 was changed to missing; for these observations “v1raw1c” and “v1rpc1c” values were also changed to missing. This correction is already in place in the brachial RC dataset

Skip Pattern related missingness was changed to “no” for the following vbles:

aspnow1 bcpills1 bloodcn1 bpmed brstcn1 cgrcur1 chew1 cholmed1 chwcur1 cigar1 cirrh1 coloncn1 cursmk1 dbpreg1 hepat1 heptpa1 heptpb1 heptpc1 heptpd1 heptpe1 heptpu1 hprb2ot1 hprb2pt1 hrmrep1 hrmrepc1 hystrect1 job2prb1 lpd1s1 lpnorm1 lprest1 lpuphl1 lungcn1 menop1 mnpause1 mon2prb1 nmskncn1 othcn1 ovarem1 pipcur1 pipe1 preg1 prostcn1 rel2prb1 snfcurl1 snuff1 swllday1 uf3educ1 uf3hire1 uf3move1 uf3nghb1 uf3stop1.

#### Main dataset and Lipids/Blood Group 3 dataset

For vble “ce629ca1” a value of 1 (or CC) was given to idno’s 5010411 and 8013675.

### **5-4-04 UPDATES DONE**

#### Main dataset

Physical activity scores by category level (minutes per wk and MET levels) corrected.

#### **4-15-04 UPDATES DONE**

##### Main dataset and Lipids/Blood Group 3 dataset

HDL electrophoresis, CETP antigen genotypes, Remnant-like particle cholesterol, Chlamydia heat shock protein-60 added to both Group3 and Main Datasets.

#### **3-24-04 UPDATES DONE**

##### Main dataset and Lipids/Blood Group 3 dataset

Group 3 Lipids dataset made (minus HDL electrophoresis, CETP antigen genotypes, Remnant-like particle cholesterol, Chlamydia heat shock protein-60 received later).

Group 3 vbles incorporated into the main dataset.

#### **3-17-04 UPDATES DONE**

##### Main dataset and Lipids/Blood Group 2 dataset

NMR Lipids dataset made. NMR Lipids variables incorporated into the main dataset (21 vbles + 1 comment vble excluded from the Main dataset but in the Group 2 dataset).

#### **3-16-04 UPDATES DONE**

##### CT Dataset

Labels were not on 2-11-04 dataset. We put the labels on again.

#### **2-11-04 UPDATES DONE**

##### CT Dataset and Main dataset

Fixes to CT data correcting unintended read import of outdated data.

##### Lipids/Blood Group 2 dataset posted and incorporated into the Main dataset.

In particular the following variables are now available: Crp, insulin, homocysteine, Chlamydia pneumoniae.

##### Main dataset

The missings in "cursmk" were changed to 'No'; currently we are investigating more vbles for this kind of fix...

#### **1-7-04 UPDATE DONE**

##### US Brach Dataset and Mesa Main Dataset

Values of 0 in the diameter fields (e.g. release diameter) were updated to missing (particularly when standard deviations and consistency scores were 0 or missing).

Computed fields based on this diameter were also updated to missing. Variables affected in the main dataset are s1dma1, s2dma1, rdma1, rsda1, v1raw1c, v2raw1c, v1rpc1c and v2rpc1c.

### **12-03 UPDATE DONE**

#### **Mesa Main Dataset**

Medication vbles were included for idno=3014916.

### **11-5-03 UPDATE DONE**

#### **Mesa Main Dataset**

The vble htnmed1c was recalculated to include positive indicators from the following variables: a2a, a2ad, ace, aced, beta, betad, ccb (including amlod, ccbt, dihir, dihsr, dltir, dltsr, nifir, nifsr, verir, versr), diur (including hctz, hctzk, kspr, loop), vaso (including alpha), and vasod (including alphad).

**HTN1C note: because of the way this vble is defined, there are people who are not classified as hypertensives but on hypertensive meds (htnmed1c=1) because of their lack of self report (highbp=0) .**

### **10-24-03 UPDATE DONE**

#### **US BRACH Dataset**

The vble slcons1 was updated to fix a problem where values <1 were listed as zeros.

Values now reflect actual scores.

### **10-7-03 UPDATE DONE**

#### **CT Dataset**

CT measurements were corrected on 281 people from the Columbia University field center whose measurements sent after the 9/11/01 incident (which destroyed the telecommunications link at the World Trade Center to the reading center) were incorrect.. The vble “nine11” was created; a value of 1 for this vble indicates the CT data was changed in the main dataset because of the 9/11/01 incident.

### **9-11-03 UPDATES DONE**

#### **Mesa Main Dataset**

Recomputation of Hypertension by JNC VI (1997) criteria

Hypertension by JNC VI (1997) criteria; reference 2

htn1 = 1: Hypertension if sbp >= 140 or dbp >= 90 or (highbp1 = 1 and participant takes antihypertensive medication from medication form)

htn1 = 0: No hypertension otherwise

\*highbp1 is self-reported history of high blood pressure from the Medical History form.

Recomputation of PACKYRS1C. Extreme values are under investigation.

## Exam 1

Recoding of missing values to a value of “No” for the following variables:

HTNMED1C – ANY ANTI- HYPERTENSION MEDICATION

BPMED1 – HISTORY OF TAKING MEDS FOR HYPERTENSION

CHOLMED1 - TAKING MEDS FOR HIGH CHOLESTEROL

DIABHX1 - TAKING MEDS FOR DIABETES

CT Agatston score and other CT data observations increased from 6801 to 6814.

### **CT Dataset**

CT Agatston score and other CT data observations increased from 6801 to 6814.



# Exam 1 Main Data File

## List of Variables

The main MESA Exam 1 data file includes variables from clinic procedures and questionnaires, created analytic variables (e.g. body mass index, hypertension stage, ankle-brachial index), and key Reading Center variables (e.g. total calcium score, aortic distensibility by MRI, average carotid wall thickness by ultrasound). For each variable, the variable name, a brief description, value labels, and missing value labels are given. In addition, for variables that originate directly from a single form or procedure, the form name and question number or the procedure is provided. Variables are grouped by form/procedure. Created analytic variable names end in “1C” and are denoted as “COMPUTED” in the “Question Number” column.

<u>VARIABLE</u>	<u>VARIABLE DESCRIPTION</u>	<u>VALUE LABELS</u>	<u>MISSING VALUES</u>	<u>FORM/EXAM</u>	<u>QUESTION NUMBER</u>
AGE1C	AGE AT BASELINE				COMPUTED
GENDER1	GENDER	0=FEMALE 1=MALE			
IDNO	PARTICIPANT ID NUMBER				
RACE1C	RACE	1=CAUCASIAN 2=CHINESE 3=AFRICAN AMERICAN 4=HISPANIC			COMPUTED
SITE1C	MESA FIELD CENTER	3=WFU 4=COL 5=JHU 6=UMN 7=NWU 8=UCLA			COMPUTED
AGECAT1C	AGE CATEGORIES	1=45-54 2=55-64 3=65-74 4=75-84			COMPUTED
FHRISK1C	FRAMINGHAM RISK SCORE				COMPUTED
FR10YR1C	FRAMINGHAM: RISK OF CHD WITHIN 10 YEARS				COMPUTED
METSYN1C	NCEP METABOLIC SYNDROME	0=NO 1=YES			COMPUTED

## ANKLE-ARM BP

AABPDID1	DATA ENTRY ID - AABP			ANKLE-ARM BP	
AABPDT1	DATE - ANKLE ARM BP (mm/dd/yyyy)			ANKLE-ARM BP	
<u>VARIABLE</u>	<u>VARIABLE DESCRIPTION</u>	<u>VALUE LABELS</u>	<u>MISSING VALUES</u>	<u>FORM/EXAM</u>	<u>QUESTION NUMBER</u>
AABPRID1	REVIEWER ID - AABP			ANKLE-ARM BP	
AABPTID1	TECH ID - AABP			ANKLE-ARM BP	
LBRACH1	LEFT BRACHIAL BP (mmHg)			ANKLE-ARM BP	Q1
LDPEDIS1	LEFT DORSALIS PEDIS BP (mmHg)			ANKLE-ARM BP	Q1
LPTIB1	LEFT POSTERIOR TIBIAL BP (mmHg)			ANKLE-ARM BP	Q1
RBRACH1	RIGHT BRACHIAL BP (mmHg)			ANKLE-ARM BP	Q1
RPEDIS1	RIGHT DORSALIS PEDIS BP (mmHg)			ANKLE-ARM BP	Q1
RPTIB1	RIGHT POSTERIOR TIBIAL BP (mmHg)			ANKLE-ARM BP	Q1
AABPCMP1	AABP COMPLETED SUCCESSFULLY?	0=NO 1=YES		ANKLE-ARM BP	Q2
LLAMPUT1	REASON AABP INCOMPLETE (L): AMPUTATION	0=NO 1=YES		ANKLE-ARM BP	Q3
LLTXT1	REASON AABP INCOMPLETE (L): SPECIFY OTHER			ANKLE-ARM BP	Q3
LLULCER1	REASON AABP INCOMPLETE (L): ULCERATION	0=NO 1=YES		ANKLE-ARM BP	Q3
LLUOCCL1	REASON AABP INCOMPLETE (L): UNABLE TO OCCLUDE	0=NO 1=YES		ANKLE-ARM BP	Q3
LULODP1	REASON AABP INCOMPLETE (L): UNABLE TO LOCATE DP	0=NO 1=YES		ANKLE-ARM BP	Q3
LULOPT1	REASON AABP INCOMPLETE (L): UNABLE TO LOCATE PT	0=NO 1=YES		ANKLE-ARM BP	Q3
RLAMPUT1	REASON AABP INCOMPLETE (R): AMPUTATION	0=NO 1=YES		ANKLE-ARM BP	Q3
RLTXT1	REASON AABP INCOMPLETE (R): SPECIFY OTHER			ANKLE-ARM BP	Q3
RLULCER1	REASON AABP INCOMPLETE (R): ULCERATION	0=NO 1=YES		ANKLE-ARM BP	Q3
RLUOCCL1	REASON AABP INCOMPLETE (R): UNABLE TO OCCLUDE	0=NO 1=YES		ANKLE-ARM BP	Q3

RULOCDP1	REASON AABP INCOMPLETE (R): UNABLE TO LOCATE DP	0=NO 1=YES	ANKLE-ARM BP	Q3
RULOCPT1	REASON AABP INCOMPLETE (R): UNABLE TO LOCATE PT	0=NO 1=YES	ANKLE-ARM BP	Q3
ABI1C	ANKLE-BRACHIAL INDEX		ANKLE-ARM BP	COMPUTED

## ANTHROPOMETRY

<u>VARIABLE</u>	<u>VARIABLE DESCRIPTION</u>	<u>VALUE LABELS</u>	<u>MISSING VALUES</u>	<u>FORM/EXAM</u>	<u>QUESTION NUMBER</u>
ANTHDID1	DATA ENTRY ID - ANTHRO			ANTHROPOMETRY	
ANTHDT1	DATE - ANTHRO (mm/dd/yyyy)			ANTHROPOMETRY	
ANTHRID1	REVIEWER ID - ANTHRO			ANTHROPOMETRY	
ANTHTID1	TECH ID - ANTHRO			ANTHROPOMETRY	
HTCM1	HEIGHT (cm)			ANTHROPOMETRY	Q1
HTMODP1	HEIGHT, PROTOCOL MODIFICATION?	0=NO 1=YES		ANTHROPOMETRY	Q1
WTLB1	WEIGHT (lbs)			ANTHROPOMETRY	Q2
WTMODP1	WEIGHT, PROTOCOL MODIFICATION?	0=NO 1=YES		ANTHROPOMETRY	Q2
HIPCM1	HIP CIRCUMFERENCE (cm)			ANTHROPOMETRY	Q3
HWMODP1	GIRTH, PROTOCOL MODIFICATION?	0=NO 1=YES		ANTHROPOMETRY	Q3
WAISTCM1	WAIST CIRCUMFERENCE (cm)			ANTHROPOMETRY	Q3
ANTHTXT1	SPECIFY COMMENTS, ANTHRO PROTOCOL MODIFICATION			ANTHROPOMETRY	Q4
CMTMODP1	COMMENTS, ANTHRO PROTOCOL MODIFICATION?	0=NO 1=YES		ANTHROPOMETRY	Q4
BMI1C	BODY MASS INDEX (kg)/(m^2)			ANTHROPOMETRY	COMPUTED
BMICAT1C	BODY MASS INDEX, WHO CATEGORIES	1=NORMAL 2=GRADE 1 OVERWEIGHT 3=GRADE 2 OVERWEIGHT 4=GRADE 3 OVERWEIGHT		ANTHROPOMETRY	COMPUTED
BSA1C	BODY SURFACE AREA			ANTHROPOMETRY	COMPUTED

## HEALTH AND LIFE

HLFADM1	QUESTIONNAIRE ADMINISTRATOR - HEALTH & LIFE	1=SELF-ADMINISTRATED 2=INTERVIEW-ADMINISTRATED	HEALTH AND LIFE
HLFDID1	DATA ENTRY ID - HEALTH & LIFE		HEALTH AND LIFE
HLFDT1	DATE - HEALTH & LIFE (mm/dd/yyyy)		HEALTH AND LIFE



HLFTID1	INTERVIEWER OR REVIEWER ID - HEALTH & LIFE		HEALTH AND LIFE	
ANGRY1	I GET ANGRY WHEN SLOWED BY OTHERS' MISTAKES	1=ALMOST NEVER 2=SOMETIMES 3=OFTEN 4=ALMOST ALWAYS	HEALTH AND LIFE	Q1
<u>VARIABLE</u>	<u>VARIABLE DESCRIPTION</u>	<u>VALUE LABELS</u>	<u>MISSING VALUES</u>	<u>QUESTION NUMBER</u>
ANNOYED1	I AM ANNOYED WHEN NOT REGOGNIZED FOR GOOD WORK	1=ALMOST NEVER 2=SOMETIMES 3=OFTEN 4=ALMOST ALWAYS	HEALTH AND LIFE	Q1
FAILURE1	I FEEL LIKE A FAILURE	1=ALMOST NEVER 2=SOMETIMES 3=OFTEN 4=ALMOST ALWAYS	HEALTH AND LIFE	Q1
FLYOFF1	I FLY OFF THE HANDLE	1=ALMOST NEVER 2=SOMETIMES 3=OFTEN 4=ALMOST ALWAYS	HEALTH AND LIFE	Q1
FRTEMPR1	I HAVE A FIERY TEMPER	1=ALMOST NEVER 2=SOMETIMES 3=OFTEN 4=ALMOST ALWAYS	HEALTH AND LIFE	Q1
FRUHIT1	I FEEL LIKE HITTING SOMEONE WHEN FRUSTRATED	1=ALMOST NEVER 2=SOMETIMES 3=OFTEN 4=ALMOST ALWAYS	HEALTH AND LIFE	Q1
FURIOUS1	I GET FURIOUS WHEN CRITICIZED IN FRONT OF OTHERS	1=ALMOST NEVER 2=SOMETIMES 3=OFTEN 4=ALMOST ALWAYS	HEALTH AND LIFE	Q1
HOTHEAD1	I AM A HOTHEADED PERSON	1=ALMOST NEVER 2=SOMETIMES 3=OFTEN 4=ALMOST ALWAYS	HEALTH AND LIFE	Q1
INADEQT1	I FEEL INADEQUATE	1=ALMOST NEVER 2=SOMETIMES 3=OFTEN 4=ALMOST ALWAYS	HEALTH AND LIFE	Q1

INFURAT1	I FEEL INFURIATED WHEN I DO A GOOD JOB AND GET A POOR EVALUATION	1=ALMOST NEVER 2=SOMETIMES 3=OFTEN 4=ALMOST ALWAYS	HEALTH AND LIFE	Q1
NASTY1	I SAY NASTY THINGS WHEN MAD	1=ALMOST NEVER 2=SOMETIMES 3=OFTEN 4=ALMOST ALWAYS	HEALTH AND LIFE	Q1
<b><u>VARIABLE</u></b>	<b><u>VARIABLE DESCRIPTION</u></b>	<b><u>VALUE LABELS</u></b>	<b><u>MISSING VALUES</u></b>	<b><u>QUESTION NUMBER</u></b>
NERVOUS1	I FEEL NERVOUS AND RESTLESS	1=ALMOST NEVER 2=SOMETIMES 3=OFTEN 4=ALMOST ALWAYS	HEALTH AND LIFE	Q1
NOCONF1	I LACK SELF-CONFIDENCE	1=ALMOST NEVER 2=SOMETIMES 3=OFTEN 4=ALMOST ALWAYS	HEALTH AND LIFE	Q1
QKTEMPR1	I AM QUICK TEMPERED	1=ALMOST NEVER 2=SOMETIMES 3=OFTEN 4=ALMOST ALWAYS	HEALTH AND LIFE	Q1
SATISF1	I FEEL SATISFIED WITH MYSELF	1=ALMOST NEVER 2=SOMETIMES 3=OFTEN 4=ALMOST ALWAYS	HEALTH AND LIFE	Q1
SECURE1	I FEEL SECURE	1=ALMOST NEVER 2=SOMETIMES 3=OFTEN 4=ALMOST ALWAYS	HEALTH AND LIFE	Q1
STEADY1	I AM A STEADY PERSON	1=ALMOST NEVER 2=SOMETIMES 3=OFTEN 4=ALMOST ALWAYS	HEALTH AND LIFE	Q1
TURMOIL1	I FEEL TENSION WHEN I THINK OF RECENT CONCERNS/INTERESTS	1=ALMOST NEVER 2=SOMETIMES 3=OFTEN 4=ALMOST ALWAYS	HEALTH AND LIFE	Q1
UNHAPPY1	I WISH TO BE AS HAPPY AS OTHERS SEEM TO BE	1=ALMOST NEVER 2=SOMETIMES 3=OFTEN 4=ALMOST ALWAYS	HEALTH AND LIFE	Q1

WORRY1	I WORRY TOO MUCH OVER SOMETHING THAT DOES NOT MATTER		HEALTH AND LIFE	Q1
HPRB1PT1	SERIOUS ONGOING HEALTH PROBLEM (SELF)	0=NO 1=YES	HEALTH AND LIFE	Q2
HPRB2PT1	ONGOING HEALTH PROBLEM (SELF), > 6 MONTHS	0=NO 1=YES	HEALTH AND LIFE	Q2
<b><u>VARIABLE</u></b>	<b><u>VARIABLE DESCRIPTION</u></b>	<b><u>VALUE LABELS</u></b>	<b><u>MISSING VALUES</u></b>	<b><u>QUESTION NUMBER</u></b>
HPRB3PT1	ONGOING HEALTH PROBLEM (SELF), HOW STRESSFUL	1=NOT VERY STRESSFUL 2=MODERATELY STRESSFUL 3=VERY STRESSFUL	HEALTH AND LIFE	Q2
HPRB1OT1	SERIOUS ONGOING HEALTH PROBLEM (SOMEONE CLOSE TO YOU)	0=NO 1=YES	HEALTH AND LIFE	Q3
HPRB2OT1	ONGOING HEALTH PROBLEM (SOMEONE CLOSE TO YOU), >6 MONTHS	0=NO 1=YES	HEALTH AND LIFE	Q3
HPRB3OT1	ONGOING HEALTH PROBLEM (SOMEONE CLOSE TO YOU), HOW STRESSFUL	1=NOT VERY STRESSFUL 2=MODERATELY STRESSFUL 3=VERY STRESSFUL	HEALTH AND LIFE	Q3
JOB1PRB1	ONGOING JOB DIFFICULTIES	0=NO 1=YES	HEALTH AND LIFE	Q4
JOB2PRB1	ONGOING JOB DIFFICULTIES, > 6 MONTHS	0=NO 1=YES	HEALTH AND LIFE	Q4
JOB3PRB1	ONGOING JOB DIFFICULTIES, HOW STRESSFUL	1=NOT VERY STRESSFUL 2=MODERATELY STRESSFUL 3=VERY STRESSFUL	HEALTH AND LIFE	Q4
MON1PRB1	ONGOING FINANCIAL STRAIN	0=NO 1=YES	HEALTH AND LIFE	Q5
MON2PRB1	ONGOING FINANCIAL STRAIN, > 6 MONTHS	0=NO 1=YES	HEALTH AND LIFE	Q5
MON3PRB1	ONGOING FINANCIAL STRAIN, HOW STRESSFUL	1=NOT VERY STRESSFUL 2=MODERATELY STRESSFUL 3=VERY STRESSFUL	HEALTH AND LIFE	Q5
REL1PRB1	ONGOING RELATIONSHIP PROBLEMS	0=NO 1=YES	HEALTH AND LIFE	Q6
REL2PRB1	ONGOING RELATIONSHIP PROBLEMS, > 6 MONTHS	0=NO 1=YES	HEALTH AND LIFE	Q6

REL3PRB1	ONGOING RELATIONSHIP PROBLEMS, HOW STRESSFUL	1=NOT VERY STRESSFUL 2=MODERATELY STRESSFUL 3=VERY STRESSFUL	HEALTH AND LIFE	Q6
ASGOOD1	FELT I WAS AS GOOD AS OTHER PEOPLE, PAST WEEK	1=<1 DAY 2=1-2 DAYS 3=3-4 DAYS 4=5-7 DAYS	HEALTH AND LIFE	Q7
<b><u>VARIABLE</u></b>	<b><u>VARIABLE DESCRIPTION</u></b>	<b><u>VALUE LABELS</u></b>	<b><u>MISSING VALUES</u></b>	<b><u>QUESTION NUMBER</u></b>
BADSLP1	SLEEP WAS RESTLESS, PAST WEEK	1=<1 DAY 2=1-2 DAYS 3=3-4 DAYS 4=5-7 DAYS	HEALTH AND LIFE	Q7
BLUE1	COULD NOT SHAKE THE BLUES, PAST WEEK	1=<1 DAY 2=1-2 DAYS 3=3-4 DAYS 4=5-7 DAYS	HEALTH AND LIFE	Q7
BOTHER1	BOTHERED BY THINGS, PAST WEEK	1=<1 DAY 2=1-2 DAYS 3=3-4 DAYS 4=5-7 DAYS	HEALTH AND LIFE	Q7
CONCNR1	TROUBLE KEEPING MY MIND ON WHAT I'M DOING, PAST WEEK	1=<1 DAY 2=1-2 DAYS 3=3-4 DAYS 4=5-7 DAYS	HEALTH AND LIFE	Q7
CRYSPEL1	HAD CRYING SPELLS, PAST WEEK	1=<1 DAY 2=1-2 DAYS 3=3-4 DAYS 4=5-7 DAYS	HEALTH AND LIFE	Q7
DEPRESS1	FELT DEPRESSED, PAST WEEK	1=<1 DAY 2=1-2 DAYS 3=3-4 DAYS 4=5-7 DAYS	HEALTH AND LIFE	Q7
DISLIKD1	FELT PEOPLE DISLIKED ME, PAST WEEK	1=<1 DAY 2=1-2 DAYS 3=3-4 DAYS 4=5-7 DAYS	HEALTH AND LIFE	Q7
EFFORT1	FELT EVERYTHING WAS AN EFFORT, PAST WEEK	1=<1 DAY 2=1-2 DAYS 3=3-4 DAYS 4=5-7 DAYS	HEALTH AND LIFE	Q7

ENJLIFE1	ENJOYED LIFE, PAST WEEK	1=<1 DAY 2=1-2 DAYS 3=3-4 DAYS 4=5-7 DAYS		HEALTH AND LIFE	Q7
FEARFUL1	FELT FEARFUL, PAST WEEK	1=<1 DAY 2=1-2 DAYS 3=3-4 DAYS 4=5-7 DAYS		HEALTH AND LIFE	Q7
<b><u>VARIABLE</u></b>	<b><u>VARIABLE DESCRIPTION</u></b>	<b><u>VALUE LABELS</u></b>	<b><u>MISSING VALUES</u></b>	<b><u>FORM/EXAM</u></b>	<b><u>QUESTION NUMBER</u></b>
GETGOIN1	COULD NOT "GET GOING", PAST WEEK	1=<1 DAY 2=1-2 DAYS 3=3-4 DAYS 4=5-7 DAYS		HEALTH AND LIFE	Q7
HAPPY1	WAS HAPPY, PAST WEEK	1=<1 DAY 2=1-2 DAYS 3=3-4 DAYS 4=5-7 DAYS		HEALTH AND LIFE	Q7
HOPEFUL1	FELT HOPEFUL ABOUT FUTURE, PAST WEEK	1=<1 DAY 2=1-2 DAYS 3=3-4 DAYS 4=5-7 DAYS		HEALTH AND LIFE	Q7
LESTALK1	TALKED LESS THAN USUAL, PAST WEEK	1=<1 DAY 2=1-2 DAYS 3=3-4 DAYS 4=5-7 DAYS		HEALTH AND LIFE	Q7
LFFAIL1	THOUGHT LIFE HAD BEEN A FAILURE, PAST WEEK	1=<1 DAY 2=1-2 DAYS 3=3-4 DAYS 4=5-7 DAYS		HEALTH AND LIFE	Q7
LONELY1	FELT LONELY, PAST WEEK	1=<1 DAY 2=1-2 DAYS 3=3-4 DAYS 4=5-7 DAYS		HEALTH AND LIFE	Q7
NOTEAT1	POOR APPETITE, PAST WEEK	1=<1 DAY 2=1-2 DAYS 3=3-4 DAYS 4=5-7 DAYS		HEALTH AND LIFE	Q7
SAD1	FELT SAD, PAST WEEK	1=<1 DAY 2=1-2 DAYS 3=3-4 DAYS 4=5-7 DAYS		HEALTH AND LIFE	Q7

UNFRNLY1	PEOPLE WERE UNFRIENDLY, PAST WEEK	1=<1 DAY 2=1-2 DAYS 3=3-4 DAYS 4=5-7 DAYS	HEALTH AND LIFE	Q7
<b><u>VARIABLE</u></b>	<b><u>VARIABLE DESCRIPTION</u></b>	<b><u>VALUE LABELS</u></b>	<b><u>MISSING VALUES</u></b> <b><u>FORM/EXAM</u></b>	<b><u>QUESTION NUMBER</u></b>
TALKTO1	SOMEONE AVAILABLE TO LISTEN TO YOU	1=NONE OF THE TIME 2=A LITTLE OF THE TIME 3=SOME OF THE TIME 4=MOST OF THE TIME 5=ALL OF THE TIME	HEALTH AND LIFE	Q8
ADVICE1	SOMEONE AVAILABLE TO GIVE YOU ADVICE	1=NONE OF THE TIME 2=A LITTLE OF THE TIME 3=SOME OF THE TIME 4=MOST OF THE TIME 5=ALL OF THE TIME	HEALTH AND LIFE	Q9
AFFECTN1	SOMEONE AVAILABLE TO SHOW YOU LOVE AND AFFECTION	1=NONE OF THE TIME 2=A LITTLE OF THE TIME 3=SOME OF THE TIME 4=MOST OF THE TIME 5=ALL OF THE TIME	HEALTH AND LIFE	Q10
HLPCHR1	SOMEONE AVAILABLE TO HELP WITH DAILY CHORES	1=NONE OF THE TIME 2=A LITTLE OF THE TIME 3=SOME OF THE TIME 4=MOST OF THE TIME 5=ALL OF THE TIME	HEALTH AND LIFE	Q11
EMOSPT1	SOMEONE AVAILABLE TO PROVIDE EMOTIONAL SUPPORT	1=NONE OF THE TIME 2=A LITTLE OF THE TIME 3=SOME OF THE TIME 4=MOST OF THE TIME 5=ALL OF THE TIME	HEALTH AND LIFE	Q12
CONFIDE1	SUFFICIENT CONTACT WITH SOMEONE YOU CAN CONFIDE IN	1=NONE OF THE TIME 2=A LITTLE OF THE TIME 3=SOME OF THE TIME 4=MOST OF THE TIME 5=ALL OF THE TIME	HEALTH AND LIFE	Q13
UF1FIRE1	UNFAIRLY FIRED OR DENIED A PROMOTION	0=NO 1=YES	HEALTH AND LIFE	Q14

UF2FIRE1	UNFAIRLY FIRED OR DENIED A PROMOTION, REASON	1=RACE OR ETHNICITY 2=GENDER 3=AGE 4=RELIGION 5=PHYSICAL APPEARANCE 6=SEXUAL ORIENTATION 7=INCOME/SOCIAL CLASS 8=OTHER	HEALTH AND LIFE	Q14
UF3FIRE1	UNFAIRLY FIRED OR DENIED A PROMOTION, DURING LAST 12 MONTHS	0=NO 1=YES	HEALTH AND LIFE	Q14
<b><u>VARIABLE</u></b>	<b><u>VARIABLE DESCRIPTION</u></b>	<b><u>VALUE LABELS</u></b>	<b><u>MISSING VALUES</u></b>	<b><u>QUESTION NUMBER</u></b>
UF1HIRE1	UNFAIRLY NOT HIRED FOR A JOB	0=NO 1=YES	HEALTH AND LIFE	Q15
UF2HIRE1	UNFAIRLY NOT HIRED, REASON	1=RACE OR ETHNICITY 2=GENDER 3=AGE 4=RELIGION 5=PHYSICAL APPEARANCE 6=SEXUAL ORIENTATION 7=INCOME/SOCIAL CLASS 8=OTHER	HEALTH AND LIFE	Q15
UF3HIRE1	UNFAIRLY NOT HIRED, DURING LAST 12 MONTHS	0=NO 1=YES	HEALTH AND LIFE	Q15
UF1STOP1	TREATED UNFAIRLY BY THE POLICE	0=NO 1=YES	HEALTH AND LIFE	Q16
UF2STOP1	TREATED UNFAIRLY BY THE POLICE, REASON	1=RACE OR ETHNICITY 2=GENDER 3=AGE 4=RELIGION 5=PHYSICAL APPEARANCE 6=SEXUAL ORIENTATION 7=INCOME/SOCIAL CLASS 8=OTHER	HEALTH AND LIFE	Q16
UF3STOP1	TREATED UNFAIRLY BY THE POLICE, DURING LAST 12 MONTHS	0=NO 1=YES	HEALTH AND LIFE	Q16
UF1EDUC1	UNFAIRLY DISCOURAGED BY A TEACHER FROM CONTINUING EDUCATION	0=NO 1=YES	HEALTH AND LIFE	Q17

UF2EDUC1	UNFAIRLY DISCOURAGED BY A TEACHER, REASON	1=RACE OR ETHNICITY 2=GENDER 3=AGE 4=RELIGION 5=PHYSICAL APPEARANCE 6=SEXUAL ORIENTATION 7=INCOME/SOCIAL CLASS 8=OTHER	HEALTH AND LIFE	Q17
UF3EDUC1	UNFAIRLY DISCOURAGED BY A TEACHER, DURING LAST 12 MONTHS	0=NO 1=YES	HEALTH AND LIFE	Q17
UF1MOVE1	UNFAIRLY PREVENTED FROM MOVING INTO A NEIGHBORHOOD	0=NO 1=YES	HEALTH AND LIFE	Q18



<u>VARIABLE</u>	<u>VARIABLE DESCRIPTION</u>	<u>VALUE LABELS</u>	<u>MISSING VALUES</u>	<u>FORM/EXAM</u>	<u>QUESTION NUMBER</u>
UF2MOVE1	UNFAIRLY PREVENTED FROM MOVING, REASON	1=RACE OR ETHNICITY 2=GENDER 3=AGE 4=RELIGION 5=PHYSICAL APPEARANCE 6=SEXUAL ORIENTATION 7=INCOME/SOCIAL CLASS 8=OTHER		HEALTH AND LIFE	Q18
UF3MOVE1	UNFAIRLY PREVENTED FROM MOVING, DURING LAST 12 MONTHS	0=NO 1=YES		HEALTH AND LIFE	Q18
UF1NGHB1	NEIGHBORS MADE LIFE DIFFICULT FOR YOU	0=NO 1=YES		HEALTH AND LIFE	Q19
UF2NGHB1	NEIGHBORS MADE LIFE DIFFICULT, REASON	1=RACE OR ETHNICITY 2=GENDER 3=AGE 4=RELIGION 5=PHYSICAL APPEARANCE 6=SEXUAL ORIENTATION 7=INCOME/SOCIAL CLASS 8=OTHER		HEALTH AND LIFE	Q19
UF3NGHB1	NEIGHBORS MADE LIFE DIFFICULT, DURING LAST 12 MONTHS	0=NO 1=YES		HEALTH AND LIFE	Q19
AFRAID1	PEOPLE ACT AS IF THEY ARE AFRAID OF YOU	1=ALMOST EVERY DAY 2=AT LEAST ONCE A WEEK 3=A FEW TIMES A MONTH 4=A FEW TIMES A YEAR 5=LESS THAN ONCE A YEAR 6=NEVER		HEALTH AND LIFE	Q20
BETTER1	PEOPLE ACT AS IF THEY ARE BETTER THAN YOU	1=ALMOST EVERY DAY 2=AT LEAST ONCE A WEEK 3=A FEW TIMES A MONTH 4=A FEW TIMES A YEAR 5=LESS THAN ONCE A YEAR 6=NEVER		HEALTH AND LIFE	Q20
CURTESY1	TREATED WITH LESS COURTESY THAN OTHERS	1=ALMOST EVERY DAY 2=AT LEAST ONCE A WEEK 3=A FEW TIMES A MONTH 4=A FEW TIMES A YEAR 5=LESS THAN ONCE A YEAR 6=NEVER		HEALTH AND LIFE	Q20

<u>VARIABLE</u>	<u>VARIABLE DESCRIPTION</u>	<u>VALUE LABELS</u>	<u>MISSING VALUES</u>	<u>FORM/EXAM</u>	<u>QUESTION NUMBER</u>
DISHON1	PEOPLE ACT AS IF YOU ARE DISHONEST	1=ALMOST EVERY DAY 2=AT LEAST ONCE A WEEK 3=A FEW TIMES A MONTH 4=A FEW TIMES A YEAR 5=LESS THAN ONCE A YEAR 6=NEVER		HEALTH AND LIFE	Q20
INSULT1	YOU ARE CALLED NAMES OR INSULTED	1=ALMOST EVERY DAY 2=AT LEAST ONCE A WEEK 3=A FEW TIMES A MONTH 4=A FEW TIMES A YEAR 5=LESS THAN ONCE A YEAR 6=NEVER		HEALTH AND LIFE	Q20
RESPECT1	TREATED WITH LESS RESPECT THAN OTHERS	1=ALMOST EVERY DAY 2=AT LEAST ONCE A WEEK 3=A FEW TIMES A MONTH 4=A FEW TIMES A YEAR 5=LESS THAN ONCE A YEAR 6=NEVER		HEALTH AND LIFE	Q20
SERVICE1	RECEIVE POORER SERVICE THAN OTHERS	1=ALMOST EVERY DAY 2=AT LEAST ONCE A WEEK 3=A FEW TIMES A MONTH 4=A FEW TIMES A YEAR 5=LESS THAN ONCE A YEAR 6=NEVER		HEALTH AND LIFE	Q20
SMART1	PEOPLE ACT AS IF YOU ARE NOT SMART	1=ALMOST EVERY DAY 2=AT LEAST ONCE A WEEK 3=A FEW TIMES A MONTH 4=A FEW TIMES A YEAR 5=LESS THAN ONCE A YEAR 6=NEVER		HEALTH AND LIFE	Q20
THREAT1	YOU ARE THREATENED OR HARASSED	1=ALMOST EVERY DAY 2=AT LEAST ONCE A WEEK 3=A FEW TIMES A MONTH 4=A FEW TIMES A YEAR 5=LESS THAN ONCE A YEAR 6=NEVER		HEALTH AND LIFE	Q20
UF1RESP1	WHEN TREATED UNFAIRLY, WHAT DO YOU DO ABOUT IT?	1=ACCEPT IT AS A FACT OF LIFE 2=DO SOMETHING ABOUT IT		HEALTH AND LIFE	Q21
UF2RESP1	WHEN TREATED UNFAIRLY, DO YOU TELL OTHERS?	1=TALK TO OTHERS ABOUT IT 2=KEEP IT TO YOURSELF		HEALTH AND LIFE	Q21

CESD1C	CENTER FOR EPIDEMIOLOGIC STUDIES - DEPRESSION SCALE			HEALTH AND LIFE	COMPUTE D
<b><u>VARIABLE</u></b>	<b><u>VARIABLE DESCRIPTION</u></b>	<b><u>VALUE LABELS</u></b>	<b><u>MISSING VALUES</u></b>	<b><u>FORM/EXAM</u></b>	<b><u>QUESTIO N NUMBER</u></b>
CHRBUR61C	CHRONIC BURDEN, >6 MONTHS			HEALTH AND LIFE	COMPUTE D
CHRBUR1C	CHRONIC BURDEN			HEALTH AND LIFE	COMPUTE D
DISCRL1C	PERCEIVED DISCRIMINATION, LIFETIME			HEALTH AND LIFE	COMPUTE D
DISCRY1C	PERCEIVED DISCRIMINATION, PAST YEAR			HEALTH AND LIFE	COMPUTE D
EMOT1C	EMOTIONAL SOCIAL SUPPORT INDEX			HEALTH AND LIFE	COMPUTE D
HASSL1C	EVERYDAY HASSLES			HEALTH AND LIFE	COMPUTE D
SPLANG1C	SPIELBERGER TRAIT ANGER SCALE			HEALTH AND LIFE	COMPUTE D
SPLANX1C	SPIELBERGER TRAIT ANXIETY SCALE			HEALTH AND LIFE	COMPUTE D

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## MEDICAL HISTORY

MHXADM1	INTERVIEWER OR REVIEWER ID - MEDICAL HISTORY	1=SELF-ADMINISTERED 2=REVIEWER ADMINISTERED		MEDICAL HISTORY	
MHXDID1	DATA ENTRY ID - MEDICAL HISTORY			MEDICAL HISTORY	
MHXDT1	DATE - MEDICAL HISTORY (mm/dd/yyyy)			MEDICAL HISTORY	
MHXRID1	REVIEWER ID - MEDICAL HISTORY			MEDICAL HISTORY	
MHXTID1	TECH ID - MEDICAL HISTORY			MEDICAL HISTORY	
EMPHYS1	EMPHYSEMA: SELF-REPORT	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q1	
ASTHMA1	ASTHMA: SELF-REPORT	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q2	
ARTHRIT1	ARTHRITIS: SELF-REPORT	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q3	

BLOODCN1	BLOOD CANCER	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q4	
BRSTCN1	BREAST CANCER	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q4	
CANCER1	CANCER: SELF-REPORT	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q4	
<b><u>VARIABLE</u></b>	<b><u>VARIABLE DESCRIPTION</u></b>	<b><u>VALUE LABELS</u></b>	<b><u>MISSING VALUES</u></b>	<b><u>QUESTION FORM/EXAM</u></b>	<b><u>NUMBER</u></b>
COLONCN1	COLON CANCER	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q4	
LUNGCN1	LUNG CANCER	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q4	
NMSKNCN1	NON-MELANOMA SKIN CANCER	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q4	
OTHCN1	OTHER CANCER	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q4	
OTHCSPC1	SPECIFY OTHER CANCER			MEDICAL HISTORY Q4	
PROSTCN1	PROSTATE CANCER	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q4	
RHEUHV1	RHEUMATIC HEART DISEASE: SELF-REPORT	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q5	
BLDCLOT1	BLOOD CLOTS IN LEGS/LUNGS: SELF-REPORT	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q6	
CIRRH1	CIRRHOSIS: SELF-REPORT	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q7	
HEPAT1	HEPATITIS: SELF-REPORT	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q7	

HEPTPA1	HEPATITIS, TYPE A	0=NO 1=YES		MEDICAL HISTORY Q7
HEPTPB1	HEPATITIS, TYPE B	0=NO 1=YES		MEDICAL HISTORY Q7
HEPTPC1	HEPATITIS, TYPE C	0=NO 1=YES		MEDICAL HISTORY Q7
HEPTPD1	HEPATITIS, TYPE D	0=NO 1=YES		MEDICAL HISTORY Q7
<u>VARIABLE</u>	<u>VARIABLE DESCRIPTION</u>	<u>VALUE LABELS</u>	<u>MISSING VALUES</u>	<u>QUESTION NUMBER</u>
HEPTPE1	HEPATITIS, TYPE E	0=NO 1=YES		MEDICAL HISTORY Q7
HEPTPU1	HEPATITIS, UNKNOWN TYPE	0=NO HEPATITIS OR TYPE KNOWN 1=TYPE UNKNOWN		MEDICAL HISTORY Q7
LIVERD1	LIVER DISEASE: SELF-REPORT	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q7
KDNYDIS1	KIDNEY DISEASE: SELF-REPORT	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q8
BPHXAGE1	HYPERTENSION MEDS, AGE STARTED USE			MEDICAL HISTORY Q9
BPMAGEU1	HYPERTENSION MEDS, AGE STARTED UNKNOWN	9=AGE UNKNOWN		MEDICAL HISTORY Q9
BPMED1	TAKING MEDS FOR HYPERTENSION	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q9
HIGHBP1	HYPERTENSION: SELF-REPORT	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q9
CHLAGEU1	CHOLESTEROL MEDS, AGE STARTED UNKNOWN	9=AGE UNKNOWN		MEDICAL HISTORY Q10
CHOLAGE1	CHOLESTEROL MEDS, AGE STARTED USE			MEDICAL HISTORY Q10
CHOLMED1	TAKING MEDS FOR HIGH CHOLESTEROL	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q10
HGHCHOL1	HIGH CHOLESTEROL: SELF-REPORT	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q10

DBAGE1	DIABETES MEDS, AGE STARTED USE			MEDICAL HISTORY Q11
DBAGEU1	DIABETES MEDS, AGE STARTED UNKNOWN	9=AGE UNKNOWN		MEDICAL HISTORY Q11
DBHXTYP1	DIABETES MEDS, TYPE	1=INSULIN 2=PILLS		MEDICAL HISTORY Q11
DBINSUL1	WAS INSULIN FIRST DIABETES MEDICINE	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q11
<u>VARIABLE</u>	<u>VARIABLE DESCRIPTION</u>	<u>VALUE LABELS</u>	<u>MISSING VALUES</u>	<u>QUESTION NUMBER</u>
DBPREG1	WOMEN: DIABETES OCCUR ONLY DURING PREGNANCY	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q11
DIABET1	DIABETES: SELF-REPORT	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q11
DIABHX1	TAKING MEDS FOR DIABETES	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q11
HWT3YLB1	HIGHEST WEIGHT IN LAST 3 YEARS (LBS)			MEDICAL HISTORY Q12
WT20LB1	WEIGHT AT AGE 20 (LBS)			MEDICAL HISTORY Q12
WT40LB1	WEIGHT AT AGE 40 (LBS)			MEDICAL HISTORY Q12
AGEBRTH1	AGE AT FIRST LIVE BIRTH			MEDICAL HISTORY Q13
BIRTHN1	# OF LIVE BIRTHS			MEDICAL HISTORY Q13
PREG1	EVER BEEN PREGNANT	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q13
PREGN1	# OF PREGNANCIES			MEDICAL HISTORY Q13
HYSTAGE1	AGE AT HYSTERECTOMY			MEDICAL HISTORY Q14
HYSTRCT1	HYSTERECTOMY	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q14
OVAAGE1	AGE WHEN OVARIES REMOVED			MEDICAL HISTORY Q15
OVAREM1	SURGERY TO REMOVE OVARIES	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q15
OVAREMN1	# OF OVARIES REMOVED	1=1 OVARY REMOVED 2=2 OVARIES REMOVED		MEDICAL HISTORY Q15

BCPILLS1	EVER TAKEN BIRTH CONTROL PILLS	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q16
BPILLYR1	# OF YEARS TOOK BIRTH CONTROL PILLS			MEDICAL HISTORY Q16
HRMQAGE1	HORMONE REPLACEMENT THERAPY, AGE STOPPED USE			MEDICAL HISTORY Q17
HRMRAGE1	HORMONE REPLACEMENT THERAPY, AGE STARTED USE (CURRENT USER)			MEDICAL HISTORY Q17
HRMREP1	EVER TAKEN HORMONE REPLACEMENT THERAPY	0=NO 1=YES		MEDICAL HISTORY Q17

<u>VARIABLE</u>	<u>VARIABLE DESCRIPTION</u>	<u>VALUE LABELS</u>	<u>MISSING VALUES</u>	<u>QUESTION NUMBER</u>
HRMREPC1	HORMONE REPLACEMENT THERAPY, CURRENT USER	0=NO 1=YES		MEDICAL HISTORY Q17
HRMSAGE1	HORMONE REPLACEMENT THERAPY, AGE STARTED USE (FORMER USER)			MEDICAL HISTORY Q17
HRMTYP1	TYPE OF HORMONE REPLACEMENT THERAPY	1=ESTROGEN ALONE 2=ESTROGEN WITH PROGESTIN		MEDICAL HISTORY Q17
MENOAGE1	AGE WENT THROUGH MENOPAUSE			MEDICAL HISTORY Q17
MENOP1	CURRENTLY GOING THROUGH MENOPAUSE	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q17
MNPAUSE1	GONE THROUGH MENOPAUSE	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q17
MNSPMO1	MONTH OF LAST MENSTRUAL PERIOD			MEDICAL HISTORY Q17
MNSPYR1	YEAR OF LAST MENSTRUAL PERIOD			MEDICAL HISTORY Q17
PRDSNUM1	# OF MENSTRUAL PERIODS IN PAST 12 MONTHS			MEDICAL HISTORY Q17
LEGPAIN1	PAIN IN LEG OR BUTTOCK WHILE WALKING	0=NO 1=YES		MEDICAL HISTORY Q18
LPCALF1	PAIN OCCURS IN WHAT PORTION OF LEG	1=PAIN INCLUDES CALF 2=PAIN DOES NOT INCLUDE CALF		MEDICAL HISTORY Q18
LPDIS1	LEG PAIN EVER DISAPPEAR WHILE WALKING	0=NO 1=YES		MEDICAL HISTORY Q18
LPLOC1	ON WHAT SIDE IS LEG PAIN PREDOMINANT	1=RIGHT SIDE 2=LEFT SIDE 3=BOTH LEGS		MEDICAL HISTORY Q18
LPNORM1	LEG PAIN IF WALK AT ORDINARY PACE ON THE LEVEL	0=NO 1=YES		MEDICAL HISTORY Q18

LPRELV1	HOW SOON IS LEG PAIN RELIEVED WHEN STILL	0=MORE THAN 10 MINUTES 1=10 MINUTES OR LESS	MEDICAL HISTORY Q18
LPREST1	LEG PAIN BEGIN WHEN STANDING OR SITTING	0=NO 1=YES	MEDICAL HISTORY Q18
LPSTND1	WHAT HAPPENS TO LEG PAIN IF STAND STILL	1=RELIEVED 2=NOT RELIEVED	MEDICAL HISTORY Q18
LPSTOP1	STOP WALKING DURING LEG PAIN	1=STOP OR SLOW DOWN 2=CONTINUE ON	MEDICAL HISTORY Q18

<u>VARIABLE</u>	<u>VARIABLE DESCRIPTION</u>	<u>VALUE LABELS</u>	<u>MISSING VALUES</u>	<u>QUESTION NUMBER</u> <u>FORM/EXAM</u>
LPUPHL1	LEG PAIN IF WALK UPHILL OR HURRY	0=NO 1=YES 8=NOT APPLICABLE	8	MEDICAL HISTORY Q18
SWLLDAY1	FEET SWELLING DURING DAY, DEMINISHED OVERNIGHT	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q19
SWLLFT1	SWELLING OF FEET OR ANKLES	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q19
SLPPLLW1	SLEEP ON TWO OR MORE PILLOWS TO HELP BREATHE	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q20
WAKEBR1	AWAKENED AT NIGHT BY TROUBLE BREATHING	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q21
ALLRGY1	SEASONAL ALLERGY, PAST TWO WEEKS	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q22
ARTH2WK1	ARTHRITIS FLARE-UP, PAST TWO WEEKS	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q22
BLDGUMS1	BLEEDING GUMS, PAST TWO WEEKS	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q22
BRONCH1	BRONCHITIS, PAST TWO WEEKS	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q22



COLDFLU1	COLD OR FLU, PAST TWO WEEKS	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q22
FEVER1	FEVER, PAST TWO WEEKS	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q22
GOUT1	GOUT FLARE-UP, PAST TWO WEEKS	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q22
<u>VARIABLE</u>	<u>VARIABLE DESCRIPTION</u>	<u>VALUE LABELS</u>	<u>MISSING VALUES</u>	<u>QUESTION NUMBER</u>
PNEUMO1	PNEUMONIA, PAST TWO WEEKS	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q22
SINUINF1	SINUS INFECTION, PAST TWO WEEKS	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q22
TTHINF1	TOOTH INFECTION, PAST TWO WEEKS	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q22
URININF1	URINARY INFECTION, PAST TWO WEEKS	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q22
ABNUM1	# OF TIMES TREATED W/ ANTIBIOTICS, PAST YEAR			MEDICAL HISTORY Q23
NOAB1	# OF TIMES TREATED W/ ANTIBIOTICS (PAST YEAR) UNKNOWN	0=# TIMES UNKNOWN	9	MEDICAL HISTORY Q23
AB5YNUM1	# OF TIMES TREATED W/ ANTIBIOTICS, LAST FIVE YEARS			MEDICAL HISTORY Q24
NOAB5Y1	# OF TIMES TREATED W/ ANTIBIOTICS (PAST 5 YEARS) UNKNOWN	0=# TIMES UNKNOWN	9	MEDICAL HISTORY Q24
ASPDAYS1	ASPIRIN: DAYS PER WEEK			MEDICAL HISTORY Q25
ASPEAGE1	ASPIRIN: AGE STOPPED USING REGULARLY			MEDICAL HISTORY Q25
ASPIRIN1	ASPIRIN: EVER USED ON REGULAR BASIS	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q25
ASPNOW1	ASPIRIN: CURRENTLY USING REGULARLY	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q25
ASPSAGE1	ASPIRIN: AGE STARTED REGULAR USE			MEDICAL HISTORY Q25

GUMDIS1	PERIODONTITIS OR GUM DISEASE	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q26
LOSTTTTH1	LOST TEETH DUE TO GUM DISEASE	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q27
TTHNUM1	# TEETH LOST DUE TO GUM DISEASE			MEDICAL HISTORY Q27
PAMPUT1	FAMILY HISTORY AMPUTATION (NOT DUE TO INJURY): PARENT	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q28
PMI1	FAMILY HISTORY OF HEART ATTACK: PARENT	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q28

<u>VARIABLE</u>	<u>VARIABLE DESCRIPTION</u>	<u>VALUE LABELS</u>	<u>MISSING VALUES</u>	<u>QUESTION NUMBER</u> <u>FORM/EXAM</u>
PSTK1	FAMILY HISTORY OF STROKE: PARENT	0=NO 1=YES 9=DON'T KNOW	9	MEDICAL HISTORY Q28
SAMPUT1	FAMILY HISTORY AMPUTATION (NOT DUE TO INJURY): SIBLING	0=NO 1=YES 8=NOT APPLICABLE 9=DON'T KNOW	8, 9	MEDICAL HISTORY Q29
SHRTATT1	FAMILY HISTORY OF HEART ATTACK: SIBLING	0=NO 1=YES 8=NOT APPLICABLE 9=DON'T KNOW	8, 9	MEDICAL HISTORY Q29
SSTK1	FAMILY HISTORY OF STROKE: SIBLING	0=NO 1=YES 8=NOT APPLICABLE 9=DON'T KNOW	8, 9	MEDICAL HISTORY Q29
CAUMPUT1	FAMILY HISTORY AMPUTATION (NOT DUE TO INJURY): CHILDREN	0=NO 1=YES 8=NOT APPLICABLE 9=DON'T KNOW	8, 9	MEDICAL HISTORY Q30
CHRTATT1	FAMILY HISTORY OF HEART ATTACK: CHILDREN	0=NO 1=YES 8=NOT APPLICABLE 9=DON'T KNOW	8, 9	MEDICAL HISTORY Q30

CSTK1	FAMILY HISTORY OF STROKE: CHILDREN	0=NO 1=YES 8=NOT APPLICABLE 9=DON'T KNOW	8, 9	MEDICAL HISTORY Q30
HRMAGE1C	HORMONE REPLACEMENT THERAPY, AGE STARTED USE			MEDICAL HISTORY COMPUTE D
FHHA1C	FAMILY HISTORY OF HEART ATTACK, PARENTS/SIBS/CHILDREN	0=NO 1=YES		MEDICAL HISTORY COMPUTE D
ASACAT1C	CURRENT ASPIRIN USE (TAKING ASPIRIN AT LEAST 3 DAYS PER WEEK AT BASELINE)	0=OTHERWISE 1=IF ASA1C = 1 AND ASPDAYS1 >=3		MEDICAL HISTORY COMPUTE D
HTN1C	HYPERTENSION BY JNC VI (1997) CRITERIA	0=NO HYPERTENSION 1=HYPERTENSION		MEDICAL HISTORY COMPUTE D
DM971C	DIABETES MELLITUS BY 1997 ADA FASTING CRITERIA	0=NORMAL 1=IMPAIRED FASTING GLUCOSE 2=NON-TREATED DIABETES 3=TREATED DIABETES		MEDICAL HISTORY COMPUTE D
DM031C	DIABETES MELLITUS BY 2003 ADA FASTING CRITERIA	0=NORMAL 1=IMPAIRED FASTING GLUCOSE 2=NON-TREATED DIABETES 3=TREATED DIABETES		MEDICAL HISTORY COMPUTE D

## MEDICATIONS

<u>VARIABLE</u>	<u>VARIABLE DESCRIPTION</u>	<u>VALUE LABELS</u>	<u>MISSING VALUES</u>	<u>QUESTION NUMBER</u>
			<u>FORM/EXAM</u>	
TOTMED1C	TOTAL MEDICATIONS REPORTED		MEDICATIONS	COMPUTE D
A2A1C	ANGIOTENSIN TYPE 2 ANTAGONISTS WITHOUT DIURETICS	0=NO 1=YES	MEDICATIONS	COMPUTE D
A2AD1C	COMBINATIONS OF ANGIOTENSIN II ANTAGONISTS PLUS DIURETICS	0=NO 1=YES	MEDICATIONS	COMPUTE D
ACE1C	ACE INHIBITORS WITHOUT DIURETICS	0=NO 1=YES	MEDICATIONS	COMPUTE D
ACED1C	ACE INHIBITORS WITH DIURETICS	0=NO 1=YES	MEDICATIONS	COMPUTE D
ADPI1C	INHIBITORS OF ADP-INDUCED PLATELET AGGREGATION	0=NO 1=YES	MEDICATIONS	COMPUTE D
AGDI1C	ALPHA-GLUCOSIDASE INHIBITORS	0=NO 1=YES	MEDICATIONS	COMPUTE D

ALPHA1C	ALPHA-BLOCKERS WITHOUT DIURETICS	0=NO 1=YES	MEDICATIONS	COMPUTED
ALPHAD1C	ALPHA-BLOCKERS WITH DIURETICS	0=NO 1=YES	MEDICATIONS	COMPUTED
ALZH1C	ACETYLCHOLINE ESTERASE INHIBITORS FOR ALZHS	0=NO 1=YES	MEDICATIONS	COMPUTED
AMLOD1C	AMLODIPINE	0=NO 1=YES	MEDICATIONS	COMPUTED
ANAR1A1C	ANTI-ARRHYTHMICS, CLASS 1A	0=NO 1=YES	MEDICATIONS	COMPUTED
ANAR1B1C	ANTI-ARRHYTHMICS, CLASS 1B	0=NO 1=YES	MEDICATIONS	COMPUTED
ANAR1C1C	ANTI-ARRHYTHMICS, CLASS 1C	0=NO 1=YES	MEDICATIONS	COMPUTED
ANAR31C	ANTI-ARRHYTHMICS, CLASS 3	0=NO 1=YES	MEDICATIONS	COMPUTED
<b><u>VARIABLE</u></b>	<b><u>VARIABLE DESCRIPTION</u></b>	<b><u>VALUE LABELS</u></b>	<b><u>MISSING VALUES</u></b>	<b><u>QUESTION NUMBER</u></b>
			<b><u>FORM/EXAM</u></b>	
APSY1C	ANTI-PSYCHOTIC MEDICATIONS	0=NO 1=YES	MEDICATIONS	COMPUTED
ASA1C	ASPIRIN FROM 280804 (ANTI-INFLAM AGENTS)	0=NO 1=YES	MEDICATIONS	COMPUTED
BASQ1C	BILE-ACID SEQUESTRANTS	0=NO 1=YES	MEDICATIONS	COMPUTED
BENZOD1C	BENZODIAZEPINES	0=NO 1=YES	MEDICATIONS	COMPUTED
BETA1C	BETA-BLOCKERS WITHOUT DIURETICS	0=NO 1=YES	MEDICATIONS	COMPUTED
BETAD1C	BETA-BLOCKERS WITH DIURETICS	0=NO 1=YES	MEDICATIONS	COMPUTED
BGND1C	BIGUANIDES	0=NO 1=YES	MEDICATIONS	COMPUTED
CCB1C	ANY CALCIUM-CHANNEL BLOCKER = CCIR OR CCBSR OR CCBT	0=NO 1=YES	MEDICATIONS	COMPUTED

CCBIR1C	IMMEDIATE-RELEASE CCBS = NIFIR OR DIHIR OR VERIR OR DLTIR	0=NO 1=YES	MEDICATIONS	COMPUTED
CCBSR1C	SLOW-RELEASE CCBS = NIFSR OR DIHSR OR VERSR OR DLTSR OR AMLOD	0=NO 1=YES	MEDICATIONS	COMPUTED
CCBT1C	T-TYPE CALCIUM-CHANNEL BLOCKER	0=NO 1=YES	MEDICATIONS	COMPUTED
COX21C	COX-2 INHIBITORS (NSAID AGENTS); SEPARATE FROM NSAID VARIABLE	0=NO 1=YES	MEDICATIONS	COMPUTED
DIG1C	DIGITALIS PREPARATIONS	0=NO 1=YES	MEDICATIONS	COMPUTED
DIHIR1C	IMMEDIATE-RELEASE DIHYDROPYRIDINES OTHER THAN NIFEDIPINE	0=NO 1=YES	MEDICATIONS	COMPUTED
DIHSR1C	SLOW-RELEASE DIHYDROPYRIDINES OTHER THAN NIFEDIPINE OR AMLOPIDINE	0=NO 1=YES	MEDICATIONS	COMPUTED
DIUR1C	ANY DIURETIC	0=NO 1=YES	MEDICATIONS	

<u>VARIABLE</u>	<u>VARIABLE DESCRIPTION</u>	<u>VALUE LABELS</u>	<u>MISSING VALUES</u>	<u>QUESTION NUMBER</u>
			<u>FORM/EXAM</u>	
DLTIR1C	IMMEDIATE-RELEASE DILTIAZEM	0=NO 1=YES	MEDICATIONS	COMPUTED
DLTSR1C	SLOW-RELEASE DILTIAZEM	0=NO 1=YES	MEDICATIONS	COMPUTED
EDD1C	ERECTILE DYSFUNCTION DRUGS	0=NO 1=YES	MEDICATIONS	COMPUTED
ESTRGN1C	ESTROGENS, EXCLUDING VAGINAL CREAMS	0=NO 1=YES	MEDICATIONS	COMPUTED
FIBR1C	FIBRATES	0=NO 1=YES	MEDICATIONS	COMPUTED
H2B1C	H-2 BLOCKERS	0=NO 1=YES	MEDICATIONS	COMPUTED
HCTZ1C	THIAZIDE DIURETICS WITHOUT K-SPARING AGENTS	0=NO 1=YES	MEDICATIONS	COMPUTED
HCTZK1C	THIAZIDE DIURETICS WITH K-SPARING AGENTS	0=NO 1=YES	MEDICATIONS	COMPUTED

HPRNS1C	HEPARINS	0=NO 1=YES	MEDICATIONS	COMPUTED
HTNMED1C	ANY ANTI-HYPERTENSIVE MEDICATION	0=NO 1=YES	MEDICATIONS	
INSLN1C	INSULINS	0=NO 1=YES	MEDICATIONS	COMPUTED
IPRTR1C	ANTICHOLINERGICS + COMBINATION WITH BETA2-AGONIST	0=NO 1=YES	MEDICATIONS	COMPUTED
ISTRD1C	INHALED STEROIDS FOR ASTHMA	0=NO 1=YES	MEDICATIONS	COMPUTED
KBLKR1C	K-CHANNEL BLOCKERS TO ENHANCE INSULIN SECRETION FOR DIABETICS	0=NO 1=YES	MEDICATIONS	COMPUTED
KCL1C	POTASSIUM SUPPLEMENTS	0=NO 1=YES	MEDICATIONS	COMPUTED
KSPR1C	POTASSIUM-SPARING AGENTS ALONE	0=NO 1=YES	MEDICATIONS	COMPUTED
<b><u>VARIABLE</u></b>	<b><u>VARIABLE DESCRIPTION</u></b>	<b><u>VALUE LABELS</u></b>	<b><u>MISSING VALUES</u></b> <b><u>FORM/EXAM</u></b>	<b><u>QUESTION NUMBER</u></b>
LIPID1C	ANY LIPID-LOWERING MEDICATION	0=NO 1=YES	MEDICATIONS	
LOOP1C	LOOP DIURETICS	0=NO 1=YES	MEDICATIONS	COMPUTED
MAOI1C	MAO INHIBITORS	0=NO 1=YES	MEDICATIONS	COMPUTED
MLPD1C	MISCELLANEOUS LIPID-LOWERING DRUGS	0=NO 1=YES	MEDICATIONS	COMPUTED
NIAC1C	NIACIN AND NICOTINIC ACID	0=NO 1=YES	MEDICATIONS	COMPUTED
NIFIR1C	IMMEDIATE-RELEASE NIFEDIPINE	0=NO 1=YES	MEDICATIONS	COMPUTED
NIFSR1C	SLOW-RELEASE NIFEDIPINE	0=NO 1=YES	MEDICATIONS	COMPUTED
NSAID1C	NON-STEROIDAL ANTI-INFLAMMATORY AGENTS, EXCLUDING ASPIRIN	0=NO 1=YES	MEDICATIONS	COMPUTED

NTCA1C	NON-TRICYCLIC ANTIDEPRESSANTS OTHER THAN MAOI	0=NO 1=YES	MEDICATIONS	COMPUTED
NTG1C	NITRATES	0=NO 1=YES	MEDICATIONS	COMPUTED
OAIA1C	ORAL ANTI-INFLAMMATORY ASTHMA DRUGS (LEUKOTRIENE RECEPTOR ANTAGONISTS AND INHIBITORS OF LIPO-OXYGENASE)	0=NO 1=YES	MEDICATIONS	COMPUTED
OHGA1C	ORAL HYPOGLYCEMIC AGENTS	0=NO 1=YES	MEDICATIONS	COMPUTED
OSTRD1C	ORAL STEROIDS	0=NO 1=YES	MEDICATIONS	COMPUTED
OTCH2B1C	OVER-THE-COUNTER H-2 BLOCKERS	0=NO 1=YES	MEDICATIONS	COMPUTED
PDEI1C	PHOSPHODIESTERASE INHIBITORS	0=NO 1=YES	MEDICATIONS	COMPUTED
PPI1C	PROTON PUMP INHIBITORS	0=NO 1=YES	MEDICATIONS	COMPUTED
<u>VARIABLE</u>	<u>VARIABLE DESCRIPTION</u>	<u>VALUE LABELS</u>	<u>MISSING VALUES</u> <u>FORM/EXAM</u>	<u>QUESTION NUMBER</u>
PRGSTN1C	PROGESTINS	0=NO 1=YES	MEDICATIONS	COMPUTED
PRKNSN1C	DRUGS USED TO TREAT PARKINSON'S	0=NO 1=YES	MEDICATIONS	COMPUTED
PRMRN1C	PREMARIN (CONJUGATED ESTROGENS)	0=NO 1=YES	MEDICATIONS	COMPUTED
PROB1C	PROBUCOL	0=NO 1=YES	MEDICATIONS	COMPUTED
PVDL1C	PERIPHERAL VASODILATORS, EXCLUDE DIPYRIDAMOLE	0=NO 1=YES	MEDICATIONS	COMPUTED
SLF11C	FIRST GENERATION SULFONYLUREAS	0=NO 1=YES	MEDICATIONS	COMPUTED
SLF21C	SECOND GENERATION SULFONYLUREAS	0=NO 1=YES	MEDICATIONS	COMPUTED
STTN1C	HMG COA REDUCATACE INHIBITORS (STATINS)	0=NO 1=YES	MEDICATIONS	COMPUTED

SYMPH1C	SYMPATHOMIMETICS, ORAL AND INHALED	0=NO 1=YES	MEDICATIONS	COMPUTED
TCA1C	TRICYCLIC ANTI-DEPRESSANTS	0=NO 1=YES	MEDICATIONS	COMPUTED
TCAP1C	TRI-CYCLIC ANTI-DEPRESSANTS PLUS ANTI-PSYCHOTICS COMBINATIONS	0=NO 1=YES	MEDICATIONS	COMPUTED
THRY1C	THYROID AGENTS	0=NO 1=YES	MEDICATIONS	COMPUTED
THZD1C	THIAZOLIDINEDIONES	0=NO 1=YES	MEDICATIONS	COMPUTED
URCOS1C	URICOSURICS	0=NO 1=YES	MEDICATIONS	COMPUTED
VASO1C	VASODILATORS, A MIXED GROUP	0=NO 1=YES	MEDICATIONS	COMPUTED
VASOD1C	VASODILATORS WITH DIURETICS, A MIXED GROUP	0=NO 1=YES	MEDICATIONS	COMPUTED
<b><u>VARIABLE</u></b>	<b><u>VARIABLE DESCRIPTION</u></b>	<b><u>VALUE LABELS</u></b>	<b><u>MISSING VALUES</u></b>	<b><u>QUESTION NUMBER</u></b>
VERIR1C	IMMEDIATE-RELEASE VERAPAMIL	0=NO 1=YES	MEDICATIONS	COMPUTED
VERSR1C	SLOW-RELEASE VERAPAMIL	0=NO 1=YES	MEDICATIONS	COMPUTED
WARF1C	ORAL ANTICOAGULANTS INCLUDING WARFARIN, COUMADIN, AND ANISINDIONE	0=NO 1=YES	MEDICATIONS	COMPUTED
WTLS1C	WEIGHT LOSS DRUGS	0=NO 1=YES	MEDICATIONS	COMPUTED
XOI1C	XANTHINE OXIDASE INHIBITORS	0=NO 1=YES	MEDICATIONS	COMPUTED

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## NEIGHBORHOOD

NHDADM1	QUESTIONNAIRE ADMINISTRATOR - NEIGHBORHOOD	1=SELF-ADMINISTERED 2=REVIEWER ADMINISTERED	NEIGHBORHOOD
NHDDID1	DATA ENTRY ID - NEIGHBORHOOD		NEIGHBORHOOD



NHDDT1	DATE - NEIGHBORHOOD (mm/dd/yyyy)		NEIGHBORHOOD	
NHDTID1	TECH OR REVIEWER ID - NEIGHBORHOOD		NEIGHBORHOOD	
NHDBLKS1	NUMBER OF BLOCKS IN NEIGHBORHOOD		NEIGHBORHOOD	Q1
NHDMO1	NUMBER OF MONTHS LIVED IN NEIGHBORHOOD		NEIGHBORHOOD	Q2
NHDYRS1	NUMBER OF YEARS LIVED IN NEIGHBORHOOD		NEIGHBORHOOD	Q2
NCLOSE1	CLOSE KNIT NEIGHBORHOOD	1=STRONGLY AGREE 2=AGREE 3=NEITHER AGREE NOR DISAGREE 4=DISAGREE 5=STRONGLY DISAGREE	NEIGHBORHOOD	Q3
NDGALNG1	PEOPLE IN NEIGHBORHOOD DON'T GET ALONG	1=STRONGLY AGREE 2=AGREE 3=NEITHER AGREE NOR DISAGREE 4=DISAGREE 5=STRONGLY DISAGREE	NEIGHBORHOOD	Q3
<b><u>VARIABLE</u></b>	<b><u>VARIABLE DESCRIPTION</u></b>	<b><u>VALUE LABELS</u></b>	<b><u>MISSING VALUES</u></b> <b><u>FORM/EXAM</u></b>	<b><u>QUESTION NUMBER</u></b>
NHELP1	PEOPLE WILLING TO HELP THEIR NEIGHBORS	1=STRONGLY AGREE 2=AGREE 3=NEITHER AGREE NOR DISAGREE 4=DISAGREE 5=STRONGLY DISAGREE	NEIGHBORHOOD	Q3
NTRUST1	PEOPLE IN NEIGHBORHOOD CAN BE TRUSTED	1=STRONGLY AGREE 2=AGREE 3=NEITHER AGREE NOR DISAGREE 4=DISAGREE 5=STRONGLY DISAGREE	NEIGHBORHOOD	Q3
NVALUES1	PEOPLE IN NEIGHBORHOOD DO NOT SHARE THE SAME VALUES	1=STRONGLY AGREE 2=AGREE 3=NEITHER AGREE NOR DISAGREE 4=DISAGREE 5=STRONGLY DISAGREE	NEIGHBORHOOD	Q3
NSAFE1	HOW SAFE IS NEIGHBORHOOD FROM CRIME?	1=VERY SAFE 2 3=SAFE 4 5=NOT AT ALL SAFE	NEIGHBORHOOD	Q4

NLFSHOP1	LACK OF ADEQUATE FOOD SHOPPING IN NEIGHBORHOOD	1=VERY SERIOUS PROBLEM 2=SOMEWHAT SERIOUS PROBLEM 3=MINOR PROBLEM 4=NOT REALLY A PROBLEM	NEIGHBORHOOD	Q5
NLPARKS1	LACK OF PARKS/PLAYGROUNDS IN NEIGHBORHOOD	1=VERY SERIOUS PROBLEM 2=SOMEWHAT SERIOUS PROBLEM 3=MINOR PROBLEM 4=NOT REALLY A PROBLEM	NEIGHBORHOOD	Q5
NNOISE1	EXCESSIVE NOISE IN NEIGHBORHOOD	1=VERY SERIOUS PROBLEM 2=SOMEWHAT SERIOUS PROBLEM 3=MINOR PROBLEM 4=NOT REALLY A PROBLEM	NEIGHBORHOOD	Q5
NSDWLK1	POOR SIDEWALKS IN NEIGHBORHOOD	1=VERY SERIOUS PROBLEM 2=SOMEWHAT SERIOUS PROBLEM 3=MINOR PROBLEM 4=NOT REALLY A PROBLEM	NEIGHBORHOOD	Q5
NTRAF1	HEAVY TRAFFIC OR SPEEDING CARS IN NEIGHBORHOOD	1=VERY SERIOUS PROBLEM 2=SOMEWHAT SERIOUS PROBLEM 3=MINOR PROBLEM 4=NOT REALLY A PROBLEM	NEIGHBORHOOD	Q5
<b><u>VARIABLE</u></b>	<b><u>VARIABLE DESCRIPTION</u></b>	<b><u>VALUE LABELS</u></b>	<b><u>MISSING VALUES</u></b>	<b><u>QUESTIO N NUMBER</u></b>
NTRASH1	TRASH AND LITTER PROBLEM IN NEIGHBORHOOD	1=VERY SERIOUS PROBLEM 2=SOMEWHAT SERIOUS PROBLEM 3=MINOR PROBLEM 4=NOT REALLY A PROBLEM	NEIGHBORHOOD	Q5
NVIOLEN1	VIOLENCE PROBLEM IN NEIGHBORHOOD	1=VERY SERIOUS PROBLEM 2=SOMEWHAT SERIOUS PROBLEM 3=MINOR PROBLEM 4=NOT REALLY A PROBLEM	NEIGHBORHOOD	Q5
NCOHES1C	NEIGHBORHOOD SOCIAL COHESION SCORE		NEIGHBORHOOD	COMPUTE D
NHDTIM1C	HOW LONG LIVED IN NEIGHBORHOOD (yrs)		NEIGHBORHOOD	COMPUTE D
NPROB1C	NEIGHBORHOOD PROBLEMS SCORE		NEIGHBORHOOD	COMPUTE D

## PERSONAL HISTORY

JOB CODE1	JOB CODE		PERSONAL HISTORY	
PHXADM1	QUESTIONNAIRE ADMINISTRATOR - PERSONAL HISTORY	1=SELF-ADMINISTERED 2=REVIEWER ADMINISTERED	PERSONAL HISTORY	
PHXDID1	DATA ENTRY ID - PERSONAL HISTORY		PERSONAL HISTORY	
PHXDT1	DATE - PERSONAL HISTORY (mm/dd/yyyy)		PERSONAL HISTORY	
PHXLOCC1	FORM COMPLETED AT CLINIC	0=NO 1=YES	PERSONAL HISTORY	
PHXLOCH1	FORM COMPLETED AT HOME	0=NO 1=YES	PERSONAL HISTORY	
PHXTID1	TECH ID - PERSONAL HISTORY		PERSONAL HISTORY	
PHXSEX1	GENDER - PERSONAL HISTORY	0=FEMALE 1=MALE	PERSONAL HISTORY	Q1
BTH1	BIRTH PLACE - SELF	1=ONE OF 50 U.S. STATES 2=PUERTO RICO 3=ANOTHER COUNTRY	PERSONAL HISTORY	Q2
CTRYBTH1	BIRTH COUNTRY - SELF		PERSONAL HISTORY	Q2
STBTH1	BIRTH STATE (U.S.) - SELF		PERSONAL HISTORY	Q2
YRSUS1	# YEARS LIVED IN U.S.A		PERSONAL HISTORY	Q2
FBTH1	BIRTH PLACE - FATHER	1=ONE OF 50 U.S. STATES 2=PUERTO RICO 3=ANOTHER COUNTRY	PERSONAL HISTORY	Q3
FCNTRY1	BIRTH COUNTRY - FATHER		PERSONAL HISTORY	Q3
<b><u>VARIABLE</u></b>	<b><u>VARIABLE DESCRIPTION</u></b>	<b><u>VALUE LABELS</u></b>	<b><u>MISSING VALUES</u></b> <b><u>FORM/EXAM</u></b>	<b><u>QUESTION NUMBER</u></b>
FSTBTH1	BIRTH STATE (U.S.) - FATHER		PERSONAL HISTORY	Q3

MBTH1	BIRTH PLACE - MOTHER	1=ONE OF 50 U.S. STATES 2=PUERTO RICO 3=ANOTHER COUNTRY	PERSONAL HISTORY	Q3
MCNTRY1	BIRTH COUNTRY - MOTHER		PERSONAL HISTORY	Q3
MFBTH1	BIRTH PLACE - MATERNAL GRANDFATHER	1=ONE OF 50 U.S. STATES 2=PUERTO RICO 3=ANOTHER COUNTRY	PERSONAL HISTORY	Q3
MFCNTRY1	BIRTH COUNTRY - MATERNAL GRANDFATHER		PERSONAL HISTORY	Q3
MMBTH1	BIRTH PLACE - MATERNAL GRANDMOTHER	1=ONE OF 50 U.S. STATES 2=PUERTO RICO 3=ANOTHER COUNTRY	PERSONAL HISTORY	Q3
MMCNTRY1	BIRTH COUNTRY - MATERNAL GRANDMOTHER		PERSONAL HISTORY	Q3
MSTBTH1	BIRTH STATE (U.S.) - MOTHER		PERSONAL HISTORY	Q3
PFBTH1	BIRTH PLACE - PATERNAL GRANDFATHER	1=ONE OF 50 U.S. STATES 2=PUERTO RICO 3=ANOTHER COUNTRY	PERSONAL HISTORY	Q3
PFCNTRY1	BIRTH COUNTRY - PATERNAL GRANDFATHER		PERSONAL HISTORY	Q3
PMBTH1	BIRTH PLACE - PATERNAL GRANDMOTHER	1=ONE OF 50 U.S. STATES 2=PUERTO RICO 3=ANOTHER COUNTRY	PERSONAL HISTORY	Q3
PMCNTRY1	BIRTH COUNTRY - PATERNAL GRANDMOTHER		PERSONAL HISTORY	Q3
LANGHM1	LANGUAGE SPOKEN IN HOME	1=ENGLISH 2=SPANISH 3=CANTONESE 4=MANDARIN 5=OTHER	PERSONAL HISTORY	Q4
LNGCAN1	CANTONESE SPOKEN IN HOME	0=NO 1=YES	PERSONAL HISTORY	Q4
LNGENG1	ENGLISH SPOKEN IN HOME	0=NO 1=YES	PERSONAL HISTORY	Q4
LNGMAN1	MANDARIN SPOKEN IN HOME	0=NO 1=YES	PERSONAL HISTORY	Q4
LNGOTH1	OTHER LANGUAGE SPOKEN IN HOME	0=NO 1=YES	PERSONAL HISTORY	Q4
LNGSP1	SPANISH SPOKEN IN HOME	0=NO 1=YES	PERSONAL HISTORY	Q4
OTLNGTX1	SPECIFY OTHER LANGUAGE SPOKEN IN HOME		PERSONAL HISTORY	Q4

<u>VARIABLE</u>	<u>VARIABLE DESCRIPTION</u>	<u>VALUE LABELS</u>	<u>MISSING VALUES</u> <u>FORM/EXAM</u>	<u>QUESTION NUMBER</u>
MARITAL1	MARITAL STATUS	1=MARRIED/LIVING AS MARRIED 2=WIDOWED 3=DIVORCED 4=SEPARATED 5=NEVER MARRIED 6=PREFER NOT TO ANSWER	PERSONAL HISTORY	Q5
EDUC1	EDUCATION: HIGHEST LEVEL COMPLETED	0=NO SCHOOLING 1=GRADES 1-8 2=GRADES 9-11 3=COMPLETED HIGH SCHOOL/GED 4=SOME COLLEGE BUT NO DEGREE 5=TECHNICAL SCHOOL CERTIFICATE 6=ASSOCIATE DEGREE 7=BACHELOR'S DEGREE 8=GRADUATE, PROFESSIONAL SCHOOL	PERSONAL HISTORY	Q6
CURJOB1	CURRENT OCCUPATION	1=HOMEMAKER 2=EMPLOYED, FULL TIME 3=EMPLOYED, PART TIME 4=EMPLOYED, ON-LEAVE (HEALTH) 5=EMPLOYED, ON-LEAVE (NON-HEALTH) 6=UNEMPLOYED, < 6 MONTHS 7=UNEMPLOYED, > 6 MONTHS 8=RETIRED, NOT WORKING 9=RETIRED, WORKING 10=RETIRED, VOLUNTEERING	PERSONAL HISTORY	Q8
HOMEMKR1	CURRENT ' HOMEMAKER: PREVIOUSLY WORK OUTSIDE THE HOME	0=NO 1=YES	PERSONAL HISTORY	Q8

<u>VARIABLE</u>	<u>VARIABLE DESCRIPTION</u>	<u>VALUE LABELS</u>	<u>MISSING VALUES</u>	<u>FORM/EXAM</u>	<u>QUESTION NUMBER</u>
INCOME1	TOTAL GROSS FAMILY INCOME, PAST 12 MONTHS	1=<\$5,000 2=\$5,000-7,999 3=\$8,000-11,999 4=\$12,000-15,999 5=\$16,000-19,999 6=\$20,000-24,999 7=\$25,000-29,999	8=\$30,000-34,999 9=\$35,000-39,999 10=\$40,000-49,999 11=\$50,000-74,999 12=\$75,000-99,999 13=\$100,000 +	PERSONAL HISTORY	Q13
NHHLDC1	# CHILDREN SUPPORTED BY FAMILY INCOME			PERSONAL HISTORY	Q14
NHHLDE1	# ADULTS AGE > 65 SUPPORTED BY FAMILY INCOME			PERSONAL HISTORY	Q14
NUMHHLD1	# PEOPLE SUPPORTED BY FAMILY INCOME			PERSONAL HISTORY	Q14
HOMETYP1	RESIDENCE - OWN OR RENT	1=RENT 2=PAY A MORTGAGE 3=OWN FREE AND CLEAR 4=OTHER		PERSONAL HISTORY	Q15
MEDCARE1	WHERE DO YOU GO FOR MEDICAL CARE	1=DOCTOR'S OFFICE/CLINIC 2=HOSPITAL OR EMERGENCY ROOM 3=OTHER		PERSONAL HISTORY	Q16
MEDCTXT1	SPECIFY OTHER LOCATION FOR MEDICAL CARE			PERSONAL HISTORY	Q16
HIMDCD1	MEDICAID	0=NO 1=YES		PERSONAL HISTORY	Q17
HIMDCR1	MEDICARE	0=NO 1=YES		PERSONAL HISTORY	Q17
HIMIL1	MILITARY OR VA SPONSORED MEDICAL CARE	0=NO 1=YES		PERSONAL HISTORY	Q17
HINONE1	NO HEALTH INSURANCE	0=NO 1=YES		PERSONAL HISTORY	Q17
HINSTXT1	SPECIFY OTHER TYPE OF HEALTH INSURANCE			PERSONAL HISTORY	Q17
HIOTH1	OTHER TYPE OF HEALTH INSURANCE	0=NO 1=YES		PERSONAL HISTORY	Q17
HIPRV1	HMO, PRIVATE INSURANCE	0=NO 1=YES		PERSONAL HISTORY	Q17
EVSMK1	SMOKED AT LEAST 100 CIGARETTES IN LIFETIME	0=NO 1=YES		PERSONAL HISTORY	Q18
AGESMK1	CIGARETTES: AGE STARTED SMOKING			PERSONAL HISTORY	Q19
CURSMK1	CIGARETTES: SMOKED IN LAST 30 DAYS	0=NO 1=YES		PERSONAL HISTORY	Q20

<u>VARIABLE</u>	<u>VARIABLE DESCRIPTION</u>	<u>VALUE LABELS</u>	<u>MISSING VALUES</u>	<u>FORM/EXAM</u>	<u>QUESTION NUMBER</u>
AGEQUIT1	CIGARETTES: AGE QUIT SMOKING			PERSONAL HISTORY	Q21
CIGSDAY1	CIGARETTES: AVERAGE # SMOKED PER DAY			PERSONAL HISTORY	Q22
OTHTOB1	EVER USED OTHER TOBACCO PRODUCTS	0=NO 1=YES		PERSONAL HISTORY	Q23
CIGAR1	SMOKED MORE THAN 20 CIGARS IN LIFETIME	0=NO 1=YES		PERSONAL HISTORY	Q24
CGRAGE1	CIGARS: AGE STARTED SMOKING			PERSONAL HISTORY	Q25
CGRCUR1	CIGARS: SMOKED IN LAST 30 DAYS	0=NO 1=YES		PERSONAL HISTORY	Q26
CGRAGEQ1	CIGARS: AGE QUIT SMOKING			PERSONAL HISTORY	Q27
CGRDAY1	CIGARS: AVERAGE # SMOKED PER DAY			PERSONAL HISTORY	Q28
PIPE1	SMOKED AT LEAST 20 PIPEFULS OF TOBACCO IN LIFETIME	0=NO 1=YES		PERSONAL HISTORY	Q29
PIPAGE1	PIPE: AGE STARTED SMOKING			PERSONAL HISTORY	Q30
PIPCUR1	PIPE: SMOKED IN LAST 30 DAYS	0=NO 1=YES		PERSONAL HISTORY	Q31
PIPAGEQ1	PIPE: AGE QUIT SMOKING			PERSONAL HISTORY	Q32
PIPDAY1	PIPE: AVERAGE # SMOKED PER DAY			PERSONAL HISTORY	Q33
CHEW1	CHEWED TOBACCO AT LEAST 20 TIMES IN LIFETIME	0=NO 1=YES		PERSONAL HISTORY	Q34
CHWAGE1	CHEWING TOBACCO: AGE STARTED USE			PERSONAL HISTORY	Q35
CHWCUR1	CHEWING TOBACCO: USED IN LAST 30 DAYS	0=NO 1=YES		PERSONAL HISTORY	Q36
CHWAGEQ1	CHEWING TOBACCO: AGE QUIT USE			PERSONAL HISTORY	Q37
CHWDAY1	CHEWING TOBACCO: AVERAGE # USES PER DAY			PERSONAL HISTORY	Q38
SNUFF1	USED SNUFF AT LEAST 20 TIMES IN LIFETIME	0=NO 1=YES		PERSONAL HISTORY	Q39
SNFAGE1	SNUFF: AGE STARTED USE			PERSONAL HISTORY	Q40
SNFCUR1	SNUFF: USED IN LAST 30 DAYS	0=NO 1=YES		PERSONAL HISTORY	Q41
SNFAGEQ1	SNUFF: AGE QUIT USE			PERSONAL HISTORY	Q42
SNFDAY1	SNUFF: AVERAGE # USES PER DAY			PERSONAL HISTORY	Q43
SHND SMK1	EXPOSURE TO SECOND-HAND SMOKE, HOURS PER WEEK			PERSONAL HISTORY	Q44
ALCOHOL1	EVER CONSUMED ALCOHOLIC BEVERAGES	0=NO 1=YES		PERSONAL HISTORY	Q45
ALCAGE1	ALCOHOL: AGE STARTED DRINKING			PERSONAL HISTORY	Q46

<u>VARIABLE</u>	<u>VARIABLE DESCRIPTION</u>	<u>VALUE LABELS</u>	<u>MISSING VALUES</u>	<u>FORM/EXAM</u>	<u>QUESTION NUMBER</u>
CURALC1	ALCOHOL: CURRENT USE	0=NO 1=YES		PERSONAL HISTORY	Q47
YRSALCP1	# YEARS DRINKING ALCOHOL (FORMER DRINKERS)			PERSONAL HISTORY	Q48
BEER1	DRANK BEER (FORMER DRINKERS)	0=NO 1=YES		PERSONAL HISTORY	Q49
HARDLIQ1	HARD LIQUOR (FORMER DRINKERS)	0=NO 1=YES		PERSONAL HISTORY	Q49
OTALCTX1	SPECIFY OTHER ALCOHOLIC (FORMER DRINKERS)			PERSONAL HISTORY	Q49
OTHALC1	OTHER ALCOHOL (FORMER DRINKERS)	0=NO 1=YES		PERSONAL HISTORY	Q49
WINE1	DRANK WINE (FORMER DRINKERS)	0=NO 1=YES		PERSONAL HISTORY	Q49
ALCWKP1	# DRINKS PER WEEK WHEN DRINKING (FORMER DRINKERS)			PERSONAL HISTORY	Q50
YRSALCC1	# YEARS DRINKING ALCOHOL (CURRENT DRINKERS)			PERSONAL HISTORY	Q51
ALCWKC1	# DRINKS PER WEEK (CURRENT DRINKERS)			PERSONAL HISTORY	Q52
ALC24HR1	DRINKS IN PAST 24 HOURS (CURRENT DRINKERS)			PERSONAL HISTORY	Q53
HIGHALC1	LARGEST # OF DRINKS IN ONE DAY, IN PAST MONTH (CURRENT DRINKERS)			PERSONAL HISTORY	Q54
ALC1C	ALCOHOL USE	0=NEVER 1=FORMER 2=CURRENT		PERSONAL HISTORY	COMPUTED
ALCWK1C	# DRINKS PER WEEK (for current and former drinkers combined)			PERSONAL HISTORY	COMPUTED
YRSALC1C	# YEARS DRINKING ALCOHOL (years drinking for current and former drinkers combined)			PERSONAL HISTORY	COMPUTED
CGR1C	CIGAR SMOKING STATUS	0=NEVER 1=FORMER 2=CURRENT		PERSONAL HISTORY	COMPUTED
CGRYRS1C	CIGAR SMOKING AMOUNT (cigars per day * years)			PERSONAL HISTORY	COMPUTED
CHEW1C	CHEWING TOBACCO USE	0=NEVER 1=FORMER 2=CURRENT		PERSONAL HISTORY	COMPUTED
CHWYRS1C	CHEWING TOBACCO AMOUNT (# times chewed per day * years)			PERSONAL HISTORY	COMPUTED
CIG1C	CIGARETTE SMOKING STATUS	0=NEVER 1=FORMER 2=CURRENT		PERSONAL HISTORY	COMPUTED
PIP1C	PIPE SMOKING STATUS	0=NEVER 1=FORMER 2=CURRENT		PERSONAL HISTORY	COMPUTED



<u>VARIABLE</u>	<u>VARIABLE DESCRIPTION</u>	<u>VALUE LABELS</u>	<u>MISSING VALUES</u>	<u>FORM/EXAM</u>	<u>QUESTION NUMBER</u>
PIPYRS1C	PIPE SMOKING AMOUNT (pipefuls per day * years)			PERSONAL HISTORY	COMPUTED
PKYRS1C	PACK-YEARS OF CIGARETTE SMOKING			PERSONAL HISTORY	COMPUTED
SNF1C	SNUFF USE	0=NEVER 1=FORMER 2=CURRENT		PERSONAL HISTORY	COMPUTED
SNFYRS1	SNUFF USE AMOUNT (# times use per day * years)			PERSONAL HISTORY	COMPUTED

## PHYSICAL ACTIVITY

PACTADM1	QUESTIONNAIRE ADMINISTRATOR - PHYSICAL ACTIVITY	1=SELF-ADMINISTERED 2=REVIEWER ADMINISTERED		PHYSICAL ACTIVITY	
PACTDID1	DATA ENTRY ID - PHYSICAL ACTIVITY			PHYSICAL ACTIVITY	
PACTDT1	DATE - PHYSICAL ACTIVITY (mm/dd/yyyy)			PHYSICAL ACTIVITY	
PACTTID1	INTERVIEWER OR REVIEWER ID - PHYSICAL ACTIVITY			PHYSICAL ACTIVITY	
HHCHL1	LIGHT HOUSEHOLD CHORES	0=NO 1=YES		PHYSICAL ACTIVITY	Q1
HHLDY1	LIGHT HOUSEHOLD CHORES, DAYS/WEEK			PHYSICAL ACTIVITY	Q1
HHLHR1	LIGHT HOUSEHOLD CHORES, HOURS/DAY	1=1 HOUR/DAY 2=2 HOURS/DAY 3=3 HOURS/DAY 4=4 HOURS/DAY 5=5 HOURS/DAY 6=>5 HOURS/DAY		PHYSICAL ACTIVITY	Q1
HHLMN1	LIGHT HOUSEHOLD CHORES, MINUTES/DAY			PHYSICAL ACTIVITY	Q1
HHCHMH1	HEAVY HOUSEHOLD CHORES	0=NO 1=YES		PHYSICAL ACTIVITY	Q2
HMHHDY1	HEAVY HOUSEHOLD CHORES, DAYS/WEEK			PHYSICAL ACTIVITY	Q2
HMHHR1	HEAVY HOUSEHOLD CHORES, HOURS/DAY	1=1 HOUR/DAY 2=2 HOURS/DAY 3=3 HOURS/DAY 4=4 HOURS/DAY 5=5 HOURS/DAY 6=>5 HOURS/DAY		PHYSICAL ACTIVITY	Q2
HMHMN1	HEAVY HOUSEHOLD CHORES, MINUTES/DAY			PHYSICAL ACTIVITY	Q2
YARDM1	MODERATE YARD WORK	0=NO 1=YES		PHYSICAL ACTIVITY	Q3
YARDMDY1	MODERATE YARD WORK, DAYS/WEEK			PHYSICAL ACTIVITY	Q3

<u>VARIABLE</u>	<u>VARIABLE DESCRIPTION</u>	<u>VALUE LABELS</u>	<u>MISSING VALUES</u>	<u>FORM/EXAM</u>	<u>QUESTION NUMBER</u>
YARDMHR1	MODERATE YARD WORK, HOURS/DAY	1=1 HOUR/DAY 2=2 HOURS/DAY 3=3 HOURS/DAY 4=4 HOURS/DAY 5=5 HOURS/DAY 6=>5 HOURS/DAY		PHYSICAL ACTIVITY	Q3
YARDMMN1	MODERATE YARD WORK, MINUTES/DAY			PHYSICAL ACTIVITY	Q3
YARDH1	HEAVY YARD WORK	0=NO 1=YES		PHYSICAL ACTIVITY	Q4
YARDHDY1	HEAVY YARD WORK, DAYS/WEEK			PHYSICAL ACTIVITY	Q4
YARDHHR1	HEAVY YARD WORK, HOURS/DAY	1=1 HOUR/DAY 2=2 HOURS/DAY 3=3 HOURS/DAY 4=4 HOURS/DAY 5=5 HOURS/DAY 6=>5 HOURS/DAY		PHYSICAL ACTIVITY	Q4
YARDHMN1	HEAVY YARD WORK, MINUTES/DAY			PHYSICAL ACTIVITY	Q4
CAREL1	LIGHT CARE OF CHILDREN/ADULTS	0=NO 1=YES		PHYSICAL ACTIVITY	Q5
CARELDY1	LIGHT CARE, DAYS/WEEK			PHYSICAL ACTIVITY	Q5
CARELHR1	LIGHT CARE, HOURS/DAY	1=1 HOUR/DAY 2=2 HOURS/DAY 3=3 HOURS/DAY 4=4 HOURS/DAY 5=5 HOURS/DAY 6=>5 HOURS/DAY		PHYSICAL ACTIVITY	Q5
CARELMN1	LIGHT CARE, MINUTES/DAY			PHYSICAL ACTIVITY	Q5
CAREM1	MODERATE CARE OF CHILDREN/ADULTS	0=NO 1=YES		PHYSICAL ACTIVITY	Q6
CAREMDY1	MODERATE CARE, DAYS/WEEK			PHYSICAL ACTIVITY	Q6
CAREMHR1	MODERATE CARE, HOURS/DAY	1=1 HOUR/DAY 2=2 HOURS/DAY 3=3 HOURS/DAY 4=4 HOURS/DAY 5=5 HOURS/DAY 6=>5 HOURS/DAY		PHYSICAL ACTIVITY	Q6
CAREMMN1	MODERATE CARE, MINUTES/DAY			PHYSICAL ACTIVITY	Q6
DRIVE1	DRIVE OR TRAVEL	0=NO 1=YES		PHYSICAL ACTIVITY	Q7
DRIVEDY1	DRIVE OR TRAVEL, DAYS/WEEK			PHYSICAL ACTIVITY	Q7
DRIVEHR1	DRIVE OR TRAVEL, HOURS/DAY	1=1 HOUR/DAY 2=2 HOURS/DAY 3=3 HOURS/DAY 4=4 HOURS/DAY 5=5 HOURS/DAY 6=>5 HOURS/DAY		PHYSICAL ACTIVITY	Q7

<u>VARIABLE</u>	<u>VARIABLE DESCRIPTION</u>	<u>VALUE LABELS</u>	<u>MISSING VALUES</u>	<u>FORM/EXAM</u>	<u>QUESTION NUMBER</u>
DRIVEMN1	DRIVE OR TRAVEL, MINUTES/DAY			PHYSICAL ACTIVITY	Q7
WALK1	WALK TO GET PLACES	0=NO 1=YES		PHYSICAL ACTIVITY	Q8
WALKDY1	WALK TO GET PLACES, DAYS/WEEK			PHYSICAL ACTIVITY	Q8
WALKHR1	WALK TO GET PLACES, HOURS/DAY	1=1 HOUR/DAY 2=2 HOURS/DAY 3=3 HOURS/DAY 4=4 HOURS/DAY 5=5 HOURS/DAY 6=>5 HOURS/DAY		PHYSICAL ACTIVITY	Q8
WALKMN1	WALK TO GET PLACES, MINUTES/DAY			PHYSICAL ACTIVITY	Q8
WALKEX1	WALK FOR EXERCISE	0=NO 1=YES		PHYSICAL ACTIVITY	Q9
WLKEXDY1	WALK FOR EXERCISE, DAYS/WEEK			PHYSICAL ACTIVITY	Q9
WLKEXHR1	WALK FOR EXERCISE, HOURS/DAY	1=1 HOUR/DAY 2=2 HOURS/DAY 3=3 HOURS/DAY 4=4 HOURS/DAY 5=5 HOURS/DAY 6=>5 HOURS/DAY		PHYSICAL ACTIVITY	Q9
WLKEXMN1	WALK FOR EXERCISE, MINUTES/DAY			PHYSICAL ACTIVITY	Q9
DANCE1	DANCE	0=NO 1=YES		PHYSICAL ACTIVITY	Q10
DANCEDY1	DANCE, DAYS/WEEK			PHYSICAL ACTIVITY	Q10
DANCEHR1	DANCE, HOURS/DAY	1=1 HOUR/DAY 2=2 HOURS/DAY 3=3 HOURS/DAY 4=4 HOURS/DAY 5=5 HOURS/DAY 6=>5 HOURS/DAY		PHYSICAL ACTIVITY	Q10
DANCEMN1	DANCE, MINUTES/DAY			PHYSICAL ACTIVITY	Q10
TEAMSP1	TEAM SPORTS	0=NO 1=YES		PHYSICAL ACTIVITY	Q11
TMSPDY1	TEAM SPORTS, DAYS/WEEK			PHYSICAL ACTIVITY	Q11
TMSPHR1	TEAM SPORTS, HOURS/DAY	1=1 HOUR/DAY 2=2 HOURS/DAY 3=3 HOURS/DAY 4=4 HOURS/DAY 5=5 HOURS/DAY 6=>5 HOURS/DAY		PHYSICAL ACTIVITY	Q11
TMSPMN1	TEAM SPORTS, MINUTES/DAY			PHYSICAL ACTIVITY	Q11
DLSPDY1	DUAL SPORTS, DAYS/WEEK			PHYSICAL ACTIVITY	Q12

<u>VARIABLE</u>	<u>VARIABLE DESCRIPTION</u>	<u>VALUE LABELS</u>	<u>MISSING VALUES</u>	<u>FORM/EXAM</u>	<u>QUESTION NUMBER</u>
DLSPHR1	DUAL SPORTS, HOURS/DAY	1=1 HOUR/DAY 2=2 HOURS/DAY 3=3 HOURS/DAY 4=4 HOURS/DAY 5=5 HOURS/DAY 6=>5 HOURS/DAY		PHYSICAL ACTIVITY	Q12
DLSPMN1	DUAL SPORTS, MINUTES/DAY			PHYSICAL ACTIVITY	Q12
DUALSP1	DUAL SPORTS	0=NO 1=YES		PHYSICAL ACTIVITY	Q12
INDACDY1	INDIVIDUAL ACTIVITIES, DAYS/WEEK			PHYSICAL ACTIVITY	Q13
INDACHR1	INDIVIDUAL ACTIVITIES, HOURS/DAY	1=1 HOUR/DAY 2=2 HOURS/DAY 3=3 HOURS/DAY 4=4 HOURS/DAY 5=5 HOURS/DAY 6=>5 HOURS/DAY		PHYSICAL ACTIVITY	Q13
INDACMN1	INDIVIDUAL ACTIVITIES, MINUTES/DAY			PHYSICAL ACTIVITY	Q13
INDACT1	INDIVIDUAL ACTIVITIES	0=NO 1=YES		PHYSICAL ACTIVITY	Q13
CONDMDY1	MODERATE CONDITIONING, DAYS/WEEK			PHYSICAL ACTIVITY	Q14
CONDMHR1	MODERATE CONDITIONING, HOURS/DAY	1=1 HOUR/DAY 2=2 HOURS/DAY 3=3 HOURS/DAY 4=4 HOURS/DAY 5=5 HOURS/DAY 6=>5 HOURS/DAY		PHYSICAL ACTIVITY	Q14
CONDMMN1	MODERATE CONDITIONING, MINUTES/DAY			PHYSICAL ACTIVITY	Q14
CONDMOD1	MODERATE CONDITIONING ACTIVITIES	0=NO 1=YES		PHYSICAL ACTIVITY	Q14
CONDHDY1	HEAVY CONDITIONING, DAYS/WEEK			PHYSICAL ACTIVITY	Q15
CONDHHR1	HEAVY CONDITIONING, HOURS/DAY	1=1 HOUR/DAY 2=2 HOURS/DAY 3=3 HOURS/DAY 4=4 HOURS/DAY 5=5 HOURS/DAY 6=>5 HOURS/DAY		PHYSICAL ACTIVITY	Q15
CONDHMN1	HEAVY CONDITIONING, MINUTES/DAY			PHYSICAL ACTIVITY	Q15
CONDHVY1	HEAVY CONDITIONING ACTIVITIES	0=NO 1=YES		PHYSICAL ACTIVITY	Q15
WATCHTV1	WATCH TV	0=NO 1=YES		PHYSICAL ACTIVITY	Q16
WCHTVDY1	WATCH TV, DAYS/WEEK			PHYSICAL ACTIVITY	Q16

<u>VARIABLE</u>	<u>VARIABLE DESCRIPTION</u>	<u>VALUE LABELS</u>	<u>MISSING VALUES</u>	<u>FORM/EXAM</u>	<u>QUESTION NUMBER</u>
WCHTVHR1	WATCH TV, HOURS/DAY	1=1 HOUR/DAY 2=2 HOURS/DAY 3=3 HOURS/DAY 4=4 HOURS/DAY 5=5 HOURS/DAY 6=>5 HOURS/DAY		PHYSICAL ACTIVITY	Q16
WCHTVMN1	WATCH TV, MINUTES/DAY			PHYSICAL ACTIVITY	Q16
READ1	READ, LEISURE ACTIVITIES	0=NO 1=YES		PHYSICAL ACTIVITY	Q17
READDY1	READ, DAYS/WEEK			PHYSICAL ACTIVITY	Q17
READHR1	READ, HOURS/DAY	1=1 HOUR/DAY 2=2 HOURS/DAY 3=3 HOURS/DAY 4=4 HOURS/DAY 5=5 HOURS/DAY 6=>5 HOURS/DAY		PHYSICAL ACTIVITY	Q17
READMN1	READ, MINUTES/DAY			PHYSICAL ACTIVITY	Q17
WORK1	WORK TO EARN MONEY	0=NO 1=YES		PHYSICAL ACTIVITY	Q18
WORKDY1	WORK (ALL JOBS), DAYS/WEEK			PHYSICAL ACTIVITY	Q19
WORKHR1	WORK (ALL JOBS), HOURS/DAY			PHYSICAL ACTIVITY	Q19
WKSITHR1	WORK, LIGHT EFFORT (SITTING), HOURS/DAY			PHYSICAL ACTIVITY	Q20
WRKLSIT1	WORK, LIGHT EFFORT (SITTING)	0=NO 1=YES		PHYSICAL ACTIVITY	Q20
WKSTDHR1	WORK, LIGHT EFFORT (STANDING), HOURS/DAY			PHYSICAL ACTIVITY	Q21
WRKLSTD1	WORK, LIGHT EFFORT (STANDING)	0=NO 1=YES		PHYSICAL ACTIVITY	Q21
WKMODHR1	WORK, MODERATE EFFORT, HOURS/DAY			PHYSICAL ACTIVITY	Q22
WRKMOD1	WORK, MODERATE EFFORT	0=NO 1=YES		PHYSICAL ACTIVITY	Q22
WKHVVHR1	WORK, HEAVY EFFORT, HOURS/DAY			PHYSICAL ACTIVITY	Q23
WRKHVY1	WORK, HEAVY EFFORT	0=NO 1=YES		PHYSICAL ACTIVITY	Q23
VOLNTR1	VOLUNTEER WORK, ANY	0=NO 1=YES		PHYSICAL ACTIVITY	Q24
VOLLDY1	VOLUNTEER WORK, LIGHT EFFORT, DAYS/WEEK			PHYSICAL ACTIVITY	Q25

<u>VARIABLE</u>	<u>VARIABLE DESCRIPTION</u>	<u>VALUE LABELS</u>	<u>MISSING VALUES</u>	<u>FORM/EXAM</u>	<u>QUESTION NUMBER</u>
VOLLHR1	VOLUNTEER WORK, LIGHT EFFORT, HOURS/DAY	1=1 HOUR/DAY 2=2 HOURS/DAY 3=3 HOURS/DAY 4=4 HOURS/DAY 5=5 HOURS/DAY 6=>5 HOURS/DAY		PHYSICAL ACTIVITY	Q25
VOLLT1	VOLUNTEER WORK, LIGHT EFFORT	0=NO 1=YES		PHYSICAL ACTIVITY	Q25
VOLMDY1	VOLUNTEER WORK, MODERATE EFFORT, DAYS/WEEK			PHYSICAL ACTIVITY	Q26
VOLMHR1	VOLUNTEER WORK, MODERATE EFFORT, HOURS/DAY	1=1 HOUR/DAY 2=2 HOURS/DAY 3=3 HOURS/DAY 4=4 HOURS/DAY 5=5 HOURS/DAY 6=>5 HOURS/DAY		PHYSICAL ACTIVITY	Q26
VOLMOD1	VOLUNTEER WORK, MODERATE EFFORT	0=NO 1=YES		PHYSICAL ACTIVITY	Q26
VOLHDY1	VOLUNTEER WORK, HEAVY EFFORT, DAYS/WEEK			PHYSICAL ACTIVITY	Q27
VOLHHR1	VOLUNTEER WORK, HEAVY EFFORT, HOURS/DAY	1=1 HOUR/DAY 2=2 HOURS/DAY 3=3 HOURS/DAY 4=4 HOURS/DAY 5=5 HOURS/DAY 6=>5 HOURS/DAY		PHYSICAL ACTIVITY	Q27
VOLHVV1	VOLUNTEER WORK, HEAVY EFFORT	0=NO 1=YES		PHYSICAL ACTIVITY	Q27
WLKPACE1	TYPICAL WALKING PACE	0=NO WALKING 1=CASUAL STROLLING (<2mph) 2=AVERAGE (2-3mph) 3=FAIRLY BRISKLY (4-5mph) 4=BRISK OR STRIDING (>5mph)		PHYSICAL ACTIVITY	Q28
HSEMN1C	MESA: TOT HOUSE MIN/WK M-SU			PHYSICAL ACTIVITY	COMPUTED
HSEMT1C	MESA: TOT HOUSE MET-MIN/WK M-SU			PHYSICAL ACTIVITY	COMPUTED
YRDMN1C	MESA: TOT YARD MIN/WK M-SU			PHYSICAL ACTIVITY	COMPUTED
YRDMT1C	MESA: TOT YARD MET-MIN/WK M-SU			PHYSICAL ACTIVITY	COMPUTED
CAREMN1C	MESA: TOT OTHERCARE 5/6 MIN/WK M-SU			PHYSICAL ACTIVITY	COMPUTED
CAREMT1C	MESA: TOT OTHERCARE 5/6 MET-MIN/WK M-SU			PHYSICAL ACTIVITY	COMPUTED
TRNMN1C	MESA: TOT TRANSPORT MIN/WK M-SU			PHYSICAL ACTIVITY	COMPUTED

<u>VARIABLE</u>	<u>VARIABLE DESCRIPTION</u>	<u>VALUE LABELS</u>	<u>MISSING VALUES</u>	<u>FORM/EXAM</u>	<u>QUESTION NUMBER</u>
TRNMT1C	MESA: TOT TRANSPORT MET-MIN/WK M-SU			PHYSICAL ACTIVITY	COMPUTED
WALKMN1C	MESA: TOT WALKING MIN/WK M-SU			PHYSICAL ACTIVITY	COMPUTED
WALKMT1C	MESA: TOT WALKING MET-MIN/WK M-SU			PHYSICAL ACTIVITY	COMPUTED
SPTNMN1C	MESA: TOT DANC/SPORT MIN/WK M-SU			PHYSICAL ACTIVITY	COMPUTED
SPTNMT1C	MESA: TOT DANC/SPOR MET-MIN/WK M-SU			PHYSICAL ACTIVITY	COMPUTED
CONDMN1C	MESA: TOT CONDIT MIN/WK M-SU			PHYSICAL ACTIVITY	COMPUTED
CONDMT1C	MESA: TOT CONDIT MET-MIN/WK M-SU			PHYSICAL ACTIVITY	COMPUTED
LEISMN1C	MESA: TOT LEISURE MIN/WK M-SU			PHYSICAL ACTIVITY	COMPUTED
LEISMT1C	MESA: TOT LEISURE MET-MIN/WK M-SU			PHYSICAL ACTIVITY	COMPUTED
OCCMN1C	MESA: TOT WORK MIN M-SU/WK			PHYSICAL ACTIVITY	COMPUTED
OCCMT1C	MESA: TOT WORK MET-MIN/WK M-SU			PHYSICAL ACTIVITY	COMPUTED
VOLMN1C	MESA: TOT VOLUNTR MIN/WK M-SU			PHYSICAL ACTIVITY	COMPUTED
VOLMT1C	MESA: TOT VOLUNTR MET-MIN/WK M-SU			PHYSICAL ACTIVITY	COMPUTED
MPTTMN1C	MESA: TOTAL PA MIN/WK M-SU			PHYSICAL ACTIVITY	COMPUTED
MPTTMT1C	MESA: TOTAL PA MET-MIN/WK M-SU			PHYSICAL ACTIVITY	COMPUTED
MPLTMN1C	TWPAS: TOTAL LIT MIN/WK M-SU			PHYSICAL ACTIVITY	COMPUTED
MPLTMT1C	TWPAS: TOTAL LIT MET-MIN/WK M-SU			PHYSICAL ACTIVITY	COMPUTED
MPMOMN1C	TWPAS: TOTAL MOD MIN/WK M-SU			PHYSICAL ACTIVITY	COMPUTED
MPMOMT1C	TWPAS: TOTAL MOD MET-MIN/WK M-SU			PHYSICAL ACTIVITY	COMPUTED
MPVGMN1C	TWPAS: TOTAL VIG MIN/WK M-SU			PHYSICAL ACTIVITY	COMPUTED
MPVGMT1C	TWPAS: TOTAL VIG MET-MIN/WK M-SU			PHYSICAL ACTIVITY	COMPUTED

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## SEATED BP

BPDID1	DATA ENTRY ID - SEATED BP			SEATED BP	
BPDT1	DATE - SEATED BP (mm/dd/yyyy)			SEATED BP	
BPRID1	REVIEWER ID - SEATED BP			SEATED BP	
BPTID1	TECH ID - SEATED BP			SEATED BP	
DMAPNUM1	DINAMAP NUMBER			SEATED BP	
ARMCM1	ARM CIRCUMFERENCE (cm)			SEATED BP	Q1

<u>VARIABLE</u>	<u>VARIABLE DESCRIPTION</u>	<u>VALUE LABELS</u>	<u>MISSING VALUES</u>	<u>FORM/EXAM</u>	<u>QUESTION NUMBER</u>
CUFFSZ1	SEATED BP CUFF SIZE	1=SMALL ADULT (17-25cm) 2=ADULT (25.1-33cm) 3=LARGE ADULT (33.1-40cm) 4=THIGH (40.1-50cm) 5=FOREARM, ADULT (25.1-33cm) 6=FOREARM, LARGE ADULT (33.1-40cm)		SEATED BP	Q2
BPTM1	TIME OF DAY, SEATED BP			SEATED BP	Q3
D1BP1	SEATED BP: DIASTOLIC 1ST READING (mmHg)			SEATED BP	Q3
S1BP1	SEATED BP: SYSTOLIC 1ST READING (mmHg)			SEATED BP	Q3
D2BP1	SEATED BP: DIASTOLIC 2ND READING (mmHg)			SEATED BP	Q4
S2BP1	SEATED BP: SYSTOLIC 2ND READING (mmHg)			SEATED BP	Q4
D3BP1	SEATED BP: DIASTOLIC 3RD READING (mmHg)			SEATED BP	Q5
S3BP1	SEATED BP: SYSTOLIC 3RD READING (mmHg)			SEATED BP	Q5
RMTEMPF1	ROOM TEMPERATURE (fahrenheit), SEATED BP			SEATED BP	Q6
DBP1C	SEATED DIASTOLIC BLOOD PRESSURE (mmHg)			SEATED BP	COMPUTED
HTNSTG1C	HYPERTENSION STAGE	1=OPTIMAL 2=NORMAL 3=HIGH-NORMAL 4=STAGE 1 HYPERTENSION 5=STAGE 2 HYPERTENSION 6=STAGE 3 HYPERTENSION		SEATED BP	COMPUTED
HTNTYP1C	HYPERTENSION SUBTYPE	1=NORMAL 2=BORDERLINE ISOLATED SYSTOLIC HTN 3=ISOLATED SYSTOLIC HTN 4=DIASTOLIC HTN		SEATED BP	COMPUTED
SBP1C	SEATED SYSTOLIC BLOOD PRESSURE (mmHg)			SEATED BP	COMPUTED

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## CT

AGATP11C	SCAN 1: AGATSTON CALCIUM SCORE, PHANTOM-ADJUSTED			CT	COMPUTED
AGATP21C	SCAN 2: AGATSTON CALCIUM SCORE, PHANTOM-ADJUSTED			CT	COMPUTED
AGATPM1C	MEAN: AGATSTON CALCIUM SCORE, PHANTOM-ADJUSTED			CT	COMPUTED
AGATU11C	SCAN 1: AGATSTON CALCIUM SCORE, UNADJUSTED			CT	COMPUTED
AGATU21C	SCAN 2: AGATSTON CALCIUM SCORE, UNADJUSTED			CT	COMPUTED
AGATUM1C	MEAN: AGATSTON CALCIUM SCORE, UNADJUSTED			CT	COMPUTED



<u>VARIABLE</u>	<u>VARIABLE DESCRIPTION</u>	<u>VALUE LABELS</u>	<u>MISSING VALUES</u>	<u>FORM/EXAM</u>	<u>QUESTION NUMBER</u>
PHOK1C	IS THE PHANTOM ADJUSTMENT VALID?	0=NOT VALID 1=VALID		CT	COMPUTED
MASS11C	SCAN 1: CAC ARTERIAL MASS			CT	COMPUTED
MASS21C	SCAN 2: CAC ARTERIAL MASS			CT	COMPUTED
MASSM1C	MEAN: CAC ARTERIAL MASS			CT	COMPUTED
VOLP11C	SCAN 1: TOTAL CALCIUM VOLUME, PHANTOM-ADJUSTED			CT	COMPUTED
VOLP1MC	MEAN: TOTAL CALCIUM VOLUME, PHANTOM-ADJUSTED			CT	COMPUTED
VOLP21C	SCAN 2: TOTAL CALCIUM VOLUME, PHANTOM-ADJUSTED			CT	COMPUTED
VOLSP11C	SCAN 1: TOTAL VOLUME SCORE, PHANTOM-ADJUSTED			CT	COMPUTED
VOLSP21C	SCAN 2: TOTAL VOLUME SCORE, PHANTOM-ADJUSTED			CT	COMPUTED
VOLSPM1C	MEAN: TOTAL VOLUME SCORE, PHANTOM-ADJUSTED			CT	COMPUTED
VOLSU11C	SCAN 1: TOTAL VOLUME SCORE, UNADJUSTED			CT	COMPUTED
VOLSU21C	SCAN 2: TOTAL VOLUME SCORE, UNADJUSTED			CT	COMPUTED
VOLSUM1C	MEAN: TOTAL VOLUME SCORE, UNADJUSTED			CT	COMPUTED
VOLU11C	SCAN 1: TOTAL CALCIUM VOLUME, UNADJUSTED			CT	COMPUTED
VOLU21C	SCAN 2: TOTAL CALCIUM VOLUME, UNADJUSTED			CT	COMPUTED
VOLUM1C	MEAN: TOTAL CALCIUM VOLUME, UNADJUSTED			CT	COMPUTED
NINE11	CT DATA CORRECTED BECAUSE OF 9/11/01	0=NO 1=YES			

## ECG

HRTRATE1	HEART RATE (beats/min)			ECG	
AFIB1C	ECG ATRIAL FIBRILLATION	0=NO 1=YES		ECG	COMPUTED
AVB1C	FIRST DEGRESS ATRIO-VENTRICULAR BLOCK	0=NO 1=YES		ECG	COMPUTED
ECGLVH1C	ECG LEFT VENTRICULAR HYPERTROPHY	0=NO 1=YES		ECG	COMPUTED
HIR1C	HIGH R WAVES	0=NO 1=YES		ECG	COMPUTED
IRBBB1C	INCOMPLETE RBBB	0=NO 1=YES		ECG	COMPUTED
LAD1C	LEFT AXIS DEVIATION	0=NO 1=YES		ECG	COMPUTED
LQT1C	LONG QT INTERVAL	0=NO 1=YES		ECG	COMPUTED
MAJABN1C	ANY MAJOR ECG ABNORMALITIES	0=NO 1=YES		ECG	COMPUTED
MINABN1C	ANY MINOR ECG ABNORMALITIES	0=NO 1=YES		ECG	COMPUTED

<u>VARIABLE</u>	<u>VARIABLE DESCRIPTION</u>	<u>VALUE LABELS</u>	<u>MISSING VALUES</u>	<u>FORM/EXAM</u>	<u>QUESTION NUMBER</u>
MQS1C	MINOR Q, QS WAVES	0=NO 1=YES		ECG	COMPUTED
MST1C	MINOR ISOLATED ST-T ABNORMALITIES	0=NO 1=YES		ECG	COMPUTED
QQS1C	MAJOR Q-WAVE ABNORMALITIES	0=NO 1=YES		ECG	COMPUTED
QST1C	MINOR Q, QS WAVES WITH ST-T ABNORMALITIES	0=NO 1=YES		ECG	COMPUTED
RAD1C	RIGHT AXIS DEVIATION	0=NO 1=YES		ECG	COMPUTED
SPR1C	SHORT PR	0=NO 1=YES		ECG	COMPUTED
STT1C	ISOLATED ST-T WAVE ABNORMALITIES	0=NO 1=YES		ECG	COMPUTED
STE1C	ST ELEVATION	0=NO 1=YES		ECG	COMPUTED
VCD1C	VENTRICULAR CONDUCTION DEFECT	0=NO 1=YES		ECG	COMPUTED

## LIPIDS

CHOL1	TOTAL CHOLESTROL (mg/dl)			LIPIDS	
CREATIN1	CREATININE (mg/dl)			LIPIDS	
GLUCOSE1	FASTING GLUCOSE (mg/dl)			LIPIDS	
HDL1	HDL CHOLESTROL (mg/dl)			LIPIDS	
LDL1	LDL CHOLESTEROL (mg/dl)			LIPIDS	
TRIG1	TRIGLYCERIDES (mg/dl)			LIPIDS	
CHLCAT1C	TOTAL CHOLESTEROL, NCEP CATEGORIES	1=DESIRABLE, <200 2=BORDERLINE HIGH, 200-239 3=HIGH, 240+		LIPIDS	COMPUTED
HDLCAT1C	HDL CHOLESTEROL, NCEP CATEGORIES	1=HIGH, 60+ 2= 40-59 3=LOW, <40		LIPIDS	COMPUTED
LDLCAT1C	LDL CHOLESTEROL, NCEP CATEGORIES	1=OPTIMAL, <100 2=NEAR OPTIMAL, 100-129 3=BORDERLINE HIGH, 130-159 4=HIGH, 160-189 5=VERY HIGH, 190+		LIPIDS	COMPUTED
TRGCAT1C	TRIGLYCERIDES, NCEP CATEGORIES	1=NORMAL, <150 2=BORDERLINE HIGH, 150-199 3=HIGH, 200-499 4=VERY HIGH, 500+		LIPIDS	COMPUTED

## LIPIDS/BLOOD: GROUP 2

<u>VARIABLE</u>	<u>VARIABLE DESCRIPTION</u>	<u>VALUE LABELS</u>	<u>MISSING VALUES</u>	<u>FORM/EXAM</u>	<u>QUESTION NUMBER</u>
INSULIN1	SERUM INSULIN (mU/L)			LIPIDS/BLOOD:GRP 2	
HCYTOT1	TOTAL HOMOCYSTEINE (umol/L)			LIPIDS/BLOOD:GRP 2	
CRP1	C-REACTIVE PROTEIN, "CRP" (mg/L)			LIPIDS/BLOOD:GRP 2	
CPNTITE1	CHLAMYDIA PNEUMONIAE, IgG ANTIBODIES	0=NEGATIVE, NO FLUORESCENCE (NEG) 1=1+, DEFINITE, BUT DIM FLUORESCENCE (POS) 2=2+, MODERATE TO INTENSE FLUORESCENCE (POS) 3=3+, MODERATE TO INTENSE FLUORESCENCE (POS) 4=4+, MODERATE TO INTENSE FLUORESCENCE (POS)		LIPIDS/BLOOD:GRP 2	
CPN1C	CHLAMYDIA PNEUMONIAE results in POS/NEG/NSF form	POS (see above) NEG (see above) NSF= NON-SPECIFIC FLUORESCENCE		LIPIDS/BLOOD:GRP 2	
VLDP1C	VLDL Particles (total) (nmol/L)			LIPIDS/BLOOD:GRP 2	
VL1	Large VLDL/Chylos, >60 nm diameter range (nmol/L)			LIPIDS/BLOOD:GRP 2	
VM1	Medium VLDL, 35-60 nm diameter range (nmol/L)			LIPIDS/BLOOD:GRP 2	
VS1	Small VLDL, 27-35 nm diameter range (nmol/L)			LIPIDS/BLOOD:GRP 2	
LDLP1C	LDL Particles (total) (nmol/L)			LIPIDS/BLOOD:GRP 2	
IDL1	IDL, 23-27 nm diameter range (nmol/L)			LIPIDS/BLOOD:GRP 2	
LL1	Large LDL, 21.2-23 nm diameter range (nmol/L)			LIPIDS/BLOOD:GRP 2	
LS1	Small LDL (total), 18-21.2 nm diameter range (nmol/L)			LIPIDS/BLOOD:GRP 2	
LMS1	Medium Small LDL, 19.8-21.2 nm diameter range (nmol/L)			LIPIDS/BLOOD:GRP 2	
LVS1	Very Small LDL, 18-19.8 nm diameter range (nmol/L)			LIPIDS/BLOOD:GRP 2	
HDLP1C	HDL Particles (total) (umol/L)			LIPIDS/BLOOD:GRP 2	
HL1	Large HDL, 8.8-13 nm diameter range (umol/L)			LIPIDS/BLOOD:GRP 2	
HM1	Medium HDL, 8.2-8.8 nm diameter range (umol/L)			LIPIDS/BLOOD:GRP 2	
HS1	Small HDL, 7.3-8.2 nm diameter range (umol/L)			LIPIDS/BLOOD:GRP 2	
VZ1	VLDL size (nm)			LIPIDS/BLOOD:GRP 2	
LZ1	LDL size (nm)			LIPIDS/BLOOD:GRP 2	
HZ1	HDL size (nm)			LIPIDS/BLOOD:GRP 2	
NTRG1C	Total Triglycerides (mg/dL)			LIPIDS/BLOOD:GRP 2	
NVTRG1C	VLDL triglycerides (mg/dL)			LIPIDS/BLOOD:GRP 2	
NLDLC1C	LDL Cholesterol (mg/dL)			LIPIDS/BLOOD:GRP 2	
NHDLC1C	HDL Cholesterol (mg/dL)			LIPIDS/BLOOD:GRP 2	

## LIPIDS/BLOOD: GROUP 2

<u>VARIABLE</u>	<u>VARIABLE DESCRIPTION</u>	<u>VALUE LABELS</u>	<u>MISSING VALUES</u>	<u>FORM/EXAM</u>	<u>QUESTION NUMBER</u>
FIB1	Fibrinogen Antigen (mg/dL)			LIPIDS/BLOOD:GRP 2	
PAP1	Plasmin-Antiplasmin Complex, "PAP" (nM)			LIPIDS/BLOOD:GRP 2	
IL61	Interleuken-6, "IL6" (pg/mL)			LIPIDS/BLOOD:GRP 2	
DDIMER1	D-Dimer (ug/mL)			LIPIDS/BLOOD:GRP 2	
F81	Percent Factor VIII			LIPIDS/BLOOD:GRP 2	

## LIPIDS/BLOOD: GROUP 3

<u>VARIABLE</u>	<u>VARIABLE DESCRIPTION</u>	<u>VALUE LABELS</u>	<u>MISSING VALUES</u>	<u>FORM/EXAM</u>	<u>QUESTION NUMBER</u>
CD40L1	CD40 Ligand			LIPIDS/BLOOD:GRP 3	
ESELECT1	E-selectin			LIPIDS/BLOOD:GRP 3	
IL2SR1	Interleukin-2			LIPIDS/BLOOD:GRP 3	
MMP31	Matrix Metalloproteinase 3			LIPIDS/BLOOD:GRP 3	
MMP91	Matrix Metalloproteinase 9			LIPIDS/BLOOD:GRP 3	
TNFR11	Tumor Necrosis Facto-a soluble receptors			LIPIDS/BLOOD:GRP 3	
HSV1	Herpes simplex virus			LIPIDS/BLOOD:GRP 3	
HSV1C	Herpes simplex virus Pos/Neg			LIPIDS/BLOOD:GRP 3	
CMV1	Cytomegalovirus			LIPIDS/BLOOD:GRP 3	
CMV1C	Cytomegalovirus Pos/Neg			LIPIDS/BLOOD:GRP 3	
HPYLORI	Helicobacter pylori antibodies			LIPIDS/BLOOD:GRP 3	
HPYLORI1C	Helicobacter pylori antibodies Pos/Neg			LIPIDS/BLOOD:GRP 3	
HAVAB1	Hepatitis A Virus antibodies			LIPIDS/BLOOD:GRP 3	
HAVAB1C	Hepatitis A Virus antibodies Pos/Neg			LIPIDS/BLOOD:GRP 3	
PAI1	PAI-1, ng/mL			LIPIDS/BLOOD:GRP 3	
STF1	Soluble TF, pg/mL			LIPIDS/BLOOD:GRP 3	
TAFI1	TAFI, µg/mL			LIPIDS/BLOOD:GRP 3	
TFPI1	TFPI, ng/mL			LIPIDS/BLOOD:GRP 3	
ABCA1CT1	ABCA1 -477 C/T Genotype	1=C/C 2=C/T 3=T/T		LIPIDS/BLOOD:GRP 3	
ABCA1GA1	ABCA1 1051 G/A (R219K) Genotype	1=G/G 2=G/A 3=A/A		LIPIDS/BLOOD:GRP 3	
HDL11	HDL – 1 (%)			LIPIDS/BLOOD:GRP 3	
HDL21	HDL – 2 (%)			LIPIDS/BLOOD:GRP 3	
HDL31	HDL – 3 (%)			LIPIDS/BLOOD:GRP 3	

HDL41	HDL – 4 (%)	LIPIDS/BLOOD:GRP 3
HDL51	HDL – 5 (%)	LIPIDS/BLOOD:GRP 3
HDL61	HDL – 6 (%)	LIPIDS/BLOOD:GRP 3

### LIPIDS/BLOOD: GROUP 3

<u>VARIABLE</u>	<u>VARIABLE DESCRIPTION</u>	<u>VALUE LABELS</u>	<u>MISSING VALUES</u>	<u>FORM/EXAM</u>	<u>QUESTION NUMBER</u>
HDL71	HDL – 7 (%)			LIPIDS/BLOOD:GRP 3	
HDL81	HDL – 8 (%)			LIPIDS/BLOOD:GRP 3	
HDL1MD1	HDL – 1 (mg/dL)			LIPIDS/BLOOD:GRP 3	
HDL2MD1	HDL – 2 (mg/dL)			LIPIDS/BLOOD:GRP 3	
HDL3MD1	HDL – 3 (mg/dL)			LIPIDS/BLOOD:GRP 3	
HDL4MD1	HDL – 4 (mg/dL)			LIPIDS/BLOOD:GRP 3	
HDL5MD1	HDL – 5 (mg/dL)			LIPIDS/BLOOD:GRP 3	
HDL6MD1	HDL – 6 (mg/dL)			LIPIDS/BLOOD:GRP 3	
HDL7MD1	HDL – 7 (mg/dL)			LIPIDS/BLOOD:GRP 3	
HDL8MD1	HDL – 8 (mg/dL)			LIPIDS/BLOOD:GRP 3	
RLPC1	Remnant-like Particle Cholesterol			LIPIDS/BLOOD:GRP 3	
ANTHSP61	Anti-human Heat Shock Protein-60 (ng/mL)			LIPIDS/BLOOD:GRP 3	
CEACT1	Cholesterol Ester Transfer Protein Activity (nmol/mL/hr)			LIPIDS/BLOOD:GRP 3	
CEMASS1	Cholesterol Ester Transfer Protein Mass (mg/mL)			LIPIDS/BLOOD:GRP 3	
CEA373P1	Cholesterol Ester Transfer Protein – A373P Genotype	1-A/A 2-A/P 3-P/P		LIPIDS/BLOOD:GRP 3	
CE629CA1	Cholesterol Ester Transfer Protein – 629CA Genotype	1-C/C 2-C/A 3-A/A		LIPIDS/BLOOD:GRP 3	
CER452Q1	Cholesterol Ester Transfer Protein – R451Q Genotype	1-R/R 2-R/Q 3-Q/Q		LIPIDS/BLOOD:GRP 3	
CETAQ1B1	Cholesterol Ester Transfer Protein – TAQ1B Genotype	1-B1/B1 2-B1/B2 3-B2/B2		LIPIDS/BLOOD:GRP 3	
VWF1	Percent von Willebrand Factor “vWF”			LIPIDS/BLOOD:GRP 3	

### LIPIDS sICAM-1

<u>VARIABLE</u>	<u>VARIABLE DESCRIPTION</u>	<u>VALUE LABELS</u>	<u>MISSING VALUES</u>	<u>FORM/EXAM</u>	<u>QUESTION NUMBER</u>
ICAM1	Soluble Intercellular Adhesion Molecule-1, “sICAM-1” (ng/mL)			LIPIDS	

## MRI

<u>VARIABLE</u>	<u>VARIABLE DESCRIPTION</u>	<u>VALUE LABELS</u>	<u>MISSING VALUES</u>	<u>FORM/EXAM</u>	<u>QUESTION NUMBER</u>
OAORMN1	FLOW PARAMETER: MINIMUM AORTIC AREA			MRI	
OAORMX1	FLOW PARAMETER: MAXIMUM AORTIC AREA			MRI	
OARDIS1	FLOW PARAMETER: AORTIC DISTENSIBILITY (1/mmHG)			MRI	
OLVEDM1	LV END-DIASTOLIC MASS (g)			MRI	
OLVEDV1	LV END-DIASTOLIC VOLUME (mL)			MRI	
OLVEF1	LV EJECTION FRACTION (%)			MRI	
OLVESV1	LV END-SYSTOLIC VOLUME (mL)			MRI	
OLVSV1	LV STROKE VOLUME (mL)			MRI	
AAD1C	AVERAGE AORTIC DIAMETER (mm)			MRI	COMPUTED
AODIS1C	MRI: AORTIC DISTENSIBILITY			MRI	COMPUTED

## PULSE WAVE

LVCOMP1		PULSE WAVE, LARGE VESSEL COMPLIANCE			PULSE WAVE
SVCOMP1	PULSE WAVE, SMALL VESSEL COMPLIANCE			PULSE WAVE	

## URINE

UCREAT1		URINARY CREATININE (mg/dl)			URINE
UALBUMN1	URINARY ALBUMIN (mg/dl)			URINE	
UALBCRE1	URINARY ALBUMIN/CREATININE (mg/g)			URINE	
UABCAT1C	URINE: MICROABUMINURIA	1=NORMAL 2=MICROALBUMINURIA 3=MACROALBUMINURIA		URINE	COMPUTED

## US: DISTENSIBILITY

DCOEFF1		DISTENSIBILITY COEFFICIENT			US - DISTENSIBILITY
YOUNGM1	YOUNGS MODULUS			US - DISTENSIBILITY	

**US: BRACHIAL** (Data has been pulled until further notice. Contact the Coordinating Center for more information.)

<u>VARIABLE</u>	<u>VARIABLE DESCRIPTION</u>	<u>VALUE LABELS</u>	<u>MISSING VALUES</u>	<u>FORM/EXAM</u>	<u>QUESTION NUMBER</u>
RDMA1	RELEASE EDGE DETECTED AVERAGE DIAMETER (mm)			US - BRACHIAL	
RSDA1	RESPONSE EDGE DETECTED AVERAGE DIAMETER (mm)			US - BRACHIAL	
S1DMA1	STREAM 1 EDGE DETECTED AVERAGE DIAMETER (mm)			US - BRACHIAL	
S2DMA1	STREAM 2 EDGE DETECTED AVERAGE DIAMETER (mm)			US - BRACHIAL	
V1RAW1C	VERS 1: RAW CHANGE BRACHIAL ARTERY DIAMETER (mm)			US - BRACHIAL	COMPUTED
V1RPC1C	VERS 1: RAW PERCENT CHANGE BRACHIAL ARTERY DIAMETER			US - BRACHIAL	COMPUTED
V2RAW1C	VERS 2: RAW CHANGE BRACHIAL ARTERY DIAMETER (mm)			US - BRACHIAL	COMPUTED
V2RPC1C	VERS 2: RAW PERCENT CHANGE BRACHIAL ARTERY DIAMETER			US - BRACHIAL	COMPUTED

## US: IMT

LDENS1	LEFT DENSITY	0=NO LESION 1=HYPODENSE 2=ISODENSE 3=HYPERDENSE 4=CALCIFIED 8=CAN'T TELL	8	US - IMT	
LLOC1	LEFT LOCATION	0=NO LESION 1=INTERNAL 2=BULB 8=CAN'T TELL	8	US - IMT	
LMORPH1	LEFT MORPHOLOGY	0=NO LESION 1=HOMOGENEOUS 2=HETEROGENEOUS 8=CAN'T TELL	8	US - IMT	
LSTEN1	LEFT STENOSIS	0=NORMAL 1=1-24% 2=25-49% 3=50-74%	7, 8	US - IMT	

		4=75-99% 5=100% 6=NO LESION 7=BAD IMAGE/NORMAL DOPPLER 8=CAN'T TELL			
LSURF1	LEFT SURFACE	0=SMOOTH 1=MILDLY IRREGULAR 2=MARKEDLY IRREGULAR 3=ULCERATED 6=NO LESION 8=CAN'T TELL	8	US - IMT	
RDENS1	RIGHT DENSITY	0=NO LESION 1=HYPODENSE 2=ISODENSE 3=HYPERDENSE 4=CALCIFIED 8=CAN'T TELL	8	US - IMT	
RLOC1	RIGHT LOCATION	0=NO LESION 1=INTERNAL 2=BULB 8=CAN'T TELL	8	US - IMT	
RMORPH1	RIGHT MORPHOLOGY	0=NO LESION 1=HOMOGENEOUS 2=HETEROGENEOUS 8=CAN'T TELL	8	US - IMT	
RSTEN1	RIGHT STENOSIS	0=NORMAL 1=1-24% 2=25-49% 3=50-74% 4=75-99% 5=100% 6=NO LESION 7=BAD IMAGE/NORMAL DOPPLER 8=CAN'T TELL	7, 8	US - IMT	
RSURF1	RIGHT SURFACE	0=SMOOTH 1=MILDLY IRREGULAR 2=MARKEDLY IRREGULAR 3=ULCERATED 6=NO LESION 8=CAN'T TELL	8	US - IMT	
MAXCOM1C	COMMON CAROTID INTIMAL-MEDIAL THICKNESS (mm)			US - IMT	COMPUTED
MAXDEN1C	MAXIMUM DENSITY	0=NO LESION 1=HYPODENSE 2=ISODENSE 3=HYPERDENSE 4=CALCIFIED		US - IMT	COMPUTED



MAXINT1C	INTERNAL CAROTID INTIMAL-MEDIAL THICKNESS (mm)		US - IMT	COMPUTED
MAXMOR1C	MAXIMUM MORPHOLOGY	0=NO LESION 1=HOMOGENEOUS 2=HETEROGENEOUS	US - IMT	COMPUTED
<b><u>VARIABLE</u></b>	<b><u>VARIABLE DESCRIPTION</u></b>	<b><u>VALUE LABELS</u></b>	<b><u>MISSING VALUES</u></b>	<b><u>QUESTION NUMBER</u></b>
MAXSTN1C	MAXIMUM CAROTID STENOSIS, GRADED	0=NORMAL 1=1-24% 2=25-49% 3=50-74% 4=75-99% 5=100%	US - IMT	COMPUTED
MAXSUR1C	MAXIMUM SURFACE	0=SMOOTH 1=MILDLY IRREGULAR 2=MARKEDLY IRREGULAR 3=ULCERATED 6=NO LESION 8=CAN'T TELL	US - IMT	COMPUTED



# MESA Exam 1

## List of Reading Center Variables

All variables collected at the MESA Reading Centers are listed below. The variable name, description, and value labels are provided. In addition, variables created from existing reading center variables are listed. (See Data Dictionary for created variable definitions). In general, created variables end in “1C” and are identified as “COMPUTED” in the “Notes” column. Also note that each Reading Center data file includes one record for participant, except for CT, which can have up to two scans (records) per participant. Age, race, gender, and site are included in each Reading Center data file.

<b>LIPIDS</b>				
CHOL1	TOTAL CHOLESTROL (mg/dl)		LIPIDS	
CREATIN1	CREATININE (mg/dl)		LIPIDS	
GLUCOSE1	FASTING GLUCOSE (mg/dl)		LIPIDS	
HDL1	HDL CHOLESTROL (mg/dl)		LIPIDS	
LDL1	LDL CHOLESTEROL (mg/dl)		LIPIDS	
TRIG1	TRIGLYCERIDES (mg/dl)		LIPIDS	
CHLCAT1C	TOTAL CHOLESTEROL, NCEP CATEGORIES	1=DESIRABLE, <200 2=BORDERLINE HIGH, 200-239 3=HIGH, 240+	LIPIDS	COMPUTED
HDLCAT1C	HDL CHOLESTEROL, NCEP CATEGORIES	1=HIGH, 60+ 2= 40-59 3=LOW, <40	LIPIDS	COMPUTED
LDLCAT1C	LDL CHOLESTEROL, NCEP CATEGORIES	1=OPTIMAL, <100 2=NEAR OPTIMAL, 100-129 3=BORDERLINE HIGH, 130-159 4=HIGH, 160-189 5=VERY HIGH, 190+	LIPIDS	COMPUTED
TRGCAT1C	TRIGLYCERIDES, NCEP CATEGORIES	1=NORMAL, <150 2=BORDERLINE HIGH, 150-199 3=HIGH, 200-499 4=VERY HIGH, 500+	LIPIDS	COMPUTED

LIPIDS/BLOOD: GROUP 2

VARIABLE	VARIABLE DESCRIPTION	VALUE <u>LABELS</u>	MISSING <u>VALUES</u>	FORM/EXAM	QUESTION <u>NUMBER</u>
INSULIN1	SERUM INSULIN (mU/L)			LIPIDS/BLOOD:GRP 2	
HCYTOT1	TOTAL HOMOCYSTEINE (umol/L)			LIPIDS/BLOOD:GRP 2	
CRP1	C-REACTIVE PROTEIN, "CRP" (mg/L)			LIPIDS/BLOOD:GRP 2	
CPNTITE1	CHLAMYDIA PNEUMONIAE, IgG ANTIBODIES	0=NEGATIVE, NO FLUORESCENCE (NEG) 1=1+, DEFINITE, BUT DIM FLUORESCENCE (POS) 2=2+, MODERATE TO INTENSE FLUORESCENCE (POS) 3=3+, MODERATE TO INTENSE FLUORESCENCE (POS) 4=4+, MODERATE TO INTENSE FLUORESCENCE (POS)		LIPIDS/BLOOD:GRP 2	
CPN1C	CHLAMYDIA PNEUMONIAE results in POS/NEG/NSF form	POS (see above) NEG (see above) NSF= NON-SPECIFIC FLUORESCENCE		LIPIDS/BLOOD:GRP 2	
VDLP1C	VLDL Particles (total) (nmol/L)			LIPIDS/BLOOD:GRP 2	
VL1	Large VLDL/Chylos, >60 nm diameter range (nmol/L)			LIPIDS/BLOOD:GRP 2	
VM1	Medium VLDL, 35-60 nm diameter range (nmol/L)			LIPIDS/BLOOD:GRP 2	
VS1	Small VLDL, 27-35 nm diameter range (nmol/L)			LIPIDS/BLOOD:GRP 2	
LDLP1C	LDL Particles (total) (nmol/L)			LIPIDS/BLOOD:GRP 2	
IDL1	IDL, 23-27 nm diameter range (nmol/L)			LIPIDS/BLOOD:GRP 2	
LL1	Large LDL, 21.2-23 nm diameter range (nmol/L)			LIPIDS/BLOOD:GRP 2	
LS1	Small LDL (total), 18-21.2 nm diameter range (nmol/L)			LIPIDS/BLOOD:GRP 2	
LMS1	Medium Small LDL, 19.8-21.2 nm diameter range (nmol/L)			LIPIDS/BLOOD:GRP 2	
LVS1	Very Small LDL, 18-19.8 nm diameter range (nmol/L)			LIPIDS/BLOOD:GRP 2	
HDLP1C	HDL Particles (total) (μmol/L)			LIPIDS/BLOOD:GRP 2	
HL1	Large HDL, 8.8-13 nm diameter range (μmol/L)			LIPIDS/BLOOD:GRP 2	
HM1	Medium HDL, 8.2-8.8 nm diameter range (μmol/L)			LIPIDS/BLOOD:GRP 2	
HS1	Small HDL, 7.3-8.2 nm diameter range (μmol/L)			LIPIDS/BLOOD:GRP 2	
VZ1	VLDL size (nm)			LIPIDS/BLOOD:GRP 2	
LZ1	LDL size (nm)			LIPIDS/BLOOD:GRP 2	
HZ1	HDL size (nm)			LIPIDS/BLOOD:GRP 2	
NTRG1C	Total Triglycerides (mg/dL)			LIPIDS/BLOOD:GRP 2	
NVTRG1C	VLDL triglycerides (mg/dL)			LIPIDS/BLOOD:GRP 2	
NLDLC1C	LDL Cholesterol (mg/dL)			LIPIDS/BLOOD:GRP 2	
NHDL1C	HDL Cholesterol (mg/dL)			LIPIDS/BLOOD:GRP 2	

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## LIPIDS/BLOOD: GROUP 2

VARIABLE	VARIABLE DESCRIPTION	VALUE <u>LABELS</u>	MISSING <u>VALUES</u>	FORM/EXAM	QUESTION <u>NUMBER</u>
FIB1	Fibrinogen Antigen (mg/dL)			LIPIDS/BLOOD:GRP 2	
PAP1	Plasmin-Antiplasmin Complex, "PAP" (nM)			LIPIDS/BLOOD:GRP 2	
IL61	Interleuken-6, "IL6" (pg/mL)			LIPIDS/BLOOD:GRP 2	
DDIMER1	D-Dimer (ug/mL)			LIPIDS/BLOOD:GRP 2	
DDCOM1	D-Dimer comments			LIPIDS/BLOOD:GRP 2	
F81	Percent Factor VIII			LIPIDS/BLOOD:GRP 2	
F8COM1	Percent Factor VIII comments			LIPIDS/BLOOD:GRP 2	

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## LIPIDS/BLOOD: GROUP 3

VARIABLE	VARIABLE DESCRIPTION	VALUE <u>LABELS</u>	MISSING <u>VALUES</u>	FORM/EXAM	QUESTION <u>NUMBER</u>
CD40L1	CD40 Ligand			LIPIDS/BLOOD:GRP 3	
ESELECT1	E-selectin			LIPIDS/BLOOD:GRP 3	
IL2SR1	Interleukin-2			LIPIDS/BLOOD:GRP 3	
MMP31	Matrix Metalloproteinase 3			LIPIDS/BLOOD:GRP 3	
MMP91	Matrix Metalloproteinase 9			LIPIDS/BLOOD:GRP 3	
TNFR11	Tumor Necrosis Facto-a soluble receptors			LIPIDS/BLOOD:GRP 3	
HSV1	Herpes simplex virus			LIPIDS/BLOOD:GRP 3	
HSV1C	Herpes simplex virus Pos/Neg			LIPIDS/BLOOD:GRP 3	
CMV1	Cytomegalovirus			LIPIDS/BLOOD:GRP 3	
CMV1C	Cytomegalovirus Pos/Neg			LIPIDS/BLOOD:GRP 3	
HPYLORI	Helicobacter pylori antibodies			LIPIDS/BLOOD:GRP 3	
HPYLORI1C	Helicobacter pylori antibodies Pos/Neg			LIPIDS/BLOOD:GRP 3	
HAVAB1	Hepatitis A Virus antibodies			LIPIDS/BLOOD:GRP 3	
HAVAB1C	Hepatitis A Virus antibodies Pos/Neg			LIPIDS/BLOOD:GRP 3	
PAI1	PAI-1, ng/mL			LIPIDS/BLOOD:GRP 3	
STF1	Soluble TF, pg/mL			LIPIDS/BLOOD:GRP 3	
TAFI1	TAFI, µg/mL			LIPIDS/BLOOD:GRP 3	
TFPI1	TFPI, ng/mL			LIPIDS/BLOOD:GRP 3	
ABCA1CT1	ABCA1 -477 C/T Genotype	1=C/C 2=C/T		LIPIDS/BLOOD:GRP 3	

ABCA1GA1	ABCA1 1051 G/A (R219K) Genotype	3=T/T 1=G/G 2=G/A 3=A/A	LIPIDS/BLOOD:GRP 3
HDL11	HDL – 1 (%)		LIPIDS/BLOOD:GRP 3
HDL21	HDL – 2 (%)		LIPIDS/BLOOD:GRP 3
HDL31	HDL – 3 (%)		LIPIDS/BLOOD:GRP 3
HDL41	HDL – 4 (%)		LIPIDS/BLOOD:GRP 3
HDL51	HDL – 5 (%)		LIPIDS/BLOOD:GRP 3
HDL61	HDL – 6 (%)		LIPIDS/BLOOD:GRP 3

### LIPIDS/BLOOD: GROUP 3

VARIABLE	VARIABLE DESCRIPTION	VALUE <u>LABELS</u>	MISSING <u>VALUES</u>	FORM/EXAM	QUESTION <u>NUMBER</u>
HDL71	HDL – 7 (%)			LIPIDS/BLOOD:GRP 3	
HDL81	HDL – 8 (%)			LIPIDS/BLOOD:GRP 3	
HDL1MD1	HDL – 1 (mg/dL)			LIPIDS/BLOOD:GRP 3	
HDL2MD1	HDL – 2 (mg/dL)			LIPIDS/BLOOD:GRP 3	
HDL3MD1	HDL – 3 (mg/dL)			LIPIDS/BLOOD:GRP 3	
HDL4MD1	HDL – 4 (mg/dL)			LIPIDS/BLOOD:GRP 3	
HDL5MD1	HDL – 5 (mg/dL)			LIPIDS/BLOOD:GRP 3	
HDL6MD1	HDL – 6 (mg/dL)			LIPIDS/BLOOD:GRP 3	
HDL7MD1	HDL – 7 (mg/dL)			LIPIDS/BLOOD:GRP 3	
HDL8MD1	HDL – 8 (mg/dL)			LIPIDS/BLOOD:GRP 3	
RLPC1	Remnant-like Particle Cholesterol			LIPIDS/BLOOD:GRP 3	
ANTHSP61	Anti-human Heat Shock Protein-60 (ng/mL)			LIPIDS/BLOOD:GRP 3	
CEACT1	Cholesterol Ester Transfer Protein Activity (nmol/mL/hr)			LIPIDS/BLOOD:GRP 3	
CEMASS1	Cholesterol Ester Transfer Protein Mass (mg/mL)			LIPIDS/BLOOD:GRP 3	
CEA373P1	Cholesterol Ester Transfer Protein – A373P Genotype	1-A/A 2-A/P 3-P/P		LIPIDS/BLOOD:GRP 3	
CE629CA1	Cholesterol Ester Transfer Protein – 629CA Genotype	1-C/C 2-C/A 3-A/A		LIPIDS/BLOOD:GRP 3	
CER452Q1	Cholesterol Ester Transfer Protein – R451Q Genotype	1-R/R 2-R/Q 3-Q/Q		LIPIDS/BLOOD:GRP 3	
CETAQ1B1	Cholesterol Ester Transfer Protein – TAQ1B Genotype	1-B1/B1 2-B1/B2 3-B2/B2		LIPIDS/BLOOD:GRP 3	
VWF1	Percent von Willebrand Factor “vWF”			LIPIDS/BLOOD:GRP 3	
VWFCOM1	Percent Vwf comments			LIPIDS/BLOOD:GRP 3	

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LIPIDS: sICAM-1

VARIABLE	VARIABLE DESCRIPTION	VALUE <u><b>LABELS</b></u>	MISSING <u><b>VALUES</b></u>	FORM/EXAM	QUESTION <u><b>NUMBER</b></u>
ICAM1	Soluble Intercellular Adhesion Molecule-1, "sICAM-1" (ng/mL)			LIPIDS	
ICAMCOM1	Comments for ICAM1 vble			LIPIDS	

# CT

VARIABLE	VARIABLE DESCRIPTION	VALUE LABELS	MISSING VALUES	NOTES
SCANDT1	DATE OF CT SCAN (mm/dd/yy)			
SCANTM1	TIME OF CT SCAN (hr:min:sec)			
STMDEC1	TIME OF CT SCAN SUFFIX, ADDITIONAL INFORMATION			
HOSPNM1	LOCATION OF CT SCAN, HOSPITAL NAME			
READDT1	CT READ DATE (mm/dd/yy)			
READTM1	CT READ TIME (hr:min:sec)			
QCMOT1	QC READER ASSESSMENT, MOTION ARTIFACT			
QCSTRK1	QC READER ASSESSMENT, STREAK ARTIFACT			
QCPH1	QC READER ASSESSMENT, PHANTOM PLACEMENT			
QCREG1	QC READER ASSESSMENT, SLICE REGISTRATION			
QCNOISE1	QC READER ASSESSMENT, NOISE			
QCZAXIS1	QC READER ASSESSMENT, Z-AXIS COVERAGE			
QCXYPLN1	QC READER ASSESSMENT, XY-AXIS COVERAGE			
VLFT1	UNADJUSTED CORONARY ARTERY CALCIUM (CAC) VOLUME -- LEFT			
VLAD1	UNADJUSTED CAC VOLUME -- LAD			
VCRC1	UNADJUSTED CAC VOLUME -- CIRCUMFLEX			
VRT1	UNADJUSTED CAC VOLUME -- RIGHT			
SLFT1	UNADJUSTED CAC SCORE -- LEFT			
SLAD1	UNADJUSTED CAC SCORE -- LAD			
SCRC1	UNADJUSTED CAC SCORE -- CIRCUMFLEX			
SRT1	UNADJUSTED CAC SCORE -- RIGHT			
VSLFT1	UNADJUSTED CAC VOLUME SCORE -- LEFT			
VSLAD1	UNADJUSTED CAC VOLUME SCORE -- LAD			
VSCRC1	UNADJUSTED CAC VOLUME SCORE -- CIRCUMFLEX			
VSRT1	UNADJUSTED CAC VOLUME SCORE -- RIGHT			
MLFT1	CAC ARTERIAL MASS -- LEFT			
MLAD1	CAC ARTERIAL MASS -- LAD			

VARIABLE	VARIABLE DESCRIPTION	VALUE LABELS	MISSING VALUES	NOTES
MCRC1	CAC ARTERIAL MASS -- CIRCUMFLEX			
MRT1	CAC ARTERIAL MASS -- RIGHT			
PH1MN1	PHANTOM DATA -- MEAN IMAGE BRIGHTNESS, 0 PLUG (HU)			
PH1SD1	PHANTOM DATA-- BRIGHTNESS STD DEVIATION, 0 PLUG (HU)			
PH2MN1	PHANTOM DATA -- MEAN IMAGE BRIGHTNESS, 50 PLUG (HU)			
PH2SD1	PHANTOM DATA -- BRIGHTNESS STD DEVIATION, 50 PLUG (HU)			
PH3MN1	PHANTOM DATA -- MEAN IMAGE BRIGHTNESS, 100 PLUG (HU)			
PH3SD1	PHANTOM DATA -- BRIGHTNESS STD DEVIATION, 100 PLUG (HU)			
PH4MN1	PHANTOM DATA -- MEAN IMAGE BRIGHTNESS, 200 PLUG (HU)			
PH4SD1	PHANTOM DATA -- BRIGHTNESS STD DEVIATION, 200 PLUG (HU)			
MODEL1	CT SCANNING PARAMETER -- SCANNER MODEL			
EXP1	CT SCANNING PARAMETER -- EXPOSURE TIME			
MA1	CT SCANNING PARAMETER -- MA			
KVP1	CT SCANNING PARAMETER -- KVP			
SLCTHK1	CT SCANNING PARAMETER -- SLICE THICKNESS			
PIXLEN1	CT SCANNING PARAMETER -- PIXEL LENGTH			
CTRDID1	CT READER ID NUMBER			
TECHID1	CT TECH ID NUMBER			
NPH1MN1	NEW PHANTOM DATA -- MEAN IMAGE BRIGHTNESS, 0 PLUG (HU)			
NPH1SD1	NEW PHANTOM DATA -- BRIGHTNESS STD DEVIATION, 0 PLUG (HU)			
NPH2MN1	NEW PHANTOM DATA -- MEAN IMAGE BRIGHTNESS, 50 PLUG (HU)			
NPH2SD1	NEW PHANTOM DATA -- BRIGHTNESS STD DEVIATION, 50 PLUG (HU)			
NPH3MN1	NEW PHANTOM DATA -- MEAN IMAGE BRIGHTNESS, 100 PLUG (HU)			
NPH3SD1	NEW PHANTOM DATA -- BRIGHTNESS STD DEVIATION, 100 PLUG (HU)			
NPH4MN1	NEW PHANTOM DATA -- MEAN IMAGE BRIGHTNESS, 200 PLUG (HU)			
NPH4SD1	NEW PHANTOM DATA -- BRIGHTNESS STD DEVIATION, 200 PLUG (HU)			
MSLOPE1	NEW PHANTOM DATA -- CALIBRATION LINE SLOPE			
MINTCPT1	NEW PHANTOM DATA -- CALIBRATION LINE INTERCEPT			
PVLFT1	ADJUSTED CAC VOLUME -- LEFT			
PVLAD1	ADJUSTED CAC VOLUME -- LAD			
PVCRC1	ADJUSTED CAC VOLUME -- CIRCUMFLEX			
PVRT1	ADJUSTED CAC VOLUME -- RIGHT			
PSLFT1	ADJUSTED CAC SCORE -- LEFT			



VARIABLE	VARIABLE DESCRIPTION	VALUE LABELS	MISSING VALUES	NOTES
PSLAD1	ADJUSTED CAC SCORE -- LAD			
PSCRC1	ADJUSTED CAC SCORE -- CIRCUMFLEX			
PSRT1	ADJUSTED CAC SCORE -- RIGHT			
PVSLFT1	ADJUSTED CAC VOLUME SCORE -- LEFT			
PVSLAD1	ADJUSTED CAC VOLUME SCORE -- LAD			
PVSCRC1	ADJUSTED CAC VOLUME SCORE -- CIRCUMFLEX			
PVSRT1	ADJUSTED CAC VOLUME SCORE -- RIGHT			
AGATU1C	TOTAL AGATSTON CALCIUM SCORE, UNADJUSTED			COMPUTED
VOLU1C	TOTAL CALCIUM VOLUME, UNADJUSTED			COMPUTED
VOLSU1C	TOTAL VOLUME SCORE, UNADJUSTED			COMPUTED
MASS1C	CAC ARTERIAL MASS			COMPUTED
	TOTAL AGATSTON CALCIUM SCORE, PHANTOM-ADJUSTED (Note: this variable equals the unadjusted total Agatston calcium score (AGATU1C) when the phantom data are missing or invalid (i.e. when PHOK1C=0)			COMPUTED
AGATP1C	TOTAL CALCIUM VOLUME, PHANTOM-ADJUSTED (Note: this variable equals the unadjusted total calcium volume (VOLU1C) when the phantom data are missing or invalid (i.e. when PHOK1C=0)			COMPUTED
VOLP1C	TOTAL VOLUME SCORE, PHANTOM-ADJUSTED (Note: this variable equals the unadjusted total volume score (VOLSU1C) when the phantom data are missing or invalid (i.e. when PHOK1C=0)			COMPUTED
VOLSP1C	ARE THE PHANTOM DATA/ADJUSTMENT VALID?	0=NOT VALID 1=VALID		COMPUTED

## ECG

VARIABLE	VARIABLE DESCRIPTION	VALUE LABELS	MISSING VALUES	NOTES
EPICARE1	EPICARE SEQUENCE NUMBER			
RECRDDT1	ECG RECORDING: DATE, TIME (dd-mmm-yyyy hh:mm:ss)			
HRRATE1	HEART RATE (beats/min)			
PRDUR1	PR INTERVAL (msec)		0	0=SUPPRESSED
QRS DUR1	QRS INTERVAL (msec)			
QTDUR1	QC INTERVAL (msec)			
QTC DUR1	QTC INTERVAL (msec)			
PAXIS1	P AXIS (degrees)	999=Unattainable	999	
QRSAXIS1	QRS AXIS (degrees)			
TAXIS1	T AXIS (degrees)			
ECGQGRD1	ECG QUALITY GRADE	1=GOOD 5=POOR		
LEADSWP1	LEAD CONNECTION INTERCHANGE			
RMSDD1	ESTIMATE OF HEART RATE VARIABILITY SHORT-TERM COMPONENTS			
SDNN1	ESTIMATE OF OVERALL HEART RATE VARIABILITY			
ECGNUM1	TOTAL NO. ECGS USED IN HEART RATE VARIABILITY ANALYSIS			
BASESEQ1	BASELINE SEQ ID OF COMPAR REC FOR SERIAL ANALYSIS			
NCVP1A1	NOVACODE 1 RHYTHM SCORE A			
NCVP1B1	NOVACODE 1 RHYTHM SCORE B			
NCVP1C1	NOVACODE 1 RHYTHM SCORE C			
NCVP1D1	NOVACODE 1 RHYTHM SCORE D			
NCVP1E1	NOVACODE 1 RHYTHM SCORE E			
NCVP1F1	NOVACODE 1 RHYTHM SCORE F			
NCVP1G1	NOVACODE 1 RHYTHM SCORE G			
NCSUPPA1	NOVACODE 1 SUPPLEMENTAL SCORE A			
NCSUPPB1	NOVACODE 1 SUPPLEMENTAL SCORE B			
NCSUPPC1	NOVACODE 1 SUPPLEMENTAL SCORE C			
NCSUPPD1	NOVACODE 1 SUPPLEMENTAL SCORE D			
NCSUPPE1	NOVACODE 1 SUPPLEMENTAL SCORE E			
NCSUPPF1	NOVACODE 1 SUPPLEMENTAL SCORE F			

VARIABLE	VARIABLE DESCRIPTION	VALUE LABELS	MISSING VALUES	NOTES
NCSUPPG1	NOVACODE 1 SUPPLEMENTAL SCORE G			
NCSP21	NOVACODE PREVALENT CODE 2: SOFTWARE		999	0=Suppressed
NCSP31	NOVACODE PREVALENT CODE 3: SOFTWARE			0=Suppressed
NCSP41	NOVACODE PREVALENT CODE 4: SOFTWARE			0=Suppressed
NCSP51	NOVACODE PREVALENT CODE 5: SOFTWARE			0=Suppressed
NCSP61	NOVACODE PREVALENT CODE 6: SOFTWARE			0=Suppressed
NCSP71	NOVACODE PREVALENT CODE 7: SOFTWARE			0=Suppressed
NCSP81	NOVACODE PREVALENT CODE 8: SOFTWARE			0=Suppressed
NCSP91	NOVACODE PREVALENT CODE 9: SOFTWARE			0=Suppressed
NCSP101	NOVACODE PREVALENT CODE 10: SOFTWARE			0=Suppressed
NCVP21	NOVACODE PREVALENT CODE 2: VISUAL			
NCVP31	NOVACODE PREVALENT CODE 3: VISUAL			
NCVP41	NOVACODE PREVALENT CODE 4: VISUAL			
NCVP51	NOVACODE PREVALENT CODE 5: VISUAL			
NCVP61	NOVACODE PREVALENT CODE 6: VISUAL			
NCVP71	NOVACODE PREVALENT CODE 7: VISUAL			
NCVP81	NOVACODE PREVALENT CODE 8: VISUAL			
NCVP91	NOVACODE PREVALENT CODE 9: VISUAL			
NCVP101	NOVACODE PREVALENT CODE 10: VISUAL			
MC1AVL1	MINNESOTA CODE 1 SCORE: AVL LEAD			0=Suppressed
MC4AVL1	MINNESOTA CODE 4 SCORE: AVL LEAD			0=Suppressed
MC5AVL1	MINNESOTA CODE 5 SCORE: AVL LEAD			0=Suppressed
MC92AVL1	MINNESOTA CODE 92 SCORE: AVL LEAD			0=Suppressed
MC1AVF1	MINNESOTA CODE 1 SCORE: AVF LEAD			0=Suppressed
MC4AVF1	MINNESOTA CODE 4 SCORE: AVF LEAD			0=Suppressed
MC5AVF1	MINNESOTA CODE 5 SCORE: AVF LEAD			0=Suppressed
MC92AVF1	MINNESOTA CODE 92 SCORE: AVF LEAD			0=Suppressed
MC1I1	MINNESOTA CODE 1 SCORE: I LEAD			0=Suppressed
MC1II1	MINNESOTA CODE 1 SCORE: II LEAD			0=Suppressed
MC1III1	MINNESOTA CODE 1 SCORE: III LEAD			0=Suppressed
MC4I1	MINNESOTA CODE 4 SCORE: I LEAD			0=Suppressed
MC4II1	MINNESOTA CODE 4 SCORE: II LEAD			0=Suppressed
MC4III1	MINNESOTA CODE 4 SCORE: III LEAD			0=Suppressed

VARIABLE	VARIABLE DESCRIPTION	VALUE LABELS	MISSING VALUES	NOTES
MC5I1	MINNESOTA CODE 5 SCORE: I LEAD			0=Suppressed
MC5II1	MINNESOTA CODE 5 SCORE: II LEAD			0=Suppressed
MC5III1	MINNESOTA CODE 5 SCORE: III LEAD			0=Suppressed
MC92I1	MINNESOTA CODE 92 SCORE: I LEAD			0=Suppressed
MC92II1	MINNESOTA CODE 92 SCORE: II LEAD			0=Suppressed
MC92III1	MINNESOTA CODE 92 SCORE: III LEAD			0=Suppressed
MC1V11	MINNESOTA CODE 1 SCORE: V1 LEAD			0=Suppressed
MC1V21	MINNESOTA CODE 1 SCORE: V2 LEAD			0=Suppressed
MC1V31	MINNESOTA CODE 1 SCORE: V3 LEAD			0=Suppressed
MC1V41	MINNESOTA CODE 1 SCORE: V4 LEAD			0=Suppressed
MC1V51	MINNESOTA CODE 1 SCORE: V5 LEAD			0=Suppressed
MC1V61	MINNESOTA CODE 1 SCORE: V6 LEAD			0=Suppressed
MC4V11	MINNESOTA CODE 4 SCORE: V1 LEAD			0=Suppressed
MC4V21	MINNESOTA CODE 4 SCORE: V2 LEAD			0=Suppressed
MC4V31	MINNESOTA CODE 4 SCORE: V3 LEAD			0=Suppressed
MC4V41	MINNESOTA CODE 4 SCORE: V4 LEAD			0=Suppressed
MC4V51	MINNESOTA CODE 4 SCORE: V5 LEAD			0=Suppressed
MC4V61	MINNESOTA CODE 4 SCORE: V6 LEAD			0=Suppressed
MC5V11	MINNESOTA CODE 5 SCORE: V1 LEAD			0=Suppressed
MC5V21	MINNESOTA CODE 5 SCORE: V2 LEAD			0=Suppressed
MC5V31	MINNESOTA CODE 5 SCORE: V3 LEAD			0=Suppressed
MC5V41	MINNESOTA CODE 5 SCORE: V4 LEAD			0=Suppressed
MC5V51	MINNESOTA CODE 5 SCORE: V5 LEAD			0=Suppressed
MC5V61	MINNESOTA CODE 5 SCORE: V6 LEAD			0=Suppressed
MC92V11	MINNESOTA CODE 92 SCORE: V1 LEAD			0=Suppressed
MC92V21	MINNESOTA CODE 92 SCORE: V2 LEAD			0=Suppressed
MC92V31	MINNESOTA CODE 92 SCORE: V3 LEAD			0=Suppressed
MC92V41	MINNESOTA CODE 92 SCORE: V4 LEAD			0=Suppressed
MC92V51	MINNESOTA CODE 92 SCORE: V5 LEAD			0=Suppressed
MC92V61	MINNESOTA CODE 92 SCORE: V6 LEAD			0=Suppressed
MCL11	MINNESOTA CODE 1 SCORE: L LEADGROUP			0=Suppressed
MCL41	MINNESOTA CODE 4 SCORE: L LEADGROUP			0=Suppressed
MCL51	MINNESOTA CODE 5 SCORE: L LEADGROUP			0=Suppressed

VARIABLE	VARIABLE DESCRIPTION	VALUE LABELS	MISSING VALUES	NOTES
MCL921	MINNESOTA CODE 92 SCORE: L LEADGROUP			0=Suppressed
MCF11	MINNESOTA CODE 1 SCORE: F LEADGROUP			0=Suppressed
MCF41	MINNESOTA CODE 4 SCORE: F LEADGROUP			0=Suppressed
MCF51	MINNESOTA CODE 5 SCORE: F LEADGROUP			0=Suppressed
MCF921	MINNESOTA CODE 92 SCORE: F LEADGROUP			0=Suppressed
MCV11	MINNESOTA CODE 1 SCORE: V LEADGROUP			0=Suppressed
MCV41	MINNESOTA CODE 4 SCORE: V LEADGROUP			0=Suppressed
MCV51	MINNESOTA CODE 5 SCORE: V LEADGROUP'			0=Suppressed
MCV921	MINNESOTA CODE 92 SCORE: V LEADGROUP			0=Suppressed
MC21	MINNESOTA CODE 2 SCORE			0=Suppressed
MC31	MINNESOTA CODE 3 SCORE			0=Suppressed
MC71	MINNESOTA CODE 7 SCORE			0=Suppressed
MC911	MINNESOTA CODE 9.1 SCORE			0=Suppressed
MC931	MINNESOTA CODE 9.3 SCORE			0=Suppressed
MC941	MINNESOTA CODE 9.4 SCORE			0=Suppressed
MC951	MINNESOTA CODE 9.5 SCORE			0=Suppressed
MCR611	MINNESOTA CODE 6 SCORE: VISUAL 1			
MCR621	MINNESOTA CODE 6 SCORE: VISUAL 2			
MCR631	MINNESOTA CODE 6 SCORE: VISUAL 3			
MCR641	MINNESOTA CODE 6 SCORE: VISUAL 4			
MCR651	MINNESOTA CODE 6 SCORE: VISUAL 5			
MCR681	MINNESOTA CODE 6 SCORE: VISUAL 8			
MCR811	MINNESOTA CODE 8 SCORE: VISUAL 1			
MCR821	MINNESOTA CODE 8 SCORE: VISUAL 2			
MCR831	MINNESOTA CODE 8 SCORE: VISUAL 3			
MCR841	MINNESOTA CODE 8 SCORE: VISUAL 4			
MCR861	MINNESOTA CODE 8 SCORE: VISUAL 6			
MCR871	MINNESOTA CODE 8 SCORE: VISUAL 7			
MCR881	MINNESOTA CODE 8 SCORE: VISUAL 8			
MCR891	MINNESOTA CODE 8 SCORE: VISUAL 9			
MAJABN1C	ANY MAJOR ECG ABNORMALITIES	0=NO, 1=YES		COMPUTED
VCD1C	VENTRICULAR CONDUCTION DEFECT	0=NO, 1=YES		COMPUTED
QQS1C	MAJOR Q-WAVE ABNORMALITIES	0=NO, 1=YES		COMPUTED

VARIABLE	VARIABLE DESCRIPTION	VALUE LABELS	MISSING VALUES	NOTES
QST1C	MINOR Q, QS WAVES WITH ST-T ABNORMALITIES	0=NO, 1=YES		COMPUTED
SST1C	ISOLATED ST-T WAVE ABNORMALITIES	0=NO, 1=YES		COMPUTED
ECGLVH1C	ECG LEFT VENTRICULAR HYPERTROPHY	0=NO, 1=YES		COMPUTED
AFIB1C	ECG ATRIAL FIBRILLATION	0=NO, 1=YES		COMPUTED
AVB1C	FIRST DEGRESS ATRIO-VENTRICULAR BLOCK	0=NO, 1=YES		COMPUTED
MINABN1C	ANY MINOR ECG ABNORMALITIES	0=NO, 1=YES		COMPUTED
MQS1C	MINOR Q, QS WAVES	0=NO, 1=YES		COMPUTED
HIR1C	HIGH R WAVES	0=NO, 1=YES		COMPUTED
MST1C	MINOR ISOLATED ST-T ABNORMALITIES	0=NO, 1=YES		COMPUTED
STE1C	ST ELEVATION	0=NO, 1=YES		COMPUTED
IRBBB1C	INCOMPLETE RBBB	0=NO, 1=YES		COMPUTED
LQT1C	LONG QT INTERVAL	0=NO, 1=YES		COMPUTED
SPR1C	SHORT PR	0=NO, 1=YES		COMPUTED
LAD1C	LEFT AXIS DEVIATION	0=NO, 1=YES		COMPUTED
RAD1C	RIGHT AXIS DEVIATION	0=NO, 1=YES		COMPUTED

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## MRI

VARIABLE	VARIABLE DESCRIPTION	VALUE LABELS	MISSING VALUES	NOTES
SCANDt1	MRI SCAN DATE (mm/dd/yyyy)			
OLVEDM1	LV END-DIASTOLIC MASS (g)			
OLVEDV1	LV END-DIASTOLIC VOLUME (mL)			
OLVESV1	LV END-SYSTOLIC VOLUME (mL)			
OLVEF1	LV EJECTION FRACTION (%)			
OLVSV1	LV STROKE VOLUME (mL)			
ORID1	MRI READER ID			
ORDT1	READ DATE, MRI CARDIAC PARAMETERS (mm/dd/yyyy)			
ODAPA1	APICAL SLICE: SEGMENT A, END-DIASTOLE (mm)			
ODAPB1	APICAL SLICE: SEGMENT B, END-DIASTOLE (mm)			
ODAPC1	APICAL SLICE: SEGMENT C, END-DIASTOLE (mm)			
ODAPD1	APICAL SLICE: SEGMENT D, END-DIASTOLE (mm)			
ODAPE1	APICAL SLICE: SEGMENT E, END-DIASTOLE (mm)			
ODAPF1	APICAL SLICE: SEGMENT F, END-DIASTOLE (mm)			
ODMDA1	MID SLICE: SEGMENT A, END-DIASTOLE (mm)			
ODMDB1	MID SLICE: SEGMENT B, END-DIASTOLE (mm)			
ODMDC1	MID SLICE: SEGMENT C, END-DIASTOLE (mm)			
ODMDD1	MID SLICE: SEGMENT D, END-DIASTOLE (mm)			
ODMDE1	MID SLICE: SEGMENT E, END-DIASTOLE (mm)			
ODMDF1	MID SLICE: SEGMENT F, END-DIASTOLE (mm)			
ODBSA1	BASAL SLICE: SEGMENT A, END-DIASTOLE (mm)			
ODBSB1	BASAL SLICE: SEGMENT B, END-DIASTOLE (mm)			
ODBSC1	BASAL SLICE: SEGMENT C, END-DIASTOLE (mm)			
ODBSD1	BASAL SLICE: SEGMENT D, END-DIASTOLE (mm)			
ODBSE1	BASAL SLICE: SEGMENT E, END-DIASTOLE (mm)			
ODBSF1	BASAL SLICE: SEGMENT F, END-DIASTOLE (mm)			
OSAPA1	APICAL SLICE: SEGMENT A, END-SYSTOLE (mm)			
OSAPB1	APICAL SLICE: SEGMENT B, END-SYSTOLE (mm)			
OSAPC1	APICAL SLICE: SEGMENT C, END-SYSTOLE (mm)			

VARIABLE	VARIABLE DESCRIPTION	VALUE LABELS	MISSING VALUES	NOTES
OSAPD1	APICAL SLICE: SEGMENT D, END-SYSTOLE (mm)			
OSAPE1	APICAL SLICE: SEGMENT E, END-SYSTOLE (mm)			
OSAPF1	APICAL SLICE: SEGMENT F, END-SYSTOLE (mm)			
OSMDA1	MID SLICE: SEGMENT A, END-SYSTOLE (mm)			
OSMDB1	MID SLICE: SEGMENT B, END-SYSTOLE (mm)			
OSMDC1	MID SLICE: SEGMENT C, END-SYSTOLE (mm)			
OSMDD1	MID SLICE: SEGMENT D, END-SYSTOLE (mm)			
OSMDE1	MID SLICE: SEGMENT E, END-SYSTOLE (mm)			
OSMDF1	MID SLICE: SEGMENT F, END-SYSTOLE (mm)			
OSBSA1	BASAL SLICE: SEGMENT A, END-SYSTOLE (mm)			
OSBSB1	BASAL SLICE: SEGMENT B, END-SYSTOLE (mm)			
OSBSC1	BASAL SLICE: SEGMENT C, END-SYSTOLE (mm)			
OSBSD1	BASAL SLICE: SEGMENT D, END-SYSTOLE (mm)			
OSBSE1	BASAL SLICE: SEGMENT E, END-SYSTOLE (mm)			
OSBSF1	BASAL SLICE: SEGMENT F, END-SYSTOLE (mm)			
OMASSV1	VERSION OF MASS USED			
R1WM1	PHYSICIAN INTERPRETATION: WALL MOTION, REGION 1	0=UNINTERPRETABLE 1=NORMAL 2=HYPOKINESIS 3=AKINESIS 4=KYSKINESIS 5=ANEURYSM		
R2WM1	PHYSICIAN INTERPRETATION: WALL MOTION, REGION 2	SEE <i>R1WM1</i>		
R3WM1	PHYSICIAN INTERPRETATION: WALL MOTION, REGION 3	SEE <i>R1WM1</i>		
R4WM1	PHYSICIAN INTERPRETATION: WALL MOTION, REGION 4	SEE <i>R1WM1</i>		
R5WM1	PHYSICIAN INTERPRETATION: WALL MOTION, REGION 5	SEE <i>R1WM1</i>		
R6WM1	PHYSICIAN INTERPRETATION: WALL MOTION, REGION 6	SEE <i>R1WM1</i>		
R7WM1	PHYSICIAN INTERPRETATION: WALL MOTION, REGION 7	SEE <i>R1WM1</i>		
R8WM1	PHYSICIAN INTERPRETATION: WALL MOTION, REGION 8	SEE <i>R1WM1</i>		
R9WM1	PHYSICIAN INTERPRETATION: WALL MOTION, REGION 9	SEE <i>R1WM1</i>		
R10WM1	PHYSICIAN INTERPRETATION: WALL MOTION, REGION 10	SEE <i>R1WM1</i>		
R11WM1	PHYSICIAN INTERPRETATION: WALL MOTION, REGION 11	SEE <i>R1WM1</i>		
R12WM1	PHYSICIAN INTERPRETATION: WALL MOTION, REGION 12	SEE <i>R1WM1</i>		



VARIABLE	VARIABLE DESCRIPTION	VALUE LABELS	MISSING VALUES	NOTES
R13WM1	PHYSICIAN INTERPRETATION: WALL MOTION, REGION 13	SEE <i>R1WM1</i>		
R14WM1	PHYSICIAN INTERPRETATION: WALL MOTION, REGION 14	SEE <i>R1WM1</i>		
R15WM1	PHYSICIAN INTERPRETATION: WALL MOTION, REGION 15	SEE <i>R1WM1</i>		
R16WM1	PHYSICIAN INTERPRETATION: WALL MOTION, REGION 16	SEE <i>R1WM1</i>		
PHINTDT1	DATE OF PHYSICIAN INTERPRETATION (mm/dd/yyyy)			
PHEVAL1	PHYSICIAN INTERPRETATION: WAS THE THE STUDY EVALUABLE?	0=NO, 1=YES		
GLOBSCR1	PHYSICIAN INTERPRETATION: GLOBAL SCORE	0=NORMAL 1=MINIMAL DYSFUNCTION 2=MODERATE DYSFUNCTION 3=SEVERE DYSFUNCTION		
LVH1	PHYSICIAN INTERPRETATION: LVH ALERT	0=NO REFERRAL 2=ABNORMAL REFERRAL 3=URGENT REFERRAL		
DSL VH1	PHYSICIAN INTERPRETATION: LVH DESCRIPTION			
ANEURSM1	PHYSICIAN INTERPRETATION: ANEURYSM ALERT	0=NO REFERRAL 2=ABNORMAL REFERRAL 3=URGENT REFERRAL		
DSANEUR1	PHYSICIAN INTERPRETATION: ANEURYSM DECRPTION			
PERIEFF1	PHYSICIAN INTERPRETATION: PERICARD EFFUSION ALERT	0=NO REFERRAL 2=ABNORMAL REFERRAL 3=URGENT REFERRAL		
DSPERIF1	PHYSICIAN INTERPRETATION: PERICARD EFFUSION DECRPTION			
MASSND1	PHYSICIAN INTERPRETATION: MEDIASTINAL MASS NODE ALERT	0=NO REFERRAL 2=ABNORMAL REFERRAL 3=URGENT REFERRAL		
DSMASSN1	PHYSICIAN INTERPRETATION: MEDIASTINAL MASS NODE DESCRIPTION			
LUNG MSS1	PHYSICIAN INTERPRETATION: LUNG MASS ALERT	0=NO REFERRAL 2=ABNORMAL REFERRAL 3=URGENT REFERRAL		
DSLUNG M1	PHYSICIAN INTERPRETATION: LUNG MASS DESCRIPTION			

VARIABLE	VARIABLE DESCRIPTION	VALUE LABELS	MISSING VALUES	NOTES
BNSFTTS1	PHYSICIAN INTERPRETATION: BONE SOFT TISSUE ALERT	0=NO REFERRAL 2=ABNORMAL REFERRAL 3=URGENT REFERRAL		
DSBNSFT1 OTHALRT1	PHYSICIAN INTERPRETATION: BONE SOFT TISSUE DESCRIPTION PHYSICIAN INTERPRETATION: OTHER ALERT	0=NO REFERRAL 2=ABNORMAL REFERRAL 3=URGENT REFERRAL		
DSOTHAL1 PHRDB1	PHYSICIAN INTERPRETATION: OTHER ALERT DESCRIPTION MRI READER: DAVID BLUEMKE	0=NOT PRESENT 1=PRESENT		
PHRJL1	MRI READER: JOAO LIMA	0=NOT PRESENT 1=PRESENT		
PHRF11	MRI READER: B. GERBER	0=NOT PRESENT 1=PRESENT		
PHRF21	MRI READER: K. WU	0=NOT PRESENT 1=PRESENT		
PHRF31	MRI READER: S. RAO	0=NOT PRESENT 1=PRESENT		
PHRF41	MRI READER: L. M.	0=NOT PRESENT 1=PRESENT		
PHRF51	MRI READER: W. WARREN	0=NOT PRESENT 1=PRESENT		
PHRF61	MRI READER: A. KISSIOV	0=NOT PRESENT 1=PRESENT		
PHRF71	MRI READER: L. SULLIVAN	0=NOT PRESENT 1=PRESENT		
PHRF81	MRI READER: A. TEKES	0=NOT PRESENT 1=PRESENT		
PHRF91	MRI READER: <UNASSIGNED>	0=NOT PRESENT 1=PRESENT		
PHNOTES1	PHYSICIAN INTERPRETATION: COMMENTS			

VARIABLE	VARIABLE DESCRIPTION	VALUE LABELS	MISSING VALUES	NOTES
DATRCDT1	MRI QC FORM: DATE RC RECEIVED STUDY (mm/dd/yyyy)			
DATRCVD1	MRI QC FORM: RECEIVED THE STUDY			
PROTCOR1	MRI QC FORM: PROTOCOL CORRECT	1=GOOD OR ADEQUATE 2=MINIMALLY ADEQUATE 3=INADEQUATE		
IMGQUAL1	MRI QC FORM: IMAGE QUALITY	1=GOOD OR ADEQUATE 2=MINIMALLY ADEQUATE 3=INADEQUATE		
REFSTAT1	MRI QC FORM: OVERALL ALERT STATUS	1=NO REFERRAL 2=ABNORMAL REFERRAL 3=URGENT REFERRAL		
QCID1	MRI QC FORM: COMPLETED BY			
OAVFLW1	FLOW PARAMETER: AVERAGE FLOW VELOCITY (cm/sec)			
OSV1	FLOW PARAMETER: STROKE VOLUME			
OVPM1	FLOW PARAMETER: VOLUME PER MINUTE			
OFLWID1	FLOW PARAMETER: READER			
ORDDT1	FLOW PARAMETER: DATE OF ORIGINAL READ (mm/dd/yyyy)			
OARDIS1	FLOW PARAMETER: AORTIC DISTENSIBILITY (1/mmHG)			
OAORMN1	FLOW PARAMETER: MINIMUM AORTIC AREA			
OAORMX1	FLOW PARAMETER: MAXIMUM AORTIC AREA			
AAD1C	AVERAGE AORTIC DIAMETER (mm)			COMPUTED
AODIS1C	AORTIC DISTENSIBILITY			COMPUTED
OCO1C	CARDIAC OUTPUT			COMPUTED

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## ULTRASOUND: DISTENSIBILITY

VARIABLE	VARIABLE DESCRIPTION	VALUE LABELS	MISSING VALUES	NOTES
SONID1	SONOGRAPHER ID			
SCANDT1	DISTENSIBILITY SCAN DATE (mm/dd/yyyy)			
READDT1	DISTENSIBILITY READ DATE (dd-mmm-yyyy hh:mm:ss)			
TAPEID1	VIDEOTAPE ON WHICH DISTENSIBILITY STUDY IS RECORDED			
RDRID1	DISTENSIBILITY READER ID			
CARDPL1	DOPPLER MEASUREMENT (cm/sec)			
VSCALE1	VIDEO STREAM SCALE (pixels/cm)			
VQSCR1	VIDEO QUALITY SCORE			
FWLN1	FAR WALL LINE THAT EDGE DETECTOR TRACKS			
NWELN1	NEAR WALL LINE THAT EDGE DETECTOR TRACKS			
DDIAM1	DIFFERENCE IN SYSTOLIC AND DIASTOLIC DIAMETERS (mm)			
SDIAMC1	SYSTOLIC DIAMETER, CORRECTED TO BE LUMEN DIAMETER (mm)			
DBP1	DIFFERENCE BETWEEN SYSTOLIC AND DIASTOLIC BLOOD PRESSURES (mmHg)			
SBP1	SYSTOLIC BLOOD PRESSURE (mmHg)			
DCOEFF1	DISTENSIBILITY COEFFICIENT			
YOUNGM1	YOUNGS MODULUS			

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**ULTRASOUND: ENDOTHELIAL FUNCTION** (Pulled until further notice. Contact Coordinating Center for more info.)

VARIABLE	VARIABLE DESCRIPTION	VALUE LABELS	MISSING VALUES	NOTES
SONID1	SONOGRAPHER ID			
SCANDT1	ENDOTHELIAL FUNCTION SCAN DATE (mm/dd/yyyy)			
READDT1	ENDOTHELIAL FUNCTION READ DATE (dd-mmm-yyyy hh:mm:ss)			
TAPEID1	VIDEOTAPE ON WHICH ENDOTHELIAL FUNCTION STUDY IS RECORDED			
RDRID1	ENDOTHELIAL FUNCITON READER ID			
BDPL1	BRACHIAL DOPPLER MEASUREMENT (cm/sec)			
S1SCALE1	STREAM 1 SCALE (pixels/cm)			
S1QS1	STREAM 1 QUALITY SCORE			
S1FWLN1	STREAM 1 FAR WALL LINE THAT EDGE DETECTOR TRACKS			
S1NWL1	STREAM 1 NEAR WALL LINE THAT EDGE DETECTOR TRACKS			
S1NFRM1	STREAM 1 NUMBER OF FRAMES			
S1CONS1	STREAM 1 CONSISTENCY SCORE			
S1DMA1	STREAM 1 EDGE DETECTED AVERAGE DIAMETER (mm)			
S1DMSD1	STREAM 1 EDGE DETECTED STANDARD DEVIATION OF DIAMETER (mm)			
S1CDM1	STREAM 1 HUMAN DRAWN AVERAGE DIAMETER (mm)			
S1CSD1	STREAM 1 HUMAN DRAWN STANDARD DEVIATION OF DIAMETER (mm)			
S2SCALE1	STREAM 2 SCALE (pixels/cm)			
S2QS1	STREAM 2 QUALITY SCORE			
S2FWLN1	STREAM 2 FAR WALL LINE THAT EDGE DETECTOR TRACKS			
S2NWL1	STREAM 2 NEAR WALL LINE THAT EDGE DETECTOR TRACKS			
S2NFRM1	STREAM 2 NUMBER OF FRAMES			
S2CONS1	STREAM 2 CONSISTENCY SCORE			
S2DMA1	STREAM 2 EDGE DETECTED AVERAGE DIAMETER (mm)			
S2DMSD1	STREAM 2 EDGE DETECTED STANDARD DEVIATION OF DIAMETER (mm)			
S2CDM1	STREAM 2 HUMAN DRAWN AVERAGE DIAMETER (mm)			
S2CSD1	STREAM 2 HUMAN DRAWN STANDARD DEVIATION OF DIAMETER (mm)			
CRELTM1	TIME OCCLUSION CUFF IS RELEASED			
RNFRM1	RELEASE NUMBER OF FRAMES			

RCONS1	RELEASE CONSISTENCY SCORE	
RDMA1	RELEASE EDGE DETECTED AVERAGE DIAMETER (mm)	
RDMSD1	RELEASE EDGE DETECTED STANDARD DEVIATION OF DIAMETER (mm)	
RCDA1	RELEASE HUMAN DRAWN AVERAGE DIAMETER (mm)	
RCDS1	RELEASE HUMAN DRAWN STANDARD DEVIATION OF DIAMETER (mm)	
RSNF1	RESPONSE NUMBER OF FRAMES	
RSC1	RESPONSE CONSISTENCY SCORE	
RSDA1	RESPONSE EDGE DETECTED AVERAGE DIAMETER (mm)	
RSDSD1	RESPONSE EDGE DETECTED STANDARD DEVIATION OF DIAMETER (mm)	
RSCDA1	RESPONSE HUMAN DRAWN AVERAGE DIAMETER (mm)	
RSCDS1	RESPONSE HUMAN DRAWN STANDARD DEVIATION OF DIAMETER (mm)	
V1RAW1C	VERS 1: RAW CHANGE BRACHIAL ARTERY DIAMETER (mm)	COMPUTED
V2RAW1C	VERS 2: RAW CHANGE BRACHIAL ARTERY DIAMETER (mm)	COMPUTED
V1RPC1C	VERS 1: RAW PERCENT CHANGE BRACHIAL ARTERY DIAMETER	COMPUTED
V2RPC1C	VERS 2: RAW PERCENT CHANGE BRACHIAL ARTERY DIAMETER	COMPUTED

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## ULTRASOUND: IMT

VARIABLE	VARIABLE DESCRIPTION	VALUE LABELS	MISSING VALUES	NOTES
SONID1	SONOGRAPHER ID			
SCANDT1	IMT SCAN DATE (mm/dd/yyyy)			
READDT1	IMT READ DATE (dd-mmm-yyyy hh:mm:ss)			
TAPEID1	VIDEOTAPE ON WHICH IMT IS RECORDED			
RDRID1	IMT READER ID			
RSURF1	RIGHT SURFACE	0=SMOOTH 1=MILDLY IRREGULAR 2=MARKEDLY IRREGULAR 3=ULCERATED 6=NO LESION 8=CAN'T TELL	8	
RMORPH1	RIGHT MORPHOLOGY	0=NO LESION 1=HOMOGENEOUS 2=HETEROGENEOUS 8=CAN'T TELL	8	
RSTEN1	RIGHT STENOSIS	1=1-24% 2=25-49% 3=50-74% 4=75-99% 5=100% 6=NO LESION 7=BAD IMAGE/NORMAL DOPPLER 8=CAN'T TELL	7, 8	
RLOC1	RIGHT LOCATION	0=NO LESION 1=INTERNAL 2=BULB 8=CAN'T TELL	8	
RDENS1	RIGHT DENSITY	0=NO LESION 1=HYPODENSE 2=ISODENSE 3=HYPERDENSE 4=CALCIFIED 8=CAN'T TELL	8	
LSURF1	LEFT SURFACE	0=SMOOTH 1=MILDLY IRREGULAR 2=MARKEDLY IRREGULAR 3=ULCERATED	8	

		6=NO LESION 8=CAN'T TELL	
LMORPH1	LEFT MORPHOLOGY	0=NO LESION 1=HOMOGENEOUS 2=HETEROGENEOUS 8=CAN'T TELL	8
LSTEN1	LEFT STENOSIS	1=1-24% 2=25-49% 3=50-74% 4=75-99% 5=100% 6=NO LESION 7=BAD IMAGE/NORMAL DOPPLER 8=CAN'T TELL	7, 8
LLOC1	LEFT LOCATION	0=NO LESION 1=INTERNAL 2=BULB 8=CAN'T TELL	8
LDENS1	LEFT DENSITY	0=NO LESION 1=HYPODENSE 2=ISODENSE 3=HYPERDENSE 4=CALCIFIED 8=CAN'T TELL	8



RDOPP1	DOPPLER MEASUREMENT RIGHT SIDE (cm/s)	
LDOPP1	DOPPLER MEASUREMENT LEFT SIDE (cm/s)	
ALERT1	ALERT: DOPPLER > 250 cm/s	0=ALERT 1=NO ALERT
RCSCALE1	RIGHT COMMON CAROTID IMAGE SCALE - CCA (pixels/cm)	
RCQS1	RIGHT COMMON CAROTID IMAGE QUALITY SCORE	
RCLINES1	RIGHT COMMON CAROTID NUMBER OF LINES DRAWN	
RCFWMAX1	RIGHT COMMON CAROTID FAR WALL MAX (mm)	
RCFWMIN1	RIGHT COMMON CAROTID FAR WALL MIN (mm)	
RCFWMN1	RIGHT COMMON CAROTID FAR WALL MEAN (mm)	
RCFWSD1	RIGHT COMMON CAROTID FAR WALL STANDARD DEVIATION (mm)	
RCNWMAX1	RIGHT COMMON CAROTID NEAR WALL MAX (mm)	
RCNWMIN1	RIGHT COMMON CAROTID NEAR WALL MIN (mm)	
RCNWMN1	RIGHT COMMON CAROTID NEAR WALL MEAN (mm)	
RCNWSD1	RIGHT COMMON CAROTID NEAR WALL STANDARD DEVIATION (mm)	
RCVWMAX1	RIGHT COMMON CAROTID VESSEL WIDTH MAX (mm)	
RCVWMIN1	RIGHT COMMON CAROTID VESSEL WIDTH MIN (mm)	
RCVWMN1	RIGHT COMMON CAROTID VESSEL WIDTH MEAN (mm)	
RCVWSD1	RIGHT COMMON CAROTID VESSEL WIDTH STANDARD DEVIATION (mm)	
RCLUMAX1	RIGHT COMMON CAROTID LUMEN MAX (mm)	
RCLUMIN1	RIGHT COMMON CAROTID LUMEN MIN (mm)	
RCLUMN1	RIGHT COMMON CAROTID LUMEN MEAN (mm)	
RCLUUSD1	RIGHT COMMON CAROTID LUMEN STANDARD DEVIATION (mm)	
RASCALE1	RIGHT ANTERIOR OBLIQUE IMAGE SCALE - ICA (pixels/cm)	
RAQS1	RIGHT ANTERIOR OBLIQUE IMAGE QUALITY SCORE	
RALINES1	RIGHT ANTERIOR OBLIQUE NUMBER OF LINES DRAWN	
RAFWMAX1	RIGHT ANTERIOR OBLIQUE FAR WALL MAX (mm)	
RAFWMIN1	RIGHT ANTERIOR OBLIQUE FAR WALL MIN (mm)	
RAFWMN1	RIGHT ANTERIOR OBLIQUE FAR WALL MEAN (mm)	
RAFWSD1	RIGHT ANTERIOR OBLIQUE FAR WALL STANDARD DEVIATION (mm)	
RANWMAX1	RIGHT ANTERIOR OBLIQUE NEAR WALL MAX (mm)	
RANWMIN1	RIGHT ANTERIOR OBLIQUE NEAR WALL MIN (mm)	
RANWMN1	RIGHT ANTERIOR OBLIQUE NEAR WALL MEAN (mm)	
RANWSD1	RIGHT ANTERIOR OBLIQUE NEAR WALL STANDARD DEVIATION (mm)	

RAVWMAX1	RIGHT ANTERIOR OBLIQUE VESSEL WIDTH MAX (mm)
RAVWMIN1	RIGHT ANTERIOR OBLIQUE VESSEL WIDTH MIN (mm)
RAVWMN1	RIGHT ANTERIOR OBLIQUE VESSEL WIDTH MEAN (mm)
RAVWSD1	RIGHT ANTERIOR OBLIQUE VESSEL WIDTH STANDARD DEVIATION (mm)
RALUMAX1	RIGHT ANTERIOR OBLIQUE LUMEN MAX (mm)
RALUMIN1	RIGHT ANTERIOR OBLIQUE LUMEN MIN (mm)
RALUMN1	RIGHT ANTERIOR OBLIQUE LUMEN MEAN (mm)
RALUSD1	RIGHT ANTERIOR OBLIQUE LUMEN STANDARD DEVIATION (mm)
RLSCALE1	RIGHT LATERAL OBLIQUE IMAGE SCALE - ICA (pixels/cm)
RLQS1	RIGHT LATERAL OBLIQUE IMAGE QUALITY SCORE
RLLINES1	RIGHT LATERAL OBLIQUE NUMBER OF LINES DRAWN
RLFWMAX1	RIGHT LATERAL OBLIQUE FAR WALL MAX (mm)
RLFWMIN1	RIGHT LATERAL OBLIQUE FAR WALL MIN (mm)
RLFWMN1	RIGHT LATERAL OBLIQUE FAR WALL MEAN (mm)
RLFWSD1	RIGHT LATERAL OBLIQUE FAR WALL STANDARD DEVIATION (mm)
RLNWMAX1	RIGHT LATERAL OBLIQUE NEAR WALL MAX (mm)
RLNWMIN1	RIGHT LATERAL OBLIQUE NEAR WALL MIN (mm)
RLNWMN1	RIGHT LATERAL OBLIQUE NEAR WALL MEAN (mm)
RLNWSD1	RIGHT LATERAL OBLIQUE NEAR WALL STANDARD DEVIATION (mm)
RLVWMAX1	RIGHT LATERAL OBLIQUE VESSEL WIDTH MAX (mm)
RLVWMIN1	RIGHT LATERAL OBLIQUE VESSEL WIDTH MIN (mm)
RLVWMN1	RIGHT LATERAL OBLIQUE VESSEL WIDTH MEAN (mm)
RLVWSD1	RIGHT LATERAL OBLIQUE VESSEL WIDTH STANDARD DEVIATION (mm)
RLLUMAX1	RIGHT LATERAL OBLIQUE LUMEN MAX (mm)
RLLUMIN1	RIGHT LATERAL OBLIQUE LUMEN MIN (mm)
RLLUMN1	RIGHT LATERAL OBLIQUE LUMEN MEAN (mm)
RLLUSD1	RIGHT LATERAL OBLIQUE LUMEN STANDARD DEVIATION (mm)
RPSCALE1	RIGHT POSTERIOR OBLIQUE IMAGE SCALE - ICA (pixels/cm)
RPQS1	RIGHT POSTERIOR OBLIQUE IMAGE QUALITY SCORE
RPLINES1	RIGHT POSTERIOR OBLIQUE NUMBER OF LINES DRAWN
RPFWMAX1	RIGHT POSTERIOR OBLIQUE FAR WALL MAX (mm)
RPFWMIN1	RIGHT POSTERIOR OBLIQUE FAR WALL MIN (mm)
RPFWMN1	RIGHT POSTERIOR OBLIQUE FAR WALL MEAN (mm)
RPFWSD1	RIGHT POSTERIOR OBLIQUE FAR WALL STANDARD DEVIATION (mm)

RPNWMAX1	RIGHT POSTERIOR OBLIQUE NEAR WALL MAX (mm)
RPNWMIN1	RIGHT POSTERIOR OBLIQUE NEAR WALL MIN (mm)
RPNWMN1	RIGHT POSTERIOR OBLIQUE NEAR WALL MEAN (mm)
RPNWSD1	RIGHT POSTERIOR OBLIQUE NEAR WALL STANDARD DEVIATION (mm)
RPVWMAX1	RIGHT POSTERIOR OBLIQUE VESSEL WIDTH MAX (mm)
RPVWMIN1	RIGHT POSTERIOR OBLIQUE VESSEL WIDTH MIN (mm)
RPVWMN1	RIGHT POSTERIOR OBLIQUE VESSEL WIDTH MEAN (mm)
RPVWSD1	RIGHT POSTERIOR OBLIQUE VESSEL WIDTH STANDARD DEVIATION (mm)
RPLUMAX1	RIGHT POSTERIOR OBLIQUE LUMEN MAX (mm)
RPLUMIN1	RIGHT POSTERIOR OBLIQUE LUMEN MIN (mm)
RPLUMN1	RIGHT POSTERIOR OBLIQUE LUMEN MEAN (mm)
RPLUSD1	RIGHT POSTERIOR OBLIQUE LUMEN STANDARD DEVIATION (mm)
LCSCALE1	LEFT COMMON CAROTID IMAGE SCALE - CCA (pixels/cm)
LCQS1	LEFT COMMON CAROTID IMAGE QUALITY SCORE
LCLINES1	LEFT COMMON CAROTID NUMBER OF LINES DRAWN
LCFWMAX1	LEFT COMMON CAROTID FAR WALL MAX (mm)
LCFWMIN1	LEFT COMMON CAROTID FAR WALL MIN (mm)
LCFWMN1	LEFT COMMON CAROTID FAR WALL MEAN (mm)
LCFWSD1	LEFT COMMON CAROTID FAR WALL STANDARD DEVIATION (mm)
LCNWMAX1	LEFT COMMON CAROTID NEAR WALL MAX (mm)
LCNWMIN1	LEFT COMMON CAROTID NEAR WALL MIN (mm)
LCNWMN1	LEFT COMMON CAROTID NEAR WALL MEAN (mm)
LCNWSD1	LEFT COMMON CAROTID NEAR WALL STANDARD DEVIATION (mm)
LCVWMAX1	LEFT COMMON CAROTID VESSEL WIDTH MAX (mm)
LCVWMIN1	LEFT COMMON CAROTID VESSEL WIDTH MIN (mm)
LCVWMN1	LEFT COMMON CAROTID VESSEL WIDTH MEAN (mm)
LCVWSD1	LEFT COMMON CAROTID VESSEL WIDTH STANDARD DEVIATION (mm)
LCLUMAX1	LEFT COMMON CAROTID LUMEN MAX (mm)
LCLUMIN1	LEFT COMMON CAROTID LUMEN MIN (mm)
LCLUMN1	LEFT COMMON CAROTID LUMEN MEAN (mm)
LCLUSD1	LEFT COMMON CAROTID LUMEN STANDARD DEVIATION (mm)
LASCALE1	LEFT ANTERIOR OBLIQUE IMAGE SCALE - ICA (pixels/cm)
LAQS1	LEFT ANTERIOR OBLIQUE IMAGE QUALITY SCORE
LALINES1	LEFT ANTERIOR OBLIQUE NUMBER OF LINES DRAWN

LAFWMAX1	LEFT ANTERIOR OBLIQUE FAR WALL MAX (mm)
LAFWMIN1	LEFT ANTERIOR OBLIQUE FAR WALL MIN (mm)
LAFWMN1	LEFT ANTERIOR OBLIQUE FAR WALL MEAN (mm)
LAFWSD1	LEFT ANTERIOR OBLIQUE FAR WALL STANDARD DEVIATION (mm)
LANWMAX1	LEFT ANTERIOR OBLIQUE NEAR WALL MAX (mm)
LANWMIN1	LEFT ANTERIOR OBLIQUE NEAR WALL MIN (mm)
LANWMN1	LEFT ANTERIOR OBLIQUE NEAR WALL MEAN (mm)
LANWSD1	LEFT ANTERIOR OBLIQUE NEAR WALL STANDARD DEVIATION (mm)
LAVWMAX1	LEFT ANTERIOR OBLIQUE VESSEL WIDTH MAX (mm)
LAVWMIN1	LEFT ANTERIOR OBLIQUE VESSEL WIDTH MIN (mm)
LAVWMN1	LEFT ANTERIOR OBLIQUE VESSEL WIDTH MEAN (mm)
LAVWSD1	LEFT ANTERIOR OBLIQUE VESSEL WIDTH STANDARD DEVIATION (mm)
LALUMAX1	LEFT ANTERIOR OBLIQUE LUMEN MAX (mm)
LALUMIN1	LEFT ANTERIOR OBLIQUE LUMEN MIN (mm)
LALUMN1	LEFT ANTERIOR OBLIQUE LUMEN MEAN (mm)
LALUSD1	LEFT ANTERIOR OBLIQUE LUMEN STANDARD DEVIATION (mm)
LLSCALE1	LEFT LATERAL OBLIQUE IMAGE SCALE - ICA (pixels/cm)
LLQS1	LEFT LATERAL OBLIQUE IMAGE QUALITY SCORE
LLLINES1	LEFT LATERAL OBLIQUE NUMBER OF LINES DRAWN
LLFWMAX1	LEFT LATERAL OBLIQUE FAR WALL MAX (mm)
LLFWMIN1	LEFT LATERAL OBLIQUE FAR WALL MIN (mm)
LLFWMN1	LEFT LATERAL OBLIQUE FAR WALL MEAN (mm)
LLFWSD1	LEFT LATERAL OBLIQUE FAR WALL STANDARD DEVIATION (mm)
LLNWMAX1	LEFT LATERAL OBLIQUE NEAR WALL MAX (mm)
LLNWMIN1	LEFT LATERAL OBLIQUE NEAR WALL MIN (mm)
LLNWMN1	LEFT LATERAL OBLIQUE NEAR WALL MEAN (mm)
LLNWSD1	LEFT LATERAL OBLIQUE NEAR WALL STANDARD DEVIATION (mm)
LLVWMAX1	LEFT LATERAL OBLIQUE VESSEL WIDTH MAX (mm)
LLVWMIN1	LEFT LATERAL OBLIQUE VESSEL WIDTH MIN (mm)
LLVWMN1	LEFT LATERAL OBLIQUE VESSEL WIDTH MEAN (mm)
LLVWSD1	LEFT LATERAL OBLIQUE VESSEL WIDTH STANDARD DEVIATION (mm)
LLLUMAX1	LEFT LATERAL OBLIQUE LUMEN MAX (mm)
LLLUMIN1	LEFT LATERAL OBLIQUE LUMEN MIN (mm)
LLLUMN1	LEFT LATERAL OBLIQUE LUMEN MEAN (mm)

LLUSD1	LEFT LATERAL OBLIQUE LUMEN STANDARD DEVIATION (mm)		
LPSCALE1	LEFT POSTERIOR OBLIQUE IMAGE SCALE - ICA (pixels/cm)		
LPQS1	LEFT POSTERIOR OBLIQUE IMAGE QUALITY SCORE		
LPLINES1	LEFT POSTERIOR OBLIQUE NUMBER OF LINES DRAWN		
LPFWMAX1	LEFT POSTERIOR OBLIQUE FAR WALL MAX (mm)		
LPFWMIN1	LEFT POSTERIOR OBLIQUE FAR WALL MIN (mm)		
LPFWMN1	LEFT POSTERIOR OBLIQUE FAR WALL MEAN (mm)		
LPFWSD1	LEFT POSTERIOR OBLIQUE FAR WALL STANDARD DEVIATION (mm)		
LPNWMAX1	LEFT POSTERIOR OBLIQUE NEAR WALL MAX (mm)		
LPNWMIN1	LEFT POSTERIOR OBLIQUE NEAR WALL MIN (mm)		
LPNWMN1	LEFT POSTERIOR OBLIQUE NEAR WALL MEAN (mm)		
LPNWSD1	LEFT POSTERIOR OBLIQUE NEAR WALL STANDARD DEVIATION (mm)		
LPVWMAX1	LEFT POSTERIOR OBLIQUE VESSEL WIDTH MAX (mm)		
LPVWMIN1	LEFT POSTERIOR OBLIQUE VESSEL WIDTH MIN (mm)		
LPVWMN1	LEFT POSTERIOR OBLIQUE VESSEL WIDTH MEAN (mm)		
LPVWSD1	LEFT POSTERIOR OBLIQUE VESSEL WIDTH STANDARD DEVIATION (mm)		
LPLUMAX1	LEFT POSTERIOR OBLIQUE LUMEN MAX (mm)		
LPLUMIN1	LEFT POSTERIOR OBLIQUE LUMEN MIN (mm)		
LPLUMN1	LEFT POSTERIOR OBLIQUE LUMEN MEAN (mm)		
LPLUSD1	LEFT POSTERIOR OBLIQUE LUMEN STANDARD DEVIATION (mm)		
MAXCOM1C	COMMON CAROTID INTIMAL-MEDIAL THICKNESS (mm)		COMPUTED
MAXINT1C	INTERNAL CAROTID INTIMAL-MEDIAL THICKNESS (mm)		COMPUTED
MAXSTN1C	MAXIMUM CAROTID STENOSIS, GRADED	0=NO LESION 1=1-24% 2=25-49% 3=50-74% 4=75-99% 5=100%	COMPUTED
MAXSUR1C	MAXIMUM SURFACE	0=SMOOTH 1=MILDLY IRREGULAR 2=MARKEDLY IRREGULAR 3=ULCERATED 6=NO LESION 8=CAN'T TELL	COMPUTED

VARIABLE	VARIABLE DESCRIPTION	VALUE LABELS	MISSING VALUES	NOTES
MAXMOR1C	MAXIMUM MORPHOLOGY	0=NO LESION 1=HOMOGENEOUS 2=HETEROGENEOUS		COMPUTED
MAXDEN1C	MAXIMUM DENSITY	0=NO LESION 1=HYPODENSE 2=ISODENSE 3=HYPERDENSE 4=CALCIFIED		COMPUTED

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## URINE

VARIABLE	VARIABLE DESCRIPTION	VALUE LABELS	MISSING VALUES	NOTES
UALBUMN1	URINARY ALBUMIN (mg/dl)			
UALBCRE1	URINARY ALBUMIN/CREATININE (mg/g)			
UCREAT1	URINARY CREATININE (mg/dl)			
		1=NORMAL 2=MICROALBUMINURIA 3=MACROALBUMINURIA		
UABCAT1C	URINE: MICROALBUMINURIA			COMPUTED

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# Data Dictionary

## Created Analytic Variables: Baseline Examination

All created analytic variables have the letter “C” appended to the variable name in order to indicate that it is a created variable, rather than a variable that is directly obtained as part of the MESA exam.

### Personal Characteristics

**Age** (truncated to the nearest whole number)

$$\text{AGE1C} = \text{trunc}[(\text{enrolldt1} - \text{birthdt1})/365.25]$$

**Ten-year age groups**

AGECAT1C = 1 age = 45-54 years  
AGECAT1C = 2 age = 55-64 years  
AGECAT1C = 3 age = 65-74 years  
AGECAT1C = 4 age = 75-84 years

**Gender**

GENDER1C = 0 female  
GENDER1C = 1 male

**Site**

SITE1C = 3 WFU  
SITE1C = 4 Columbia  
SITE1C = 5 JHU  
SITE1C = 6 Minnesota  
SITE1C = 7 NWU  
SITE1C = 8 UCLA

**Body mass index [BMI; weight(kg)/height(m)<sup>2</sup>] by WHO categories; reference 1**

$$\text{BMI1C} = (\text{wtlb1} * 0.4536) / ((\text{htcm1}/100)^2)$$

**Body mass index categories**

BMI1C < 25	BMICAT1C =1	Normal
BMI1C >= 25 and BMI1C < 30	BMICAT1C =2	Grade 1 Overweight
BMI1C >= 30 and BMI1C < 40	BMICAT1C =3	Grade 2 Overweight
BMI1C >= 40	BMICAT1C =4	Grade 3 Overweight



## Body surface area (BSA)

$$BSA1C = 0.20247 * ((htcm1/100)^{(0.725)}) * ((wtlb1 * 0.4536)^{(0.425)}).$$

(^ indicates the value of the exponent; e.g., the second term in the equation is height(m) to the 0.725 power):

## Cigarette smoking status

CIG1C = 0	Never	if evsmk1 = 0
CIG1C = 1	Former	if evsmk1 = 1 AND cursmk1 = 0
CIG1C = 2	Current	if cursmk1 = 1

(ever is defined as  $\geq 100$  cigarettes in your lifetime; current is defined as smoking cigarettes within the past 30 days)

## Pack-years of cigarette smoking (packs per day \* years)

PKYRS1C = 0	if cig1c = 0
PKYRS1C = (agequit1 - agesmk1) * (cigsday1 / 20)	if cig1c = 1
PKYRS1C = (age - agesmk1) * (cigsday1 / 20)	if cig1c = 2

## Cigar smoking status

CGR1C = 0	Never	if cigar1 = 0 or othtob1 = 0
CGR1C = 1	Former	if cigar1 = 1 AND cgrcur1 = 0
CGR1C = 2	Current	if cgrcur1 = 1

(ever is defined as  $\geq 20$  cigars in your lifetime; current is defined as smoking cigars within the past 30 days)

## Cigar smoking amount (cigars per day \* years)

CGRYRS1C = 0	if cgr1c = 0
CGRYRS1C = (cgrageq1 - cgrage1) * cgrday1	if cgr1c = 1
CGRYRS1C = (age - cgrage1) * cgrday1	if cgr1c = 2

## Pipe smoking status

PIP1C = 0	Never	if pipe1 = 0 or othtob1=0
PIP1C = 1	Former	if pipe1 = 1 AND pipcur1 = 0
PIP1C = 2	Current	if pipcur1 = 1

(ever is defined as  $\geq 20$  pipefuls in your lifetime; current is defined as smoking a pipe within the past 30 days)

### Pipe smoking amount (pipefuls per day \* years)

PIPYRS1C = 0	if pip1c = 0
PIPYRS1C = (pipageq1 - pipage1) * pipday1	if pip1c = 1
PIPYRS1C = (age - pipage1) * pipday1	if pip1c = 2

### Chewing tobacco use

CHEW1C = 0	Never	if chew1 = 0 or othtob1=0
CHEW1C = 1	Former	if chew1 = 1 AND chwcur1 = 0
CHEW1C = 2	Current	if chwcur1 = 1

(ever is defined as using chewing tobacco >= 20 times in your lifetime;  
current is defined as using chewing tobacco within the past 30 days)

### Chewing tobacco amount (# of times chewing tobacco is used per day \* years)

CHWYRS1C = 0	if chew1 = 0
CHWYRS1C = (chwageq1 - chwage1) * chwday1	if chew1 = 1
CHWYRS1C = (age - chwage1) * chwday1	if chew1 = 2

### Snuff use

SNF1C = 0	Never	if snuff1 = 0 or othtob1=0
SNF1C = 1	Former	if snuff1 = 1 AND snfcur1 = 0
SNF1C = 2	Current	if snfcur1 = 1

(ever is defined as using snuff >= 20 times in your lifetime; current is defined  
as using snuff within the past 30 days)

### Snuff amount (# of times snuff is used per day \* years)

SNFYRS1C = 0	if snf1c = 0
SNFYRS1C = (snfageq1 - snfage1) / snfday1	if snf1c = 1
SNFYRS1C = (age - snfage1) / snfday1	if snf1c = 2

### Alcohol use

ALC1C = 0	Never	if alcohol1 = 0
ALC1C = 1	Former	if alcohol1 = 1 AND curalc1 = 0
ALC1C = 2	Current	if curalc1 = 1

### Years of alcohol use

YRSALC1C = yrsalcp1	if alc1c=1
YRSALC1C = yrsalcc1	if alc1c=2

### **Alcohol use, number of drinks per week when drinking**

ALCWK1C = alcwkp1                      if alc1c=1  
ALCWK1C = alcwkc1                      if alc1c=2

### **Family history of heart attack in parents, siblings, or children**

FHHA1C = 0      pmi1 = 0 and shrtatt1 = (0 or 8) and chrtatt1 = (0 or 8)  
FHHA1C = 1      pmi1 = 1 or shrtatt1 = 1 or chrtatt1 = 1

### **Current aspirin use (taking aspirin at least 3 days per week at baseline)**

ASACAT1C = 0   Not taking aspirin  
ASACAT1C = 1   If ASA1C = 1 and ASPDAYS1 >=3

## **Prevalent Disease Measures**

### **Systolic blood pressure, average of 2<sup>nd</sup> and 3<sup>rd</sup> Dinamap measurements, in mm Hg**

SBP1C = average (s2bp1, s3bp1)

### **Diastolic blood pressure, average of 2<sup>nd</sup> and 3<sup>rd</sup> Dinamap measurements, in mm Hg**

DBP1C = average (d2bp1, d3bp1)

### **Hypertension stage by JNC VI (1997) criteria; reference 2**

HTNSTG1C = 6   Stage 3 hypertension if sbp1c >= 180 or dbp1c >= 110  
HTNSTG1C = 5   Stage 2 hypertension if (sbp1c = 160 - 179) or (dbp1c = 100 - 109)  
HTNSTG1C = 4   Stage 1 hypertension if (sbp1c = 140 - 159) or (dbp1c = 90 - 99)  
HTNSTG1C = 3   High-normal BP if (sbp1c = 130 - 139) or (dbp1c = 85 - 89)  
HTNSTG1C = 2   Normal BP if (sbp1c = 120 - 129) or (dbp1c = 80 - 84)  
HTNSTG1C = 1   Optimal BP if sbp1c < 120 and dbp1c < 80

If sbp1c and dbp1c are in different categories, use the higher category.

### **Subtypes of hypertension**

HTNTYP1C = 4   Diastolic hypertension if dbp1c >=90  
HTNTYP1C = 3   Isolated systolic hypertension if sbp1c >=140 and dbp1c < 90  
HTNTYP1C = 2   Borderline isolated systolic hypertension if sbp1c = 130-139 and dbp1c <85  
HTNTYP1C = 1   Normal otherwise

**Hypertension by JNC VI (1997) criteria** (note: because of the way this vble is defined, there are people who are not classified as hypertensives because of their lack of self report (highbp=0) .)

HTN1C = 1 hypertension if dbp1c >= 90 or sbp1c >= 140 or (highbp1=1 and htnmed1c=1).  
(highbp1 is self reported history of hypertension and htnmed1c is an indicator of any hypertensive meds).

HTN1C = 0 no hypertension if dbp1c < 90 and sbp1c < 140 and HTN1C not equal to 1 (above).

**Ankle-brachial index** = minimum ratio of ankle BP to brachial (arm) BP. Ratios are calculated separately for the left and right side, and the minimum is then selected.

ABI1C = min (rtabi , ltabi)

where rtabi = (max (rdpedis1, rptib1)) / (avg (rbrach1,lbrach1))  
ltabi = (max (ldpedis1, lptib1)) / (avg (rbrach1,lbrach1))

For rtabi and ltabi, if the two brachial (arm) BPs differ by 10 mmHg or more, use the higher arm pressure as the denominator.

**Diabetes mellitus by 1997 ADA fasting criteria**

DM971C = 3 Treated diabetes defined as:

- (i) use of insulin or ohga on medication form, or
- (ii) self-report of insulin/ohga us on medical history form and on the phlebotomy form

DM971C = 2 Untreated diabetes if fasting glucose >= 126 mg/dL and DM971C not equal to 3 (above).

DM971C = 1 impaired fasting glucose if fasting glucose = 110-125 mg/dL and DM971C not equal to 3 (above).

DM971C = 0 normal if fasting glucose is < 110 mg/dL and DM971C not equal to 3 (above).

**Diabetes mellitus by 2003 ADA fasting criteria**

DM031C = 3 Treated diabetes defined as:

- (i) use of insulin or ohga on medication form, or
- (ii) self-report of insulin/ohga us on medical history form and on the phlebotomy form

DM031C = 2 Untreated diabetes if fasting glucose >= 126 mg/dL and DM031C not equal to 3 (above).

DM031C = 1 impaired fasting glucose if fasting glucose = 100-125 mg/dL and DM031C not equal to 3 (above).

DM031C = 0 normal if fasting glucose is < 100 mg/dL and DM031C not equal to 3 (above).

## Framingham risk point score

fr\_totc

Points for calculating 10-year risk of developing CHD. This measure relies upon age [**age1c**], total cholesterol [**chol1**], current smoking status [**cig1c**], hdl [**hdl1**], systolic blood pressure [**sbp1c**] and presence of hypertension medication [**htnmed1c**] for its calculations. Men and women [**gender1**] are scored separately. It is not possible to calculate Framingham scores for participants with ages 80 or higher, or missing information in any of these variables. The end value will be a system missing. This measure should not be used in analysis; use the Framingham 10-year risk of CHD instead. To find the Framingham risk point score, sum the points from the tables below. For example, a male, age 66, cholesterol 232, HDL 54, smoker, and systolic blood pressure of 132 without hypertension treatments will have a point score of 11+1+0+1+1=14.

NOTE: Tables and methods taken directly from NCEP summary, reference #4.

### Framingham Point Scores for Men

Age point distribution		Cholesterol point distribution, varies by age					HDL point distribution	
[age1c]	Points	[age1c]					[hdl1]	points
		[chol1]	40-49	50-59	60-69	70-79		
45-49	3	<160	0	0	0	0	60+	-1
50-54	6	160-199	3	2	1	0	50-59	0
55-59	8	200-239	5	3	1	0	40-49	1
60-64	10	240-279	6	4	2	1	<40	2
65-69	11	280+	8	5	3	1		
70-74	12							
75-79	13							
80+	undefined							

Smoking point distribution, varies by age

[age1c]				
[cig1c]	40-49	50-59	60-69	70-79
Nonsmoker [cig1c=0,1]	0	0	0	0
Current smoker [cig1c=2]	5	3	1	1

Systolic blood pressure point distribution, varies by hypertension status

Hypertension status		
[sbp1c]	Untreated [htnmed1c=0]	Treated [htnmed1c=1]
<120	0	0
120-129	0	1
130-139	1	2
140-159	1	2
160+	2	3

## Framingham Point Scores for Women

Age point distribution

<b>[age1c]</b>	Points
45-49	3
50-54	6
55-59	8
60-64	10
65-69	12
70-74	14
75-79	16
80+	undefined

Cholesterol point distribution, varies by age

<b>[chol1]</b>	<b>[age1c]</b>			
	40-49	50-59	60-69	70-79
<160	0	0	0	0
160-199	3	2	1	1
200-239	6	4	2	1
240-279	8	5	3	2
280+	10	7	4	2

HDL point distribution

<b>[hdl1]</b>	points
60+	-1
50-59	0
40-49	1
<40	2

Smoking point distribution, varies by age

<b>[cig1c]</b>	<b>[age1c]</b>			
	40-49	50-59	60-69	70-79
Nonsmoker <b>[cig1c=0,1]</b>	0	0	0	0
Current smoker <b>[cig1c=2]</b>	7	4	2	1

Systolic blood pressure point distribution, varies by hypertension status

<b>[sbp1c]</b>	Hypertension status	
	Untreated <b>[htnmed1c=0]</b>	Treated <b>[htnmed1c=1]</b>
<120	0	0
120-129	1	3
130-139	2	4
140-159	3	5
160+	4	6

## Framingham 10-year risk of CHD

fr\_10yrc Risk of developing CHD within 10 years. It is calculated from the Framingham risk point scores. Men and women use different tables to find their values:

Framingham 10-Year Risk Percentages for Men

Point Total	10-Year Risk, %	
<0	<1	*coded as 0
0	1	
1	1	
2	1	
3	1	
4	1	
5	2	
6	2	
7	3	
8	4	
9	5	
10	6	
11	8	
12	10	
13	12	
14	16	
15	20	
16	25	
17+	30+	*coded as 0.30

Framingham 10-Year Risk Percentages for Women

Point Total	10-Year Risk, %	
<9	<1	*coded as 0
9	1	
10	1	
11	1	
12	1	
13	2	
14	2	
15	3	
16	4	
17	5	
18	6	
19	8	
20	11	
21	14	
22	17	
23	22	
24	27	
25+	30+	*coded as 0.30

All values are coded as decimals; 12% is coded as 0.12

From the previous example, the man with a point score of 14 has an estimated probability of 16% with regards to experiencing a CHD in 10 years. The actual value of fr\_10yrc would be 0.16

NOTE: Tables and methods taken directly from NCEP summary, reference #4.

## NECP Metabolic Syndrome

METSYN1C	Must have 3 or more of the following risk factors
	1.) Increase waist size Waistcm1 > 102 cm if gender1 = 1 Waistcm1 > 88 cm if gender1 = 0
	2.) Elevated Triglycerides trig1 >= 150mg/dl
	3.) Low HDL cholesterol hdl1 < 40 mg/dl if gender1 = 1 hdl1 < 50 mg/dl if gender1 = 0
	4.) Hypertension defined as dbp1c >= 85 or sbp1c >= 130 or htnmed1c = 1
	5.) Impaired fasting glucose glucose >= 110 mg/dl or diabet1 = 1

## Physical activity

### By category level – minutes per week

HSEMN1C = Household chores – Light effort + Moderate effort  
YRDMN1C = Lawn/Yard/Garden/Farm work – Moderate effort + Heavy effort  
CAREMN1C = Child & Adult care – Light effort + Moderate effort  
TRNMN1C = Drive or ride in car or bus  
WALKMN1C = Non-work walking – To get places + For exercise or pleasure  
SPTNMN1C = Dancing + Three types of sport activities  
CONDMN1C = Conditioning – Moderate effort + Heavy Effort  
LEISMN1C = Leisure time activities – Sit or recline + Read, knit, sew, etc.

### By category level – MET levels

HSEMT1C Household chores min/wk – Light effort \* 2.5 + Moderate effort \* 4.0  
YRDMT1C Lawn/Yard/Garden/Farm work min/wk – Moderate effort \* 4.0 + Heavy effort \* 6.5  
CAREMT1C Child & Adult care min/wk – Light effort \* 2.5 + Moderate effort \* 4.0  
TRNMT1C Drive or ride in car or bus min/wk \* 1.5  
WALKMT1C Non-work walking min/wk – To get places \* 3.0 + For exercise or pleasure \* 3.5  
SPTNMT1C Min/wk for Dancing \* 5.0 + Team sports \* 7.0 + Dual sports \* 7.0 + Individual activities \* 3.5  
CONDMT1C Conditioning min/wk – Moderate effort \* 5.5 + Heavy Effort \* 7.0



LEISMT1C Leisure time activities min/wk – Sit or recline \* 1.0 + Read, knit, sew, etc \* 1.5

### **Occupational and volunteer activities – minutes per week**

OCCMN1C Occupation-paid work – Light effort, sitting + Light effort, standing + Moderate effort + Heavy effort  
VOLMN1C Volunteer activity – Light effort + Moderate effort + Heavy effort

### **Occupational and volunteer activities – MET levels**

OCCMT1C Occupation-paid work min/wk – Light effort, sitting \* 1.5 + Light effort, standing \* 2.5 + Moderate effort \* 3.0 + Heavy effort \* 7.0  
VOLMT1C Volunteer activity min/wk – Light effort \* 1.5 + Moderate effort \* 3.0 + Heavy effort \* 6.5

### **Intensity level**

MPTTMN1C Total Light+Moderate+Vigorous activities min/wk  
MPTTMT1C Total of all Light+Moderate+Vigorous activities min/wk multiplied by their individual MET values  
MPLTMN1C Total Light activities min/wk  
MPLTMT1C Total of all Light activities min/wk multiplied by their individual MET values  
MPMOMN1C Total Moderate activities min/wk  
MPMOMT1C Total of all Moderate activities min/wk multiplied by their individual MET values  
MPVG MN1C Total Vigorous activities min/wk  
MPVG MT1C Total of all Vigorous activities min/wk multiplied by their individual MET values

## **Health and Life**

### **Spielberger trait anger scale**

SPLANG1C = sum of scores for 10 items (qktempr1, frtempr1, hothead1, angry1, annoyed1, flyoff1, nasty1, furious1, frushit1, infurat1)

Assign scores 1, 2, 3, 4 from “almost never” to “almost always”.

If more than 2 items are missing, do not score.

If 1-2 items are missing, assign value of 1 to missing items.

### **Spielberger trait anxiety scale**

SPLANX1C = sum of scores for 10 items (steady1, satisf1, nervous1, unhappy1, failure1, turmoil1, secure1, noconf1, inadeqt1, worry1)

Assign scores as follows:

For nervous1, unhappy1, failure1, turmoil1, noconf1, inadeqt1, and worry1:

Score 1,2,3,4 from “almost never to almost always”.

For steady1, satisf1, and secure1:

Score 4,3,2,1 from “almost never to almost always”.

If more than 2 items are missing, do not score.

If 1-2 items are missing, determine mean score across items completed, multiply by 10 and round to nearest whole number.

### **Chronic burden**

CHRBUR1C = total number of items to which response is 1 =Yes for (hprb1pt1, hprb1ot1, job1prb1, mon1prb1, rel1prb1).

If any items are missing, do not code.

### **Chronic burden 6 months or more**

CHRBUR6C1 = total number of items to which response is 1 =Yes for (hprb2pt1, hprb2ot1, job2prb1, mon2prb1, rel2prb1).

If any items are missing, do not code.

### **CES-D (Center for Epidemiologic Studies – Depression) Scale**

CESD1C = sum of scores for the 20 items of the CES-D Scale (bother1, noteat1, blue1, asgood1, concntr1, depress1, effort1, hopeful1, lffail1, fearful1, badslp1, happy1, lestalk1, lonely1, unfnrly1, enjlife1, cryspell1, sad1, dislikd1, getgoin1)

Assign scores as follows:

For asgood1, hopeful1, happy1, enjlife1:

Score 3, 2, 1, 0 (rarely to most)

For bother1, noteat1, blue1, concntr1, depress1, effort1, lffail1, fearful1, badslp1, lestalk1, lonely1, unfnrly1, cryspell1, sad1, dislikd1, getgoin1:

Score 0,1,2,3 (rarely to most).

If more than 5 items are missing, score is not calculated.

If 1-5 items are missing, sum scores for completed items, divide total by number answered and multiply by 20.

### **Emotional Social Support Index**

EMOT1C = sum of scores for 6 items (talkto1, advice1, affectn1, hlpchr1, emospt1, confide1).

Assign scores 1,2,3,4,5 from “none of the time” to “all of the time”.

If any items are missing, do not score.

## **Perceived discrimination**

### **Lifetime:**

DISCRL1C = total number of items to which response is 1 = Yes for (uf1fire1, uf1hire1, uf1stop1, uf1educ1, uf1move1, uf1nghb1).

If any items are missing, do not code.

### **Past year:**

DISCRY1C = total number of items to which response is 1 = Yes for (uf3fire1, uf3hire1, uf3stop1, uf3educ1, uf3move1, uf3nghb1).

If any items are missing, do not code.

## **Everyday hassles**

HASSL1C = sum of scores for 9 items (curtesy1, respect1, service1, smart1, afraid1, dishon1, better1, insult1, threat1).

Assign scores 6,5,4,3,2,1 from “almost every day” to “never”.

If any items are missing, do not score.

## **Neighborhood**

### **Neighborhood social cohesion**

Assign scores as follows:

For asgood1, hopeful1, happy1, enjlife1:

Score 3, 2, 1, 0 (rarely to most)

NCOHES1C = sum of scores for the 5 items related to neighborhood social cohesion (nclose1, nhelp1, ndgalng1, ntrust1, nvalues1)

Assign scores as follows:

For nclose1, nhelp1, ntrust1:

Score 5, 4, 3, 2, 1 (

to the “strongly agree → strongly disagree” continuum as follows:

5 → 1 (decreasing order) for (nclose1, nhelp1, ntrust1)

1 → 5 (increasing order) for (ndgalng1, nvalues1)

The resulting score increases with increasing cohesion.

If any items are missing, do not score.

### **Neighborhood problems**

NPROB1C = sum of scores for 7 items related to neighborhood problems (nnoise1, ntraf1, nlfshop1, nlparks1, ntrash1, nsdwlk1, nviolen1).  
Assign scores 4,3,2,1 for “very serious problem” to “not really a problem”.  
If any items are missing, do not score.

## **Blood Lab Measures**

NOTE: All lipid categories determined by NCEP 2001 guidelines; reference 4

### **Total Cholesterol, NCEP Categories**

CHLCAT1C = 3	High	Cholesterol $\geq$ 240 mg/dL
CHLCAT1C = 2	Borderline High	Cholesterol 200-239 mg/dL
CHLCAT1C = 1	Desirable	Cholesterol < 200 mg/dL

### **LDL Cholesterol, NCEP Categories**

LDLCAT1C = 5	Very High	LDL cholesterol $\geq$ 190 mg/dL
LDLCAT1C = 4	High	LDL cholesterol 160-189 mg/dL
LDLCAT1C = 3	Borderline High	LDL cholesterol 130-159 mg/dL
LDLCAT1C = 2	Near Optimal	LDL cholesterol 100-129 mg/dL
LDLCAT1C = 1	Optimal	LDL cholesterol < 100 mg/dL

### **HDL Cholesterol, NCEP Categories**

HDLCAT1C = 3	Low	HDL < 40 mg/dL
HDLCAT1C = 2		HDL 40-59 mg/dL
HDLCAT1C = 1	High	HDL $\geq$ 60 mg/dL

### **Triglycerides, NCEP Categories**

TRGCAT1C = 4	Very High	Triglycerides $\geq$ 500 mg/dL
TRGCAT1C = 3	High	Triglycerides 200-499 mg/dL
TRGCAT1C = 2	Borderline High	Triglycerides 150-199 mg/dL
TRGCAT1C = 1	Normal	Triglycerides < 150 mg/dL

## **Urinary Measures**

Urinary microalbuminuria from spot urine measurement, albumin(mg) / creatinine (g); reference 5

UABCAT1C = 3	Macroalbuminuria	alb(mg)/cre(g) > 300
UABCAT1C = 2	Microalbuminuria	alb(mg)/cre(g) 30-300
UABCAT1C = 1	Normal	alb(mg)/cre(g) < 30

## **ECG Measures**

### **MAJOR ABNORMALITIES**

**Ventricular Conduction Defect**

VCD1C = 1      If the first 3 characters of ncsp31 = "3.1" or "3.2" or "3.3" (If Novacode 3.1 or 3.2 or 3.3 is present)  
 VCD1C = 0      Otherwise

**Major Q-Wave Abnormalities**

QQS1C = 1      If ncsp51 = "5.1" or "5.2" or "5.3" (If Novacode 5.1 or 5.2 or 5.3 is present)  
 QQS1C = 0      Otherwise

**Minor Q, QS waves with ST-T Abnormalities**

QST1C = 1      If ncsp51 = "5.4" (If Novacode 5.4 is present)  
 QST1C = 0      Otherwise

**Isolated ST-T Wave Abnormalities**

STT1C = 1      If ncsp51 = "5.5" or "5.6" (If Novacode 5.5 or 5.6 is present)  
 STT1C = 0      Otherwise

**Left Ventricular Hypertrophy**

ECGLVH1C = 1    If ncsp61 = "6.1.1" (If Novacode 6.1.1 is present)  
 ECGLVH1C = 0    Otherwise

**Atrial Fibrillation**

AFIB1C = 1      If any of (ncvp1a1, ncvp1b1, ncvp1c1, ncvp1d1, ncvp1e1, ncvp1f1, ncvp1g1) = "1.5.1" or "1.5.2" or "1.5.3" (If Novacode 1.5.1 or 1.5.2 or 1.5.3 is present)  
 AFIB1C = 0      Otherwise

**First Degree Atrio-Ventricular (AV) Block**

AVB1C = 1      If ncsp21 = "2.1" (If Novacode 2.1 is present)  
 AVB1C = 0      Otherwise

**Any Major ECG Abnormalities**

MAJABN1C = 1    If any of the following are present: (vcd1c, qqs1c, qst1c, stt1c, ecglvh1c, afib1c, avb1c)  
 MAJABN1C = 0    Otherwise

**MINOR ABNORMALITIES****Minor Q, QS Waves**

MQS1C = 1      If ncsp51 = "5.7" (If Novacode 5.7 is present)  
 MQS1C = 0      Otherwise

**High R Waves**

HIR1C = 1      If ncsp61 = "6.1.0" (If Novacode 6.1.0 is present)  
 HIR1C = 0      Otherwise

**Minor Isolated ST-T Abnormalities**

MST1C = 1      If ncsp51 = "5.8" (If Novacode 5.8 is present)  
MST1C = 0      Otherwise

#### **ST Elevation**

STE1C = 1      If any of (mcl921 , mcf921 mcv921) = 1 (If Minnesota Code 9-2 is present)  
STE1C = 0      Otherwise  
                 where  
                 mcl921 = 1 if any of (mc92i1, mc92avl1, mc92v61) = "921"  
                 mcf921 = 1 if any of (mc92ii1, mc92iii1, mc92avf1) = "921"  
                 mcv921 = 1 if any of (mc92v11, mc92v21, mc92v31, mc92v41, mc92v51) =  
                 "921"

#### **Incomplete RBBB**

IRBBB1C = 1      If ncsp31 = "3.4.1" (If Novacode 3.4.1 is present)  
IRBBB1C = 0      Otherwise

#### **Long QT Interval**

LQT1C = 1      If qti1 >= 110, where qti1 = qtdur1 \* (hr + 100) / 656  
LQT1C = 0      Otherwise

#### **Short PR (milliseconds)**

SPR1C = 1      If prdur1 < 120 ms and (mcr611 ne "6.1.1" and mcr641 ne "6.4.1" and  
                 mcr681 ne "6.8.1" and mcr821 ne "8.2.1" and mcr821 ne "8.2.2" and mcr831  
                 ne "8.3.1" and mcr831 ne "8.3.2" and mcr841 ne "8.4.1")  
SPR1C = 0      Otherwise

#### **Left Axis Deviation**

LAD1C = 1      If -90 <= qrsaxis1 <= -30  
LAD1C = 0      Otherwise

#### **Right Axis Deviation**

RAD1C = 1      If 120 <= qrsaxis1 <= 210  
RAD1C = 0      Otherwise

#### **Any Minor ECG Abnormalities**

MINABN1C = 1      If any of the following are present:(mqsl, hir1, mst1, ste1, irbbb1, lqt1, spr1,  
                 lad1, rad1)  
MINABN1C = 0      Otherwise

### **Ultrasound: IMT**

#### **Carotid intimal-medial thickness (IMT), in millimeters**

The computed variables of MAXCOM1C and MAXINT1C reflect the mean of all available maximum wall thicknesses across all scans, across both left and right sides, and across the near and far walls for the common and internal carotid variables, respectively.

MAXCOM1C = mean (rcfwmax1, rcnwmax1, lcfwmax1, lcnwmax1)

MAXINT1C = mean (rafwmax1, ranwmax1, rlfwmax1, rlnwmax1, rpfwmax1, rpnwmax1, lafwmax1, lanwmax1, llfwmax1, llnwmax1, lpfwmax1, lpnwmax1)

### **Maximum carotid stenosis, graded**

MAXSTN1C = max (rsten1, lsten1) for values of rsten1 and lsten1 which indicate a stenosis.

When one side indicated “bad image”, or “can’t tell” and the other side had a valid value, the valid measure was taken as the maximum.

0 = No Lesion

1 = 1-24%

2 = 25-49%

3 = 50-74%

4 = 75-99%

5 = 100%

### **Maximum surface**

MAXSUR1C = max (rsurf1, lsurf1) for values of rsurf1 and lsurf1 which indicate a lesion.

When one side indicated “can’t tell” and the other side had a valid value, the valid measure was taken as the maximum.

0 = Smooth

1 = Mildly Irregular

2 = Markedly Irregular

3 = Ulcerated

6 = No Lesion

### **Maximum morphology**

MAXMOR1C = max (rmorph1, lmorph1)

for values of rmorph1 and lmorph1 which indicate a lesion.

When one side indicated “can’t tell” and the other side had a valid value, the valid measure was taken as the maximum.

0 = No Lesion

1 = Homogeneous

2 = Heterogeneous

### **Maximum density**

MAXDEN1C = max (rdens1, ldens1) for values of rdens1 and ldens1 which indicate a lesion.

When one side indicated “can’t tell” and the other side had a valid value, the valid measure was taken as the maximum.

0 = No Lesion

1 = Hypodense



2 = Isodense  
 3 = Hyperdense  
 4 = Calcified

## **Ultrasound: Brachial artery endothelial function**

### **1) Version 1: Change in Brachial Artery Diameter**

#### **Raw (arithmetic) change (mm)**

$$V1RAW1C = rsda1 - s1dma1$$

where RSDA1 = Response edge detected average diameter (mm);  
 S1DMA1 = Stream 1 edge detected average diameter (mm);

#### **Raw percent change**

$$V1RPC1C = 100 * (rsda1 - s1dma1) / s1dma1$$

### **2) Version 2: Change in Brachial Artery Diameter**

#### **Raw (arithmetic) change (mm)**

$$V2RAW1C = rsda1 - rdma1$$

where rsda1 = Response edge detected average diameter (mm);  
 rdma1 = Release edge detected average diameter (mm);

#### **Raw percent change**

$$V2RPC1C = 100 * (rsda1 - rdma1) / rdma1$$

## **MRI Measures**

### **Aortic Distensibility**

$$AODIS1C = [(oaormx1 - oaormn1) / oaormn1] / mripp1$$

where oaormx1 = maximum aortic cross-sectional area;  
 oaormn1 = minimum aortic cross-sectional area; and  
 mripp1 = the average of the pulse pressures from the brachial blood pressures  
 measured before and after Series 7 in the MRI exam  
 = [(presys1 - predia1) + (postsys1 - postdia1)] / 2

### **Average Aortic Diameter**

$$AAD1C = [2 * \sqrt{oaormn1 / \pi} + 2 * \sqrt{oaormx1 / \pi}] / 2,$$

where  $\pi = 3.14159$

## **CT Measures**

PHOK1C      Indicator specifying whether or not phantom data (and thus the phantom adjustment) were valid for a particular scan. Missing phantom data are by definition “invalid.”

PHOK1C	=1	Phantom data/adjustment valid
	=0	Phantom /data adjustment not valid

Each of the measures below is the sum of the corresponding measures from the left anterior descending, circumflex, left and right coronary arteries.

### 1) Agatston calcium score

**a) Unadjusted = slft1 + slad1 + scrc1 + srt1**

AGATU1C	Defined for each scan (CT RC data file)
AGATU11C	Scan 1, defined for each participant (main data file)
AGATU21C	Scan 2, defined for participants with 2 scans (main data file)
AGATUM1C	mean(AGATU11C,AGATU21C), average of scans 1 and 2 (main data file)

**b) Phantom-adjusted = pslft1 + psld1 + pscrc1 + psrt1      if PHOK1C=1**  
**= slft1 + slad1 + scrc1 + srt1                                  if PHOK1C=0**

AGATP1C	Defined for each scan (CT RC data file)
AGATP11C	Scan 1, defined for each participant (main data file)
AGATP21C	Scan 2, defined for participants with 2 scans (main data file)
AGATPM1C	mean(AGATP11C,AGATP21C), average of scans 1 and 2 (main data file)

## 2) Total calcium volume

**a) Unadjusted = vlft1+ vlad1 + vcrc1 + vrt1**

VOLU1C	Defined for each scan (CT RC data file)
VOLU11C	Scan 1, defined for each participant (main data file)
VOLU21C	Scan 2, defined for participant w/ 2 scans (main data file)
VOLUM1C	mean(VOLU11C, VOLU21C), average of scans 1 and 2 (main data file)

**b) Phantom-adjusted = pvlft1+pvlad1+pverc1+pvr11      if PHOK1C=1**  
**= vlft1+ vlad1+ verc1+ vrt1              if PHOK1C=0**

VOLP1C	Defined for each scan (CT RC data file)
VOLP11C	Scan 1, defined for each participant (main data file)
VOLP21C	Scan 2, defined for participants w/ 2 scans (main data file)
VOLPM1C	mean(VOLP11C, VOLP21C), average of scans 1 and 2 (main data file)

### 3) Total isometric volume score

**a) Unadjusted = vslft1 + vslad1 + vscrc1 + vsrt1**

VOLSU1C	Defined for each scan (CT RC data file)
VOLSU11C	Scan 1, defined for each participant (main data file)
VOLSU21C	Scan 2, defined for participant w/ 2 scans (main data file)
VOLSUM1C	mean(VOLSU11C, VOLSU21C), average of scans 1 and 2 (main data file)

b) **Phantom-adjusted** = pvsleft1 + pvslad1 + pvscrc1 + pvsrt1 if PHOK1C=1  
                                       = vslft1 + vslad1 + vscrc1 + vsrt1 if PHOK1C=0

VOLSP1C	Defined for each scan (CT RC data file)
VOLSP11C	Scan 1, defined for each participant (main data file)
VOLSP21C	Scan 2, defined for participants w/ 2 scans (main data file)
VOLSPM1C	mean(VOLSP11C, VOLSP21C), average of scans 1 and 2 (main data file)

#### 4) **Arterial Mass Measure**

**mlft1 + mlad1 + mcrc1 + mrt1**

MASS1C	Defined for each scan (CT RC data file)
MASS11C	Scan 1, defined for each participant (main data file)
MASS21C	Scan 2, defined for participants w/ 2 scans (main data file)
MASSM1C	mean(MASS11C, MASS21C), average of scans 1 and 2 (main data file)

**References:**

1. World Health Organization Expert Committee. Physical status: the use and interpretation of anthropometry. Geneva, Switzerland: World Health Organization, 1993 (Technical Report Series 854).
2. 1997 Joint National Committee. The sixth report of the Joint National Committee on Prevention, Detection, Evaluation and Treatment of High Blood Pressure. Arch Intern Med 1997;157(2446):2413-2446
3. Expert Committee on the Diagnosis and Classification of Diabetes Mellitus. Report of the Expert Committee on the Diagnosis and Classification of Diabetes Mellitus. Diabetes Care 1997;20(7):1183-1197.
4. Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults. Executive summary of the third report of the National Cholesterol Education Program (NCEP) Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III). JAMA 2001;285:2486-2497.
5. American Diabetes Association. Diabetic nephropathy. Diabetes Care 1997;20 (Suppl 1):S24-S27.

## **MESA Baseline and Exam 2 Methods**

### **Group 1 Assays**

**Cholesterol:** Total cholesterol is measured in EDTA plasma using a cholesterol oxidase method (Roche Diagnostics, Indianapolis, IN 46250) on a Roche COBAS FARA centrifugal analyzer at the Collaborative Studies Clinical Laboratory at Fairview-University Medical Center (Minneapolis, MN). This method incorporates cholesterol esterase and peroxidase in the reagent and monitors cholesterol oxidation at 500 nm upon conversion of 4-aminoantipyrine to quinoneimine. This enzymatic method is standardized with a serum standard prepared in our laboratory and frozen at -70°C. The assigned value of this standard is set by replicate Abell-Kendall cholesterol analysis performed by a CDC/NHLBI Cholesterol Reference Method Laboratory Network laboratory. The calibration of this assay is regularly monitored by the CDC/NHLBI Lipid Standardization Program. The NCEP program recommends reference range of <200 mg/dL. The laboratory CV is 1.6%.

**HDL-Cholesterol:** HDL-cholesterol is measured in EDTA plasma using the cholesterol oxidase cholesterol method (Roche Diagnostics) after precipitation of non-HDL-cholesterol with magnesium/dextran. This method is standardized as described for the cholesterol assay; and calibration of the assay is regularly monitored by the CDC/NHLBI Lipid Standardization Program. The NCEP program recommends reference range of >40 mg/dL. Measurements are made at the Collaborative Studies Clinical Laboratory at Fairview-University Medical Center (Minneapolis, MN). The laboratory CV is 2.9%.

**Triglyceride:** Triglyceride is measured in EDTA plasma using Triglyceride GB reagent (Roche Diagnostics, Indianapolis, IN 46250) on the Roche COBAS FARA centrifugal analyzer. This assay performs an automated glycerol blank by taking a spectrophotometric reading after endogenous glycerol has reacted and before lipase is added to release the glycerol from the triglyceride. This method is calibrated with a frozen serum standard prepared in our laboratory and frozen at -70°C. We have assigned this calibrator by comparison to CDC reference materials. The accuracy and precision The NCEP program recommends reference range of <150 mg/dL. Measurements are made at the Collaborative Studies Clinical Laboratory at Fairview-University Medical Center (Minneapolis, MN). The laboratory CV is 4.0%

**LDL-Cholesterol Calculated:** LDL-cholesterol is calculated in plasma specimens having a triglyceride value <400 mg/dL using the formula of Friedewald et al. (Friedewald WT, Levy RI, Fredrickson DS. Estimation of the concentration of low-density lipoprotein cholesterol in plasma, without use of the preparative ultracentrifuge. Clin Chem. 1972;18:499-502). The NCEP program recommends reference range of <100 mg/dL. Measurements are made at the Collaborative Studies Clinical Laboratory at Fairview-University Medical Center (Minneapolis, MN).

**Serum creatinine:** Serum creatinine is measured by rate reflectance spectrophotometry using thin film adaptation of the creatine amidinohydrolase method on the Vitros analyzer (Johnson & Johnson Clinical Diagnostics, Inc., Rochester, NY 14650) at the Collaborative Studies Clinical Laboratory at Fairview-University Medical Center (Minneapolis, MN). The reference range in

adult females is 0.4 – 1.1 mg/dL and in adult males is 0.5 – 1.2 mg/dL. The laboratory CV is 2.2%.

Glucose: Serum glucose is measured by rate reflectance spectrophotometry using thin film adaptation of the glucose oxidase method on the Vitros analyzer (Johnson & Johnson Clinical Diagnostics, Inc., Rochester, NY 14650) at the Collaborative Studies Clinical Laboratory at Fairview-University Medical Center (Minneapolis, MN). The adult reference range is 60 – 115 mg/dL. The laboratory CV is 1.1%.

## **Group 2 Assays**

DNA Isolation: DNA is isolated at the Collaborative Studies Clinical Laboratory at Fairview-University Medical Center (Minneapolis, MN) from packed EDTA and citrate cells that are frozen at –70°C. The DNA extraction and purification method uses sodium dodecylsulfate cell lysis followed by a salt precipitation method for protein removal using commercial Puregene® reagents (Gentra System, Inc., Minneapolis, MN 55447). A mean yield of 39.1 µg DNA/mL packed cell was obtained, and DNA was of high quality (mean purity A260/280=1.77) and high molecular weight as determined by gel electrophoresis.

Urinary Creatinine: Urinary creatinine is measured using the Vitros 950IRC instrument (Johnson & Johnson Clinical Diagnostics, Inc., Rochester, NY) at the Clinical Chemistry Laboratory at Fletcher Allen Health Care (Burlington, VT). Thin film technology is used to quantitatively measure creatinine via a colorimetric reaction. The assay range is 0.05 – 16.50 mg/dl, with a CV range of 2.5 – 2.9%. The normal reference range is 0.7 – 1.5 mg/dl.

Urinary Albumin: Urinary albumin is determined using the Array 360 CE Protein Analyzer (Beckman Instruments, Inc., Drea, CA) at the Clinical Chemistry Laboratory at Fletcher Allen Health Care (Burlington, VT). This system utilizes a nephelometer to measure the rate of light scatter formation resulting from an immunoprecipitation reaction. The minimum detectable level of albumin is 0.2 mg/dl. The normal reference range is <1.9 mg/dl.

Total Homocysteine (tHcy): Plasma tHcy is measured by a fluorescence polarization immunoassay (IMx Homocysteine Assay, Axis Biochemicals ASA, Oslo, Norway) using the IMx Analyzer (Abbott Diagnostics, 100 Abbott Park Rd, Abbott Park, Illinois 60064) at the Biochemical Genetics Clinical Laboratory at Fairview-University Medical Center (Minneapolis, MN). The method is based on the enzymatic conversion of free homocysteine to S-adenosyl-L-homocysteine, which is subsequently detected by a competitive immunoassay. The assay range is 0.5-50 µmol/L with a laboratory CV range of 3.8 – 5.1%. The reference range on fasting plasma is 4.0 - 12.0 µmol/L.

Interleukin-6 (IL-6): IL-6 is measured by ultra-sensitive ELISA (Quantikine HS Human IL-6 Immunoassay; R&D Systems, Minneapolis, MN) at the Laboratory for Clinical Biochemistry Research (University of Vermont, Burlington, VT). The lower detection limit is <0.0094 pg/mL with a detection range of 0.156-10.0 pg/mL. A monoclonal anti-IL6 antibody is coated on the plastic support and a polyclonal anti-IL6 antibody is used as the sandwich antibody. The amount

of IL-6 bound is determined by a color reaction. The expected normal range per the manufacturer is 0.24 to 12.5 pg/mL. The laboratory CV for this assay is 6.3%.

C-reactive protein (CRP): CRP is measured using the BNII nephelometer (N High Sensitivity CRP; Dade Behring Inc., Deerfield, IL) at the Laboratory for Clinical Biochemistry Research (University of Vermont, Burlington, VT). This instrument utilizes a particle enhanced immunonephelometric assay to determine CRP. Polystyrene particles are coated with monoclonal antibodies to CRP that agglutinate in the presence of antigen (CRP) to cause an increase in the intensity of scattered light. The increase in scattered light is proportional to the amount of CRP in the sample. The assay range is 0.175 – 1100 mg/L. Expected values for CRP in normal, healthy individuals are  $\leq 3$  mg/L. Intra-assay CVs range from 2.3 – 4.4% and inter-assay CVs range from 2.1 – 5.7%.

Chlamydia pneumoniae (C. pneumoniae): IgG antibodies to *C. pneumoniae* are detected in serum using a microimmunofluorescent antibody (MIF) assay employing a two stage sandwich procedure for the qualitative and semi-quantitation detection of IgG antibodies to *C. pneumoniae* (Focus Technologies, Cypress, CA). The method is performed at the Collaborative Studies Clinical Laboratory at Fairview-University Medical Center (Minneapolis, MN). Positive reactions appear as bright apple-green fluorescent elementary bodies with a background matrix of yolk sac. Fluorescence is graded as follows: 2 to 4+: moderate to intense apple-green fluorescence; 1+: definite, but dim fluorescence; negative: no fluorescence. A positive test is one in which fluorescence is 1+ or greater.

Insulin: Insulin is determined by a radioimmunoassay method using the Linco Human Insulin Specific RIA Kit (Linco Research, Inc., St. Charles, MO 63304). This assay utilizes  $^{125}\text{I}$ -labeled Human Insulin and a Human Insulin antiserum to determine the level of insulin. The lower limit of sensitivity is 2 U/L with a laboratory CV of 4.9%. Measurements are made at the Collaborative Studies Clinical Laboratory at Fairview-University Medical Center (Minneapolis, MN). The reference range on fasting serum is  $<20$  mU/L .

Fibrinogen: Fibrinogen antigen is measured using the BNII nephelometer (N Antiserum to Human Fibrinogen; Dade Behring Inc., Deerfield, IL). The amount of fibrinogen present in the sample is quantitatively determined by immunochemical reaction. Complexes formed between antigen and antibody molecules scatter light passing through the sample. The intensity of the scattered light is proportional to the concentration of the antigen (fibrinogen) in the sample. Expected values for fibrinogen in normal, healthy individuals are 180 – 350 mg/dl. The intra-assay and inter-assay CVs are 2.7% and 2.6%, respectively.

Factor VIII: Factor VIII levels are determined by measuring the clot time of a sample in factor VIII deficient plasma in the presence of activators utilizing the Sta-R analyzer (STA-Deficient VIII; Diagnostica Stago, Parsippany, NJ). The results are given as percent factor VIII, with reported normal plasma range of factor VIII in the adult population between 60 and 150%.

D-Dimer: Fibrin fragment D-dimer is measured using an immuno-turbidimetric assay (Liatest D-DI; Diagnostica Stago, Parsippany, NJ) on the Sta-R analyzer (Diagnostica Stago, Parsippany, NJ). This assay is performed at the Laboratory for Clinical Biochemistry Research (University of



Vermont, Burlington, VT). The assay utilizes microlatex particles to which specific antibodies have been attached. In the presence of the antigen (D-dimers), the antibody-coated latex particles agglutinate to form aggregates that absorb more light. This increase in light absorption is a function of the antigen level present in the test sample. The normal reference range is 0.22 to 4.0 ug/mL, with expected normal values <0.4 µg/ml.

Boneu B, Aptel I, Nguyen F, Canbus JP, Thirion C, Amiral J, Boccalon H, Elias A (1997) Liatest D-Di. A new fast assay to determine D-Dimers, has performances comparable to classical ELISA for diagnosis of deep vein thrombosis. *Thromb Haemost*, supp. 159, abstract PD 651, June 1997.

Plasmin- $\alpha_2$ -antiplasmin complex (PAP): PAP is measured in an assay that detects only plasmin in complex with  $\alpha_2$ -antiplasmin, and not free plasmin or  $\alpha_2$ -antiplasmin. As such, it is an excellent marker of active plasmin generation. This assay is performed at the Laboratory for Clinical Biochemistry Research (University of Vermont, Burlington, VT). The assay is a two-site ELISA that utilizes two monoclonal antibodies (Holvoet, et al, 1986). The analytical CV for this assay is 1.7%. The expected normal range is 2.1 to 5.8 nM. Reagents for this assay are generously provided by Drs. Désiré Collen and Paul Declerck (University of Leuven, Leuven, Belgium).

Holvoet P, deBoer A, Verstreken M, Collen D (1996) An enzyme-linked immunosorbent assay (ELISA) for the measurement of plasmin-alpha-2-antiplasmin complex in human plasma - application to the detection of in vivo activation of the fibrinolytic system. *Thromb Haemost* 56:124-127.

NMR Lipids: Individual lipoprotein subclasses are measured using the NMR LipoProfile-II spectral analysis process by Dr. Jim Otvos (LipoScience, Inc.; Raleigh, NC). The instrument employs proton NMR spectroscopy to measure the particle concentrations of 11 subclasses of VLDL, LDL, and HDL. In addition, calculated values for mean VLDL, LDL, and HDL particle size and estimates of total and VLDL triglycerides and HDL cholesterol are provided. The CVs for the particle concentrations of VLDL, LDL, and HDL are 4% or less. CVs for individual subclasses (large VLDL, medium VLDL, small VLDL, IDL, small LDL, medium small LDL, very small LDL, large HDL, small HDL) are under 10%. CVs for IDL and medium HDL are 27.5%. CVs for mean VLDL, LDL, and HDL mean particle size are 2.0% or less. For calculated total triglycerides, VLDL triglycerides, and HDL cholesterol, CVs range from 1.1-1.4%.

### **Group 3 (MESA 1000) Assays**

Soluble Intercellular Adhesion Molecule-1 (sICAM-1): sICAM-1 is measured by an ELISA assay (Parameter Human sICAM-1 Immunoassay; R&D Systems, Minneapolis, MN). This assay is performed at the Laboratory for Clinical Biochemistry Research (University of Vermont, Burlington, VT). sICAM-1 is sandwiched by an immobilized monoclonal antibody and the enzyme-linked monoclonal antibody. The amount of ICAM-1 present is determined by colorimetric reaction. The laboratory CV is 5.0%, with a healthy reference mean of  $326 \pm 89$  ng/mL. The minimum detectable level is < 0.35 ng/ml with an assay range of 2.73 – 49.55 ng/ml.

von Willebrand factor (vWf): vWf is measured by an immunoturbidimetric assay on the Sta-R analyzer (Iatest vWF; Diagnostica Stago, Parsippany, NJ). The assay utilizes latex particles to which specific antibodies have been attached. In the presence of antigen (vWf) the particles agglutinate to form aggregates, which absorb more light. This increase in absorbance is proportional to the vWf present in the test sample. This assay is performed at the Laboratory for Clinical Biochemistry Research (University of Vermont, Burlington, VT). The results are presented as percent vWf, with an expected normal range of 50-160%. Intra-assay CV is 3.7% and inter-assay CV is 4.5%.

Plasminogen Activator Inhibitor-1 (PAI-1): The PAI-1 assay was originally developed by Dr. Désiré Collen and colleagues (DeClerck, et al, 1988), and is sensitive to free PAI-1 (both latent and active) but not PAI-1 in complex with tissue plasminogen activator. The assay is a two-site ELISA performed at the Laboratory for Clinical Biochemistry Research (University of Vermont, Burlington, VT). The Laboratory for Clinical Biochemistry Research has extensive experience with this assay (Macy, et al, 1993), having used it in over 6,000 epidemiological participants to date. Reagents are generously provided by Dr. Collen (Leuven, Belgium). The analytical CV for this assay is 3.5%. The significant diurnal change in PAI-1 levels and the potential for contamination by platelets, makes attention to the details of blood drawing particularly important (Macy, et al, 1993; Tracy and Bovill, 1995). The expected normal range is 5 -66 ng/mL.

DeClerck P, Alessi M, Verstreken M, Kruithof E, Juhan-Vague I, Collen D (1988) Measurement of plasminogen activator inhibitor 1 (PAI-1) in biological fluids with a murine monoclonal antibody based enzyme-linked immunosorbent assay. *Blood* 71:220-225.

Macy E, Meilahn E, DeClerck P, Tracy R (1993) Sample preparation for plasma measurement of plasminogen activator inhibitor-1 antigen in large population studies. *Arch Path Lab Med* 177:67-70.

Tracy R, Bovill E (1995) Plasminogen activator inhibitor-1. In E Beutler, M Lichtman, B Coller, T Kipps (Eds.), *Williams Hematology*, pps. L110—L111. New York; McGraw Hill.

HDL Subfractions: HDL subfraction concentrations are determined in plasma using the Lipoprint HDL System (Quantimetrix Corporation, Redondo Beach, CA) at the Collaborative Studies Clinical Laboratory at Fairview-University Medical Center (Minneapolis, MN). The HDL subfractions are separated by high resolution polyacrylamide gradient gel electrophoresis on the basis of their molecular size. The gels are scanned by a densitometer, and a public domain software program (NIH Image Version 1.62) identifies 8 major HDL subfractions according to their migration distance (Rf) relative to the albumin fraction. The percent and concentration (mg/dL) of each fraction is calculated. The laboratory CV's for the 8 major fractions range from 6.3 to 21.8%. The software also allows for the option of isolating three HDL subfractions. Laboratory CV's for the three fractions are 9.2, 7.2 and 17.4%, respectively.

LDL Subfractions: LDL subfraction concentrations are determined in plasma using the Lipoprint HDL System (Quantimetrix Corporation, Redondo Beach, CA). The LDL subfractions are separated by high resolution polyacrylamide gradient gel electrophoresis on the basis of their molecular size. A typical Lipoprint profile consists of 1 VLDL band, 3 Midbands, up to 7 LDL bands and 1 HDL band. The gels are scanned by a densitometer, and a public domain software program (NIH Image Version 1.62) identifies fractions by their mobility (Rf) using VLDL as the starting reference point and HDL as the leading reference point. The percent and concentration (mg/dL) of each fraction is calculated. Reported CV's range from 1.2 – 7.3% for HDL, LDL and VLDL fractions, 2.9 – 11.1% for midband subfractions, and 1.7 – 17.9% for LDL subfractions. Measurements are made at the Collaborative Studies Clinical Laboratory at Fairview-University Medical Center (Minneapolis, MN).

Cholesteryl Ester Transfer Protein (CETP) Mass: CETP mass is measured in serum by a sandwich enzyme immunoassay (Wako CETP Test; Wako Chemical USA, Inc., Richmond, VA) method at the Collaborative Studies Clinical Laboratory at Fairview-University Medical Center (Minneapolis, MN). Serum samples are pretreated with detergent to release CETP from lipoproteins. The monoclonal antibody coated to the solid phase and the horse radish peroxidase (HRP)-labeled monoclonal antibody reacts with the released CETP. The activity of HRP bound to the solid phase is proportional to the CETP mass in the sample. The laboratory CV for this assay is 11.1%. The reference range is reported to be  $1.92 \pm 0.57$   $\mu\text{g/mL}$ .

Cholesteryl Ester Transfer Protein (CETP) Activity: CETP activity is determined in plasma using a CETP Activity Kit (Roar Biomedical, Inc., New York, NY) that includes donor (without apo-A1) and acceptor particles. The method is performed at the Collaborative Studies Clinical Laboratory at Fairview-University Medical Center (Minneapolis, MN). Incubation of donor and acceptor with a CETP source results in the CETP mediated transfer of fluorescent neutral lipid from donor molecule to a VLDL acceptor molecule. The fluorescence of the reaction increases as the fluorescent neutral lipid is removed from the core of the donor molecule to the acceptor. CETP activity is reported in nmol/mL/hr. The laboratory CV for this assay is 13.3%.

Anti-Human Heat Shock Protein 60 (Hsp60): Anti-human Hsp60 antibodies (IgG, IgA and IgM) are measured by an ELISA assay (StressXpress™ Anti-Human Hsp60 (total) ELISA Kit; Stressgen, Victoria, BC, Canada) at the Collaborative Studies Clinical Laboratory at Fairview-University Medical Center (Minneapolis, MN). Anti-human Hsp60 antibodies bind to recombinant human Hsp60 coated to the solid phase. The captured anti-human Hsp60 antibodies are detected with hydrogen peroxidase conjugated goat polyclonal antibody specific for human IgG, IgA and IgM antibodies. The reported kit sensitivity is 2.88 ng/mL. The laboratory CV for this assay is 18.8%.

Remnant-like Particle-Cholesterol (RLP-C): RLP-C is measured using the RLP®-Cholesterol Immunoseparation Assay (POLYMEDCO, Inc.; Cortlandt Manor, NY) at the Collaborative Studies Clinical Laboratory at Fairview-University Medical Center (Minneapolis, MN). This method uses immunoseparation techniques to isolate a population of remnant lipoproteins that have the same physical and chemical properties of  $\beta$ -VLDL—these particles are referred to as remnant-like particles (RLP). The remnant particles are separated from LDL, Lp(a), nascent VLDL and HDL by mouse monoclonal antibodies to human apolipoproteins A-1 and B-100

conjugated to sepharose-4B beads. The remnant particles present in the unbound fraction are measured by assaying the cholesterol (remnant lipoprotein cholesterol) by an enzymatic assay using the Roche Cobas Mira centrifugal analyzer (Roche Diagnostics, Indianapolis, IN 46250). The laboratory CV range for this assay is 5.5% - 9.3%.

Red Blood Cell (RBC) Membrane Fatty Acids: The RBC are separated from EDTA plasma at the Field Centers, an equal volume of acid citrate-dextrose preservative solution is added, and the mixture is sent to the Collaborative Studies Clinical Laboratory at Fairview-University Medical Center (Minneapolis, MN) for fatty acid analysis. The RBC are lysed, the fatty acids are extracted from the RBC ghosts and quantitated by gas-liquid chromatography. Quantitation is achieved by measuring peak area relative to an internal standard. The fatty acid profile includes approximately 29 fatty acids from 12:0 through 24:1ω9. Our laboratory CV is 6% for most fatty acids analyzed.

Herpes Simplex Virus (HSV) IgG: Serum IgG antibodies to herpes simplex virus (HSV) type 1 and type 2 are detected using an indirect enzyme immunoassay (Diamedix Immunosimplicity<sup>®</sup> HSV 1 & 2 Test Kit, Diamedix Corporation; Miami, Florida) at the Collaborative Studies Clinical Laboratory at Fairview-University Medical Center (Minneapolis, MN). EU/mL (ELISA) of each specimen is determined by comparison to absorbance values obtained on a predetermined calibrator. EU/mL of <16.0 is interpreted as negative for anti-HSV 1 & 2 IgG; EU/mL of 16.0-19.9 EU/mL obtained on two determinations is equivocal for anti-HSV 1 & 2 IgG; and ≥20.0 EU/mL is interpreted as positive for anti-HSV 1 & 2 IgG.

Cytomegalovirus (CMV) IgG: Serum IgG antibodies to cytomegalovirus (CMV) are detected using an indirect enzyme immunoassay (Diamedix Immunosimplicity<sup>®</sup> CMV IgG Test Kit, Diamedix Corporation; Miami, Florida) at the Collaborative Studies Clinical Laboratory at Fairview-University Medical Center (Minneapolis, MN). EU/mL (ELISA) of each specimen is determined by comparison to absorbance values obtained on predetermined standards. EU/mL of <8.0 is interpreted as negative for anti-CMV IgG; EU/mL of 8.0-9.9 obtained on two determinations is equivocal for anti-CMV IgG; and EU/mL of ≥10.0 is interpreted as positive for anti-CMV IgG.

*Helicobacter pylori* (H. pylori): Serum IgG antibodies to *H. pylori* antigen are detected using an indirect enzyme immunoassay (Diamedix Immunosimplicity<sup>®</sup> *H. pylori* IgG Test Kit, Diamedix Corporation, Miami, Florida) at the Collaborative Studies Clinical Laboratory at Fairview-University Medical Center (Minneapolis, MN). The Index Value of each specimen is determined by comparison to absorbance value obtained on a cut-off calibrator. Index Value of <0.90 is interpreted as no detectable antibodies to *H. pylori*; Index Value of 0.90 - 1.09 obtained on two determinations is equivocal for IgG antibodies to *H. pylori*; and Index Value of ≥1.10 is interpreted as positive for *H. pylori* antibody.

Antibody to Hepatitis A Virus (anti-HAV): Total serum antibodies to hepatitis A virus (anti-HAV) are detected using the IM<sup>®</sup>x HAVAB qualitative microparticle enzyme immunoassay (MEIA) (Abbott Laboratories; Abbott Park, IL) at the Collaborative Studies Clinical Laboratory at Fairview-University Medical Center (Minneapolis, MN). The rate of each specimen is determined and compared to a cutoff rate obtained on each run by a calibrator, as described by

the manufacturer. Values greater than the Cutoff rate are considered nonreactive by the criteria of the IMx HAVAB assay; values less than the Cutoff rate are considered reactive by the criteria of the IMx HAVAB assay.

Interleukin-2 soluble receptor  $\alpha$  chain (IL-2 sR $\alpha$ ): IL-2 sR $\alpha$  is measured by ultra-sensitive ELISA (Quantikine Human IL-2 sR $\alpha$  Immunoassay; R&D Systems, Minneapolis, MN). This assay is performed at the Laboratory for Clinical Biochemistry Research (University of Vermont, Burlington, VT). The assay plate is precoated with a monoclonal antibody specific for IL-2 sR $\alpha$  and an anti-IL-2 sR $\alpha$  polyclonal antibody is used as the sandwich antibody. The amount of IL-2 sR $\alpha$  is determined colorimetrically. The lower detection level is 10 pg/ml and the detection range is 78.1 – 5000 pg/ml. The assay CV ranges from 4.6 – 7.2%.

Tumor Necrosis Factor- $\alpha$  soluble receptor 1 (sTNF-R1): sTNF-R1 is measured using an ultra-sensitive ELISA assay (Quantikine Human sTNF RI Immunoassay; R&D Systems, Minneapolis, MN). A monoclonal antibody specific for sTNF-R1 is coated on the assay plate and a polyclonal anti-TNF-R1 antibody is used as the sandwich assay. The amount of receptor is determined by a colorimetric reaction. This assay is performed at the Laboratory for Clinical Biochemistry Research (University of Vermont, Burlington, VT). The laboratory CV for this assay is 5%. The lower detection level is 1-3 pg/ml and the detection range is 7.8–500 pg/mL. The normal range for TNF-R1 in serum is 479-1966 pg/mL.

Soluble Thrombomodulin (sTM): sTM is measured by enzyme immunoassay using a monoclonal antibody to TM as the capture antibody (Asserachrom Thrombomodulin, Diagnostica Stago; Asnières-sur-Seine, France). A second horse radish peroxidase labeled monoclonal antibody is used to detect bound sTM. The amount of sTM in the sample is determined colorimetrically. This assay is performed at the Laboratory for Clinical Biochemistry Research (University of Vermont, Burlington, VT). The laboratory CV for this assay is 12%. The detection range is 4–60 ng/ml and the lower detection limit is 2 ng/ml.

Tissue factor pathway inhibitor (TFPI): TFPI is measured by enzyme-linked sandwich ELISA using a polyclonal anti-TFPI antibody as the capture antibody (Imubind Total TFPI ELISA Kit, American Diagnostica, Inc.; Stamford, CT). TFPI is detected using a biotinylated monoclonal antibody specific for the Kunitz domain 1 of TFPI. Binding of streptavidin conjugated horse radish peroxidase to the TFPI-antibody complex and the addition of substrate provide a colorimetric determination of the amount of TFPI in the sample. This assay is performed at the Laboratory for Clinical Biochemistry Research (University of Vermont, Burlington, VT). The assay range is 15.20–200.0 ng/mL and the lower limit of detection is 0.180 ng/mL. The expected range of TFPI in normal, healthy individuals is 75–120 ng/mL (mean value of 89.5 ng/mL). Intra-assay and inter-assay CVs range from 6.2–7.1% and 5.5–7.3%, respectively.

Thrombin Activatable Fibrinolysis Inhibitor (TAFI): TAFI, also known as procarboxypeptidase-B and procarboxypeptidase-U, is measured using the ELISA for Thrombin Activatable Fibrinolysis Inhibitor from Affinity Biologicals Inc. (Ancaster, Ontario, Canada). This assay is performed at the Laboratory for Clinical Biochemistry Research (University of Vermont, Burlington, VT). The assay range is 0.10–3.30  $\mu$ g/ml and the minimum detectable level is 0.41

µg/ml. The normal range for TAFI is reported to be 5.4-10 µg/ml. CVs for this assay range from 3.5%-4.2%.

Soluble Tissue Factor (sTF): sTF is measured by an enzyme-linked immunoassay that employs an anti-TF monoclonal capture antibody (Imubind Tissue Factor ELISA Kit, American Diagnostica, Inc.; Stamford, CT). sTF is detected using a biotinylated antibody fragment that specifically recognizes bound sTF. Binding of streptavidin conjugated horse radish peroxidase to the sTF-antibody complex and the addition of substrate provide a colorimetric determination of the amount of sTF in the sample. This assay is performed at the Laboratory for Clinical Biochemistry Research (University of Vermont, Burlington, VT). The assay range is 50.0–1000 pg/mL and the minimum detectable limit is 10 pg/mL sTF. No normal range for sTF has been established. The laboratory CV for this assay is 14.6%.

Soluble E-Selectin (sE-Selectin): sE-selectin, also known as endothelial leukocyte adhesion molecule-1 (ELAM-1) and CD62E, is measured using a high sensitivity quantitative sandwich enzyme (Parameter Human sE-Selectin Immunoassay; R&D Systems, Minneapolis, MN) at the Laboratory for Clinical Biochemistry Research (University of Vermont, Burlington, VT). The sE-Selectin assay utilizes two antibodies directed against different epitopes on the sE-Selectin molecule. The amount of sE-selectin bound is determined colorimetrically. The minimum detectable level of sE-Selectin is typically <0.1 ng/mL and the assay range is 0.47 – 10.52 mg/mL. The expected normal range in serum is 29.1 – 63.4 ng/mL. Intra-assay and inter-assay CVs range from 4.7 – 5.0% and 5.7 – 8.8%, respectively.

Matrix Metalloproteinase-9 (MMP-9): MMP-9, also known as gelatinase B, is measured by a high sensitivity quantitative sandwich enzyme immunoassay (Quantikine Human MMP-9 (total) Immunoassay; R&D Systems, Minneapolis, MN). A monoclonal antibody specific for MMP-9 is coated on the assay plate and an enzyme-linked polyclonal anti-MMP-9 antibody is used as the sandwich assay. The amount of antigen (MMP-9) is determined by a colorimetric reaction. This assay is performed at the Laboratory for Clinical Biochemistry Research (University of Vermont, Burlington, VT). The minimum detectable level of MMP-9 is typically <0.156 ng/mL and the assay range is 0.31 – 20 ng/mL. Expected normal values range from 169 – 705 ng/mL. Intra-assay and inter-assay CVs range from 1.9 – 2.9% and 6.9 – 7.9%, respectively. The assay results may be affected by the presence of platelets in samples. MMP-9 is released upon platelet activation and platelets in the sample may cause variable and irreproducible results.

Matrix Metalloproteinase-3 (MMP-3): MMP-3, also known as stromelysin-1, is measured by an ultra-sensitive, solid-phase sandwich ELISA using a polyclonal antibody specific for both the pro- and active forms of MMP-3 (Quantikine Human MMP-3 (total) Immunoassay; R&D Systems, Minneapolis, MN). This assay is performed at the Laboratory for Clinical Biochemistry Research (University of Vermont, Burlington, VT). The minimal detectable level of MMP-3 ranges from 0.002 - 0.045 ng/mL (mean limit of 0.009 ng/mL) with an assay detection range of 0.16 - 10 ng/mL. The expected normal range of MMP-3 in serum is 2.10 – 64.4 ng/mL. Intra-assay and inter-assay CVs range from 5.7 - 6.4% and 7.0 - 8.6%, respectively.

CD40 Ligand (CD40L): CD40L, also known as CD154, gp39, TNF-related activation protein (TRAP), and T-cell B-cell activating molecule (TBAM), is measured by an ultra-sensitive

quantitative sandwich enzyme immunoassay technique (Quantikine Human soluble CD40 Ligand Immunoassay; R&D Systems, Minneapolis, MN). This assay is performed at the Laboratory for Clinical Biochemistry Research (University of Vermont, Burlington, VT). The minimum detectable level of CD40L ranges from 2.1 – 10.1 pg/ml (mean of 4.2 pg/ml) and the assay range is 62.5 – 4000 pg/mL. The expected normal range in serum is 675 – 38,373 pg/mL. Intra-assay and inter-assay CVs range from 4.5 – 5.4% and 6.0 – 6.4%, respectively. Assay results may be affected by the presence of platelets in samples. CD40L is present in platelet granules and released upon platelet activation. Platelets in the sample may cause variable and irreproducible results.

Oxidized LDL (oxLDL): oxLDL is measured by competitive ELISA (Mercodia Oxidized LDL ELISA, Mercodia AB, Uppsala, Sweden) utilizing a specific murine monoclonal antibody to oxLDL and copper-oxidized LDL as a competitive ligand. This assay was developed by Dr. Paul Holvoet and colleagues (Holvoet et al, 1998) and is performed in Dr. Holvoet's laboratory (University of Leuven; Leuven, Belgium). The intra-assay and inter-assay CVs range from 5.5-7.3% and 4.0-6.2%, respectively. The total CV for the assay ranges from 7.4-8.3%.

Holvoet P, Vanhaecke J, Janssens S, Van de Werf F, Collen D (1998) Oxidized LDL and malondialdehyde-modified LDL in patients with acute coronary syndromes and stable coronary artery disease. *Circulation* 98:1487-1494.

Malondialdehyde-modified LDL (MDA-modified LDL): MDA-modified LDL is measured by an ELISA developed by Dr. Paul Holvoet and colleagues (Holvoet P et al, 1995) and is performed in Dr. Holvoet's laboratory (University of Leuven; Leuven, Belgium).

Holvoet P, Perez G, Zhao, Z, Brouwers E, Berner H, Collen D (1995) Malondialdehyde-modified low density lipoproteins in patients with atherosclerotic disease. *J Clin Invest* 95:2611-2619.

Hemoglobin A<sub>1c</sub> (HbA<sub>1c</sub>): HbA<sub>1c</sub> is measured in EDTA blood that is diluted at the Field Centers in a sample preparation vial containing an aqueous solution of EDTA and potassium cyanide (HbA<sub>1c</sub> Sample Preparation Kit, Bio-Rad, Hercules, CA 94547). Specimen from the prep vial is analyzed on the Tosoh A<sub>1c</sub> 2.2 Plus Glycohemoglobin Analyzer (Tosoh Medics, Inc., San Francisco CA 94080) using an automated high performance liquid chromatography method. Reference range is 4.3 – 6.0% with a laboratory CV range of 1.4 - 1.9%. Measurements are made at the Collaborative Studies Clinical Laboratory at Fairview-University Medical Center (Minneapolis, MN).

ATP-Binding Cassette Transporter A1 (ABCA1) Genotypes: Two common polymorphisms of the ABCA1 gene are genotyped using polymerase chain reaction (PCR) and detection by restriction fragment length polymorphism (RFLP): 1) The -477C/T polymorphism is a change of cytosine to thymine in the promoter region of the ABCA1 gene and is detected by *AciI* digestion of a 351bp amplified PCR product. 2) The 1051G/A (R219K) polymorphism is a guanine to adenine transition in exon 7 resulting in an arginine to lysine amino acid change. The

polymorphism is detected by *StyI* digestion of a 433bp amplified PCR product. All genotypes are reported as wildtype (normal), heterozygous, or mutant for each respective polymorphism.

### **MESA Sub-study Assays**

**F2 Isoprostanes:** n = 436



## MESA Diet Data Variable List

Variable	Q07 Page #	Description	Corresponding With Supp. Or Dietary Variable	Units	Values
ACROSTIC	1	Arostic			
ACROVIT1		Vitamines-Acrostic			
ADDSALT1	13	"How often do you add salt to your food at the table?"			1=Seldom/Never or N/A 2=Sometimes 3=Often/Always
AGE1	2	"How old are you?"			1=less than 20 2=20-29      5=50-59 3=30-39      6=60-69 4=40-49      7= >70
ALCBEER1		Daily intake of alcohol from beer		Grams	
ALCLIQU1		Daily intake of alcohol from liquor		Grams	
ALCWINE1		Daily intake of alcohol from wine		Grams	
ALCDAY1		Daily intake of alcohol from beer, wine & liquor		Grams	
ANYOTHR1	16	"Any other food at least 1/week"?			1=Yes 2=No
BREWERS1	21	Other supp? Brewer's yeast			1=1-3/month 2=1/week or more
CALFRT1	13	"How often do you drink calcium-fortified juice"?			1=Seldom/Never or N/A 2=Sometimes 3=Often/Always
CHRSUP1	20	"Chromium supplement"?		Micrograms	
CLINIC1	1	MESA Clinic Id		N/A	3=WFU 4=COL 5=JHU 6=UMN 7=NWU 8=UCLA
CODSUP1	20	"Cod liver oil, other fish oil or omega-3 fatty acids?"		Milligrams	
COENZYMI	21	Other supp? Coenzyme Q			1=1-3/month 2=1/week or more
CREATNE1	21	Creatine			1=1-3/month 2=1/week or more
DHEA1	21	Dhea			1=1-3/month 2=1/week or more
DIETSLD1	13	Diet/No salad dressing			1=Seldom/Never or N/A 2=Sometimes 3=Often/Always
DOV1	2	DT: Date of visit, BL			
DT1201		Daily intake of Lauric Acid (12:0) from diet		Grams	

DT1401		Daily intake of Myristic Acid (14:0) from diet		Grams	
DT1601		Daily intake of Palmitic Acid (16:0) from diet		Grams	
DT1801		Daily intake of Stearic Acid (18:0) from diet		Grams	
DT1831		Daily intake of Linolenic Acid (18:3) from diet		Grams	
DT2051		Daily intake of Eicosapentaenoic Acid (20:5) from diet	WS2051	Grams	
DT2261		Daily intake of Docosahexaenoic Acid (22:6) from diet	WS2261	Grams	
DTACAR1		Daily intake of Alpha-Carotene from diet		Micrograms	
DTANZN1		Daily intake of Zinc from animal sources from diet		Milligrams	
DTAIU1		Daily intake of Vitamin A (IU) from diet	WSAIU1	I.U.	
DTARE1		Daily intake of Vitamin A (RE) from diet		R.E.	
DTB11		Daily intake of Thiamin from diet	WSB11	Milligrams	
DTB61		Daily intake of Vitamin B6 from diet	WSB61	Milligrams	
DTBCAR1		Daily intake of Beta-Carotene from diet	WSBCAR1	Micrograms	
DTCALC1		Daily intake of Calcium from diet	WSCALC1	Milligrams	
DTCARB1		Daily intake of Carbohydrate from diet		Grams	
DTCHOL1		Daily intake of Cholesterol from diet		Milligrams	
DTCRYP1		Daily intake of Cryptoxanthin from diet		Micrograms	
DTDFIB1		Daily intake of Dietary Fiber from diet		Grams	
DTFAT1		Daily intake of Fat from diet	WSFAT1	Grams	
DTFE1		Daily intake of Iron from diet	WSFE1	Milligrams	
DTFOL1		Daily intake of Folate from diet, CAUTION SEE DOCUMENTATION	WSFOL1	Micrograms	
DTFRUC1		Daily intake of Fructose from diet		Grams	
DTGALAC1		Daily intake of Galactose from diet		Grams	
DTGLUC1		Daily intake of Glucose from diet		Grams	
DTKCAL1		Daily intake of Calories from diet		Calories	
DTLAC1		Daily intake of Lactose from diet		Grams	

DTLIN1		Daily intake of Linoleic Acid from diet		Grams	
DTLUT1		Daily intake of Lutein from diet		Micrograms	
DTLYC1		Daily intake of Lycopene from diet		Micrograms	
DTMG1		Daily intake of Magnesium from diet	WSMG1	Micrograms	
DTNA1		Daily intake of Sodium from diet		Micrograms	
DTNIAC1		Daily intake of Niacin from diet	WSNIAC1	Micrograms	
DTOLEC1		Daily intake of Oleic Acid from diet		Grams	
DTPFA1		Daily intake of Total Polyunsaturated Fat (n6 & n3)	WSPFA1	Grams	
DTPHOS1		Daily intake of Phosphorus from diet		Milligrams	
DTPOTA1		Daily intake of Potassium from diet	WSPOTA1	Milligrams	
DTPROA1		Daily intake of Provitamin A Carotenoids from diet		Micrograms	
DTPROT1		Daily intake of Protein from diet		Grams	
DTRET1		Daily intake of Retinol from diet		Micrograms	
DTRIBO1		Daily intake of Riboflavin from diet	WSRIBO1	Milligrams	
DTSFAT1		Daily intake of Saturated Fat from diet		Grams	
DTSTAR1		Daily intake of Starch from diet		Grams	
DTSUCR1		Daily intake of Sucrose from diet		Grams	
DTTRFA1		Daily intake of Total Trans Fatty Acids from diet		Grams	
DTVITC1		Daily intake of Vitamin C from diet	WSVITC1	Milligrams	
DTVITE1		Daily intake of Vitamin E from diet	WSVITE1	a-TE	
DTZINC1		Daily intake of Zinc from diet	WSZINC1	Milligrams	
DURB121	19	Days taking: Vit B12		Micrograms	
DURB11	19	Days taking: B1		Milligrams	
DURB21	19	Days taking: B2		Milligrams	
DURB61	19	Days taking: B6		Micrograms	
DURBCA1	19	Days taking: Beta Carotene		Micrograms	
DURCALC1	20	Days taking: Calcium		Milligrams	
DURCHR1	20	Days taking: Chromium		Micrograms	
DURCOD1	20	Days taking: Cod liver, etc		Milligrams	
DURFOL1	19	Days taking: Folate		Micrograms	
DURIRON1	20	Days taking: Iron		Milligrams	

DURLUT1	19	Days taking: Lutein		Micrograms	
DURMAGN1	20	Days taking: Magnesium		Milligrams	
DURNIA1	19	Days taking: Niacin		Milligrams	
DURPOT1	19	Days taking: Potassium		Milligrams	
DURSEL1	20	Days taking: Selenium		Milligrams	
DURVTA1	19	Days taking: Vit A		I.U.	
DURVTC1	19	Days taking: Vit C		Milligrams	
DURVTE1	19	Days taking: Vit E		a-TE	
DURZIN1	20	Days taking: Zinc		Milligrams	
EATOUT1	2				0 – 9
EATPEEL1	13				1=Seldom/Never or N/A 2=Sometimes 3=Often/Always
EATSKIN1	13				1=Seldom/Never or N/A 2=Sometimes 3=Often/Always
ECHINAC1	21	Other supp? Echinacea			1=1-3/month 2=1/week or more
FATMEAT1	13	“How often do you eat the fat on meat?”			1=Seldom/Never or N/A 2=Sometimes 3=Often/Always
FATOIL1	15	“How often is fat or oil used in cooking the foods you eat?”			1=Never/<1 Per Month 2=1 Per Month 3=2-3 Per Month 4=1 Per Week 5=2 Per Week 6=3-4 Per Week 7=5-6 Per Week 8=1 Per Day 9=2+ Per Day
FG11		Bread, Cereal, Rice & Pasta (High Fiber/Low Fat)		Servings per day	
FG21		Bread, Cereal, Rice & Pasta (Low Fiber/High Fat)		Servings per day	
FG31		Bread, Cereal, Rice & Pasta (Low Fiber/Low Fat)		Servings per day	
FG41		Vegetable (Tomato)		Servings per day	
FG51		Vegetable (Dark Green/Deep Yellow)		Servings per day	
FG61		Vegetable (Cruciferous)		Servings per day	
FG71		Vegetable (Other)		Servings per day	
FG81		Fruit & Fruit Juice (Citrus)		Servings per day	
FG91		Fruit & Fruit Juice (Other)		Servings per day	
FG101		Dairy (High Fat)		Servings per day	

FG111		Dairy (Low Fat – Including up to 2% Milk)		Servings per day	
FG121		Fish (High Fat)		Servings per day	
FG131		Fish (Low Fat)		Servings per day	
FG141		Fish (High Omega 3 Fatty Acids)		Servings per day	
FG151		Dried Beans		Servings per day	
FG161		Eggs		Servings per day	
FG171		Meat (High Fat)		Servings per day	
FG181		Meat (Low Fat)		Servings per day	
FG191		Poultry (High Fat)		Servings per day	
FG201		Poultry (Low Fat)		Servings per day	
FG211		Sweets & Desserts		Servings per day	
FG221		Fats & Oils		Servings per day	
FG231		Soy Products		Servings per day	
FG241		Nuts & Seeds		Servings per day	
FG251		Coffee & Tea		Servings per day	
FG261		Meal Replacements (Instant Breakfast /Slimfast)		Servings per day	
FG271		Alcohol		Servings per day	
GINKGO1		Other supp? Ginkgo			1=1-3/month 2=1/week or more
GINSENG1		Other supp? Ginseng			1=1-3/month 2=1/week or more
GLUCOSA1		Other supp? Glucosamine/Chondroitin			1=1-3/month 2=1/week or more
IDNO		Identification number			
KELP1		Other supp? Kelp			1=1-3/month 2=1/week or more
LNMEAT1	13	“If you eat ground beef, how often do you use lean or extra lean ground beef?”			1=Seldom/Never or N/A 2=Sometimes 3=Often/Always
LFBACON1	145	“If you eat bacon or sausage, how often do you eat low-fat bacon or sausage?”			1=Seldom/Never or N/A 2=Sometimes 3=Often/Always
LFCAKE1	14	“If you eat cookies or cake, how often do you eat low-fat cookies or cakes?”			1=Seldom/Never or N/A 2=Sometimes 3=Often/Always

LFCHEES1	14	"If you eat cheese (cottage cheese, cheddar cheese, cream cheese, American), how often do you eat low-fat cheese?"			1=Seldom/Never or N/A 2=Sometimes 3=Often/Always
LFCHIPS1	13	"If you eat snacks such as chips or popcorn, how often do you eat low-fat chips, etc?"			1=Seldom/Never or N/A 2=Sometimes 3=Often/Always
LFLUNCH1	13	"If you eat hot dogs, bologna or other lunch meats, how often do you eat low-fat lunch meats?"			1=Seldom/Never or N/A 2=Sometimes 3=Often/Always
LFYOGUR1	14	"If you eat yogurt, how often do you eat low-fat yogurt?"			1=Seldom/Never or N/A 2=Sometimes 3=Often/Always
MEALSDY1	2	"How many meals per day do you usually eat?"			1 – 9
MELATON1	21	Other supp? Melatonin			1=1-3/month 2=1/week or more
METAMUC1	21	Other supp? Metamucil			1=1-3/month 2=1/week or more
OFIBER1	21	Other supp? Fiber supplements (Citracil)			1=1-3/month 2=1/week or more
OTHRSUP1	21	"Do you take any other supplements 1/week?"			1=No 2=Yes
PRCCARB1		Percent of Calories from Carbohydrate			
PRCFAT1		Percent of Calories from Fat			
PRCLIN1		Percent of Calories from Linoleic			
PRCOLEC1		Percent of Calories from Oleic			
PRCPFAT1		Percent of Calories from Polyunsaturated Fat (n6 & n3)			
PRCPROT1		Percent of Calories from Protein			
PRCSFAT1		Percent of Calories from Saturated Fat			
PFG11		Bread, Cereal, Rice & Pasta		Servings per day	
PFG21		Vegetable		Servings per day	
PFG31		Fruit		Servings per day	
PFG41		Milk, Yogurt & Cheese		Servings per day	
PFG51		Meat, Poultry, Fish, Dry Beans, Eggs & Nuts		Servings per day	
PFG61		Fats, Oils & Sweets		Servings per day	
PRIMROS1	21	Other supp? Primrose			1=1-3/month 2=1/week or more

SAWPAL1	21	Other supp? Sawpal			1=1-3/month 2=1/week or more
SELSUP1	20	Take Selenium Supplement?		Micrograms	
SEX1	2	Sex			1=Male 2=Female
SRVBEER1		Beer		Servings per day	0 – 6
SRVLIQU1		Liquor		Servings per day	0 – 6
SRVWINE1		Wine		Servings per day	0 – 6
SKNCHIC1	13	“How often do you eat the skin on chicken?”			1=Seldom/Never or N/A 2=Sometimes 3=Often/Always
STJOHN1	21	Other supp? St John’s Word			1=1-3/month 2=1/week or more
VITCFRT1	13	“Do you drink Vitamin C fortified juice?”			1=Seldom/Never or N/A 2=Sometimes 3=Often/Always
WHOLEGR1	13	“Do you eat 100% wheat bread”?			1=Seldom/Never or N/A 2=Sometimes 3=Often/Always
WSB11		Daily intake of Thiamin from diet and supplements	DTB11	Milligrams	
WSB61		Daily intake of Vitamin B6 from diet and supplements	DTB61	Milligrams	
WSBCAR1		Daily intake of Beta-Carotene from diet and supplements	DTBCAR1	Micrograms	
WSCALC1		Daily intake of Calcium from diet and supplements	DTCALC1	Milligrams	
WSFE1		Daily intake of Iron from diet and supplements	DTFE1	Milligrams	
WSFOL1		Date intake of Folate from diet and supplements	DTFOL1	Micrograms	
WSMG1		Daily intake of Magnesium from diet and supplements	DTMG1	Milligrams	
WSNIAC1		Daily intake of Niacin from diet and supplements	DTNIAC1	Milligrams	
WSPOTA1		Daily intake of Potassium from diet and supplements	DTPOTA1	Milligrams	
WSRIBO1		Daily intake of Riboflavin from diet and supplements		Milligrams	
WSVITC1		Daily intake of Vitamin C from diet and supplements	DTVITC1	Milligrams	

WSVITE1		Daily intake of Vitamin E from diet and supplements	DTVITE1	a-TE	
WSZINC1		Daily intake of Zinc from diet and supplements	DTZINC1	Milligrams	



## Data Dictionary

### Pulsewave

There were inconsistencies found between some of the variables collected as part of the pulsewave exam and that which is in the main file. Specifically, 185 participants had either a 10lb weight difference or 5cm height difference listed between the two files. This is important because the height and weight are used to calculate other variables in the pulsewave data. The MESA main file is considered more reliable, so those values will be used to recalculate the variables in the pulsewave data.

#### Estimated Stroke Volume

$$\text{Age} \quad \text{stkvolp1} = -6.6 + 0.25 * (\text{cejectp1} - 35) - 0.62 * \text{pulsewp1} + 40.4 * \text{bsap1} - 0.51 * \text{Age} \quad (\text{mL})$$

$$\text{stkvol1c} = (\text{stkvolp1} - 40.4 * \text{bsap1}) + 40.4 * \text{bsa1c}$$

#### Estimated Stroke Volume Index

$$\text{stkvx1c} = \text{stkvol1c} / \text{bsa1c}$$

#### Estimated Cardiac Output

$$\text{ecop1} = \text{stkvolp1} * \text{pulsewp1} / 1000 \quad (\text{Liters/minute})$$

$$\text{eco1c} = (\text{ecop1} / \text{stkvolp1}) * \text{stkvol1c}$$

#### Estimated Cardiac Output Index

$$\text{cardx1c} = \text{eco1c} / \text{bsa1c}$$

#### Systemic Vascular Resistance

$$\text{svrp1} = 80 * \text{mnapwp1} / \text{ecop1} \quad (\text{dyne-sec-cm}^{-5})$$

$$\text{svr1c} = (\text{svrp1} * \text{ecop1}) / \text{eco1c}$$

The following variables are related to parameters from a third order Windkessel model. The diastolic decay can be represented as the solution to the Windkessel model with six unknown parameters. The Windkessel model is:

$$P(t) = A_1 e^{-A_2 t} + A_3 e^{-A_4 t} \cos(A_5 t + A_6)$$

#### Large Artery Elasticity Index

$$\text{laep1} = \frac{2A_4[(A_2 + A_4)^2 + A_5^2]}{\text{svrp1} \times A_2(2A_4 + A_2)(A_4^2 + A_5^2)}$$

$$\text{lae1c} = (\text{laep1} * \text{svrp1}) / \text{svr1c}$$

#### Small Artery Elasticity Index

$$saep1 = \frac{1}{svrp1 \times (2A_4 + A_2)}$$

$$saelc = (saep1 * svrp1) / svrlc$$

### Total Vascular Impedance

$$totvip1 = \frac{1333.33 \sqrt{\left(\frac{1}{L \times saep1} - w^2\right)^2 + \left(\frac{1333.33w}{svrp1 \times saep1}\right)^2}}{laep1 \sqrt{\left(\frac{1333.33}{L \times svrp1 \times saep1 \times laep1} - \frac{1333.33w^2}{svrp1 \times saep1}\right)^2 + w^2 \left(\frac{1}{L \times laep1} + \frac{1}{L \times saep1} - w^2\right)^2}}$$

$$L = \frac{svrp1(2A_4 + A_2)^2}{2A_4[(A_2 + A_4) + A_5^2]}$$

$$w = \frac{2\pi \times pulsewpl}{60}$$

idno	Idno
studydt_	DATE - PULSEWAVE
studytm_	TIME - PULSEWAVE
techid_p	TECH ID - PULSEWAVE
gender1	gender
htcm1	HEIGHT (cm)
wtlb1	WEIGHT (lbs)
sbpcp1	Systolic Blood Pressure (from Oscillometric Cuff), (mmHg)
dbpcp1	Diastolic Blood Pressure (from Oscillometric Cuff), (mmHg)
mnapcp1	Mean Arterial Pressure (from Oscillometric Cuff), (mmhg)
pprescp1	Pulse Pressure (from Oscillometric Cuff), (mmHg)
pulsecp1	Pulse Rate (from Oscillometric Cuff), (beats/minute)
sbpwp1	Systolic Blood Pressure (from Waveform Analysis), (mmHg)
dbpwp1	Diastolic Blood Pressure (from Waveform Analysis), (mmHg)
mnapwp1	Mean Arterial Pressure (from Waveform Analysis), (mmHg)
pulsewp1	Pulse Rate (from Waveform Analysis), (beats/minute)
lae1c	Large Artery Elasticity Index (ml/mmHg x10)
sae1c	Small Artery Elasticity Index (ml/mmHg x100)
svr1c	Systemic Vascular Resistance (dyne sec / cm5)
totvip1	Total Vascular Impedance (dyne sec / cm5)
eco1c	Estimated Cardiac Output (L/minute)
cardx1c	Estimated Cardiac Output Index
cejectp1	Estimated Cardiac Ejection Time, (millisecond)
stkvol1c	Estimated Stroke Volume (ml/beat)
stkvx1c	Estimated Stroke Volume Index
bsa1c	BODY SURFACE AREA
bmi1c	BODY MASS INDEX (kg)/(m^2)
sexp1	Gender
wtlbp1	Weight (lb)
htincp1	Height (in)
lawp1	Large Artery Elasticity Index (ml/mmHg x10)
saep1	Small Artery Elasticity Index (ml/mmHg x100)
svrp1	Systemic Vascular Resistance (dyne sec / cm5)
ecop1	Estimated Cardiac Output (L/minute)
cardxp1	Estimated Cardiac Output Index
stkvlp1	Estimated Stroke Volume (ml/beat)
stkvxp1	Estimated Stroke Volume Index
bsap1	Body Mass Index
bmxp1	Body Surface Area



## Analysis: Descriptive Data of Major Exam 1 Variables

Date: 11/24/2004

Updated: 12/08/2004

Contact: Craig Johnson, MESA Coordinating Center

Requested for: Scientific Planning Purposes

This document is intended to provide a summary of distributions for key Exam 1 variables by age, gender, and ethnicity. **This is not a final product and should not be used for reporting purposes.**

Exam: 1

Dataset: MESAFINAL1\_label\_111504.sav

Version: 11/15/2004

Software: SPSS 12.0 for Windows (Custom Tables)

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**Table 1: Race by Gender by Age Categories**

	Race									
	1: White		2: Chinese		3: AA		4: Hispanic		Total	
	N	%	N	%	N	%	N	%	N	%
<b>Sex (for 44-84 yrs)</b>										
Male	1261	48.1%	390	48.6%	844	44.5%	718	48.1%	3213	47.2%
Female	1363	51.9%	413	51.4%	1051	55.5%	774	51.9%	3601	52.8%
<b>Age by Sex</b>										
Male	1261	100.0%	390	100.0%	844	100.0%	718	100.0%	3213	100.0%
44-49	145	11.5%	48	12.3%	104	12.3%	120	16.7%	417	13.0%
50-59	368	29.2%	113	29.0%	257	30.5%	214	29.8%	952	29.6%
60-69	377	29.9%	117	30.0%	255	30.2%	219	30.5%	968	30.1%
70-79	321	25.5%	97	24.9%	196	23.2%	138	19.2%	752	23.4%
80-84	50	4.0%	15	3.8%	32	3.8%	27	3.8%	124	3.9%
Female	1363	100.0%	413	100.0%	1051	100.0%	774	100.0%	3601	100.0%
44-49	171	12.5%	55	13.3%	123	11.7%	117	15.1%	466	12.9%
50-59	395	29.0%	123	29.8%	329	31.3%	233	30.1%	1080	30.0%
60-69	408	29.9%	118	28.6%	343	32.6%	238	30.7%	1107	30.7%
70-79	322	23.6%	98	23.7%	215	20.5%	149	19.3%	784	21.8%
80-84	67	4.9%	19	4.6%	41	3.9%	37	4.8%	164	4.6%
<b>Avg. Household Size<sup>1</sup></b>	2.00		2.65		2.00		2.57		2.20	
<b>Education</b>										
Male										
<12 years	51	4.0%	65	16.7%	106	12.6%	298	41.5%	520	16.2%
=12 years	156	12.4%	45	11.5%	163	19.3%	129	18.0%	493	15.3%
>12 years	1054	83.6%	280	71.8%	575	68.1%	291	40.5%	2200	68.5%
Female										
<12 years	78	5.7%	134	32.4%	124	11.8%	369	47.7%	705	19.6%
=12 years	286	21.0%	85	20.6%	197	18.7%	175	22.6%	743	20.6%
>12 years	999	73.3%	194	47.0%	730	69.5%	230	29.7%	2153	59.8%
<b>Household Income</b>										
Median (\$)	62,500		27,500		37,500		27,500		37,500	
<b>Poverty Status<sup>2</sup></b>										
Below Poverty	57	2.2%	173	21.5%	125	6.6%	275	18.4%	630	9.2%
Above Poverty	2567	97.8%	630	78.5%	1770	93.4%	1217	81.6%	6184	90.8%

1: There maybe an error in consistency in how participants filled out this form.

2: Using the 2000 Weighted Avg Thresholds obtained from the U.S. Census Bureau.

**Table 2: Weight by Race, Gender, and Age**

Weight (lbs)			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	145	193.21	32.08	189.00	171	168.98	42.72	158.00
		50-59	368	198.30	33.59	195.45	395	163.34	38.45	157.00
		60-69	377	192.98	31.64	190.00	408	162.20	33.66	155.55
		70-79	321	184.83	27.79	182.60	322	151.29	27.80	148.15
		80-84	50	170.54	18.34	171.65	67	143.67	22.18	141.00
		Total	1261	191.59	31.58	188.00	1363	159.89	35.30	153.20
2: Chinese	Age	44-49	48	157.97	23.22	157.00	55	129.72	17.62	128.20
		50-59	113	157.39	21.83	155.80	123	129.98	19.71	129.20
		60-69	117	146.26	22.73	143.00	118	128.74	22.31	127.00
		70-79	97	143.88	21.06	144.00	98	121.85	20.04	119.50
		80-84	15	139.30	20.92	137.00	19	124.19	17.07	126.00
		Total	390	150.06	22.87	148.50	413	127.40	20.38	127.00
3: AA	Age	44-49	104	203.64	35.98	200.00	123	188.48	44.93	182.00
		50-59	257	203.57	35.51	203.80	329	191.44	36.98	185.30
		60-69	255	196.32	34.27	192.00	343	180.22	38.64	173.00
		70-79	196	189.47	36.09	186.00	215	168.25	33.22	165.00
		80-84	32	168.37	28.28	166.75	41	160.34	32.25	157.00
		Total	844	196.78	35.90	193.75	1051	181.47	38.77	175.50
4: Hispanic	Age	44-49	120	184.16	32.95	179.60	117	168.99	37.92	162.00
		50-59	214	186.57	31.69	183.75	233	165.80	32.97	163.00
		60-69	219	181.56	29.79	178.00	238	158.44	29.59	153.50
		70-79	138	172.34	25.83	171.85	149	151.60	30.14	149.50
		80-84	27	166.89	31.61	166.00	37	139.73	26.17	140.40
		Total	718	181.16	30.74	178.25	774	160.04	32.75	154.90
Total			3213	185.59	34.76	182.50	3601	162.50	37.92	156.00



**Table 3: Waist Circumference by Race, Gender, and Age**

Waist Circumference (cm)			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	145	98.55	11.28	97.70	171	93.05	19.08	89.30
		50-59	368	101.31	12.25	100.20	395	93.80	16.63	91.30
		60-69	376	101.96	11.01	101.50	408	96.48	16.06	95.55
		70-79	321	101.14	11.17	100.00	322	96.03	14.70	95.30
		80-84	50	98.93	7.21	97.50	67	95.27	12.78	94.30
		Total	1260	101.05	11.37	100.00	1363	95.11	16.22	94.00
2: Chinese	Age	44-49	48	87.00	8.53	87.45	55	81.25	8.22	81.60
		50-59	113	89.28	8.53	88.50	123	84.80	10.16	83.90
		60-69	117	86.58	9.28	87.40	118	87.44	11.31	86.05
		70-79	97	88.18	9.57	87.90	98	88.82	10.36	88.50
		80-84	15	87.73	10.14	89.90	19	92.86	8.08	94.80
		Total	390	87.85	9.11	87.60	413	86.41	10.57	85.50
3: AA	Age	44-49	104	99.36	12.41	99.45	123	97.89	17.80	95.20
		50-59	257	101.07	12.57	100.20	329	104.03	16.07	102.00
		60-69	255	101.61	12.61	100.00	343	101.51	16.12	99.30
		70-79	196	100.54	13.21	99.15	215	100.42	15.18	99.30
		80-84	32	95.59	12.07	94.00	41	98.96	13.86	97.80
		Total	844	100.69	12.73	99.50	1051	101.55	16.14	99.80
4: Hispanic	Age	44-49	120	98.69	12.21	97.65	117	96.66	16.25	95.00
		50-59	214	100.70	11.38	99.25	233	99.80	14.77	98.50
		60-69	219	102.01	10.80	101.00	238	102.03	13.68	100.80
		70-79	138	100.90	10.92	99.70	149	101.80	14.73	100.00
		80-84	27	100.46	11.70	100.80	37	101.24	10.53	103.60
		Total	718	100.79	11.30	99.50	774	100.47	14.58	99.15
Total			3212	99.29	12.24	98.30	3601	97.14	16.03	95.70

**Table 4: Hip Circumference by Race, Gender, and Age**

Hip Circumference (cm)			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	145	104.47	7.76	103.20	171	108.88	14.24	105.50
		50-59	368	106.27	9.10	106.00	395	107.58	12.54	105.50
		60-69	376	105.21	8.08	104.50	408	107.98	12.26	105.90
		70-79	321	104.21	7.61	103.20	322	105.12	10.58	103.45
		80-84	50	102.22	7.27	101.50	67	103.05	8.86	102.00
		Total	1260	105.06	8.26	104.10	1363	107.06	12.18	104.80
2: Chinese	Age	44-49	48	95.95	5.38	95.80	55	94.67	5.98	94.80
		50-59	113	95.80	5.61	95.90	123	95.69	7.28	95.00
		60-69	117	93.86	5.89	93.00	118	95.15	7.47	93.90
		70-79	97	93.65	5.79	93.80	98	94.16	7.57	92.75
		80-84	15	93.55	5.95	93.00	19	97.71	6.48	100.30
		Total	390	94.62	5.79	94.60	413	95.13	7.23	94.60
3: AA	Age	44-49	104	106.74	9.08	106.80	123	114.08	13.03	111.00
		50-59	257	107.80	9.65	106.90	329	115.49	12.51	113.50
		60-69	255	105.86	9.66	104.50	343	112.16	13.16	109.50
		70-79	196	104.53	9.74	103.50	215	109.90	12.21	108.50
		80-84	32	100.95	7.52	99.70	41	107.90	11.87	105.70
		Total	844	106.06	9.65	105.00	1051	112.80	12.89	111.00
4: Hispanic	Age	44-49	120	102.65	9.45	101.25	117	108.90	12.21	106.20
		50-59	214	103.18	8.71	101.95	233	108.74	12.11	107.00
		60-69	219	102.68	8.36	101.50	238	107.90	10.85	106.20
		70-79	138	101.52	8.43	100.25	149	106.14	12.15	105.20
		80-84	27	101.30	9.17	100.90	37	103.60	10.33	103.80
		Total	718	102.55	8.70	101.40	774	107.76	11.73	106.00
Total			3212	103.49	9.20	102.50	3601	107.52	12.88	105.60

**Table 5: Body Mass Index (BMI) by Race, Gender, and Age**

Body Mass Index (kg/m <sup>2</sup> )			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	145	27.67	4.26	26.88	171	28.35	7.03	26.11
		50-59	368	28.59	4.37	27.95	395	27.71	6.27	26.65
		60-69	377	28.00	4.16	27.65	408	27.91	5.65	26.98
		70-79	321	27.50	3.80	27.19	322	26.75	4.91	26.13
		80-84	50	26.45	2.80	26.82	67	26.11	3.93	25.67
		Total	1261	27.95	4.13	27.51	1363	27.54	5.82	26.53
2: Chinese	Age	44-49	48	24.52	2.82	24.03	55	23.07	2.63	22.94
		50-59	113	24.74	3.05	24.36	123	24.09	3.53	23.78
		60-69	117	23.74	3.24	23.19	118	24.16	3.79	23.91
		70-79	97	23.62	3.21	23.39	98	23.64	3.42	23.35
		80-84	15	23.11	3.12	23.62	19	24.74	2.55	24.74
		Total	390	24.07	3.15	23.70	413	23.90	3.45	23.80
3: AA	Age	44-49	104	28.94	4.69	28.85	123	31.65	7.21	30.25
		50-59	257	29.35	4.60	29.25	329	32.66	6.39	31.84
		60-69	255	28.86	4.72	28.35	343	31.21	6.51	29.95
		70-79	196	28.13	4.75	27.72	215	29.59	5.50	29.19
		80-84	32	26.25	3.94	25.50	41	29.26	5.96	28.91
		Total	844	28.75	4.70	28.47	1051	31.31	6.44	30.39
4: Hispanic	Age	44-49	120	28.87	4.56	28.64	117	30.55	6.91	29.16
		50-59	214	29.15	4.49	28.68	233	30.63	5.79	29.80
		60-69	219	28.95	4.13	28.61	238	30.01	5.06	29.37
		70-79	138	28.06	3.88	27.65	149	29.27	5.57	28.13
		80-84	27	27.44	4.69	26.41	37	28.19	4.45	28.98
		Total	718	28.77	4.30	28.47	774	30.05	5.69	29.19
Total			3213	27.87	4.47	27.48	3601	28.76	6.23	27.72

**Table 6: Body Surface Area (BSA) by Race, Gender, and Age**

Body Surface Area			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	145	2.05	.17	2.03	171	1.82	.21	1.80
		50-59	368	2.07	.18	2.07	395	1.79	.20	1.77
		60-69	377	2.04	.18	2.04	408	1.78	.17	1.76
		70-79	321	1.99	.16	1.99	322	1.71	.15	1.70
		80-84	50	1.89	.11	1.90	67	1.66	.13	1.65
		Total	1261	2.03	.18	2.02	1363	1.77	.18	1.75
2: Chinese	Age	44-49	48	1.83	.15	1.83	55	1.60	.12	1.61
		50-59	113	1.82	.14	1.82	123	1.58	.12	1.59
		60-69	117	1.74	.14	1.73	118	1.57	.13	1.55
		70-79	97	1.72	.13	1.73	98	1.51	.13	1.51
		80-84	15	1.69	.14	1.67	19	1.51	.12	1.52
		Total	390	1.77	.14	1.76	413	1.56	.13	1.56
3: AA	Age	44-49	104	2.10	.19	2.11	123	1.91	.21	1.90
		50-59	257	2.09	.19	2.10	329	1.92	.18	1.90
		60-69	255	2.05	.18	2.04	343	1.86	.19	1.84
		70-79	196	2.01	.19	1.99	215	1.79	.18	1.78
		80-84	32	1.88	.17	1.88	41	1.74	.17	1.68
		Total	844	2.05	.19	2.05	1051	1.86	.19	1.85
4: Hispanic	Age	44-49	120	1.95	.17	1.93	117	1.78	.18	1.76
		50-59	214	1.96	.17	1.96	233	1.75	.17	1.75
		60-69	219	1.92	.17	1.92	238	1.70	.16	1.69
		70-79	138	1.87	.14	1.87	149	1.66	.16	1.65
		80-84	27	1.83	.18	1.84	37	1.58	.15	1.56
		Total	718	1.92	.17	1.92	774	1.71	.17	1.71
Total			3213	1.98	.20	1.98	3601	1.76	.20	1.74

**Table 7: Systolic Blood Pressure by Race, Gender, and Age**

Systolic Blood Pressure (mmHg)			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	145	115.43	12.46	115.00	171	108.91	15.48	106.50
		50-59	368	118.80	16.58	116.50	394	114.77	17.27	113.00
		60-69	377	125.36	17.46	123.50	408	125.57	21.19	122.00
		70-79	320	131.42	20.09	130.00	322	132.94	22.36	131.50
		80-84	50	133.07	21.02	129.25	67	142.14	25.04	140.00
		Total	1260	124.15	18.51	121.50	1362	122.91	22.06	119.50
2: Chinese	Age	44-49	48	112.18	11.34	110.50	55	106.54	13.12	103.00
		50-59	113	120.86	16.06	120.00	123	117.13	21.16	113.50
		60-69	117	124.99	19.27	123.00	118	130.00	21.89	126.50
		70-79	97	128.60	19.84	128.00	98	135.86	23.09	135.75
		80-84	15	145.10	29.64	144.50	19	147.71	20.55	147.50
		Total	390	123.89	19.29	121.50	413	125.25	23.63	122.00
3: AA	Age	44-49	104	122.10	16.85	118.50	123	120.02	17.37	117.00
		50-59	257	125.57	16.64	122.50	329	129.26	20.76	125.50
		60-69	254	132.98	19.18	133.50	343	134.17	23.15	132.00
		70-79	196	135.67	20.60	135.00	215	141.60	24.13	139.00
		80-84	32	133.89	25.89	128.75	41	145.33	25.66	145.50
		Total	843	130.04	19.41	129.00	1051	132.93	23.10	130.50
4: Hispanic	Age	44-49	120	115.46	15.10	113.50	117	110.61	15.24	108.00
		50-59	214	120.29	17.67	116.75	233	120.55	19.01	117.50
		60-69	219	130.34	19.88	126.50	238	130.69	22.16	129.00
		70-79	138	133.19	20.10	132.25	149	142.62	24.36	142.50
		80-84	145	115.43	12.46	115.00	171	108.91	15.48	106.50
		Total	368	118.80	16.58	116.50	394	114.77	17.27	113.00
Total			377	125.36	17.46	123.50	408	125.57	21.19	122.00

**Table 8: Diastolic Blood Pressure by Race, Gender, and Age**

Diastolic Blood Pressure (mmHg)			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	145	73.30	8.49	73.50	171	66.04	9.48	65.50
		50-59	368	74.67	9.14	74.50	394	67.39	9.27	67.50
		60-69	377	74.82	8.98	75.00	408	67.13	9.70	66.50
		70-79	320	72.56	9.12	73.00	322	66.66	10.01	65.50
		80-84	50	69.23	8.53	68.00	67	66.79	9.84	66.50
		Total	1260	73.81	9.07	73.50	1362	66.94	9.63	66.50
2: Chinese	Age	44-49	48	73.63	7.26	72.75	55	66.55	9.32	65.00
		50-59	113	77.53	9.78	78.00	123	70.54	11.83	70.50
		60-69	117	76.18	9.13	74.50	118	70.37	10.33	69.75
		70-79	97	71.58	8.53	71.00	98	67.83	9.70	67.25
		80-84	15	70.47	10.97	68.00	19	68.92	8.20	67.50
		Total	390	74.89	9.34	73.75	413	69.24	10.52	68.50
3: AA	Age	44-49	104	77.62	9.80	77.00	123	71.93	9.86	70.50
		50-59	257	78.33	8.58	77.50	329	74.53	10.16	73.50
		60-69	254	77.77	9.51	76.50	343	71.63	10.10	71.00
		70-79	196	74.54	9.74	73.50	215	71.38	10.45	70.50
		80-84	32	74.22	11.81	74.50	41	69.99	10.73	69.50
		Total	843	77.04	9.53	76.50	1051	72.46	10.27	71.50
4: Hispanic	Age	44-49	120	73.31	9.58	73.00	117	66.36	9.56	65.00
		50-59	214	75.83	9.08	75.00	233	68.87	9.06	68.00
		60-69	219	77.08	9.21	77.00	238	68.65	9.80	67.75
		70-79	138	72.42	9.58	72.00	149	68.58	10.03	68.50
		80-84	27	71.41	10.36	72.00	37	68.61	9.50	68.00
		Total	718	74.97	9.53	74.50	774	68.36	9.59	67.50
Total			3211	75.05	9.41	74.50	3600	69.12	10.17	68.50

**Table 9: Ankle Brachial Index (ABI) by Race, Gender, and Age**

Ankle Brachial Index (ABI)			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	142	1.17	.09	1.18	170	1.13	.10	1.14
		50-59	368	1.17	.10	1.18	394	1.11	.10	1.12
		60-69	376	1.16	.12	1.16	394	1.10	.09	1.10
		70-79	320	1.13	.14	1.14	313	1.07	.11	1.07
		80-84	50	1.08	.13	1.10	64	1.04	.14	1.05
		Total	1256	1.15	.12	1.16	1335	1.10	.11	1.10
2: Chinese	Age	44-49	48	1.17	.07	1.18	55	1.10	.08	1.10
		50-59	113	1.16	.08	1.16	123	1.10	.08	1.11
		60-69	117	1.14	.08	1.14	116	1.09	.07	1.09
		70-79	96	1.14	.12	1.13	96	1.07	.09	1.06
		80-84	15	1.13	.10	1.14	19	.97	.20	1.02
		Total	389	1.15	.09	1.15	409	1.08	.09	1.09
3: AA	Age	44-49	104	1.15	.09	1.15	121	1.09	.09	1.09
		50-59	254	1.13	.10	1.13	326	1.09	.10	1.09
		60-69	254	1.10	.15	1.12	335	1.07	.11	1.08
		70-79	196	1.06	.19	1.08	210	1.01	.16	1.04
		80-84	31	1.04	.15	1.06	39	.99	.19	1.04
		Total	839	1.10	.14	1.12	1031	1.06	.12	1.07
4: Hispanic	Age	44-49	120	1.17	.08	1.17	117	1.14	.07	1.15
		50-59	213	1.18	.10	1.19	233	1.12	.08	1.11
		60-69	217	1.15	.11	1.16	235	1.12	.08	1.12
		70-79	136	1.13	.16	1.14	143	1.08	.12	1.08
		80-84	27	1.08	.19	1.12	35	1.05	.13	1.06
		Total	713	1.16	.12	1.17	763	1.11	.10	1.11
Total			3197	1.14	.13	1.15	3538	1.09	.11	1.10

**Table 10: Heart Rate from ECG Form by Race, Gender, and Age**

Heart Rate (ECG) (beats/min)			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	142	62.13	9.88	61.00	170	65.22	9.16	64.00
		50-59	363	60.84	9.90	60.00	392	64.24	8.78	64.00
		60-69	374	62.28	10.34	62.00	401	64.34	8.86	64.00
		70-79	317	60.59	9.73	60.00	318	64.38	9.53	63.00
		80-84	49	62.69	9.65	63.00	65	63.43	8.35	62.00
		Total	1245	61.43	9.99	61.00	1346	64.39	9.01	64.00
2: Chinese	Age	44-49	48	62.52	7.70	61.00	55	64.55	8.21	64.00
		50-59	113	63.45	8.86	63.00	123	63.86	8.23	63.00
		60-69	117	63.26	8.95	62.00	118	63.31	8.37	63.00
		70-79	97	61.93	9.04	61.00	98	62.90	9.44	62.00
		80-84	15	59.60	7.23	58.00	19	61.84	9.86	61.00
		Total	390	62.75	8.74	62.00	413	63.47	8.63	63.00
3: AA	Age	44-49	103	61.85	9.30	60.00	122	64.60	9.60	63.00
		50-59	256	61.69	9.73	60.00	326	64.73	10.31	64.00
		60-69	255	61.22	10.14	61.00	340	63.96	9.76	63.00
		70-79	196	62.06	10.94	62.00	214	63.90	10.37	63.00
		80-84	32	64.16	12.89	59.00	41	63.07	10.75	64.00
		Total	842	61.75	10.22	61.00	1043	64.23	10.07	63.00
4: Hispanic	Age	44-49	118	62.10	8.96	62.00	117	64.50	8.65	63.00
		50-59	214	62.39	9.32	62.00	230	64.27	9.38	64.00
		60-69	219	63.74	10.05	63.00	238	64.17	9.35	63.00
		70-79	138	60.26	10.12	60.00	149	64.42	9.02	63.00
		80-84	27	64.41	11.93	66.00	37	66.05	8.89	67.00
		Total	716	62.42	9.81	61.50	771	64.39	9.15	63.00
Total			3193	61.90	9.88	61.00	3573	64.23	9.32	63.00



Table 11: Hypertension by Race, Gender, and Age

Hypertension (by JNC VI (1997) criteria)			Gender							
			Male				Female			
			Hypertension by JNC VI (1997) criteria				Hypertension by JNC VI (1997) criteria			
			Yes		No		Yes		No	
			N	Row %	N	Row %	N	Row %	N	Row %
1: White	Age	44-49	21	14.5%	124	85.5%	21	12.3%	150	87.7%
		50-59	107	29.1%	261	70.9%	99	25.1%	295	74.9%
		60-69	159	42.2%	218	57.8%	172	42.2%	236	57.8%
		70-79	160	49.8%	161	50.2%	177	55.0%	145	45.0%
		80-84	37	74.0%	13	26.0%	45	67.2%	22	32.8%
		Total	484	38.4%	777	61.6%	514	37.7%	848	62.3%
2: Chinese	Age	44-49	6	12.5%	42	87.5%	4	7.3%	51	92.7%
		50-59	28	24.8%	85	75.2%	34	27.6%	89	72.4%
		60-69	47	40.2%	70	59.8%	48	40.7%	70	59.3%
		70-79	45	46.4%	52	53.6%	61	62.2%	37	37.8%
		80-84	10	66.7%	5	33.3%	16	84.2%	3	15.8%
		Total	136	34.9%	254	65.1%	163	39.5%	250	60.5%
3: AA	Age	44-49	32	30.8%	72	69.2%	32	26.0%	91	74.0%
		50-59	114	44.4%	143	55.6%	181	55.0%	148	45.0%
		60-69	168	65.9%	87	34.1%	224	65.3%	119	34.7%
		70-79	140	71.4%	56	28.6%	164	76.3%	51	23.7%
		80-84	21	65.6%	11	34.4%	33	80.5%	8	19.5%
		Total	475	56.3%	369	43.7%	634	60.3%	417	39.7%
4: Hispanic	Age	44-49	16	13.3%	104	86.7%	17	14.5%	100	85.5%
		50-59	57	26.6%	157	73.4%	75	32.2%	158	67.8%
		60-69	100	45.7%	119	54.3%	122	51.3%	116	48.7%
		70-79	77	55.8%	61	44.2%	105	70.5%	44	29.5%
		80-84	18	66.7%	9	33.3%	26	70.3%	11	29.7%
		Total	268	37.3%	450	62.7%	345	44.6%	429	55.4%
Total			1363	42.4%	1850	57.6%	1656	46.0%	1944	54.0%

Table 12: Hypertension Meds by Race, Gender, and Age

Taking Any Anti-Hypertensive Medication			Gender							
			Male				Female			
			Any anti-hypertensive medication				Any anti-hypertensive medication			
			Yes		No		Yes		No	
			N	Row %	N	Row %	N	Row %	N	Row %
1: White	Age	44-49	19	13.1%	126	86.9%	21	12.3%	150	87.7%
		50-59	89	24.2%	279	75.8%	88	22.3%	307	77.7%
		60-69	136	36.1%	241	63.9%	143	35.0%	265	65.0%
		70-79	139	43.3%	182	56.7%	142	44.1%	180	55.9%
		80-84	32	64.0%	18	36.0%	34	50.7%	33	49.3%
		Total	415	32.9%	846	67.1%	428	31.4%	935	68.6%
2: Chinese	Age	44-49	4	8.3%	44	91.7%	3	5.5%	52	94.5%
		50-59	18	15.9%	95	84.1%	25	20.3%	98	79.7%
		60-69	35	29.9%	82	70.1%	31	26.3%	87	73.7%
		70-79	43	44.3%	54	55.7%	45	45.9%	53	54.1%
		80-84	8	53.3%	7	46.7%	12	63.2%	7	36.8%
		Total	108	27.7%	282	72.3%	116	28.1%	297	71.9%
3: AA	Age	44-49	18	17.3%	86	82.7%	28	22.8%	95	77.2%
		50-59	94	36.6%	163	63.4%	148	45.0%	181	55.0%
		60-69	140	54.9%	115	45.1%	199	58.0%	144	42.0%
		70-79	113	57.7%	83	42.3%	136	63.3%	79	36.7%
		80-84	20	62.5%	12	37.5%	23	56.1%	18	43.9%
		Total	385	45.6%	459	54.4%	534	50.8%	517	49.2%
4: Hispanic	Age	44-49	11	9.2%	109	90.8%	14	12.0%	103	88.0%
		50-59	40	18.7%	174	81.3%	58	24.9%	175	75.1%
		60-69	84	38.4%	135	61.6%	91	38.2%	147	61.8%
		70-79	65	47.1%	73	52.9%	82	55.0%	67	45.0%
		80-84	10	37.0%	17	63.0%	14	37.8%	23	62.2%
		Total	210	29.2%	508	70.8%	259	33.5%	515	66.5%
Total			1118	34.8%	2095	65.2%	1337	37.1%	2264	62.9%

**Table 13: LDL Cholesterol by Race, Gender, and Age**

LDL Cholesterol (mg/dL)			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	140	124.02	30.04	121.00	169	115.16	29.13	112.00
		50-59	360	121.51	29.90	122.00	388	116.86	31.58	115.00
		60-69	369	115.33	29.78	114.00	401	117.52	29.63	116.00
		70-79	320	113.63	27.19	113.00	318	117.64	31.70	114.00
		80-84	50	104.72	32.53	107.50	65	113.52	29.46	108.00
		Total	1239	117.24	29.63	116.00	1341	116.87	30.61	115.00
2: Chinese	Age	44-49	47	114.00	28.65	109.00	54	109.41	22.86	114.50
		50-59	109	121.28	28.70	117.00	120	120.16	31.15	119.50
		60-69	116	115.77	29.39	113.00	117	112.17	29.05	111.00
		70-79	96	114.76	27.98	113.00	96	111.55	29.55	109.00
		80-84	15	107.20	20.56	102.00	19	106.47	30.85	100.00
		Total	383	116.53	28.52	114.00	406	113.75	29.35	113.00
3: AA	Age	44-49	102	119.20	32.22	119.00	122	114.77	34.54	113.50
		50-59	252	115.25	34.95	115.00	325	118.61	32.69	116.00
		60-69	252	113.60	32.25	112.50	339	119.47	33.85	120.00
		70-79	195	109.28	28.59	109.00	213	120.27	34.38	119.00
		80-84	31	106.81	24.30	102.00	40	120.20	30.30	115.50
		Total	832	113.52	32.13	113.00	1039	118.84	33.53	117.00
4: Hispanic	Age	44-49	116	122.07	30.54	117.50	116	111.64	30.19	112.00
		50-59	210	120.77	32.44	120.00	224	123.54	32.62	124.50
		60-69	213	118.48	35.34	119.00	235	121.70	36.45	119.00
		70-79	136	117.97	32.67	114.50	147	117.92	29.46	120.00
		80-84	27	112.15	31.57	108.00	37	115.32	24.36	110.00
		Total	702	119.41	33.03	117.00	759	119.66	32.77	119.00
Total			140	124.02	30.04	121.00	169	115.16	29.13	112.00

Table 14: HDL Cholesterol by Race, Gender, and Age

HDL Cholesterol (mg/dL)			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	145	43.95	11.28	41.00	170	54.96	13.73	53.00
		50-59	366	43.77	10.72	42.00	394	58.93	16.01	56.00
		60-69	376	45.67	12.96	44.00	406	60.32	16.42	57.00
		70-79	321	46.81	12.80	44.00	320	58.73	15.24	58.00
		80-84	50	44.96	12.81	43.00	66	58.48	16.49	55.00
		Total	1258	45.18	12.15	43.00	1356	58.78	15.77	57.00
2: Chinese	Age	44-49	48	44.48	10.52	44.00	55	51.93	12.19	49.00
		50-59	112	44.70	10.87	42.50	123	53.13	15.45	51.00
		60-69	117	45.13	9.81	45.00	118	53.58	12.46	52.00
		70-79	97	47.14	12.53	45.00	98	54.02	11.59	53.00
		80-84	15	51.47	11.37	51.00	19	49.63	11.19	46.00
		Total	389	45.67	11.04	44.00	413	53.15	13.13	51.00
3: AA	Age	44-49	102	44.78	11.76	42.00	122	53.23	14.03	50.00
		50-59	256	45.02	10.79	44.00	325	55.14	15.79	53.00
		60-69	255	46.48	13.06	44.00	341	58.57	16.20	57.00
		70-79	195	49.26	13.68	47.00	213	59.22	14.94	58.00
		80-84	31	52.03	13.44	51.00	41	58.98	16.43	57.00
		Total	839	46.68	12.55	44.00	1042	57.02	15.71	55.00
4: Hispanic	Age	44-49	120	41.63	9.37	40.00	117	50.88	12.88	50.00
		50-59	214	42.32	9.60	41.00	232	51.42	14.09	48.00
		60-69	219	42.30	9.75	41.00	238	53.13	12.47	51.00
		70-79	138	43.56	10.46	41.00	149	53.74	15.48	51.00
		80-84	27	45.33	15.56	41.00	37	53.54	14.82	51.00
		Total	718	42.55	10.06	41.00	773	52.41	13.76	51.00
Total			3204	45.04	11.78	43.00	3584	56.25	15.27	54.00

**Table 15: Total Cholesterol by Race, Gender, and Age**

Total Cholesterol (mg/dL)			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	145	196.34	32.90	197.00	170	192.63	32.40	189.50
		50-59	366	192.99	34.68	191.00	394	202.79	38.42	202.00
		60-69	376	187.55	37.22	184.50	407	205.38	32.11	204.00
		70-79	321	184.38	30.58	182.00	321	202.40	32.04	202.00
		80-84	50	174.28	34.62	176.50	66	200.42	35.39	199.00
		Total	1258	188.81	34.59	186.00	1358	202.09	34.40	200.00
2: Chinese	Age	44-49	48	188.75	30.89	185.50	55	184.76	26.67	189.00
		50-59	112	194.72	30.54	191.00	123	203.10	33.83	199.00
		60-69	117	188.42	32.23	188.00	118	195.39	30.84	193.00
		70-79	97	186.88	31.95	185.00	98	193.62	31.30	192.00
		80-84	15	181.40	23.14	168.00	19	185.84	36.68	179.00
		Total	389	189.62	31.26	188.00	413	195.41	32.09	192.00
3: AA	Age	44-49	102	185.25	33.84	185.00	122	185.39	36.08	182.50
		50-59	256	183.72	37.88	183.50	325	193.70	35.70	192.00
		60-69	255	181.33	33.68	180.00	341	199.46	36.59	199.00
		70-79	195	178.78	30.98	178.00	214	199.29	37.61	194.50
		80-84	31	174.23	26.22	172.00	41	201.73	32.94	195.00
		Total	839	181.68	34.24	181.00	1043	196.07	36.57	194.00
4: Hispanic	Age	44-49	120	198.15	34.65	197.50	117	188.50	35.93	185.00
		50-59	214	195.86	36.21	194.00	232	206.63	38.24	203.50
		60-69	219	192.96	40.08	189.00	238	204.39	40.09	200.00
		70-79	138	188.70	35.38	184.00	149	202.70	32.68	203.00
		80-84	27	184.59	33.84	173.00	37	197.97	29.10	194.00
		Total	718	193.56	37.02	190.00	773	202.03	37.50	199.00
Total			3204	188.11	34.92	186.00	3587	199.56	35.59	197.00

**Table 16: Triglycerides by Race, Gender, and Age**

Triglycerides (mg/dL)			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	145	150.92	119.28	124.00	170	113.16	68.90	95.50
		50-59	366	141.44	88.02	116.00	394	132.92	90.20	115.00
		60-69	376	135.33	132.78	111.00	407	137.98	76.92	121.00
		70-79	321	120.75	62.80	105.00	321	130.06	64.82	118.00
		80-84	50	122.96	69.94	103.00	66	133.41	70.87	107.00
		Total	1258	134.69	102.14	112.00	1358	131.31	77.49	115.00
2: Chinese	Age	44-49	48	157.79	90.05	145.00	55	117.82	68.69	104.00
		50-59	112	148.84	90.32	135.50	123	149.92	99.53	121.00
		60-69	117	143.60	95.69	118.00	118	148.51	76.46	126.50
		70-79	97	128.58	69.71	117.00	98	142.65	76.44	133.50
		80-84	15	113.27	42.23	118.00	19	148.21	78.04	132.00
		Total	389	141.94	86.27	125.00	413	143.44	83.44	123.00
3: AA	Age	44-49	102	106.40	46.25	95.00	122	86.95	43.63	77.50
		50-59	256	119.80	86.33	98.00	325	99.72	50.59	89.00
		60-69	255	110.32	68.74	96.00	341	109.09	92.57	93.00
		70-79	195	101.30	54.85	88.00	214	97.21	44.96	87.50
		80-84	31	76.90	34.81	68.00	41	114.88	104.91	85.00
		Total	839	109.40	69.18	93.00	1043	101.37	68.59	88.00
4: Hispanic	Age	44-49	120	181.78	105.57	159.00	117	131.46	73.74	114.00
		50-59	214	165.26	84.92	149.00	232	159.16	129.57	136.00
		60-69	219	168.83	137.48	140.00	238	148.85	77.75	130.50
		70-79	138	141.22	72.01	127.00	149	157.61	81.67	135.00
		80-84	27	135.78	79.05	109.00	37	145.65	60.64	124.00
		Total	718	163.38	105.58	140.00	773	150.85	96.10	131.00
Total			3204	135.38	95.40	113.00	3587	128.21	82.33	110.00

Table 17: Statin Use by Race, Gender, and Age

Statin Use			Gender							
			Male				Female			
			HMG CoA reductatase inhibitors (statins)				HMG CoA reductatase inhibitors (statins)			
			Yes		No		Yes		No	
			N	Row %	N	Row %	N	Row %	N	Row %
1: White	Age	44-49	10	6.9%	135	93.1%	7	4.1%	164	95.9%
		50-59	65	17.7%	303	82.3%	47	11.9%	348	88.1%
		60-69	79	21.0%	298	79.0%	70	17.2%	338	82.8%
		70-79	60	18.7%	261	81.3%	64	19.9%	257	80.1%
		80-84	9	18.0%	41	82.0%	13	19.4%	54	80.6%
		Total	223	17.7%	1038	82.3%	201	14.8%	1161	85.2%
2: Chinese	Age	44-49	2	4.2%	46	95.8%	1	1.8%	54	98.2%
		50-59	7	6.2%	106	93.8%	6	4.9%	117	95.1%
		60-69	18	15.4%	99	84.6%	22	18.6%	96	81.4%
		70-79	12	12.4%	85	87.6%	25	25.5%	73	74.5%
		80-84	4	26.7%	11	73.3%	6	31.6%	13	68.4%
		Total	43	11.0%	347	89.0%	60	14.5%	353	85.5%
3: AA	Age	44-49	4	3.8%	100	96.2%	5	4.1%	117	95.9%
		50-59	28	10.9%	229	89.1%	32	9.8%	294	90.2%
		60-69	47	18.5%	207	81.5%	75	21.9%	267	78.1%
		70-79	31	15.9%	164	84.1%	49	22.8%	166	77.2%
		80-84	5	15.6%	27	84.4%	8	19.5%	33	80.5%
		Total	115	13.7%	727	86.3%	169	16.2%	877	83.8%
4: Hispanic	Age	44-49	7	5.8%	113	94.2%	0	.0%	117	100.0%
		50-59	15	7.0%	199	93.0%	15	6.4%	218	93.6%
		60-69	39	17.8%	180	82.2%	43	18.1%	195	81.9%
		70-79	20	14.5%	118	85.5%	35	23.5%	114	76.5%
		80-84	1	3.7%	26	96.3%	4	10.8%	33	89.2%
		Total	82	11.4%	636	88.6%	97	12.5%	677	87.5%
Total			463	14.4%	2748	85.6%	527	14.7%	3068	85.3%

Table 18: Lipid Lowering Agent by Race, Gender, and Age

Lipid Lowering Agent			Gender							
			Male				Female			
			Any lipid-lowering medication				Any lipid-lowering medication			
			Yes		No		Yes		No	
			N	Row %	N	Row %	N	Row %	N	Row %
1: White	Age	44-49	11	7.6%	134	92.4%	9	5.3%	162	94.7%
		50-59	70	19.0%	298	81.0%	51	12.9%	344	87.1%
		60-69	85	22.5%	292	77.5%	74	18.1%	334	81.9%
		70-79	65	20.2%	256	79.8%	72	22.4%	249	77.6%
		80-84	9	18.0%	41	82.0%	13	19.4%	54	80.6%
		Total	240	19.0%	1021	81.0%	219	16.1%	1143	83.9%
2: Chinese	Age	44-49	2	4.2%	46	95.8%	1	1.8%	54	98.2%
		50-59	9	8.0%	104	92.0%	9	7.3%	114	92.7%
		60-69	21	17.9%	96	82.1%	23	19.5%	95	80.5%
		70-79	12	12.4%	85	87.6%	26	26.5%	72	73.5%
		80-84	6	40.0%	9	60.0%	6	31.6%	13	68.4%
		Total	50	12.8%	340	87.2%	65	15.7%	348	84.3%
3: AA	Age	44-49	4	3.8%	100	96.2%	5	4.1%	117	95.9%
		50-59	31	12.1%	226	87.9%	34	10.4%	292	89.6%
		60-69	50	19.7%	204	80.3%	77	22.5%	265	77.5%
		70-79	34	17.4%	161	82.6%	51	23.7%	164	76.3%
		80-84	6	18.8%	26	81.3%	8	19.5%	33	80.5%
		Total	125	14.8%	717	85.2%	175	16.7%	871	83.3%
4: Hispanic	Age	44-49	7	5.8%	113	94.2%	2	1.7%	115	98.3%
		50-59	15	7.0%	199	93.0%	17	7.3%	216	92.7%
		60-69	41	18.7%	178	81.3%	44	18.5%	194	81.5%
		70-79	24	17.4%	114	82.6%	38	25.5%	111	74.5%
		80-84	2	7.4%	25	92.6%	5	13.5%	32	86.5%
		Total	89	12.4%	629	87.6%	106	13.7%	668	86.3%
Total			504	15.7%	2707	84.3%	565	15.7%	3030	84.3%



Table 19: Glucose by Race, Gender, and Age

Fasting Glucose (mg/dL)			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	145	97.18	21.60	93.00	170	91.51	21.87	88.00
		50-59	366	98.65	18.38	95.00	394	93.08	14.38	91.00
		60-69	376	105.49	34.70	98.00	407	95.82	15.23	93.00
		70-79	321	103.60	26.09	98.00	321	98.10	16.19	94.00
		80-84	50	104.74	15.89	101.50	66	97.52	15.19	93.00
		Total	1258	102.03	26.54	97.00	1358	95.11	16.34	92.00
2: Chinese	Age	44-49	48	98.79	11.57	95.00	55	94.58	14.70	92.00
		50-59	112	112.29	46.19	99.00	123	102.50	28.78	95.00
		60-69	116	110.09	26.46	101.00	118	103.69	24.97	97.50
		70-79	97	110.90	27.48	102.00	98	106.35	19.96	100.50
		80-84	15	101.73	12.62	98.00	19	112.21	31.74	106.00
		Total	388	109.20	32.38	100.00	413	103.15	24.59	96.00
3: AA	Age	44-49	102	97.76	19.54	94.00	122	102.30	38.10	91.00
		50-59	255	109.09	37.57	97.00	324	105.06	35.39	95.00
		60-69	255	113.33	34.86	103.00	342	106.36	26.96	99.00
		70-79	195	110.92	31.40	102.00	214	106.98	27.20	100.00
		80-84	32	105.94	35.04	96.50	41	105.02	38.24	98.00
		Total	839	109.30	33.74	99.00	1043	105.55	31.69	97.00
4: Hispanic	Age	44-49	120	107.32	40.73	99.00	117	97.60	29.24	90.00
		50-59	214	109.29	35.43	98.00	232	105.83	38.71	96.00
		60-69	219	120.25	46.68	103.00	237	111.75	37.41	99.00
		70-79	138	115.39	48.56	103.00	149	113.86	38.03	100.00
		80-84	27	107.96	20.65	100.00	37	110.92	30.21	104.00
		Total	718	113.42	42.48	101.00	772	108.19	36.82	97.00
Total			3203	107.36	33.55	99.00	3586	101.89	28.00	95.00

Table 20: Diabetes Status by Race, Gender, and Age

Diabetes Status			Gender											
			Male						Female					
			DIABETES MELLITUS BY 1997 ADA FASTING CRITERIA						DIABETES MELLITUS BY 1997 ADA FASTING CRITERIA					
			DIABETES		IFG		NORMAL		DIABETES		IFG		NORMAL	
			N	Row %	N	Row %	N	Row %	N	Row %	N	Row %	N	Row %
1: White	Age	44-49	11	7.6%	2	1.4%	132	91.0%	5	2.9%	9	5.3%	156	91.8%
		50-59	22	6.0%	25	6.8%	319	87.2%	15	3.8%	17	4.3%	362	91.9%
		60-69	39	10.4%	40	10.6%	297	79.0%	26	6.4%	14	3.4%	367	90.2%
		70-79	30	9.3%	35	10.9%	256	79.8%	23	7.2%	24	7.5%	274	85.4%
		80-84	7	14.0%	11	22.0%	32	64.0%	4	6.1%	5	7.6%	57	86.4%
		Total	109	8.7%	113	9.0%	1036	82.4%	73	5.4%	69	5.1%	1216	89.5%
2: Chinese	Age	44-49	2	4.2%	4	8.3%	42	87.5%	1	1.8%	1	1.8%	53	96.4%
		50-59	15	13.4%	12	10.7%	85	75.9%	14	11.4%	10	8.1%	99	80.5%
		60-69	22	19.0%	14	12.1%	80	69.0%	17	14.4%	8	6.8%	93	78.8%
		70-79	21	21.6%	13	13.4%	63	64.9%	23	23.5%	5	5.1%	70	71.4%
		80-84	1	6.7%	4	26.7%	10	66.7%	5	26.3%	2	10.5%	12	63.2%
		Total	61	15.7%	47	12.1%	280	72.2%	60	14.5%	26	6.3%	327	79.2%
3: AA	Age	44-49	5	4.9%	7	6.9%	90	88.2%	14	11.5%	7	5.7%	101	82.8%
		50-59	50	19.6%	18	7.1%	187	73.3%	50	15.4%	21	6.5%	253	78.1%
		60-69	62	24.3%	40	15.7%	153	60.0%	65	19.0%	27	7.9%	250	73.1%
		70-79	49	25.1%	19	9.7%	127	65.1%	43	20.1%	20	9.3%	151	70.6%
		80-84	6	18.8%	3	9.4%	23	71.9%	6	14.6%	3	7.3%	32	78.0%
		Total	172	20.5%	87	10.4%	580	69.1%	178	17.1%	78	7.5%	787	75.5%
4: Hispanic	Age	44-49	12	10.0%	10	8.3%	98	81.7%	11	9.4%	5	4.3%	101	86.3%
		50-59	35	16.4%	21	9.8%	158	73.8%	35	15.1%	15	6.5%	182	78.4%
		60-69	59	26.9%	25	11.4%	135	61.6%	50	21.1%	22	9.3%	165	69.6%
		70-79	29	21.0%	21	15.2%	88	63.8%	35	23.5%	17	11.4%	97	65.1%
		80-84	9	33.3%	1	3.7%	17	63.0%	9	24.3%	5	13.5%	23	62.2%
		Total	144	20.1%	78	10.9%	496	69.1%	140	18.1%	64	8.3%	568	73.6%
		Total	486	15.2%	325	10.1%	2392	74.7%	451	12.6%	237	6.6%	2898	80.8%

Table 21: Insulin Medication Use by Race, Gender, and Age

Insulin Medication Use			Gender							
			Male				Female			
			Insulins				Insulins			
			Yes		No		Yes		No	
			N	Row %	N	Row %	N	Row %	N	Row %
1: White	Age	44-49	2	1.4%	143	98.6%	2	1.2%	169	98.8%
		50-59	3	.8%	365	99.2%	0	.0%	395	100.0%
		60-69	1	.3%	376	99.7%	4	1.0%	404	99.0%
		70-79	1	.3%	320	99.7%	2	.6%	319	99.4%
		80-84	0	.0%	50	100.0%	1	1.5%	66	98.5%
		Total	7	.6%	1254	99.4%	9	.7%	1353	99.3%
2: Chinese	Age	44-49	0	.0%	48	100.0%	0	.0%	55	100.0%
		50-59	0	.0%	113	100.0%	0	.0%	123	100.0%
		60-69	1	.9%	116	99.1%	0	.0%	118	100.0%
		70-79	0	.0%	97	100.0%	2	2.0%	96	98.0%
		80-84	0	.0%	15	100.0%	0	.0%	19	100.0%
		Total	1	.3%	389	99.7%	2	.5%	411	99.5%
3: AA	Age	44-49	2	1.9%	102	98.1%	0	.0%	122	100.0%
		50-59	6	2.3%	251	97.7%	4	1.2%	322	98.8%
		60-69	4	1.6%	250	98.4%	3	.9%	339	99.1%
		70-79	4	2.1%	191	97.9%	3	1.4%	212	98.6%
		80-84	0	.0%	32	100.0%	1	2.4%	40	97.6%
		Total	16	1.9%	826	98.1%	11	1.1%	1035	98.9%
4: Hispanic	Age	44-49	2	1.7%	118	98.3%	3	2.6%	114	97.4%
		50-59	4	1.9%	210	98.1%	4	1.7%	229	98.3%
		60-69	4	1.8%	215	98.2%	5	2.1%	233	97.9%
		70-79	7	5.1%	131	94.9%	5	3.4%	144	96.6%
		80-84	1	3.7%	26	96.3%	1	2.7%	36	97.3%
		Total	18	2.5%	700	97.5%	18	2.3%	756	97.7%
Total			42	1.3%	3169	98.7%	40	1.1%	3555	98.9%

**Table 22: Oral Hypoglycemic Medication Use by Race, Gender, and Age**

Oral Hypoglycemic Medication Use			Gender							
			Male				Female			
			Oral hypoglycemic agents				Oral hypoglycemic agents			
			Yes		No		Yes		No	
			N	Row %	N	Row %	N	Row %	N	Row %
1: White	Age	44-49	5	3.4%	140	96.6%	2	1.2%	169	98.8%
		50-59	11	3.0%	357	97.0%	7	1.8%	388	98.2%
		60-69	15	4.0%	362	96.0%	18	4.4%	390	95.6%
		70-79	14	4.4%	307	95.6%	12	3.7%	309	96.3%
		80-84	6	12.0%	44	88.0%	1	1.5%	66	98.5%
		Total	51	4.0%	1210	96.0%	40	2.9%	1322	97.1%
2: Chinese	Age	44-49	2	4.2%	46	95.8%	0	.0%	55	100.0%
		50-59	9	8.0%	104	92.0%	7	5.7%	116	94.3%
		60-69	13	11.1%	104	88.9%	12	10.2%	106	89.8%
		70-79	12	12.4%	85	87.6%	17	17.3%	81	82.7%
		80-84	1	6.7%	14	93.3%	4	21.1%	15	78.9%
		Total	37	9.5%	353	90.5%	40	9.7%	373	90.3%
3: AA	Age	44-49	4	3.8%	100	96.2%	8	6.6%	114	93.4%
		50-59	26	10.1%	231	89.9%	32	9.8%	294	90.2%
		60-69	36	14.2%	218	85.8%	39	11.4%	303	88.6%
		70-79	28	14.4%	167	85.6%	25	11.6%	190	88.4%
		80-84	4	12.5%	28	87.5%	4	9.8%	37	90.2%
		Total	98	11.6%	744	88.4%	108	10.3%	938	89.7%
4: Hispanic	Age	44-49	5	4.2%	115	95.8%	3	2.6%	114	97.4%
		50-59	19	8.9%	195	91.1%	19	8.2%	214	91.8%
		60-69	39	17.8%	180	82.2%	33	13.9%	205	86.1%
		70-79	19	13.8%	119	86.2%	25	16.8%	124	83.2%
		80-84	6	22.2%	21	77.8%	4	10.8%	33	89.2%
		Total	88	12.3%	630	87.7%	84	10.9%	690	89.1%
Total			274	8.5%	2937	91.5%	272	7.6%	3323	92.4%

**Table 23: Serum Creatinine by Race, Gender, and Age**

Serum Creatinine (mg/dL)			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	145	1.02	.13	1.00	170	.83	.14	.80
		50-59	366	1.05	.16	1.00	394	.84	.14	.80
		60-69	376	1.05	.19	1.00	407	.86	.16	.80
		70-79	321	1.07	.18	1.10	321	.88	.18	.90
		80-84	50	1.18	.32	1.10	66	.93	.19	.90
		Total	1258	1.06	.18	1.00	1358	.86	.16	.80
2: Chinese	Age	44-49	48	.99	.11	1.00	55	.73	.13	.70
		50-59	112	.98	.14	1.00	123	.75	.14	.70
		60-69	116	1.02	.20	1.00	118	.76	.13	.80
		70-79	97	1.08	.29	1.00	98	.84	.16	.80
		80-84	15	1.13	.28	1.10	19	.94	.13	.90
		Total	388	1.02	.21	1.00	413	.78	.15	.80
3: AA	Age	44-49	102	1.11	.17	1.10	122	.83	.12	.80
		50-59	255	1.10	.18	1.10	324	.88	.14	.90
		60-69	255	1.19	.63	1.10	342	.92	.17	.90
		70-79	195	1.19	.30	1.10	214	.94	.22	.90
		80-84	32	1.34	.60	1.20	41	1.04	.36	.90
		Total	839	1.16	.42	1.10	1043	.90	.19	.90
4: Hispanic	Age	44-49	120	.94	.16	.90	117	.76	.12	.80
		50-59	214	.98	.16	1.00	232	.78	.17	.80
		60-69	219	1.05	.63	1.00	237	.78	.14	.80
		70-79	138	1.06	.35	1.00	149	.89	.49	.80
		80-84	27	1.13	.29	1.00	37	.86	.20	.80
		Total	718	1.02	.40	1.00	772	.80	.26	.80
Total			3203	1.07	.32	1.00	3586	.85	.20	.80

**Table 24: Urinary Creatinine by Race, Gender, and Age**

Urinary Creatinine (mg/dL)			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	145	129.50	79.21	127.10	170	103.76	71.20	87.75
		50-59	365	135.48	72.49	132.20	391	85.11	62.32	67.60
		60-69	376	122.08	61.42	122.40	408	89.27	58.75	77.65
		70-79	320	112.80	60.60	104.65	321	75.85	50.00	62.40
		80-84	50	101.23	45.27	97.60	65	77.00	50.23	65.70
		Total	1256	123.64	66.93	118.60	1355	86.12	59.75	68.80
2: Chinese	Age	44-49	48	156.95	60.77	169.35	55	98.54	60.06	91.70
		50-59	113	132.09	61.22	130.60	123	88.95	53.70	79.80
		60-69	117	122.71	53.30	117.90	118	74.06	39.75	71.05
		70-79	97	117.27	50.24	110.90	98	76.26	42.50	71.35
		80-84	15	119.18	46.54	115.80	19	78.94	41.74	72.40
		Total	390	128.15	56.76	126.45	413	82.50	48.52	73.90
3: AA	Age	44-49	101	195.38	92.36	196.90	120	147.35	86.54	136.10
		50-59	255	166.15	91.77	154.10	325	119.33	62.78	115.40
		60-69	254	154.93	84.30	142.20	341	112.12	70.07	100.10
		70-79	194	137.19	66.43	130.50	213	98.88	62.97	87.30
		80-84	32	136.16	75.29	131.90	41	78.43	57.57	60.60
		Total	836	158.40	85.31	145.35	1040	114.40	69.75	104.35
4: Hispanic	Age	44-49	119	160.84	82.22	153.00	115	134.85	77.59	120.80
		50-59	212	158.39	74.09	158.60	233	113.34	64.00	106.10
		60-69	218	140.92	73.82	134.30	238	99.89	58.33	88.55
		70-79	138	131.85	72.88	125.75	148	103.32	64.97	88.75
		80-84	27	125.67	59.19	123.20	37	78.59	39.62	71.80
		Total	714	147.10	75.45	140.20	771	108.81	65.07	101.30
Total			3196	138.52	74.46	132.20	3579	98.81	64.26	85.50

**Table 25: Urinary Albumin by Race, Gender, and Age**

Urinary Albumin (mg/dL)			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	145	1.10	3.89	.40	170	1.88	11.28	.40
		50-59	365	.88	2.14	.50	391	1.18	11.43	.30
		60-69	376	2.11	8.02	.50	408	.84	1.66	.40
		70-79	320	2.04	6.80	.70	321	1.05	2.36	.40
		80-84	50	2.61	3.44	1.20	65	1.18	1.78	.70
		Total	1256	1.64	5.90	.50	1355	1.14	7.48	.40
2: Chinese	Age	44-49	48	1.61	3.49	.60	55	1.70	5.66	.60
		50-59	113	1.53	4.09	.70	123	1.81	9.51	.50
		60-69	117	2.87	9.38	.80	118	2.11	8.57	.60
		70-79	97	5.54	17.50	.80	98	3.72	9.94	.70
		80-84	15	2.66	2.90	1.30	19	4.00	7.15	1.40
		Total	390	2.98	10.53	.80	413	2.43	8.84	.60
3: AA	Age	44-49	101	2.57	9.57	.80	120	2.00	8.22	.70
		50-59	255	1.88	4.57	.60	325	3.40	29.01	.60
		60-69	254	6.02	19.48	1.00	341	2.61	12.21	.70
		70-79	194	4.95	15.46	.90	213	2.66	6.55	.60
		80-84	32	2.89	4.37	1.25	41	3.03	10.99	.60
		Total	836	3.97	13.83	.80	1040	2.81	18.24	.60
4: Hispanic	Age	44-49	119	1.58	3.56	.70	115	2.51	9.04	.60
		50-59	212	4.18	20.55	.65	233	1.61	3.73	.60
		60-69	218	13.96	77.47	.90	238	2.07	7.73	.70
		70-79	138	5.01	12.54	1.10	148	5.26	25.61	.90
		80-84	27	4.67	9.76	1.30	37	3.84	10.36	1.00
		Total	714	6.91	44.83	.80	771	2.69	12.91	.70
Total			3196	3.59	23.02	.70	3579	2.11	12.77	.50

**Table 26: Urinary Albumin/Creatinine by Race, Gender, and Age**

Urinary Albumin/Creatinine (mg/g)			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	145	9.51	38.23	3.20	170	16.16	80.05	3.90
		50-59	365	6.81	18.24	3.50	391	14.27	148.27	4.50
		60-69	376	17.51	73.77	4.46	408	9.64	16.39	5.27
		70-79	320	20.63	80.85	5.55	321	14.19	26.40	6.80
		80-84	50	33.81	63.45	10.95	65	16.66	24.11	8.60
		Total	1256	14.92	61.29	4.20	1355	13.21	86.09	5.10
2: Chinese	Age	44-49	48	13.36	40.19	3.65	55	22.93	90.78	5.50
		50-59	113	12.89	34.92	4.80	123	39.13	324.66	6.50
		60-69	117	27.59	87.77	6.80	118	30.26	112.77	7.70
		70-79	97	56.82	248.56	7.20	98	43.04	115.48	9.60
		80-84	15	24.85	30.29	9.00	19	52.27	85.69	15.80
		Total	390	28.74	135.73	5.65	413	35.97	198.55	7.35
3: AA	Age	44-49	101	14.22	58.92	3.90	120	11.54	34.77	4.90
		50-59	255	12.65	33.77	3.70	325	28.16	204.24	4.90
		60-69	254	46.09	165.98	6.00	341	29.99	132.66	5.70
		70-79	194	41.32	130.07	7.15	213	28.82	68.76	7.70
		80-84	32	29.12	58.80	13.35	41	29.74	75.02	8.50
		Total	836	30.29	115.67	5.20	1040	27.04	141.84	5.60
4: Hispanic	Age	44-49	119	10.73	24.33	4.10	115	20.30	74.34	5.10
		50-59	212	28.13	134.83	4.10	233	13.58	29.07	5.56
		60-69	218	135.25	678.81	6.10	238	23.07	78.94	6.60
		70-79	138	42.67	104.54	8.75	148	70.59	320.20	8.50
		80-84	27	40.66	72.60	9.40	37	39.11	75.27	18.10
		Total	714	61.22	387.97	5.38	771	29.68	152.51	6.50
Total			3196	30.97	202.76	4.80	3579	23.40	135.14	5.80



**Table 27: Total Homocysteine by Race, Gender, and Age**

Total Homocysteine			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	145	9.28	3.34	8.60	170	7.44	2.36	7.00
		50-59	367	9.41	2.82	8.70	394	8.44	6.52	7.60
		60-69	377	9.95	2.71	9.40	407	8.82	3.80	8.20
		70-79	321	10.41	3.73	9.80	321	9.44	2.96	8.90
		80-84	50	12.55	3.30	11.85	66	10.98	3.20	10.20
		Total	1260	9.93	3.19	9.30	1358	8.79	4.53	8.10
2: Chinese	Age	44-49	48	8.24	1.57	8.00	55	6.48	1.22	6.10
		50-59	112	9.02	1.99	8.75	123	7.38	1.94	6.90
		60-69	117	10.04	2.65	9.70	118	8.32	3.24	7.50
		70-79	97	11.06	3.36	10.30	98	9.46	2.70	8.80
		80-84	15	11.75	3.21	12.20	19	9.68	1.76	9.00
		Total	389	9.84	2.78	9.30	413	8.13	2.69	7.50
3: AA	Age	44-49	102	9.50	2.91	8.95	122	7.35	1.88	7.00
		50-59	256	9.68	3.23	9.20	325	8.57	3.28	8.00
		60-69	255	10.93	6.77	9.60	342	9.14	2.73	8.50
		70-79	195	11.46	4.70	10.40	214	9.80	3.25	8.95
		80-84	31	12.47	3.94	11.60	41	11.57	3.65	10.30
		Total	839	10.55	4.95	9.70	1044	8.99	3.10	8.40
4: Hispanic	Age	44-49	120	8.71	2.74	8.05	117	7.07	2.84	6.50
		50-59	214	9.00	2.70	8.60	233	7.73	1.97	7.50
		60-69	219	10.08	4.18	9.30	237	8.49	2.19	8.10
		70-79	138	11.21	3.50	10.30	149	10.02	3.23	9.30
		80-84	27	10.52	3.15	9.60	37	10.56	3.66	9.20
		Total	718	9.76	3.50	9.10	773	8.44	2.76	7.90
Total			3206	10.05	3.77	9.30	3588	8.69	3.62	8.05

**Table 28: Interleukin 6 by Race, Gender, and Age**

Interleukin 6 (IL-6) (pg/mL)			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	144	1.07	.83	.79	168	1.36	1.14	1.08
		50-59	359	1.19	.91	.93	389	1.32	1.20	.95
		60-69	370	1.52	1.38	1.10	398	1.59	1.45	1.18
		70-79	314	1.68	1.16	1.38	314	1.70	1.23	1.33
		80-84	49	1.93	.91	1.66	65	1.56	.87	1.33
		Total	1236	1.43	1.15	1.11	1334	1.51	1.27	1.14
2: Chinese	Age	44-49	48	.97	.77	.72	55	.98	1.07	.68
		50-59	112	1.22	1.34	.80	122	.99	.68	.77
		60-69	112	1.25	1.17	.82	117	1.09	.87	.86
		70-79	95	1.25	.83	1.02	98	1.23	.89	.96
		80-84	15	1.19	.86	.74	19	1.68	1.25	1.41
		Total	382	1.20	1.10	.84	411	1.11	.89	.88
3: AA	Age	44-49	98	1.51	1.50	1.07	119	1.81	1.35	1.30
		50-59	249	1.37	1.04	1.05	311	1.86	1.31	1.54
		60-69	245	1.61	1.25	1.18	327	1.75	1.19	1.45
		70-79	187	1.91	1.30	1.58	203	1.85	1.42	1.47
		80-84	30	1.81	1.18	1.42	39	2.13	1.36	1.69
		Total	809	1.60	1.25	1.21	999	1.83	1.30	1.47
4: Hispanic	Age	44-49	118	1.39	1.14	1.03	116	1.36	.82	1.18
		50-59	206	1.39	1.03	1.11	228	1.66	1.04	1.36
		60-69	210	1.71	1.16	1.37	235	1.94	1.30	1.57
		70-79	131	2.14	1.56	1.62	144	2.00	1.31	1.66
		80-84	27	2.20	1.58	1.57	36	2.09	1.14	1.90
		Total	692	1.66	1.26	1.29	759	1.79	1.18	1.49
Total			3119	1.50	1.20	1.13	3503	1.61	1.24	1.27

**Table 29: C-reactive Protein by Race, Gender, and Age**

C-reactive Protein (CRP) (mg/L)			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	145	2.04	3.33	.96	170	3.46	4.79	1.48
		50-59	366	2.07	2.57	1.23	392	4.63	7.56	2.64
		60-69	376	2.60	4.36	1.29	404	4.34	4.88	2.82
		70-79	318	2.83	4.56	1.50	321	4.71	6.39	2.55
		80-84	50	2.22	2.11	1.61	65	3.71	5.56	2.00
		Total	1255	2.43	3.80	1.30	1352	4.37	6.15	2.48
2: Chinese	Age	44-49	47	1.23	1.32	.70	55	1.54	3.68	.63
		50-59	113	1.73	4.69	.74	123	1.95	2.83	1.15
		60-69	117	1.92	4.85	.86	118	2.06	3.40	1.05
		70-79	96	2.19	9.88	.83	98	1.77	2.33	.95
		80-84	15	2.46	4.96	.70	19	1.41	1.08	1.28
		Total	388	1.87	6.21	.81	413	1.86	2.96	.99
3: AA	Age	44-49	101	3.05	6.76	1.49	121	5.50	6.30	3.00
		50-59	256	3.46	6.08	1.60	322	6.02	6.01	4.16
		60-69	252	3.33	4.48	1.96	338	5.85	6.99	3.55
		70-79	195	4.22	8.61	1.94	212	5.66	9.35	2.65
		80-84	31	3.93	10.67	1.34	40	4.90	6.55	2.48
		Total	835	3.57	6.66	1.80	1033	5.79	7.17	3.40
4: Hispanic	Age	44-49	119	2.88	3.73	1.69	116	4.78	5.54	2.88
		50-59	213	2.70	2.56	1.95	232	5.47	5.91	3.54
		60-69	219	4.23	7.46	1.88	237	4.80	4.72	3.24
		70-79	137	3.65	5.07	2.25	149	3.95	3.99	2.70
		80-84	27	6.01	15.99	2.22	37	2.98	3.79	1.50
		Total	715	3.51	6.01	1.93	771	4.75	5.10	3.03
Total			3193	2.90	5.51	1.43	3569	4.57	6.09	2.56

**Table 30: Chlamydia Pneumoniae by Race, Gender, and Age**

Chlamydia Pneumoniae			Gender							
			Male				Female			
			Chlamydia Pneumoniae (Pos/Neg)				Chlamydia Pneumoniae (Pos/Neg)			
			Positive		Negative		Positive		Negative	
			N	Row %	N	Row %	N	Row %	N	Row %
1: White	Age	44-49	102	70.3%	43	29.7%	107	62.9%	63	37.1%
		50-59	266	72.5%	101	27.5%	260	66.0%	134	34.0%
		60-69	279	74.2%	97	25.8%	245	60.2%	162	39.8%
		70-79	250	77.9%	71	22.1%	210	65.4%	111	34.6%
		80-84	40	80.0%	10	20.0%	45	68.2%	21	31.8%
		Total	937	74.4%	322	25.6%	867	63.8%	491	36.2%
2: Chinese	Age	44-49	39	81.3%	9	18.8%	43	78.2%	12	21.8%
		50-59	95	84.1%	18	15.9%	93	75.6%	30	24.4%
		60-69	106	90.6%	11	9.4%	101	85.6%	17	14.4%
		70-79	91	93.8%	6	6.2%	88	89.8%	10	10.2%
		80-84	15	100.0%	0	.0%	17	89.5%	2	10.5%
		Total	346	88.7%	44	11.3%	342	82.8%	71	17.2%
3: AA	Age	44-49	78	76.5%	24	23.5%	86	70.5%	36	29.5%
		50-59	204	79.7%	52	20.3%	230	71.2%	93	28.8%
		60-69	227	89.0%	28	11.0%	273	79.8%	69	20.2%
		70-79	176	90.7%	18	9.3%	183	86.3%	29	13.7%
		80-84	30	93.8%	2	6.3%	30	73.2%	11	26.8%
		Total	715	85.2%	124	14.8%	802	77.1%	238	22.9%
4: Hispanic	Age	44-49	96	80.0%	24	20.0%	74	63.2%	43	36.8%
		50-59	173	80.8%	41	19.2%	156	67.0%	77	33.0%
		60-69	171	78.1%	48	21.9%	175	73.8%	62	26.2%
		70-79	117	84.8%	21	15.2%	105	70.5%	44	29.5%
		80-84	23	85.2%	4	14.8%	27	73.0%	10	27.0%
		Total	580	80.8%	138	19.2%	537	69.5%	236	30.5%
Total		2578	80.4%	628	19.6%	2548	71.1%	1036	28.9%	

**Table 31: Serum Insulin by Race, Gender, and Age**

Serum Insulin			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	145	6.06	4.90	4.60	170	5.80	4.67	4.25
		50-59	367	7.13	6.09	5.30	394	5.42	4.41	4.20
		60-69	377	6.74	4.78	5.40	406	5.78	3.90	4.50
		70-79	321	5.74	3.34	4.70	320	5.69	3.93	4.40
		80-84	50	5.75	3.57	5.30	66	5.21	2.48	5.10
		Total	1260	6.48	4.90	5.10	1356	5.63	4.11	4.30
2: Chinese	Age	44-49	48	7.62	5.07	6.55	55	6.11	2.92	5.50
		50-59	112	6.50	4.17	5.05	123	6.10	4.23	4.80
		60-69	117	6.14	4.08	4.80	118	5.78	4.00	4.45
		70-79	97	4.90	2.44	4.30	98	7.11	12.35	4.55
		80-84	15	4.50	1.92	4.70	19	5.40	3.16	4.70
		Total	389	6.05	3.93	5.00	413	6.22	6.90	4.70
3: AA	Age	44-49	102	7.31	5.34	5.95	121	7.38	5.02	5.50
		50-59	255	6.81	4.79	5.30	323	8.16	6.26	6.80
		60-69	255	7.82	8.85	5.60	342	8.04	7.30	6.30
		70-79	195	7.03	8.71	5.50	213	6.51	4.76	5.30
		80-84	32	4.38	2.34	3.70	41	5.97	2.83	5.70
		Total	839	7.14	7.24	5.40	1040	7.60	6.16	6.10
4: Hispanic	Age	44-49	120	7.66	5.31	6.05	117	7.64	4.80	6.70
		50-59	214	8.70	7.63	6.60	233	8.73	5.86	7.30
		60-69	219	8.78	7.35	7.00	237	7.79	4.94	6.60
		70-79	138	7.03	5.11	5.50	149	8.04	6.64	6.00
		80-84	27	5.97	3.24	5.30	37	7.59	4.91	6.30
		Total	718	8.13	6.67	6.40	773	8.09	5.57	6.70
Total			3206	6.97	5.95	5.40	3582	6.80	5.54	5.40

Table 32: Fibrinogen by Race, Gender, and Age

Fibrinogen Antigen (mg/dL)			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	145	302.17	64.63	297.00	170	324.84	70.24	315.00
		50-59	367	315.97	62.00	308.00	393	329.10	68.62	323.00
		60-69	376	337.38	70.25	327.00	403	346.05	70.60	341.00
		70-79	320	340.72	65.93	331.00	321	355.52	73.96	350.00
		80-84	50	337.78	57.98	339.00	66	351.83	72.19	345.50
		Total	1258	327.94	67.04	319.50	1353	340.99	71.74	335.00
2: Chinese	Age	44-49	48	295.54	50.17	288.50	55	325.53	59.94	325.00
		50-59	113	311.52	60.38	299.00	123	339.03	63.64	333.00
		60-69	117	328.25	56.52	321.00	118	343.64	59.79	332.50
		70-79	97	319.67	57.18	312.00	98	345.88	56.74	349.00
		80-84	15	318.67	60.89	312.00	19	365.84	58.82	364.00
		Total	390	316.87	57.90	309.00	413	341.41	60.53	336.00
3: AA	Age	44-49	102	310.06	65.18	296.50	120	359.41	77.27	351.00
		50-59	255	317.68	64.79	310.00	319	375.72	82.05	370.00
		60-69	254	345.76	70.23	345.00	337	385.75	75.96	378.00
		70-79	195	353.21	79.58	336.00	214	398.98	76.17	387.00
		80-84	31	363.29	79.98	344.00	41	389.02	73.29	383.00
		Total	837	335.24	72.73	323.00	1031	382.46	78.72	377.00
4: Hispanic	Age	44-49	120	320.48	57.50	309.50	116	351.49	70.39	340.00
		50-59	213	332.31	58.30	329.00	231	364.64	69.39	366.00
		60-69	219	355.73	84.81	337.00	237	380.62	68.40	378.00
		70-79	138	362.71	70.58	354.50	148	383.71	80.40	379.50
		80-84	26	401.31	129.93	375.00	37	373.95	63.36	356.00
		Total	716	345.85	75.20	336.00	769	371.70	71.95	369.00
Total			3201	332.51	69.99	323.00	3566	359.65	75.05	353.00

**Table 33: Percent Factor VIII by Race, Gender, and Age**

Percent Factor VIII			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	145	127.04	45.06	122.00	170	142.77	54.87	133.00
		50-59	367	137.59	53.63	131.00	393	148.53	59.65	138.00
		60-69	376	159.21	68.09	150.00	404	165.46	65.75	153.50
		70-79	318	165.67	62.05	160.00	320	181.24	75.74	169.50
		80-84	50	164.94	55.47	162.50	66	186.71	70.33	178.50
		Total	1256	151.04	61.25	142.00	1353	162.46	67.14	152.00
2: Chinese	Age	44-49	48	141.27	59.88	135.00	55	141.55	51.00	141.00
		50-59	113	147.42	57.92	142.00	123	153.54	54.56	156.00
		60-69	117	157.03	52.06	149.00	118	160.19	52.42	156.00
		70-79	97	164.48	56.54	158.00	98	174.94	66.09	163.50
		80-84	15	180.80	50.00	183.00	19	178.89	58.01	182.00
		Total	390	155.07	56.35	149.00	413	160.09	57.50	157.00
3: AA	Age	44-49	102	154.66	64.87	145.50	120	178.76	82.11	169.00
		50-59	255	166.96	69.81	159.00	319	176.08	76.61	161.00
		60-69	254	173.44	74.22	158.00	337	178.69	69.90	165.00
		70-79	195	179.32	67.38	170.00	214	200.40	77.06	194.50
		80-84	31	182.32	91.56	155.00	41	221.32	90.23	197.00
		Total	837	170.88	71.21	160.00	1031	184.09	76.63	170.00
4: Hispanic	Age	44-49	119	137.83	61.69	132.00	116	152.86	57.68	141.00
		50-59	214	147.54	60.90	135.00	231	157.49	59.74	147.00
		60-69	219	160.68	62.70	148.00	237	167.73	60.14	157.00
		70-79	138	164.15	68.64	146.50	148	191.27	61.64	183.00
		80-84	26	187.88	71.18	178.50	37	196.84	65.12	193.00
		Total	716	154.61	64.36	143.00	769	168.34	61.78	158.00
Total			3199	157.52	64.62	147.00	3566	169.71	68.57	158.00

Table 34: D-dimer by Race, Gender, and Age

D-Dimer (ug/mL)			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	145	.30	1.66	.13	170	.21	.17	.18
		50-59	367	.24	.39	.15	392	.28	.43	.18
		60-69	376	.37	1.18	.18	404	.37	.72	.20
		70-79	320	.46	1.25	.28	320	.45	.57	.30
		80-84	50	.68	.89	.44	66	.49	.48	.32
		Total	1258	.36	1.10	.18	1352	.35	.55	.20
2: Chinese	Age	44-49	48	.17	.28	.10	55	.21	.25	.15
		50-59	113	.17	.24	.10	123	.23	.27	.15
		60-69	117	.23	.23	.15	118	.25	.27	.18
		70-79	97	.44	.89	.20	98	.38	.35	.25
		80-84	15	.54	.69	.30	19	.51	.46	.32
		Total	390	.27	.52	.15	413	.28	.31	.18
3: AA	Age	44-49	102	.42	1.99	.15	120	.34	.38	.23
		50-59	255	.31	1.26	.15	319	.34	.41	.23
		60-69	254	.40	.69	.25	337	.42	.45	.27
		70-79	195	.74	1.60	.35	214	.66	1.29	.35
		80-84	31	.58	.40	.47	41	.73	.50	.53
		Total	837	.46	1.31	.23	1031	.45	.71	.28
4: Hispanic	Age	44-49	120	.15	.15	.10	116	.31	.26	.24
		50-59	214	.26	.41	.15	233	.36	1.33	.18
		60-69	219	.29	.32	.20	237	.39	.42	.25
		70-79	138	.50	.45	.36	148	.51	.40	.41
		80-84	26	.59	.51	.42	37	1.19	3.23	.57
		Total	717	.31	.39	.20	771	.43	1.07	.25
Total			3202	.36	1.00	.20	3567	.39	.72	.23



**Table 35: Plasmin-antiplasmin (PAP) by Race, Gender, and Age**

Plasmin-antiplasmin complex (PAP), nM			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	137	3.66	1.38	3.47	163	3.99	1.59	3.78
		50-59	358	4.04	3.01	3.66	381	4.78	1.71	4.58
		60-69	370	4.55	2.21	4.10	389	5.21	2.23	4.80
		70-79	308	4.79	1.68	4.47	306	5.75	2.00	5.39
		80-84	50	5.67	2.35	5.26	64	6.27	2.09	5.97
		Total	1223	4.41	2.34	4.01	1303	5.11	2.04	4.74
2: Chinese	Age	44-49	43	3.18	1.09	3.00	53	3.12	1.05	3.06
		50-59	110	3.83	1.54	3.46	119	3.79	1.20	3.54
		60-69	117	4.28	1.55	4.04	115	4.16	1.38	3.98
		70-79	95	4.51	1.17	4.44	97	4.70	1.43	4.40
		80-84	15	4.66	.92	4.50	19	5.06	1.18	5.14
		Total	380	4.10	1.45	3.91	403	4.08	1.39	3.83
3: AA	Age	44-49	100	3.99	1.36	3.86	118	4.50	1.55	4.30
		50-59	255	4.23	1.57	4.03	319	4.88	1.72	4.67
		60-69	245	5.19	3.42	4.60	335	5.38	1.87	5.01
		70-79	191	6.03	2.99	5.57	208	6.47	2.45	6.13
		80-84	31	7.38	4.49	5.97	40	7.26	2.75	6.35
		Total	822	5.02	2.83	4.48	1020	5.42	2.10	5.01
4: Hispanic	Age	44-49	119	3.55	1.25	3.38	116	3.96	1.15	3.87
		50-59	211	3.90	1.42	3.53	232	4.48	1.86	4.25
		60-69	218	4.56	1.91	4.12	233	5.09	2.25	4.71
		70-79	137	5.27	2.13	5.04	148	5.62	1.96	5.16
		80-84	26	6.36	3.40	5.31	36	5.83	2.33	5.03
		Total	711	4.40	1.93	3.97	765	4.87	2.03	4.49
Total			3136	4.53	2.33	4.08	3491	5.03	2.03	4.66

**Table 36: Percent von Willebrand Factor by Race, Gender, and Age**

Percent von Willebrand Factor (vWF)			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	29	110.03	40.70	103.00	44	117.52	42.32	114.00
		50-59	71	120.03	47.01	114.00	87	126.21	52.84	113.00
		60-69	56	149.54	59.67	143.00	62	140.90	53.22	129.50
		70-79	44	148.39	47.51	138.50	47	153.32	61.17	140.00
		80-84	9	166.00	58.66	162.00	10	173.70	81.55	164.50
		Total	209	134.50	52.98	129.00	250	135.32	55.79	122.00
2: Chinese	Age	44-49	7	96.57	36.25	96.00	15	100.73	35.49	96.00
		50-59	16	133.75	63.75	125.50	31	138.00	49.45	131.00
		60-69	10	145.00	59.90	145.50	8	155.50	36.10	165.00
		70-79	4	136.25	44.97	117.00	6	176.33	46.13	165.50
		80-84	2	213.00	12.73	213.00	0	.	.	.
		Total	39	134.28	58.69	123.00	60	134.85	49.10	130.00
3: AA	Age	44-49	14	124.79	65.81	127.50	9	137.67	57.33	123.00
		50-59	26	155.92	51.10	146.00	61	141.75	54.11	134.00
		60-69	24	152.50	56.51	135.50	44	173.68	76.64	149.50
		70-79	9	163.11	59.54	175.00	19	190.89	72.53	170.00
		80-84	1	154.00	.	154.00	2	192.50	85.56	192.50
		Total	74	149.77	56.73	145.50	135	159.56	67.46	143.00
4: Hispanic	Age	44-49	25	129.52	58.47	117.00	28	110.29	32.08	109.50
		50-59	40	141.40	50.31	144.50	43	129.37	45.09	120.00
		60-69	31	147.03	58.16	129.00	40	137.45	63.14	126.00
		70-79	8	145.50	77.61	121.00	11	155.64	43.29	157.00
		80-84	2	155.00	38.18	155.00	2	124.00	59.40	124.00
		Total	106	140.81	56.13	132.50	124	129.91	50.31	121.00
Total			428	138.68	55.06	131.50	569	139.84	57.98	129.00

**Table 37: LV Diastolic Mass by Race, Gender, and Age**

LV End Diastolic Mass (g)			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	111	175.84	32.57	171.62	136	122.33	20.04	123.88
		50-59	288	171.67	32.34	169.83	305	121.03	22.48	118.46
		60-69	280	167.52	33.25	164.96	319	121.97	28.02	120.37
		70-79	216	166.95	37.46	164.58	221	118.29	24.45	114.21
		80-84	31	162.19	36.65	164.08	52	115.36	24.38	112.04
		Total	926	169.50	34.12	167.11	1033	120.62	24.57	118.24
2: Chinese	Age	44-49	42	145.79	22.18	141.98	51	103.89	17.28	101.17
		50-59	94	151.19	30.32	145.89	109	106.85	19.57	104.40
		60-69	94	137.43	28.00	131.56	90	105.33	20.30	104.06
		70-79	76	135.05	25.56	134.85	72	104.76	18.54	102.84
		80-84	13	145.95	39.08	146.14	12	112.12	19.10	107.41
		Total	319	142.36	28.61	139.66	334	105.73	19.17	103.75
3: AA	Age	44-49	73	188.46	35.01	187.18	88	134.50	30.78	135.57
		50-59	186	186.50	38.08	181.55	222	138.52	27.47	136.03
		60-69	181	184.56	40.46	183.67	246	134.08	30.63	131.05
		70-79	123	178.47	40.59	169.68	124	136.58	32.42	132.47
		80-84	22	160.93	28.42	160.72	22	138.39	24.50	142.12
		Total	585	183.50	38.97	180.28	702	136.11	29.82	133.53
4: Hispanic	Age	44-49	102	172.09	34.80	167.58	94	126.30	25.40	122.53
		50-59	175	173.03	34.45	168.11	165	129.48	27.27	124.44
		60-69	164	165.99	34.82	163.18	175	122.91	24.50	119.28
		70-79	97	159.91	40.83	150.39	102	122.04	26.87	118.40
		80-84	14	149.80	35.12	138.24	17	115.72	25.57	107.41
		Total	552	167.87	36.16	163.38	553	125.06	26.11	121.63
Total			2382	168.92	37.20	165.49	2622	123.81	27.43	120.76

**Table 38: LV Ejection Fraction by Race, Gender, and Age**

LV Ejection Fraction (%)			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	111	63.83	6.80	63.53	136	69.20	5.66	69.44
		50-59	288	66.24	6.72	66.58	305	70.17	6.60	71.14
		60-69	280	66.03	7.51	66.51	319	70.93	6.74	71.34
		70-79	216	67.88	7.29	67.96	221	71.69	6.79	72.61
		80-84	31	68.36	10.80	68.11	52	71.47	7.73	72.73
		Total	926	66.34	7.36	66.60	1033	70.67	6.67	71.24
2: Chinese	Age	44-49	42	68.65	5.51	67.40	51	72.89	4.68	73.40
		50-59	94	69.14	5.46	68.86	109	73.08	5.39	73.42
		60-69	94	70.43	6.56	71.09	90	75.08	5.03	74.83
		70-79	76	70.82	6.08	71.66	72	75.28	5.94	75.86
		80-84	13	72.12	6.16	70.50	12	76.69	7.15	79.16
		Total	319	69.98	6.02	70.69	334	74.19	5.48	74.36
3: AA	Age	44-49	73	64.66	7.06	64.68	88	69.60	6.01	69.56
		50-59	186	64.81	7.86	65.86	222	69.65	6.90	70.46
		60-69	181	64.69	7.91	64.46	246	71.30	6.54	71.61
		70-79	123	67.37	8.85	68.83	124	70.83	7.85	71.75
		80-84	22	67.92	8.17	66.74	22	72.42	6.33	72.74
		Total	585	65.41	8.07	65.84	702	70.52	6.87	71.16
4: Hispanic	Age	44-49	102	64.96	6.20	65.13	94	69.96	6.42	70.47
		50-59	175	66.01	7.22	66.22	165	70.50	5.46	71.21
		60-69	164	66.49	6.84	66.37	175	72.26	5.92	72.38
		70-79	97	67.39	7.95	68.18	102	73.25	6.69	74.27
		80-84	14	64.07	12.60	68.58	17	73.17	6.89	73.13
		Total	552	66.15	7.26	66.51	553	71.55	6.16	72.10
Total			2382	66.56	7.48	67.03	2622	71.26	6.58	71.78

**Table 39: LV Stroke Volume by Race, Gender, and Age**

LV Stroke Volume (mL)			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	111	100.97	22.65	98.99	136	88.01	15.97	87.51
		50-59	288	99.29	20.49	98.35	305	83.19	16.80	82.16
		60-69	280	92.64	20.20	92.68	319	80.91	16.26	79.65
		70-79	216	90.05	22.69	88.83	221	73.56	15.65	72.56
		80-84	31	89.87	23.30	89.23	52	70.35	16.97	68.25
		Total	926	95.01	21.68	94.68	1033	80.41	17.02	79.04
2: Chinese	Age	44-49	42	89.90	15.77	89.07	51	78.09	12.63	77.63
		50-59	94	89.40	18.12	88.00	109	75.30	12.83	75.24
		60-69	94	81.93	15.99	80.40	90	75.79	12.88	76.75
		70-79	76	81.49	14.31	79.16	72	69.68	12.39	68.52
		80-84	13	81.04	17.34	84.20	12	73.66	10.59	71.23
		Total	319	85.04	16.67	84.05	334	74.59	12.88	74.50
3: AA	Age	44-49	73	101.94	23.55	101.59	88	88.55	22.49	87.81
		50-59	186	96.97	20.04	96.95	222	86.89	17.20	86.52
		60-69	181	90.76	21.72	88.88	246	82.32	18.27	81.75
		70-79	123	87.44	18.55	88.03	124	76.67	16.05	74.57
		80-84	22	80.03	21.64	75.54	22	79.51	19.82	77.36
		Total	585	93.02	21.43	92.28	702	83.46	18.59	82.34
4: Hispanic	Age	44-49	102	98.51	16.54	97.61	94	86.89	16.68	87.10
		50-59	175	94.88	17.59	95.08	165	85.05	17.84	84.59
		60-69	164	90.53	19.83	88.51	175	80.41	13.90	79.59
		70-79	97	87.18	23.71	86.39	102	75.17	14.77	73.84
		80-84	14	74.51	18.39	73.21	17	69.36	8.89	68.30
		Total	552	92.39	19.82	92.40	553	81.59	16.30	80.60
Total			2382	92.58	20.81	92.10	2622	80.74	17.04	79.57

**Table 40: Common Carotid Thickness by Race, Gender, and Age**

Common Carotid Intimal-Medial Thickness (mm)			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	145	.76	.18	.74	170	.70	.14	.68
		50-59	363	.82	.15	.79	392	.76	.13	.74
		60-69	372	.90	.18	.89	405	.86	.16	.85
		70-79	320	1.00	.20	.97	315	.95	.17	.94
		80-84	49	1.11	.34	1.03	67	1.03	.20	.99
		Total	1249	.89	.21	.87	1349	.84	.18	.82
2: Chinese	Age	44-49	48	.76	.14	.76	55	.71	.11	.71
		50-59	113	.80	.15	.80	122	.76	.12	.74
		60-69	117	.84	.16	.84	118	.80	.14	.81
		70-79	95	.92	.18	.89	97	.90	.20	.85
		80-84	15	.94	.18	.93	19	1.02	.34	.96
		Total	388	.84	.17	.84	411	.81	.18	.79
3: AA	Age	44-49	103	.80	.14	.80	122	.77	.16	.74
		50-59	254	.87	.17	.86	319	.83	.15	.81
		60-69	246	.97	.18	.97	340	.89	.16	.87
		70-79	192	1.03	.21	.99	205	.99	.23	.97
		80-84	31	1.05	.22	1.03	41	1.00	.18	.99
		Total	826	.93	.20	.92	1027	.88	.19	.86
4: Hispanic	Age	44-49	117	.77	.17	.75	114	.71	.11	.70
		50-59	212	.80	.15	.79	231	.78	.15	.77
		60-69	219	.91	.18	.89	237	.87	.16	.85
		70-79	135	.99	.22	.96	148	.93	.18	.90
		80-84	27	1.08	.31	1.02	36	.98	.20	.95
		Total	710	.88	.20	.85	766	.84	.18	.81
Total			3173	.89	.20	.88	3553	.85	.18	.83

**Table 41: Internal Carotid Thickness by Race, Gender, and Age**

Internal Carotid Intimal-Medial Thickness (mm)			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	142	.87	.27	.80	167	.75	.26	.72
		50-59	362	1.01	.49	.85	387	.88	.39	.76
		60-69	368	1.21	.62	.99	399	1.09	.57	.87
		70-79	318	1.47	.74	1.34	312	1.30	.72	1.08
		80-84	48	1.83	.76	1.86	67	1.55	.94	1.09
		Total	1238	1.21	.64	.97	1332	1.06	.60	.83
2: Chinese	Age	44-49	48	.74	.15	.73	55	.68	.15	.67
		50-59	111	.87	.38	.77	121	.74	.30	.69
		60-69	117	.93	.48	.74	118	.78	.35	.68
		70-79	95	1.10	.65	.86	95	.99	.60	.72
		80-84	15	.96	.54	.71	19	1.13	.78	.68
		Total	386	.93	.49	.75	408	.82	.44	.69
3: AA	Age	44-49	102	.87	.33	.80	119	.81	.30	.74
		50-59	250	1.00	.52	.84	314	.93	.47	.77
		60-69	243	1.22	.63	1.00	334	1.09	.62	.85
		70-79	189	1.34	.69	1.13	200	1.30	.70	1.14
		80-84	31	1.46	.77	1.22	41	1.69	.93	1.49
		Total	815	1.15	.61	.94	1008	1.07	.61	.84
4: Hispanic	Age	44-49	115	.86	.32	.78	108	.70	.16	.69
		50-59	209	.95	.42	.83	227	.85	.42	.75
		60-69	213	1.18	.60	.98	232	.98	.51	.82
		70-79	135	1.49	.90	1.15	142	1.15	.61	.88
		80-84	26	1.50	.90	1.17	35	1.41	.80	1.16
		Total	698	1.13	.65	.89	744	.95	.52	.78
Total			3137	1.14	.62	.91	3492	1.01	.58	.80

**Table 42: Coronary Artery Calcium Indicator by Race, Gender, and Age**

Coronary Artery Calcium			Gender							
			Male				Female			
			Coronary Artery Calcium				Coronary Artery Calcium			
			CAC		No CAC		CAC		No CAC	
			N	Row %	N	Row %	N	Row %	N	Row %
1: White	Age	44-49	46	31.7%	99	68.3%	22	12.9%	149	87.1%
		50-59	217	59.0%	151	41.0%	99	25.1%	296	74.9%
		60-69	288	76.4%	89	23.6%	201	49.3%	207	50.7%
		70-79	288	89.7%	33	10.3%	223	69.3%	99	30.7%
		80-84	49	98.0%	1	2.0%	64	95.5%	3	4.5%
		Total	888	70.4%	373	29.6%	609	44.7%	754	55.3%
2: Chinese	Age	44-49	17	35.4%	31	64.6%	4	7.3%	51	92.7%
		50-59	52	46.0%	61	54.0%	34	27.6%	89	72.4%
		60-69	76	65.0%	41	35.0%	57	48.3%	61	51.7%
		70-79	74	76.3%	23	23.7%	63	64.3%	35	35.7%
		80-84	12	80.0%	3	20.0%	15	78.9%	4	21.1%
		Total	231	59.2%	159	40.8%	173	41.9%	240	58.1%
3: AA	Age	44-49	24	23.1%	80	76.9%	14	11.4%	109	88.6%
		50-59	92	35.8%	165	64.2%	70	21.3%	259	78.7%
		60-69	152	59.6%	103	40.4%	133	38.8%	210	61.2%
		70-79	146	74.5%	50	25.5%	133	61.9%	82	38.1%
		80-84	25	78.1%	7	21.9%	32	78.0%	9	22.0%
		Total	439	52.0%	405	48.0%	382	36.3%	669	63.7%
4: Hispanic	Age	44-49	33	27.5%	87	72.5%	9	7.7%	108	92.3%
		50-59	85	39.7%	129	60.3%	46	19.7%	187	80.3%
		60-69	146	66.7%	73	33.3%	96	40.3%	142	59.7%
		70-79	120	87.0%	18	13.0%	91	61.1%	58	38.9%
		80-84	22	81.5%	5	18.5%	28	75.7%	9	24.3%
		Total	406	56.5%	312	43.5%	270	34.9%	504	65.1%
Total			1964	61.1%	1249	38.9%	1434	39.8%	2167	60.2%



**Table 42: Coronary Artery Calcium (among those with positive scores) by Race, Gender, and Age**

Positive Coronary Artery Calcium (Phantom Adjusted Agatston Units)			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	46	120.34	163.13	36.37	22	47.96	105.63	14.51
		50-59	217	171.36	305.82	48.09	99	76.21	178.60	15.39
		60-69	288	359.78	535.86	164.05	201	183.05	285.71	58.65
		70-79	288	637.84	874.06	274.44	223	263.41	363.28	151.18
		80-84	49	907.93	927.63	533.19	64	370.54	502.73	161.13
		Total	888	421.76	678.46	159.79	609	209.93	338.55	73.83
2: Chinese	Age	44-49	17	56.64	49.83	40.42	4	44.63	29.04	55.61
		50-59	52	116.36	174.29	50.24	34	52.98	77.58	26.75
		60-69	76	263.51	525.03	105.26	57	145.98	215.02	60.75
		70-79	74	232.39	368.93	110.14	63	221.12	397.47	64.03
		80-84	12	428.33	448.84	233.42	15	179.56	210.35	53.74
		Total	231	213.75	396.15	84.82	173	155.63	284.24	52.81
3: AA	Age	44-49	24	114.50	297.17	22.88	14	27.92	38.08	11.59
		50-59	92	141.73	273.52	43.81	70	65.29	95.72	21.97
		60-69	152	275.44	462.47	82.07	133	192.80	380.88	66.59
		70-79	146	552.69	952.70	193.68	133	292.18	532.40	85.09
		80-84	25	421.55	602.04	193.93	32	403.03	672.88	186.46
		Total	439	339.15	664.98	81.39	382	215.60	444.56	57.77
4: Hispanic	Age	44-49	33	173.44	376.85	31.35	9	56.06	115.56	6.04
		50-59	85	313.46	723.29	65.66	46	43.92	53.34	23.83
		60-69	146	334.10	640.22	85.38	96	125.54	199.58	42.99
		70-79	120	437.74	707.86	125.24	91	219.83	356.28	74.54
		80-84	22	547.80	968.31	125.24	28	182.23	247.25	108.53
		Total	406	358.93	685.24	91.87	270	146.98	260.24	45.74
Total			1964	365.84	652.87	111.56	1434	193.04	352.72	60.46

**Table 44: High School or greater Education by Race, Gender, and Age**

Education: High School or Greater			Gender							
			Male				Female			
			HS or more Education				HS or more Education			
			<12 years		12+ years		<12 years		12+ years	
			N	Row %	N	Row %	N	Row %	N	Row %
1: White	Age	44-49	1	.7%	144	99.3%	2	1.2%	169	98.8%
		50-59	7	1.9%	361	98.1%	11	2.8%	384	97.2%
		60-69	22	5.8%	355	94.2%	21	5.1%	387	94.9%
		70-79	16	5.0%	305	95.0%	34	10.6%	288	89.4%
		80-84	5	10.0%	45	90.0%	10	14.9%	57	85.1%
		Total	51	4.0%	1210	96.0%	78	5.7%	1285	94.3%
2: Chinese	Age	44-49	4	8.3%	44	91.7%	11	20.0%	44	80.0%
		50-59	18	15.9%	95	84.1%	25	20.3%	98	79.7%
		60-69	15	12.8%	102	87.2%	47	39.8%	71	60.2%
		70-79	27	27.8%	70	72.2%	43	43.9%	55	56.1%
		80-84	1	6.7%	14	93.3%	8	42.1%	11	57.9%
		Total	65	16.7%	325	83.3%	134	32.4%	279	67.6%
3: AA	Age	44-49	7	6.7%	97	93.3%	6	4.9%	117	95.1%
		50-59	10	3.9%	247	96.1%	21	6.4%	308	93.6%
		60-69	39	15.3%	216	84.7%	40	11.7%	303	88.3%
		70-79	44	22.4%	152	77.6%	49	22.8%	166	77.2%
		80-84	6	18.8%	26	81.3%	8	19.5%	33	80.5%
		Total	106	12.6%	738	87.4%	124	11.8%	927	88.2%
4: Hispanic	Age	44-49	37	30.8%	83	69.2%	37	31.6%	80	68.4%
		50-59	82	38.3%	132	61.7%	82	35.2%	151	64.8%
		60-69	96	43.8%	123	56.2%	137	57.6%	101	42.4%
		70-79	72	52.2%	66	47.8%	91	61.1%	58	38.9%
		80-84	11	40.7%	16	59.3%	22	59.5%	15	40.5%
		Total	298	41.5%	420	58.5%	369	47.7%	405	52.3%
Total			520	16.2%	2693	83.8%	705	19.6%	2896	80.4%

**Table 45: Total Gross Household Income by Race, Gender, and Age**

Total Gross Household Income (\$)			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	143	70,191.81	32,619.76	62,499.50	171	66,230.49	32,747.13	62,499.50
		50-59	360	78,503.67	32,182.38	87,499.50	387	70,075.73	32,502.67	62,499.50
		60-69	369	72,636.36	34,017.41	62,499.50	400	58,159.50	34,366.20	44,999.50
		70-79	309	60,159.69	33,923.87	62,499.50	306	41,151.46	29,494.86	32,499.50
		80-84	45	53,555.06	33,044.60	44,999.50	63	32,062.99	26,135.27	22,499.50
		Total	1226	70,229.11	34,069.40	62,499.50	1327	57,513.82	34,365.18	44,999.50
2: Chinese	Age	44-49	48	55,416.17	36,085.35	44,999.50	55	43,863.14	33,158.49	32,499.50
		50-59	113	58,300.38	34,811.39	62,499.50	121	46,359.00	33,897.90	32,499.50
		60-69	117	41,084.97	35,240.08	27,499.50	116	29,960.71	30,195.03	17,999.50
		70-79	96	27,072.42	26,396.67	13,999.50	98	20,045.42	22,733.90	13,999.50
		80-84	15	25,666.17	27,468.60	13,999.50	18	15,527.28	21,162.86	8,249.50
		Total	389	43,801.56	35,195.83	32,499.50	408	33,679.65	31,768.74	22,499.50
3: AA	Age	44-49	102	58,303.42	33,861.84	62,499.50	119	50,734.79	28,846.60	44,999.50
		50-59	242	62,299.09	29,808.66	62,499.50	314	49,661.92	30,106.03	44,999.50
		60-69	228	50,806.52	32,119.13	44,999.50	318	39,504.22	27,540.03	32,499.50
		70-79	169	39,901.87	27,552.94	32,499.50	182	26,595.65	20,178.97	22,499.50
		80-84	24	34,228.67	28,083.33	22,499.50	36	21,193.94	15,416.26	13,999.50
		Total	765	52,512.57	31,787.36	44,999.50	969	41,070.19	28,599.59	32,499.50
4: Hispanic	Age	44-49	118	43,486.79	29,683.62	34,999.50	114	36,534.59	23,945.06	32,499.50
		50-59	212	41,817.90	27,994.94	32,499.50	225	33,877.28	23,745.34	27,499.50
		60-69	215	33,550.66	23,868.79	27,499.50	230	25,353.85	19,669.69	22,499.50
		70-79	136	26,720.09	23,382.07	17,999.50	145	17,878.81	14,170.99	13,999.50
		80-84	27	28,314.31	26,285.84	17,999.50	35	15,385.21	8,664.57	13,999.50
		Total	708	36,170.40	26,871.61	27,499.50	749	27,703.10	21,606.71	22,499.50
Total			3088	54,702.22	34,963.14	44,999.50	3453	43,616.79	32,339.39	32,499.50

**Table 46: Number of People Supported by Household Income by Race, Gender, and Age**

Number of People Supported by Household Income			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	144	2.91	1.61	3.00	171	2.62	1.47	2.00
		50-59	367	2.39	1.22	2.00	394	2.13	1.13	2.00
		60-69	371	1.93	.67	2.00	404	1.65	.60	2.00
		70-79	316	1.77	.50	2.00	316	1.55	.81	2.00
		80-84	50	1.74	.49	2.00	67	1.27	.54	1.00
		Total	1248	2.13	1.04	2.00	1352	1.87	1.03	2.00
2: Chinese	Age	44-49	48	3.60	1.12	4.00	55	3.09	1.39	3.00
		50-59	113	3.15	1.23	3.00	123	2.92	1.91	2.00
		60-69	117	2.56	1.11	2.00	118	2.37	1.44	2.00
		70-79	96	2.27	1.16	2.00	98	2.13	1.31	2.00
		80-84	15	2.00	1.00	2.00	19	1.68	.95	2.00
		Total	389	2.77	1.24	2.00	413	2.54	1.59	2.00
3: AA	Age	44-49	104	3.06	1.53	3.00	121	2.42	1.38	2.00
		50-59	253	2.55	1.46	2.00	326	2.09	1.11	2.00
		60-69	253	2.00	1.09	2.00	332	1.68	1.10	1.00
		70-79	192	1.68	.82	2.00	210	1.35	.64	1.00
		80-84	32	1.81	.78	2.00	41	1.17	.44	1.00
		Total	834	2.22	1.30	2.00	1030	1.81	1.11	2.00
4: Hispanic	Age	44-49	120	3.88	1.90	4.00	117	3.28	1.67	3.00
		50-59	213	2.99	1.45	3.00	233	2.55	1.42	2.00
		60-69	219	2.36	1.41	2.00	238	2.25	1.67	2.00
		70-79	138	2.14	1.55	2.00	148	1.90	1.29	2.00
		80-84	27	1.67	.68	2.00	37	1.76	1.09	1.00
		Total	717	2.74	1.64	2.00	773	2.41	1.57	2.00
Total			3188	2.37	1.32	2.00	3568	2.05	1.29	2.00

Table 47: Income per Person in Household by Race, Gender, and Age

Income per Person in Household (\$)			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	143	30,122.72	20,170.77	22,499.90	171	31,368.64	21,220.52	28,124.88
		50-59	360	39,132.46	23,990.59	31,249.75	386	38,466.08	22,815.84	31,249.75
		60-69	369	39,669.99	21,270.44	37,499.50	399	36,177.71	21,399.61	31,249.75
		70-79	308	36,010.51	23,797.29	31,249.75	305	28,398.55	20,530.57	22,499.50
		80-84	45	31,623.76	22,742.93	27,499.50	63	28,009.49	26,115.49	17,999.50
		Total	1225	37,181.85	22,868.26	31,249.75	1324	34,043.05	22,203.91	31,249.75
2: Chinese	Age	44-49	48	17,529.70	14,077.91	12,499.90	55	16,181.61	17,338.09	10,833.17
		50-59	113	20,562.17	13,455.06	16,249.75	121	18,873.77	16,736.29	13,749.75
		60-69	117	17,394.89	15,812.97	11,249.75	116	14,259.05	15,015.79	6,999.75
		70-79	96	12,627.73	12,315.15	6,999.75	98	9,247.81	8,573.64	6,999.75
		80-84	15	12,844.14	11,688.67	6,999.75	18	8,596.86	10,000.09	6,499.50
		Total	389	16,979.63	14,221.86	11,249.75	408	14,433.32	14,904.35	8,999.75
3: AA	Age	44-49	102	22,583.58	16,134.12	20,833.17	119	25,470.10	17,401.10	21,874.88
		50-59	241	29,398.61	19,626.99	22,499.75	314	28,407.54	20,529.01	22,499.75
		60-69	228	27,046.54	16,027.41	22,499.75	314	26,219.26	17,627.61	22,499.50
		70-79	168	25,843.40	18,174.31	22,499.50	181	21,073.01	15,477.63	17,999.50
		80-84	24	18,831.27	12,421.67	12,624.63	36	18,270.38	13,619.22	13,999.50
		Total	763	26,669.52	17,779.80	22,499.75	964	25,576.46	18,307.20	22,499.50
4: Hispanic	Age	44-49	118	13,971.00	12,253.97	10,416.58	114	13,933.51	13,319.84	10,833.17
		50-59	211	17,225.85	15,154.16	12,499.90	225	16,700.65	16,154.58	11,249.88
		60-69	215	17,109.43	13,887.62	13,749.75	230	14,507.11	12,304.75	10,416.33
		70-79	136	14,853.68	13,074.35	9,999.50	145	10,960.18	8,303.80	8,999.75
		80-84	27	17,495.02	13,165.48	11,249.75	35	9,655.58	3,611.94	9,999.50
		Total	707	16,201.17	13,875.68	11,249.88	749	14,165.38	13,042.06	9,999.50
Total			3084	27,223.06	20,877.77	22,499.50	3445	25,029.72	20,410.43	18,749.75

Table 48: Marital Status by Race, Gender, and Age

Marital Status				Gender															
				Male								Female							
				Marital Status								Marital Status							
				Married		Former		Never		No Answer		Married		Former		Never		No Answer	
				N	Row %	N	Row %	N	Row %	N	Row %	N	Row %	N	Row %	N	Row %	N	Row %
1: White	Age	44-49	98	68.1%	26	18.1%	20	13.9%	0	.0%	109	63.7%	37	21.6%	25	14.6%	0	.0%	
		50-59	268	73.0%	52	14.2%	47	12.8%	0	.0%	263	66.6%	88	22.3%	39	9.9%	5	1.3%	
		60-69	301	80.3%	48	12.8%	25	6.7%	1	.3%	243	59.7%	133	32.7%	28	6.9%	3	.7%	
		70-79	244	76.3%	52	16.3%	23	7.2%	1	.3%	151	47.0%	144	44.9%	24	7.5%	2	.6%	
		80-84	34	68.0%	13	26.0%	3	6.0%	0	.0%	16	23.9%	47	70.1%	4	6.0%	0	.0%	
		Total	945	75.2%	191	15.2%	118	9.4%	2	.2%	782	57.5%	449	33.0%	120	8.8%	10	.7%	
2: Chinese	Age	44-49	46	95.8%	2	4.2%	0	.0%	0	.0%	46	83.6%	8	14.5%	1	1.8%	0	.0%	
		50-59	103	91.2%	9	8.0%	1	.9%	0	.0%	97	78.9%	17	13.8%	9	7.3%	0	.0%	
		60-69	105	89.7%	9	7.7%	3	2.6%	0	.0%	89	75.4%	27	22.9%	2	1.7%	0	.0%	
		70-79	87	90.6%	6	6.3%	3	3.1%	0	.0%	59	60.2%	39	39.8%	0	.0%	0	.0%	
		80-84	13	86.7%	2	13.3%	0	.0%	0	.0%	9	47.4%	9	47.4%	1	5.3%	0	.0%	
		Total	354	91.0%	28	7.2%	7	1.8%	0	.0%	300	72.6%	100	24.2%	13	3.1%	0	.0%	
3: AA	Age	44-49	59	56.7%	23	22.1%	21	20.2%	1	1.0%	53	43.4%	39	32.0%	27	22.1%	3	2.5%	
		50-59	153	60.0%	70	27.5%	29	11.4%	3	1.2%	140	42.7%	137	41.8%	43	13.1%	8	2.4%	
		60-69	164	64.8%	66	26.1%	20	7.9%	3	1.2%	117	34.5%	185	54.6%	31	9.1%	6	1.8%	
		70-79	101	51.5%	80	40.8%	15	7.7%	0	.0%	43	20.4%	153	72.5%	13	6.2%	2	.9%	
		80-84	17	53.1%	12	37.5%	3	9.4%	0	.0%	4	9.8%	33	80.5%	4	9.8%	0	.0%	
		Total	494	58.8%	251	29.9%	88	10.5%	7	.8%	357	34.3%	547	52.5%	118	11.3%	19	1.8%	
4: Hispanic	Age	44-49	92	76.7%	12	10.0%	14	11.7%	2	1.7%	70	59.8%	36	30.8%	9	7.7%	2	1.7%	
		50-59	166	77.6%	43	20.1%	4	1.9%	1	.5%	134	57.5%	86	36.9%	8	3.4%	5	2.1%	
		60-69	155	70.8%	55	25.1%	7	3.2%	2	.9%	111	46.6%	104	43.7%	22	9.2%	1	.4%	
		70-79	86	62.3%	45	32.6%	6	4.3%	1	.7%	50	33.6%	82	55.0%	17	11.4%	0	.0%	
		80-84	16	59.3%	8	29.6%	3	11.1%	0	.0%	7	18.9%	26	70.3%	4	10.8%	0	.0%	
		Total	515	71.7%	163	22.7%	34	4.7%	6	.8%	372	48.1%	334	43.2%	60	7.8%	8	1.0%	
		Total	2308	72.1%	633	19.8%	247	7.7%	15	.5%	1811	50.5%	1430	39.8%	311	8.7%	37	1.0%	

Table 49: Health Insurance by Race, Gender, and Age

Health Insurance				Gender											
				Male						Female					
				Health Insurance						Health Insurance					
				None		Public Only		Any		None		Public Only		Any	
				N	Row %	N	Row %	N	Row %	N	Row %	N	Row %	N	Row %
1: White	Age	44-49	9	6.2%	0	.0%	136	93.8%	6	3.5%	4	2.3%	161	94.2%	
		50-59	18	4.9%	4	1.1%	346	94.0%	12	3.0%	6	1.5%	377	95.4%	
		60-69	14	3.7%	45	11.9%	318	84.4%	13	3.2%	33	8.1%	362	88.7%	
		70-79	4	1.2%	59	18.4%	258	80.4%	3	.9%	59	18.3%	260	80.7%	
		80-84	0	.0%	13	26.0%	37	74.0%	0	.0%	11	16.4%	56	83.6%	
		Total	45	3.6%	121	9.6%	1095	86.8%	34	2.5%	113	8.3%	1216	89.2%	
2: Chinese	Age	44-49	11	22.9%	0	.0%	37	77.1%	12	21.8%	4	7.3%	39	70.9%	
		50-59	29	25.7%	3	2.7%	81	71.7%	35	28.5%	4	3.3%	84	68.3%	
		60-69	25	21.4%	33	28.2%	59	50.4%	17	14.4%	43	36.4%	58	49.2%	
		70-79	11	11.3%	61	62.9%	25	25.8%	7	7.1%	63	64.3%	28	28.6%	
		80-84	1	6.7%	9	60.0%	5	33.3%	4	21.1%	13	68.4%	2	10.5%	
		Total	77	19.7%	106	27.2%	207	53.1%	75	18.2%	127	30.8%	211	51.1%	
3: AA	Age	44-49	11	10.6%	9	8.7%	84	80.8%	17	13.8%	3	2.4%	103	83.7%	
		50-59	27	10.5%	16	6.2%	214	83.3%	39	11.9%	17	5.2%	273	83.0%	
		60-69	14	5.5%	52	20.4%	189	74.1%	18	5.2%	62	18.1%	263	76.7%	
		70-79	2	1.0%	69	35.2%	125	63.8%	5	2.3%	62	28.8%	148	68.8%	
		80-84	0	.0%	10	31.3%	22	68.8%	0	.0%	14	34.1%	27	65.9%	
		Total	54	6.4%	156	18.5%	634	75.1%	79	7.5%	158	15.0%	814	77.5%	
4: Hispanic	Age	44-49	30	25.0%	8	6.7%	82	68.3%	24	20.5%	7	6.0%	86	73.5%	
		50-59	51	23.8%	12	5.6%	151	70.6%	58	24.9%	15	6.4%	160	68.7%	
		60-69	26	11.9%	59	26.9%	134	61.2%	51	21.4%	68	28.6%	119	50.0%	
		70-79	8	5.8%	62	44.9%	68	49.3%	12	8.1%	69	46.3%	68	45.6%	
		80-84	1	3.7%	14	51.9%	12	44.4%	5	13.5%	18	48.6%	14	37.8%	
		Total	116	16.2%	155	21.6%	447	62.3%	150	19.4%	177	22.9%	447	57.8%	
		Total	292	9.1%	538	16.7%	2383	74.2%	338	9.4%	575	16.0%	2688	74.6%	

Table 50: Smoking Status by Race, Gender, and Age

Cigarette Smoking Status				Gender											
				Male						Female					
				CIGARETTE SMOKING STATUS						CIGARETTE SMOKING STATUS					
				2: CURRENT		1: FORMER		0: NEVER		2: CURRENT		1: FORMER		0: NEVER	
				N	Row %	N	Row %	N	Row %	N	Row %	N	Row %	N	Row %
1: White	Age	44-49	30	20.8%	43	29.9%	71	49.3%	29	17.0%	61	35.7%	81	47.4%	
		50-59	53	14.5%	162	44.3%	151	41.3%	67	17.1%	145	37.1%	179	45.8%	
		60-69	36	9.7%	195	52.4%	141	37.9%	39	9.6%	186	45.7%	182	44.7%	
		70-79	19	5.9%	188	58.8%	113	35.3%	26	8.1%	120	37.5%	174	54.4%	
		80-84	2	4.0%	26	52.0%	22	44.0%	0	.0%	22	32.8%	45	67.2%	
		Total	140	11.2%	614	49.0%	498	39.8%	161	11.9%	534	39.4%	661	48.7%	
2: Chinese	Age	44-49	3	6.3%	12	25.0%	33	68.8%	1	1.8%	1	1.8%	53	96.4%	
		50-59	16	14.2%	37	32.7%	60	53.1%	2	1.6%	5	4.1%	116	94.3%	
		60-69	13	11.1%	40	34.2%	64	54.7%	2	1.7%	1	.8%	115	97.5%	
		70-79	6	6.3%	46	47.9%	44	45.8%	2	2.0%	1	1.0%	95	96.9%	
		80-84	0	.0%	9	60.0%	6	40.0%	0	.0%	1	5.3%	18	94.7%	
		Total	38	9.8%	144	37.0%	207	53.2%	7	1.7%	9	2.2%	397	96.1%	
3: AA	Age	44-49	33	31.7%	24	23.1%	47	45.2%	26	21.3%	28	23.0%	68	55.7%	
		50-59	63	24.7%	103	40.4%	89	34.9%	68	20.7%	86	26.2%	174	53.0%	
		60-69	42	16.7%	121	48.2%	88	35.1%	48	14.2%	121	35.7%	170	50.1%	
		70-79	29	14.9%	92	47.4%	73	37.6%	25	11.8%	78	37.0%	108	51.2%	
		80-84	2	6.3%	14	43.8%	16	50.0%	2	4.9%	16	39.0%	23	56.1%	
		Total	169	20.2%	354	42.3%	313	37.4%	169	16.2%	329	31.6%	543	52.2%	
4: Hispanic	Age	44-49	35	29.2%	35	29.2%	50	41.7%	21	18.1%	17	14.7%	78	67.2%	
		50-59	45	21.0%	88	41.1%	81	37.9%	38	16.3%	48	20.6%	147	63.1%	
		60-69	24	11.1%	104	47.9%	89	41.0%	16	6.8%	66	27.8%	155	65.4%	
		70-79	13	9.4%	73	52.9%	52	37.7%	8	5.4%	29	19.5%	112	75.2%	
		80-84	1	3.7%	15	55.6%	11	40.7%	0	.0%	5	13.5%	32	86.5%	
		Total	118	16.5%	315	44.0%	283	39.5%	83	10.8%	165	21.4%	524	67.9%	
		Total	465	14.6%	1427	44.7%	1301	40.7%	420	11.7%	1037	29.0%	2125	59.3%	



**Table 51: Pack Years Smoking by Race, Gender, and Age**

Pack Years of Cigarette Smoking			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	142	14.98	55.99	.00	170	9.25	17.65	.00
		50-59	365	16.75	26.11	4.00	388	11.76	17.90	.73
		60-69	368	21.78	34.58	5.00	405	13.90	22.78	1.05
		70-79	314	20.52	28.52	8.00	319	11.58	19.37	.00
		80-84	50	12.53	23.68	1.53	67	8.31	17.76	.00
		Total	1239	18.83	33.88	4.00	1349	11.87	19.83	.00
2: Chinese	Age	44-49	48	2.92	6.03	.00	55	.49	2.55	.00
		50-59	113	7.80	13.95	.00	123	.35	1.90	.00
		60-69	116	8.10	13.72	.00	118	1.27	9.72	.00
		70-79	96	15.70	27.60	.48	98	.20	1.15	.00
		80-84	15	13.88	23.67	1.50	19	2.47	10.78	.00
		Total	388	9.48	18.47	.00	413	.69	5.87	.00
3: AA	Age	44-49	101	7.74	11.20	1.45	121	5.65	9.06	.00
		50-59	253	14.14	18.19	5.75	325	9.61	20.62	.00
		60-69	249	15.75	20.93	7.05	336	11.36	19.29	.00
		70-79	193	17.36	24.57	6.90	207	9.28	16.42	.00
		80-84	32	18.94	31.51	.00	41	9.04	14.34	.00
		Total	828	14.78	20.82	5.80	1030	9.63	18.15	.00
4: Hispanic	Age	44-49	117	6.77	10.81	.45	114	2.11	5.29	.00
		50-59	207	10.43	16.64	1.75	229	3.77	9.05	.00
		60-69	216	12.79	21.70	1.83	234	3.91	12.07	.00
		70-79	137	16.47	25.26	5.20	149	4.90	15.30	.00
		80-84	27	15.29	21.20	2.25	37	3.93	12.90	.00
		Total	704	11.91	19.86	1.90	763	3.79	11.28	.00
Total			3159	15.08	26.55	3.00	3555	8.19	17.10	.00

Table 52: Alcohol Use by Race, Gender, and Age

Alcohol Use				Gender											
				Male						Female					
				ALCOHOL USE						ALCOHOL USE					
				2: CURRENT		1: FORMER		0: NEVER		2: CURRENT		1: FORMER		0: NEVER	
				N	Row %	N	Row %	N	Row %	N	Row %	N	Row %	N	Row %
1: White	Age	44-49	107	74.8%	33	23.1%	3	2.1%	136	80.5%	25	14.8%	8	4.7%	
		50-59	285	77.9%	64	17.5%	17	4.6%	293	74.6%	69	17.6%	31	7.9%	
		60-69	291	78.0%	63	16.9%	19	5.1%	277	68.4%	67	16.5%	61	15.1%	
		70-79	223	70.1%	69	21.7%	26	8.2%	187	59.0%	71	22.4%	59	18.6%	
		80-84	38	76.0%	9	18.0%	3	6.0%	33	50.0%	16	24.2%	17	25.8%	
		Total	944	75.5%	238	19.0%	68	5.4%	926	68.6%	248	18.4%	176	13.0%	
2: Chinese	Age	44-49	14	29.8%	9	19.1%	24	51.1%	15	27.3%	7	12.7%	33	60.0%	
		50-59	57	50.9%	22	19.6%	33	29.5%	26	21.1%	9	7.3%	88	71.5%	
		60-69	51	43.6%	23	19.7%	43	36.8%	25	21.2%	13	11.0%	80	67.8%	
		70-79	41	42.7%	28	29.2%	27	28.1%	10	10.3%	4	4.1%	83	85.6%	
		80-84	9	60.0%	3	20.0%	3	20.0%	2	10.5%	0	.0%	17	89.5%	
		Total	172	44.4%	85	22.0%	130	33.6%	78	18.9%	33	8.0%	301	73.1%	
3: AA	Age	44-49	69	66.3%	29	27.9%	6	5.8%	67	54.9%	44	36.1%	11	9.0%	
		50-59	158	62.0%	75	29.4%	22	8.6%	157	47.9%	98	29.9%	73	22.3%	
		60-69	128	50.6%	103	40.7%	22	8.7%	133	39.7%	108	32.2%	94	28.1%	
		70-79	100	51.8%	74	38.3%	19	9.8%	82	39.0%	67	31.9%	61	29.0%	
		80-84	14	43.8%	12	37.5%	6	18.8%	18	43.9%	10	24.4%	13	31.7%	
		Total	469	56.0%	293	35.0%	75	9.0%	457	44.1%	327	31.6%	252	24.3%	
4: Hispanic	Age	44-49	85	70.8%	32	26.7%	3	2.5%	56	47.9%	21	17.9%	40	34.2%	
		50-59	133	62.1%	66	30.8%	15	7.0%	102	44.0%	34	14.7%	96	41.4%	
		60-69	119	54.3%	79	36.1%	21	9.6%	79	33.2%	63	26.5%	96	40.3%	
		70-79	73	52.9%	53	38.4%	12	8.7%	38	25.5%	32	21.5%	79	53.0%	
		80-84	12	44.4%	14	51.9%	1	3.7%	6	16.2%	6	16.2%	25	67.6%	
		Total	422	58.8%	244	34.0%	52	7.2%	281	36.4%	156	20.2%	336	43.5%	
		Total	2007	62.9%	860	26.9%	325	10.2%	1742	48.8%	764	21.4%	1065	29.8%	

Table 53: Emphysema by Race, Gender, and Age

Emphysema: Self-Report			Gender							
			Male				Female			
			Emphysema: Self-Report				Emphysema: Self-Report			
			Yes		No		Yes		No	
			N	Row %	N	Row %	N	Row %	N	Row %
1: White	Age	44-49	1	.7%	144	99.3%	0	.0%	171	100.0%
		50-59	4	1.1%	363	98.9%	7	1.8%	388	98.2%
		60-69	9	2.4%	367	97.6%	6	1.5%	401	98.5%
		70-79	12	3.7%	309	96.3%	11	3.4%	310	96.6%
		80-84	1	2.0%	49	98.0%	3	4.5%	64	95.5%
		Total	27	2.1%	1232	97.9%	27	2.0%	1334	98.0%
		2: Chinese	Age	44-49	0	.0%	48	100.0%	0	.0%
50-59	0			.0%	113	100.0%	0	.0%	123	100.0%
60-69	3			2.6%	114	97.4%	3	2.5%	115	97.5%
70-79	6			6.2%	91	93.8%	3	3.1%	95	96.9%
80-84	3			20.0%	12	80.0%	1	5.3%	18	94.7%
Total	12			3.1%	378	96.9%	7	1.7%	406	98.3%
3: AA	Age			44-49	2	1.9%	101	98.1%	0	.0%
		50-59	1	.4%	256	99.6%	1	.3%	328	99.7%
		60-69	8	3.1%	246	96.9%	4	1.2%	339	98.8%
		70-79	4	2.0%	192	98.0%	2	.9%	213	99.1%
		80-84	2	6.3%	30	93.8%	1	2.4%	40	97.6%
		Total	17	2.0%	825	98.0%	8	.8%	1043	99.2%
		4: Hispanic	Age	44-49	1	.8%	119	99.2%	0	.0%
50-59	0			.0%	214	100.0%	0	.0%	233	100.0%
60-69	0			.0%	219	100.0%	1	.4%	236	99.6%
70-79	1			.7%	136	99.3%	0	.0%	149	100.0%
80-84	2			7.4%	25	92.6%	1	2.7%	36	97.3%
Total	4			.6%	713	99.4%	2	.3%	771	99.7%
Total	60			1.9%	3148	98.1%	44	1.2%	3554	98.8%

Table 54: Asthma by Race, Gender, and Age

Asthma: Self-Report			Gender							
			Male				Female			
			Asthma: Self-Report				Asthma: Self-Report			
			Yes		No		Yes		No	
			N	Row %	N	Row %	N	Row %	N	Row %
1: White	Age	44-49	13	9.0%	131	91.0%	24	14.1%	146	85.9%
		50-59	34	9.3%	332	90.7%	61	15.4%	334	84.6%
		60-69	30	8.0%	346	92.0%	31	7.6%	375	92.4%
		70-79	32	10.0%	288	90.0%	26	8.1%	295	91.9%
		80-84	2	4.0%	48	96.0%	2	3.0%	64	97.0%
		Total	111	8.8%	1145	91.2%	144	10.6%	1214	89.4%
2: Chinese	Age	44-49	4	8.3%	44	91.7%	2	3.6%	53	96.4%
		50-59	9	8.0%	104	92.0%	5	4.1%	118	95.9%
		60-69	10	8.5%	107	91.5%	5	4.2%	113	95.8%
		70-79	5	5.2%	92	94.8%	3	3.1%	95	96.9%
		80-84	2	13.3%	13	86.7%	3	15.8%	16	84.2%
		Total	30	7.7%	360	92.3%	18	4.4%	395	95.6%
3: AA	Age	44-49	8	7.8%	95	92.2%	29	23.6%	94	76.4%
		50-59	20	7.8%	237	92.2%	54	16.4%	275	83.6%
		60-69	19	7.5%	235	92.5%	40	11.7%	301	88.3%
		70-79	8	4.1%	188	95.9%	26	12.1%	188	87.9%
		80-84	5	15.6%	27	84.4%	8	19.5%	33	80.5%
		Total	60	7.1%	782	92.9%	157	15.0%	891	85.0%
4: Hispanic	Age	44-49	6	5.0%	114	95.0%	22	19.0%	94	81.0%
		50-59	12	5.6%	202	94.4%	39	16.7%	194	83.3%
		60-69	11	5.0%	208	95.0%	30	12.6%	208	87.4%
		70-79	9	6.6%	128	93.4%	14	9.4%	135	90.6%
		80-84	1	3.7%	26	96.3%	4	10.8%	33	89.2%
		Total	39	5.4%	678	94.6%	109	14.1%	664	85.9%
		Total	240	7.5%	2965	92.5%	428	11.9%	3164	88.1%

Table 55: Bronchitis by Race, Gender, and Age

Bronchitis: Self-Report			Gender							
			Male				Female			
			Bronchitis: Self-Report				Bronchitis: Self-Report			
			Yes		No		Yes		No	
			N	Row %	N	Row %	N	Row %	N	Row %
1: White	Age	44-49	2	1.4%	143	98.6%	1	.6%	169	99.4%
		50-59	3	.8%	365	99.2%	14	3.6%	379	96.4%
		60-69	5	1.3%	370	98.7%	9	2.2%	397	97.8%
		70-79	12	3.7%	309	96.3%	8	2.5%	312	97.5%
		80-84	2	4.0%	48	96.0%	3	4.5%	64	95.5%
		Total	24	1.9%	1235	98.1%	35	2.6%	1321	97.4%
		2: Chinese	Age	44-49	1	2.2%	45	97.8%	1	1.8%
50-59	0			.0%	113	100.0%	1	.8%	121	99.2%
60-69	1			.9%	116	99.1%	3	2.5%	115	97.5%
70-79	5			5.3%	90	94.7%	2	2.0%	96	98.0%
80-84	0			.0%	14	100.0%	0	.0%	19	100.0%
Total	7			1.8%	378	98.2%	7	1.7%	405	98.3%
3: AA	Age			44-49	2	1.9%	102	98.1%	0	.0%
		50-59	3	1.2%	254	98.8%	10	3.1%	317	96.9%
		60-69	2	.8%	253	99.2%	13	3.8%	328	96.2%
		70-79	2	1.0%	194	99.0%	11	5.2%	199	94.8%
		80-84	0	.0%	32	100.0%	1	2.4%	40	97.6%
		Total	9	1.1%	835	98.9%	35	3.4%	1006	96.6%
		4: Hispanic	Age	44-49	0	.0%	120	100.0%	1	.9%
50-59	1			.5%	212	99.5%	4	1.7%	229	98.3%
60-69	2			.9%	217	99.1%	2	.8%	236	99.2%
70-79	0			.0%	138	100.0%	0	.0%	149	100.0%
80-84	0			.0%	27	100.0%	0	.0%	37	100.0%
Total	3			.4%	714	99.6%	7	.9%	767	99.1%
Total	43			1.3%	3162	98.7%	84	2.3%	3499	97.7%

Table 56: Any Cancer by Race, Gender, and Age

Any Cancer: Self-Report			Gender							
			Male				Female			
			Any Cancer: Self-Report				Any Cancer: Self-Report			
			Yes		No		Yes		No	
			N	Row %	N	Row %	N	Row %	N	Row %
1: White	Age	44-49	1	.7%	144	99.3%	12	7.0%	159	93.0%
		50-59	17	4.6%	350	95.4%	34	8.7%	359	91.3%
		60-69	47	12.5%	328	87.5%	62	15.2%	345	84.8%
		70-79	71	22.1%	250	77.9%	58	18.1%	263	81.9%
		80-84	9	18.0%	41	82.0%	19	28.4%	48	71.6%
		Total	145	11.5%	1113	88.5%	185	13.6%	1174	86.4%
		2: Chinese	Age	44-49	0	.0%	48	100.0%	1	1.8%
50-59	1			.9%	112	99.1%	3	2.4%	120	97.6%
60-69	2			1.7%	115	98.3%	5	4.2%	113	95.8%
70-79	3			3.1%	93	96.9%	4	4.1%	94	95.9%
80-84	1			6.7%	14	93.3%	0	.0%	19	100.0%
Total	7			1.8%	382	98.2%	13	3.1%	400	96.9%
3: AA	Age			44-49	1	1.0%	102	99.0%	0	.0%
		50-59	8	3.1%	246	96.9%	9	2.7%	320	97.3%
		60-69	17	6.7%	238	93.3%	28	8.2%	315	91.8%
		70-79	26	13.3%	170	86.7%	12	5.6%	202	94.4%
		80-84	8	25.0%	24	75.0%	5	12.2%	36	87.8%
		Total	60	7.1%	780	92.9%	54	5.1%	995	94.9%
		4: Hispanic	Age	44-49	1	.8%	119	99.2%	4	3.4%
50-59	4			1.9%	209	98.1%	7	3.0%	226	97.0%
60-69	7			3.2%	212	96.8%	12	5.0%	226	95.0%
70-79	14			10.2%	123	89.8%	15	10.1%	134	89.9%
80-84	4			14.8%	23	85.2%	4	10.8%	33	89.2%
Total	30			4.2%	686	95.8%	42	5.4%	732	94.6%
Total	242			7.6%	2961	92.4%	294	8.2%	3301	91.8%

Table 57: Liver Disease by Race, Gender, and Age

Liver Disease: Self-Report			Gender							
			Male				Female			
			Liver Disease: Self-Report				Liver Disease: Self-Report			
			Yes		No		Yes		No	
			N	Row %	N	Row %	N	Row %	N	Row %
1: White	Age	44-49	3	2.1%	142	97.9%	5	2.9%	166	97.1%
		50-59	12	3.3%	353	96.7%	11	2.8%	382	97.2%
		60-69	16	4.3%	359	95.7%	12	3.0%	393	97.0%
		70-79	10	3.1%	310	96.9%	9	2.8%	313	97.2%
		80-84	2	4.0%	48	96.0%	0	.0%	67	100.0%
		Total	43	3.4%	1212	96.6%	37	2.7%	1321	97.3%
2: Chinese	Age	44-49	7	14.6%	41	85.4%	5	9.3%	49	90.7%
		50-59	8	7.1%	105	92.9%	7	5.8%	114	94.2%
		60-69	14	12.1%	102	87.9%	6	5.1%	111	94.9%
		70-79	7	7.2%	90	92.8%	6	6.1%	92	93.9%
		80-84	2	13.3%	13	86.7%	1	5.3%	18	94.7%
		Total	38	9.8%	351	90.2%	25	6.1%	384	93.9%
3: AA	Age	44-49	3	2.9%	101	97.1%	3	2.4%	120	97.6%
		50-59	6	2.3%	250	97.7%	6	1.8%	323	98.2%
		60-69	8	3.2%	245	96.8%	4	1.2%	337	98.8%
		70-79	6	3.1%	188	96.9%	1	.5%	214	99.5%
		80-84	0	.0%	32	100.0%	0	.0%	41	100.0%
		Total	23	2.7%	816	97.3%	14	1.3%	1035	98.7%
4: Hispanic	Age	44-49	7	5.8%	113	94.2%	2	1.7%	115	98.3%
		50-59	10	4.7%	203	95.3%	8	3.4%	225	96.6%
		60-69	8	3.7%	209	96.3%	7	2.9%	231	97.1%
		70-79	5	3.6%	133	96.4%	5	3.4%	140	96.6%
		80-84	1	3.7%	26	96.3%	2	5.4%	35	94.6%
		Total	31	4.3%	684	95.7%	24	3.1%	746	96.9%
		Total	135	4.2%	3063	95.8%	100	2.8%	3486	97.2%

Table 58: Kidney Disease by Race, Gender, and Age

Kidney Disease: Self-Report			Gender							
			Male				Female			
			Kidney Disease: Self-Report				Kidney Disease: Self-Report			
			Yes		No		Yes		No	
			N	Row %	N	Row %	N	Row %	N	Row %
1: White	Age	44-49	0	.0%	145	100.0%	1	.6%	170	99.4%
		50-59	2	.5%	365	99.5%	6	1.5%	388	98.5%
		60-69	6	1.6%	369	98.4%	7	1.7%	399	98.3%
		70-79	5	1.6%	315	98.4%	8	2.5%	314	97.5%
		80-84	1	2.0%	49	98.0%	2	3.1%	63	96.9%
		Total	14	1.1%	1243	98.9%	24	1.8%	1334	98.2%
		2: Chinese	Age	44-49	1	2.1%	47	97.9%	2	3.6%
50-59	4			3.6%	107	96.4%	2	1.6%	120	98.4%
60-69	6			5.2%	110	94.8%	2	1.7%	116	98.3%
70-79	6			6.2%	91	93.8%	3	3.1%	95	96.9%
80-84	1			7.1%	13	92.9%	0	.0%	19	100.0%
Total	18			4.7%	368	95.3%	9	2.2%	403	97.8%
3: AA	Age			44-49	0	.0%	104	100.0%	1	.8%
		50-59	1	.4%	256	99.6%	1	.3%	326	99.7%
		60-69	6	2.4%	249	97.6%	5	1.5%	337	98.5%
		70-79	3	1.5%	193	98.5%	4	1.9%	211	98.1%
		80-84	0	.0%	32	100.0%	0	.0%	41	100.0%
		Total	10	1.2%	834	98.8%	11	1.0%	1037	99.0%
		4: Hispanic	Age	44-49	4	3.3%	116	96.7%	6	5.2%
50-59	6			2.8%	207	97.2%	12	5.2%	220	94.8%
60-69	9			4.1%	210	95.9%	12	5.1%	224	94.9%
70-79	7			5.1%	131	94.9%	4	2.7%	143	97.3%
80-84	0			.0%	27	100.0%	0	.0%	37	100.0%
Total	26			3.6%	691	96.4%	34	4.4%	733	95.6%
Total	68			2.1%	3136	97.9%	78	2.2%	3507	97.8%



Table 59: Hormone Replacement by Race, Gender, and Age

Hormone Replacement Therapy: Self-Report			EVER TAKEN HORMONE REPLACEMENT THERAPY			
			Yes		No	
			N	Row %	N	Row %
1: White	Age	44-49	36	38.7%	57	61.3%
		50-59	279	75.4%	91	24.6%
		60-69	281	69.4%	124	30.6%
		70-79	179	55.8%	142	44.2%
		80-84	32	47.8%	35	52.2%
		Total	807	64.3%	449	35.7%
2: Chinese	Age	44-49	5	25.0%	15	75.0%
		50-59	45	42.5%	61	57.5%
		60-69	40	33.9%	78	66.1%
		70-79	26	26.5%	72	73.5%
		80-84	7	36.8%	12	63.2%
		Total	123	34.1%	238	65.9%
3: AA	Age	44-49	21	28.4%	53	71.6%
		50-59	158	52.5%	143	47.5%
		60-69	168	49.7%	170	50.3%
		70-79	85	40.3%	126	59.7%
		80-84	8	20.0%	32	80.0%
		Total	440	45.6%	524	54.4%
4: Hispanic	Age	44-49	21	35.6%	38	64.4%
		50-59	106	49.5%	108	50.5%
		60-69	93	39.7%	141	60.3%
		70-79	48	32.7%	99	67.3%
		80-84	9	24.3%	28	75.7%
		Total	277	40.1%	414	59.9%
		Total	1647	50.3%	1625	49.7%

Table 60: Wake at Night with Trouble Breathing by Race, Gender, and Age

Wake at Night with Trouble Breathing			Gender							
			Male				Female			
			Wake at Night with Trouble Breathing				Wake at Night with Trouble Breathing			
			Yes		No		Yes		No	
			N	Row %	N	Row %	N	Row %	N	Row %
1: White	Age	44-49	17	11.9%	126	88.1%	16	9.4%	154	90.6%
		50-59	39	10.7%	325	89.3%	43	10.9%	350	89.1%
		60-69	31	8.3%	343	91.7%	34	8.5%	368	91.5%
		70-79	20	6.3%	299	93.7%	22	6.9%	296	93.1%
		80-84	2	4.1%	47	95.9%	0	.0%	67	100.0%
		Total	109	8.7%	1140	91.3%	115	8.5%	1235	91.5%
		2: Chinese	Age	44-49	5	10.4%	43	89.6%	3	5.5%
50-59	4			3.5%	109	96.5%	10	8.2%	112	91.8%
60-69	10			8.7%	105	91.3%	6	5.2%	109	94.8%
70-79	7			7.3%	89	92.7%	4	4.1%	93	95.9%
80-84	1			6.7%	14	93.3%	0	.0%	19	100.0%
Total	27			7.0%	360	93.0%	23	5.6%	385	94.4%
3: AA	Age			44-49	12	11.5%	92	88.5%	33	27.3%
		50-59	29	11.5%	224	88.5%	53	16.3%	272	83.7%
		60-69	26	10.3%	227	89.7%	40	11.8%	299	88.2%
		70-79	10	5.1%	185	94.9%	20	9.3%	194	90.7%
		80-84	5	15.6%	27	84.4%	3	7.3%	38	92.7%
		Total	82	9.8%	755	90.2%	149	14.3%	891	85.7%
		4: Hispanic	Age	44-49	16	13.4%	103	86.6%	19	16.4%
50-59	28			13.1%	186	86.9%	44	19.0%	188	81.0%
60-69	34			15.6%	184	84.4%	36	15.2%	201	84.8%
70-79	16			11.7%	121	88.3%	17	11.4%	132	88.6%
80-84	2			7.4%	25	92.6%	2	5.4%	35	94.6%
Total	96			13.4%	619	86.6%	118	15.3%	653	84.7%
Total	314			9.8%	2874	90.2%	405	11.3%	3164	88.7%

Table 61: Regular Aspirin Use by Race, Gender, and Age

Regular Aspirin Use			Gender							
			Male				Female			
			Regular Aspirin Use				Regular Aspirin Use			
			Yes		No		Yes		No	
			N	Row %	N	Row %	N	Row %	N	Row %
1: White	Age	44-49	32	22.1%	113	77.9%	31	18.1%	140	81.9%
		50-59	143	39.0%	224	61.0%	117	29.6%	278	70.4%
		60-69	193	51.5%	182	48.5%	135	33.1%	273	66.9%
		70-79	187	58.3%	134	41.7%	140	43.6%	181	56.4%
		80-84	26	53.1%	23	46.9%	27	40.3%	40	59.7%
		Total	581	46.2%	676	53.8%	450	33.0%	912	67.0%
		2: Chinese	Age	44-49	5	10.4%	43	89.6%	1	1.8%
50-59	15			13.3%	98	86.7%	7	5.7%	116	94.3%
60-69	27			23.1%	90	76.9%	23	19.5%	95	80.5%
70-79	25			25.8%	72	74.2%	31	31.6%	67	68.4%
80-84	5			33.3%	10	66.7%	8	42.1%	11	57.9%
Total	77			19.7%	313	80.3%	70	16.9%	343	83.1%
3: AA	Age			44-49	18	17.3%	86	82.7%	18	14.6%
		50-59	75	29.2%	182	70.8%	71	21.6%	257	78.4%
		60-69	91	35.7%	164	64.3%	114	33.2%	229	66.8%
		70-79	80	40.8%	116	59.2%	80	37.2%	135	62.8%
		80-84	12	37.5%	20	62.5%	16	39.0%	25	61.0%
		Total	276	32.7%	568	67.3%	299	28.5%	751	71.5%
		4: Hispanic	Age	44-49	22	18.5%	97	81.5%	14	12.0%
50-59	46			21.6%	167	78.4%	52	22.3%	181	77.7%
60-69	60			27.4%	159	72.6%	72	30.3%	166	69.7%
70-79	48			34.8%	90	65.2%	52	35.4%	95	64.6%
80-84	13			48.1%	14	51.9%	10	27.0%	27	73.0%
Total	189			26.4%	527	73.6%	200	25.9%	572	74.1%
Total	1123			35.0%	2084	65.0%	1019	28.3%	2578	71.7%

Table 62: Family History of Heart Attack by Race, Gender, and Age

Family History of Heart Attack			Gender							
			Male				Female			
			Family History of Heart Attack (Parents/Siblings/Children)				Family History of Heart Attack (Parents/Siblings/Children)			
			Yes		No		Yes		No	
			N	Row %	N	Row %	N	Row %	N	Row %
1: White	Age	44-49	54	38.3%	87	61.7%	72	43.1%	95	56.9%
		50-59	170	48.7%	179	51.3%	216	57.4%	160	42.6%
		60-69	172	48.5%	183	51.5%	205	53.4%	179	46.6%
		70-79	149	51.0%	143	49.0%	182	60.7%	118	39.3%
		80-84	17	37.8%	28	62.2%	37	59.7%	25	40.3%
		Total	562	47.5%	620	52.5%	712	55.2%	577	44.8%
2: Chinese	Age	44-49	8	18.2%	36	81.8%	11	20.8%	42	79.2%
		50-59	21	19.3%	88	80.7%	23	20.0%	92	80.0%
		60-69	18	17.3%	86	82.7%	29	27.1%	78	72.9%
		70-79	12	14.8%	69	85.2%	20	21.7%	72	78.3%
		80-84	3	20.0%	12	80.0%	2	11.1%	16	88.9%
		Total	62	17.6%	291	82.4%	85	22.1%	300	77.9%
3: AA	Age	44-49	31	31.3%	68	68.7%	50	41.7%	70	58.3%
		50-59	97	39.8%	147	60.2%	132	42.4%	179	57.6%
		60-69	100	41.0%	144	59.0%	154	47.4%	171	52.6%
		70-79	62	35.6%	112	64.4%	95	47.7%	104	52.3%
		80-84	8	25.0%	24	75.0%	18	50.0%	18	50.0%
		Total	298	37.6%	495	62.4%	449	45.3%	542	54.7%
4: Hispanic	Age	44-49	34	29.3%	82	70.7%	39	34.5%	74	65.5%
		50-59	73	36.0%	130	64.0%	96	42.7%	129	57.3%
		60-69	87	43.7%	112	56.3%	99	43.2%	130	56.8%
		70-79	51	41.1%	73	58.9%	63	46.7%	72	53.3%
		80-84	8	32.0%	17	68.0%	16	48.5%	17	51.5%
		Total	253	37.9%	414	62.1%	313	42.6%	422	57.4%
		Total	1175	39.2%	1820	60.8%	1559	45.9%	1841	54.1%

Table 63: Family History of Stroke by Race, Gender, and Age

Family History of Stroke			Gender							
			Male				Female			
			Family History of Stroke (Parents/Siblings/Children)				Family History of Stroke (Parents/Siblings/Children)			
			Yes		No		Yes		No	
			N	Row %	N	Row %	N	Row %	N	Row %
1: White	Age	44-49	28	19.3%	117	80.7%	41	24.0%	130	76.0%
		50-59	103	28.0%	265	72.0%	155	39.2%	240	60.8%
		60-69	137	36.3%	240	63.7%	162	39.7%	246	60.3%
		70-79	107	33.3%	214	66.7%	144	44.7%	178	55.3%
		80-84	10	20.0%	40	80.0%	23	34.3%	44	65.7%
		Total	385	30.5%	876	69.5%	525	38.5%	838	61.5%
2: Chinese	Age	44-49	5	10.4%	43	89.6%	16	29.1%	39	70.9%
		50-59	32	28.3%	81	71.7%	27	22.0%	96	78.0%
		60-69	34	29.1%	83	70.9%	32	27.1%	86	72.9%
		70-79	24	24.7%	73	75.3%	24	24.5%	74	75.5%
		80-84	3	20.0%	12	80.0%	7	36.8%	12	63.2%
		Total	98	25.1%	292	74.9%	106	25.7%	307	74.3%
3: AA	Age	44-49	39	37.5%	65	62.5%	35	28.5%	88	71.5%
		50-59	94	36.6%	163	63.4%	121	36.8%	208	63.2%
		60-69	91	35.7%	164	64.3%	137	39.9%	206	60.1%
		70-79	69	35.2%	127	64.8%	82	38.1%	133	61.9%
		80-84	7	21.9%	25	78.1%	12	29.3%	29	70.7%
		Total	300	35.5%	544	64.5%	387	36.8%	664	63.2%
4: Hispanic	Age	44-49	29	24.2%	91	75.8%	38	32.5%	79	67.5%
		50-59	62	29.0%	152	71.0%	75	32.2%	158	67.8%
		60-69	55	25.1%	164	74.9%	70	29.4%	168	70.6%
		70-79	36	26.1%	102	73.9%	41	27.5%	108	72.5%
		80-84	3	11.1%	24	88.9%	11	29.7%	26	70.3%
		Total	185	25.8%	533	74.2%	235	30.4%	539	69.6%
		Total	968	30.1%	2245	69.9%	1253	34.8%	2348	65.2%

**Table 64: Depression Scale by Race, Gender, and Age**

Center for Epidemiologic Studies - Depression Scale			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	143	6.96	7.02	5.00	171	8.85	9.05	6.00
		50-59	367	6.88	7.30	5.00	395	8.07	7.80	6.00
		60-69	375	5.27	5.47	4.00	404	6.80	6.91	5.00
		70-79	317	5.47	5.24	4.00	320	8.39	6.96	7.00
		80-84	50	7.30	6.46	5.50	67	9.54	7.73	8.00
		Total	1252	6.07	6.27	4.00	1357	7.94	7.56	6.00
2: Chinese	Age	44-49	48	6.00	5.67	5.00	55	8.35	8.84	7.00
		50-59	113	5.91	5.82	5.00	123	7.63	7.44	5.00
		60-69	117	5.11	5.61	4.00	118	7.25	7.06	6.00
		70-79	97	4.59	5.32	3.00	98	6.15	6.53	4.00
		80-84	15	6.27	5.66	5.00	19	4.42	3.19	4.00
		Total	390	5.37	5.61	4.00	413	7.12	7.22	5.00
3: AA	Age	44-49	103	7.65	7.77	4.00	122	9.34	8.67	6.50
		50-59	256	6.01	6.10	5.00	328	9.15	8.76	6.00
		60-69	252	5.89	5.73	5.00	338	7.88	6.94	6.00
		70-79	193	5.77	5.86	4.00	210	7.44	7.23	6.00
		80-84	32	4.84	5.44	3.00	40	7.85	9.31	4.00
		Total	836	6.08	6.17	4.00	1038	8.36	7.94	6.00
4: Hispanic	Age	44-49	120	9.04	8.95	6.00	117	11.73	9.95	9.00
		50-59	214	7.85	7.79	5.50	233	11.67	9.67	10.00
		60-69	219	7.33	7.09	6.00	238	10.71	9.70	8.00
		70-79	138	7.79	7.67	6.00	149	10.89	10.10	7.00
		80-84	27	7.00	6.37	6.00	37	8.11	7.90	6.00
		Total	718	7.85	7.73	6.00	774	11.06	9.74	9.00
Total			3196	6.39	6.58	5.00	3582	8.64	8.25	6.00

**Table 65: Anger Scale by Race, Gender, and Age**

Spielberger Trait Anger Scale			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	144	15.35	3.21	15.00	171	15.73	3.70	15.00
		50-59	365	15.45	3.41	15.00	395	15.40	3.54	15.00
		60-69	376	14.53	3.25	14.00	406	14.84	3.16	14.00
		70-79	319	14.29	3.15	14.00	319	14.16	3.58	14.00
		80-84	50	14.10	3.20	13.50	66	13.36	2.68	14.00
		Total	1254	14.81	3.30	14.00	1357	14.88	3.48	14.00
2: Chinese	Age	44-49	48	17.15	3.13	17.00	55	17.38	4.14	17.00
		50-59	113	16.36	3.69	16.00	123	16.03	3.34	16.00
		60-69	117	15.40	3.80	15.00	118	15.07	3.38	14.00
		70-79	97	13.68	3.22	13.00	98	14.06	3.73	13.50
		80-84	15	15.67	4.55	16.00	19	12.37	2.39	12.00
		Total	390	15.48	3.76	15.00	413	15.30	3.72	15.00
3: AA	Age	44-49	103	14.66	3.32	14.00	122	15.06	3.40	15.00
		50-59	256	14.46	3.36	14.00	328	14.78	3.64	14.00
		60-69	253	14.08	3.42	14.00	336	14.23	3.45	14.00
		70-79	194	13.21	2.86	13.00	211	13.36	2.98	13.00
		80-84	32	12.63	3.15	11.50	41	13.00	2.45	13.00
		Total	838	14.01	3.30	14.00	1038	14.28	3.43	14.00
4: Hispanic	Age	44-49	120	15.75	5.02	15.00	117	16.19	4.22	16.00
		50-59	214	15.43	4.43	15.00	233	16.25	4.53	15.00
		60-69	219	14.60	4.09	14.00	238	14.47	3.61	14.00
		70-79	138	13.68	3.86	12.50	149	13.91	3.77	13.00
		80-84	27	14.04	3.23	14.00	37	12.70	3.81	12.00
		Total	718	14.84	4.34	14.00	774	15.07	4.18	14.00
Total			3200	14.69	3.64	14.00	3582	14.80	3.67	14.00

**Table 66: Anxiety Scale by Race, Gender, and Age**

Spielberger Trait Anxiety Scale			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	144	17.62	3.65	17.00	171	18.70	3.85	18.00
		50-59	366	17.45	3.49	17.00	394	18.08	3.73	18.00
		60-69	375	16.48	2.86	16.00	406	17.50	3.31	17.00
		70-79	319	16.39	3.16	16.00	318	17.97	3.65	18.00
		80-84	50	16.84	2.95	16.00	67	17.70	3.44	18.00
		Total	1254	16.88	3.26	16.00	1356	17.94	3.61	17.00
2: Chinese	Age	44-49	48	18.98	3.09	18.00	55	19.62	3.70	19.00
		50-59	113	17.34	3.15	17.00	123	18.69	4.19	18.00
		60-69	117	16.79	3.21	16.00	118	17.37	2.92	17.00
		70-79	97	16.40	3.13	16.00	98	17.27	3.86	17.00
		80-84	15	16.13	2.83	16.00	19	15.05	2.41	14.00
		Total	390	17.09	3.23	17.00	413	17.93	3.78	17.00
3: AA	Age	44-49	103	16.99	3.49	16.00	122	17.36	3.39	17.00
		50-59	255	16.54	3.24	16.00	328	17.45	3.43	17.00
		60-69	253	16.19	3.09	16.00	335	17.27	3.40	17.00
		70-79	192	15.96	2.96	15.00	211	16.65	3.04	16.00
		80-84	32	14.84	2.49	14.00	40	16.47	3.62	15.50
		Total	835	16.29	3.16	16.00	1036	17.18	3.36	17.00
4: Hispanic	Age	44-49	120	17.89	4.12	17.00	117	18.26	3.59	18.00
		50-59	214	17.48	3.78	16.50	233	18.39	4.03	18.00
		60-69	219	17.28	3.87	16.00	238	18.10	3.93	17.50
		70-79	138	16.94	3.85	16.00	149	17.94	4.03	17.00
		80-84	27	17.15	3.49	16.00	36	16.22	3.11	15.50
		Total	718	17.37	3.87	16.00	773	18.09	3.91	17.00
Total			3197	16.86	3.40	16.00	3578	17.75	3.64	17.00



**Table 67: Chronic Burden by Race, Gender, and Age**

Chronic Burden			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	144	1.45	1.32	1.00	171	1.73	1.35	2.00
		50-59	365	1.23	1.22	1.00	394	1.68	1.33	2.00
		60-69	373	.90	.99	1.00	406	1.25	1.14	1.00
		70-79	317	.86	.89	1.00	316	1.18	1.06	1.00
		80-84	50	.72	.86	.50	67	1.01	1.19	1.00
		Total	1249	1.04	1.10	1.00	1354	1.41	1.24	1.00
2: Chinese	Age	44-49	48	1.23	1.31	1.00	55	1.13	1.14	1.00
		50-59	113	.68	.99	.00	123	1.00	1.25	1.00
		60-69	117	.68	.97	.00	118	.70	.90	.00
		70-79	97	.60	.93	.00	98	.80	1.14	.00
		80-84	15	.40	.63	.00	19	.37	.68	.00
		Total	390	.72	1.02	.00	413	.85	1.11	.00
3: AA	Age	44-49	101	1.49	1.33	1.00	122	1.90	1.40	2.00
		50-59	255	1.29	1.25	1.00	327	1.81	1.41	2.00
		60-69	253	1.12	1.13	1.00	334	1.28	1.15	1.00
		70-79	188	.96	1.02	1.00	210	1.22	1.10	1.00
		80-84	32	.72	.81	1.00	40	1.33	1.10	1.00
		Total	829	1.17	1.17	1.00	1033	1.51	1.29	1.00
4: Hispanic	Age	44-49	120	1.48	1.30	1.00	116	1.71	1.32	2.00
		50-59	211	1.28	1.29	1.00	232	1.57	1.30	1.00
		60-69	218	1.01	1.08	1.00	238	1.24	1.13	1.00
		70-79	138	.85	.93	1.00	148	1.09	1.05	1.00
		80-84	27	.78	.97	.00	37	.86	1.11	1.00
		Total	714	1.13	1.18	1.00	771	1.36	1.22	1.00
Total			3182	1.05	1.13	1.00	3571	1.36	1.25	1.00

**Table 68: Emotional Social Support Index by Race, Gender, and Age**

Emotional Social Support Index			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	143	23.73	5.54	25.00	171	23.16	4.99	24.00
		50-59	366	24.22	5.32	25.00	395	23.68	4.90	24.00
		60-69	375	24.96	5.40	26.00	405	23.98	5.28	25.00
		70-79	315	25.32	4.72	27.00	319	23.59	5.19	24.00
		80-84	50	24.16	6.13	26.00	66	22.89	5.65	24.00
		Total	1249	24.66	5.28	26.00	1356	23.65	5.14	24.00
2: Chinese	Age	44-49	48	22.88	4.62	24.00	55	21.65	5.33	22.00
		50-59	113	23.53	5.35	24.00	123	23.75	4.54	24.00
		60-69	117	24.21	5.16	24.00	118	23.02	5.53	24.00
		70-79	97	25.19	4.65	26.00	98	24.43	4.31	24.00
		80-84	15	25.27	2.99	25.00	19	26.84	3.10	28.00
		Total	390	24.13	5.00	25.00	413	23.56	4.96	24.00
3: AA	Age	44-49	103	24.33	5.35	25.00	121	23.96	6.00	26.00
		50-59	256	24.75	5.21	26.00	328	23.84	5.33	25.00
		60-69	251	24.54	5.05	25.00	337	24.41	4.63	25.00
		70-79	192	25.14	4.48	25.00	210	24.01	5.21	25.00
		80-84	32	23.72	5.14	24.00	40	21.40	6.55	24.00
		Total	834	24.69	5.02	25.00	1036	23.98	5.25	25.00
4: Hispanic	Age	44-49	119	25.20	5.03	27.00	117	23.34	5.35	24.00
		50-59	213	24.92	5.58	26.00	233	23.03	5.92	24.00
		60-69	219	24.93	5.77	27.00	238	23.82	5.68	25.00
		70-79	138	24.34	5.94	26.00	149	24.42	5.45	26.00
		80-84	27	24.19	4.81	23.00	37	25.19	5.12	28.00
		Total	716	24.83	5.59	26.00	774	23.69	5.66	25.00
Total			3189	24.64	5.25	26.00	3579	23.74	5.27	25.00

**Table 69: Perceived Discrimination by Race, Gender, and Age**

Perceived Discrimination, Lifetime			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	142	.71	.92	.00	170	.83	1.08	.00
		50-59	361	.78	.99	.00	394	.67	.92	.00
		60-69	373	.51	.79	.00	400	.55	.91	.00
		70-79	312	.42	.79	.00	315	.36	.67	.00
		80-84	50	.48	.84	.00	64	.25	.59	.00
		Total	1238	.59	.88	.00	1343	.56	.89	.00
2: Chinese	Age	44-49	48	.56	.97	.00	55	.45	.83	.00
		50-59	113	.42	.77	.00	123	.37	.83	.00
		60-69	117	.32	.71	.00	118	.12	.37	.00
		70-79	97	.23	.55	.00	98	.20	.54	.00
		80-84	15	.27	.59	.00	19	.05	.23	.00
		Total	390	.36	.73	.00	413	.26	.65	.00
3: AA	Age	44-49	101	1.74	1.34	2.00	120	1.37	1.30	1.00
		50-59	254	1.60	1.33	1.00	326	1.15	1.33	1.00
		60-69	248	1.49	1.40	1.00	331	.90	1.18	.00
		70-79	192	1.36	1.41	1.00	206	.69	.95	.00
		80-84	32	1.03	1.09	1.00	39	.74	1.29	.00
		Total	827	1.51	1.37	1.00	1022	.99	1.23	1.00
4: Hispanic	Age	44-49	115	1.11	1.28	1.00	112	.74	1.08	.00
		50-59	209	.88	1.14	.00	229	.61	.95	.00
		60-69	217	.75	1.03	.00	234	.50	.82	.00
		70-79	136	.65	1.09	.00	147	.37	.78	.00
		80-84	26	.65	.85	.00	37	.30	.66	.00
		Total	703	.82	1.12	.00	759	.53	.90	.00
Total			3158	.85	1.14	.00	3537	.64	1.01	.00

**Table 70: Everyday Hassles by Race, Gender, and Age**

Everyday Hassles			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	144	16.35	5.12	16.00	171	17.26	5.25	17.00
		50-59	365	15.57	5.46	15.00	394	15.57	5.36	15.00
		60-69	374	13.72	4.53	13.00	402	13.63	4.35	13.00
		70-79	312	12.49	4.06	11.00	315	12.28	4.11	11.00
		80-84	50	12.00	4.43	10.00	65	11.74	4.26	10.00
		Total	1245	14.19	4.98	13.00	1347	14.25	5.03	13.00
2: Chinese	Age	44-49	48	15.42	5.56	15.00	55	14.27	5.21	14.00
		50-59	113	13.81	5.30	13.00	123	13.10	5.37	11.00
		60-69	116	12.38	4.01	11.00	118	11.78	4.82	9.00
		70-79	96	11.33	3.95	9.00	98	10.73	2.82	9.00
		80-84	15	9.80	1.26	9.00	19	9.42	1.02	9.00
		Total	388	12.81	4.76	11.00	413	12.15	4.73	10.00
3: AA	Age	44-49	103	20.43	7.88	20.00	122	19.39	7.28	18.00
		50-59	253	18.92	7.94	17.00	327	17.74	6.64	17.00
		60-69	250	16.87	7.33	15.50	336	15.07	5.66	14.00
		70-79	192	15.11	6.46	13.00	208	13.43	5.92	12.00
		80-84	32	11.50	3.76	9.50	40	12.85	4.31	11.50
		Total	830	17.33	7.59	16.00	1033	16.01	6.53	15.00
4: Hispanic	Age	44-49	120	16.08	7.04	14.50	117	15.67	6.83	14.00
		50-59	214	14.38	6.60	12.00	233	14.27	5.85	13.00
		60-69	218	12.94	5.54	11.00	236	12.18	5.33	10.00
		70-79	136	11.66	5.02	9.00	149	11.30	5.09	9.00
		80-84	27	11.33	6.78	9.00	37	10.51	3.15	9.00
		Total	715	13.60	6.27	11.00	772	13.09	5.83	11.00
Total			3178	14.71	6.24	13.00	3565	14.26	5.79	13.00

**Table 71: Physical Activity (min/wk) by Race, Gender, and Age**

Total Physical Activity (min/wk)			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	144	2,996.87	1,214.63	2,985.00	171	2,745.96	1,792.90	2,520.00
		50-59	367	3,016.23	1,633.73	2,850.00	395	2,713.85	1,952.98	2,430.00
		60-69	375	1,844.49	1,663.76	1,680.00	407	1,839.32	1,896.86	1,425.00
		70-79	320	1,284.27	1,702.02	780.00	321	1,369.81	1,724.29	720.00
		80-84	50	846.90	976.19	540.00	67	743.51	1,198.57	360.00
		Total	1256	2,136.54	1,770.07	2,175.00	1361	2,042.37	1,935.36	1,800.00
2: Chinese	Age	44-49	48	3,087.08	1,416.20	3,060.00	55	2,347.09	1,559.15	2,400.00
		50-59	113	2,436.06	1,309.11	2,400.00	123	1,872.76	1,573.12	2,100.00
		60-69	117	1,559.74	1,567.96	1,200.00	118	922.16	1,157.36	330.00
		70-79	97	674.38	916.24	150.00	98	566.02	964.04	.00
		80-84	15	634.00	1,067.37	180.00	19	382.89	647.62	.00
		Total	390	1,745.82	1,556.20	1,710.00	413	1,285.71	1,456.32	720.00
3: AA	Age	44-49	104	3,778.27	3,362.33	3,247.50	122	3,775.98	2,947.36	3,015.00
		50-59	256	3,488.67	2,720.50	3,000.00	328	3,318.86	2,375.03	2,700.00
		60-69	254	1,927.70	2,117.85	1,185.00	340	2,364.34	2,641.02	1,632.50
		70-79	196	1,420.69	1,811.45	727.50	211	1,569.12	2,123.88	930.00
		80-84	32	772.50	970.26	360.00	41	671.10	1,126.38	240.00
		Total	842	2,468.94	2,599.26	2,160.00	1042	2,602.43	2,591.66	2,100.00
4: Hispanic	Age	44-49	120	3,044.33	1,846.43	2,880.00	117	3,167.99	2,892.92	2,550.00
		50-59	214	2,886.24	1,713.57	2,670.00	233	2,634.44	2,158.64	2,400.00
		60-69	219	1,554.47	1,804.78	1,125.00	238	1,378.38	1,544.03	997.50
		70-79	138	944.71	1,807.36	180.00	149	659.33	936.95	240.00
		80-84	27	657.78	919.98	180.00	37	502.30	589.36	450.00
		Total	718	2,049.49	1,959.75	2,100.00	774	1,846.72	2,108.72	1,260.00
Total			3206	2,156.82	2,049.81	2,100.00	3590	2,075.70	2,175.51	1,747.50

Table 72: Physical Activity (MET) by Race, Gender, and Age

Total Physical Activity (MET)			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	144	7,787.78	4,842.83	6,390.00	171	5,930.98	4,919.16	5,160.00
		50-59	367	6,994.11	5,099.95	5,902.50	395	5,964.83	4,919.82	5,040.00
		60-69	375	4,099.23	4,280.54	3,300.00	407	4,074.20	4,531.18	2,880.00
		70-79	320	3,133.70	5,397.07	1,691.25	321	3,118.53	4,321.64	1,530.00
		80-84	50	1,749.95	1,956.30	1,417.50	67	1,506.27	2,644.11	540.00
		Total	1256	5,028.48	5,184.25	4,241.25	1361	4,504.39	4,767.28	3,630.00
2: Chinese	Age	44-49	48	6,851.15	4,643.77	5,565.00	55	4,619.05	3,588.09	4,650.00
		50-59	113	5,392.12	3,522.85	4,500.00	123	4,101.69	3,610.92	3,600.00
		60-69	117	3,455.32	3,944.94	2,070.00	118	1,990.08	2,519.67	675.00
		70-79	97	1,265.34	1,800.30	540.00	98	1,173.98	2,255.17	.00
		80-84	15	1,337.00	2,487.06	270.00	19	727.89	1,302.97	.00
		Total	390	3,808.28	3,949.50	3,195.00	413	2,717.35	3,252.44	1,575.00
3: AA	Age	44-49	104	9,611.27	10,065.13	7,346.25	122	9,184.75	7,974.54	6,798.75
		50-59	256	9,056.27	8,767.51	7,170.00	328	7,604.26	6,052.20	6,097.50
		60-69	254	4,759.67	6,008.92	2,700.00	340	5,252.67	6,233.96	3,405.00
		70-79	196	3,117.78	4,204.71	1,777.50	211	3,341.82	4,824.61	1,665.00
		80-84	32	1,590.23	2,034.61	810.00	41	1,374.09	2,362.06	360.00
		Total	842	6,162.60	7,641.94	4,410.00	1042	5,913.73	6,396.30	4,350.00
4: Hispanic	Age	44-49	120	8,761.48	7,012.78	7,672.50	117	8,147.76	7,927.38	6,332.50
		50-59	214	8,628.96	6,082.66	7,312.50	233	6,365.85	5,447.33	6,000.00
		60-69	219	4,197.20	5,571.51	2,520.00	238	3,218.96	3,790.60	2,250.00
		70-79	138	2,237.52	4,215.55	405.00	149	1,552.95	2,470.47	720.00
		80-84	27	1,332.78	1,779.46	300.00	37	957.36	1,127.01	630.00
		Total	718	5,796.55	6,319.59	4,621.25	774	4,482.50	5,460.10	3,045.00
Total			3206	5,349.92	6,101.14	4,200.00	3590	4,703.15	5,386.93	3,600.00

Table 73: Vitamin A by Race, Gender, and Age

Vitamin A With Supplement (IU)			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	138	10,232.29	7,470.17	8,973.72	159	10,611.14	6,659.07	8,810.51
		50-59	342	11,706.39	6,970.66	10,038.30	380	10,526.47	6,023.31	9,627.26
		60-69	355	12,054.94	8,195.86	10,588.14	376	11,578.25	8,409.73	9,821.61
		70-79	306	12,294.21	6,754.46	10,987.70	305	10,015.03	6,304.23	9,009.49
		80-84	48	11,525.62	5,692.05	10,551.35	65	9,215.50	4,565.60	8,316.96
		Total	1189	11,783.35	7,332.54	10,384.92	1285	10,657.00	6,908.42	9,367.17
2: Chinese	Age	44-49	46	13,353.24	5,598.07	12,556.91	54	14,534.12	8,255.27	13,639.49
		50-59	113	12,921.44	6,455.86	11,331.60	122	13,014.93	6,286.18	12,285.79
		60-69	115	12,567.18	7,897.97	10,690.48	116	12,356.80	5,964.24	11,514.19
		70-79	93	13,578.71	6,473.25	12,419.67	97	11,393.76	9,021.59	10,213.04
		80-84	15	20,741.87	12,649.01	16,602.04	19	11,813.89	5,124.11	10,865.91
		Total	382	13,333.89	7,281.35	11,950.70	408	12,587.53	7,209.20	11,442.84
3: AA	Age	44-49	87	11,182.23	7,672.85	9,499.67	97	12,058.98	9,310.50	8,855.53
		50-59	204	11,971.03	11,975.46	9,319.46	283	10,653.28	7,880.45	9,029.24
		60-69	218	10,610.74	8,707.53	8,698.10	294	10,789.75	8,107.11	9,052.88
		70-79	168	11,686.31	6,863.16	11,009.03	197	10,602.69	6,641.12	9,001.79
		80-84	31	11,999.28	6,321.93	11,298.97	37	11,604.16	6,375.84	10,831.25
		Total	708	11,388.93	9,206.51	9,686.16	908	10,875.41	7,814.42	9,068.35
4: Hispanic	Age	44-49	112	9,553.09	8,927.46	7,697.70	104	9,237.22	5,994.81	8,017.94
		50-59	199	9,544.40	6,647.19	8,138.80	208	9,340.57	6,925.16	7,173.49
		60-69	194	9,260.78	7,740.18	7,402.57	211	8,104.32	4,893.15	7,140.43
		70-79	128	10,106.72	7,023.15	8,952.37	140	8,900.66	6,104.38	7,797.00
		80-84	26	12,443.97	8,630.40	9,455.39	35	7,705.22	4,243.08	6,630.75
		Total	659	9,686.00	7,553.84	7,886.27	698	8,781.23	5,949.88	7,322.98
Total			2938	11,419.47	7,938.38	9,840.54	3299	10,558.99	7,104.91	9,076.58

Table 74: Vitamin C by Race, Gender, and Age

Vitamin C With Supplement			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	138	262.21	383.67	135.44	159	352.54	710.69	133.03
		50-59	342	555.70	2,526.79	154.28	380	332.10	577.62	140.36
		60-69	355	448.79	1,416.80	171.50	376	454.17	1,139.34	161.95
		70-79	306	454.89	1,003.71	175.68	305	366.78	723.72	151.24
		80-84	48	271.50	335.78	148.72	65	319.65	346.65	178.61
		Total	1189	452.30	1,649.08	163.64	1285	377.95	819.97	150.76
2: Chinese	Age	44-49	46	223.17	393.11	127.53	54	299.46	701.66	141.49
		50-59	113	794.02	5,650.30	122.22	122	243.87	260.22	145.23
		60-69	115	203.63	246.54	116.52	116	245.89	274.30	142.52
		70-79	93	322.13	509.97	155.96	97	235.26	246.72	124.37
		80-84	15	385.00	267.34	298.31	19	276.41	235.81	162.51
		Total	382	416.60	3,090.24	127.93	408	251.27	350.35	142.52
3: AA	Age	44-49	87	296.88	500.43	143.20	97	295.33	409.05	161.67
		50-59	204	373.25	813.57	161.17	283	306.19	485.06	146.61
		60-69	218	326.56	668.71	137.72	294	356.82	632.21	152.58
		70-79	168	307.88	661.42	144.19	197	292.13	377.18	160.07
		80-84	31	188.46	134.61	145.54	37	373.27	615.14	178.08
		Total	708	325.89	680.82	144.19	908	321.11	516.32	156.45
4: Hispanic	Age	44-49	112	313.01	596.09	139.45	104	195.98	206.88	130.28
		50-59	199	276.90	598.75	141.15	208	372.58	1,054.67	131.77
		60-69	194	295.20	503.09	138.22	211	249.17	405.30	115.58
		70-79	128	344.72	1,304.56	136.03	140	232.49	286.78	127.14
		80-84	26	258.17	207.61	179.70	35	204.78	264.41	127.62
		Total	659	300.86	756.85	139.69	698	272.45	640.74	126.29
Total			2938	383.23	1,607.21	147.47	3299	324.31	662.83	146.05



**Table 75: Thiamine by Race, Gender, and Age**

Thiamine (B1) With Supplement			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	138	11.27	53.69	2.20	159	15.48	33.50	2.00
		50-59	342	12.17	29.80	2.53	380	10.72	27.23	2.14
		60-69	355	14.70	97.89	2.48	376	18.90	103.02	2.34
		70-79	306	11.31	28.97	2.44	305	11.73	61.32	2.23
		80-84	48	4.99	14.62	2.28	65	4.90	10.45	2.19
		Total	1189	12.31	60.59	2.44	1285	13.65	66.09	2.20
2: Chinese	Age	44-49	46	8.90	32.86	1.76	54	8.50	27.33	1.49
		50-59	113	6.13	21.65	1.56	122	7.34	19.51	1.79
		60-69	115	8.49	28.15	1.62	116	8.46	24.90	1.88
		70-79	93	13.02	33.00	1.81	97	11.72	25.84	1.53
		80-84	15	34.48	80.16	2.73	19	4.36	6.42	2.60
		Total	382	9.97	32.13	1.72	408	8.72	23.42	1.70
3: AA	Age	44-49	87	5.98	19.32	1.96	97	10.06	23.94	1.95
		50-59	204	14.37	51.01	2.07	283	12.20	57.98	1.77
		60-69	218	7.02	29.26	1.77	294	7.01	19.73	1.70
		70-79	168	10.87	41.72	1.92	197	6.96	22.24	1.72
		80-84	31	5.18	17.89	1.69	37	4.45	11.88	1.84
		Total	708	9.84	38.62	1.92	908	8.84	36.75	1.76
4: Hispanic	Age	44-49	112	6.78	17.19	2.07	104	6.53	18.55	1.82
		50-59	199	9.66	26.03	2.14	208	8.66	29.00	1.69
		60-69	194	6.05	24.65	1.88	211	7.43	25.18	1.47
		70-79	128	5.28	13.07	1.77	140	7.84	24.45	1.62
		80-84	26	5.43	10.70	2.34	35	8.92	33.92	1.38
		Total	659	7.09	21.74	2.00	698	7.82	25.84	1.58
Total			2938	10.24	45.69	2.10	3299	10.48	47.83	1.86

**Table 76: Riboflavin by Race, Gender, and Age**

Riboflavin (B2) With Supplement			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	138	6.68	15.43	2.60	159	14.16	32.31	2.30
		50-59	342	10.05	22.22	2.72	380	9.83	25.57	2.50
		60-69	355	9.15	22.91	2.81	376	14.39	41.19	2.70
		70-79	306	14.10	53.75	2.77	305	8.07	20.45	2.60
		80-84	48	6.35	16.93	2.61	65	5.97	12.39	2.75
		Total	1189	10.28	32.94	2.72	1285	11.09	30.53	2.58
2: Chinese	Age	44-49	46	3.48	7.09	1.84	54	8.71	27.30	1.71
		50-59	113	4.07	8.48	1.58	122	6.84	20.49	2.05
		60-69	115	7.89	28.84	1.62	116	6.43	21.21	1.96
		70-79	93	7.96	19.36	2.19	97	8.62	19.71	1.77
		80-84	15	17.21	38.78	3.00	19	4.24	5.87	2.73
		Total	382	6.61	20.74	1.80	408	7.27	21.06	1.94
3: AA	Age	44-49	87	5.93	19.18	1.82	97	9.45	22.12	1.93
		50-59	204	9.92	35.08	2.08	283	8.01	21.60	1.79
		60-69	218	5.66	14.99	1.78	294	7.46	22.12	1.83
		70-79	168	10.93	41.74	2.06	197	6.24	20.63	1.72
		80-84	31	5.20	17.88	2.20	37	5.00	11.88	2.21
		Total	708	8.15	29.96	1.92	908	7.48	21.30	1.85
4: Hispanic	Age	44-49	112	5.29	12.66	2.08	104	6.70	18.49	1.91
		50-59	199	8.87	24.19	2.01	208	8.31	32.05	1.99
		60-69	194	5.25	19.53	1.90	211	6.16	19.92	1.68
		70-79	128	5.37	12.48	1.82	140	6.68	21.42	1.74
		80-84	26	8.17	15.68	2.53	35	9.06	33.96	1.61
		Total	659	6.49	18.90	2.02	698	7.13	24.98	1.76
Total			2938	8.44	28.17	2.26	3299	8.79	26.03	2.17

Table 77: Niacin by Race, Gender, and Age

Niacin (B3) With Supplement			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	138	58.08	211.53	26.37	159	43.58	66.74	23.97
		50-59	342	71.43	469.88	30.72	380	52.89	168.79	23.88
		60-69	355	58.85	369.08	28.90	376	119.38	1,063.58	28.12
		70-79	306	261.69	3,433.53	29.02	305	261.58	3,633.35	28.39
		80-84	48	30.92	24.26	26.31	65	343.61	2,478.19	27.36
		Total	1189	113.45	1,772.99	28.44	1285	135.43	1,944.24	26.63
2: Chinese	Age	44-49	46	24.84	15.25	22.15	54	28.85	30.57	18.48
		50-59	113	27.16	28.73	17.30	122	26.64	31.95	17.57
		60-69	115	26.42	24.00	19.80	116	25.29	23.19	22.04
		70-79	93	35.15	60.76	19.10	97	25.12	26.80	13.83
		80-84	15	41.71	42.23	31.12	19	29.11	21.93	28.01
		Total	382	29.17	37.69	19.16	408	26.30	27.74	18.50
3: AA	Age	44-49	87	35.86	46.98	22.91	97	54.81	210.68	23.67
		50-59	204	76.06	431.96	27.18	283	31.37	34.46	21.04
		60-69	218	129.62	1,356.21	20.60	294	52.99	386.44	20.96
		70-79	168	273.76	3,084.18	20.64	197	28.40	29.51	18.67
		80-84	31	23.47	22.90	16.22	37	29.18	40.84	21.23
		Total	708	132.22	1,694.88	22.47	908	40.14	231.73	20.91
4: Hispanic	Age	44-49	112	209.15	1,888.58	22.59	104	605.16	5,883.09	19.72
		50-59	199	35.60	47.81	23.76	208	27.55	30.22	18.88
		60-69	194	31.16	54.30	19.51	211	65.80	403.35	16.65
		70-79	128	27.83	47.28	17.56	140	23.65	23.79	16.84
		80-84	26	36.37	35.64	25.90	35	28.01	35.32	15.27
		Total	659	62.31	779.84	21.65	698	124.42	2,281.43	17.91
Total			2938	95.55	1,449.39	24.22	3299	93.38	1,608.97	21.12

Table 78: B6 by Race, Gender, and Age

Pyridoxine (B6) With Supplement			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	138	2,528.22	9,694.86	2.45	159	4,039.29	12,467.35	2.50
		50-59	342	4,494.49	12,190.35	3.07	380	6,197.46	21,285.77	2.74
		60-69	355	5,292.68	23,515.42	4.15	376	5,469.62	19,485.18	7.43
		70-79	306	5,139.93	25,072.90	3.73	305	3,300.74	10,325.36	3.98
		80-84	48	1,936.66	4,314.19	2.71	65	3,223.93	10,046.89	101.73
		Total	1189	4,567.44	19,529.66	3.14	1285	4,879.49	17,188.86	3.71
2: Chinese	Age	44-49	46	1,582.45	7,352.59	2.01	54	7,449.58	27,359.32	2.07
		50-59	113	2,600.88	8,303.95	1.75	122	2,424.51	7,278.95	2.20
		60-69	115	3,623.28	14,632.92	1.79	116	4,051.55	17,372.47	2.46
		70-79	93	2,679.15	7,735.86	2.59	97	5,288.07	15,335.68	1.63
		80-84	15	5,168.36	10,263.54	501.10	19	4,497.44	11,334.59	2,001.04
		Total	382	2,905.90	10,471.55	1.98	408	4,329.51	16,195.03	2.15
3: AA	Age	44-49	87	1,181.35	4,342.89	2.07	97	3,484.72	11,245.00	2.03
		50-59	204	5,199.17	18,133.12	2.46	283	4,503.60	16,448.98	2.16
		60-69	218	2,839.80	11,190.08	2.05	294	3,759.53	15,152.64	2.28
		70-79	168	5,207.45	29,094.09	2.17	197	3,877.40	18,755.55	2.07
		80-84	31	2,925.30	12,779.43	2.32	37	2,192.75	6,573.00	2.76
		Total	708	3,881.38	18,552.68	2.20	908	3,923.81	15,800.88	2.19
4: Hispanic	Age	44-49	112	2,526.39	8,777.18	2.24	104	3,266.83	12,370.28	2.00
		50-59	199	4,847.98	18,843.46	2.41	208	6,475.13	36,411.28	2.08
		60-69	194	1,708.09	5,508.26	2.00	211	2,532.47	10,204.78	1.82
		70-79	128	1,826.61	6,042.96	2.13	140	4,012.89	23,335.24	1.82
		80-84	26	2,031.83	4,594.17	3.82	35	2,263.85	5,432.54	1.67
		Total	659	2,831.12	11,765.69	2.24	698	4,100.24	23,674.13	1.95
Total			2938	3,796.62	16,820.44	2.48	3299	4,383.56	18,294.24	2.32

Table 79: Folate by Race, Gender, and Age

Folate With Supplement			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	138	539.21	429.74	446.85	159	931.23	4,827.55	409.69
		50-59	342	607.05	382.26	511.83	380	556.98	474.82	477.66
		60-69	355	647.01	765.81	537.88	376	625.31	805.74	544.78
		70-79	306	776.32	3,477.07	527.97	305	527.42	416.88	481.43
		80-84	48	541.72	258.50	484.28	65	569.74	539.84	520.60
		Total	1189	652.03	1,830.60	512.18	1285	616.91	1,787.44	500.29
2: Chinese	Age	44-49	46	398.17	188.28	381.95	54	467.47	400.03	345.23
		50-59	113	434.55	296.64	322.33	122	738.92	3,609.29	354.64
		60-69	115	464.73	567.84	332.42	116	429.01	297.48	331.10
		70-79	93	468.29	271.24	376.75	97	371.55	272.74	250.37
		80-84	15	574.82	301.26	621.08	19	434.73	266.89	419.94
		Total	382	452.98	385.72	357.42	408	513.38	1,990.49	328.31
3: AA	Age	44-49	87	480.54	328.66	374.67	97	533.73	387.08	405.17
		50-59	204	530.66	553.69	409.32	283	722.09	3,640.57	374.41
		60-69	218	529.11	611.33	386.79	294	518.72	729.16	357.88
		70-79	168	541.53	555.53	403.57	197	477.29	390.25	362.94
		80-84	31	454.07	252.30	440.54	37	557.66	368.29	485.91
		Total	708	523.25	540.38	397.16	908	576.31	2,087.28	372.63
4: Hispanic	Age	44-49	112	537.35	305.87	451.90	104	722.72	2,533.28	400.75
		50-59	199	767.89	2,854.97	461.18	208	716.89	2,804.84	409.99
		60-69	194	526.20	330.17	441.27	211	415.39	261.12	347.99
		70-79	128	512.08	348.76	430.13	140	757.52	3,420.81	421.27
		80-84	26	582.03	286.99	662.28	35	482.13	291.85	350.12
		Total	659	600.54	1,593.54	453.55	698	623.00	2,380.12	381.12
Total			2938	583.57	1,420.94	452.57	3299	594.22	2,032.12	407.76

**Table 80: Calcium by Race, Gender, and Age**

Calcium With Supplement			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	138	1,016.21	626.17	884.31	159	1,407.65	1,702.48	924.02
		50-59	342	1,012.24	560.89	870.96	380	1,900.93	10,644.35	1,142.10
		60-69	355	1,058.45	866.15	827.03	376	1,794.48	3,828.67	1,334.44
		70-79	306	1,745.14	8,745.54	872.85	305	1,368.08	1,136.51	1,124.81
		80-84	48	855.71	389.37	711.90	65	1,350.74	817.81	1,219.85
		Total	1189	1,208.79	4,483.59	849.94	1285	1,654.44	6,202.90	1,162.65
2: Chinese	Age	44-49	46	639.99	365.66	556.82	54	1,196.65	1,653.23	724.62
		50-59	113	837.40	832.42	607.21	122	1,166.31	1,387.95	857.43
		60-69	115	732.48	493.31	611.97	116	926.06	624.96	798.93
		70-79	93	833.68	546.38	690.10	97	894.85	619.08	627.42
		80-84	15	924.69	660.37	627.33	19	923.63	508.11	902.45
		Total	382	784.56	621.24	628.31	408	1,026.18	1,076.11	788.47
3: AA	Age	44-49	87	848.57	701.99	691.65	97	910.24	703.24	731.22
		50-59	204	877.09	1,002.07	648.02	283	1,006.00	1,280.45	644.31
		60-69	218	772.78	709.05	587.73	294	1,002.52	1,135.19	730.29
		70-79	168	976.41	840.33	686.87	197	1,021.60	890.86	752.35
		80-84	31	822.44	504.74	695.64	37	1,115.74	826.45	790.86
		Total	708	862.64	828.19	637.20	908	1,002.50	1,085.60	712.65
4: Hispanic	Age	44-49	112	1,023.18	703.01	890.35	104	1,599.97	4,933.11	882.60
		50-59	199	1,089.96	1,113.84	833.05	208	1,414.36	2,551.91	1,041.36
		60-69	194	1,036.46	916.30	852.43	211	996.97	644.58	813.57
		70-79	128	1,306.29	4,098.07	722.12	140	1,349.99	3,023.44	876.31
		80-84	26	1,022.35	696.74	953.22	35	928.78	616.02	714.21
		Total	659	1,102.21	1,993.38	839.21	698	1,278.58	2,747.55	885.98
Total			2938	1,046.31	3,043.88	760.78	3299	1,317.78	4,138.18	905.80

**Table 81: Carbohydrates by Race, Gender, and Age**

Carbohydrates			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	138	251.63	100.76	232.19	159	202.37	99.94	186.50
		50-59	342	242.22	98.17	224.49	380	189.30	84.64	176.59
		60-69	355	223.29	92.65	204.63	376	183.87	80.74	172.82
		70-79	306	212.12	82.29	202.24	305	171.40	72.73	156.68
		80-84	48	216.24	84.52	196.71	65	162.37	55.76	155.83
		Total	1189	228.86	93.36	213.32	1285	183.71	82.26	171.37
2: Chinese	Age	44-49	46	197.54	71.80	190.58	54	153.98	72.30	134.48
		50-59	113	187.15	96.21	171.28	122	154.29	75.09	139.47
		60-69	115	174.79	80.01	160.81	116	140.12	56.33	130.76
		70-79	93	181.80	63.06	182.32	97	126.71	58.51	111.89
		80-84	15	180.05	74.20	152.30	19	126.23	58.92	109.30
		Total	382	183.10	80.37	171.02	408	142.35	65.93	128.04
3: AA	Age	44-49	87	246.48	140.87	217.67	97	243.19	149.89	202.12
		50-59	204	235.70	119.46	218.78	283	204.08	107.99	177.99
		60-69	218	225.53	118.31	203.00	294	192.32	96.20	173.53
		70-79	168	223.89	113.29	207.33	197	185.23	81.70	172.42
		80-84	31	229.64	94.76	219.38	37	179.30	78.43	160.79
		Total	708	230.83	119.49	208.81	908	199.35	104.73	176.28
4: Hispanic	Age	44-49	112	282.25	145.40	250.62	104	228.17	151.40	194.28
		50-59	199	258.37	112.76	245.88	208	219.78	108.56	193.69
		60-69	194	231.02	114.74	215.28	211	184.33	85.54	167.74
		70-79	128	213.52	97.92	192.13	140	180.98	76.03	166.80
		80-84	26	230.78	121.75	179.86	35	170.31	65.23	168.18
		Total	659	244.58	119.23	219.02	698	200.05	104.30	177.91
Total			2938	226.91	106.35	207.60	3299	186.36	93.89	168.27

**Table 82: Cholesterol by Race, Gender, and Age**

Dietary Cholesterol			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	138	298.45	157.00	261.17	159	247.04	120.95	220.11
		50-59	342	299.23	177.29	255.32	380	229.95	151.76	194.08
		60-69	355	286.33	210.23	223.00	376	222.47	147.94	185.81
		70-79	306	263.73	184.05	224.47	305	189.65	113.97	159.16
		80-84	48	277.98	165.14	262.30	65	179.27	158.41	145.21
		Total	1189	285.29	187.11	236.77	1285	217.75	140.48	180.56
2: Chinese	Age	44-49	46	257.62	125.00	231.10	54	247.86	173.26	187.96
		50-59	113	247.22	162.60	206.03	122	196.76	114.06	161.80
		60-69	115	257.48	193.11	225.77	116	198.05	127.46	177.40
		70-79	93	244.62	137.75	237.92	97	180.45	104.97	164.09
		80-84	15	262.99	139.79	193.74	19	227.18	193.66	201.63
		Total	382	251.55	161.60	223.82	408	201.43	130.60	170.01
3: AA	Age	44-49	87	360.83	243.52	310.29	97	301.69	202.38	221.15
		50-59	204	344.19	250.47	279.18	283	260.84	192.46	217.30
		60-69	218	310.36	209.47	249.35	294	241.80	165.07	194.80
		70-79	168	316.52	238.61	268.30	197	215.86	164.80	171.44
		80-84	31	296.73	204.09	224.61	37	179.20	118.10	158.94
		Total	708	327.17	233.00	271.94	908	245.95	178.50	198.44
4: Hispanic	Age	44-49	112	327.83	189.53	299.66	104	277.30	198.81	247.78
		50-59	199	336.51	229.15	287.89	208	267.22	188.52	221.72
		60-69	194	274.89	187.70	230.44	211	218.15	161.89	166.81
		70-79	128	248.81	167.12	202.12	140	189.98	137.84	144.55
		80-84	26	280.74	184.12	217.36	35	166.50	102.44	144.55
		Total	659	297.66	200.28	251.67	698	233.35	172.90	184.75
Total			2938	293.77	200.34	244.05	3299	226.79	158.40	185.68



**Table 83: Fiber by Race, Gender, and Age**

Dietary Fiber			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	138	18.70	8.05	17.26	159	16.84	9.82	14.11
		50-59	342	19.45	8.43	17.86	380	16.42	7.79	15.08
		60-69	355	19.03	8.86	17.13	376	16.96	8.83	15.17
		70-79	306	18.36	7.49	17.06	305	15.20	6.79	14.39
		80-84	48	19.59	7.54	17.51	65	14.18	5.81	14.05
		Total	1189	18.96	8.25	17.36	1285	16.22	8.11	14.73
2: Chinese	Age	44-49	46	16.06	5.62	15.10	54	16.61	8.69	15.40
		50-59	113	15.71	7.71	13.49	122	15.92	7.86	13.48
		60-69	115	16.02	9.79	15.11	116	13.95	5.92	12.86
		70-79	93	17.27	6.90	16.39	97	12.68	7.82	10.93
		80-84	15	20.28	10.63	17.68	19	12.83	6.67	12.30
		Total	382	16.41	8.16	15.16	408	14.54	7.53	12.64
3: AA	Age	44-49	87	17.71	9.85	16.67	97	18.82	10.31	16.57
		50-59	204	18.26	10.58	15.19	283	15.84	8.87	13.82
		60-69	218	17.30	9.39	15.40	294	16.55	8.84	14.34
		70-79	168	18.84	10.82	16.58	197	16.91	8.12	15.40
		80-84	31	18.71	6.24	18.91	37	16.93	7.58	15.78
		Total	708	18.05	10.03	15.85	908	16.67	8.84	14.56
4: Hispanic	Age	44-49	112	23.28	14.98	19.13	104	19.47	13.01	16.11
		50-59	199	21.78	11.86	19.53	208	20.02	11.90	16.74
		60-69	194	21.11	13.14	17.18	211	17.58	8.36	16.58
		70-79	128	19.72	11.53	15.46	140	17.82	8.39	16.45
		80-84	26	21.89	13.58	17.42	35	15.81	7.63	14.23
		Total	659	21.44	12.83	18.09	698	18.55	10.32	16.38
Total			2938	18.97	9.99	16.78	3299	16.63	8.83	14.73

**Table 84: Fat by Race, Gender, and Age**

Dietary Fat			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	138	84.35	38.57	77.03	159	66.21	32.82	62.76
		50-59	342	77.54	36.99	74.43	380	59.73	33.85	53.21
		60-69	355	71.23	37.08	62.65	376	55.83	31.52	47.44
		70-79	306	63.36	31.07	57.95	305	49.06	26.35	44.01
		80-84	48	61.37	31.65	52.31	65	44.12	22.54	40.71
		Total	1189	72.14	36.22	65.62	1285	56.07	31.41	48.80
2: Chinese	Age	44-49	46	62.78	25.53	58.96	54	57.36	27.41	50.41
		50-59	113	56.11	25.93	52.04	122	51.13	24.21	45.07
		60-69	115	56.77	27.04	51.69	116	48.57	19.87	46.35
		70-79	93	56.76	19.71	55.95	97	44.13	17.64	41.14
		80-84	15	57.83	23.95	63.63	19	38.18	10.15	35.21
		Total	382	57.34	24.75	53.19	408	48.96	21.98	43.70
3: AA	Age	44-49	87	85.04	53.46	70.21	97	76.52	46.43	59.73
		50-59	204	78.88	46.00	70.60	283	62.67	38.88	55.87
		60-69	218	70.38	43.27	59.15	294	58.09	37.78	47.76
		70-79	168	70.62	46.53	64.32	197	52.74	27.99	44.80
		80-84	31	67.38	40.91	55.34	37	47.57	30.00	38.27
		Total	708	74.56	46.29	64.51	908	59.90	37.61	50.92
4: Hispanic	Age	44-49	112	89.22	44.62	81.17	104	74.56	50.06	65.19
		50-59	199	86.31	44.66	76.34	208	72.96	43.88	63.06
		60-69	194	71.92	42.79	62.23	211	59.64	32.90	52.94
		70-79	128	66.46	33.74	56.94	140	57.43	28.47	52.11
		80-84	26	64.34	31.32	57.15	35	50.69	24.43	44.41
		Total	659	77.85	42.62	68.67	698	64.94	39.02	56.50
Total			2938	72.08	39.62	63.72	3299	58.12	34.31	50.08

Table 85: Iron by Race, Gender, and Age

Iron With Supplement			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	138	19.91	11.70	17.74	159	40.77	163.57	14.87
		50-59	342	23.97	49.99	17.26	380	21.61	92.95	13.38
		60-69	355	24.54	62.60	17.39	376	113.45	1,866.19	13.12
		70-79	306	18.92	24.65	14.75	305	31.44	231.94	12.07
		80-84	48	17.82	7.47	14.77	65	20.79	40.10	12.49
		Total	1189	22.12	45.45	16.70	1285	53.15	1,018.50	12.99
2: Chinese	Age	44-49	46	16.16	8.03	14.36	54	17.36	13.65	11.00
		50-59	113	14.83	9.50	12.21	122	14.15	9.79	11.09
		60-69	115	14.48	9.20	11.42	116	15.69	19.94	10.70
		70-79	93	15.23	9.34	12.45	97	14.36	23.70	8.39
		80-84	15	17.03	9.93	12.65	19	10.87	7.90	8.90
		Total	382	15.07	9.20	12.25	408	14.91	17.39	10.05
3: AA	Age	44-49	87	28.89	94.84	16.18	97	30.76	62.22	14.24
		50-59	204	17.91	14.75	14.71	283	17.64	15.39	12.65
		60-69	218	21.95	72.11	14.26	294	18.71	30.09	12.42
		70-79	168	17.23	15.26	13.80	197	47.91	428.37	12.00
		80-84	31	16.77	9.16	14.69	37	16.07	8.63	13.63
		Total	708	20.29	53.16	14.37	908	25.89	201.45	12.56
4: Hispanic	Age	44-49	112	19.24	10.09	16.72	104	24.84	68.65	14.38
		50-59	199	18.30	10.63	15.72	208	24.58	85.96	13.19
		60-69	194	19.56	37.14	15.03	211	13.31	7.30	11.71
		70-79	128	117.76	1,013.83	13.59	140	20.57	56.98	11.99
		80-84	26	18.39	10.04	13.43	35	15.90	10.58	11.76
		Total	659	38.15	447.63	15.32	698	19.97	59.87	12.56
Total			2938	24.36	215.59	15.04	3299	33.90	645.03	12.49

**Table 86: Calories by Race, Gender, and Age**

Calories			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	138	2,173.14	879.78	2,017.93	159	1,677.57	743.83	1,579.33
		50-59	342	2,029.92	775.01	1,897.73	380	1,554.03	699.65	1,448.59
		60-69	355	1,877.62	760.45	1,745.15	376	1,485.84	648.42	1,375.85
		70-79	306	1,717.25	675.28	1,639.82	305	1,336.05	563.24	1,197.42
		80-84	48	1,693.61	670.50	1,580.53	65	1,217.21	465.77	1,184.24
		Total	1189	1,907.02	769.93	1,767.96	1285	1,480.59	660.44	1,352.47
2: Chinese	Age	44-49	46	1,610.33	575.31	1,503.38	54	1,345.59	631.37	1,133.17
		50-59	113	1,501.99	708.42	1,342.88	122	1,268.57	584.18	1,069.84
		60-69	115	1,435.28	625.24	1,373.99	116	1,179.86	458.79	1,100.17
		70-79	93	1,470.53	473.17	1,477.85	97	1,056.51	417.37	958.12
		80-84	15	1,483.38	580.94	1,167.77	19	1,003.15	323.62	870.88
		Total	382	1,486.56	610.60	1,373.18	408	1,190.76	519.16	1,062.00
3: AA	Age	44-49	87	2,077.68	1,181.74	1,703.87	97	1,936.67	1,109.81	1,594.53
		50-59	204	1,976.55	1,010.82	1,836.11	283	1,612.07	856.62	1,405.05
		60-69	218	1,811.43	964.89	1,594.20	294	1,509.85	799.77	1,323.48
		70-79	168	1,805.67	975.19	1,607.44	197	1,408.07	633.07	1,273.20
		80-84	31	1,746.29	820.47	1,458.05	37	1,329.05	636.69	1,248.62
		Total	708	1,887.51	1,006.57	1,666.51	908	1,557.85	831.78	1,360.23
4: Hispanic	Age	44-49	112	2,276.29	1,085.46	2,101.88	104	1,842.44	1,168.10	1,564.77
		50-59	199	2,149.67	968.48	1,931.41	208	1,788.69	921.92	1,572.77
		60-69	194	1,885.25	981.72	1,694.21	211	1,476.96	689.01	1,334.00
		70-79	128	1,699.97	769.93	1,486.56	140	1,427.52	608.21	1,293.11
		80-84	26	1,751.35	855.42	1,410.41	35	1,308.12	526.82	1,224.73
		Total	659	1,990.29	974.38	1,789.58	698	1,605.93	847.70	1,423.02
Total			2938	1,866.33	876.20	1,699.44	3299	1,492.53	748.62	1,327.62

**Table 87: Sodium by Race, Gender, and Age**

Sodium			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	138	3,120.81	1,352.99	2,923.52	159	2,404.76	1,245.16	2,193.88
		50-59	342	2,932.99	1,327.08	2,640.01	380	2,226.88	1,208.94	2,013.38
		60-69	355	2,733.35	1,347.60	2,422.32	376	2,072.02	1,071.36	1,809.61
		70-79	306	2,557.65	1,179.24	2,316.91	305	1,812.65	904.18	1,623.74
		80-84	48	2,483.23	1,166.35	2,284.07	65	1,563.60	745.98	1,407.80
		Total	1189	2,780.43	1,306.05	2,540.73	1285	2,071.71	1,108.42	1,825.08
2: Chinese	Age	44-49	46	2,406.75	1,130.86	1,962.61	54	2,305.60	1,680.02	1,864.19
		50-59	113	2,193.79	1,175.34	2,052.84	122	1,886.39	929.97	1,724.95
		60-69	115	2,138.90	1,367.04	1,959.64	116	1,749.16	907.28	1,578.93
		70-79	93	2,329.42	923.74	2,167.40	97	1,446.46	760.00	1,246.18
		80-84	15	2,569.00	1,184.24	2,494.44	19	1,321.31	476.22	1,344.57
		Total	382	2,250.66	1,177.73	2,078.93	408	1,771.95	1,039.28	1,512.46
3: AA	Age	44-49	87	3,064.64	2,008.11	2,492.68	97	2,631.41	1,753.39	2,226.67
		50-59	204	2,919.75	1,907.66	2,525.00	283	2,143.86	1,291.76	1,929.66
		60-69	218	2,585.81	1,759.09	2,084.28	294	2,033.28	1,497.49	1,609.47
		70-79	168	2,612.93	1,741.27	2,304.73	197	1,774.04	979.69	1,587.83
		80-84	31	2,394.85	1,383.08	1,956.90	37	1,709.34	1,097.73	1,288.27
		Total	708	2,738.95	1,822.43	2,307.49	908	2,062.20	1,372.58	1,734.29
4: Hispanic	Age	44-49	112	3,305.26	1,795.59	2,991.89	104	2,599.05	1,776.56	2,199.56
		50-59	199	3,208.16	1,884.39	2,861.30	208	2,472.79	1,563.14	2,134.70
		60-69	194	2,680.37	1,705.96	2,274.16	211	1,955.98	1,068.52	1,733.60
		70-79	128	2,388.73	1,291.19	2,131.80	140	1,827.86	988.97	1,538.28
		80-84	26	2,859.90	1,854.99	2,144.25	35	1,678.43	862.79	1,420.44
		Total	659	2,896.39	1,743.66	2,479.51	698	2,166.19	1,368.12	1,802.83
Total			2938	2,727.56	1,545.21	2,388.96	3299	2,052.01	1,240.15	1,741.11

**Table 88: Magnesium by Race, Gender, and Age**

Magnesium With Supplement			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	138	401.02	553.67	326.15	159	420.27	613.19	284.78
		50-59	342	375.59	218.88	346.47	380	351.35	279.49	284.59
		60-69	355	421.76	669.73	327.73	376	390.64	514.28	292.45
		70-79	306	372.40	303.00	322.57	305	501.99	3,445.15	274.98
		80-84	48	315.40	114.26	297.60	65	323.41	236.19	275.53
		Total	1189	389.07	455.55	328.68	1285	405.72	1,721.33	283.68
2: Chinese	Age	44-49	46	274.93	118.71	272.06	54	330.48	331.79	262.07
		50-59	113	287.73	163.66	249.26	122	282.67	173.42	239.12
		60-69	115	277.96	185.50	240.88	116	263.02	162.83	228.44
		70-79	93	289.82	129.20	257.32	97	224.30	114.63	203.77
		80-84	15	321.12	132.27	301.17	19	249.11	130.12	210.52
		Total	382	285.07	156.83	253.65	408	267.97	188.88	228.05
3: AA	Age	44-49	87	326.67	224.81	281.83	97	393.41	589.28	276.54
		50-59	204	376.26	534.81	284.50	283	311.71	271.06	236.67
		60-69	218	288.86	157.31	255.27	294	315.30	287.38	242.54
		70-79	168	347.43	310.16	261.36	197	336.93	481.71	254.27
		80-84	31	281.46	111.56	301.37	37	286.81	123.73	271.01
		Total	708	332.26	347.03	270.10	908	326.06	371.08	248.25
4: Hispanic	Age	44-49	112	406.77	536.13	309.63	104	314.06	188.56	275.30
		50-59	199	348.30	184.75	317.71	208	426.57	1,211.17	289.23
		60-69	194	334.87	185.49	296.57	211	289.99	221.63	247.19
		70-79	128	320.65	189.75	271.79	140	327.31	494.58	250.92
		80-84	26	336.89	176.61	275.75	35	279.20	161.89	235.24
		Total	659	348.46	278.88	302.66	698	341.22	713.50	260.77
Total			2938	352.75	367.13	299.96	3299	353.11	1,142.64	263.39

**Table 89: Phosphorous by Race, Gender, and Age**

Phosphorous			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	138	1,333.97	596.68	1,246.23	159	1,139.34	542.57	1,065.24
		50-59	342	1,282.01	517.99	1,176.93	380	1,078.49	547.19	980.47
		60-69	355	1,208.95	572.21	1,079.43	376	1,044.96	532.85	922.15
		70-79	306	1,164.23	572.55	1,027.85	305	976.48	498.56	859.15
		80-84	48	1,109.24	441.86	986.19	65	895.67	519.72	813.27
Total		1189	1,228.94	558.03	1,111.18	1285	1,042.75	532.46	926.48	
2: Chinese	Age	44-49	46	933.76	386.92	808.77	54	872.40	525.71	710.33
		50-59	113	916.61	531.26	765.98	122	827.95	468.91	696.40
		60-69	115	872.49	440.83	811.85	116	769.62	451.68	647.86
		70-79	93	934.23	438.93	844.24	97	703.09	374.63	596.10
		80-84	15	1,012.34	585.39	693.14	19	701.53	312.09	686.19
Total		382	913.44	467.93	799.41	408	781.68	447.17	652.53	
3: AA	Age	44-49	87	1,189.33	758.00	944.39	97	1,176.24	759.74	968.52
		50-59	204	1,138.50	654.52	1,048.29	283	995.23	613.06	840.55
		60-69	218	1,061.90	662.82	899.52	294	934.14	525.33	816.33
		70-79	168	1,169.40	754.34	1,023.55	197	922.22	554.80	760.83
		80-84	31	1,115.79	525.22	996.94	37	956.84	501.90	874.24
Total		708	1,127.50	690.01	985.44	908	977.38	590.96	829.09	
4: Hispanic	Age	44-49	112	1,367.73	686.39	1,222.39	104	1,226.18	841.00	1,047.70
		50-59	199	1,339.31	683.29	1,249.10	208	1,185.89	631.47	1,016.74
		60-69	194	1,228.00	708.79	1,065.93	211	995.03	507.05	920.07
		70-79	128	1,103.79	579.81	974.90	140	969.35	522.98	828.35
		80-84	26	1,177.31	739.66	912.56	35	887.65	385.17	793.39
Total		659	1,259.24	679.85	1,127.23	698	1,075.81	612.54	958.11	
Total		2938	1,170.27	620.25	1,031.02	3299	999.46	564.24	873.09	

Table 90: Potassium by Race, Gender, and Age

Potassium With Supplement			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	138	3,140.76	1,198.59	2,922.53	159	2,686.49	1,388.61	2,349.93
		50-59	342	3,142.17	1,115.64	3,005.38	380	2,629.57	1,133.43	2,460.83
		60-69	355	3,218.35	3,398.71	2,819.34	376	2,632.81	1,148.41	2,391.13
		70-79	306	2,993.52	1,176.73	2,850.83	305	2,681.47	3,684.23	2,335.26
		80-84	48	2,913.16	1,022.65	2,848.00	65	2,370.80	977.19	2,284.51
		Total	1189	3,117.25	2,090.64	2,869.59	1285	2,636.79	2,065.74	2,370.29
2: Chinese	Age	44-49	46	2,303.83	893.35	1,985.09	54	2,261.05	1,156.53	1,879.39
		50-59	113	2,377.28	1,180.77	2,043.59	122	2,195.38	1,054.81	1,921.69
		60-69	115	2,208.84	1,099.81	1,927.25	116	2,021.29	1,000.68	1,817.02
		70-79	93	2,416.51	936.98	2,293.16	97	1,843.86	1,034.29	1,578.12
		80-84	15	2,755.70	1,370.08	2,151.47	19	1,796.15	773.34	1,715.26
		Total	382	2,342.14	1,077.49	2,071.54	408	2,052.41	1,045.12	1,777.68
3: AA	Age	44-49	87	2,794.76	1,574.63	2,399.26	97	2,854.00	1,682.97	2,519.97
		50-59	204	2,839.23	1,481.99	2,639.86	283	2,449.56	1,275.30	2,152.24
		60-69	218	2,657.31	1,383.22	2,423.59	294	2,454.88	1,173.01	2,211.19
		70-79	168	2,889.85	1,588.50	2,553.54	197	2,730.59	4,334.25	2,189.80
		80-84	31	2,896.13	1,231.50	2,793.95	37	2,591.52	1,217.47	2,562.99
		Total	708	2,792.25	1,479.48	2,544.22	908	2,561.25	2,321.92	2,218.67
4: Hispanic	Age	44-49	112	3,198.42	1,786.04	2,823.36	104	2,900.24	1,807.08	2,373.63
		50-59	199	3,188.83	1,509.02	2,969.11	208	2,918.15	1,450.12	2,614.13
		60-69	194	3,024.11	1,592.69	2,700.76	211	2,489.50	1,122.37	2,319.74
		70-79	128	2,796.68	1,329.91	2,504.48	140	2,428.53	1,092.75	2,227.39
		80-84	26	3,094.73	1,949.61	2,491.39	35	2,272.09	864.62	2,223.44
		Total	659	3,062.09	1,573.32	2,744.88	698	2,655.30	1,347.90	2,337.02
Total			2938	2,925.78	1,751.47	2,677.73	3299	2,547.64	1,923.22	2,249.08



**Table 91: Protein by Race, Gender, and Age**

Protein			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	138	81.42	35.41	75.06	159	67.49	28.62	62.44
		50-59	342	80.09	33.58	74.28	380	64.62	29.73	59.31
		60-69	355	73.68	32.54	67.37	376	62.98	29.52	58.08
		70-79	306	67.77	28.58	63.37	305	55.37	25.01	50.00
		80-84	48	64.56	23.90	58.31	65	51.52	24.53	47.32
		Total	1189	74.53	32.35	68.64	1285	61.64	28.57	56.47
2: Chinese	Age	44-49	46	66.26	26.11	60.18	54	61.59	33.97	52.00
		50-59	113	67.61	33.35	60.80	122	56.60	29.00	51.64
		60-69	115	64.34	32.68	58.37	116	54.15	25.93	49.59
		70-79	93	63.69	23.14	62.48	97	45.58	21.05	40.11
		80-84	15	69.30	30.99	54.11	19	45.23	18.01	37.85
		Total	382	65.57	29.91	60.75	408	53.41	27.18	47.14
3: AA	Age	44-49	87	79.59	47.83	67.45	97	74.26	42.76	65.08
		50-59	204	77.79	48.21	66.60	283	63.24	36.20	58.14
		60-69	218	67.25	40.26	60.01	294	59.45	32.61	52.71
		70-79	168	69.47	42.05	61.78	197	55.81	32.13	47.05
		80-84	31	63.26	29.71	54.22	37	54.29	27.76	48.41
		Total	708	72.16	43.90	62.41	908	61.21	35.03	53.15
4: Hispanic	Age	44-49	112	84.02	42.94	74.09	104	70.82	44.42	63.56
		50-59	199	81.90	42.02	74.79	208	69.65	37.48	63.42
		60-69	194	72.22	40.77	65.09	211	57.08	28.37	54.03
		70-79	128	62.48	30.26	58.13	140	54.40	27.20	46.36
		80-84	26	67.06	37.20	54.90	35	49.42	22.71	41.22
		Total	659	75.05	40.29	67.47	698	61.95	34.35	55.82
Total			2938	72.91	37.09	65.81	3299	60.57	31.67	54.23

**Table 92: Saturated Fat by Race, Gender, and Age**

Saturated Fat			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	138	29.11	14.21	26.54	159	22.47	11.71	20.64
		50-59	342	25.59	13.58	22.83	380	20.21	13.03	17.38
		60-69	355	23.48	13.36	20.50	376	18.58	12.08	15.02
		70-79	306	21.17	11.95	18.26	305	16.41	10.12	13.31
		80-84	48	20.28	12.50	16.97	65	14.76	9.46	12.47
		Total	1189	24.02	13.37	21.37	1285	18.83	11.95	15.77
2: Chinese	Age	44-49	46	16.47	7.34	14.82	54	14.45	7.86	12.02
		50-59	113	15.00	8.80	12.80	122	13.04	8.75	10.61
		60-69	115	14.32	7.33	12.86	116	12.07	6.17	10.75
		70-79	93	14.50	6.87	13.20	97	10.95	5.11	9.46
		80-84	15	15.07	7.44	13.49	19	9.53	3.19	8.98
		Total	382	14.85	7.69	13.15	408	12.29	7.05	10.45
3: AA	Age	44-49	87	26.43	18.93	22.56	97	23.97	15.54	20.19
		50-59	204	23.82	15.15	21.13	283	20.16	13.88	17.68
		60-69	218	22.14	15.42	18.69	294	18.14	12.45	14.31
		70-79	168	23.21	17.57	19.16	197	16.14	9.86	13.54
		80-84	31	22.69	15.38	19.08	37	15.01	9.21	12.83
		Total	708	23.43	16.34	19.61	908	18.83	12.87	15.52
4: Hispanic	Age	44-49	112	28.37	14.59	25.34	104	24.54	19.19	19.53
		50-59	199	27.54	15.51	24.87	208	23.10	14.45	19.22
		60-69	194	23.24	15.28	18.83	211	18.60	11.66	16.49
		70-79	128	20.44	11.26	17.96	140	17.69	9.69	14.97
		80-84	26	20.80	10.44	15.83	35	16.47	8.83	13.68
		Total	659	24.77	14.66	21.58	698	20.54	13.71	17.00
Total			2938	22.85	14.22	19.37	3299	18.38	12.36	14.98

**Table 93: Trans Fatty Acids by Race, Gender, and Age**

Trans Fatty Acids			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	138	4.99	2.67	4.58	159	3.65	2.33	3.09
		50-59	342	4.50	2.66	3.98	380	3.29	2.19	2.69
		60-69	355	4.02	2.60	3.64	376	3.00	2.17	2.51
		70-79	306	3.51	2.07	3.17	305	2.69	1.81	2.29
		80-84	48	3.38	2.02	3.25	65	2.34	1.43	2.06
		Total	1189	4.11	2.53	3.65	1285	3.06	2.11	2.55
2: Chinese	Age	44-49	46	2.37	1.51	2.06	54	1.74	1.29	1.38
		50-59	113	2.05	1.67	1.62	122	1.52	1.31	1.12
		60-69	115	1.72	1.26	1.48	116	1.26	.95	.96
		70-79	93	1.70	1.10	1.39	97	1.01	.72	.85
		80-84	15	1.96	1.43	1.65	19	.77	.36	.67
		Total	382	1.90	1.41	1.54	408	1.32	1.09	.99
3: AA	Age	44-49	87	5.37	3.79	4.27	97	4.72	3.49	3.54
		50-59	204	4.81	3.12	4.40	283	3.72	2.66	3.16
		60-69	218	4.44	3.19	3.69	294	3.42	2.65	2.82
		70-79	168	4.07	2.72	3.51	197	3.01	1.89	2.59
		80-84	31	3.75	2.28	3.11	37	2.49	1.88	1.75
		Total	708	4.54	3.13	3.80	908	3.53	2.63	2.95
4: Hispanic	Age	44-49	112	4.47	2.61	3.98	104	3.32	2.94	2.58
		50-59	199	4.17	2.59	3.79	208	3.00	2.30	2.41
		60-69	194	3.15	2.09	2.75	211	2.32	1.69	1.86
		70-79	128	2.91	2.03	2.30	140	2.13	1.27	1.74
		80-84	26	3.09	2.07	2.30	35	2.06	1.19	1.70
		Total	659	3.63	2.41	3.04	698	2.62	2.08	2.11
Total			2938	3.82	2.67	3.23	3299	2.88	2.27	2.28

**Table 94: Zinc by Race, Gender, and Age**

Zinc With Supplement			Gender							
			Male				Female			
			N	Mean	SD	Median	N	Mean	SD	Median
1: White	Age	44-49	138	14.44	8.56	12.17	159	18.53	21.04	11.26
		50-59	342	24.74	56.31	13.12	380	175.25	3,078.20	11.51
		60-69	355	22.35	49.63	14.09	376	365.66	6,201.39	12.84
		70-79	306	43.18	296.02	13.84	305	24.31	138.93	14.03
		80-84	48	14.05	9.04	11.20	65	21.86	26.34	17.61
		Total	1189	27.15	155.73	13.11	1285	167.98	3,748.78	12.52
2: Chinese	Age	44-49	46	13.39	13.39	10.37	54	16.18	19.48	10.43
		50-59	113	12.72	9.38	8.06	122	999.24	7,651.27	9.38
		60-69	115	12.46	10.14	7.91	116	13.12	9.88	9.05
		70-79	93	78.50	623.07	9.35	97	12.17	12.15	7.90
		80-84	15	59.35	155.82	19.38	19	17.08	15.12	19.21
		Total	382	30.56	309.09	8.81	408	308.36	4,196.26	9.17
3: AA	Age	44-49	87	16.70	21.53	11.43	97	17.82	20.73	11.11
		50-59	204	29.11	168.02	11.28	283	1,377.54	22,931.94	8.53
		60-69	218	13.58	12.87	9.52	294	18.64	49.38	8.69
		70-79	168	18.40	35.75	8.93	197	13.97	16.23	8.43
		80-84	31	13.17	13.46	9.26	37	17.08	16.30	9.81
		Total	708	19.56	92.54	10.04	908	441.01	12,802.37	8.99
4: Hispanic	Age	44-49	112	16.14	18.20	11.62	104	12.07	8.06	9.79
		50-59	199	16.57	16.10	12.29	208	446.31	6,241.90	9.37
		60-69	194	14.35	14.48	10.60	211	20.66	108.87	7.99
		70-79	128	14.91	15.91	9.76	140	16.82	53.93	7.73
		80-84	26	20.06	17.35	17.58	35	11.07	9.25	6.74
		Total	659	15.66	16.04	11.12	698	144.97	3,407.90	8.65
Total			2938	23.19	156.05	11.43	3299	255.62	7,428.96	9.89

# Multi-Ethnic Study of Atherosclerosis



## Household Enumeration Form

Household #: H43593

Date:   /   /

Please complete one form per household, listing all age-eligible (aged 45-84) household members

**1** Please give me the names of all those aged 45-84, including yourself, who consider this their permanent residence. Please give me first name, middle initial, and last name:

FIRST NAME

INITIAL

LAST NAME

<b>A</b>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<b>B</b>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<b>C</b>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<b>D</b>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<b>E</b>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<b>F</b>	<input type="text"/>	<input type="text"/>	<input type="text"/>

**2**  
GENDER

M	F
<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>

**3** Would you please tell me [PERSON'S NAME]'s age?

RELATION TO RESPONDER
<input type="text"/>
<input type="text"/>
<input type="text"/>
<input type="text"/>
<input type="text"/>
<input type="text"/>

Comments:

For MESA Field Center Use Only:

Completed by: ☐ Self-Administered

☐ Interviewer-Administered

Interviewer or Reviewer ID:

Data Entry ID:

**4** PLEASE TELL ME HOW THESE PEOPLE ARE RELATED TO YOU

Relation Codes:

Self:	SELF	Daughter-in-Law	DL
Spouse:	SP	Son-in-Law:	SL
Daughter:	D	Mother-in-Law:	ML
Son:	S	Father-in-Law:	FL
Mother:	M	Other Relative:	OR
Father:	F	Other:	O

Household not enumerated NE

# Multi-Ethnic Study of Atherosclerosis



## Screening/Recruitment

Date:

Month		Day		Year		

Phone Number Called:

( ) - - - - -

Recruitment ID#:

--	--	--	--	--	--	--	--

(Responses marked in bold with an \* indicate ineligibility.)

### I. Introductory Section

**A** Hello, may I speak with \_\_\_\_\_? *If NOT AVAILABLE and name of other household member is known, try other household member.* My name is \_\_\_\_\_. I am not a solicitor. I am calling from the 1199 National Benefit Fund and the Columbia Presbyterian Medical center about a medical study we are conducting.

**1** Do you have 15 minutes or so to hear about the study?

- a. ☐ YES → Skip to Section II ... OR *If a foreign accent, continue to Question 2*
- b. ☐ NO → When would it be convenient to call you back? \_\_\_\_\_ Thank you. I will call again.

**2** Are you comfortable answering questions in English?

- a. ☐ YES → Skip to SECTION II
- b. ☐ NO → What language would you be most comfortable using? *(Let person respond)*
- ☐ Spanish → Person is eligible if clinic has staff who speak the language
- ☐ Other\*

**If ineligible:** Is there someone else there who is between the ages of 45 and 84 who is comfortable speaking English? (or Spanish)?

- ☐ NONE → Thank you for your time. It looks like there isn't anyone there who is eligible for our study. Skip to #24
- ☐ NOT AVAILABLE → Enumerate household if possible, then end interview
- ☐ SWITCHED TO A NEW PERSON → Begin new screening/recruitment form

### II. Screening

**B** The study we're doing is called MESA, which is an abbreviation for Multi-Ethnic Study of Atherosclerosis (also known as "hardening of the arteries"). We are calling many 1199 beneficiaries and their household members to see who might be eligible and would like to participate. Did you get the brochure we sent?

- ☐ YES → Did you have a chance to look at it? ☐ NO → I'd be happy to mail another one to you. Do you have a few moments for me to tell you about the study?
- ☐ YES → Skip to #3
- ☐ NO → Let me take a few moments to tell you about it. ☐ YES → Skip to #3
- ☐ NO → Go back to #1 b.

**3** This research study includes a state-of-the-art examination of the heart and arteries at no cost to the participants. Please feel free at any time to interrupt me if you have questions or comments. The study includes people 45 to 84 years old. Are you in that age range?

☐ YES → What is your birthdate? / / Continue to #4

☐ NO → I'm sorry, but our study only includes people between the ages of 45 and 84? Can I speak with someone else there who is between the ages of 45 and 84?

- ☐ NONE → Thank you for your time. It looks like there isn't anyone there who is eligible for our study. Skip to #24
- ☐ NOT AVAILABLE → Enumerate household if possible, then end interview
- ☐ SWITCHED TO A NEW PERSON → Begin new screening/recruitment form

**4 Can you tell me the names of all people living there who are between the ages of 45 and 84?**

*If talking to age-eligible, add: Please start with yourself.*

*Probe for all names, age, gender, and relationship to the responder. Specify if 1199 member/retiree or dependent. Check list of 1199 beneficiaries to confirm names and ask about others.*

**Record the information on the attached ENUMERATION FORM**

**C** As I said, the study we are doing, which is funded by the National Institutes of Health, is called MESA and is a study about heart disease. Heart diseases, like hardening of the arteries, can start very slowly. Sometimes a very early condition develops into advanced disease, but other times it does not. People with this early condition may not even know they have it, because they feel healthy. We would like to find out what causes these early conditions to develop into medical problems like heart attacks or stroke. Learning these things could help us to find out how to prevent future health problems.

Any questions so far?

*If, at any time, respondent does not wish to continue the call, ask:*

*Can I still ask you a few questions about your health? It will take about three minutes.*

*If he/she agrees, skip to NON-PARTICIPANT FORM.*

There are two phases to the study: a phone interview, which we can do now if you are willing, and a clinic exam if you are eligible. We will provide some reimbursement to people who participate in the MESA clinic exam. If you are eligible for the study, you will undergo a series of high-tech medical tests. We will send you results of these tests. All of this is being done free of charge.

Do you have any questions?

**D** The clinic exam will require two or three visits. On a convenient day for you, you will come to our offices at Columbia Presbyterian Medical Center where we will take medical pictures of your arteries, ask you about your health, take several measurements (such as your blood pressure), and draw a blood sample to measure cholesterol and other things. All tests except the blood draw are completely non-invasive. We will also take you in a special van to St. Francis Hospital in Long Island where we will take pictures of your heart and arteries (like a CAT scan, which is similar to an x-ray). The first part will start at 8am and you will leave about 3pm. On another convenient day for you, you will return to our offices where we will take other medical pictures of your heart here at Columbia-Presbyterian. This second part should take about 2 hours.

**5 Would you be interested in participating in this research if we find out that you are eligible for the MESA study?**

☐ YES→ Great! To determine if you meet the study criteria, I need to ask you a few questions.

☐ NO→ Can I still ask you just a few more questions about your health?

☐ YES→ Skip to NON-PARTICIPANT FORM

☐ NO→ Skip to #23

**6 Would you say, in general, your health is: (read response)**

☐ Excellent

☐ Very Good

☐ Good

☐ Fair

☐ Poor

**7 Has a doctor ever told you that you had any of the following conditions:**

a. Heart Attack ☐ Yes\* ☐ No ☐ Don't Know

b. Angina ☐ Yes\* ☐ No ☐ Don't Know

c. Stroke ☐ Yes\* ☐ No ☐ Don't Know

d. TIA or small stroke ☐ Yes\* ☐ No ☐ Don't Know

e. Heart failure ☐ Yes\* ☐ No ☐ Don't Know

f. Atrial fibrillation or a fibrillating heart ☐ Yes ☐ No ☐ Don't Know

YES→ Do you

currently have it? ☐ Yes\* ☐ No ☐ Don't Know

g. Do you take a medicine called Nitroglycerin? ☐ Yes\* ☐ No ☐ Don't Know

8 Have you ever had any of the following medical procedures?

- |   |                            |                          |                                  |
|---|----------------------------|--------------------------|----------------------------------|
| a. Coronary bypass surgery  | <input type="radio"/> Yes* | <input type="radio"/> No | <input type="radio"/> Don't Know |
| b. Balloon angioplasty  | <input type="radio"/> Yes* | <input type="radio"/> No | <input type="radio"/> Don't Know |
| c. Heart valve replacement  | <input type="radio"/> Yes* | <input type="radio"/> No | <input type="radio"/> Don't Know |
| d. Pacemaker implant  | <input type="radio"/> Yes* | <input type="radio"/> No | <input type="radio"/> Don't Know |
| e. Defibrillator implant  | <input type="radio"/> Yes* | <input type="radio"/> No | <input type="radio"/> Don't Know |
| f. Other surgery on your heart or arteries for blockages (other than for varicose veins)? | <input type="radio"/> Yes* | <input type="radio"/> No | <input type="radio"/> Don't Know |
| g. CAT scan of your chest in the past year?   | <input type="radio"/> Yes* | <input type="radio"/> No | <input type="radio"/> Don't Know |

9 Have you ever had cancer for which you received radiation or for which you are now receiving radiation or chemotherapy?

☐ Yes\* ☐ No ☐ Don't Know

10 Do you have any other serious medical conditions that would prevent long-term participation in this study?

☐ Yes\* ☐ No ☐ Don't Know

11 (For women aged 45-55 only) Do you think you may be pregnant or are you currently nursing?

☐ Yes\* ☐ No ☐ Don't Know

12 How tall are you?  feet  inches

13 How much do you weigh?  pounds (\*Weight >300 pounds → ineligible)

14 Are you Spanish/Hispanic/Latino?

☐ NO

☐ YES → Which of the following best describes you? (You may choose from more than one group.)

- |   |                                    |
|---|------------------------------------|
| <input type="radio"/> Mexican, Chicano,<br>Mexican-American | <input type="radio"/> Puerto Rican |
| <input type="radio"/> Dominican                             | <input type="radio"/> Cuban        |
|   | <input type="radio"/> _____        |

15 Which of the following best describes you? (You may choose from more than one group)

- ☐ African-American or Black
- ☐ Asian
- ☐ Chinese
  - ☐ Filipino
  - ☐ Japanese
  - ☐ Korean
  - ☐ Vietnamese
  - ☐ Asian Indian
- ☐ Caucasian or White
- ☐ Native Hawaiian or other Pacific Islander
- ☐ Guamanian or Chamorro
  - ☐ Samoan
  - ☐ Micronesia
  - ☐ Tahitian
- ☐ American Indian or Alaska Native
- ☐ Did not identify

If respondent names one of the categories from question 14 instead of a race classification, suggest:

Some Hispanics also identify themselves with one of these other groups.

Did respondent answer YES to question 14 or choose one of the underlined groups in question 15?

☐ Yes ☐ No\*



**16** Do you have plans to move out of the New York City area within the next five years?

☐ **Yes\***   ☐ **No**   ☐ **Don't Know**

### III. Conclusion

**17** Interviewer: In your opinion, is the respondent cognitively able to participate in the study?

☐ **Yes**   ☐ **No\***   ☐ **Unsure\***

*Interviewer: If respondent has given any of the starred responses, read the most appropriate ineligible script below and then skip to #23. If the respondent is eligible but in an over-sampled group, go to the "ELIGIBLE BUT IN OVER-SAMPLED GROUP" script below. If the respondent is eligible and agrees to participate, go to the "ELIGIBLE" script below.*

**INELIGIBLE:** Choose the most appropriate script.

1. I appreciate your time, but unfortunately you would not be eligible for the study. We can only include a limited number of people whose characteristics fit the scientific goals of the study. Thank you again for your time and interest.
2. I'm sorry, but the study cannot include people with certain medical conditions. I appreciate your time and interest. Thank you.

**ELIGIBLE BUT IN OVER-SAMPLED GROUP:**

I'm sorry, but the study can only enroll a limited number of people within each age, gender, and ethnicity combination. Right now we are not recruiting more people from the group to which you belong. However, we might need more participants from that group in the future. May we keep your name on file and possibly contact you again on a later date?

- ☐ **YES** → Thanks for your time. Skip to #23  
☐ **NO** → Skip to #23

**ELIGIBLE:**

Great! You are eligible to participate in the MESA study. As I mentioned earlier, you will receive free examinations, including medical imaging of your heart by new high-tech procedures. You will have a total of four examinations, approximately two years apart, and you will be reimbursed each time that we ask you to return to the clinic for another exam. Some of the examinations may require you to come to the clinic on two separate days.

**18** Would you like to participate in the MESA study?

- ☐ **YES** → Great! We are excited to include you in this important research. Now I just need to get some contact information and then I will schedule your clinic exam(s).  
☐ **NO** → Perhaps you would like to think this over and have me call you back in a day or two?
- ☐ **YES** → Thanks. I will call you again in a few days. Skip to #23  
☐ **NO** → Skip to #23

**19** Please let me check the spelling of your name:

First name

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

M.I. Last name

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

**20** What is your street address?

### Street

[illegible]

City

State Zip

**Zip**

[illegible]

--	--

--	--	--	--	--

**21** Could I verify your home phone number?

(      )

--	--	--

-

--	--	--	--

**22** Are there other phone numbers which I could use to reach you if necessary, such as a cellular phone or a business phone?

--	--	--	--

--	--	--	--

--	--	--	--	--

(      )

--	--	--

—

--	--	--	--

**E** Thanks very much for all of this information. It will make it easier for us to get in touch with you in the future.

Now we need to schedule your clinic visit. You should not eat or drink anything except water before you come in. What day do you think it might be most convenient for you to come?

**Wait for response.**

OK. Could you come at \_\_\_\_\_ on that day?

Date: 

--	--

 / 

--	--

 / 

--	--	--	--

  
Month      Day      Year

Time: 

--	--

 : 

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 M

Very good. We'll see you in our clinic on [repeat date and time]. We appreciate your willingness to participate in MESA. We will be sending you an appointment reminder and more information about the clinic exam in the mail including directions on how to get to the clinic.

Please feel free to call me if you have any questions or concerns. My phone number is \_\_\_\_\_. If I am not available, leave a message for me and I'll get back to you as soon as I can..

**Ask #23 only if other age-eligibles are listed on Enumeration Form - otherwise skip to #24.**

23 Do you think that [NAME OF OTHER AGE-ELIGIBLE] might be interested in participating?

☐ YES → Can I please talk to him/her? *Complete #24 for current respondent, then start new form for the next person.*

☐ NO → *Conclude the call, go to #24*

☐ NO → *Conclude the call, go to #24*

**Complete Question #24 after interview is finished.**

**24** Final disposition of interview:

- ☐ Eligible and agreed to participate
- ☐ Eligible and refused to participate
- ☐ Ineligible
- ☐ Uncertain eligibility status/incomplete interview and refused to continue
- ☐ Eligible but not recruited

**Comments:**

For MESA Field Center Use Only:

Interviewer or Reviewer ID:

--	--	--

Data Entry ID:

--	--	--



Non-Participant

Date:  ISCRDT    

Recruitment ID#:

RECRID    

Do not repeat a question if previously asked.

1 Would you say, in general, your health is: (read responses)

- 5 ☐ Excellent  
 4 ☐ Very Good  
 3 ☐ Good  
 2 ☐ Fair  
 1 ☐ Poor

GENHLTH

2 How tall are you?

SCRHTFT SCRHTIN

 Feet   Inches3 How much do you weigh?    Pounds

SCRWTLB

4 Are you Spanish/Hispanic/Latino?

0 ☐ NO

SCRHISP

1 ☐ YES → Which of the following best describes you? (You may choose from more than one group.)

SCRMEX ☐ Mexican, Chicano,  
 Mexican-American

☐ Puerto Rican SCRPUERT

☐ Cuban SCRCUBAN

SCRDOMIN ☐ Dominican

☐ SCROTHHS

5 Which of the following best describes you? (You may choose from more than one group)

SCRBLACK ☐ African-American or BlackSCRASIAN ☐ Asian

- ☐ Chinese SCRCHNSE  
☐ Filipino SCRFLPNO  
☐ Japanese SCRJPNSE  
☐ Korean SCRKOREA  
☐ Vietnamese SCRVTNMS  
☐ Asian Indian SCRASIND

If respondent names one of the  
 categories from question 14 instead  
 of a race classification, ask:

Do you also identify yourself  
 with one of these other groups?

SCRWHITE ☐ Caucasian or White

☐ Native Hawaiian or other Pacific Islander SCRNIHWAI

- ☐ Guamanian or Chamorro SCRGUAM  
☐ Samoan SCRSMOA  
☐ Micronesia SCRMICRO  
☐ Tahitian SCRTHIT

☐ American Indian or Alaska Native SCRAMIND

☐ Did not identify SCRUNK

Did respondent answer YES  
 to question 14 or choose  
 one of the underlined groups  
 in question 15?

☐ Yes ☐ No\*

6 What is your marital status?

**IMSTAT**

- |                                  |   |
|----------------------------------|---|
| 1 <input type="radio"/> Married  | 4 <input type="radio"/> Separated         |
| 2 <input type="radio"/> Widowed  | 5 <input type="radio"/> Never Married     |
| 3 <input type="radio"/> Divorced | 6 <input type="radio"/> Refused to answer |

7 What is the highest degree or level of school you have completed? (If currently enrolled, mark the highest grade completed or highest degree received.)

- 0 ☐ No schooling  
1 ☐ Grades 1-8  
2 ☐ Grades 9-11  
3 ☐ Completed high school (12th grade) or GED  
4 ☐ Some college but no degree  
5 ☐ Technical school certificate  
6 ☐ Associate degree (Junior College, e.g. AA, AS)  
7 ☐ Bachelor's degree (e.g. BA, AB, BS)  
8 ☐ Graduate or professional degree (Master's, Doctorate, MD, JD, DDS, etc.)

**IEDUC**

8 Have you smoked more than 100 cigarettes in your lifetime? 0 ☐ No 1 ☐ Yes 9 ☐ Don't Know

**I100CIG**

9 Have you smoked cigarettes during the last 30 days? 0 ☐ No 1 ☐ Yes 9 ☐ Don't Know

**I30DSMK**

*Ask only if other age-eligibles are listed on Enumeration Form - otherwise skip to #10.*

Do you think that [NAME OF OTHER AGE-ELIGIBLE] might be interested in participating?

- ☐ YES → Can I please talk to him/her? *Complete #10 for current respondent, then start new form for the next person.*  
☐ NO → Conclude the call, go to #10

*Complete Question #10 after interview is finished.*

10 Final disposition of interview:

- 2 ☐ Eligible and refused to participate  
3 ☐ Ineligible  
4 ☐ Uncertain eligibility status/incomplete interview

**RECSTAT**

**Comments:**

FOR MESA FIELD CENTER USE ONLY

Interviewer ID:

**SCRTID**

Data Entry ID:

**SCRDID**

**Multi-Ethnic Study of Atherosclerosis****Participant Contact****For Staff Use Only**

Participant ID

--	--	--	--	--	--	--	--

Recruitment ID

--	--	--	--	--	--	--	--

Date

--	--	--	--	--	--	--	--

 / 

--	--	--	--	--	--	--	--

 / 

--	--	--	--	--	--	--	--

**Part A: Participant Information**

Please PRINT

---

**Last Name**

---

**First Name**

---

**Middle Name**

---

**Second Surname, if used**

---

**Maiden (Birth) Name**

---

**Other/Previous Last Name(s) used**

---

---

**Home Address**

---

**City**

---

**State**

---

**Zip****Telephone Numbers:**

Home: ( )

-

Work: ( )

-

Cell/Other: ( )

-

**E-Mail Address** \_\_\_\_\_

# Participant Contact Form - 2

Do you plan to change your name within the next year?

☐ No What will your new last name be?

☐ Yes → \_\_\_\_\_

Do you plan on being out of this area for an extended period of time (a month or longer) within the next year?

☐ No (MONTH / YEAR)

☐ Yes → Approximately when will you leave? \_\_\_\_\_ / \_\_\_\_\_

Approximately when will you return? \_\_\_\_\_ / \_\_\_\_\_

Will there be a change in your local address within the next three months?

☐ No What will your new address be?

☐ Yes → \_\_\_\_\_

Street

City

State

Zip

## Part B: Contact Information

Please provide the following information on two people who are familiar with the status of your health AND who could help us contact you, if necessary. If possible, please include one person who lives with you and one who does not.

### Contact 1: Relationship to Participant

Last Name

First Name

Middle Name

Second Surname, if used

Home Address

City

State

Zip

Telephone Numbers:

Home: ( ) -

Work: ( ) -

Cell/Other: ( ) -

E-Mail Address

# Participant Contact Form - 3

**Contact 2:** Relationship to Participant:

Last Name

First Name

Middle Name

Second Surname, if used

Home Address

City

State

Zip

Telephone Numbers:

Home: ( )

-

Work: ( )

-

Cell/Other: ( )

-

E-Mail Address

## Part C: Health Care Provider

Do you have a clinic, doctor, nurse or physician assistant who provides your usual medical care?

☐ No

☐ Yes → Please provide the following information for this clinic or person:

Last Name

First

Title (MD, PA, etc.)

Place of Business (name of clinic or hospital)

Address

City

State

Zip

Telephone ( ) -

When were you last seen by this person? \_\_\_\_ / \_\_\_\_ (Month, Year)

Would you like us to send your MESA results to this person? ☐ Yes ☐ No

For MESA Field Center Use Only:

Completed by: ☐ Self-Administered

☐ Interviewer-Administered

Interviewer or  
Reviewer ID:

--	--	--

Data Entry ID:

--	--	--



Clinic Reception

Participant ID: IDNO

QC ID: QCID

Language:

Local Medical Identification Number

MEDID1

Visit Date:

  / VISITDT1  

Recruitment ID:

 H RECRID    

Second Visit Date For Exam One:

  / VISDT21    

Acrostic:

 ACROSTIC      

Birthdate:

  / BIRTHDT1    
**Informed Consent Responses***(Obtain responses from the signed Informed Consent)*

Yes No N/A

RLSPHYS1

1 ☐ 0 ☐ 9 ☐ Release findings to physicians**Consent for Genetics Testing**

Yes No N/A

1 ☐ 0 ☐ 9 ☐ Prepare DNA from blood samples BLDDNA11 ☐ 0 ☐ 9 ☐ Create cell line CRTCELL11 ☐ 0 ☐ 9 ☐ Test for genes related to main study goals1 ☐ 0 ☐ 9 ☐ Test for genes related to secondary study goals TGENESS11 ☐ 0 ☐ 9 ☐ Notify if potentially serious genetic condition identified NTFPHYS11 ☐ 0 ☐ 9 ☐ Allow private company access to DNA PRVDNA1**Reception Interview**Eligibility confirmed? 1 ☐ Yes  
0 ☐ No

ELGCFRM1

Ask participant:

1 How long ago did you last eat or drink?  
\_\_\_\_\_ hrs.

If less than 8 hours, reschedule visit or fasting components.

2 Have you been ill in the last seven days (e.g. cold, flu, fever, vomiting)?

Yes ☐ No ☐

Reschedule visit

Interviewer ID: CRINTID1

Reviewer ID: CRREVID1

Data Entry ID: CRDID1



## Multi-Ethnic Study of Atherosclerosis



## Clinic Check off Sheet

Id#: 8013195

Acrostic: \_\_\_\_\_

Clinic Exam Date: \_\_ / \_\_ / \_\_

Order	Start Time	End Time	Form / Procedure	Comments / Notes	Tech ID
1			Reception (Consent & Participant Contact Form) Meds: Y N S    Diabetic: Y N    Fasting Time: _____		
2			Urine Collection Now    Later: time of collection _____		
3			Anthropometry		
4			Seated Blood Pressure Cuff size: _____    Arm Circum: _____		
5			Electrocardiogram		
6			Venipuncture		
			Snack		
			Medical History		
			Medications		
			Supine Ankle/Arm BP		
			Carotid Ultrasound		
			Endothelial Function (min. 90 minutes after snack)		
			Personal History (self) <input type="checkbox"/> Completed in clinic <input type="checkbox"/> Sent home with participant		
			Health and Life Questionnaire (self)		
			Neighborhood Questionnaire (self)		
			Physical Activity (self)		
			Diet Questionnaire (self) <input type="checkbox"/> Completed in clinic <input type="checkbox"/> Sent home with participant		
			Exit		
			MRI Appointment Day:                      Date:                      Time:		
			CT Appointment Day:                      Date:                      Time:		

Preference for method of future MESA contacts:

- ☐ Telephone call  
☐ Letter  
☐ E-mail \_\_\_\_\_

Record e-mail address from PPT Contact sheet and confirm with participant

1548241870

**Date:**  /  **ANTHDT1**

Month                  Day                  Year

a.	HTCM1	.	CM
----	-------	---	----

1 ☐ YES      0 ☐ NO

## HTMODP1

a.	WTLB1	.	lbs
----	-------	---	-----

1 ☐ YES      0 ☐ NO

**WTMODP1**

a. Waist: **WAISTCM1** CM

b. Hip: HIPCM1  CM

c. Was there a modification in protocol? <sup>1</sup> ☐ YES <sup>0</sup> ☐ NO **HWMODP1**

1 ☐ YES    0 ☐ NO    **CMTMODP1**

Please specify:

**ANTHTXT1**

Technician ID#: **ANTHTID1**

Reviewer ID#: ANTHRID1

Data Entry ID#: ANTHDID1



## Seated Blood Pressure

Id#: IDNO

Acrostic: ACROSTIC

 Date:  /    
 Month Day Year

Dinamap number:

DMAPNUM1

1 Arm circumference:  cm

ARMCM1

2 Cuff size: CUFFSZ1

Cuff on upper arm

OR

Cuff on forearm

- |   |   |
|---|---|
| 1 <input type="radio"/> Small Adult (17-25cm)   | 5 <input type="radio"/> Adult (25.1-33cm)       |
| 2 <input type="radio"/> Adult (25.1-33cm)       |   |
| 3 <input type="radio"/> Large Adult (33.1-40cm) | 6 <input type="radio"/> Large Adult (33.1-40cm) |
| 4 <input type="radio"/> Thigh (40.1-50cm)       |   |

## Seated Blood Pressure

 3 First reading: SBP  S1BP1  
 DBP  D1BP1  
 Record time of day  BPTM1 AM

 4 Second reading: SBP  S2BP1  
 DBP  D2BP1

 5 Third reading: SBP  S3BP1  
 DBP  D3BP1
6 RoomTemperature:  Fahrenheit

RMTEMPF1

## Alerts and Referrals

Use the mean of the second and third blood pressure measurements for alerts and follow the criteria below:

Blood Pressure Values	Action
1. Diastolic blood pressure greater than 120mmHg OR Systolic blood pressure greater than 210mmHg	1. Immediate referral to a health care provider
2. Diastolic blood pressure of 110-119mmHg OR Systolic blood pressure of 180-209mmHg	2. Referral to a health care provider within one week
3. Blood pressure greater than 140/90mmHg	3. Requires follow-up within two months

Technician ID#:  BPTID1

## For MESA Field Center Use Only

 Compute means from  
2nd and 3rd readings

 Mean SBP   
 Mean DBP 
Reviewer ID#:  BPRID1Data Entry ID#:  BPDID1



## Ankle-Arm Blood Pressure

Id#: IDNO

Acrostic: ACROSTIC

Date:



Month




Day





Year

## Pulse Obliteration Pressure:

Inflate the cuff slowly until the pulse is no longer audible. Inflate to 30 mm Hg above the level at which pulse sound disappeared.

## 1 Systolic Readings:

Record in this order

Systolic

Right brachial **RBRACH1**Right dorsalis pedis **RDPEDIS1**Right posterior tibial **RPTIB1**

Systolic

Left dorsalis pedis **LDPEDIS1**Left posterior tibial **LPTIB1**Left brachial **LBRACH1**2 Procedure was: **AABPCMP1**

- 1 ☐ Completed successfully → Skip to Technician ID
- 0 ☐ Not completed → Continue to #3

## 3 Reason procedure was not completed:

RIGHT SIDE:	YES	NO	
Unable to occlude 1 <input type="radio"/>	0 <input type="radio"/>		RLUOCCL1
Ulceration 1 <input type="radio"/>	0 <input type="radio"/>		RLULCER1
Amputation 1 <input type="radio"/>	0 <input type="radio"/>		RLAMPUT1
Unable to locate DP 1 <input type="radio"/>	0 <input type="radio"/>		RULOCDP1
Unable to locate PT 1 <input type="radio"/>	0 <input type="radio"/>		RULOCPT1

Other:

**RLTXT1**

LEFTSIDE:	YES	NO	
Unable to occlude 1 <input type="radio"/>	0 <input type="radio"/>		LLUOCCL1
Ulceration 1 <input type="radio"/>	0 <input type="radio"/>		LLULCER1
Amputation 1 <input type="radio"/>	0 <input type="radio"/>		LLAMPUT1
Unable to locate DP 1 <input type="radio"/>	0 <input type="radio"/>		LULOCDP1
Unable to locate PT 1 <input type="radio"/>	0 <input type="radio"/>		LULOCPT1

Other:

**LLTXT1**Technician ID#: **AABPTID1**Reviewer ID#: **AABPRID1**Data Entry ID # **AABPDID1**



## MRI Exclusion

Id#: IDNO

Acrostatic: ACROSTIC
 Date:  /  **MRIEDT1**   
           Month                      Day                      Year
**1** Is participant eligible on basis of weight?1 ☐ YES0 ☐ NO \***WTELG1**↓  
skip to question 8**2** Do you have an aneurysm clip?1 ☐ YES0 ☐ NO**ANCLIP1**↓  
Hospital Name \_\_\_\_\_

City, State \_\_\_\_\_

Check medical records - were metal clips used?

1 ☐ YES \*0 ☐ NO**METCLIP1**↓  
skip to question 8**3** Have you ever had metal fragments in your eyes, brain, or spinal cord?1 ☐ YES \*0 ☐ NO**METFRAG1**↓  
skip to question 8**4** Are you (or have you been) a metal worker, welder or grinder in your job?1 ☐ YES0 ☐ NO**METWORK1****5** Do you have any internal electrical devices, such as a cochlear implant or spinal cord stimulator?1 ☐ YES \*0 ☐ NO**INTELEC1**↓  
skip to question 8**6** Do you have any metal implants, plates or other devices in any part of your body?1 ☐ YES \*0 ☐ NO**METIMPL1**↓  
skip to question 8**7 (FEMALE ONLY)** Are you or do you believe you may currently be pregnant?1 ☐ YES \*0 ☐ NO**CURPREG1**↓  
skip to question 8**8** Does participant pass all MRI exclusion criteria?**NOTE: Starred responses indicate that the participant is ineligible**1 ☐ YES0 ☐ NO**PASSEXC1**↓  
skip to Clinic Technician ID**MRI Appointment Information**

Read description of MRI procedure

**9** Does participant agree to MRI?1 ☐ YES**AGRMRI1**↓  
Appointment Date: /  **MRAPTD1** Appointment Time:  **MRAPTTM1**  M2 ☐ YES, but another time↓  
Contact after: /  **MRAFTDT1** 0 ☐ NO → Reason for refusal: **MRREFUS1**1 ☐ Not interested2 ☐ Sick3 ☐ Caring for person at home4 ☐ Claustrophobia5 ☐ Other:**MRREFTX1**

## FOR MESA FIELD CENTER USE ONLY

Technician ID#:  **MRIETID1**Reviewer ID#:  **MRIERID1** Data Entry ID#:  **MRIEDID1**



## Personal History

Id#: IDNO

Acrostic: ACROSTIC

Date:

 / 
  
Month

  
Day

  
Year

PHXDT1

This form is intended to collect information about your background and lifestyle which may impact your risk of cardiovascular disease. Please complete all items except those which you are specifically instructed to skip. If you are unsure about the answer to a specific question, please estimate the answer to the best of your ability. If you have a question about a particular item, please write a small "x" in the margin of the form, making sure not to write it near any of the response bubbles, and then ask a staff member for clarification of those items after you have completed the rest of the form.

1 What is your gender?

1 ☐ Male 0 ☐ Female

PHXSEX1

2 Where were you born?

1 ☐ One of the 50 US states (please specify state)

STBTH1

BTH1

2 ☐ Puerto Rico3 ☐ Another country (please specify country)

CTRYBTH1

If born in Puerto Rico or in a another country:

How many years have you lived in the United States?

YRSUS1

3 Where were your parents and grandparents born?

Mother

MBTH1

1 ☐ One of the 50 US states

MSTBTH1

2 ☐ Puerto Rico3 ☐ Another country

MCNTRY1

Father

FBTH1

1 ☐ One of the 50 US states

FSTBTH1

2 ☐ Puerto Rico3 ☐ Another country

FCNTRY1

Maternal grandmother

MMBTH1

1 ☐ One of the 50 US states2 ☐ Puerto Rico3 ☐ Another country

MMCNTRY1

Maternal grandfather

MFBTH1

1 ☐ One of the 50 US states2 ☐ Puerto Rico3 ☐ Another country

MFCNTRY1

Paternal grandmother

PMBTH1

1 ☐ One of the 50 US states2 ☐ Puerto Rico3 ☐ Another country

PMCNTRY1

Paternal grandfather

PFBTH1

1 ☐ One of the 50 US states2 ☐ Puerto Rico3 ☐ Another country

PFCNTRY1



## Personal History - 2

- 4 What language is generally spoken in your home? (check all that apply) **LANGHM1**
- ☐ <sup>LNGEN61</sup> English    ☐ <sup>LNGSP1</sup> Spanish    ☐ <sup>LNGCAN1</sup> Cantonese    ☐ <sup>LNGMAN1</sup> Mandarin
- ☐ <sup>LNGOTH1</sup> Other: **OTLNGTX1**

- 5 What is your marital status? **MARITAL1**
- ☐ Married/Living as married/Living with partner    ☐ Separated  
☐ Widowed    ☐ Never married  
☐ Divorced    ☐ Prefer not to answer

- 6 What is the highest degree or level of school you have completed?  
*If currently enrolled, mark the highest grade completed or highest degree received.*
- ☐ No schooling    ☐ Some college but no degree **EDUC1**  
☐ Grades 1-8    ☐ Technical school certificate  
☐ Grades 9-11    ☐ Associate degree (Junior College, e.g. AA, AS)  
☐ Completed high school (12th grade) or GED    ☐ Bachelor's degree (e.g. BA, AB, BS)  
☐ Graduate or professional school (Master's, Doctorate, MD, JD, DDS, etc.)

We are asking for your Social Security Number because data from this study will be linked with data supplied by the National Center for Health Statistics. It will be kept confidential according to the Privacy Act of 1974, and will be used only for research purposes. Providing this information to MESA is extremely important for the purposes of the study, but is entirely voluntary on your part.

- 7 a What is your Social Security Number?

			-	<b>SSN1</b>				
--	--	--	---	-------------	--	--	--	--

- 7 b Sometimes dependents or spouses can apply for Medicare benefits using the Social Security Number of another family member. Did you ever get Medicare benefits using a Social Security Number other than your own?

☐ No

☐ Yes →

Could you please tell me the Social Security Number you used to apply for Medicare Benefits?

**OTHSSN1**

			-	<b>SPCOSSN1</b>				
--	--	--	---	-----------------	--	--	--	--

## Personal History - 3

8 Please choose one of the following which best describes your current occupation:

- CURJOB1**
- 1 ☐ Homemaker, not working outside the home → Did you previously work outside the home? ☐ No → Skip to #13  
1 ☐ Yes
- HOMEMKR1**
- 2 ☐ Employed (or self-employed) full time  
3 ☐ Employed (or self-employed) part time  
4 ☐ Employed, but on leave for health reasons  
5 ☐ Employed but temporarily away from my job (other than health reasons)  
6 ☐ Unemployed or laid off 6 months or less  
7 ☐ Unemployed or laid off more than 6 months  
8 ☐ Retired from my usual occupation and not working  
9 ☐ Retired from my usual occupation but working for pay  
10 ☐ Retired from my usual occupation but volunteering

9 For whom do/did you work? (name of company, business, organization or other employer) If you are not working now, please respond regarding your main occupation before you stopped working.

---

---

10 What type of business or industry is/was this? (e.g., hospital, newspaper publishing, mail order house, auto repair shop, bank, etc.)

---

---

11 What kind of work do/did you do or what was your job title? (e.g. registered nurse, personnel manager, auto mechanic, accountant, grinder operator, etc.)

---

---

12 What are/were your most important activities or duties? (e.g. patient care, directing hiring policies, repairing automobiles, reviewing financial records, operating grinding mill, etc.)

---

---

---

The following questions have to do with family finances. We know from other research that financial strain is common and very important to consider in understanding people's health. The following questions will be used to help give us a picture of the various financial situations experienced by persons participating in the MESA study. Any information you provide is strictly confidential and will be used for research purposes only.



# Personal History - 4

- 13** Below is a list of income groups. Please tell me which group best represents your total combined family income for the past 12 months. This includes the total income before taxes earned in the past year by all family members living with you. Please include money from jobs, net income from business, farm or rent, pensions, dividends, welfare, social security payments and any other money received by you or any other family member living with you.

## INCOME1

- 1 ☐ Less than \$5,000      5 ☐ \$16,000 - \$19,999      9 ☐ \$35,000 - \$39,999      13 ☐ \$100,000 or more  
2 ☐ \$5,000 - \$7,999      6 ☐ \$20,000 - \$24,999      10 ☐ \$40,000 - \$49,999  
3 ☐ \$8,000 - \$11,999      7 ☐ \$25,000 - \$29,999      11 ☐ \$50,000 - \$74,999  
4 ☐ \$12,000 - \$15,999      8 ☐ \$30,000 - \$34,999      12 ☐ \$75,000 - \$99,999

- 14 a** Including yourself, how many people are supported by the income listed above

NUMHLD1

- 14 b** How many of these are...

(Enter 00 if no one in that age category is supported by the given income)

1. Children under 18? NHHLDC1

2. Adults 65 and over? NHHLDE1

- 15** This question is about the house or apartment where you live. Do you:

- 1 ☐ Rent  
2 ☐ Pay a mortgage  
3 ☐ Own free and clear  
4 ☐ Have other living arrangements

HOMETYP1

- 16** Where do you usually go for medical care?

- 1 ☐ Doctor's office or clinic  
2 ☐ Hospital emergency room  
3 ☐ Other:

MEDCARE1

MEDCTXT1

- 17** To help pay for your medical care, do you now have: (check all that apply)

HIPRV1

- ☐ HMO or other private insurance such as Blue Cross, Aetna, 1199 Fund, etc.

HIMDCR1

- ☐ Medicare

HIMDCD1

- ☐ Medicaid

HIMIL1

- ☐ Military or Veteran's Administration sponsored

HINONE1

- ☐ None

HIOTH1

- ☐ Other:

HINSTXT1

## Personal History - 5

The following questions are about your use of tobacco and alcohol. They will help us better understand the role of smoking and alcohol use in the risk of cardiovascular disease.

18 Have you smoked at least 100 cigarettes in your lifetime?

**EVSMK1**

1 ☐ Yes

0 ☐ No → Skip to #23

19 How old were you when you first started smoking cigarettes?

**AGESMK1**

20 Have you smoked cigarettes during the last 30 days?

**CURSMK1**

1 ☐ Yes → Skip to #22

0 ☐ No

21 **FOR FORMER SMOKERS:**

How old were you when you quit smoking cigarettes?

**AGEQUIT1**

22 On average, about how many cigarettes a day do/did you smoke?

**CIGSDAY1**

23 Have you ever used any other tobacco products? (E.g. cigars, pipes, snuff, chewing tobacco)

**OTHTOB1**

1 ☐ Yes

0 ☐ No → Skip to #44

*Current cigarette smokers Skip to #45*

24 Have you smoked more than 20 cigars in your lifetime?

**CIGAR1**

1 ☐ Yes

0 ☐ No → Skip to #29

25 How old were you when you first started smoking cigars?

**CGRAGE1**

26 Have you smoked cigars during the last 30 days?

**CGRCUR1**

1 ☐ Yes → Skip to #28

0 ☐ No

27 How old were you when you quit smoking cigars?

**CGRAGEQ1**

28 On average, about how many cigars a day do/did you smoke?

**CGRDAY1**

29 Have you smoked at least 20 pipefuls of tobacco in your lifetime?

**PIPE1**

1 ☐ Yes

0 ☐ No → Skip to #34

30 How old were you when you first smoked a pipe?

**PIPAGE1**

## Personal History - 6

31 Have you smoked a pipe during the last 30 days?

PIPCUR1

1 ☐ Yes → Skip to #33

0 ☐ No

32 **FOR FORMER SMOKERS:**

How old were you when you quit smoking a pipe?

PIPAGEQ1

33 On average, about how many pipefuls a day do/did you smoke?

PIPDAY1

34 Have you used chewing tobacco, such as Redman, Levi Garret or Beechnut, at least 20 times?

CHEW1

1 ☐ Yes

0 ☐ No → Skip to #39

35 How old were you when you first used chewing tobacco?

CHWAGE1

36 Have you used chewing tobacco during the last 30 days?

CHWCUR1

1 ☐ Yes → Skip to #38

0 ☐ No

37 How old were you when you quit using chewing tobacco?

CHWAGEQ1

38 On average, about how many times a day do/did you use chewing tobacco?

CHWDAY1

39 Have you used snuff, such as Skoal, Skoal Bandits or Copenhagen, at least 20 times?

SNUFF1

1 ☐ Yes

0 ☐ No → Skip to #44

40 How old were you when you first used snuff?

SNFAGE1

41 Have you used snuff during the last 30 days?

SNFCUR1

1 ☐ Yes → Skip to #43

0 ☐ No

42 How old were you when you quit using snuff?

SNFAGEQ1

43 On average, about how many times a day do/did you use snuff?

SNFDAY1

44 **CURRENT NON-SMOKERS ONLY:**

During the past year about how many hours per week were you in close contact with people when they were smoking? (e.g. in your home, in a car, at work or other close quarters)

SHND SMK1

# Personal History - 7

45 Have you ever consumed alcoholic beverages?

1 ☐ Yes

0 ☐ No → *You have completed this form*

ALCOHOL1

46 How old were you when you first started drinking alcoholic beverages?

ALCAGE1

47 Do you presently drink alcoholic beverages?

CURALC1

1 ☐ Yes → *Skip to #51*

0 ☐ No

48 For how many years did you drink alcoholic beverages?  
(Do not count times when you did not drink alcohol)

YRSALCP1

49 In the past, which types of alcoholic beverages did you ordinarily drink?  
(Mark all that apply)

WINE1

☐ Wine

BEER1

☐ Beer

HARDLIQ1

☐ Drinks made with hard liquor (e.g. whiskey, rum, vodka, etc.)

OTHALC1

☐ Other:

OTALCTX1

50 What was the usual number of drinks you had per week before you stopped drinking alcoholic beverages?

(One drink means 1 beer or 1 glass of wine or 1 shot of liquor or 1 mixed drink. Record 0 if less than one drink per week)

ALCWKP1

51 IF YOU CURRENTLY DRINK ALCOHOL:

For how many years have you been drinking alcoholic beverages?  
(Do not count times you did not drink alcohol)

YRSALCC1

52 What is the usual number of drinks you have per week?

(One drink means 1 beer or 1 glass of wine or 1 shot of liquor or 1 mixed drink. Record 0 if less than one drink per week)

ALCWKC1

53 During the past 24 hours how many drinks have you had?

ALC24HR1

54 In the past month what is the largest number of drinks you had in one day?

HIGHALC1

For MESA Field Center Use Only:

Form completed in: ☐ Home ☐ Clinic

PHXLOCH1

PHXLOCC1

Completed by: 1 ☐ Self-Administered 2 ☐ Interviewer-Administered

PHXADM1

Job Code: **JOBCODE1**

Interviewer or Reviewer ID: PHXTID1

Data Entry ID: PHXDID1



## Medical History

Id#: IDNO

Acrostic: ACROSTIC

Date:



Month



Day





Year

The following are some questions about your medical history. Some of the questions may refer to things that happened or began a long time ago, so please answer to the best of your knowledge.

Has a doctor ever told you that you had any of the following:

- |  | Yes                     | No                      | Don't Know              |          |
|--|-------------------------|-------------------------|-------------------------|----------|
| 1 Emphysema                                    | 1 <input type="radio"/> | 0 <input type="radio"/> | 9 <input type="radio"/> | EMPHYS1  |
| 2 Asthma                                       | 1 <input type="radio"/> | 0 <input type="radio"/> | 9 <input type="radio"/> | ASTHMA1  |
| 3 Arthritis                                    | 1 <input type="radio"/> | 0 <input type="radio"/> | 9 <input type="radio"/> | ARTHRIT1 |
| 4 Cancer                                       | 1 <input type="radio"/> | 0 <input type="radio"/> | 9 <input type="radio"/> | CANCER1  |
| IF YES → Which type?                           |                         |                         |                         |          |
| a. Prostate cancer                             | 1 <input type="radio"/> | 0 <input type="radio"/> | 9 <input type="radio"/> | PROSTCN1 |
| b. Breast cancer                               | 1 <input type="radio"/> | 0 <input type="radio"/> | 9 <input type="radio"/> | BRSTCN1  |
| c. Lung cancer                                 | 1 <input type="radio"/> | 0 <input type="radio"/> | 9 <input type="radio"/> | LUNGCN1  |
| d. Colon cancer                                | 1 <input type="radio"/> | 0 <input type="radio"/> | 9 <input type="radio"/> | COLONCN1 |
| e. Non-melanoma skin cancer                    | 1 <input type="radio"/> | 0 <input type="radio"/> | 9 <input type="radio"/> | NMSKNCN1 |
| f. Blood cancer (leukemia, lymphoma, or other) | 1 <input type="radio"/> | 0 <input type="radio"/> | 9 <input type="radio"/> | BLOODCN1 |
| g. Other cancer                                | 1 <input type="radio"/> | 0 <input type="radio"/> | 9 <input type="radio"/> | OTHCCN1  |

IF YES → Specify

OTHCSPC1

- |  | Yes                     | No                      | Don't Know              |          |
|--|-------------------------|-------------------------|-------------------------|----------|
| 5 Rheumatic heart disease or heart valve problems? | 1 <input type="radio"/> | 0 <input type="radio"/> | 9 <input type="radio"/> | RHEUHV1  |
| 6 Blood clots in the lung or in the leg veins?     | 1 <input type="radio"/> | 0 <input type="radio"/> | 9 <input type="radio"/> | BLDCLOT1 |
| 7 Liver disease?                                   | 1 <input type="radio"/> | 0 <input type="radio"/> | 9 <input type="radio"/> | LIVERD1  |
| IF YES → Which type?                               |                         |                         |                         |          |
| a. Cirrhosis                                       | 1 <input type="radio"/> | 0 <input type="radio"/> | 9 <input type="radio"/> | CIRRH1   |
| b. Hepatitis                                       | 1 <input type="radio"/> | 0 <input type="radio"/> | 9 <input type="radio"/> | HEPAT1   |

IF YES → Which type of hepatitis? Select all that apply

- ☐ A ☐ B ☐ C ☐ D ☐ E ☐ Don't Know
- HEPTPA1      HEPTPB1      HEPTPC1      HEPTPD1      HEPTPE1      HEPTPU1

# Medical History - 2

Id#:

Has a doctor ever told you that you had any of the following:

	Yes	No	Don't Know	
8 Kidney disease	1 <input type="radio"/>	0 <input type="radio"/>	9 <input type="radio"/>	KDNYDIS1
9 High blood pressure or hypertension	1 <input type="radio"/>	0 <input type="radio"/>	9 <input type="radio"/>	HIGHBP1
IF YES:				
a. Are you taking medicine for this?	1 <input type="radio"/>	0 <input type="radio"/>	9 <input type="radio"/>	BPMED1
IF YES:				
b. At what age did you begin taking medications?	BPHXAGE1		Don't Know 9 <input type="radio"/>	BPMAGEU1
10 High blood cholesterol	1 <input type="radio"/>	0 <input type="radio"/>	9 <input type="radio"/>	HGHCHOL1
IF YES:				
a. Are you taking medicine for this?	1 <input type="radio"/>	0 <input type="radio"/>	9 <input type="radio"/>	CHOLMED1
IF YES:				
b. At what age was this first treated?	CHOLAGE1		Don't Know 9 <input type="radio"/>	CHLAGEU1
11 Diabetes (sugar in blood)	1 <input type="radio"/>	0 <input type="radio"/>	9 <input type="radio"/>	DIABET1
IF YES:				
a. Are you taking medicine for this?	1 <input type="radio"/>	0 <input type="radio"/>	9 <input type="radio"/>	DIABHX1
YES → <input type="radio"/> Insulin <input type="radio"/> Pills	DBHXTYP1			
IF YES:				
b. At what age was this first treated?	DBAGE1		Don't Know 9 <input type="radio"/>	DBAGEU1
c. Was insulin your first diabetes medicine?	1 <input type="radio"/>	0 <input type="radio"/>	9 <input type="radio"/>	DBINSUL1
d. FOR WOMEN: Did diabetes occur ONLY during pregnancy?	1 <input type="radio"/>	0 <input type="radio"/>	9 <input type="radio"/>	DBPREG1

12 What was your highest weight in the last 3 years? HWT3YLB1 lbs.

a\*. What did you weigh at age 20? WT20LB1 lbs.

b\*. What did you weigh at age 40? WT40LB1 lbs.

\*Women: If you were pregnant at either of these ages, give your weight just BEFORE your pregnancy started.

## Reproductive History

WOMEN ONLY -- MEN skip to Question #18

	Yes	No	Don't Know	
<b>13 Have you ever been pregnant?</b>	1 <input type="radio"/>	0 <input type="radio"/>	9 <input type="radio"/>	<b>PREG1</b>
<b>If Yes:</b>				
a. Number of pregnancies	<b>PREGN1</b>			
b. Number of live births	<b>BIRTHN1</b>			
c. Age at first live birth	<b>AGEBRTH1</b>			
<b>14 Have you had a hysterectomy (surgery to remove your uterus/womb)?</b>	1 <input type="radio"/>	0 <input type="radio"/>	9 <input type="radio"/>	<b>HYSTRCT1</b>
<b>If Yes:</b>				
a. At what age	<b>HYSTAGE1</b>			
<b>15 Have you had surgery to remove your ovaries?</b>	1 <input type="radio"/>	0 <input type="radio"/>	9 <input type="radio"/>	<b>OVAREM1</b>
<b>If Yes:</b>				
a. At what age?	<b>OVAAGE1</b>			
b. How many ovaries were removed?	1 <input type="radio"/> 1	2 <input type="radio"/> 2	<b>OVAREMN1</b>	
<b>16 Have you ever taken birth control pills?</b>	1 <input type="radio"/>	0 <input type="radio"/>	9 <input type="radio"/>	<b>BCPILLS1</b>
<b>If Yes:</b>				
a. Please estimate the total number of years that you took birth control pills (keeping in mind you may have started and stopped several times)	<b>BPILLYR1</b>			
<b>17 Have you gone through menopause (change of life)?</b>	1 <input type="radio"/>	0 <input type="radio"/>	9 <input type="radio"/>	<b>MNPAUSE1</b>
<b>If Yes → Skip to #17 D</b>				
<b>If No or Don't Know:</b>				
a. Are you currently going through menopause?	1 <input type="radio"/>	0 <input type="radio"/>	9 <input type="radio"/>	<b>MENOP1</b>
<b>If Yes:</b>				
b. Date of last menstrual period (if less than 12 months ago):	<div> <div><b>MNSPMO1</b></div> <div><b>MNSPYR1</b></div> </div> <div> <div>Month</div> <div>Year</div> </div>			
c. How many periods have you had in the last 12 months?	<b>PRDSNUM1</b>			

d. At what age did you go through menopause? MENOAGE1

e. Have you ever taken hormone replacement therapy?

**HRMREP1** ☐ No → Skip to #18

☐ Yes → Continue with #17 F

f. Are you currently using hormone replacement therapy?

**HRMREPC1** ☐ Yes → At what age did you begin?

HRMRAGE1

☐ No → At what ages did you take hormones?

Age started HRMSAGE1 Age stopped

HRMQAGE1

Which type of therapy were you on?

**HRMTYP1**

☐ Estrogen alone (like Premarin or Estratab)

☐ Estrogen with progestin (like Provera)

**18** Do you ever get pain in either leg or buttock while walking?

**Yes**

☐

**No**

☐

**LEGPAIN1**

**If Yes:**

a. Does this pain ever begin when you are standing still or sitting?

☐

☐

**LPREST1**

b. In what part of your leg or buttock do you feel it?

**LPCALF1**

☐ Pain includes calf/calves

☐ Pain does not include calf/calves

c. Do you get it if you walk uphill or hurry?

**Yes**

☐

**No**

☐

**N/A**

☐

**LPUPHL1**

d. Do you get it if you walk at an ordinary pace on the level?

**Yes**

☐

**No**

☐

**LPNORM1**

e. Does the pain ever disappear while you are walking?

☐

☐

**LPDIS1**

f. What do you do if you get it when you are walking?

☐ Stop or slow down

☐ Continue on

**LPSTOP1**

g. What happens to the pain if you stand still?

☐ Relieved

☐ Not relieved

**LPSTND1**

**If Relieved → How soon?**

☐ 10 minutes or less ☐ More than 10 minutes

**LPRELV1**

h. Is this pain predominantly in the right side, left side, or in both legs?

☐ Right Side

☐ Left Side

☐ Both legs

**LPLOC1**



# Medical History - 5

Id#:

- 19 Have you ever had swelling of your feet or ankles? (FOR WOMEN: other than during pregnancy?)
- |  | Yes | No | Don't Know |         |
|--|-----|----|------------|---------|
|  | 1○  | 0○ | 9○         | SWLLFT1 |
- If Yes: a. Did it tend to come on during the day and go down overnight?
- |  |    |    |    |          |
|--|----|----|----|----------|
|  | 1○ | 0○ | 9○ | SWLLDAY1 |
|--|----|----|----|----------|
- 20 Have you had to sleep on two or more pillows to help you breathe?
- |  |    |    |    |          |
|--|----|----|----|----------|
|  | 1○ | 0○ | 9○ | SLPPLLW1 |
|--|----|----|----|----------|
- 21 Have you been awakened at night by trouble breathing?
- |  |    |    |    |         |
|--|----|----|----|---------|
|  | 1○ | 0○ | 9○ | WAKEBR1 |
|--|----|----|----|---------|
- 22 In the past two weeks, have you had any of the following:
- |   | Yes | No | Don't Know |          |
|---|-----|----|------------|----------|
| a. Fever                                    | 1○  | 0○ | 9○         | FEVER1   |
| b. Cold, flu, or sore throat                | 1○  | 0○ | 9○         | COLDFLU1 |
| c. Urinary infection                        | 1○  | 0○ | 9○         | URININF1 |
| d. Seasonal allergy                         | 1○  | 0○ | 9○         | ALLRGY1  |
| e. Bronchitis                               | 1○  | 0○ | 9○         | BRONCH1  |
| f. Sinus infection or sinusitis             | 1○  | 0○ | 9○         | SINUINF1 |
| g. Pneumonia                                | 1○  | 0○ | 9○         | PNEUMO1  |
| h. Gums bleeding while brushing or flossing | 1○  | 0○ | 9○         | BLDGUMS1 |
| i. Tooth infection                          | 1○  | 0○ | 9○         | TTHINF1  |
| j. Flare-up of gout                         | 1○  | 0○ | 9○         | GOUT1    |
| k. Flare-up of arthritis                    | 1○  | 0○ | 9○         | ARTH2WK1 |

- 23 Approximately how many times have you been treated with antibiotics in the last year? (If you don't remember the exact number, please give us your best estimate.)

ABNUM1 times    0○ Don't know    NOAB1

- 24 Approximately how many times have you been treated with antibiotics in the last 5 years? (If you don't remember the exact number, please give us your best estimate.)

AB5YNUM1 times    0○ Don't Know    NOAB5Y1

- 25 Have you ever used aspirin on a regular basis?
- |  | Yes | No | Don't Know |
|--|-----|----|------------|
|  | 1○  | 0○ | 9○         |

If Yes:

a. At what age did you start? ASPSAGE1

b. Are you taking aspirin now on a regular basis?    1○    0○    9○    ASPNOW1

Yes → How many days a week are you taking aspirin? ASPDAYS1

No → At what age did you stop taking aspirin?

ASPEAGE1

# Medical History - 6

Id#:

- 26 Has a dentist ever told you that you had periodontitis or gum disease? Yes 1 ☐ No 0 ☐ Don't Know 9 ☐ GUMDIS1
- 27 Have you lost any of your teeth due to gum disease? 1 ☐ 0 ☐ 9 ☐ LOSTTTH1

If Yes:

a. How many teeth have you lost? TTHNUM1

The following are questions about medical conditions that other members of your family may have had. Please answer to the best of your knowledge.

Have any of the following family members had any of the listed medical conditions (include blood relatives only):

- 28 Parents Yes No Don't Know
- a. Heart attack? 1 ☐ 0 ☐ 9 ☐ PMI1
- b. Stroke? 1 ☐ 0 ☐ 9 ☐ PSTK1
- c. Amputation not due to a traumatic injury? 1 ☐ 0 ☐ 9 ☐ PAMPUT1
- 29 Siblings (If you don't have any siblings, fill in "Not Applicable.") Yes No Don't Know Not Applicable
- a. Heart attack? 1 ☐ 0 ☐ 9 ☐ 8 ☐ SHRTATT1
- b. Stroke? 1 ☐ 0 ☐ 9 ☐ 8 ☐ SSTK1
- c. Amputation not due to a traumatic injury? 1 ☐ 0 ☐ 9 ☐ 8 ☐ SAMPUT1
- 30 Children (If you don't have any children, fill in "Not Applicable.") Yes No Don't Know Not Applicable
- a. Heart attack? 1 ☐ 0 ☐ 9 ☐ 8 ☐ CHRTATT1
- b. Stroke? 1 ☐ 0 ☐ 9 ☐ 8 ☐ CSTK1
- c. Amputation not due to a traumatic injury? 1 ☐ 0 ☐ 9 ☐ 8 ☐ CAUMPUT1

For MESA Field Center Use Only:

Completed by: 1 ☐ Self-Administered 2 ☐ Interviewer-Administered MHXADM1

Interviewer ID: MHXTID1 Reviewer ID: MHXRID1 Data Entry ID: MHXDID1



## Physical Activity

Acrostic: ACROSTIC

Date:

P		A		C		T		D	
T		D		T		1			
Month		Day		Year					

Think about the types of activities you did in a **typical week in the past month**. For each activity, note which of these activities you did in a typical week by filling in the circle for YES or NO. For each item you mark as YES, fill in the circle for the number of DAYS in a typical week you did these activities and the AVERAGE TIME per day in hours and minutes you did these activities.

**Intensity Levels:**

Light → easy effort

Moderate → harder than light but not all-out effort

Heavy → all-out effort

**Example:****Conditioning Activities****Moderate Effort:**

Low impact aerobics,  
slow bicycling, rowing,  
leisurely swimming,  
health club machines -  
moderate intensity

		Days/Week							Hours/Day						Minutes/Day			
Y	N	1	2	3	4	5	6	7	1	2	3	4	5	5+	5	15	30	45
<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
1	0	1	2	3	4	5	6	7	1	2	3	4	5	6	5	15	30	45

*In this example, the activity was done 3 days per week, 1 hour and 30 minutes per day.*

In a typical week in the past month, did you do:

Household chores		Days/Week							Hours/Day						Minutes/Day			
<b>HHCHL1</b>		<b>HHLDY1</b>							<b>HHLHR1</b>						<b>HHLMN1</b>			
1 <u>Light Effort:</u> Such as cooking, dishes, ironing, straightening up, laundry, shopping		1	2	3	4	5	6	7	1	2	3	4	5	5+	5	15	30	45
Y	N	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		1	2	3	4	5	6	7	1	2	3	4	5	6	5	15	30	45
2 <u>Moderate or Heavy Effort:</u> Such as heavy cleaning, scrubbing, mopping, home repairs, washing car, vacuuming		1	2	3	4	5	6	7	1	2	3	4	5	5+	5	15	30	45
Y	N	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		1	2	3	4	5	6	7	1	2	3	4	5	6	5	15	30	45

# Physical Activity - 2

Id#:

In a typical week in the past month, did you do:

Lawn/Yard/Garden/Farm	Days/Week	Hours/Day	Minutes/Day
<b>3</b> <u>Moderate Effort:</u> Such as weeding, mowing grass, raking, cleaning garage, sweeping <b>YARDM1</b>	<b>YARDMDY1</b> 1 2 3 4 5 6 7 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<b>YARDMHR1</b> 1 2 3 4 5 5+ <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<b>YARDMMN1</b> 5 15 30 45 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
<b>4</b> <u>Heavy Effort:</u> Such as digging dirt, shoveling snow, mending fences, chopping wood <b>YARDH1</b>	<b>YARDHDY1</b> 1 2 3 4 5 6 7 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<b>YARDHHR1</b> 1 2 3 4 5 5+ <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<b>YARDHMN1</b> 5 15 30 45 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
<b>Care of Children/Adults</b>	<b>CARELDY1</b>	<b>CARELHR1</b>	<b>CARELMN1</b>
<b>5</b> <u>Light Effort:</u> Such as bathing, feeding, changing diapers, playing with child <b>CAREL1</b>	1 2 3 4 5 6 7 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	1 2 3 4 5 5+ <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	5 15 30 45 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
<b>6</b> <u>Moderate Effort:</u> Such as lifting and carrying, pushing wheelchair or stroller <b>CAREM1</b>	<b>CAREMDY1</b> 1 2 3 4 5 6 7 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<b>CAREMHR1</b> 1 2 3 4 5 5+ <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<b>CAREMMN1</b> 5 15 30 45 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
<b>Transportation</b> <b>DRIVE1</b>	<b>DRIVEDY1</b>	<b>DRIVEHR1</b>	<b>DRIVEMN1</b>
<b>7</b> Drive or ride in car, ride the bus/subway, including travel to work	1 2 3 4 5 6 7 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	1 2 3 4 5 5+ <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	5 15 30 45 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
<b>Walking (not at work)</b>	<b>WALKDY1</b>	<b>WALKHR1</b>	<b>WALKMN1</b>
<b>8</b> Walking to get places - to the bus, car, work, into the store <b>WALK1</b>	1 2 3 4 5 6 7 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	1 2 3 4 5 5+ <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	5 15 30 45 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
<b>9</b> Walking for exercise, pleasure, social reasons, walking during work breaks, walking the dog <b>WALKEX1</b>	<b>WLKEXDY1</b> 1 2 3 4 5 6 7 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<b>WLKEXHR1</b> 1 2 3 4 5 5+ <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<b>WLKEXMN1</b> 5 15 30 45 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
<b>Dancing/Sport Activities</b>	<b>DANCEDY1</b>	<b>DANCEHR1</b>	<b>DANCEMN1</b>
<b>10</b> Dancing in church, ceremonies or for pleasure <b>DANCE1</b>	1 2 3 4 5 6 7 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	1 2 3 4 5 5+ <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	5 15 30 45 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>

# Physical Activity - 3

Id#:

In a typical week in the past month, did you do:

<b>11</b> Team sports - softball, volleyball, basketball, soccer <b>TEAMSP1</b>	Y N	<b>Days/Week</b> <b>TMSPDY1</b> 1 2 3 4 5 6 7	<b>Hours/Day</b> <b>TMSPHR1</b> 1 2 3 4 5 5+	<b>Minutes/Day</b> <b>TMSPMN1</b> 5 15 30 45
<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
<b>12</b> Dual sports - tennis, racketball, paddleball <b>DUALSP1</b>	Y N	<b>DLSPDY1</b> 1 2 3 4 5 6 7	<b>DLSPHR1</b> 1 2 3 4 5 5+	<b>DLSPMN1</b> 5 15 30 45
<input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
<b>13</b> Individual activities - golf, bowling, yoga, T'ai Chi <b>INDACT1</b>	Y N	<b>INDACDY1</b> 1 2 3 4 5 6 7	<b>INDACHR1</b> 1 2 3 4 5 5+	<b>INDACMN1</b> 5 15 30 45
<input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
<b>Conditioning Activities</b>				
<b>14</b> Moderate Effort: Low impact aerobics, slow bicycling, rowing, leisurely swimming, health club machines - moderate intensity <b>CONDMOD1</b>	Y N	<b>CONDMDY1</b> 1 2 3 4 5 6 7	<b>CONDMHR1</b> 1 2 3 4 5 5+	<b>CONDMMN1</b> 5 15 30 45
<input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
<b>15</b> Heavy Effort: High impact aerobics, fast bicycling, running, jogging, fast swimming, health club machines - vigorous intensity, judo, kickboxing, karate <b>CONDHVY1</b>	Y N	<b>CONDHDY1</b> 1 2 3 4 5 6 7	<b>CONDHHR1</b> 1 2 3 4 5 5+	<b>CONDHMN1</b> 5 15 30 45
<input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
<b>Leisure Activities</b>				
<b>16</b> Sit or recline and watch TV <b>WATCHTV1</b>	Y N	<b>WCHTVDY1</b> 1 2 3 4 5 6 7	<b>WCHTVHR1</b> 1 2 3 4 5 5+	<b>WCHTMN1</b> 5 15 30 45
<input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
<b>17</b> Read, knit, sew, visit, do nothing, non-work recreational computer <b>READ1</b>	Y N	<b>READDY1</b> 1 2 3 4 5 6 7	<b>READHR1</b> 1 2 3 4 5 5+	<b>READMN1</b> 5 15 30 45
<input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>

## Occupational Activities

**18** Do you work to earn money?

**WORK1**    0 ☐ No → Go to VOLUNTEER ACTIVITIES  
                   1 ☐ Yes → Continue to #19

**19** How many days per week and hours per day do you work in all jobs?

Days/Week	Hours/Day
1 2 3 4 5 6 7 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<1 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
<b>WORKDY1</b>	<b>WORKHR1</b>

# Physical Activity - 4

Id#:

Fill in the circles for the time you spent in each activity at work. The hours per day for all activities should equal the total hours per day you work.

At work, did you do:

<b>20</b> <u>Light Effort:</u> While sitting (e.g. in an office, laboratory, child care, etc.)  <div style="display: flex; justify-content: space-between;"> <div style="width: 40%;"> <b>WRKLSIT1</b> </div> <div style="width: 20%;"> <b>Yes</b> 1 <input type="radio"/> </div> <div style="width: 20%;"> <b>No</b> 0 <input type="radio"/> </div> </div>	<div style="text-align: center;"> <b>Hours/Day</b> </div> <div style="text-align: right; margin-bottom: 5px;"> <b>WKSITHR1</b> </div> <table style="width: 100%; text-align: center;"> <tr> <td>&lt;1</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td> </tr> <tr> <td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td> </tr> </table>	<1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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<b>21</b> <u>Light Effort:</u> While standing (e.g. filing, copying, clerking, assembly, nursing, farming, etc.)  <div style="display: flex; justify-content: space-between;"> <div style="width: 40%;"> <b>WRKLSTD1</b> </div> <div style="width: 20%;"> <b>Yes</b> 1 <input type="radio"/> </div> <div style="width: 20%;"> <b>No</b> 0 <input type="radio"/> </div> </div>	<div style="text-align: center;"> <b>Hours/Day</b> </div> <div style="text-align: right; margin-bottom: 5px;"> <b>WKSTDHR1</b> </div> <table style="width: 100%; text-align: center;"> <tr> <td>&lt;1</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td> </tr> <tr> <td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td> </tr> </table>	<1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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<b>22</b> <u>Moderate Effort:</u> While standing and/or walking (e.g. nursing, custodian, housekeeping), lifting & pushing, sustained walking (e.g. making deliveries)  <div style="display: flex; justify-content: space-between;"> <div style="width: 40%;"> <b>WRKMOD1</b> </div> <div style="width: 20%;"> <b>Yes</b> 1 <input type="radio"/> </div> <div style="width: 20%;"> <b>No</b> 0 <input type="radio"/> </div> </div>	<div style="text-align: center;"> <b>Hours/Day</b> </div> <div style="text-align: right; margin-bottom: 5px;"> <b>WKMODHR1</b> </div> <table style="width: 100%; text-align: center;"> <tr> <td>&lt;1</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td> </tr> <tr> <td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td> </tr> </table>	<1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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<b>23</b> <u>Heavy Effort:</u> Manual labor, ranch hand, farm labor, loading/unloading trucks  <div style="display: flex; justify-content: space-between;"> <div style="width: 40%;"> <b>WRKHVY1</b> </div> <div style="width: 20%;"> <b>Yes</b> 1 <input type="radio"/> </div> <div style="width: 20%;"> <b>No</b> 0 <input type="radio"/> </div> </div>	<div style="text-align: center;"> <b>Hours/Day</b> </div> <div style="text-align: right; margin-bottom: 5px;"> <b>WKHVYHR1</b> </div> <table style="width: 100%; text-align: center;"> <tr> <td>&lt;1</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td> </tr> <tr> <td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td> </tr> </table>	<1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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## Volunteer Activities

**24** In a typical week in the last month did you work as a volunteer and/or at church in activities you have not yet mentioned on this survey?

**VOLNTR1**
0 ☐ No → Skip to #28  
1 ☐ Yes Continue to #25

Did your volunteer work include:

			Days/Week VOLLDY1	Hours/Day VOLLHR1																										
<b>25</b> <u>Light Effort:</u> Sitting or standing  <div style="display: flex; justify-content: space-between;"> <div style="width: 40%;"> <b>VOLLT1</b> </div> <div style="width: 20%;"> <b>Y</b> 1 <input type="radio"/> </div> <div style="width: 20%;"> <b>N</b> 0 <input type="radio"/> </div> </div>			<table style="width: 100%; text-align: center;"> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td> </tr> <tr> <td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td> </tr> </table>	1	2	3	4	5	6	7	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<table style="width: 100%; text-align: center;"> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>5+</td> </tr> <tr> <td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td> </tr> </table>	1	2	3	4	5	5+	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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<b>26</b> <u>Moderate Effort:</u> Standing or walking  <div style="display: flex; justify-content: space-between;"> <div style="width: 40%;"> <b>VOLMOD1</b> </div> <div style="width: 20%;"> <b>Y</b> 1 <input type="radio"/> </div> <div style="width: 20%;"> <b>N</b> 0 <input type="radio"/> </div> </div>			<table style="width: 100%; text-align: center;"> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td> </tr> <tr> <td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td> </tr> </table>	1	2	3	4	5	6	7	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<table style="width: 100%; text-align: center;"> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>5+</td> </tr> <tr> <td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td> </tr> </table>	1	2	3	4	5	5+	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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<b>27</b> <u>Heavy Effort:</u> Pushing, lifting, carrying, climbing  <div style="display: flex; justify-content: space-between;"> <div style="width: 40%;"> <b>VOLHVY1</b> </div> <div style="width: 20%;"> <b>Y</b> 1 <input type="radio"/> </div> <div style="width: 20%;"> <b>N</b> 0 <input type="radio"/> </div> </div>			<table style="width: 100%; text-align: center;"> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td> </tr> <tr> <td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td> </tr> </table>	1	2	3	4	5	6	7	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<table style="width: 100%; text-align: center;"> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>5+</td> </tr> <tr> <td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td> </tr> </table>	1	2	3	4	5	5+	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																									



# Physical Activity - 5

Id#:

**28** When you walk outside of your home, what is your usual pace?

- ☐ 0 No walking at all
- ☐ 1 Casual strolling (up to 2 mph)
- ☐ 2 Average or normal (2 - 3 mph)
- ☐ 3 Fairly briskly (4 - 5 mph)
- ☐ 4 Brisk or striding (more than 5 mph)

**WLKPACE1**

For MESA Field Center Use Only:

**PACTADM1**

Completed by: ☐ 1 Self-Administered ☐ 2 Interviewer-Administered

Interviewer or Reviewer ID:

**PACTTID1**

Data Entry ID:

**PACTDID1**



## Neighborhood Questionnaire

Id#: IDNO

Acrostic: ACROSTIC

NHDDT1

Date:



Month



Day





Year

Things about people's neighborhoods may be important to their health. Now we would like to ask you some questions about what it is like to live in your neighborhood. By neighborhood we mean the area around where you live and around your house. It may include places you shop, religious or public institutions, or a local business district. It is the general area around your house where you might perform routine tasks, such as shopping, going to the park, or visiting with neighbors. Please take the time to answer carefully, but do not spend too much time on any one question. Remember that there are no right or wrong answers. We appreciate your taking the time to complete this questionnaire.

1 How many blocks are in the area that you think of as your neighborhood? **NHDBLKS1**

2 How long have you lived in this neighborhood? **NHDYRS1** years OR **NHDMO1** months

3 For each of the following statements, please tell me whether you agree by choosing the best option:

		Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
a. This is a close-knit neighborhood	<b>NCLOSE1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>	5 <input type="radio"/>
b. People around here are willing to help their neighbors.	<b>NHELP1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>	5 <input type="radio"/>
c. People in this neighborhood generally don't get along with each other	<b>NDGALNG1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>	5 <input type="radio"/>
d. People in this neighborhood can be trusted	<b>NTRUST1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>	5 <input type="radio"/>
e. People in this neighborhood do not share the same values	<b>NVALUES1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>	5 <input type="radio"/>



4 How safe from crime do you consider your neighborhood to be? **NSAFE1**

Please rate on a scale of 1 to 5: 1 ☐ 1 2 ☐ 2 3 ☐ 3 4 ☐ 4 5 ☐ 5  
Very safe Safe Not at all safe

5 Think about your neighborhood as a whole, then please check one box for each of the following to show how much of a problem each one is in your neighborhood.

	Very serious problem	Somewhat serious problem	Minor problem	Not really a problem
a. Excessive noise <b>NNOISE1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
b. Heavy traffic or speeding cars <b>NTRAF1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
c. Lack of access to adequate food shopping <b>NLFSHOP1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
d. Lack of parks or playgrounds <b>NLPARKS1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
e. Trash and litter <b>NTRASH1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
f. No sidewalks or poorly maintained sidewalks <b>NSDWLK1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
g. Violence <b>NVIOLEN1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>

For MESA Field Center Use Only:

Completed by: 1 ☐ Self-Administered 2 ☐ Interviewer-Administered **NHDADM1**

Interviewer or Reviewer ID: **NHDTID1**

Data Entry ID: **NHDDID1**



*Health and Life*

Acrostic: ACROSTIC

Date:

 / 

Month

Day

Year

HLFDT1

This questionnaire asks about how you feel about your life. Things about people's lives may be important in understanding why they do or do not have health problems. Knowing about these things may help us understand the causes of heart disease better. **Do not spend too much time on any one question, and remember that there are no right or wrong answers.** We are interested in your feelings and opinions.

This questionnaire has several parts to it. At the beginning of each part there are instructions. If you do not understand the instructions or do not understand one of the questions please ask a member of our staff, who will be glad to help you. Do not leave a question blank unless you are instructed to skip to another question. Thank you for filling out this questionnaire.

For each of the following statements, please choose the one response that best describes you.

		Almost Never	Sometimes	Often	Almost Always
1 A.	I am quick tempered	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
	<b>QKTEMPR1</b>				
B.	I have a fiery temper	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
	<b>FRTEMPR1</b>				
C.	I am a hotheaded person	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
	<b>HOTHEAD1</b>				
D.	I get angry when I'm slowed down by others' mistakes	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
	<b>ANGRY1</b>				
E.	I feel annoyed when I am not given recognition for doing good work	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
	<b>ANNOYED1</b>				
F.	I fly off the handle	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
	<b>FLYOFF1</b>				
G.	When I get mad, I say nasty things	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
	<b>NASTY1</b>				
H.	It makes me furious when I am criticized in front of others	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
	<b>FURIOUS1</b>				

# Health and Life - 2

Id#:

For each of the following statements, please choose the one response that best describes you.

		Almost Never	Sometimes	Often	Almost Always
I.	When I get frustrated, I feel like hitting someone <b>FRUSHIT1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
J.	I feel infuriated when I do a good job and get a poor evaluation <b>INFURAT1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
K.	I am a steady person <b>STEADY1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
L.	I feel satisfied with myself <b>SATISF1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
M.	I feel nervous and restless <b>NERVOUS1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
N.	I wish I could be as happy as others seem to be <b>UNHAPPY1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
O.	I feel like a failure <b>FAILURE1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
P.	I get in a state of turmoil or tension as I think over my recent concerns and interests <b>TURMOIL1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
Q.	I feel secure <b>SECURE1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
R.	I lack self-confidence <b>NOCONF1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
S.	I feel inadequate <b>INADEQT1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
T.	I worry too much over something that does not matter <b>WORRY1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>

Many people experience ongoing problems in their everyday lives. Please tell us whether any of the following has been a problem for you.

- 2 a. Serious ongoing health problem (yourself) 1 ☐ Yes 0 ☐ No  
 IF YES: **HPRB1PT1**  
 b. Has this been a problem for six months or more? 1 ☐ Yes 0 ☐ No  
 c. Would you say this problem has been **HPRB2PT1**  
 1 ☐ Not very stressful  
 2 ☐ Moderately stressful  
 3 ☐ Very stressful  
**HPRB3PT1**

- 3 a. Serious ongoing health problem (someone close to you) **HPRB1OT1** 1 ☐ Yes 0 ☐ No

IF YES:

- b. Has this been a problem for six months or more? 1 ☐ Yes 0 ☐ No

- c. Would you say this problem has been **HPRB2OT1**

1 ☐ Not very stressful

2 ☐ Moderately stressful **HPRB3OT1**

3 ☐ Very stressful

- 4 a. Ongoing difficulties with your job or ability to work **JOB1PRB1** 1 ☐ Yes 0 ☐ No

IF YES:

- b. Has this been a problem for six months or more? 1 ☐ Yes 0 ☐ No

- c. Would you say this problem has been **JOB2PRB1**

1 ☐ Not very stressful

2 ☐ Moderately stressful **JOB3PRB1**

3 ☐ Very stressful

- 5 a. Ongoing financial strain **MON1PRB1** 1 ☐ Yes 0 ☐ No

IF YES:

- b. Has this been a problem for six months or more? 1 ☐ Yes 0 ☐ No

- c. Would you say this problem has been **MON2PRB1**

1 ☐ Not very stressful

2 ☐ Moderately stressful **MON3PRB1**

3 ☐ Very stressful

- 6 a. Ongoing difficulties in a relationship with someone close to you **REL1PRB1** 1 ☐ Yes 0 ☐ No

IF YES:

- b. Has this been a problem for six months or more? 1 ☐ Yes 0 ☐ No

- c. Would you say this problem has been **REL2PRB1**

1 ☐ Not very stressful

2 ☐ Moderately stressful **REL3PRB1**

3 ☐ Very stressful

7 Below is a list of the ways you might have felt or behaved. Please indicate how often you felt this way DURING THE PAST WEEK.

		Rarely or none of the time (Less than 1 Day)	Some or a little of the time (1-2 Days)	A moderate amount of the time (3-4 Days)	Most of the time (5-7 Days)
A.	I was bothered by things that don't usually bother me <b>BOTHER1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
B.	I did not feel like eating; my appetite was poor <b>NOTEAT1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
C.	I felt that I could not shake off the blues, even with help from my family and friends <b>BLUE1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
D.	I felt that I was just as good as other people <b>ASGOOD1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
E.	I had trouble keeping my mind on what I was doing <b>CONCNTR1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
F.	I felt depressed <b>DEPRESS1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
		Rarely or none of the time (Less than 1 Day)	Some or a little of the time (1-2 Days)	A moderate amount of the time (3-4 Days)	Most of the time (5-7 Days)
G.	I felt that everything I did was an effort <b>EFFORT1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
H.	I felt hopeful about the future <b>HOPEFUL1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
I.	I thought my life had been a failure <b>LFFAIL1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
J.	I felt fearful <b>FEARFUL1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
K.	My sleep was restless <b>BADSLP1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
L.	I was happy <b>HAPPY1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
M.	I talked less than usual <b>LESTALK1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
N.	I felt lonely <b>LONELY1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
O.	People were unfriendly <b>UNFRNLY1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
P.	I enjoyed life <b>ENJLIFE1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
Q.	I had crying spells <b>CRYSPEL1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>

Below is a list of the ways you might have felt or behaved. Please tell me how often you felt this way **DURING THE PAST WEEK.**

		Rarely or none of the time (Less than 1 Day)	Some or a little of the time (1-2 Days)	A moderate amount of the time (3-4 Days)	Most of the time (5-7 Days)
R.	I felt sad <b>SAD1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
S.	I felt that people dislike me <b>DISLIKD1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
T.	I could not "get going" <b>GETGOIN1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>

Please read the following questions and mark the answer that best describes your life now.

		None of the time	A little of the time	Some of the time	Most of the time	All of the time
8	Is there someone available to you whom you can count on to listen to you when you need to talk? <b>TALKTO1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>	5 <input type="radio"/>
9	Is there someone available to give you good advice about a problem? <b>ADVICE1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>	5 <input type="radio"/>
10	Is there someone available to you who shows you love and affection? <b>AFFECTN1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>	5 <input type="radio"/>
11	Is there someone available to help you with daily chores? <b>HLPCHR1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>	5 <input type="radio"/>
12	Can you count on anyone to provide you with emotional support (talking over problems or helping you make a difficult decision)? <b>EMOSPT1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>	5 <input type="radio"/>
13	Do you have as much contact as you would like with someone you feel close to, someone in whom you can trust and confide? <b>CONFIDE1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>	5 <input type="radio"/>

# Health and Life - 6

Id#:

Now we would like to ask you a few questions about situations where you might have felt that you had been treated unfairly.

**14** a. Do you think you have ever been unfairly fired or denied a promotion? ☐ 1 Yes ☐ 0 No **UF1FIRE1**

b. IF YES: What was the main reason? (Choose one)

- UF2FIRE1**
- |   |   |
|---|---|
| <input type="radio"/> 1 Race or Ethnicity | <input type="radio"/> 5 Physical Appearance       |
| <input type="radio"/> 2 Gender            | <input type="radio"/> 6 Sexual Orientation        |
| <input type="radio"/> 3 Age               | <input type="radio"/> 7 Income level/Social Class |
| <input type="radio"/> 4 Religion          | <input type="radio"/> 8 Other                     |

c. Did this happen in the last 12 months? ☐ 1 Yes ☐ 0 No **UF3FIRE1**

**15** a. For unfair reasons, do you think you have ever not been hired for a job? ☐ 1 Yes ☐ 0 No **UF1HIRE1**

b. IF YES: What was the main reason? (Choose one)

- UF2HIRE1**
- |   |   |
|---|---|
| <input type="radio"/> 1 Race or Ethnicity | <input type="radio"/> 5 Physical Appearance       |
| <input type="radio"/> 2 Gender            | <input type="radio"/> 6 Sexual Orientation        |
| <input type="radio"/> 3 Age               | <input type="radio"/> 7 Income level/Social Class |
| <input type="radio"/> 4 Religion          | <input type="radio"/> 8 Other                     |

c. Did this happen in the last 12 months? ☐ 1 Yes ☐ 0 No **UF3HIRE1**

**16** a. Have you ever been unfairly stopped, searched, questioned, physically threatened or abused by the police? ☐ 1 Yes ☐ 0 No **UF1STOP1**

b. IF YES: What was the main reason? (Choose one)

- UF2STOP1**
- |   |   |
|---|---|
| <input type="radio"/> 1 Race or Ethnicity | <input type="radio"/> 5 Physical Appearance       |
| <input type="radio"/> 2 Gender            | <input type="radio"/> 6 Sexual Orientation        |
| <input type="radio"/> 3 Age               | <input type="radio"/> 7 Income level/Social Class |
| <input type="radio"/> 4 Religion          | <input type="radio"/> 8 Other                     |

c. Did this happen in the last 12 months? ☐ 1 Yes ☐ 0 No **UF3STOP1**

**17** a. Have you ever been unfairly discouraged by a teacher or advisor from continuing your education? ☐ 1 Yes ☐ 0 No **UF1EDUC1**

b. IF YES: What was the main reason? (Choose one)

- UF2EDUC1**
- |   |   |
|---|---|
| <input type="radio"/> 1 Race or Ethnicity | <input type="radio"/> 5 Physical Appearance       |
| <input type="radio"/> 2 Gender            | <input type="radio"/> 6 Sexual Orientation        |
| <input type="radio"/> 3 Age               | <input type="radio"/> 7 Income level/Social Class |
| <input type="radio"/> 4 Religion          | <input type="radio"/> 8 Other                     |

c. Did this happen in the last 12 months? ☐ 1 Yes ☐ 0 No **UF3EDUC1**

# Health and Life - 7

Id#:

- 18 a. Have you ever been unfairly prevented from moving into a neighborhood because the landlord or a realtor refused to sell or rent you a house or apartment? 1 ☐ Yes 0 ☐ No UF1MOVE1

b. IF YES: What was the main reason? (Choose one)

- UF2MOVE1
- |   |   |
|---|---|
| 1 <input type="radio"/> Race or Ethnicity | 5 <input type="radio"/> Physical Appearance       |
| 2 <input type="radio"/> Gender            | 6 <input type="radio"/> Sexual Orientation        |
| 3 <input type="radio"/> Age               | 7 <input type="radio"/> Income level/Social Class |
| 4 <input type="radio"/> Religion          | 8 <input type="radio"/> Other                     |

- c. Did this happen in the last 12 months? 1 ☐ Yes 0 ☐ No UF3MOVE1

- 19 a. Have you ever moved into a neighborhood where neighbors made life difficult for you or your family? 1 ☐ Yes 0 ☐ No UF1NGHB1

b. IF YES: What was the main reason? (Choose one)

- UF2NGHB1
- |   |   |
|---|---|
| 1 <input type="radio"/> Race or Ethnicity | 5 <input type="radio"/> Physical Appearance       |
| 2 <input type="radio"/> Gender            | 6 <input type="radio"/> Sexual Orientation        |
| 3 <input type="radio"/> Age               | 7 <input type="radio"/> Income level/Social Class |
| 4 <input type="radio"/> Religion          | 8 <input type="radio"/> Other                     |

- c. Did this happen in the last 12 months? 1 ☐ Yes 0 ☐ No UF3NGHB1

In your day-to-day life how often have any of the following things happened to you?

- |   | Almost every day        | At least once a week    | A few times a month     | A few times a year      | Less than once a year   | Never                   |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| 20 A. You are treated with less courtesy than other people<br><b>CURTESY1</b>               | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 6 <input type="radio"/> |
| B. You are treated with less respect than other people<br><b>RESPECT1</b>                   | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 6 <input type="radio"/> |
| C. You receive poorer service than other people at restaurants or stores<br><b>SERVICE1</b> | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 6 <input type="radio"/> |
| D. People act as if they think you are not smart<br><b>SMART1</b>                           | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 6 <input type="radio"/> |
| E. People act as if they are afraid of you<br><b>AFRAID1</b>                                | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 6 <input type="radio"/> |



In your day-to-day life how often have any of the following things happened to you?

	Almost every day	At least once a week	A few times a month	A few times a year	Less than once a year	Never
F. People act as if they think you are dishonest <b>DISHON1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>	5 <input type="radio"/>	6 <input type="radio"/>
G. People act as if they're better than you <b>BETTER1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>	5 <input type="radio"/>	6 <input type="radio"/>
H. You are called names or insulted <b>INSULT1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>	5 <input type="radio"/>	6 <input type="radio"/>
I. You are threatened or harassed <b>THREAT1</b>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>	5 <input type="radio"/>	6 <input type="radio"/>

For the next two questions, please choose the one best answer.

- 21 a. If you feel you've been treated unfairly, do you usually: **UF1RESP1**
- 1 ☐ Accept it as a fact of life      2 ☐ Try to do something about it
- b. And if you feel you've been treated unfairly, do you usually: **UF2RESP1**
- 1 ☐ Talk to other people about it      2 ☐ Keep it to yourself

For MESA Field Center Use Only:

Completed by: 1 ☐ Self-Administered      2 ☐ Interviewer-Administered **HLFADM1**

Interviewer or Reviewer ID: **HLFTID1**

Data Entry ID: **HLFDID1**



## Medications

**Acrostic:** \_\_\_\_\_

**Date:**

--	--

Month

--	--

Day

--	--	--	--

Year

As you know, the Multi-Ethnic Study of Atherosclerosis will be describing all medications its participants are using, both prescription and over-the-counter. These include pills, liquid medications, skin patches, eye drops, creams, salves, inhalers and injections, as well as cold or allergy medications, vitamins, herbal remedies and other supplements. The letter you received about this appointment included a plastic medications bag for all your current medications and asked you to bring them to the clinic. Have you brought this bag with you? Are these all the medications that you have taken in the past two weeks?

- ☐ **YES** → May I see them? *Continue with Section B*
☐ **NO** → *Make arrangements to obtain*
- ☐ **REFUSED** → *Record reason for refusal in Comments Section*
☐ **TOOK NO MEDICINES** → *Go to end of form*

**1** Copy the name of the medicine, the strength (**include units**), and the total number of doses prescribed per day/week/month. Include all pills, skin patches, eye drops, creams, salves, and injections.

- 2** On the average during the last two weeks, how many of these pills did you take a day/week/month?

**Medication Name**

**Medication Name**  
Print the first 20 letters only - Please print clearly

**Strength(mg, IU, etc.)**  
Write the decimal  
as one of the digits

**Number Prescribed**  
*Circle: Day, Week, Month*

## PRN Medicine?

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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Number unable to transcribe:

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# Medications - 2

8013195

## Section C Over-the-Counter Medications

**3** Copy the name of the medicine, the strength (include units), and the total number of doses per day/week/month. Include all pills, liquid medications, eye drops, creams, salves, and supplements.

**4** On the average during the last two weeks, how many of these did you take a day/week/month?

	Medication Name Print the first 20 letters only - Please print clearly	Strength(mg, IU, etc.) Write the decimal as one of the digits	
1.			___ D W M
2.			___ D W M
3.			___ D W M
4.			___ D W M
5.			___ D W M
6.			___ D W M
7.			___ D W M
8.			___ D W M
9.			___ D W M
10.			___ D W M
11.			___ D W M
12.			___ D W M
13.			___ D W M
14.			___ D W M
15.			___ D W M

Number unable to transcribe:

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### Comments:


Interviewer or Reviewer ID:

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Reviewer ID:

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Data Entry ID:

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Multi-Ethnic Study of Atherosclerosis



Participant ID: 8013195

Visit Date:

		/			/				
--	--	---	--	--	---	--	--	--	--

Acrostic:

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23562



INSTRUCTIONS:

Your eating habits can be important to your health. The questions on this form are about your usual eating habits over the last year. Please follow the directions and complete the questionnaire. Within 4 to 6 weeks, we will send you a report on how your diet compares to guidelines for a healthy diet.

You may work on the questionnaire while waiting in the clinic and return the completed questionnaire to the clinic. Or, you may take it home to complete and mail the questionnaire back to us using the stamped, addressed envelope that we will give to you.

Feel free to take breaks if you are getting tired. If you have any questions, you may call \_\_\_\_\_ at \_\_\_\_\_.

Please return the questionnaire within ONE WEEK of today, by \_\_\_\_\_.

Answer the questions by filling in the bubbles using a pencil. Be sure to fill in the bubbles completely. If you make a mistake, just erase the mistake and fill in the correct bubble.

Like This:



Not Like This:



First, please answer these questions:

How old are you?

- ☐ Less than 20      ☐ 50-59  
☐ 20-29      ☐ 60-69  
☐ 30-39      ☐ 70+  
☐ 40-49

Are you: ☐ 1-Male  
☐ 2-Female

How many times per day do you usually eat, including both meals & snacks?

- ☐ 0   ☐ 1   ☐ 2   ☐ 3  
☐ 4   ☐ 5   ☐ 6   ☐ 7  
☐ 8   ☐ 9+

How many times per week do you eat at restaurants for meals, including fast-food and take-out?

- ☐ 0   ☐ 1   ☐ 2   ☐ 3  
☐ 4   ☐ 5   ☐ 6   ☐ 7  
☐ 8   ☐ 9+

The following pages include a list of foods and a place for you to tell us how often you typically eat the food and whether your usual serving size is small, medium or large.

For each line, fill in the bubble that best describes HOW OFTEN you eat the foods.

Then, fill in the bubble that best describes your USUAL SERVING SIZE. Simply mark "small", "medium", or "large" compared to what seems typical for other men or women about your age.

**EXAMPLE:** John eats 1 medium-sized banana, 5 days a week.

**FRUITS AND JUICES**

Type of Food	Average Last Year										Your Serving Size		
	Rare or Never	1 Time Per Month	2-3 Times Per Month	1 Time Per Week	2 Times Per Week	3-4 Times Per Week	5-6 Times Per Week	1 Time Per Day	2+ Times Per Day		S	M	L
Bananas, plantains	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you don't eat the food, you may leave the serving size blank.

Some ethnic foods, including Chinese and Mexican, are included. If you don't recognize the name of a food, you probably don't eat it and can mark "Rare or Never."

Please include foods that you eat at home and at restaurants, as well as TV dinners and other frozen foods.

No one remembers everything about what they eat. Just relax and answer to the best of your ability. Thank you very much for taking the time to fill out this questionnaire!

# FRUITS AND JUICES

Type of Food	Average Last Year									Your Serving Size		
	Rare or Never	1 Per Mo.	2-3 Per Mo.	1 Per Wk.	2 Per Wk.	3-4 Per Wk.	5-6 Per Wk.	1 Per Day	2+ Per Day	S	M	L
<b>Fruits Eaten During The Months When They Are In Season</b>												
Peaches, apricots, nectarines, plums	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cantaloupe, mango, papaya	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Strawberries, blueberries, other berries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>All Other Fruits, Eaten All Year</b>												
Apples, applesauce, pears	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bananas, plantains	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Oranges, grapefruit, tangerines, kiwi	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dried fruits including raisins, prunes, figs, apricots	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Any other fruit (pineapple, persimmon, grapes, other melon, canned peaches, fruit cocktail, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Fruit Juices</b>												
Orange juice, grapefruit juice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Any other fruit juice (apple, grape, punch, kool-aid, guava juice, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**CEREAL AND OTHER BREAKFAST FOODS** (please include here even if you eat these foods at times other than breakfast)

Type of Food	Average Last Year									Your Serving Size		
	Rare or Never	1 Per Mo.	2-3 Per Mo.	1 Per Wk.	2 Per Wk.	3-4 Per Wk.	5-6 Per Wk.	1 Per Day	2+ Per Day	S	M	L
Eggs, omlettes, huevos rancheros	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sausage, chorizo, scrapple, bacon	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pancakes, waffles, French toast	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Oatmeal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other hot cereal (grits, cream of wheat, mush, congee)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cold Cereal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you eat cold cereal, what is the name of the cold cereal that you eat most often?

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Clinical use only:

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**BREADS**

White bread or rolls (hamburger buns, bagels, pita, English muffins, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dark, whole grain breads or rolls (hamburger buns, bagels, pita, English muffins, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bran muffins	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Biscuits, other muffins, croissants, corn bread, hush puppies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Margarine or mayonnaise on bread or rolls	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Butter on bread or rolls	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## SNACKS

Type of Food	Average Last Year									Your Serving Size		
	Rare or Never	1 Per Mo.	2-3 Per Mo.	1 Per Wk.	2 Per Wk.	3-4 Per Wk.	5-6 Per Wk.	1 Per Day	2+ Per Day	S	M	L
Potato, corn or tortilla chips	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Crackers, pretzels, popcorn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Almonds, walnuts, pecans, other nuts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sunflower, pinyon, other seeds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Peanuts, peanut butter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## CHEESE, YOGURT

Cottage or ricotta cheese	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cheddar, American, Chihuahua, Swiss, cream cheese, cheese spreads, any other cheese	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Plain yogurt (unflavored)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flavored yogurt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## SOUPS

Cream soups including chowders, potato and cheese soups	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pea, lentil, black bean, potajes soups	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Miso soup or sauce with soybean paste	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other soups including vegetable beef, tomato, egg drop, chicken noodle	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



**SALADS, VEGETABLES AND BEANS** (not including vegetables in mixed dishes - these are included later)

Type of Food	Average Last Year									Your Serving Size		
	Rare or Never	1 Per Mo.	2-3 Per Mo.	1 Per Wk.	2 Per Wk.	3-4 Per Wk.	5-6 Per Wk.	1 Per Day	2+ Per Day	S	M	L
Tossed salad with iceberg or light green lettuce	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tossed salad with spinach, romaine or dark greens, cooked spinach, turnip greens, collards	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tomatoes (cooked or raw), tomato juice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Avocado, guacamole	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Carrots	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Broccoli, cabbage, cauliflower, brussel sprouts, sauerkraut, kimchee	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Green beans, peas, snow peas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Corn, hominy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Winter squash, acorn squash	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pinto, black, baked, butter or red beans, pork and beans, black-eyed peas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Any other vegetables including summer squash, zucchini, asparagus, mixed vegetables	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**RICE AND POTATOES**

White, Mexican or sticky rice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Brown or wild rice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fried rice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



## RICE AND POTATOES (Continued)

Type of Food	Average Last Year									Your Serving Size		
	Rare or Never	1 Per Mo.	2-3 Per Mo.	1 Per Wk.	2 Per Wk.	3-4 Per Wk.	5-6 Per Wk.	1 Per Day	2+ Per Day	S	M	L
French fries, fried potatoes, hash browns	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Boiled, baked, mashed or other potatoes, turnips	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sweet potatoes, yams	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Butter, margarine or oil on vegetables, rice or potatoes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## CHINESE FOOD AND TOFU

Oriental noodles with meat (saimen, ramen, wonton mein)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chinese dumplings, spring roll, dim sum (not fried), Chinese bun with meat, sausage and vegetables	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chow mein	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stir-fried beef, pork or chicken with vegetables, including beef broccoli	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stir-fried shrimp or fish with vegetables	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stir-fried tofu or tempeh with vegetables	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stir-fried vegetables (no meat)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## MEXICAN FOOD

Type of Food	Average Last Year										Your Serving Size		
	Rare or Never	1 Per Mo.	2-3 Per Mo.	1 Per Wk.	2 Per Wk.	3-4 Per Wk.	5-6 Per Wk.	1 Per Day	2+ Per Day		S	M	L
Burritos or quesadillas with no meat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Burritos, quesadillas or fajitas with meat, poultry or seafood	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enchiladas, tamales, tacos or nachos with no meat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enchiladas, tamales, tacos or nachos with meat, poultry or seafood	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Picadillo, carne quisada, menudo	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Arroz con pollo	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chile with meat and beans	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Red chile con carne with meat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Green chile con carne with meat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Refried beans as a side dish	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Salsa, pico de gallo	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flour or corn tortilla on the side	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## NOODLES, CASSEROLES, ITALIAN SPAGHETTI AND PIZZA

Pasta with cream sauce or cheese (no meat), including macaroni and cheese, quiche, pesto	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pasta with cream sauce, cheese and meat, poultry or seafood, including tuna noodle casserole	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



## NOODLES, CASSEROLES, ITALIAN SPAGHETTI AND PIZZA (Continued)

Type of Food	Average Last Year									Your Serving Size		
	Rare or Never	1 Per Mo.	2-3 Per Mo.	1 Per Wk.	2 Per Wk.	3-4 Per Wk.	5-6 Per Wk.	1 Per Day	2+ Per Day	S	M	L
Pasta with tomato sauce (no meat), including spaghetti and lasagna	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pasta with tomato sauce and meat, poultry or seafood, including spaghetti and lasagna	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pizza	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## OTHER MIXED DISHES

Meat, chicken or turkey stew, pot pie or empanada	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fish stew or seafood gumbo, paella	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chicken salad, tuna salad or egg salad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pasta salad, macaroni salad, potato salad, cole slaw	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## MEAT AND POULTRY (not including meats in the mixed dishes listed above)

Hamburger, cheeseburger, meat loaf, hash	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Beef, pork or lamb steaks, roasts, barbeque or ribs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ham hocks, pigs' feet, chicharones	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ham, hot dogs, bologna, salami, other lunch meats	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Roasted, broiled, baked or ground chicken or turkey	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



## MEAT AND POULTRY (Continued)

Type of Food	Average Last Year									Your Serving Size		
	Rare or Never	1 Per Mo.	2-3 Per Mo.	1 Per Wk.	2 Per Wk.	3-4 Per Wk.	5-6 Per Wk.	1 Per Day	2+ Per Day	S	M	L
Fried chicken	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Liver including chicken livers, other organ meats	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gravies made with meat or poultry drippings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## FISH (not including fish in the mixed dishes listed above)

Fried fish or fish sandwich, fried shrimp, calamari	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shrimp, lobster, crab, oysters, mussels (not fried)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tuna, salmon, sardines (including sashimi or sushi)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other broiled, steamed, baked or raw fish (trout, sole, halibut, poke, grouper)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## SWEETS

Sugar, jelly, jam, molasses on bread or cereal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regular ice cream	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Frozen yogurt, low-fat ice cream, ice milk, sherbert	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dessert made with tofu	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
White doughnuts, cookies, cakes, pastries, Pop Tarts, Chinese desserts, Mexican desserts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## SWEETS (Continued)

Type of Food	Average Last Year									Your Serving Size		
	Rare or Never	1 Per Mo.	2-3 Per Mo.	1 Per Wk.	2 Per Wk.	3-4 Per Wk.	5-6 Per Wk.	1 Per Day	2+ Per Day	S	M	L
Chocolate doughnuts, cookies, cakes, brownies or candy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pudding, custard, flan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other candy including hard candy, licorice, other candy bars	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Beverages

Notice that you can report up to 6 or more per day of any item in the beverage list. When you answer these questions about milk, include **ONLY** beverages; **DO NOT** include milk that you use on your cereal.

Type of Food	Average Last Year									Your Serving Size		
	Rare or Never	1-3 Per Mo.	1 Per Wk.	2-4 Per Wk.	5-6 Per Wk.	1 Per Day	2-3 Per Day	4-5 Per Day	6+ Per Day	S	M	L
Whole milk and beverages made with whole milk including cafe latte, cafe au lait	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2% milk and beverages made with 2% milk including cafe latte, cafe au lait	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Skim milk, 1% or buttermilk, or beverages made with these including cafe latte, cafe au lait	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sweetened condensed milk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Soy milk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regular soft drinks, soda, sweetened mineral water (not diet), non-alcoholic beer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

# Beverages (Continued)

Type of Food	Average Last Year									Your Serving Size		
	Rare or Never	1-3 Per Mo.	1 Per Wk.	2-4 Per Wk.	5-6 Per Wk.	1 Per Day	2-3 Per Day	4-5 Per Day	6+ Per Day	S	M	L
Diet soft drinks, unsweetened mineral water	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Instant breakfast, Ensure, Slimfast	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hot chocolate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coffee (regular or decaffeinated) not including latte, cafe au lait	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Herbal tea	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Black or green tea	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Milk in coffee or tea (not including cafe latte, cafe au lait)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cream, half-and-half or non-dairy creamer in coffee or tea	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sugar or honey in coffee or tea (not including artificial sweetners)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Beer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Liquor or mixed drinks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

23562



The next few questions will help us understand the kind of food you eat. If you never eat the food, please mark "I Do Not Eat The Food".

	<b>I Do Not Eat The Food</b>	<b>SELDOM or NEVER</b>	<b>SOMETIMES</b>	<b>OFTEN or ALWAYS</b>
How often do you eat the skin on chicken?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How often do you eat the fat on meat?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If you eat ground beef, how often is it lean or extra lean ground beef?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How often do you add salt to food at the table?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If you eat fresh fruit (not including oranges or bananas), how often do you eat the peel?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If you eat potatoes, how often do you eat the skin?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If you eat salads, how often do you use either diet salad dressing or no salad dressing?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If you drink juice, how often do you drink calcium-fortified juice?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If you drink juice, how often do you drink Vitamin C-fortified juice?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not all dark or wheat breads are 100% whole grain. If you eat dark or wheat bread or rolls, how often is it 100% whole grain?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>





Continued:

	<b>I Do Not Eat The Food</b>	<b>SELDOM or NEVER</b>	<b>SOMETIMES</b>	<b>OFTEN or ALWAYS</b>
<b>If you eat hot dogs, bologna or other lunch meats, how often are they low-fat?</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>If you eat snacks such as chips or popcorn, how often are they low-fat?</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>If you eat bacon or sausage, how often is it low-fat?</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>If you eat cheese, how often is it low-fat cheese?</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>If you eat yogurt, how often is it low-fat yogurt?</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>If you eat cookies or cake, how often are they low-fat cookies or cake?</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

23562



The next few questions are about using fat in cooking. If someone else does the cooking, please answer to the best of your knowledge.

	Average Last Year								
	Less Than 1 Per Wk.	1-2 Per Wk.	3-4 Per Wk.	5-6 Per Wk.	1 Per Day	1 1/2 Per Day	2 Per Day	3 Per Day	4+ Per Day
How often is fat or oil used in cooking the foods you eat? For example in sauteing, stir frying or frying eggs, meat or vegetables?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What kind of fat or oil is usually used in cooking? (You may select two fats used in sauteing, stir frying or frying food)

- |  |   |
|--|---|
| <input type="radio"/> Don't know                                   | <input type="radio"/> Pam or no oil   |
| <input type="radio"/> Soft margarine (tub or liquid)               | <input type="radio"/> Olive oil   |
| <input type="radio"/> Stick margarine or shortening                | <input type="radio"/> Canola oil  |
| <input type="radio"/> Butter                                       | <input type="radio"/> Coconut oil   |
| <input type="radio"/> Lard, fatback, bacon fat, fat from hamburger | <input type="radio"/> Other oil (such as vegetable, corn, sesame, sunflower or safflower) |

If you eat refried beans or pinto beans, what kind of oil or fat is used in cooking the beans? (You may select two choices)

- |  |   |
|--|---|
| <input type="radio"/> Don't know / Don't eat beans                 | <input type="radio"/> Pam or no oil   |
| <input type="radio"/> Soft margarine (tub or liquid)               | <input type="radio"/> Olive oil   |
| <input type="radio"/> Stick margarine or shortening                | <input type="radio"/> Canola oil  |
| <input type="radio"/> Butter                                       | <input type="radio"/> Coconut oil   |
| <input type="radio"/> Lard, fatback, bacon fat, fat from hamburger | <input type="radio"/> Other oil (such as vegetable, corn, sesame, sunflower or safflower) |

What kind of fat do you usually add to vegetables, potatoes, etc. *at the table*? (You may select two choices)

- |  |   |   |
|--|---|---|
| <input type="radio"/> Don't add fat                  | <input type="radio"/> Half butter, half margarine | <input type="radio"/> Coconut oil   |
| <input type="radio"/> Soft margarine (tub or liquid) | <input type="radio"/> Lard, fatback, bacon fat    | <input type="radio"/> Other oil (such as vegetable, corn, sunflower or safflower) |
| <input type="radio"/> Stick margarine or shortening  | <input type="radio"/> Olive oil                   | <input type="radio"/> Sour cream  |
| <input type="radio"/> Butter                         | <input type="radio"/> Canola oil                  |   |

The next few questions are about your usual dietary intake over the past year.

	Average Last Year								
	Less Than 1 Per Wk.	1-2 Per Wk.	3-4 Per Wk.	5-6 Per Wk.	1 Per Day	1 1/2 Per Day	2 Per Day	3 Per Day	4+ Per Day
Not counting salads, potatoes, or mixed dishes, about how often do you eat vegetables?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
About how often do you eat cold cereal?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not counting juices, how often do you eat fruit?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Is there any other food that you eat **at least once a week** that you have not seen listed in the previous pages? ☐ No ☐ Yes

List:

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Is there anything else that you would like to tell us about your eating habits? ☐ No ☐ Yes

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## Clinical Use Only:

EDITOR: Review form for completeness and consistency, complete missing items and obtain clarifications.

- Comments? ☐ (1) -None  
☐ (2) -Yes, no review needed  
☐ (3) -Yes, Diet Data Center review needed (questionable accuracy, etc.)

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Is review by Diet Data Center required for coding food items? ☐ No ☐ Yes

Date of Editing			
Month / Day / Year			
	<input type="text"/>	/	<input type="text"/>
	<input type="text"/>	/	<input type="text"/>
0	<input type="text"/>	<input type="text"/>	<input type="text"/>
1	<input type="text"/>	<input type="text"/>	<input type="text"/>
2	<input type="text"/>	<input type="text"/>	<input type="text"/>
3	<input type="text"/>	<input type="text"/>	<input type="text"/>
4	<input type="text"/>	<input type="text"/>	<input type="text"/>
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9	<input type="text"/>	<input type="text"/>	<input type="text"/>

Editor's Initials	
First Name (1st 2)	Last Name (1st 2)
<input type="text"/>	<input type="text"/>
A <input type="text"/>	<input type="text"/>
B <input type="text"/>	<input type="text"/>
C <input type="text"/>	<input type="text"/>
D <input type="text"/>	<input type="text"/>
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F <input type="text"/>	<input type="text"/>
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M <input type="text"/>	<input type="text"/>
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S <input type="text"/>	<input type="text"/>
T <input type="text"/>	<input type="text"/>
U <input type="text"/>	<input type="text"/>
V <input type="text"/>	<input type="text"/>
W <input type="text"/>	<input type="text"/>
X <input type="text"/>	<input type="text"/>
Y <input type="text"/>	<input type="text"/>
Z <input type="text"/>	<input type="text"/>





# SECTION D. VITAMINS, MINERALS, OTHER NUTRITIONAL SUPPLEMENTS

Do you take any vitamins, minerals, or other supplements at least once a month?

☐ No — Thank you very much. This is the end of the medication interview.

☐ Yes

If yes, complete the following two questions on this worksheet.  
Use supplement coding form attached for scanning.

Participant ID: 8013195

Visit Date:

		/			/				
--	--	---	--	--	---	--	--	--	--

Acrostic:

--	--	--	--	--	--	--

1. Do you take any of these supplements once per week or more?

☐ No

☐ Yes If yes, complete the following worksheet.

## Worksheet:

Multi-Vitamins: (List name and brand)

# Pills  
per week

Duration  
# of months/years


Single Supplements: (List name and brand)

# Pills  
per week

Dose

Duration  
# of months/years


Either now, or before scanning, code these on supplement coding pages as "1/week or more." For EACH NUTRIENT, code # pills/week, total dose of the nutrient, and duration of use. Xerox the label if you need to record dose information later. Call the Diet Assessment Center if you have questions.

2. Do you take any of these supplements < 1/week?

☐ No

☐ Yes

If yes, list names of supplements from bottle, including specific brand. \*For multi-vitamins, list each nutrient.


Either now, or before scanning, code each nutrient on supplement coding pages as 1-3/month. No further information is needed. Xerox the label if you need to record specific nutrients later.

CONFIRM BOTTLES OF NUTRITIONAL SUPPLEMENTS.

23562



Probe: "Do you take any other vitamins?"	Complete for all supplements taken:		Complete <u>only</u> for items taken at least once per week:			
	1-3/ Month	1 / Week or More	Dose		Duration of Use	
			# Pills/ Week	Dose/Pill	#	Months or Years
Vitamin A (not Beta-carotene)	<input type="radio"/>	<input type="radio"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> IU	<input type="text"/> <input type="text"/>	<input type="radio"/> mo <input type="radio"/> yrs
Beta-carotene	<input type="radio"/>	<input type="radio"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> IU	<input type="text"/> <input type="text"/>	<input type="radio"/> mo <input type="radio"/> yrs
B1 (Thiamin)	<input type="radio"/>	<input type="radio"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> mg	<input type="text"/> <input type="text"/>	<input type="radio"/> mo <input type="radio"/> yrs
B2 (Riboflavin)	<input type="radio"/>	<input type="radio"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> mg	<input type="text"/> <input type="text"/>	<input type="radio"/> mo <input type="radio"/> yrs
B6	<input type="radio"/>	<input type="radio"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> mcg	<input type="text"/> <input type="text"/>	<input type="radio"/> mo <input type="radio"/> yrs
B12	<input type="radio"/>	<input type="radio"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> mcg	<input type="text"/> <input type="text"/>	<input type="radio"/> mo <input type="radio"/> yrs
Vitamin C	<input type="radio"/>	<input type="radio"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> mg	<input type="text"/> <input type="text"/>	<input type="radio"/> mo <input type="radio"/> yrs
Vitamin E	<input type="radio"/>	<input type="radio"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> IU	<input type="text"/> <input type="text"/>	<input type="radio"/> mo <input type="radio"/> yrs
Folate	<input type="radio"/>	<input type="radio"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> mcg	<input type="text"/> <input type="text"/>	<input type="radio"/> mo <input type="radio"/> yrs
Lutein	<input type="radio"/>	<input type="radio"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> mcg	<input type="text"/> <input type="text"/>	<input type="radio"/> mo <input type="radio"/> yrs
Niacin	<input type="radio"/>	<input type="radio"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> mg	<input type="text"/> <input type="text"/>	<input type="radio"/> mo <input type="radio"/> yrs

**CONFIRM BOTTLES OF NUTRITIONAL SUPPLEMENTS.**

23562



<b>Probe: "Do you take any other minerals such as?" (List)</b>	Complete for all supplements taken:		Complete <u>only</u> for items taken at least once per week:			
	1-3/ Month	1 / Week or More	Dose		Duration of Use	
			# Pills/ Week	Dose/Pill	#	Months or Years
Calcium or dolomite, Tums	<input type="radio"/>	<input type="radio"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> mg	<input type="text"/> <input type="text"/>	<input type="radio"/> mo <input type="radio"/> yrs
Chromium	<input type="radio"/>	<input type="radio"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> mcg	<input type="text"/> <input type="text"/>	<input type="radio"/> mo <input type="radio"/> yrs
Iron	<input type="radio"/>	<input type="radio"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> mg	<input type="text"/> <input type="text"/>	<input type="radio"/> mo <input type="radio"/> yrs
Magnesium	<input type="radio"/>	<input type="radio"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> mg	<input type="text"/> <input type="text"/>	<input type="radio"/> mo <input type="radio"/> yrs
Potassium	<input type="radio"/>	<input type="radio"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> mg	<input type="text"/> <input type="text"/>	<input type="radio"/> mo <input type="radio"/> yrs
Selenium	<input type="radio"/>	<input type="radio"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> mcg	<input type="text"/> <input type="text"/>	<input type="radio"/> mo <input type="radio"/> yrs
Zinc	<input type="radio"/>	<input type="radio"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> mg	<input type="text"/> <input type="text"/>	<input type="radio"/> mo <input type="radio"/> yrs

Cod liver oil, other fish oils or omega-3 fatty acids	<input type="radio"/>	<input type="radio"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> mg	<input type="text"/> <input type="text"/>	<input type="radio"/> mo <input type="radio"/> yrs
--	-----------------------	-----------------------	---	---	---	--

**CONFIRM BOTTLES OF NUTRITIONAL SUPPLEMENTS.**

<b>Probe: "Do you take any other supplements?" (List)</b>	<b>Complete for all supplements taken:</b>	
	<b>1-3/ Month</b>	<b>1 / Week or More</b>
Brewer's yeast	<input type="radio"/>	<input type="radio"/>
Creatine	<input type="radio"/>	<input type="radio"/>
Coenzyme Q	<input type="radio"/>	<input type="radio"/>
DHEA	<input type="radio"/>	<input type="radio"/>
Echinacea	<input type="radio"/>	<input type="radio"/>
Ginseng, Ginseng tea	<input type="radio"/>	<input type="radio"/>
Ginkgo	<input type="radio"/>	<input type="radio"/>
Glucosamine/Chondroitin	<input type="radio"/>	<input type="radio"/>
Kelp	<input type="radio"/>	<input type="radio"/>
Melatonin	<input type="radio"/>	<input type="radio"/>
Metamucil	<input type="radio"/>	<input type="radio"/>
Other fiber supplements (Citrادل)	<input type="radio"/>	<input type="radio"/>
Primrose oil	<input type="radio"/>	<input type="radio"/>
Saw Palmetto	<input type="radio"/>	<input type="radio"/>
St. John's Wort	<input type="radio"/>	<input type="radio"/>

**Probe: "Do you take any other supplements at least once per week that I have not mentioned?"**

☐ No ☐ Yes

**Specify:**

---



---



---



---





## Resting 12-Lead ECG

Id#: IDNO

Acrostic: ACROSTIC

Date:

 / 

Month

Day

Year

ECGDT1

## 1 Chest-square readings:

O-E Measurement:

ECGOE1

O-V6 Measurement:

ECGOV61

## 2 Participant Fasting?

1 ☐ Yes 0 ☐ No 9 ☐ Unsure

Skip to #3

ECGFST1

When was the last time you ate or drank?

Date:

 / 

Month

ECEATDT1

Day

Year

Time:

M

ECEATTM1

## 3 Results of ECG:

1 ☐ Done 2 ☐ Incomplete 0 ☐ Not done

Skip to #5

ECGCMP1

## 4 Reason ECG incomplete or not done:

ECGINC1

1 ☐ Equipment malfunction or lack of supplies2 ☐ Examinee refused or uncooperative3 ☐ Other:

INCSPC1

## 5 Heart rate (60 second):

HRTRATE1

> 130 → alert

## 6 Were the following alert conditions noted?

if present

YES  
confirmedYES  
not  
confirmed

NO

- \_\_\_ a. Atrial fibrillation **ECGAFIB1** 2 ☐ 1 ☐ 0 ☐
- \_\_\_ b. Pacemaker **ECGPMK1** 2 ☐ 1 ☐ 0 ☐
- \_\_\_ c. Atrial flutter **ECGAFLT1** 2 ☐ 1 ☐ 0 ☐
- \_\_\_ d. Wolf-Parkinson White (WPW) or ventricular pre-excitation **ECGWPW1** 2 ☐ 1 ☐ 0 ☐
- \_\_\_ e. Idioventricular rhythm **ECGIVRH1** 2 ☐ 1 ☐ 0 ☐
- \_\_\_ f. Ventricular tachycardia **ECGVTCH1** 2 ☐ 1 ☐ 0 ☐
- \_\_\_ g. Complete heart block **ECGHBLK1** 2 ☐ 1 ☐ 0 ☐
- \_\_\_ h. Left bundle branch block **ECGLBBB1** 2 ☐ 1 ☐ 0 ☐
- \_\_\_ i. Acute pericarditis **ECGACPR1** 2 ☐ 1 ☐ 0 ☐
- \_\_\_ j. Any reference to injury, infarct or ischemia, characterized as acute or marked **ECGINJ1** 2 ☐ 1 ☐ 0 ☐
- \_\_\_ k. Other **ECGOTH1** 2 ☐ 1 ☐ 0 ☐

Clinic/Cart #

(ECG machine #)

CARTNUM1

Technician ID#:

ECGTID1

Reviewer ID#:

ECGRID1

Data Entry ID#:

ECGDID1



Phlebotomy

Id#: IDNO

Acrostic: ACROSTIC

Date:  /

Month Day Year

## PARTICIPANT QUESTIONS

- |  | Yes                     | No                      | Don't Know              |
|--|-------------------------|-------------------------|-------------------------|
| 1 Do you bleed or bruise easily? <b>BLDEASY1</b>   | 1 <input type="radio"/> | 0 <input type="radio"/> | 9 <input type="radio"/> |
| 2 Have you ever been told you have a disorder relating to blood clotting or coagulation? <b>COAGDIS1</b> | 1 <input type="radio"/> | 0 <input type="radio"/> | 9 <input type="radio"/> |
| 3 Have you ever experienced fainting spells while having blood drawn? <b>FAINT1</b>                      | 1 <input type="radio"/> | 0 <input type="radio"/> | 9 <input type="radio"/> |
| 4 Do you have diabetes for which you take insulin or oral hypoglycemics? <b>DIABINS1</b>                 | 1 <input type="radio"/> | 0 <input type="radio"/> | 9 <input type="radio"/> |
| 5 How long ago did you last eat or drink anything other than water? <b>LASTDRK1</b> hours                |                         |                         |                         |

## PROCEDURE

6 Time at start of venipuncture: <b>PHSTTM1</b> M	11 Blood Volume Filled Other (specify volume): per tube: Yes No Partial min 1/2 full
7 Was any blood drawn? <b>BLDRAWN1</b>	1. EDTA 10 mL <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Partial <input type="radio"/> <b>EDT1OTH1</b>
1 <input type="radio"/> Yes, full sample	EDT1FIL1
2 <input type="radio"/> Yes, partial sample	2. Serum 10 mL <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Partial <input type="radio"/> <b>SER1OTH1</b>
3 <input type="radio"/> No, refused	SER1FIL1
4 <input type="radio"/> No, hard to stick	3. CPT 8 mL <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Partial <input type="radio"/> <b>CPT1OTH1</b>
5 <input type="radio"/> No, other: <b>BLDRTXT1</b>	CPT1FIL1
8 Elapsed time until tourniquet released: <b>TRNQSEC1</b> seconds (120-seconds optimum)	4. SCAT-I 5 mL <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Partial <input type="radio"/> <b>SCATOTH1</b>
9 Time at end of venipuncture: <b>PHENDTM1</b> M	SCATFIL1
10 Quality of venipuncture: 1 <input type="radio"/> Traumatic 2 <input type="radio"/> Clean <b>QLVNPCT1</b>	5. Citrate 4.5 mL <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Partial <input type="radio"/> <b>CITROTH1</b>
<div> <div>Mark all that apply</div> <div> <input type="radio"/> Vein collapsed <b>VNCLPS1</b> <input type="radio"/> Multiple sticks <b>MULTSTK1</b> </div> <div> <input type="radio"/> Hematoma <b>HEMATOM1</b> <input type="radio"/> Vein hard to get <b>HRDGET1</b> </div> <div> <input type="radio"/> Excessive duration of draw <b>EXDUR1</b> <input type="radio"/> Leakage at venipuncture site <b>LEAKAGE1</b> </div> </div>	6. EDTA 10 mL <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Partial <input type="radio"/> <b>EDT2OTH1</b>
	EDT2FIL1
	7. Serum 10 mL <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Partial <input type="radio"/> <b>SER2OTH1</b>
	SER2FIL1
	8. CPT 8 mL <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Partial <input type="radio"/> <b>CPT2OTH1</b>
	CPT2FIL1
	12 Urine collection: min 25 mL <b>URINOTH1</b>
	Urine cup <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Partial <input type="radio"/> <b>URINFIL1</b>
	13 Has participant been selected as a quality control subject? (Participant ID ends in 4 or 5)
	0 <input type="radio"/> NO <b>PHLBCQC1</b>
	1 <input type="radio"/> YES
	2 <input type="radio"/> YES, but not enough blood for QC

Comments:

Phlebotomist ID **PHLBTID1** Reviewer ID **PHLBRID1** Data Entry ID **PHLBDID1**

## Multi-Ethnic Study of Atherosclerosis



## Processing Form

Processor ID: \_\_\_\_\_

Processing Start Time: \_\_\_\_:\_\_\_\_ EDTA, Scat-I, Citrate

Processing Start Time: \_\_\_\_:\_\_\_\_ Serum

Processing Start Time: \_\_\_\_:\_\_\_\_ CPT

Processing Start Time: \_\_\_\_:\_\_\_\_ Urine.

Cryo#	Type	Color	Samp Vol	✓ if Done	Comment	Cryo#	Type	Color	Samp Vol	✓ if Done	Comment
*1	EDTA	W	1.0			34	Serum	R	0.5		
2	EDTA	W	0.5			35	Serum	R	0.5		
3	EDTA	W	0.5			36	Serum	R	0.5		
4	EDTA	W	0.5			37	Serum	R	0.5		
5	EDTA	W	0.5			38	Serum	R	0.5		
6	EDTA	W	0.5			39	Serum	R	0.5		
7	EDTA	W	0.5			40	Serum	R	0.5		
8	EDTA	W	0.5			41	Serum	R	0.5		
9	EDTA	W	0.5			42	Serum	R	0.5		
10	EDTA	W	0.5			43	Serum	R	0.5		
11	EDTA	W	0.5			44	Serum	R	0.5		
12	EDTA	W	0.5			45	CPT PRP	G	0.5		
13	EDTA	W	0.5			46	CPT PRP	G	0.5		
14	EDTA	W	0.5			47	CPT PRP	G	0.5		
15	EDTA	W	0.5			48	CPT PRP	G	0.5		
16	EDTA	W	0.5			49	CPT PRP	G	0.5		
17	EDTA	W	0.5			50	CPT PRP	G	0.5		
*18	Red Cells	W**	5.0			51	CPT PRP	G	0.5		
19	RC/dextran	W**	5.0			52	CPT PRP	G	0.5		
20	SCAT-I	Y	0.5			53	CPT PRP	G	0.5		
21	SCAT-I	Y	0.5			54	CPT PRP	G	0.5		
22	SCAT-I	Y	0.5			55	CPT PRP	G	0.5		
23	SCAT-I	Y	0.5			56	CPT PRP	G	0.5		
24	Citrate	B	0.5			57	CPT PRP	G	0.5		
25	Citrate	B	0.5			58	CPT PRP	G	0.5		
26	Citrate	B	0.5			59	CPT PRP	G	0.5		
27	Citrate	B	0.5			60	CPT PRP	G	0.5		
*28	Serum	R	0.5			61	CELLS	C	2.0		
29	Serum	R	0.5			62	CELLS	C	2.0		
30	Serum	R	0.5			*63	Urine	C	3.0		
31	Serum	R	0.5			64	Urine	W	9.0		
32	Serum	R	0.5			65	Urine/acetic	W	9.0		
33	Serum	R	0.5								

Comments: P for partial volume, H for hemolysis \* = Required \*\* = Refrigerate (do NOT freeze)

R=red, W=white, C=clear, B=blue, O=orange, Y=yellow, G=green

Comments: \_\_\_\_\_

LCBR Rec'd Date: \_\_\_\_\_

Frozen: Y N

2668313762

06/23/2000



Urine Collection

Id#: IDNO

Acrostatic: ACROSTIC

Date:

Month

Day

Year

1 Was urine sample collected?

1 ☐ YES → Skip to #2

URNCOLL1

0 ☐ NO

Why was urine sample not taken?

WHYNOUR1

1 ☐ Participant unable to void2 ☐ Refused3 ☐ Other:

NOURNTX1

Skip to #4

2 What time was urine collection taken?

 M

URNCTM1

3 Time of last urination (prior to this collection)

 M

URNPRTM1

4 Has participant been selected as a quality control subject? (Participant ID ends in 4 and sixth digit is 0, 1, 2, 3, or 4)

0 ☐ NO

URNCQC1

1 ☐ YES2 ☐ YES, but not enough urine for QCTechnician ID:  URNCTID1Reviewer ID:  URNCRID1Data Entry ID:  URNCID1



Ultrasound IMT

Id#: IDNO

Acrostic: ACROSTIC

Date:

Month

Day

Year

## 1 Results of Carotid IMT scan:

1 ☐ Done → Skip to #32 ☐ Incomplete

IMTCMP1

0 ☐ Not Done

## 2 Reason Carotid IMT scan incomplete or not done:

1 ☐ Equipment malfunction

IMTREAS1

2 ☐ Time/staff/room constraints3 ☐ Examinee refused/uncooperative4 ☐ Examinee physically unable5 ☐ Other:

IMTTXT1

## 3 Were Doppler blood flow signals detectable?

Right side: 1 ☐ Yes 0 ☐ No

IMTRSIG1

Left side: 1 ☐ Yes 0 ☐ No

IMTLSIG1

## 4 Tape#

TAPE1ID1

## 5 VCR Start Time

Hr

Min

Sec

IMTHR1 IMTMN1 IMTSEC1

## 6 Pulse wave Doppler measurements (cm/s)

Right

Left

IMTRFL1

cm/s

IMTLFL1

cm/s

## 7 Quality of scan

1 ☐ Good

IMTQUAL1

2 ☐ Fair3 ☐ Poor:

Sonographer ID#

IMTTID1

Reviewer ID#: IMTRID1

Data Entry ID#: IMTDID1





Ultrasound Distensibility

Id#: IDNO

Acrostatic: ACROSTIC

Date:



Month




Day





Year

## 1 Results of Distensibility exam (10 seconds of carotid distensibility video acquired):

1 ☐ Done → Skip to #32 ☐ Incomplete

DISCMP1

0 ☐ Not Done

## 2 Reason Distensibility exam incomplete or not done:

1 ☐ Equipment malfunction2 ☐ Time/staff/room constraints

DISREAS1

3 ☐ Examinee refused/uncooperative4 ☐ Examinee physically unable5 ☐ Other:

DISTXT1

## 3 Baseline Blood Pressure and Pulse

(If Distensibility exam immediately follows Endothelial Function, transcribe from #16 on Endothelial Function form.)

Systolic

Diastolic

Pulse

Left

ULSYS1

ULDIA1

ULPUL1

Right

URSYS1

URDIA1

URPUL1

## 4 Tape#

TAPE2ID1

## 5 VCR Start Time

Hr

Min

Sec







DISHR1 DISMN1 DISSEC1

## 6 Were right CCA Doppler blood flow signals detectable?

1 ☐ Yes 0 ☐ No

DISSIG1

## 7 Pulse Wave Doppler Measurement

PWDOPMS1

cm/s

## 8 Post Imaging Pressure and Pulse

Systolic

Diastolic

Pulse

\* Left arm

UPOSYS1

UPODIA1

UPOPUL1

\* Right arm if it is 15 mmHg greater than the left

## 9 Quality of scan

1 ☐ Good2 ☐ Fair3 ☐ Poor:

DISQUAL1

Sonographer ID#

DISTID1

Reviewer ID#:

DISRID1

Data Entry ID#:

DISDID1



## Endothelial Function

Id#: IDNO

Acrostic: ACROSTIC

Date:



Month

ENDCDT1

Day




Year

1 Date of birth (from participant record):



Month

ENDCDOB1

Day




Year

2 Cuff size (from MESA resting BP) \_\_\_\_\_

3 Time of MESA clinic snack (if eaten):




SNACKTM1

M

**EXCLUSIONS**

4 MESA Blood Pressure Alert (Systolic >180) ☐ Yes → **Discontinue Procedure**  
☐ No **BPEXCL1**

5 Congenital abnormality of arm or hand ☐ Yes → **Discontinue Procedure**  
☐ No **ABNHAND1**

Before we begin this procedure, I would like to ask you some questions about your health history.

6 Has a doctor ever told you that you have Raynaud's Phenomenon?  
☐ Yes ☐ No ☐ Don't Know

Discontinue Procedure

RAYNPHN1

7 WOMEN ONLY: Have you had a radical mastectomy or removal of associated lymph nodes on either side?

(A radical mastectomy is the removal of the breast, associated lymph nodes, and underlying musculature. Does not include lumpectomy or simple mastectomy.)

☐ Yes ☐ No ☐ Don't Know

Discontinue Procedure

MASTECT1

\*\* If participant has eaten MESA snack skip to #9.

8 a. When was the last time you ate or drank?

Date:



Month

EATDRDT1

Day




Year

Time:




EATDRTM1

M

b. What did you eat? **EATWHAT1**

- 1 ☐ Liquids only (coffee, juice)  
 2 ☐ Light meal (according to menu or less)  
 3 ☐ Heavy meal (more than menu)  
 4 ☐ Other:

**EATTXT1**

Technician: If less than 90 minutes since meal or snack, delay test.

9 Have you had any caffeinated coffee, caffeinated tea, or other caffeinated drinks in the last 6 hours?

1 ☐ Yes ☐ No ☐ Don't Know

↓ **CAF6HR1**How many cups? **CAFCUPS1**

10 Have you smoked cigarettes in the last 6 hours?

1 ☐ Yes ☐ No

**CIG6HR1**

11 a. Have you taken any medications or vitamins today?

1 ☐ Yes ☐ No → Skip to #12

**MEDSVIT1**

b. Any of the following vitamins?

	Yes	No	Don't Know
Multivitamin	1 <input type="radio"/>	0 <input type="radio"/>	9 <input type="radio"/> <b>MULTVIT1</b>
Vitamin E	1 <input type="radio"/>	0 <input type="radio"/>	9 <input type="radio"/> <b>VITME1</b>
Vitamin C	1 <input type="radio"/>	0 <input type="radio"/>	9 <input type="radio"/> <b>VITMC1</b>
Beta Carotene	1 <input type="radio"/>	0 <input type="radio"/>	9 <input type="radio"/> <b>BETACAR1</b>
Vitamin B6	1 <input type="radio"/>	0 <input type="radio"/>	9 <input type="radio"/> <b>VITMB61</b>
Folate/Folic acid	1 <input type="radio"/>	0 <input type="radio"/>	9 <input type="radio"/> <b>FOLACID1</b>

c. Any lipid lowering/cholesterol medication?

1 ☐ Yes ☐ No ☐ Don't Know

**CHOLMED1**

d. Any anti-hypertensive/blood pressure medication?

1 ☐ Yes ☐ No ☐ Don't Know

**BPMED1**

e. Any estrogen/progestin?

1 ☐ Yes ☐ No ☐ Don't Know

**ESTRPRO1**

# Endothelial Function - 2

Id#:

## EXAMINATION

12 Tape#

BSTID1

13 VCR start time:

Hr Min Sec  
ENFHR1 ENFMN1 ENFSEC1

14 Time of day scan started:

SCANTM1 M

15 Cuff size:

RCUFFSZ1

LCUFFSZ1

Right arm:

(Occlusion Cuff)

1 ☐ Size 10

2 ☐ Size 12

Left arm:

(BP Cuff)

1 ☐ Adult

2 ☐ Pediatric

3 ☐ Large adult

16 Baseline blood pressure and pulse:

Systolic

Diastolic

Pulse

Left

BLSYS1

BLDIA1

BLPUL1

Right

BRSYS1

BRDIA1

BRPUL1

17 Cuff inflated pressure: (200 mmHg or if BP is >150, Inflation pressure = systolic + 50)

INFPRSS1

18 Post blood pressure and pulse: (Skip if Carotid Distensibility will immediately follow Endothelial Function)

Systolic

Diastolic

Pulse

Left

PSTSYST1

PSTDIA1

PSTPULS1

19 a. Brachial scan was:

1 ☐ Done → Skip to #20

2 ☐ Incomplete

0 ☐ Not done → Skip to #19c

BRSCAN1

b. Was scanning continued after deflation?

1 ☐ Yes

0 ☐ No

SCANDFL1

How long was cuff inflated?

CINFMIN1  
Minutes

CINFSEC1  
Seconds

c. Why was scan not done or discontinued?

1 ☐ Equipment malfunction

2 ☐ Participant refusal

3 ☐ Participant comfort

4 ☐ Other:

NSCNTXT1

If brachial scan was not done, skip to #25

20 Position of participant:

1 ☐ Recumbent

2 ☐ Semi-recumbent

PPTPOS1

21 Describe arm position:

1 ☐ Bent

2 ☐ Straight

3 ☐ Other:

ARMPOS1

ARMPTXT1

22 What is the distance from the antecubital crease to the probe?

PDISTCM1  
cm

23 What was the probe angle?

PRBANGL1  
degrees

24 Quality of scan

1 ☐ Good

2 ☐ Fair

3 ☐ Poor:

SCNQUAL1

25 Additional comments:

ENDCTXT1

Interviewer ID#:

ENDCTID1

Sonographer ID#:

ENDCSON1

Reviewer ID#:

ENDCRID1

Data Entry ID#:

ENDCDID1





## Arterial Pulse Wave

Acrostic: ACROSTIC

Date:

--	--

Month

--

--	--

Day

--	--	--	--

Year

APWDT1

## 1 Results of the Arterial Pulse Wave exam:

1 ☐ Done    2 ☐ Incomplete    0 ☐ Not Done↓  
Skip to #3

APWRSLT1

Transcribe from reception and Anthropometry forms:

Date of Birth: \_\_\_\_\_

Height: \_\_\_\_\_

Weight: \_\_\_\_\_

## 2 Reason exam incomplete or not done:

NOAPW1

- 1 ☐ Poor arterial waveform  
2 ☐ Undetectable arterial waveform  
3 ☐ Equipment malfunction  
4 ☐ Time/staff/room constraints  
5 ☐ Examinee refused or uncooperative  
6 ☐ Examinee physically unable  
7 ☐ Other:

NAPWTXT1

## 3 Quality of Wave Form

PWQUAL1

- 1 ☐ Good  
2 ☐ Fair  
3 ☐ Poor:

Comments:

APWTXT1

Sonographer ID#:

APWSON1

Reviewer ID#:

APWRID1

Data Entry ID#:

APWDID1

## Multi-Ethnic Study of Atherosclerosis



## MRI Completion

## \* Name field:

\*Important: Always enter into scanner as follows:

M, E, S, A, #, #, #, #, #, #, #, A, C, R, O, S, T, I,

Mesa ID#

IDNO

Acrostic

MRIACRST1

Clinic:

3 - Wake Forest

4 - Columbia

5 - Johns Hopkins

6 - Minnesota

7 - Northwestern and Loyola

8 - UCLA

## Transcribe from participant visit records:

Age

Date of Birth

MRIAGE1

MRIBDT1

Height:

MRIHT1

cm.

1 ☐ male 0 ☐ female  
MRIGEND1

Weight:

MRIWT1

lb

1 ☐ Hispanic 3 ☐ Chinese  
2 ☐ Black 4 ☐ White

MRIRACE1

## 1 Was MRI completed?

MRICMPL1

1 ☐ YES →

Date of MRI:

Month Day Year

MRCMPDT1

0 ☐ NO → Indicate reason and then skip to #71 ☐ Scanner malfunction

MRNARS1

2 ☐ Refused

MRRFSTX1

3 ☐ Claustrophobia4 ☐ Ill5 ☐ Ineligible6 ☐ Physically unable7 ☐ Other:

MROTHTX1

2 Type of scanner: 1 ☐ GE 2 ☐ Siemens

MRSCNR1

## 3 Series Description

Image #s to transmit Series # of images

Sagittal Localizer  
(4 slices)

MR1SER1

MR1IMG1

Axial Localizer  
(1 slice)

MR2SER1

MR2IMG1

Pseudo Vertical Long  
Axis (1 slice)

MR3SER1

MR3IMG1

Horizontal Long Axis  
Cine

MR4SER1

MR4IMG1

Short Axis Cine

MR5SER1

MR5IMG1

Vertical Long Axis Cine

MR6SER1

MR6IMG1

a. Brachial artery blood  
pressure immediately  
before Series 7:

PRESYS1

PREDIA1

Axial Phase Contrast  
(40 slices)

MR7SER1

MR7IMG1

b. Brachial artery blood  
pressure immediately  
after Series 7:

POSTSYS1 / POSTDIA1

Image #s to transmit Series # of images

Tagging Sequence

TAG1S1

TAG1I1

Enter mid-level location  
of cine series

TAG2S1

TAG2I1

MIDLOC1

TAG3S1

TAG3I1

LAO Aorta  
(1 slice)

MR8SER1

MR8IMG1

Black Blood Aorta  
(cross section - 3 slices)

MR9SER1

MR9IMG1

MR92SER1

MR92IMG1

MR93SER1

MR93IMG1

4 Ending heart rate:

MRHTRT1

5 Exam #:

MREXAM1

6 Were any abnormalities noted?

MRABN1

1 ☐ Yes0 ☐ No

Specify:

MRALTXT1

MRICTID1

Primary MRI Tech. ID

MRICRID1

Reviewer ID#

MRICDID1

Data Entry ID#

COMMENTS  
FOR R.C. →

MRICMNT1



## CT Examination Report

Id#: IDNO

Acrostic: ACROSTIC

Date:

Month

Day

Year

CTCDT1

Transcribe from participant visit records:

Date of Birth: / /

Transcribe from Anthropometry form:

Weight: , lbs

1 For women 45-55: Results of pregnancy test: PRGTST1

1 ☐ Positive2 ☐ Negative0 ☐ Not Done → Reason

2 Results of CT scan: CTRSLT1

1 ☐ Complete → Skip to question 22 ☐ Incomplete0 ☐ Not Done

Reason incomplete or not done CTINCMP1

1 ☐ Equipment malfunction2 ☐ Participant physically unable to continue3 ☐ Other:

NOCTTXT1

3 Comment on unusual findings:

---

---

---

---

Technician ID:

CTCTID1

For MESA Field Center Use Only:

Do any comments listed above indicate a need for Field Center action

1 ☐ Yes 0 ☐ No

CTNDACT1

Reviewer ID#:

CTCRID1

Data Entry ID#:

CTCDID1



## Diet Questionnaire

Participant ID Number IDNO

**Complete and scan this page at the Field Center only**

Separate this page from the rest of the Diet Questionnaire: do not send this page home with the participant or to the Reading Center. Fill in parts 1 and 2 (date the rest of the Diet Questionnaire was taken home by the participant, the date the form was returned by the participant and the date the form was sent to the Reading Center). After completing this page, scan this page only.

**Part 1**Was the Diet Questionnaire completed? ☐ 0 Not Attempted**DIETCMP1**☐ 1 Completed☐ 2 Incomplete☐ 3 Not returned by participant - Lost**Part 2**

Date Diet Questionnaire was taken home by the participant

 / **SNTHMDT1**

Date Diet Questionnaire was returned by the participant

 / **RETDT1**

Date Diet Questionnaire was sent to the Reading Center

 / **SNTRCDT1**

Comments

Reviewer ID

Data-Entry ID:

**DCRID1****DCDID1**

# MESA Non-Coronary CT Alerts Report - Baseline

## A. Patient Identification

1. ID # XXXXXXXX

## B. Evaluation

2. Lung Nodules

A. Nodule / Mass?

Y

B. If "Y":

a. Are there non-calcified nodules?

Y

b. If yes, how many nodules?

2

c. Spiculated or Irregular Margins

N

3. Segmental or Lobar Atelectasis/collapse

N

4. Consolidation / Infiltrate

N

5. Non specific parenchymal lung opacity

N

6. Other Interstitial or Air Space Lung Pattern

N

7. Adenopathy (>1.5cm s/axis)

N

8. Pleural (effusion, nodularity, thickening)

N

9. Chest Wall or Skeletal Abnormality

N

10. Liver focal lesion

N

## C. Cardiac and Vascular:

11. N Moderate-Severe Aortic Calcium

12. N Mitral Valve Calcium

13. N Pericardial Effusion

14. N Pericardial Thickening or calcification

15. N Aortic Root Dilatation > 5 cm

16. N Descending Aorta Dilatation > 4 cm

## D. Comments:

17.

Linear scarring, anterior RML; several mm size nodules LLL (images 13,21), nonspecific, suggest follow-up.

## E. Assessment:

18. F

N=Normal, F= Follow-up suggested, S= Significant findings, immediate action

## F. Administrative Information:

19. Radiologist Initials: XX

20. Date reported: 8/7/00

21. Date transmitted to field site: 8/17/05



## **Recommendation for the Analysis of Coronary Calcium Data**

In MESA, about half of the participants have an Agatston Coronary Artery Calcium (CAC) score of zero. Among the participants with a positive score, the distribution of the Agatston score is highly skewed. If a single regression model were used to model all the data, it would be assumed that there is a single linear combination of the covariates that determines not only whether one has a positive Agatston score, but also what the score is if it is positive. Considering the possibility that the transition from a zero score to a positive score and the increase in a positive score may be influenced by different covariates, or by the same covariates but to different extents, we recommend the use of two-part models.

In a two-part model, the first part models the probability of a positive score, and the second part models the actual score given that the score is positive.

### **Modeling the probability of a positive calcium score**

A usual choice for the first part is a logistic regression model. For each of the  $i$  participants,  $i=1, \dots, n$ , let  $p_i$  be the probability that the participant has a positive Agatston score ( $CAC > 0$ ) and  $\mathbf{x}_i$  be a vector of predictors; the logistic regression postulates  $p_i = \exp(\mathbf{x}_i^T \boldsymbol{\beta}) / (1 + \exp(\mathbf{x}_i^T \boldsymbol{\beta}))$  or equivalently  $\text{logit}(p_i) = \ln(p_i / (1 - p_i)) = \beta_0 + \beta_1 x_{i1} + \beta_2 x_{i2} + \beta_3 x_{i3} + \dots = \mathbf{x}_i^T \boldsymbol{\beta}$ . The parameters  $\boldsymbol{\beta}$ , when exponentiated, are interpreted as odds ratios. Because the frequency of  $CAC > 0$  is near .5, the rare disease assumption required for the odds ratio to be approximately equal to the relative risk (RR) is not met. Therefore, if relative risk estimates are desired, we recommend against the use of standard logistic regression for modeling the binary variable,  $CAC > 0$ .

Alternatively, one can model the relative risk directly by expressing  $p_i = \exp(\mathbf{x}_i^T \boldsymbol{\beta})$  or equivalently  $\log(p_i) = \mathbf{x}_i^T \boldsymbol{\beta}$ . The parameters  $\boldsymbol{\beta}$ , when exponentiated, are interpreted as risk ratios or relative risks, so we refer to this model as the RR regression model. In this model, the error distribution is binomial conditional on the vector of covariates,  $\mathbf{x}$ . Thus, the efficient model for estimating the coefficients is the model that uses what is termed

the log link with binomial error. Because of some linear inequality constraints, maximum likelihood estimation for this model often encounters a technical problem and fails to provide sensible estimates of the parameters and will often fail to provide estimates of the standard errors of the coefficients.

When the log link with binomial error converges and provides standard error estimates, it is the preferred approach for estimating the coefficients. When this method fails we recommend the simple modification of assuming Gaussian (Normal) error and robust standard error estimates.

Both SAS and STATA have modules (genmod and glm, respectively) that can be used to estimate the parameters of the model and their standard errors. Examples for each are shown below for the case of **binomial** error. In the examples below, CACgt0 is an indicator variable which is equal to 0 if CAC = 0 and 1 if CAC>0.

#### **SAS Relative Risk regression example for binomial error:**

SAS requires that categorical variables be recoded into a series of binary variables and the inclusion of all but one of the binary variables (the omitted category is the comparison category).

```
race1 = (race1c eq 1);
race2 = (race1c eq 2);
race3 = (race1c eq 3);
race4 = (race1c eq 4);
run;
/* Mesa Data */
title1 "Error: Binomial";
title2 "Link: Log";
run;
proc genmod descending data=mesadata;
model CACgt0 = age1c gender1 race2 race3 race4 sbp1c ldl1 hdl1 / error=binomial
link=log;
estimate 'AgeRR' age1c 1 -1/ exp;
estimate 'SexRR' gender1 1 -1/ exp;
```



```

estimate 'Race2' race2 1 -1/ exp;
estimate 'Race3' race3 1 -1/ exp;
estimate 'Race4' race4 1 -1/ exp;
estimate 'SbpRR' sbp1c 1 -1/ exp;
estimate 'LDLRR' ldl1 1 -1/ exp;
estimate 'HDLRR' hdl1 1 -1/ exp;
run;

```

The 'estimate' statements above will produce estimated relative risks and their confidence intervals. (The default in SAS is to produce log relative risk estimates.)

### **STATA Relative Risk regression example for binomial error:**

```

xi: glm CACgt0 age1c gender1 i.race1c sbp1c ldl1 hdl1, eform family(binomial 1)
link(log)

```

The 'xi' at the beginning of the command is only necessary if one or more of the covariates are categorical with more than two categories (race1c in this example). The 'i.' that is added to the beginning of the race1c variable indicates that it is categorical. The 'eform' in the command above will produce estimated relative risks and their confidence intervals. (The default in STATA is to produce log relative risk estimates.)

Using the entire MESA sample, the above code for SAS and STATA will not converge to useful estimates. Caution is required as although both SAS and STATA give warning messages that there are problems with the convergence or estimates (see the output from these runs in the appendix to this document), they may still provide estimates and standard errors. When these error messages appear, the parameter and standard error estimates should not be used.

In the instances where **Gaussian** error is used, it is necessary to estimate the standard errors by the robust method (sandwich estimators) or with the use of the bootstrap. This can be done in both SAS and STATA. Examples for both are given below.

### **SAS relative risk example for Gaussian error :**

```

title1 "Error: Normal";

```

```

title2 "Link: Log";
run;
proc genmod descending data=mesadata;
class idno;
model CACgt0 = age1c gender1 race2 race3 race4 sbp1c ldl1 hdl1 / error=normal
link=log;
repeated subject=idno / type=unstr;
estimate 'AgeRR' age1c 1 -1/ exp;
estimate 'SexRR' gender1 1 -1/ exp;
estimate 'Race2' Race2 1 -1/ exp;
estimate 'Race3' Race3 1 -1/ exp;
estimate 'Race4' Race4 1 -1/ exp;
estimate 'SbpRR' sbp1c 1 -1/ exp;
estimate 'LDLRR' ldl1 1 -1/ exp;
estimate 'HDLRR' hdl1 1 -1/ exp;
run;

```

Note the lines above that start with ‘class’ and ‘repeated’. These are required for SAS to produce the robust standard error estimates.

### **STATA relative risk example for Gaussian error:**

```

xi: glm CACgt0 age1c gender1 i.race1c sbp1c ldl1 hdl1, robust eform family(gaussian)
link(log)

```

Note the ‘robust’ in the command above. This is required to get the robust standard error estimates. In STATA the command can be constructed using the menu (graphical user interface) item “General Linear Models (glm)”.

## **Absolute Risk Regression**

When the absolute risk (probability) is desired rather than the relative risk, the absolute risk regression model is appropriate. In this case we assume that  $p_i = \mathbf{x}_i^T \boldsymbol{\beta}$ . The parameters  $\boldsymbol{\beta}$ , are interpreted as risk differences for a one unit change in the  $\mathbf{x}$ 's. This is the usual linear regression model (or identity link), with binomial error distribution.

When the linear link with binomial error converges and provides standard error estimates, it is the preferred approach for estimating the coefficients. When this method fails we recommend the simple modification of assuming Gaussian (Normal) error and robust standard error estimates.

The same SAS and STATA commands (genmod and glm, respectively) can be used for absolute risk regression with the modification that the link is now specified as the 'identity' link. The SAS and STATA example are given below, with the output in the appendix. The same considerations about convergence applies for the absolute regression as in the RR regression case.

### **SAS absolute risk regression example for binomial error:**

```
proc genmod descending data=mesadata;  
model CACgt0 = age1c gender1 race2 race3 race4 sbp1c ldl1 hdl1 / error=binomial  
link=identity;  
run;
```

### **STATA absolute risk regression example for binomial error:**

```
xi: glm CACgt0 age1c gender1 i.race1c sbp1c ldl1 hdl1, family(binomial 1) link(identity)
```

### **SAS absolute risk regression example for Gaussian error:**

```
proc genmod descending data=mesadata;  
class idno;  
model CACgt0 = age1c gender1 race2 race3 race4 sbp1c ldl1 hdl1 /  
error=normal link=identity;  
repeated subject=idno / type=unstr;  
run;
```

**STATA absolute risk regression example for Gaussian error:**

```
xi: glm CACgt0 age1c gender1 i.race1c sbp1c ldl1 hdl1,robust family(gaussian)  
link(identity)
```

For a more complete discussion of relative and absolute risk regression, see the slide presentation ([Absolute and Relative Risk Regression](#)) and associated references from the Sept. 2004 MESA Steering committee meeting.

**Modeling the continuous CAC score for the positive scores**

For the second part, we recommend the use of linear regression model with log-transformed positive Agatston score as the response. The use of log-transformation helps to stabilize the error variance without destroying assumptions of linearity and normality.

Since the Agatston score is an average of two scores, an issue exists as to whether we should use the logarithm of the arithmetic average, or the arithmetic average of the logarithms. It is unlikely, however, that the two choices would lead to drastically different results and we recommend using the logarithm of the average score.

In a very small proportion of the participants, one of the two readings is zero and the other is positive. We will investigate ways of handling such cases. We note that how these cases are handled is unlikely to have a huge impact on analysis results. Hence, while more complicated models should be investigated, we believe that the use of the logarithm of the arithmetic average is a reasonable choice.

**Appendix: Output from SAS and STATA examples – for the output where there was a problem with the likelihood functions, the lines showing that a problem occurred are in red.**

## Relative Risk regression examples

Assuming **binomial** error, **SAS** output (bolding added for emphasis):

The following appears in the SAS log file,

**WARNING: The procedure is continuing but the validity of the model fit is questionable.**  
**ERROR: Error in computing the variance function.**  
**ERROR: Error in parameter estimate covariance computation.**  
**ERROR: Error in estimation routine.**

Output file

Error: Bi nomi al  
Link: Log

7

The GENMOD Procedure

### Model Information

Data Set	WORK. MESADATA
Di stri buti on	Bi nomi al
Li nk Functi on	Log
Dependent Vari abl e	CACgt0
Observati ons Used	6699
Mi ssi ng Val ues	115

### Class Level Information

Cl ass	Level s	Val ues
IDNO	6699	3010007 3010015 3010023 3010031 3010040 3010058 3010066 3010074 3010082 3010090 3010104 3010112

3010120	3010139	3010147	3010155	3010163	3010171
3010180	3010201	3010210	3010228	3010236	3010244
3010252	3010260	3010279	3010287	3010309	3010317
3010325	...				

#### Response Profile

Ordered Value	CACgt0	Total Frequency
1	1	3338
2	0	3361

PROC GENMOD is modeling the probability that CACgt0='1'.

#### Parameter Information

Parameter	Effect
Prm1	Intercept
Prm2	AGE1C
Prm3	GENDER1
Prm4	race2
Prm5	race3
Prm6	race4
Prm7	SBP1C
Prm8	LDL1
Prm9	HDL1

#### Criteria For Assessing Goodness Of Fit

Criterion	DF	Value	Value/DF
Deviance	6690	11358.2007	1.6978
Scaled Deviance	6690	11358.2007	1.6978
Pearson Chi-Square	6690	13085.0462	1.9559
Scaled Pearson X2	6690	13085.0462	1.9559
Log Likelihood		-5679.1004	

WARNING: The relative Hessian convergence criterion of 0.2877969879 is greater than the limit of 0.0001. The convergence is questionable.

#### Analysis Of Initial Parameter Estimates

Parameter	DF	Estimate	Standard Error	Wald 95% Confidence Limits		Chi - Square	Pr > Chi Sq
Intercept	1	-0.6800	0.0360	-0.7505	-0.6094	357.18	<.0001
AGE1C	1	0.0060	0.0004	0.0052	0.0067	229.94	<.0001
GENDER1	1	0.0604	0.0086	0.0436	0.0772	49.67	<.0001
race2	1	-0.0211	0.0121	-0.0448	0.0026	3.05	0.0809
race3	1	-0.0409	0.0098	-0.0601	-0.0218	17.55	<.0001
race4	1	-0.0352	0.0106	-0.0559	-0.0144	11.02	0.0009
SBP1C	1	0.0006	0.0002	0.0002	0.0009	9.77	0.0018
LDL1	1	0.0003	0.0001	0.0001	0.0006	5.79	0.0161
HDL1	1	-0.0007	0.0003	-0.0013	-0.0001	5.42	0.0199
Scale	0	1.0000	0.0000	1.0000	1.0000		

NOTE: The scale parameter was held fixed.

# Contrast Estimate Results

Label	Estimate	Standard Error	Alpha	Confidence Limits	Chi - Square	Pr > Chi Sq
AgeRR	0.0060	0.0004	0.05	0.0052 0.0067	229.94	<.0001
Exp(AgeRR)	1.0060	0.0004	0.05	1.0052 1.0068		
SexRR	0.0604	0.0086	0.05	0.0436 0.0772	49.67	<.0001
Exp(SexRR)	1.0623	0.0091	0.05	1.0446 1.0803		
Race2	-0.0211	0.0121	0.05	-0.0448 0.0026	3.05	0.0809
Exp(Race2)	0.9791	0.0118	0.05	0.9562 1.0026		
Race3	-0.0409	0.0098	0.05	-0.0601 -0.0218	17.55	<.0001
Exp(Race3)	0.9599	0.0094	0.05	0.9417 0.9784		
Race4	-0.0352	0.0106	0.05	-0.0559 -0.0144	11.02	0.0009
Exp(Race4)	0.9654	0.0102	0.05	0.9456 0.9857		
SbpRR	0.0006	0.0002	0.05	0.0002 0.0009	9.77	0.0018
Exp(SbpRR)	1.0006	0.0002	0.05	1.0002 1.0009		
LDLRR	0.0003	0.0001	0.05	0.0001 0.0006	5.79	0.0161
Exp(LDLRR)	1.0003	0.0001	0.05	1.0001 1.0006		
HDLRR	-0.0007	0.0003	0.05	-0.0013 -0.0001	5.42	0.0199
Exp(HDLRR)	0.9993	0.0003	0.05	0.9987 0.9999		



Assuming **binomial** error, **STATA** output:

```
i. race1c          _l race1c_1-4          (naturally coded; _l race1c_1 omitted)

Iteration 0:    log likelihood = -6611.7399
Iteration 1:    log likelihood = -4051.2314 (not concave)
Iteration 2:    log likelihood = -4032.2087 (not concave)
Iteration 3:    log likelihood = -4031.9549 (not concave)
Iteration 4:    log likelihood = -4031.9526 (not concave)
Iteration 5:    log likelihood = -4031.9526 (not concave)

Generalized linear models              No. of obs   =       6699
Optimization   : ML: Newton-Raphson    Residual df   =       6690
Scale parameter =           1
Deviance       =   8063.905124          (1/df) Deviance =   1.205367
Pearson        =  200006110.7          (1/df) Pearson  =  29896.28

Variance function: V(u) = u*(1-u)      [Bernoulli]
Link function    : g(u) = ln(u)        [Log]
Standard errors  : OIM

Log likelihood   = -4031.952562         AIC              =   1.206435
BIC              = -50873.07846
```

cacgt0	Risk Ratio	Std. Err.	z	P>z	[95% Conf. Interval]	
age1c	1.019276	.	.	.	.	.
gender1	1.217938	.	.	.	.	.
_l race1c_2	0.9535931	.	.	.	.	.
_l race1c_3	0.783604	0.0197399	-9.68	0.000	0.7458542	0.8232645
_l race1c_4	0.8304235	0.0225725	-6.84	0.000	0.7873401	0.8758645
sbp1c	1.00205	1.95e-10	.	0.000	1.00205	1.00205
ldl1	1.001116	2.52e-10	.	0.000	1.001116	1.001116
hdl10	0.9975901	.	.	.	.	.

Assuming **Gaussian** error **SAS** output:

Error: Normal  
Link: Log

8

The GENMOD Procedure

#### Model Information

Data Set	WORK.MESADATA
Distribution	Normal
Link Function	Log
Dependent Variable	CACgt0
Observations Used	6699
Missing Values	115

#### Class Level Information

Class	Level s	Val ues
IDNO	6699	3010007 3010015 3010023 3010031 3010040 3010058 3010066 3010074 3010082 3010090 3010104 3010112 3010120 3010139 3010147 3010155 3010163 3010171 3010180 3010201 3010210 3010228 3010236 3010244 3010252 3010260 3010279 3010287 3010309 3010317 3010325 ...

#### Parameter Information

Parameter	Effect
Prm1	Intercept
Prm2	AGE1C
Prm3	GENDER1
Prm4	race2
Prm5	race3
Prm6	race4
Prm7	SBP1C
Prm8	LDL1
Prm9	HDL1

### Criteria For Assessing Goodness Of Fit

Criterion	DF	Value	Value/DF
Deviance	6690	1313.3567	0.1963
Scaled Deviance	6690	6699.0001	1.0013
Pearson Chi-Square	6690	1313.3567	0.1963
Scaled Pearson X2	6690	6699.0001	1.0013
Log Likelihood		-4047.8875	

Algorithm converged.

### Analysis Of Initial Parameter Estimates

Parameter	DF	Estimate	Standard Error	Wald	95% Confidence Limits	Chi-Square	Pr > Chi Sq
Intercept	1	-3.2302	0.1010	-3.4281	-3.0323	1023.54	<.0001
AGE1C	1	0.0329	0.0011	0.0308	0.0351	920.52	<.0001
GENDER1	1	0.3233	0.0225	0.2791	0.3675	205.79	<.0001
race2	1	-0.1339	0.0323	-0.1972	-0.0705	17.15	<.0001
race3	1	-0.2377	0.0259	-0.2885	-0.1870	84.39	<.0001
race4	1	-0.1852	0.0271	-0.2384	-0.1321	46.70	<.0001
SBP1C	1	0.0028	0.0005	0.0019	0.0037	37.28	<.0001
LDL1	1	0.0016	0.0003	0.0010	0.0022	24.52	<.0001
HDL1	1	-0.0035	0.0008	-0.0051	-0.0019	19.13	<.0001
Scale	1	0.4428	0.0038	0.4353	0.4503		

NOTE: The scale parameter was estimated by maximum likelihood.

### GEE Model Information

Correlation Structure	Unstructured
Subject Effect	IDNO (6814 levels)
Number of Clusters	6814
Clusters With Missing Values	115
Correlation Matrix Dimension	1
Maximum Cluster Size	1

Minimum Cluster Size

0

Algorithm converged.

# Analysis Of GEE Parameter Estimates Empirical Standard Error Estimates

Parameter	Estimate	Standard Error	95% Confidence Limits		Z	Pr >  Z
Intercept	-3.2302	0.1018	-3.4297	-3.0307	-31.74	<.0001
AGE1C	0.0329	0.0011	0.0308	0.0350	30.55	<.0001
GENDER1	0.3233	0.0218	0.2805	0.3660	14.82	<.0001
race2	-0.1339	0.0328	-0.1981	-0.0696	-4.08	<.0001
race3	-0.2377	0.0257	-0.2881	-0.1874	-9.26	<.0001
race4	-0.1852	0.0262	-0.2365	-0.1339	-7.08	<.0001
SBP1C	0.0028	0.0004	0.0019	0.0037	6.27	<.0001
LDL1	0.0016	0.0003	0.0010	0.0022	5.25	<.0001
HDL1	-0.0035	0.0008	-0.0050	-0.0020	-4.62	<.0001

## Contrast Estimate Results

Label	Estimate	Standard Error	Alpha	Confidence Limits		Chi - Square	Pr > Chi Sq
AgeRR	0.0329	0.0011	0.05	0.0308	0.0350	933.07	<.0001
Exp(AgeRR)	1.0335	0.0011	0.05	1.0313	1.0357		
SexRR	0.3233	0.0218	0.05	0.2805	0.3660	219.63	<.0001
Exp(SexRR)	1.3817	0.0301	0.05	1.3238	1.4420		
Race2	-0.1339	0.0328	0.05	-0.1981	-0.0696	16.67	<.0001
Exp(Race2)	0.8747	0.0287	0.05	0.8203	0.9328		
Race3	-0.2377	0.0257	0.05	-0.2881	-0.1874	85.68	<.0001
Exp(Race3)	0.7884	0.0202	0.05	0.7497	0.8291		
Race4	-0.1852	0.0262	0.05	-0.2365	-0.1339	50.06	<.0001
Exp(Race4)	0.8309	0.0218	0.05	0.7894	0.8747		
SbpRR	0.0028	0.0004	0.05	0.0019	0.0037	39.29	<.0001
Exp(SbpRR)	1.0028	0.0005	0.05	1.0019	1.0037		
LDLRR	0.0016	0.0003	0.05	0.0010	0.0022	27.54	<.0001
Exp(LDLRR)	1.0016	0.0003	0.05	1.0010	1.0022		
HDLRR	-0.0035	0.0008	0.05	-0.0050	-0.0020	21.35	<.0001
Exp(HDLRR)	0.9965	0.0008	0.05	0.9950	0.9980		

# Assuming Gaussian Error, STATA output:

```

i.race1c          _l.race1c_1-4      (naturally coded; _l.race1c_1 omitted)

Iteration 0:    log pseudo-likelihood = -5096.501
Iteration 1:    log pseudo-likelihood = -4213.0826
Iteration 2:    log pseudo-likelihood = -4048.4755
Iteration 3:    log pseudo-likelihood = -4047.8877
Iteration 4:    log pseudo-likelihood = -4047.8875

Generalized linear models
Optimization    : ML: Newton-Raphson
Scale parameter = .1963164
Deviance        = 1313.356665
Pearson         = 1313.356665

No. of obs     =      6699
Residual df    =      6690

(1/df) Deviance = .1963164
(1/df) Pearson  = .1963164

Variance function: V(u) = 1
Link function     : g(u) = ln(u)
Standard errors   : Sandwich

Log pseudo-likelihood = -4047.887514
BIC                   = -57623.62692

AIC                  = 1.211192

```

Robust cacgt0	ExpB	Std. Err.	z	P>z	[95% Conf. Interval]	
age1c	1.033479	.0010776	31.58	0.000	1.031369	1.035593
gender1	1.381658	.0311056	14.36	0.000	1.322018	1.443989
_l.race1c_2	0.8747204	.0286602	-4.09	0.000	0.8203132	0.9327362
_l.race1c_3	0.7884027	.0203765	-9.20	0.000	0.7494601	0.8293688
_l.race1c_4	0.8309091	.0218575	-7.04	0.000	0.7891548	0.8748727
sbp1c	1.002824	.0004476	6.32	0.000	1.001947	1.003702
ldl1	1.001598	.0003153	5.07	0.000	1.00098	1.002216
hdl1	0.996491	.0007986	-4.39	0.000	0.994927	0.9980574

## Absolute risk regression examples

Assuming **binomial** error, **SAS** output:

Error: Binomial  
Link: Identity

The GENMOD Procedure

### Model Information

Data Set	WORK.MESADATA
Distribution	Binomial
Link Function	Identity
Dependent Variable	CACgt0
Observations Used	6699
Missing Values	115

### Response Profile

Ordered Value	CACgt0	Total Frequency
1	1	3338
2	0	3361

PROC GENMOD is modeling the probability that CACgt0='1'.

### Parameter Information

Parameter	Effect
Prm1	Intercept
Prm2	AGE1C
Prm3	GENDER1
Prm4	race2
Prm5	race3
Prm6	race4
Prm7	SBP1C
Prm8	LDL1
Prm9	HDL1

### Criteria For Assessing Goodness Of Fit

Criterion	DF	Value	Value/DF
Deviance	6690	0.0000	0.0000
Scaled Deviance	6690	0.0000	0.0000
Pearson Chi-Square	6690	30415.4444	4.5464
Scaled Pearson X2	6690	30415.4444	4.5464
Log Likelihood		-1.79769E308	

**ERROR: The mean parameter is either invalid or at a limit of its range for some observations.**

### Analysis Of Initial Parameter Estimates

Parameter	DF	Estimate	Standard Error	Wald	95% Confidence Limits	Chi-Square	Pr > Chi Sq
Intercept	0	-0.6245	0.0000	-0.6245	-0.6245	.	.
AGE1C	0	0.0150	0.0000	0.0150	0.0150	.	.
GENDER1	0	0.1492	0.0000	0.1492	0.1492	.	.
race2	0	-0.0555	0.0000	-0.0555	-0.0555	.	.
race3	0	-0.1074	0.0000	-0.1074	-0.1074	.	.
race4	0	-0.0896	0.0000	-0.0896	-0.0896	.	.
SBP1C	0	0.0014	0.0000	0.0014	0.0014	.	.
LDL1	0	0.0007	0.0000	0.0007	0.0007	.	.
HDL1	0	-0.0018	0.0000	-0.0018	-0.0018	.	.
Scale	0	1.0000	0.0000	1.0000	1.0000	.	.

Assuming **binomial** error, **STATA** output:

Iteration 0: log likelihood = -3934.7485 (not concave)  
 Iteration 1: log likelihood = -3893.0857 (not concave)  
 Iteration 2: log likelihood = -3892.891 (not concave)  
 Iteration 3: log likelihood = -3892.8766 (not concave)  
 Iteration 4: log likelihood = -3892.8766 (not concave)

Generalized linear models  
 Optimization : ML: Newton-Raphson  
 No. of obs = 6699  
 Residual df = 6690  
 Scale parameter = 1  
 Deviance = 7785.753158 (1/df) Deviance = 1.16379  
 Pearson = 700006950.2 (1/df) Pearson = 104634.8

Variance function:  $V(u) = u*(1-u)$  [Bernoulli]  
 Link function :  $g(u) = u$  [Identity]  
 Standard errors : OIM

Log likelihood = -3892.876579 AIC = 1.164913  
 BIC = -51151.23043

cacgt0	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
age1c	.0186708	5.19e-10	.	0.000	.0186708	.0186708
gender1	.1690232	.	.	.	.	.
_Irace1c_2	-.0792496	3.73e-08	.	0.000	-.0792496	-.0792495
_Irace1c_3	-.1153886	2.70e-08	.	0.000	-.1153887	-.1153885
_Irace1c_4	-.0932315	2.25e-08	.	0.000	-.0932315	-.0932314
sbp1c	.0017642	5.75e-10	.	0.000	.0017642	.0017642
ldl1	.0008233	4.82e-10	.	0.000	.0008233	.0008233
hdl1	-.0020971	2.75e-10	.	0.000	-.0020971	-.0020971
_cons	-.904717	.	.	.	.	.

Coefficients are the risk differences



Assuming **Gaussian** error, **SAS** output:

Error: Normal  
Link: Identity

The GENMOD Procedure

Model Information

Data Set	WORK.MESADATA
Distribution	Normal
Link Function	Identity
Dependent Variable	CACgt0
Observations Used	6699
Missing Values	115

Parameter Information

Parameter	Effect
Prm1	Intercept
Prm2	AGE1C
Prm3	GENDER1
Prm4	race2
Prm5	race3
Prm6	race4
Prm7	SBP1C
Prm8	LDL1
Prm9	HDL1

Criteria For Assessing Goodness Of Fit

Criterion	DF	Value	Value/DF
Deviance	6690	1282.4024	0.1917
Scaled Deviance	6690	6699.0000	1.0013
Pearson Chi-Square	6690	1282.4024	0.1917
Scaled Pearson X2	6690	6699.0000	1.0013
Log Likelihood		-3967.9985	

Algorithm converged.

The standard errors in the table below are the non-robust estimates.

# Analysis Of Initial Parameter Estimates

Parameter	DF	Estimate	Standard Error	Wald 95% Confidence Limits		Chi - Square	Pr > Chi Sq
Intercept	1	-0.9057	0.0504	-1.0044	-0.8069	323.11	<.0001
AGE1C	1	0.0187	0.0006	0.0176	0.0198	1101.45	<.0001
GENDER1	1	0.1866	0.0116	0.1638	0.2093	258.31	<.0001
race2	1	-0.0693	0.0178	-0.1043	-0.0343	15.09	0.0001
race3	1	-0.1343	0.0135	-0.1608	-0.1079	99.02	<.0001
race4	1	-0.1120	0.0145	-0.1404	-0.0836	59.72	<.0001
SBP1C	1	0.0018	0.0003	0.0013	0.0023	43.20	<.0001
LDL1	1	0.0008	0.0002	0.0005	0.0012	24.10	<.0001
HDL1	1	-0.0022	0.0004	-0.0030	-0.0014	30.45	<.0001
Scale	1	0.4375	0.0038	0.4302	0.4450		

NOTE: The scale parameter was estimated by maximum likelihood.

The output below gives the robust standard error estimates.

#### GEE Model Information

Correlation Structure	Unstructured
Subject Effect	IDNO (6814 levels)
Number of Clusters	6814
Clusters With Missing Values	115
Correlation Matrix Dimension	1
Maximum Cluster Size	1
Minimum Cluster Size	0

Algorithm converged.

#### Analysis Of GEE Parameter Estimates Empirical Standard Error Estimates

Parameter	Estimate	Standard Error	95% Confidence Limits		Z	Pr >  Z
Intercept	-0.9057	0.0478	-0.9994	-0.8119	-18.94	<.0001
AGE1C	0.0187	0.0005	0.0177	0.0198	35.12	<.0001
GENDER1	0.1866	0.0117	0.1636	0.2095	15.91	<.0001
race2	-0.0693	0.0182	-0.1050	-0.0337	-3.81	0.0001
race3	-0.1343	0.0136	-0.1610	-0.1077	-9.88	<.0001
race4	-0.1120	0.0143	-0.1401	-0.0839	-7.82	<.0001
SBP1C	0.0018	0.0003	0.0012	0.0023	6.51	<.0001
LDL1	0.0008	0.0002	0.0005	0.0012	4.87	<.0001
HDL1	-0.0022	0.0004	-0.0030	-0.0014	-5.42	<.0001

Assuming **Gaussian** error, **STATA** output:

i.race1c            \_l.race1c\_1-4            (naturally coded; \_l.race1c\_1 omitted)

Iteration 0:    Log pseudo-likelihood = -3967.9985

Generalized linear models	No. of obs	=	6699
Optimization : ML: Newton-Raphson	Residual df	=	6690
	Scale parameter	=	.1916894
Deviance	(1/df) Deviance	=	.1916894
Pearson	(1/df) Pearson	=	.1916894

Variance function: $V(u) = 1$	[Gaussian]
Link function : $g(u) = u$	[Identity]
Standard errors : Sandwich	

Log pseudo-likelihood = -3967.9985	AIC	=	1.187341
BIC = -57654.58121			

cacgt0	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
age1c	.0187219	.0005332	35.11	0.000	.0176769	.0197669
gender1	.186551	.0117274	15.91	0.000	.1635657	.2095363
_l.race1c_2	-.0693159	.0181963	-3.81	0.000	-.10498	-.0336518
_l.race1c_3	-.1343113	.0135967	-9.88	0.000	-.1609604	-.1076623
_l.race1c_4	-.1119844	.0143207	-7.82	0.000	-.1400525	-.0839163
sbp1c	.0017821	.0002736	6.51	0.000	.0012459	.0023183
ldl1	.0008387	.0001723	4.87	0.000	.000501	.0011763
hdl1	-.0021887	.0004042	-5.41	0.000	-.0029809	-.0013964
_cons	-.9056859	.0478324	-18.93	0.000	-.9994356	-.8119362

# Relative and Absolute Risk Regression – Alternatives to Logistic Regression

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## First Principles

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- Estimate the quantity of scientific interest!
- Statistical distribution theory is of secondary importance.
  - The Normality assumption is unimportant (See Lumley T, Diehr P, Emerson S, Chen L. The importance of the normality assumption in large public health data sets. *Annual Review of Public Health* 23:151-169, 2002.)
  - Skewness, long distribution tails or other deviations from normality are of some importance but not to the extent afforded them by current practice
- New statistical theory advances and the availability of high speed desktop computers has made possible this 'revolutionary' change in how analyses are done.

## Outline of Presentation

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- Misinterpretation of odds ratios and logistic regression in cross-sectional and longitudinal studies.
  - Two Examples:
    - Effects of race and gender on referral for cardiac catheterization.
    - Effect of mattress firmness on lower back pain.
- Relative risk (RR) regression as an alternative to logistic regression when the RR is the quantity of interest.
- Absolute risk regression (ARR) when the risk difference is the quantity of interest.

## Risk of Referral for Cardiac Catheterization

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- “Logistic-regression analysis indicated that women (odds ratio, 0.60; 95 percent confidence interval, 0.4 to 0.9;  $P=0.02$ ) and blacks (odds ratio, 0.60; 95 percent confidence interval, 0.4 to 0.9;  $P=0.02$ ) were less likely to be referred for cardiac catheterization than men and whites, respectively.” [Schulman et al., NEJM, Ref. 2]

## Risk of Referral for Cardiac Catheterization

- “In the February 25 issue of the *Journal*, Schulman et al. claimed that the “race and sex of a patient independently influence how physicians manage chest pain.” Their study received extensive coverage in the news media. It was reported in most major newspapers and was a feature story on ABC's *Nightline*, with Surgeon General David Satcher providing commentary. Unfortunately, in each case, the results were overstated. We explore what went wrong and suggest ways to improve the communication of data to the public.” [NEJM, Ref. 3]

TABLE 2. PRESENTATION OF STUDY FINDINGS IN SELECTED MAJOR NEWS MEDIA.

SOURCE*	HEADLINE	CHARACTERIZATION OF PRIMARY FINDING	INTERPRETATION	IMPLICATION
<i>Nightline</i> <sup>7</sup>	“A Recent Study Shows That Doctors Diagnose Black and White Patients Differently”	“In our main analysis we found that blacks were 40 percent less likely to be referred for cardiac catheterization compared to whites.”	“A recent study shows that doctors diagnose black and white patients differently.”	“It’s having an adverse effect on the health of their patients and there is growing statistical evidence that if a patient is black he or she is significantly likely to get a lesser quality of medical care.”
<i>USA Today</i> <sup>6</sup>	“Heart Care Reflects Race and Sex, Not Symptoms”	“Blacks and women with chest pain are 40% less likely than whites or men to be referred by physicians for cardiac catheterization.”	“Race and sex of patients with chest pain influence whether they’re sent for the most definitive test for heart disease.”	“... the new study truly does indicate that a bias exists.”
<i>Washington Post</i> <sup>8</sup>	“Georgetown University Study Finds Disparity in Heart Care; Doctors Less Likely to Refer Blacks, Women for Cardiac Test”	“Physicians said they would refer blacks and women to heart specialists for cardiac catheterization tests only 60 percent as often as they would prescribe the procedure for white male patients.”	“Doctors are far less likely to recommend sophisticated cardiac tests for blacks and women than for white men with identical complaints of chest pain.”	“Authors suggest the differences are the consequences of race and sex bias [and that] the attitudes demonstrated in the survey exist in all medical specialties . . . you don’t have to be consciously racist to see the influence of race and gender playing out in treatment. That’s what this study confirms.”
<i>Los Angeles Times</i> <sup>4</sup>	“Heart Study Points to Race, Sex Bias”	“[Doctors] refer blacks and women to heart specialists 60% as often as they would white male patients.”	“Doctors are far less likely to recommend sophisticated cardiac tests for blacks and women than for white males.”	“Authors suggest the differences are the consequences of race and sex bias.”
<i>Wall Street Journal</i> <sup>12</sup>	“Study Suggests Race, Sex Influence Physicians’ Care”	“Doctors are only 60% as likely to order cardiac catheterization for women and blacks as for men and whites.”	“Women and blacks complaining of chest pain are less likely than men and whites to receive the best cardiac testing.”	“Unconscious prejudices among doctors may help explain [the findings].”
<i>New York Times</i> <sup>8</sup>	“Doctor Bias May Affect Heart Care, Study Finds”			

\* Since the *Wall Street Journal* and *New York Times* stories were based on the same Associated Press report, the characterization of the primary finding, interpretation, and stated implication were the same in the two newspapers. The quotations in the table are from the *New York Times*.

**TABLE 1. RATE OF REFERRAL FOR CARDIAC CATHETERIZATION, ODDS OF REFERRAL, ODDS RATIO, AND RISK RATIO ACCORDING TO SEX AND RACE.\***

PATIENTS	MEAN REFERRAL RATE %	ODDS OF REFERRAL	ODDS RATIO (95% CI)	RISK RATIO (95% CI)
Four strata				
White men†	90.6	9.6 to 1	1.0	
Black men	90.6	9.6 to 1	1.0 (0.5–2.1)	
White women	90.6	9.6 to 1	1.0 (0.5–2.1)	
Black women	78.8	3.7 to 1	0.4 (0.2–0.7)	0.87 (0.80–0.95)
Aggregate data				
White†	90.6	9.6 to 1	1.0	
Black	84.7	5.5 to 1	0.6 (0.4–0.9)	0.93 (0.89–0.99)
Men†	90.6	9.6 to 1	1.0	
Women	84.7	5.5 to 1	0.6 (0.4–0.9)	0.93 (0.89–0.99)
Overall	87.7	7.1 to 1		

\*Referral rates for the four strata were inferred from aggregate rates and odds ratios reported by Schulman et al.<sup>1</sup> The odds of referral were calculated according to the following formula: referral rate/(100%–referral rate). The risk ratio was calculated as the referral rate for the group in question divided by the referral rate for the reference group. CI denotes confidence interval.

†This was the reference group.

## Risk of Referral for Cardiac Catheterization

- “The use of odds ratios is unfortunate. Few people think in terms of odds or encounter them in daily life. Perhaps for this reason, many people tend to equate odds with probability (the most familiar way to characterize chance) and thus to equate odds ratios with risk ratios.” [Ref. 3]



## Mattress Hardness and Back Pain

- Randomized clinical trial comparing medium firm to hard mattresses reported in The Lancet. [Ref. 4]
- From a logistic regression model, the authors report that “After adjustment for these variables, the final model showed that patients who received the medium firmness mattresses were around twice as likely to improve than were patients with firm mattresses for low-back pain while lying in bed, low-back pain on rising, and disability (table 3).” [Ref. 4]
- The results of this study was reported as a news item in JAMA - “Overall, those assigned to a medium firm mattress were twice as likely to report improvements in back pain-associated disability.” [References 5]

## Mattress Hardness and Back Pain Results

Outcome		Firm Mattress		Medium Mattress		p	RR	OR*
		No.	%	No.	%			
Had low-back pain throughout follow-up								
	No	36	23	48	32	.06		
	Yes	122	77	100	68		<b>1.14</b>	<b>1.63</b>
Had low-back pain on rising throughout follow-up								
	No	36	23	55	37	.008		
	Yes	122	77	95	63		<b>1.22</b>	<b>1.96</b>

\*Unadjusted. The adjusted OR's are ~2 for all endpoints reported.

## RR Regression vs. Logistic Regression

### □ Notation

$$Y = \begin{cases} 0 \\ 1 \end{cases}$$

Y is the outcome of interest (e.g. CAC>0 or disease)

x=vector of covariates (e.g. age, gender, etc.),  $\beta$ = vector of parameters

### □ Logistic Regression

$$\Pr(Y = 1 | x) = \frac{e^{\beta x}}{1 + e^{\beta x}}$$

$$\text{Logit} (\Pr(Y = 1 | x)) = \ln \left( \frac{\frac{e^{\beta x}}{1 + e^{\beta x}}}{1 - \frac{e^{\beta x}}{1 + e^{\beta x}}} \right) = \beta x$$

## Advantages of Logistic Regression

- When the outcome Y=1 is rare “...in all exposure and confounder categories of the analysis; ...” [Ref. 6], the OR is a reasonable estimate of the RR. In case/control studies  $\Pr(Y=1|x)$  (e.g. the probability of being diseased in the population) is typically small and the OR can be used to estimate the RR.
- For a continuous variable, a constant OR is sometimes more plausible than a constant RR.
- The shape of the distribution of  $\Pr(Y=1|x)$  for the logistic (S shaped) is what one might expect for probabilities.

## Disadvantages of the OR in Cross-sectional and Longitudinal Studies

- When the  $\Pr(Y=1|x)$  is moderate to large in size, the OR is a very biased estimate of the RR.
- Most researchers and the ‘lay’ public interpret odds ratios as RR’s.
- “... for summarizing exposure impact on risk, the incidence proportion (“risk”) difference and ratio should be the methods of choice, ... only they possess direct interpretations in terms of exposure effect on average risk.” [Ref. 6]

## RR Regression

Model

$$\Pr(Y = 1 | x) = e^{\beta x}$$

Then,

$$\ln(\Pr(Y = 1 | x)) = \beta x$$

The function (ln) is called the link, i.e. the RR model uses the log link.

$e^{\beta x}$  estimates the relative risk associated with a one unit change in the predictor  $x$ .

## Estimation of $\beta$ in RR Regression

- For each value of  $x$ ,  $Y$  is distributed as a binomial random variable. Thus, the optimal model for estimating  $\beta$ , assumes that the error is binomial.
- However, when the binomial assumption is made, this can lead to problems as frequently the estimation procedures available in statistical packages don't converge.
- This has led statisticians to suggest many ad hoc methods for estimating  $\beta$ . [Ref. 7-15].

## Estimation of $\beta$ in RR Regression

- In a JAMA paper [Ref. 7] a simple method of estimating the RR by multiplying the coefficients and standard errors from a logistic regression model was proposed. This method is incorrect and gives biased estimates of both the coefficients and standard errors [Ref. 8].
- Several papers suggest 'tricking' logistic regression or Cox proportional hazards regression programs to give estimates of the RR or the use of Poisson Regression. [Ref. 9-15] These methods provide unbiased estimates of the coefficients, but may not provide efficient estimates or correct standard errors.

## Three Methods of Estimating $\beta$

Let,

$$\eta = \beta x$$

$$\mu = e^{\eta}$$

For each of the following assumed error distributions, the estimating equations are:

$$\text{Binomial: } x\mu\left(\frac{1}{\mu(1-\mu)}\right)(Y - \mu) = 0$$

$$\text{Poisson : } x\mu\left(\frac{1}{\mu}\right)(Y - \mu) = 0$$

$$\text{Gaussian : } x\mu(1)(Y - \mu) = 0$$

## How to Estimate $\beta$ and its Variance

- SAS, STATA and S+ (or R) all have procedures for fitting the 3 methods/models shown. The Gaussian (Normal) estimating equation can also be solved by non-linear least squares which is available in SPSS.
- 'Robust' standard errors can be computed in each program. These are unbiased for large sample sizes. The estimate  $\beta$  is asymptotically normal and thus unbiased tests (Z-tests) and confidence intervals are available. Alternatively, the standard errors can be estimated using the boot-strap method (SPSS).

## Comparison of RR to OR Regressions

- 12 year mortality in CHS.
- CAC score 0 versus >0 in MESA.
- STATA used for all analyses.
- Example STATA commands for CHS data:
  - Log link, binomial error
    - **xi: glm death i.Age5 gend01, robust eform family(binomial 1) link(log) difficult search**
  - Log link, Gaussian error
    - **xi: glm death i.Age5 gend01, robust eform family(gaussian) link(log)**

## RR versus OR for CHS 12 Year Mortality

	Relative Risk Model (RR Regression - Binomial Error )			Relative Risk Model (RR Regression - Gaussian Error )			Odds Ratio Model (Logistic Regression)		
	Relative Risk	Standard Error	Z	Relative Risk	Standard Error	Z	Odds Ratio	Standard Error	Z
Age									
65-69	<b>1.00</b>			<b>1.00</b>			<b>1.00</b>		
70-74	<b>1.40</b>	0.07	6.71	<b>1.43</b>	0.07	7.03	<b>1.60</b>	0.12	6.56
75-79	<b>2.17</b>	0.10	16.39	<b>2.21</b>	0.10	16.72	<b>3.65</b>	0.29	16.39
80-84	<b>2.79</b>	0.13	21.78	<b>2.94</b>	0.14	22.84	<b>7.66</b>	0.82	18.96
85-99	<b>3.28</b>	0.15	25.97	<b>3.56</b>	0.17	26.88	<b>19.74</b>	3.98	14.77
Gender									
Female	<b>1.00</b>			<b>1.00</b>					
Male	<b>1.34</b>	0.04	10.21	<b>1.35</b>	0.04	10.70	<b>1.96</b>	0.11	11.60

## RR versus OR for MESA – CAC>0\*

	Relative Risk Model (RR Regression - Gaussian Error )			Relative Risk Model (RR Regression - Poisson Error )			Odds Ratio Model (Logistic Regression)		
	Relative Risk	Standard Error	Z	Relative Risk	Standard Error	Z	Odds Ratio	Standard Error	Z
age (10 yrs)	<b>1.37</b>	0.0149	28.94	<b>1.44</b>	0.0183	28.72	<b>2.35</b>	0.0798	25.24
gender	<b>1.45</b>	0.0304	17.74	<b>1.57</b>	0.0369	19.09	<b>3.18</b>	0.1948	18.92
Chinese	<b>0.94</b>	0.0323	-1.77	<b>0.97</b>	0.0364	-0.78	<b>0.88</b>	0.0857	-1.34
Black	<b>0.76</b>	0.0197	-10.5	<b>0.74</b>	0.0220	-10.04	<b>0.44</b>	0.0330	-10.94
Hispanic	<b>0.85</b>	0.0220	-6.30	<b>0.83</b>	0.0246	-6.44	<b>0.60</b>	0.0446	-6.92
Lipid Meds	<b>1.17</b>	0.0252	7.26	<b>1.21</b>	0.0297	7.80	<b>1.69</b>	0.1359	6.58
ABI	<b>0.66</b>	0.0424	-6.48	<b>0.62</b>	0.0464	-6.40	<b>0.16</b>	0.0434	-6.85
BMI	<b>1.01</b>	0.0021	6.92	<b>1.02</b>	0.0024	7.39	<b>1.04</b>	0.0059	7.13
CCIMT	<b>1.22</b>	0.0556	4.28	<b>1.31</b>	0.0696	5.06	<b>2.70</b>	0.4655	5.76

\*Non-convergence for binomial error.

## Absolute Risk Regression

Model

$$\Pr(Y = 1 | x) = \beta x$$

This is the linear link function. Again the error distribution is Binomial.

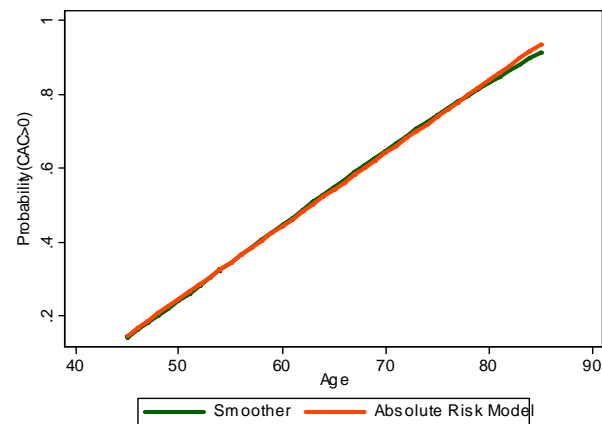
$\beta$  Is the change in risk associated with a one unit change in x.

## Absolute Risk Regression- Example for CAC

	Absolute Risk Model (Gaussian Error*)		
	Risk Difference	Standard Error	Z
Age (10 yrs)	0.173	0.006	29.97
Gender	0.222	0.011	20.11
Chinese	-0.025	0.019	-1.33
Black	-0.154	0.014	-11.14
Hispanic	-0.099	0.014	-6.95
Lipid Meds	0.103	0.015	6.89
ABI	-0.312	0.044	-7.07
BMI	0.008	0.001	7.12
CIMT	0.176	0.030	5.81

\*Binomial error resulted in non-convergence.

## Age versus $\Pr(\text{CAC} > 0)$





## Some Final Comments

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- Ordinal logistic regression (the proportional odds model) has been suggested as a model for CAC.
  - This model has three major problems associated with it.
    - Because  $CAC=0$  is common in MESA, the resulting OR are poor estimates of the RR.
    - This model requires a strong assumption about the relationships between the categories of the outcome variable, which in my view is rarely correct.
    - The model is constructed by changing the continuous part of CAC into a discrete categories, thus resulting in a loss of information. It also complicates interpretation.

## Some Final Comments

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- If the probabilities (risks) of an outcome are the quantities of interest, then logistic regression and RR regression are two of an infinite number of possible risk functions that could be used. The choice of risk function should be made based on a measure of goodness of fit of the prediction of the outcomes.

## Some Final Comments

- For rare outcomes, logistic regression will in general be preferable to RR regression for estimating the RR even in cross-sectional and longitudinal studies because it has good statistical properties (efficiency). However, if absolute risk is the quantity of interest then absolute risk regression should be used.
- For moderate to high frequency outcomes, RR or absolute risk regression is preferable when RR or absolute risk are the quantities of interest, which will usually be the case.

## How Does This Relate to MESA?

- For modeling  $CAC > 0$ , either RR or absolute risk regression is preferred.
- If convergence is obtained with binomial error this should be used. If not, Gaussian error should be used.
- Absolute risk regression actually provides a slightly better fit to the probabilities than does logistic or RR regression models (results not shown)!
- For other outcomes (e.g. prevalent hypertension), similar recommendations hold.
- We will post on the MESA web page and include in our analysis manual, code for doing absolute and RR regression using STATA or SAS.

References for “Relative and Absolute Risk Regression –Alternatives to Logistic Regression” talk

1. Lumley T, Diehr P, Emerson S, Chen L. The importance of the normality assumption in large public health data sets. *Ann Rev of Pub Health.* 23:151-169, 2002.
2. Schulman KA, Berlin JA, et. al. The effect of race and sex on physicians' recommendations for cardiac catheterization. *N Engl J Med.* 340(8):618-26, 1999.
3. Schwartz L. M., Woloshin S., Welch H. G. Misunderstandings about the Effects of Race and Sex on Physicians' Referrals for Cardiac Catheterization. *N Engl J Med.* 341:279-283, 1999.
4. Kovacks F, et. al. Effect of firmness of mattress on chronic non-specific low-back pain: randomized, double-blind, controlled, multicentre trial. *Lancet.* 362: 1599–604, 2003.
5. The World in Medicine. *JAMA.* 290(23): 3057, 2003.
6. Greenland S. Interpretation and choice of effect measures in epidemiologic analyses. *Am J Epi.* 125(5): 761-768, 1987.
7. Zhang J, Yu KF. What’s relative risk? A method of correcting the odds ratio in cohort studies of common outcomes. *JAMA.* 280:1690–1, 1998.
8. McNutt L, Wu C, Xue X, and Hafner J. Estimating the Relative Risk in Cohort Studies and Clinical Trials of Common Outcomes. *Am J Epi.* 157:940–943, 2003.
9. Robbins A, Chao Y, Fonseca V. What’s the Relative Risk? A Method to Directly Estimate Risk Ratios in Cohort Studies of Common Outcomes. *Ann Epi.* 12:452–454, 2002.
10. Lee J. Odds ratio or relative risk for cross-sectional data. *Int J Epidemiol* 23:201–3, 1994.
11. Zocchetti C, Consonni D, Bertazzi PA. Estimation of prevalence rate ratios from cross-sectional data. *Int J Epidemiol.* 24:1064–5, 1995.
12. Thompson M, , Myers J, Kriebel D. Prevalence odds ratio or prevalence ratio in the analysis of cross sectional data: what is to be done? *Occup Environ Med.* 55:272–277, 1998.
13. Schouten E, Dekker J, Kok F, Le Cessie, Van Houwelingen H, Pool J, Vanderbroucke J. Risk ratio and rate ratio estimation in case-cohort designs: hypertension and cardiovascular mortality. *Stat Med.* 12(18):1733-45, 1993.
14. Skov T, Deddens J, Petersen M, Endahl. Prevalence proportion ratios: estimation and hypothesis testing. *Int J Epidemiol* 27:91-95, 1998.
15. Zhou, G. A Modified Poisson Regression Approach to Prospective Studies with Binary Data. *Am J Epi.* 159:702–706, 2004
16. Sackett D, Deeks J, Altman D. Down with the odds ratio. *Evid Based Med.* 1(6):164-166, 1996.

# Adjusting Cardiac MRI Measures for Body Size

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MESA Steering Committee Meeting  
September 13, 2004

## Outline

- Cardiac MRI (magnetic resonance imaging) in MESA
- Traditional approach to analyzing cardiac MRI measures
- Problems with existing indices for body size
- Proposed LV mass index

## Cardiac MRI in MESA

- MESA is the first large-scale application of cardiac MRI in a multi-center study and in a multi-ethnic population
- 4987 participants obtained cardiac MRI procedures at Exam 1
- 1700 participants scheduled for cardiac MRI at Exam 4
- MRI of the heart provides accurate, reproducible, and non-invasive measures of subclinical cardiovascular disease:
  - Left ventricular (LV) mass
  - LV end-diastolic and end-systolic volumes
  - LV systolic function

## LV Mass measured by Cardiac MRI

Does not rely on geometric assumptions about the shape of the ventricle, unlike echocardiography and cineangiocardiology

- Obtain a series of image sequences (slices) of the heart
- Manually trace endocardial and epicardial contour on each image slice during end-diastole
- myocardial area = area between epicardial contour and endocardial contour
- myocardial volume = myocardial area  $\times$  (slice + gap thickness)
- LV mass = (sum of myocardial volumes)  $\times$  myocardial density  
myocardial density = 1.05 g/ml

## Current Questions of Interest in MESA

- MC 004 (Heckbert et al.): What is the association between cardiac MRI measures and traditional cardiovascular risk factors?
- MC 005 (Bluemke et al.): What is the association between cardiac MRI measures and age, ethnicity, and gender?
- MC 015 (Arnett et al.): What is the association between novel cardiovascular risk factors and cardiac MRI measures?



## Traditional approaches to analyzing LV measures

- LV measures (by echocardiography) have traditionally been indexed by body size to “adjust for the effect of body size”
  - LV measure/height
  - LV measure/height<sup>2.7</sup>
  - LV measure/BSA, where BSA = body surface area
- Since cardiac MRI is relatively new, there is not yet a standard for analyzing LV measures (determined by cardiac MRI)

If the LV measure indexed by BSA, height or height<sup>2.7</sup> is a physiological quantity of interest, then analysis of that quantity is fine.

If the purpose is to adjust for body size, problems occur.

### Problems with existing indices for body size

- Different indices yield different results
- The indices are not well-defined
- The indices are still associated with body size (in “normals”)

## Different indices yield different results

- Outcome: Indexed unidimensional cardiac measures (e.g. end-diastolic dimension)
- Sample: 318 normotensive participants from Framingham study offspring cohort
- Results:
  - Indexed to height: men  $>$  women
  - Indexed to BSA: men  $<$  women
- Salton et al. (2002). J. Am. Coll. Cardiol. 39:1055-60

## Different indices yield different results

- Outcome: Indexed LV mass
- Sample: 665 patients from the Hypertension Optimal Treatment study
- Results:
  - Indexed to body surface area: no differences among Caucasians, African-Americans, and Hispanics
  - Indexed to height or height<sup>2.7</sup>: Hispanics > other ethnic groups
- Zabalgaitia et al. (1998). Am. J. Cardiol. 81:412-417.

## Different indices yield different results

- Outcome: Indexed LV mass
- Sample: 4987 MESA participants who obtained cardiac MRI exam 1 of adequate quality
- Results:
  - Indexed to BSA: Black > Hispanic > White and Asian
  - Indexed to height: Black > Hispanic > White > Asian
  - Indexed to height<sup>2.7</sup>: Black and Hisp > White and Asian
- Results are based on linear regression of indexed LV mass on ethnic group, gender, age, and study site

## LV mass/BSA is not well-defined

- Body surface area (BSA) is not well-defined
- BSA is usually not measured directly
- In MESA, BSA is defined as:

$$\text{BSA} = 0.007184 \text{ Weight}^{0.425} \text{ Height}^{0.725}$$

BSA in m<sup>2</sup>

Weight in kg

Height in cm

Formula from DuBois and DuBois (1916). Archives of Internal Medicine 17:863-871.

## DuBois and DuBois (1916) Formula for Body Surface Area

- Sample of 10 subjects
  - Anna M: “cadaver of a child 21 months old”
  - Fabian R S: “aged 12 years, 10 months, an unusually well formed boy with no signs of puberty as yet”
  - Gerald S: “18 years old, tall and much emaciated”
  - Emma W: “26 years old, a sculptor’s model”
  - R.H.S: “21 1/2 years old. An unusually tall and thin man...”
  - Robert L: “43 years old. Five years previously he had lost both legs in a railroad accident”
  - Harry J: “34 years old, colored ... As a result of his deformity he had developed a form which reminded one of a hermit crab.”

## DuBois and DuBois (1916) Formula for Body Surface Area

- Measure BSA directly by enclosing 10 subjects in paper molds
- Determine BSA formula
  - Exclude 21 month female cadaver from analysis
  - Assume  $BSA = C \text{ Weight}^A \text{ Height}^B$ , subject to  $3A + B = 2$
  - Estimate:  $A=0.425$ ,  $B=0.725$ , and  $C=0.007184$
- Our estimates and 95% CI for A, B, and C based on nonlinear regression (unconstrained):
  - $A=0.4088$  (0.3682, 0.4493)
  - $B=0.6500$  (0.5362, 0.7637)
  - $C=0.01125$  (0.00526, 0.01724)



$$\text{BSA} = C \text{ Weight}^A \text{ Height}^B$$

- Estimates of A, B, and C:

Study	Sample			
	Size	A	B	C
DuBois and DuBois (1916)	9	0.425	0.725	0.007184
Arch. Intern. Med. 17:863-871				
Boyd (1935)	197	0.5000	0.4838	0.017827
University of Minnesota Press				
Gehan and George (1970)	401	0.4225	0.5146	0.0235
Cancer Chemother. Rep. 54:225-235				

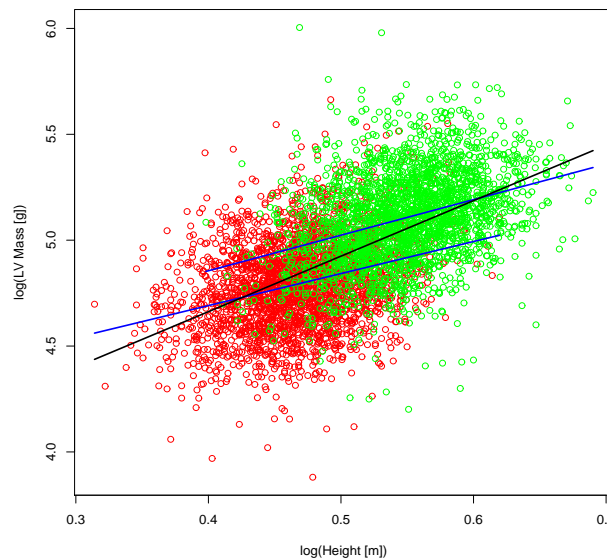
- See also Yu et al. (2003) Applied Ergonomics 34:273-278
- Large variability in parameter estimates across studies

## LV mass/Height<sup>2.7</sup>

- Index derived from a model that ignores confounding by gender
- Sample: 611 non-obese, normotensive adults and children
- De Simone et al. (1992). J. Am. Coll. Cardiol. 20:1251-60
- In MESA:

Height<sup>3.0</sup> (similar to Height<sup>2.7</sup>) without gender

Height<sup>1.8</sup> with gender

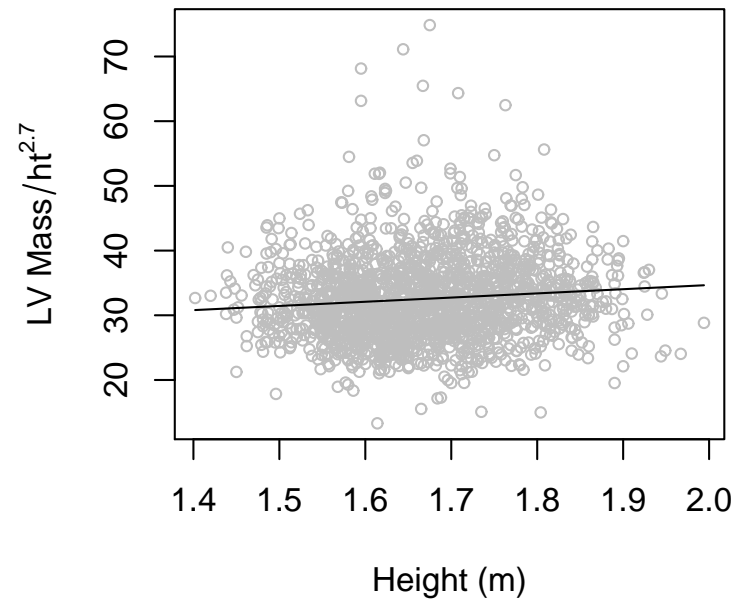


## Existing indices do not remove effect of body size

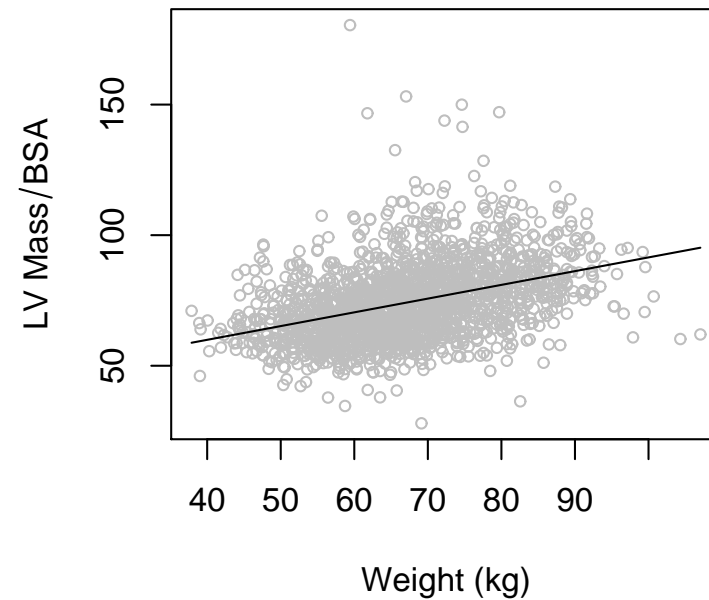
- Sample: 1746 normotensive, non-obese MESA participants
- Outcome: Indexed LV mass
- Results:
  - LV mass indexed to BSA, height, or height<sup>2.7</sup>: statistically associated with height and weight ( $p < 0.0001$ )
- Results based on linear regression of indexed LV mass on height and weight
- Association remains significant after adjusting for gender, ethnicity, age, and study site

## Existing indices are correlated with height and weight

**$r=0.1$ ,  $p\text{-value}<0.0001$**



**$r=0.4$ ,  $p\text{-value}<0.0001$**



## Proposed LV Mass Index

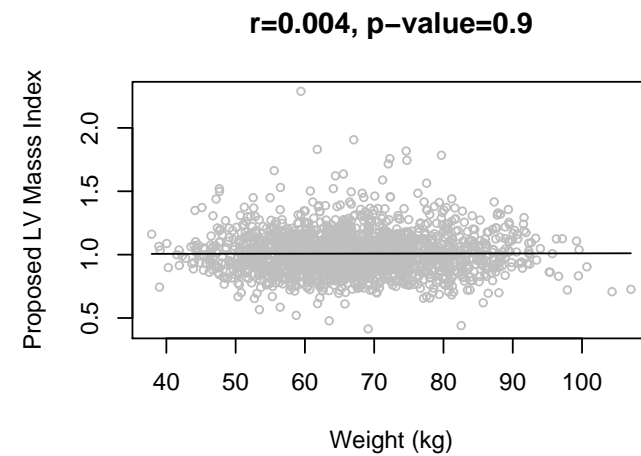
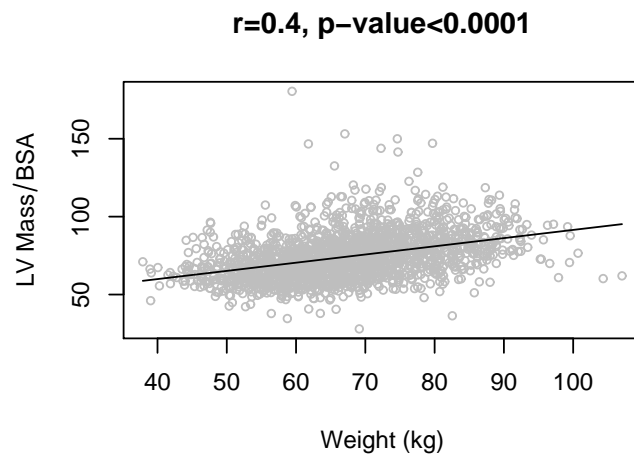
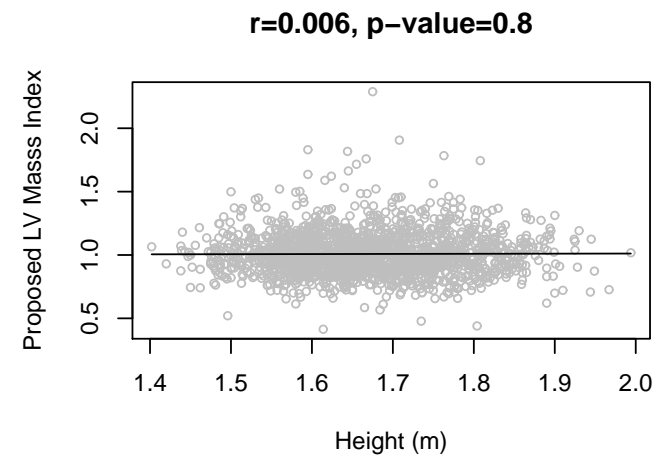
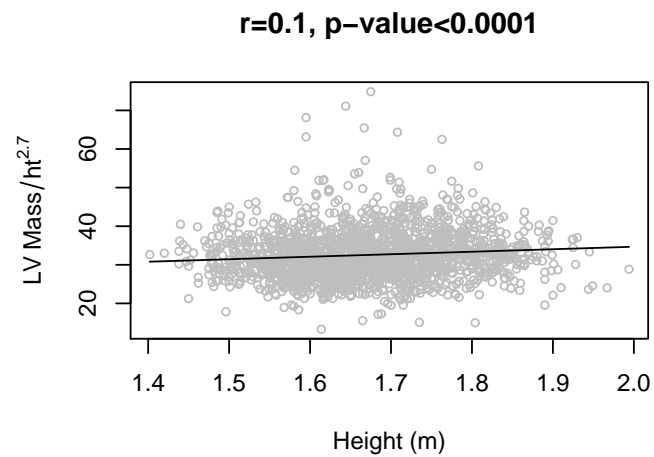
$$\text{LV Mass Index} = \frac{\text{LV Mass}}{c_{mass} \text{Height}^{0.54} \text{Weight}^{0.61}}$$

- $c_{mass}$ 
  - Females:  $c_{mass} = 6.82$
  - Males:  $c_{mass} = 8.25$
- LV Mass in grams
- Height in meters
- Weight in kilograms
- Derived from:
  - Sample: 1746 normotensive, non-obese MESA participants
  - Multiplicative model, estimated by regressing  $\log(\text{LV mass})$  on  $\log(\text{height})$ ,  $\log(\text{weight})$ , and gender

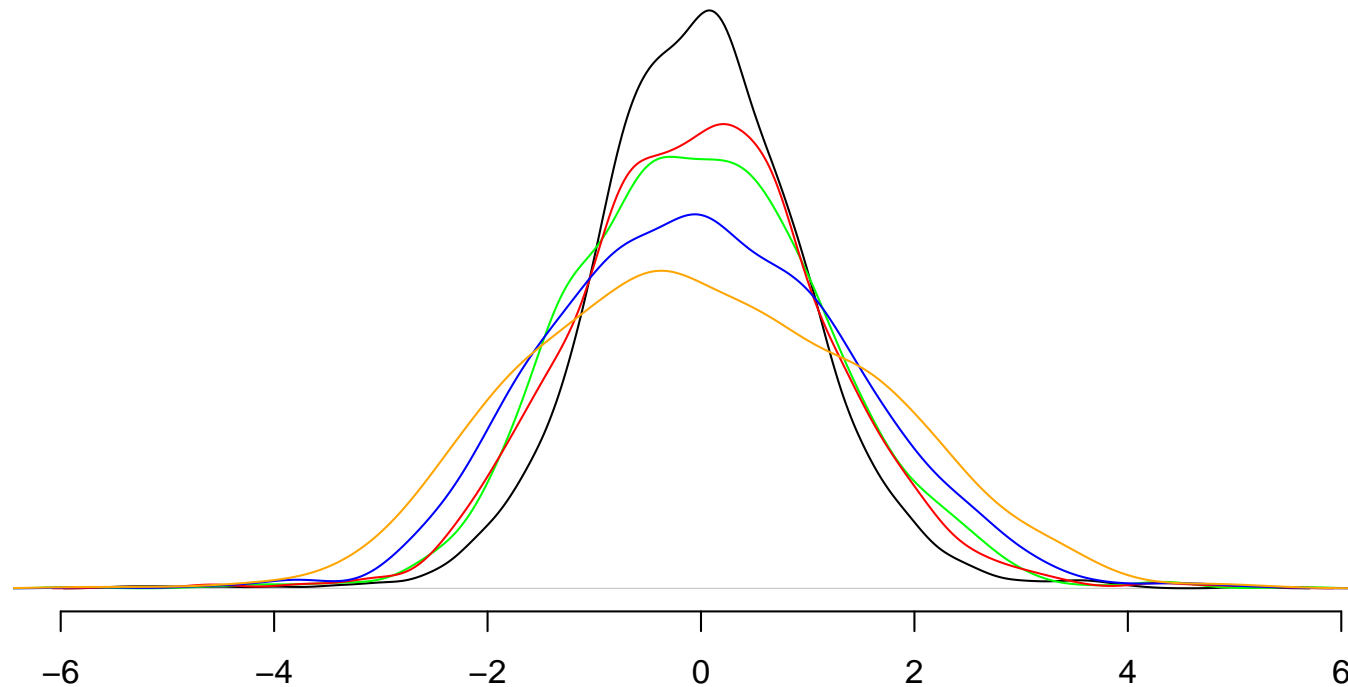
## Properties of Proposed LV Mass Index

- Not statistically associated with height and weight in “normals”
  - Based on multiplicative model, by definition
  - Based on linear regression model of LV mass index on height and weight
- Adjusts for gender
- Has smaller variability than existing indices
- Easy to use
  - Cut-offs for defining LV hypertrophy are the same regardless of gender, ethnicity, and age

# Proposed Index is not correlated with height or weight



## Proposed LV Mass Index Compared to Existing Indices



Proposed index has smaller variability than existing indices



## Using the Proposed LV Mass Index

- Clinical purposes (e.g. defining LV hypertrophy)

Transform index to standard normal distribution:

$$Z \equiv \log(\text{LV mass index})/0.1625$$

- $Z = 1.64$ : LV mass index is larger than that of 95% of the “normal” population
- $Z = 1.96$ : LV mass index is larger than that of 97.5% of the “normal” population

- Clinical purposes

Use percent predicted measure:

$$\frac{\log(\text{LV mass})}{\log(c_{mass}) + 0.54 \times \log(\text{Height}) + 0.61 \times \log(\text{Weight})}$$

- If equal to 1: LV mass is same as predicted based on body size and gender
  - If equal to 1.2: LV mass is 20% larger than predicted
- As dependent or independent variable
    - Could model index, z-score, or percent predicted measure

## Summary

- LV measures are traditionally indexed by BSA, height, or height<sup>2.7</sup> to “adjust for the effect of body size”
- Problems with existing indices
  - Different indices yield different conclusions
  - The indices are not well-defined
  - The indices do not remove the effect of body size
- Proposed LV mass index offers several advantages
- Indices for LV volumes can be constructed in a similar manner
- Collaborators: Dick Kronmal, David Bluemke, Susan Heckbert, Greg Hundley, Joao Lima, and Hanyu Ni

# Congestive Heart Failure in MESA

Relationship to LV mass

D. Bluemke, R. Kronmal

## MESA adjudicated events at 2 years

Event	Caucasian		Chinese-American		African-American		Hispanic		Total	
	n	Rate (%)	n	Rate (%)	n	Rate (%)	n	Rate (%)	n	Rate (%)
Total at risk	2624		803		1895		1492		6814	
MI	20	0.8	3	0.4	6	0.3	10	0.7	39	0.6
CHF	15	0.6	1	0.1	20	1.1	11	0.7	47	0.7
Death	4	0.2	0	0.0	3	0.2	2	0.1	9	0.1

## **CHF in MESA – adapted from WHI**

- Chart review: dilated LV or poor LV function (*e.g.* low ejection fraction or wall motion abnormalities) by echo, RNA / MUGA, contrast ventriculography or evidence of LV diastolic dysfunction
  - Reviewers examine original results of procedure or “convincing reference” to procedure results in discharge summary

## **MESA CHF criteria - 2**

- CHF diagnosed by physician, and patient receiving medical treatment for CHF (eg diuretics, digitalis, vasodilators, beta-blockers, ACE inhibitor)
- Pulmonary edema/ congestion by CXR

## Cardiac MRI in MESA

- 5004 participants (73%)
- 6814 total
- Primary variables for this analysis:  
LV mass
- (EF, SV, EDV, ESV, aortic distensibility,  
LV wall thickness will be evaluated later)

### Exam 1: Ejection Fraction by MRI from 34 participants with incident CHF

EF	type	participants
<45%	Systolic CHF**	6
≥ 45%	Diastolic CHF	28
Total		34

*Among 47 CHF events overall*

## Demographics By CHF Status

		CHF				
		No		Yes		RR
		n	%	n	%	
Ethnicity	CAUCASIAN	2,609	38.6	15	31.9	1.00
	CHINESE	802	11.9	1	2.1	0.22
	AA	1,875	27.7	20	42.6	1.85
	HISPANIC	1,481	21.9	11	23.4	1.29
Age	45-54	1,942	28.7	5	10.6	1.00
	55-64	1,873	27.7	12	25.5	2.48
	65-74	1,998	29.5	19	40.4	3.67
	75-84	954	14.1	11	23.4	4.44
Gender	FEMALE	3,585	53.0	16	34.0	1.00
	MALE	3,182	47.0	31	66.0	2.17

## Characteristics of Participants with CHF

		CHF				
		No		Yes		
		n	%	n	%	RR
CIGARETTE SMOKING STATUS	NEVER	3,408	50.6	18	39.1	1.00
	FORMER	2,449	36.4	15	32.6	1.16
	CURRENT	872	13.0	13	28.3	2.80
DIABETES MELLITUS BY 1997 ADA FASTING CRITERIA	NORMAL	5,265	78.1	25	53.2	1.00
	IFG	555	8.2	7	14.9	2.64
	DIABETES	922	13.7	15	31.9	3.39
Hypertension by JNC VI (1997) criteria	No	3,778	55.8	16	34.0	1.00
	Yes	2,988	44.2	31	66.0	2.43
ECG LEFT VENTRICULAR HYPERTROPHY	No	6,659	99.1	39	83.0	1.00
	Yes	60	0.9	8	17.0	20.21

## Existing indices do not remove the effect of body size

- Sample: 1746 normotensive, non-obese MESA participants
- Outcome: Indexed LV mass
- Results:
  - LV mass indexed to BSA, height, or height<sup>2.7</sup>: statistically associated with height and weight (p<0.0001)
- Results based on linear regression of indexed LV mass on height and weight
- Association remains significant after adjusting for gender, ethnicity, age, and study site

L Brumback

## LV mass index in MESA (L. Brumback)

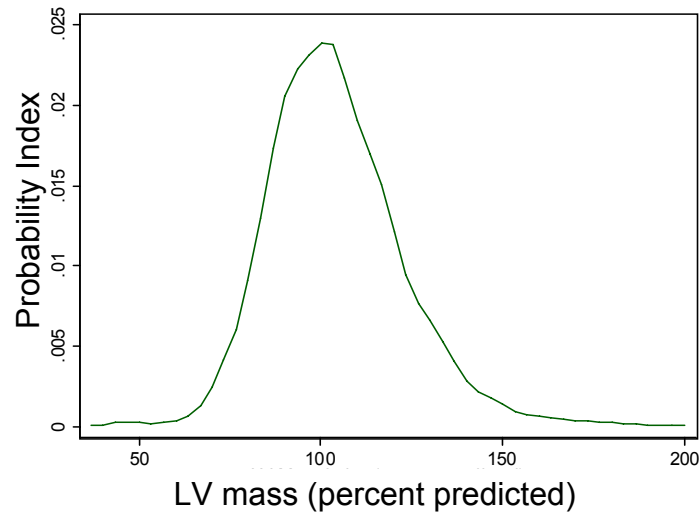
$$\text{LV Mass Index} = \frac{\text{LV Mass}}{c_{mass} \text{ Height}^{0.56} \text{ Weight}^{7.79}}$$

- $c_{mass}$ 
  - Females:  $c_{mass} = 6.50$
  - Males:  $c_{mass} = 7.79$
- LV Mass in grams
- Height in meters
- Weight in kilograms
- Derived from:
  - nondiabetic +
  - Sample: 972 normotensive, non-obese MESA participants
  - Multiplicative model, estimated by regressing log(LV mass) on log(height), log(weight), and gender

L Brumback



## Distribution of LV Mass Index



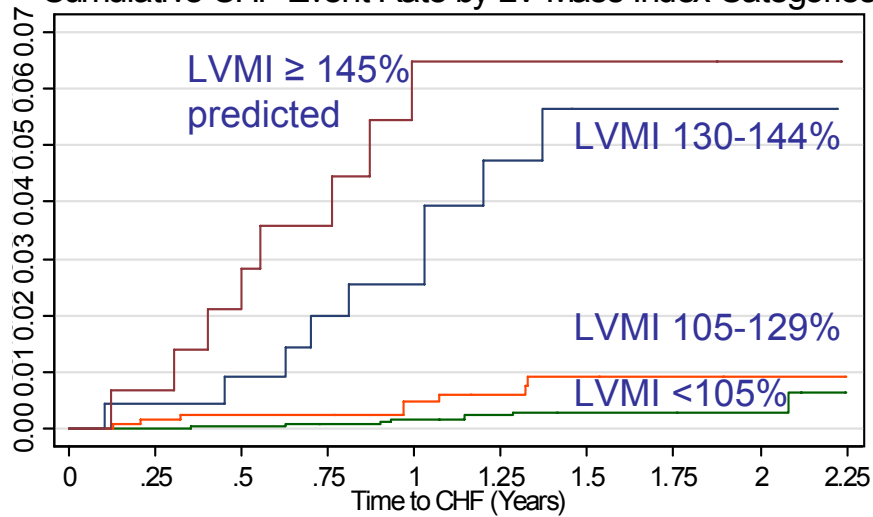
LV Mass Index (% Predicted from weight and height) versus CHF					
LV Mass Index		CHF		Total	Relative Risk
		No	Yes		
<105%	n	3,343	8	3,351	1.0
	%	99.8%	0.2%		
105-129%	n	1,266	9	1,275	3.0
	%	99.3%	0.7%		
130-144%	n	223	9	232	16.9
	%	96.1%	3.9%		
≥ 145%	n	138	8	146	24.2
	%	94.5%	5.5%		
Total	n	4,970	34	5,004	
	%	99.4%	0.6%		
Chi-Square for Trend = 75, p-value < 1x10 <sup>-17</sup>					

## LV Ejection Fraction versus CHF

LV EF		CHF		Total	Relative Risk
		No	Yes		
F: <58.7	n	112	9	121	13.8
M: <46	%	92.6%	7.4%		
F: 58.7-63.6	n	833	9	842	2.0
M: 46-63	%	98.9%	1.1%		
F: 63.7-78.1	N	2,735	9	2,744	0.6
M: 63-68.9	%	99.7%	0.3%		
F: >78.1	n	1,290	7	1,297	1.0
M: >68.9	%	99.5%	0.5%		
Total	n	4,970	34	5,004	
	%	99.3%	0.7%		

Chi-Square for Trend = 23, p-value < 1x10<sup>-6</sup>

Cumulative CHF Event Rate by LV Mass Index Categories



## Relative Risk of CHF for LVMI after Adjustment for other Predictors

Cox Regression Modeling for CHF*				
Variable	Hazard Ratio (RR)	95.0% C.I. for RR		P-value
		Lower	Upper	
LV Mass Index				
105-129%	<b>2.64</b>	1.01	6.87	0.047
130-144%	<b>9.20</b>	3.34	25.37	0.00001
> 145%	<b>13.02</b>	4.44	38.13	0.00001
ECG LVH	9.03	3.37	24.19	0.00001
BMI	1.06	0.99	1.13	0.105
Diabetes				
IFG	2.84	1.03	7.82	0.044
Diabetic	2.46	1.07	5.65	0.035
Smoking				
Former	1.84	0.80	4.24	0.15
Present	3.51	1.43	8.65	0.006

\*Age, Gender, Race, hypertension, systolic blood pressure, diastolic blood pressure, LDL, HDL and Agatston Score were allowed to enter but were not significant.

## Risk of CHF based on LVH Alerts

	Number at Risk	Number of CHF	Person Years	Hazard Ratio	p-value
No LV Hypertrophy Alert	4483	22	6253		
Alert for LV Hypertrophy	521	12	638	2.55	0.001

## Risk of CHF for LVMI Stratified by LVH Alert Status

Cox Model Analyses for LVMI (Continuous)				
	Hazard Ratio	p-value	95% CI	
No LV Hypertrophy Alert - per 10 percentage in LVMI	1.75	<0.0001	1.46	2.09
Alert for LV Hypertrophy - per 10 percentage in LVMI	1.25	<0.0001	1.12	1.40

## Limitations

- MRI EF's were low in some participants at baseline.
- 2 year timeline
- Limited number of events - we suspect that all cases have not been adjudicated.

# **Predictors of Aortic Calcification in MESA**

February 1, 2005

Michael H. Criqui MD, MPH

## **Aortic calcium by CT**

Aortic calcium, measured byCT

- occurs earlier in life than other subclinical (that is, asymptomatic) markers of (CVD)
  - shows a wide range
  - is common in women,
- and
- the large size of the aorta and relative lack of image artifact from motion make it ideal for radiographic quantitative imaging

## AAC in Women 8 years after menopause

Kuller et al. ATVB 1999;19:2189-98

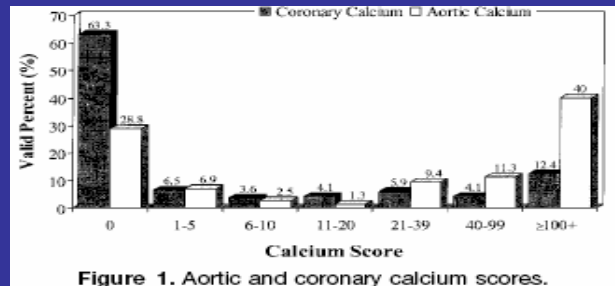


Figure 1. Aortic and coronary calcium scores.

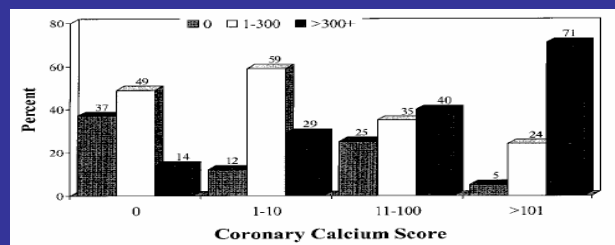


Figure 2. Comparison of aortic total calcium score with coronary total calcium score.

## Multicentre Aneurysm Screening Study. Lancet 2002;360:1532-9

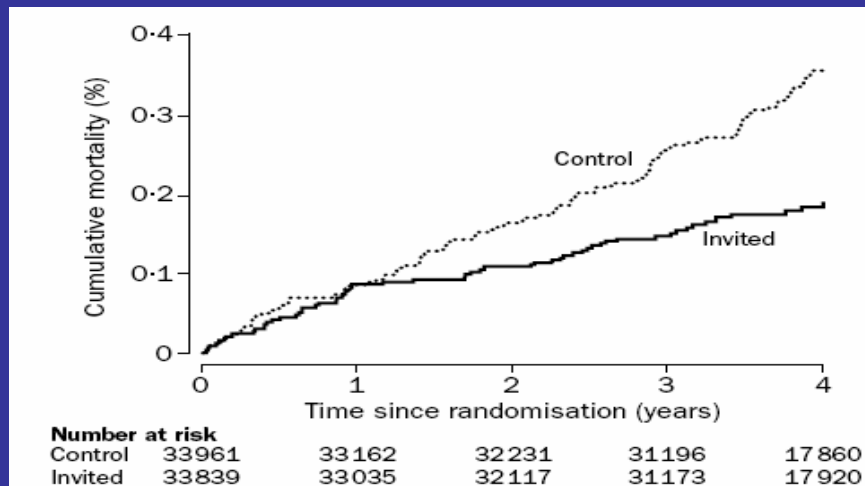
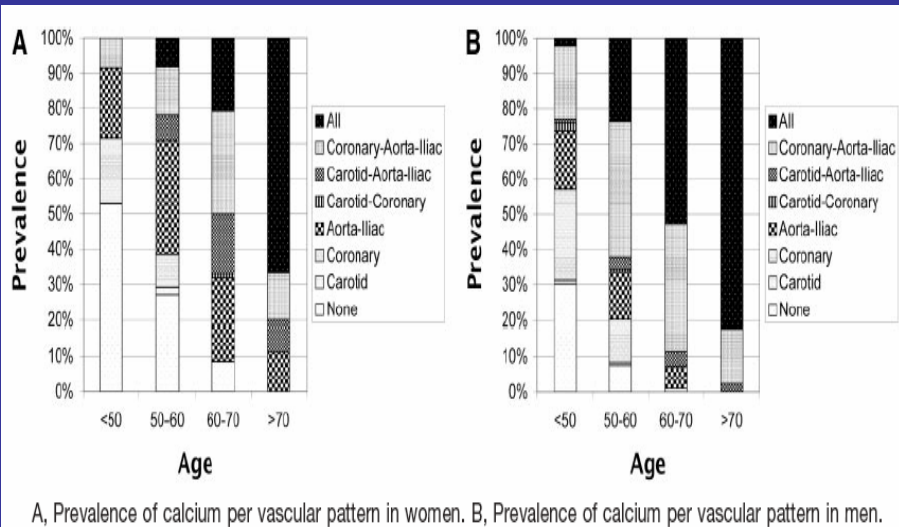


Figure 2: Aneurysm-related mortality over 4 years of follow-up by randomisation group

## Sub-studies underway in the aortic calcium ancillary study

- Bone mineral density by CT - measured at lumbar vertebrae
- Three separate fat measures
  - Visceral
  - Subcutaneous
  - Intramuscular

Allison MA, Criqui MH, Wright CM. Arterioscler Thromb Vasc Biol 2004;24:1-6.



**Allison MA, Criqui MH, Wright CM. Arterioscler  
Thromb Vasc Biol 2004;24:1-6.**

**TABLE 3. Prevalences and Median Calcium Scores Per Age Category and Vascular Bed†‡**

Age	N‡	RCAR	LCAR	COR	PAO	DAO	RIL	LIL
<b>Women</b>								
<50	34	0 [0]	0 [0]	27 [0]	14 [0]	16 [0]	14 [0]	10 [0]
50-60	83	10 [10]	11 [0]	31 [0]	29 [0]	50 [1]	34 [10]	28 [10]
60-70	102	30 [0]	26 [0]	51 [1]	63 [82]	74 [108]	50 [2]	51 [2]
>70	74	60 [92]	64 [54]	80 [124]	96 [958]	93 [2108]	78 [768]	73 [442]
<b>Men</b>								
<50	50	3 [0]	4 [0]	51 [1]	8 [0]	20 [0]	28 [0]	22 [0]
50-60	107	23 [0]	23 [0]	75 [21]	29 [0]	55 [36]	57 [36]	55 [44]
60-70	114	42 [0]	45 [0]	89 [102]	69 [190]	92 [964]	88 [396]	90 [586]
>70	86	80 [72]	67 [86]	98 [522]	98 [1648]	98 [4330]	91 [1468]	89 [1628]

\*Prevalence (%) [median calcium score].

† $P < 0.05$  for all vascular beds.

‡Stratum size.

**Allison MA, Criqui MH, Wright CM. Arterioscler  
Thromb Vasc Biol 2004;24:1-6.**

**TABLE 2. Age-Adjusted Vascular Bed Correlations\***

	RCAR	LCAR	COR	PAO	DAO	RIL	LIL
<b>Women</b>							
RCAR	1.0	0.48	0.21	0.37	0.26	0.29	0.30
LCAR	0.48	1.0	0.20	0.38	0.26	0.32	0.34
COR	0.21	0.20	1.0	0.35	0.31	0.31	0.35
PAO	0.37	0.38	0.35	1.0	0.46	0.43	0.42
DAO	0.26	0.27	0.31	0.46	1.0	0.53	0.51
RIL	0.29	0.32	0.31	0.43	0.53	1.0	0.73
LIL	0.30	0.34	0.35	0.42	0.51	0.73	1.0
<b>Men</b>							
RCAR	1.0	0.61	0.31	0.42	0.40	0.30	0.38
LCAR	0.61	1.0	0.32	0.38	0.42	0.35	0.42
COR	0.31	0.32	1.0	0.35	0.41	0.46	0.44
PAO	0.42	0.38	0.35	1.0	0.46	0.36	0.36
DAO	0.40	0.42	0.41	0.46	1.0	0.60	0.59
RIL	0.30	0.35	0.46	0.36	0.60	1.0	0.74
LIL	0.38	0.42	0.44	0.36	0.59	0.74	1.0

\* $P < 0.01$  for all correlations.

RCAR indicates right carotid artery; LCAR, left carotid artery; COR, coronary; PAO, proximal aorta; DAO, distal aorta; RIL, right iliac; LIL, left iliac.



**Allison MA, Criqui MH, Wright CM. Arterioscler  
Thromb Vasc Biol 2004;24:1-6.**

**TABLE 4. Odds for Prevalent Atherosclerotic Calcification Per Risk Factor**

Variable	Carotids		Coronary		Proximal Aorta		Distal Aorta		Iliacs	
	OR*	CI†	OR	CI	OR	CI	OR	CI	OR	CI
<b>Women</b>										
Age (per 10 y)	5.9	3.6-9.7	2.2	1.6-2.9	6.1	3.8-10.0	5.5	3.4-9.0	2.9	2.1-4.0
Total body fat (5%)	0.9	0.5-1.7	...	...	0.9	0.5-1.5	0.6	0.4-1.1	...	...
BMI (3 units)	...	...	1.1	0.9-1.3	...	...	...	...	...	...
Hypercholesterolemia	1.5	0.6-4.0	1.9	0.8-4.4	1.2	0.5-3.3	3.2	0.9-10.2	2.7	1.0-8.8
Hypertension	0.7	0.3-1.5	0.9	0.5-2.0	1.9	0.8-4.1	2.6	1.1-6.2	1.0	0.5-2.0
Diabetes mellitus	...	...	...	...	...	...	...	...	...	...
Cigarette smoking	...	...	...	...	1.8	0.9-3.5	3.6	1.8-7.3	2.6	1.4-4.7
FHx of PreCHD‡	...	...	1.8	0.9-3.4	...	...	...	...	...	...

**Allison MA, Criqui MH, Wright CM. Arterioscler  
Thromb Vasc Biol 2004;24:1-6.**

<b>Men</b>										
Age (per 10 y)	3.9	2.7-5.7	2.4	1.7-3.5	7.0	4.4-11.1	5.6	3.6-8.8	3.5	2.4-5.1
Total body fat (5%)	0.8	0.4-1.6	1.0	0.5-2.2	0.5	0.3-1.1	0.9	0.4-1.7	1.1	0.6-2.1
BMI (3 units)	...	...	1.2	0.9-1.7	...	...	...	...	...	...
Hypercholesterolemia	1.2	0.6-2.4	...	...	1.9	0.9-3.9	2.3	1.1-4.6	3.2	1.6-8.4
Hypertension	3.2	1.6-6.5	3.9	1.6-9.6	2.7	1.2-5.8	2.1	0.9-4.8	0.9	0.4-2.2
Diabetes mellitus	...	...	...	...	3.1	0.6-5.6	2.8	0.4-20.2	5.2	0.5-8.8
Cigarette smoking	2.0	1.1-3.6	1.2	0.7-2.1	0.9	0.5-1.8	2.3	1.2-4.3	2.3	1.2-4.2
FHx of PreCHD	...	...	...	...	...	...	0.7	0.3-1.3	...	...

\*Odds ratio.

†95% Confidence interval.

‡Family history of premature coronary heart disease.

## Nested case-control study, Netherlands, lumbar x-ray, 9 yrs. follow-up

Witteman et al. Lancet 1986;2:1120-2.

**TABLE III—ADJUSTED\* RELATIVE RISK OF CVD DEATH (RR) FOR AORTIC CALCIFICATION AND CVD RISK FACTORS**

Variable	Change	RR (95% CI)	
		Men (n = 250)	Women (n = 165)
Aortic calcification	Present/absent	6.41 (1.17–35.2)	1.49 (0.03–83.5)
Age	1 yr	1.02 (0.97–1.07)	0.96 (0.89–1.04)
Aortic calcification x age		0.94 (0.87–1.01)	1.00 (0.88–1.14)
Systolic blood pressure	10 mm Hg	1.11 (0.90–1.37)	1.33 (1.31–1.36)
Diastolic blood pressure	10 mm Hg	1.02 (0.73–1.41)	0.83 (0.58–1.25)
Total serum cholesterol	0.3 mmol/l	1.12 (1.02–1.23)	1.06 (0.96–1.16)
Body-mass index	1 kg/m <sup>2</sup>	1.05 (0.93–1.19)	0.96 (0.85–1.08)
Smoking	Current	3.31 (0.87–12.6)	1.38 (0.38–4.94)
Smoking	Past	1.66 (0.43–6.45)	0.49 (0.09–2.74)
Diabetes	Yes/no	4.18 (1.06–16.6)	4.07 (0.77–21.7)

\*Adjusted by logistic regression analysis for effects of all other variables.

## Thoracic aortic calcium, chest X-ray, and CVD

Witteman et al. Am J Cardiol 1990;66:1060-4

**TABLE I Relative Risks of Specified Cardiovascular Events by Presence of Aortic Calcified Plaques Among Men in Two Age Groups: Framingham Study, 12-Year Follow-Up**

Aortic Calcified Plaques		<65 Years		≥65 Years	
		No. of Events/ Observations <sup>a</sup>	RR <sup>b</sup> (95% CI)	No. of Events/ Observations <sup>a</sup>	RR <sup>b</sup> (95% CI)
Cardiovascular death	0	45/6,241	1.0 <sup>c</sup>	16/661	1.1
	+	50/2,520	(1.2–2.8)	62/1,520	(0.7–2.3)
Sudden coronary death	0	13/6,241	2.2 <sup>d</sup>	5/661	1.0
	+	18/2,520	(1.0–4.7)	13/1,520	(0.4–2.8)
Coronary artery disease	0	131/5,780	1.3	26/542	0.9
	+	91/2,204	(1.0–1.8)	57/1,166	(0.6–1.5)
Stroke	0	24/6,176	1.4	4/642	3.6 <sup>e</sup>
	+	19/2,475	(0.7–2.6)	35/1,454	(1.3–10.3)
Intermittent claudication	0	39/6,150	1.3	8/625	1.3
	+	26/2,441	(0.7–2.2)	21/1,372	(0.6–2.9)

<sup>a</sup> This may be viewed as the 3-year cumulative incidence (observations = person-years). The population at risk consists of subjects free of the specified event.  
<sup>b</sup> Adjusted for age.  
<sup>c</sup> p < 0.05.  
<sup>d</sup> p < 0.01.  
<sup>e</sup> p < 0.001.  
 CI = confidence interval; RR = relative risk; 0 = absent; + = present.

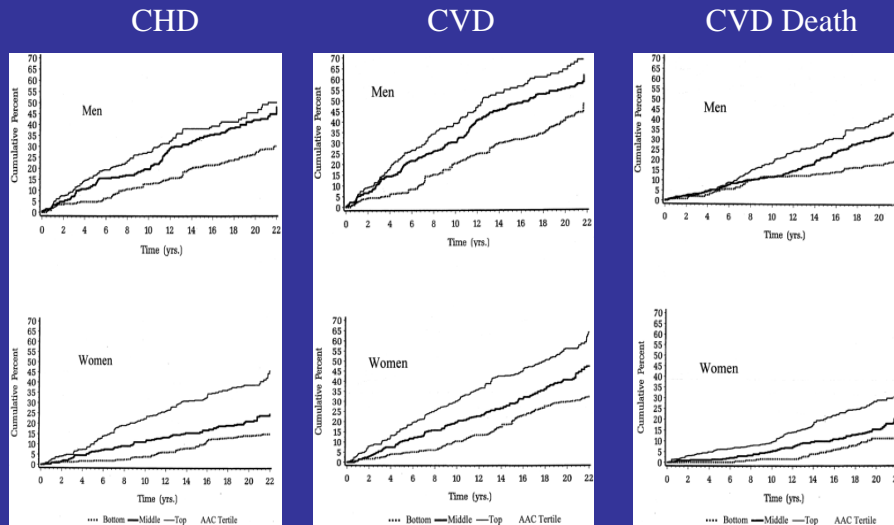
**TABLE II Relative Risks of Specified Cardiovascular Events by Presence of Aortic Calcified Plaques Among Women in Two Age Groups: Framingham Study, 12-Year Follow-Up**

Aortic Calcified Plaques		<65 Years		≥65 Years	
		No. of Events/ Observations <sup>a</sup>	RR <sup>b</sup> (95% CI)	No. of Events/ Observations <sup>a</sup>	RR <sup>b</sup> (95% CI)
Cardiovascular death	0	25/8,123	2.2 <sup>d</sup>	16/816	1.1
	+	30/3,143	(1.2–3.9)	62/2,328	(0.6–1.9)
Sudden coronary death	0	6/8,123	—	1/816	—
	+	3/3,143	—	0/2,328	—
Coronary artery disease	0	65/7,948	1.7 <sup>d</sup>	22/738	1.2
	+	70/2,947	(1.2–3.5)	75/1,948	(0.7–1.9)
Stroke	0	16/8,066	2.4 <sup>d</sup>	14/787	1.0
	+	21/3,096	(1.2–4.8)	43/2,223	(0.7–1.4)
Intermittent claudication	0	14/8,091	1.9	4/785	1.9
	+	19/3,100	(0.9–3.9)	22/2,223	(0.9–5.4)

<sup>a</sup> This may be viewed as the 3-year cumulative incidence (observations = person-years). The population at risk consists of subjects free of the specified event.  
<sup>b</sup> Adjusted for age.  
<sup>c</sup> Adjusted for age, systolic blood pressure, serum total cholesterol, cigarette smoking, Framingham relative weight and diabetes mellitus.  
<sup>d</sup> p < 0.01.  
 Abbreviations as in Table I.

## Framingham, 22-yr incidence by AAC tertile, lumbar X-ray

Wilson et al. Circ 2001;103: 1529-34



## Framingham, 22-yr incidence by AAC tertile, lumbar X-ray

Wilson et al. Circ 2001;103: 1529-34

**TABLE 3. Multivariate-Adjusted Relative Risk\* Associated With Tertiles of AAC Vascular Events Over 22 Years of Follow-Up**

Event and Tertile Comparison	Men		Women		Total	
	Age-Adjusted	Multivariate-Adjusted	Age-Adjusted	Multivariate-Adjusted	Age-Adjusted	Multivariate-Adjusted
<b>CHD</b>						
Tertile 2 vs 1	1.46 (1.10-1.93)	1.31 (0.95-1.80)	1.65 (1.20-2.28)	1.33 (0.90-1.94)	1.57 (1.27-1.94)	1.32 (1.03-1.68)
Tertile 3 vs 1	1.76 (1.29-2.39)	1.61 (1.13-2.30)	3.45 (2.52-4.73)	2.41 (1.64-3.55)	2.47 (1.98-3.07)	1.91 (1.48-2.47)
No. at risk	678		997		1675	
No. of events	249		205		454	
<b>CVD</b>						
Tertile 2 vs 1	1.45 (1.14-1.84)	1.33 (1.02-1.74)	1.59 (1.25-2.01)	1.25 (0.95-1.65)	1.53 (1.30-1.82)	1.29 (1.07-1.57)
Tertile 3 vs 1	1.82 (1.40-2.37)	1.68 (1.25-2.27)	2.47 (1.94-3.15)	1.78 (1.33-2.38)	2.17 (1.81-2.59)	1.70 (1.38-2.09)
No. at risk	653		973		1626	
No. of events	343		366		709	
<b>CVD mortality</b>						
Tertile 2 vs 1	1.72 (1.23-2.41)	1.74 (1.18-2.59)	2.22 (1.47-3.34)	1.89 (1.17-3.04)	1.98 (1.50-2.52)	1.77 (1.30-2.40)
Tertile 3 vs 1	2.21 (1.55-3.15)	2.24 (1.48-3.39)	3.67 (2.47-5.44)	2.42 (1.49-3.92)	2.82 (2.17-3.67)	2.26 (1.66-3.09)
No. at risk	784		1072		1856	
No. of events	203		162		365	

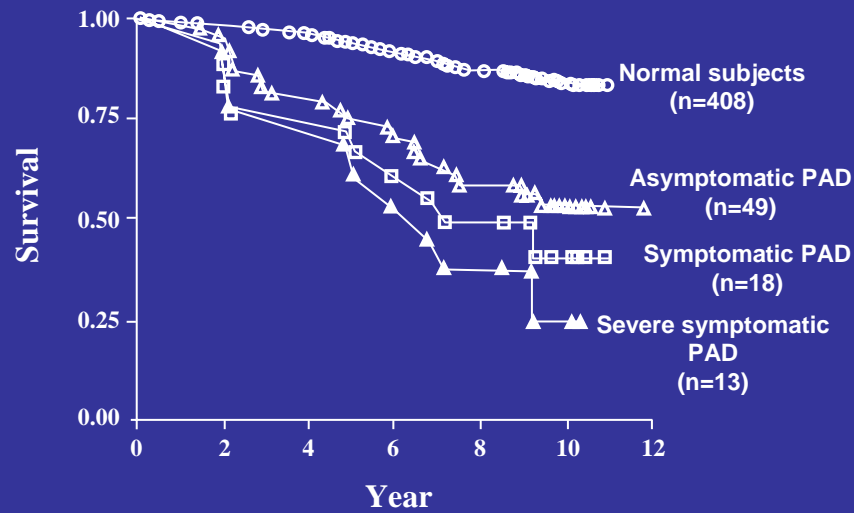
Values are relative risk (95% confidence intervals), unless otherwise indicated.  
\*Includes adjustment for age, cigarettes, diabetes mellitus, systolic pressure, left ventricular hypertrophy, body mass index, cholesterol, and HDL cholesterol.

**TABLE 4. Multivariate Relative Risks\* for CHD According to AAC and Other Factors: 22 Years of Follow-Up**

Factor	Units	Men	Women
Age	10 years	1.23 (1.02-1.49)	0.97 (0.78-1.20)
Current cigarette use	1 pack/day	1.03 (0.85-1.24)	0.98 (0.71-1.33)
Diabetes	Present/absent	1.60 (0.92-2.78)	2.04 (1.20-3.49)
Systolic pressure	10 mm Hg	1.10 (1.03-1.17)	1.08 (1.01-1.16)
Left ventricular hypertrophy	Present/absent	1.95 (0.88-4.35)	1.22 (0.44-3.38)
Body mass index	5 kg/m <sup>2</sup>	0.97 (0.79-1.18)	1.01 (0.84-1.22)
Cholesterol	40 mg/dL	1.24 (1.10-1.41)	1.25 (1.09-1.42)
HDL cholesterol	5 mg/dL	0.88 (0.84-0.93)	0.92 (0.87-0.97)
AAC tertile 2 vs tertile 1	Present/absent	1.31 (0.95-1.80)	1.33 (0.90-1.94)
AAC tertile 3 vs tertile 1	Present/absent	1.61 (1.13-2.30)	2.41 (1.64-3.55)

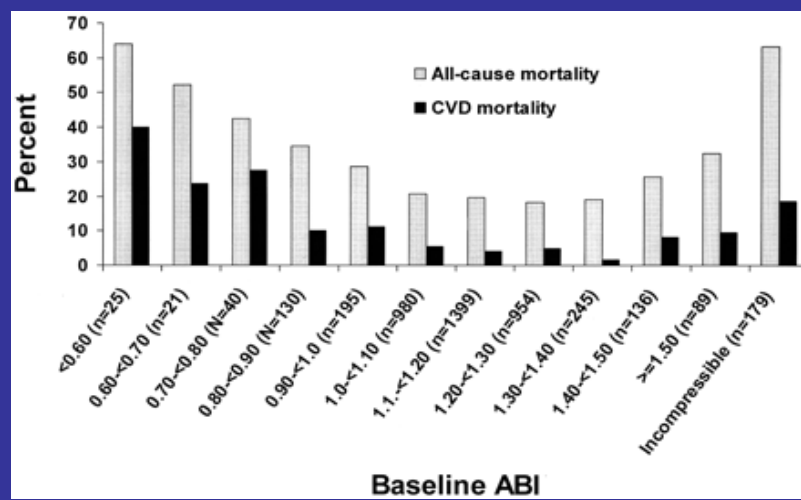
Values are relative risks (95% confidence intervals).

## Kaplan-Meier Survival Curves in PAD



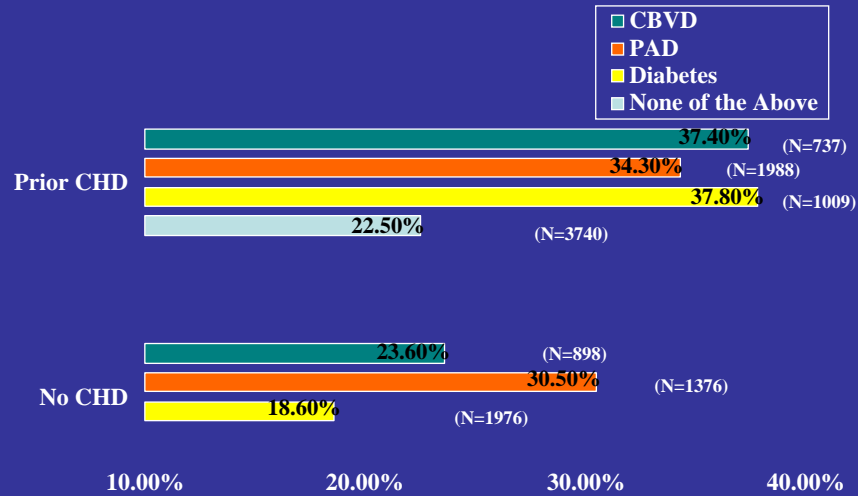
Criqui MH et al. NEJM 1992;326: 381-6.

## All-cause and CVD mortality according to ABI group, Strong Heart Study, 1988 to 1999, n=4393.



Resnick HE et al Circulation 2004;109: 733-9.

## Heart Protection Study Placebo Group, Risk of CVD Event by Baseline Disease



Lancet 2002;360:7-22

## Prediction of CAC>0 and AAC>0 in MESA in subjects with AAC measured, N = 1580

linear regression, probability (%) for calcification for each risk factor

	<u>CAC &gt; 0</u>	<u>P value</u>	<u>AAC &gt; 0</u>	<u>P value</u>
Age, 10 yrs	18.4	.00	20.0	.00
Male gender	17.1	.00	-4.1	.08
Afr-Amer	-13.7	.00	-18.6	.00
Former smokers	13.3	.00	15.3	.00
Lipid Rx	7.6	.02	11.3	.00
Current smokers	6.5	.07	27.8	.00
Diabetes hx	5.2	.21	4.2	.22

**Prediction of CAC>0 and AAC>0 in MESA in subjects with AAC measured, N = 1580**

linear regression, probability (%) for calcification for each risk factor

	<u>CAC &gt; 0</u>	<u>P value</u>	<u>AAC &gt; 0</u>	<u>P value</u>
Hispanic	4.6	.10	-12.0	.00
Diastolic BP, 10mm/Hg	1.8	.26	0.3	.80
HDL-C, 10 mg/dl	-1.2	.13	-2.6	.00
Systolic BP, 10 mm/Hg	1.0	.18	1.6	.01
LDL-C, 10 mg/dl	0.9	.02	1.9	.00
BMI, 1 unit	0.5	.03	0.2	.44
Chinese	0.5	.90	1.2	.69

**Prediction of CAC>0 AAC>0 in MESA in subjects with ACC measured, Sex-specific, Men N = 768, Women N = 771**

linear regression, probability (%) for calcification for each risk factor

	<u>Men</u>		<u>Women</u>		<u>Men</u>		<u>Women</u>	
	<u>CAC &gt; 0</u>	<u>P value</u>	<u>CAC &gt; 0</u>	<u>P value</u>	<u>AAC &gt; 0</u>	<u>P value</u>	<u>AAC &gt; 0</u>	<u>P value</u>
Age, 10 yrs	15.3	.00	21.7	.00	20.7	.00	18.2	.01
Afr-Amer	-17.4	.00	-14.8	.00	-21.7	.00	-17.5	.00
Former smokers	13.4	.00	14.6	.00	14.1	.00	16.3	.00
Lipid Rx	3.1	.54	12.4	.00	7.5	.08	14.9	.00
Current Smokers	5.8	.25	13.2	.01	27.2	.00	27.3	.00
Imp.Fast.Glucose	-1.3	.82	-4.5	.54	6.7	.17	4.9	.47
Diabetes	6.1	.21	-1.0	.84	1.7	.68	6.2	.17

**Prediction of CAC>0 AAC>0 in MESA in subjects with ACC measured, Sex-specific, Men N = 768, Women N = 771**  
linear regression, probability (%) for calcification for each risk factor

	<u>Men</u>		<u>Women</u>		<u>Men</u>		<u>Women</u>	
	<u>CAC &gt; 0</u>	<u>P value</u>	<u>CAC &gt; 0</u>	<u>P value</u>	<u>AAC &gt; 0</u>	<u>P value</u>	<u>AAC &gt; 0</u>	<u>P value</u>
Hispanic	-8.6	.04	1.8	.67	-12.2	.00	-13.9	.00
Dia BP, 10mm/Hg	-2.5	.33	3.7	.10	2.0	.35	-1.2	.55
HDL-C, 10 mg/dl	-0.8	.59	-1.4	.20	-2.7	.03	-2.1	.04
Sys BP, 10 mm/Hg	2.5	.06	-0.2	.86	0.9	.43	2.3	.02
LDL-C, 10 mg/dl	0.8	.18	0.8	.12	1.5	.00	2.5	.00
BMI, 1 unit	1.1	.01	0.5	.15	0.1	.77	0.2	.41
Chinese	-9.4	.09	10.0	.07	1.9	.68	2.4	.63

**Prediction of In CAC and In AAC in MESA in subjects with In CAC>0 (random sample, N = 1111) vs. those with In AAC >0 (N = 1111).**

linear regression, changes in In CAC/In AAC per unit change in risk factor

	<u>In CAC</u>	<u>P value</u>	<u>In AAC</u>	<u>P value</u>
Age, 10 yrs	0.66	.00	.70	.00
Male gender	.62	.00	.21	.04
Afr-Amer	-.55	.00	-.64	.00
Former smokers	.26	.02	.49	.00
Lipid Rx	.20	.12	.61	.00
Current smokers	.34	.07	.92	.00
Diabetes hx	.31	.03	.12	.46

**Prediction of In CAC and In AAC in MESA in subjects with In CAC>0 (random sample, N = 1111) vs. those with In AAC >0 (N = 1111).**

linear regression, changes in In CAC/In AAC per unit change in risk factor

	<u>In CAC</u>	<u>P value</u>	<u>In AAC</u>	<u>P value</u>
Hispanic	-.44	.00	-.23	.03
Diastolic BP, 10mm/Hg	.00	.96	-.10	.08
HDL-C, 10 mg/dl	-.06	.14	-.09	.01
Systolic BP, 10 mm/Hg	.10	.00	.11	.00
LDL-C, 10 mg/dl	.04	.01	.05	.00
BMI, 1 unit	.01	.28	.00	.81
Chinese	-.36	.04	-.38	.01

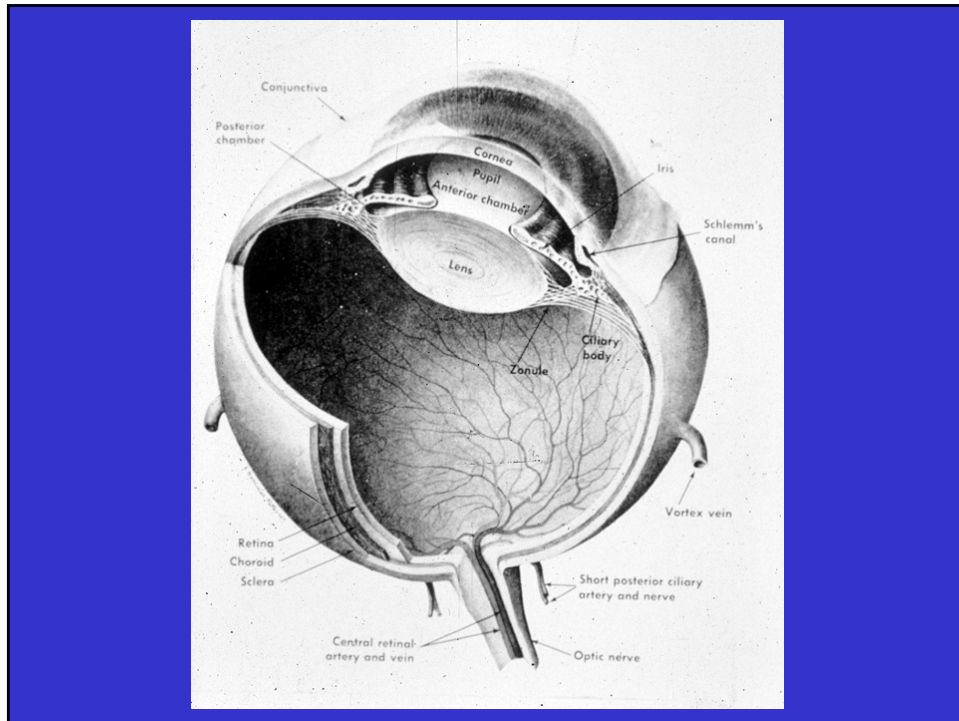
## Summary

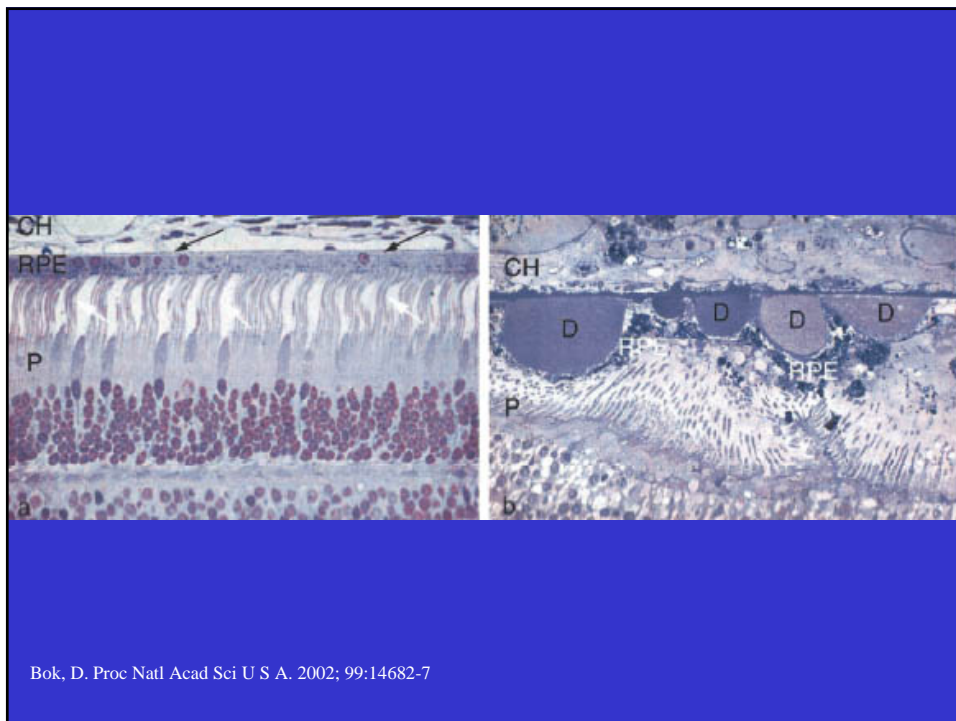
- AAC calcium is more prevalent than CAC
- AAC correlates strongly with iliac calcium and probably PAD
- Standard CVD risk factors show a stronger correlation with AAC than CAC
- Thoracic aortic calcium is a modest independent predictor of incident CVD events
- AAC and PAD are strong and independent predictors of CVD events
- Comparison of the overlap and independent significance of CAC, AAC, and PAD in MESA should yield interesting results



## The Prevalence of AMD in Four Racial/Ethnic Groups in the MESA

- Brief review on age-related macular degeneration
- Rationale for study
- MESA findings





# Drusen

- Contain:
  - Phospholipids
  - Triglycerides
  - Cholesterol
  - Cholesterol esters
  - Apolipoproteins
  - Vitronectin
  - Immunoglobulins
  - Amyloid
  - Complement
  - Other poorly characterized components

Macular Degeneration Progression

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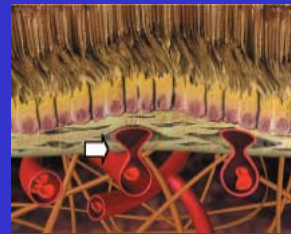
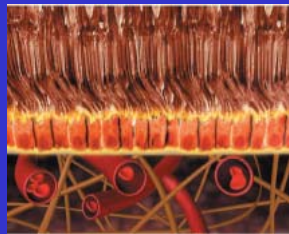


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Bressler, NM. J Amer Board Family Practice. 2002;15:142-52







A dark spot at the point of focus

## Background

- AMD important cause of visual loss in whites 65 yrs of age or older in US and Europe
- Differences in prevalence of advanced stages of AMD among racial/ethnic groups in United States

## Background

- African Americans and Mexican Americans have similar prevalence of signs of early AMD (e.g., soft drusen) as whites
  - However, whites have higher frequencies of signs of late AMD than either of these groups.
- No population-based data in Chinese Americans

## Purpose

- To describe the prevalence of AMD in four racial ethnic groups participating in the Multiethnic Study of Atherosclerosis (MESA):
  - Whites
  - Blacks
  - Hispanics
  - Chinese

## Participation at Exams 1 and 2

Site	# Seen Exam 1	# Seen Exam 2
Baltimore	1,086	940
Chicago	1,164	1,076
Forsyth Co.	1,077	981
LA County	1,319	1,205
New York	1,102	1,015
St. Paul	1,066	959
Total	6,814	6,176

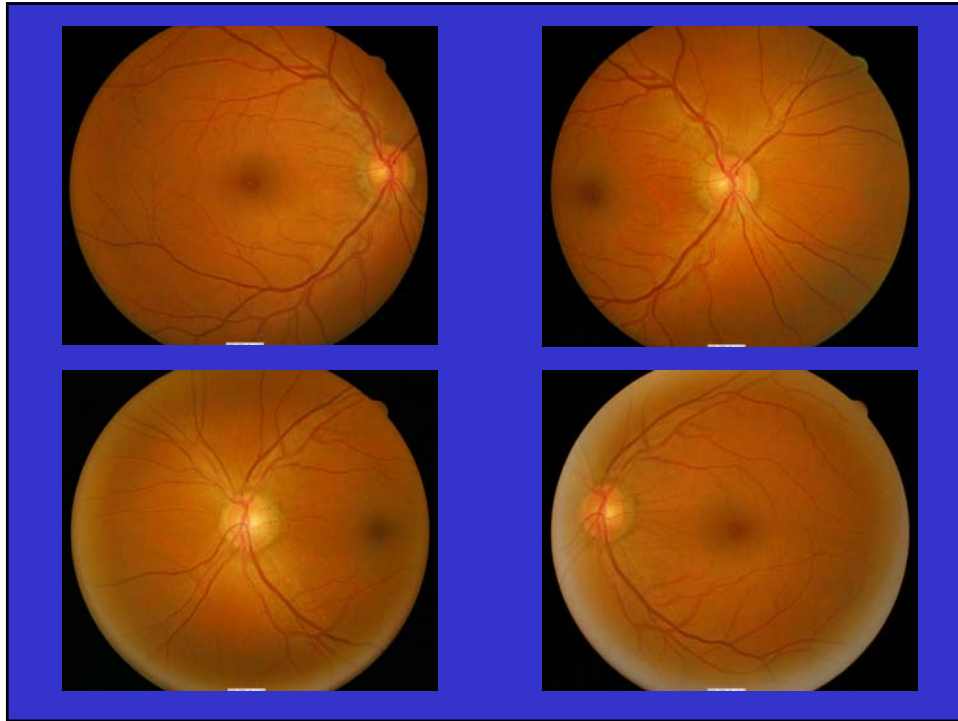
Compared to participants,  
nonparticipants were more  
likely at baseline to be:

- older
- female
- Black or Hispanic
- have diabetes
- have hypertension

## MESA-EYE AMD Measurement

- Fundus photography done first time from Aug 2002 to Jan 2004 on 6,176 (90.6%) of those who participated at baseline
  - Digital 45° 6.3 megapixel nonmydriatic camera through dark adapted pupils
  - Two photographic fields, one centered on optic disc the other on the fovea of both eyes





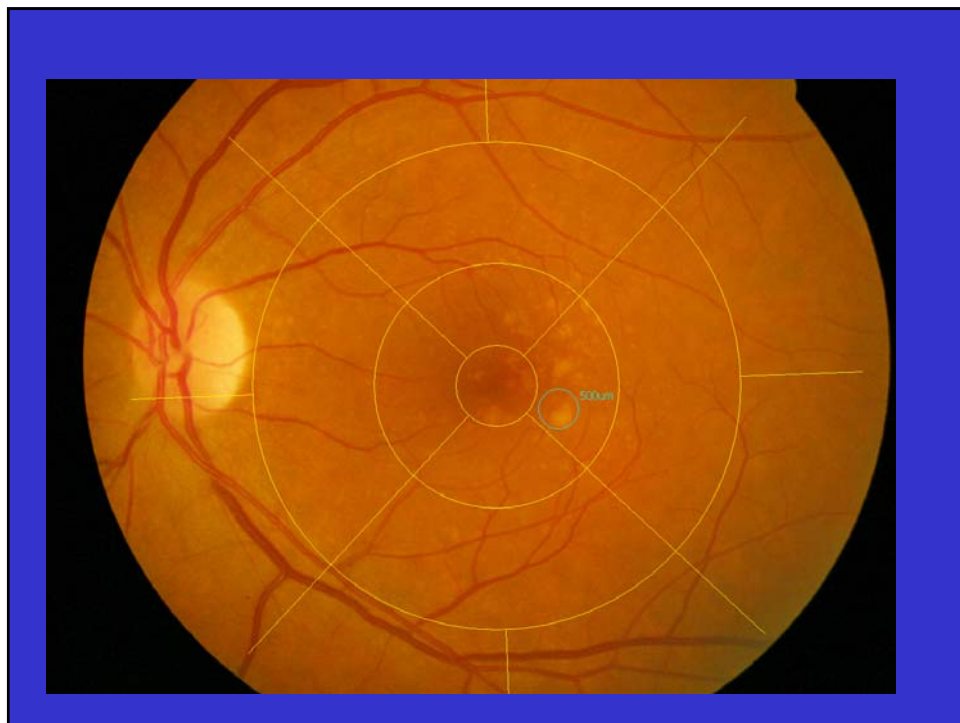
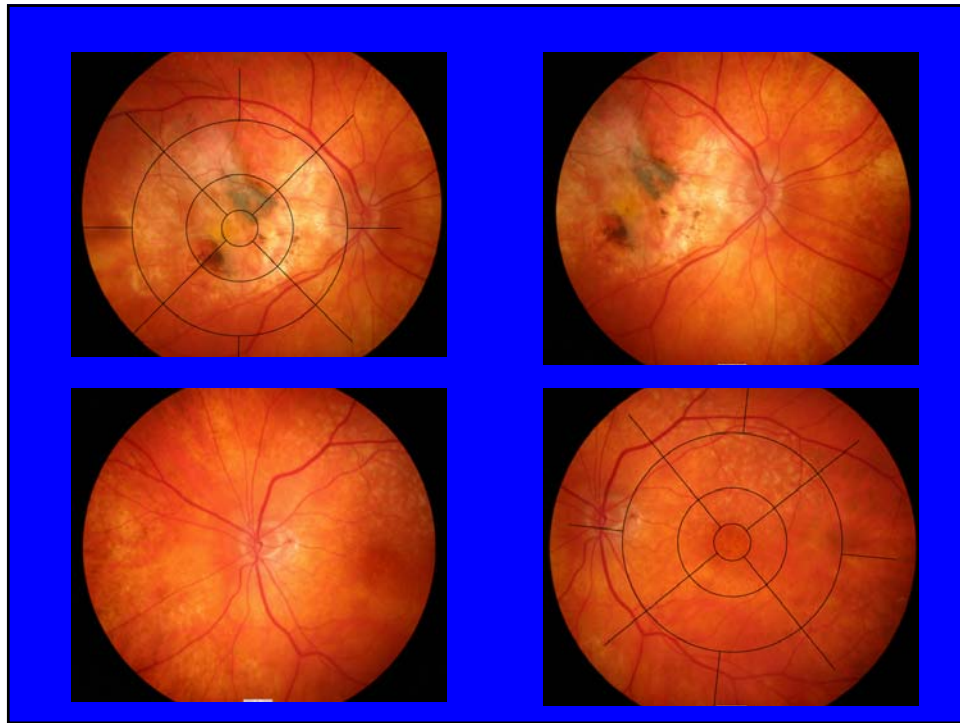
## AMD Photograph Grading

- Graded in semi-quantitative fashion using:
  - EyeQ Lite image processing database for storage, retrieval, and manipulation of digital images
  - Dual monitor computer display
  - Standard AMD protocol
    - Size, type and area of druse
    - Increased retinal pigment and RPE depigmentation
    - Pure geographic atrophy
    - Exudative (neovascular) AMD



## Definition of AMD

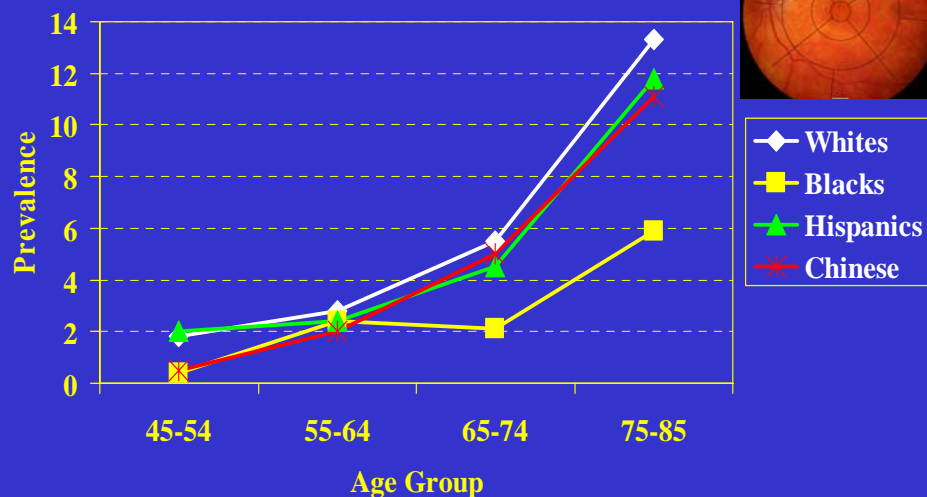
- Early AMD defined by presence of:
  - any soft drusen and pigmentary abnormalities *or*
  - large soft drusen ( $>125$   $\mu\text{m}$  diameter) with a large drusen area ( $>500$   $\mu\text{m}$  diameter) *or*
  - large ( $>125$   $\mu\text{m}$  diameter) soft indistinct drusen in absence of signs of late AMD
- Late AMD defined by presence of
  - geographic atrophy *or*
  - signs of exudative macular degeneration



## MESA ARM Grading

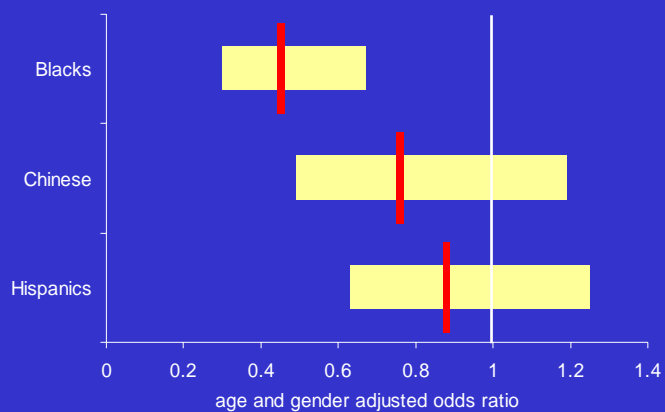
- 11,001 (90%) eyes preliminary and detail graded only
- 1,222 (10%) eyes edit graded
- 43 (0.5%) eyes adjudicated
- 112 OD (2%) and 116 OS (2%) excluded
- 5,887 with one at least 1 eye gradable
- No statistically significant differences in gradable eyes among racial/ethnic groups

## Early AMD Worse Eye



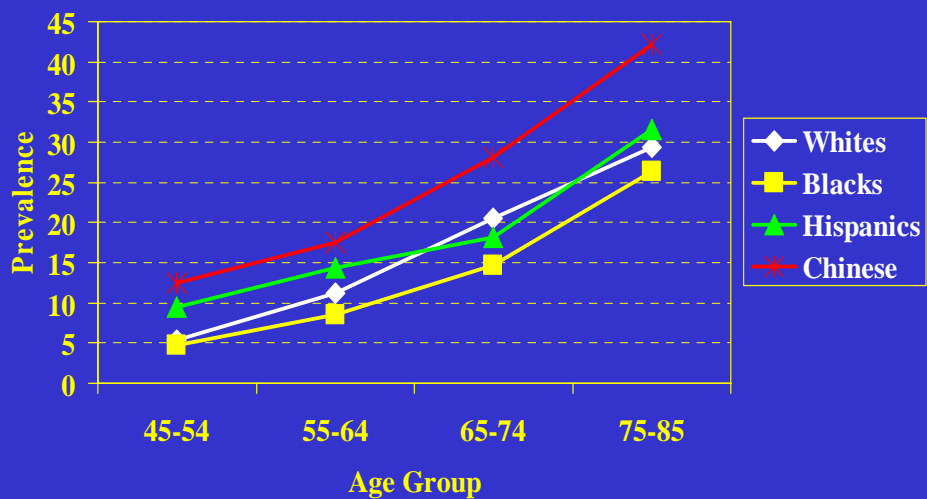
Age and gender adjusted Cochran-Mantel-Haenszel test for a general association:  $P < 0.001$

## Early AMD



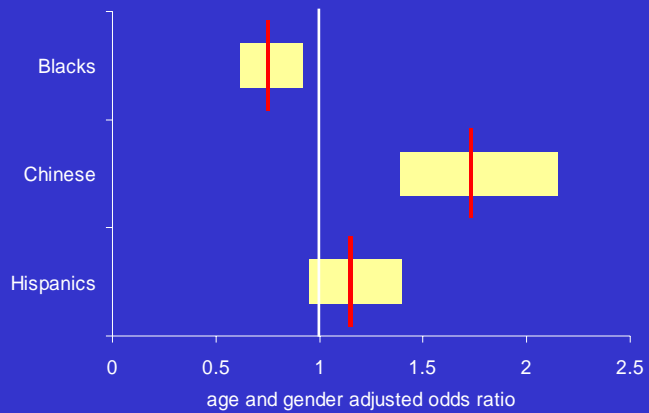
\* Reference Group = Whites

## Soft Drusen Worse Eye



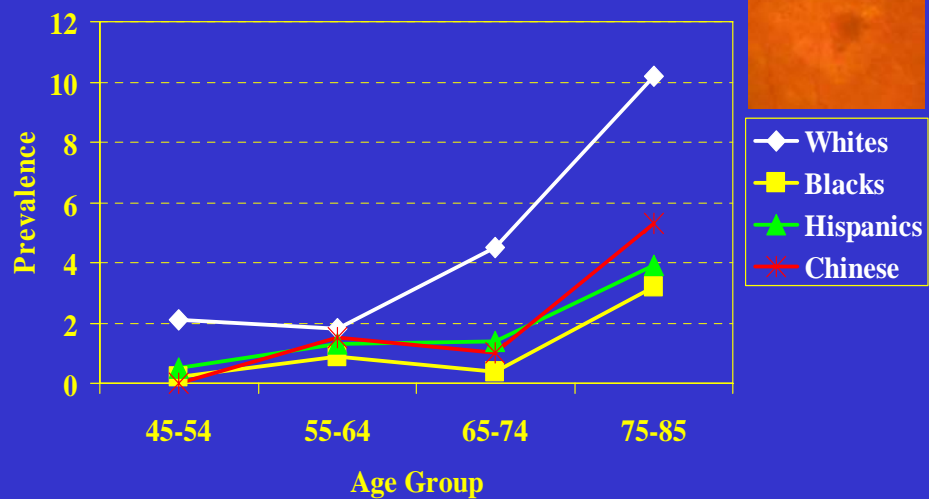
Age and gender adjusted Cochran-Mantel-Haenszel test for a general association:  $P < 0.001$

## Soft Drusen



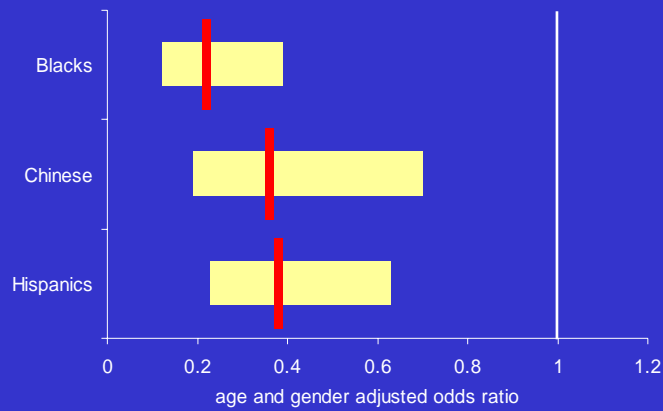
\* Reference Group = Whites

## Pigmentary Abnormalities Worse Eye



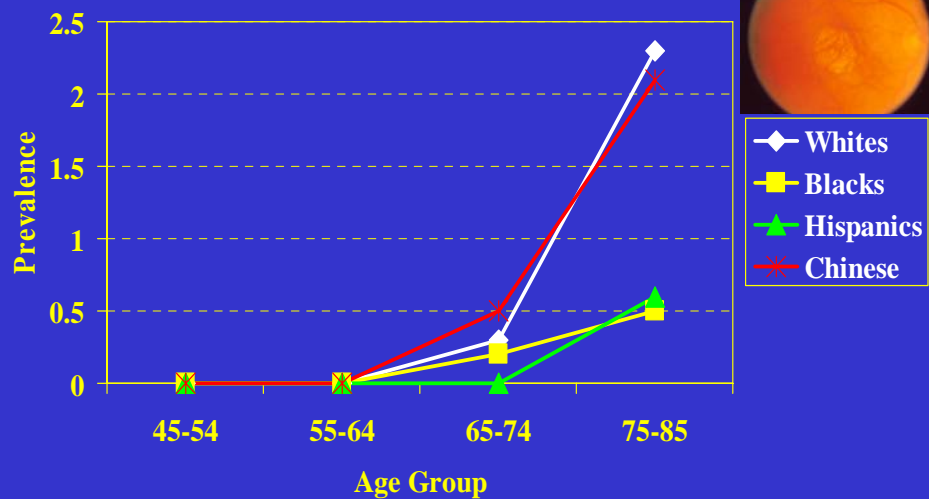
Age and gender adjusted Cochran-Mantel-Haenszel test for a general association:  $P < 0.001$

## Pigmentary Abnormalities



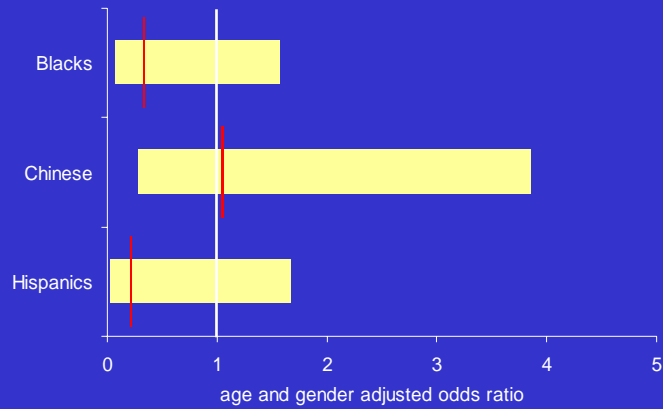
\* Reference Group = Whites

## Geographic Atrophy Worse Eye



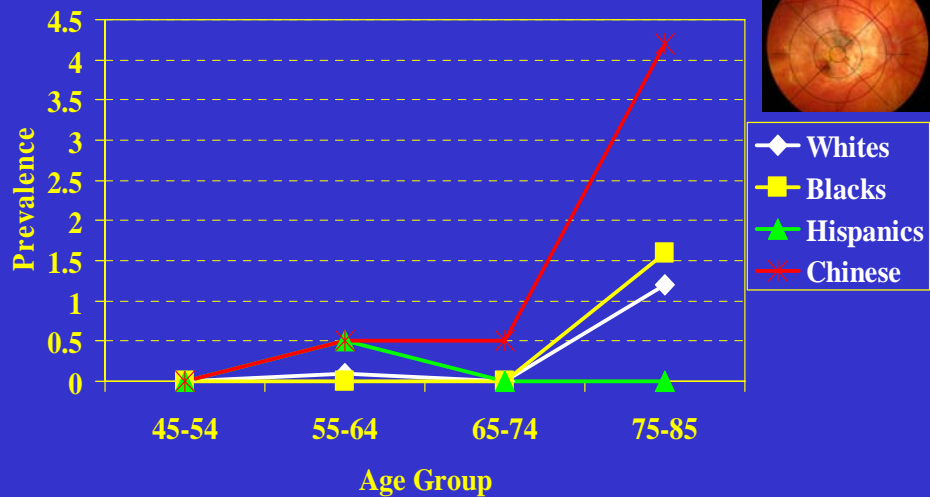
Age and gender adjusted Cochran-Mantel-Haenszel test for a general association:  $P=0.21$

## Geographic Atrophy



\* Reference Group = Whites

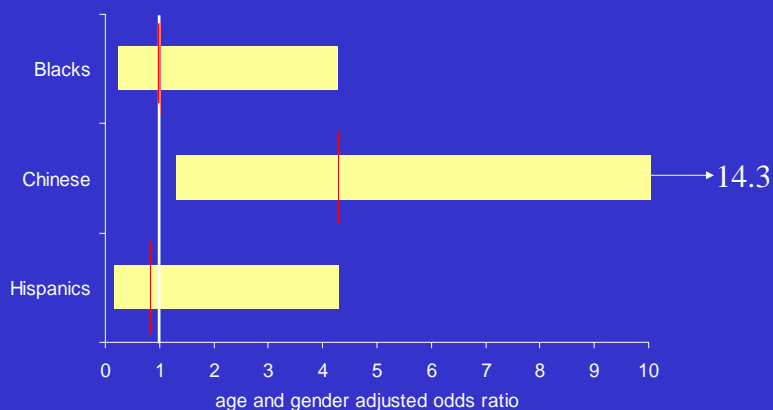
## Exudative AMD Worse Eye



Age and gender adjusted Cochran-Mantel-Haenszel test for a general association:  $P=0.02$



## Exudative AMD



\* Reference Group = Whites

## RESULTS: Location

- While correcting for age, sex, and race/ethnicity, there were no significant differences for AMD prevalence among 6 locations
- Correcting for age and sex, Chinese examined in Chicago site were less likely to have AMD than those examined at LA site (OR 0.29, 95% CI 0.11,0.77,  $p=.013$ )

## Discussion

- MESA provided unique opportunity to examine frequency of AMD in 4 race/ethnic groups
- Overall frequency of AMD varied from 2.4% in blacks to 5.4% in whites.

## Discussion

- Lower frequency of early AMD in blacks compared to whites
  - similar to data from earlier studies (e.g., NHANES III, ARIC, CHS)
- Equivalent frequency of exudative AMD in blacks and whites
  - unexpected, because most earlier studies found higher frequencies in whites than blacks
  - small numbers, estimates unstable

## Discussion

- Slightly lower frequency of early AMD in Hispanics than in whites
  - similar occurrence of large soft drusen but lower frequency of pigmentary abnormalities in Hispanics compared to whites has also been reported by others (e.g., NHANES III, Proyecto VER, LALES)

## Discussion

- To our knowledge, no other comparisons of whites with Chinese in US
  - estimates of prevalence in Chinese living in China have varied in three geographically and ethnically diverse communities:
    - Han: 6.4%; Uighur: 11.3%; and Tibetans (15.6%)
    - Consistent with altitude and #hrs. sunshine/year
  - our study suggests exudative AMD may be more frequent in Chinese than whites
    - also consistent with a higher frequency of polypoidal choroidal vasculopathy thought to be more common in Chinese and other Asians



From: Sho et al., Polypoidal Choroidal Vasculopathy. Arch Ophthalmol 2003; 121:1392-1396

## Discussion

- Similar or higher frequencies than earlier epidemiologic studies using 45° color nonstereo film images taken through dark adapted pupils
  - ARIC, NHANES III, CHS

## Prevalence of Soft Drusen and Pigmentary Abnormalities in Whites in Three Studies

### SOFT DRUSEN

### PIGM. ABNOR.

Age, yr	ARIC*	CHS**	MESA	MESA Rand.	ARIC*	CHS**	MESA	MESA Rand.
43-54	2.3		5.3	3.1	1.6		2.1	1.1
55-64	2.3		11.2	6.3	2.6		1.8	1.2
65-74	4.1	6.9	20.6	14.9	4.5	4.1	4.5	2.9
75+		16.2	29.4	25.2		7.4	10.2	7.2

\*ARIC 48-54 and 65-72 yr and \*\*CHS 69-74 yr. (1F of 1 eye, 45 deg. film)  
MESA 2F both eyes 45 deg digital image

## Prevalence of Late AMD by Race and Study

Age, yr	ARIC		CHS		MESA	
	W	B	W	B	W	B
43-54	0.1	0			0	0
55-64	0.1	0.1			0.1	0
65-74	0.4	0	0.4	0.8	0.3	0.2
75+			1.3	0	2.9	1.6

W=white; B=Black, ARIC and CHS 1eye, 1F 45 deg film photo; MESA both eyes, 2F 45 deg digital images

## Discussion

- Comparisons among studies limited by differences in cohorts studied:
  - MESA ? healthier with fewer putative risk factors
  - environmental and genetic factors
- May also be due, in part, to differences in digital vs film
  - good comparability between film and digital with 80% exact agreement (kappa .69) for 3 levels of AMD

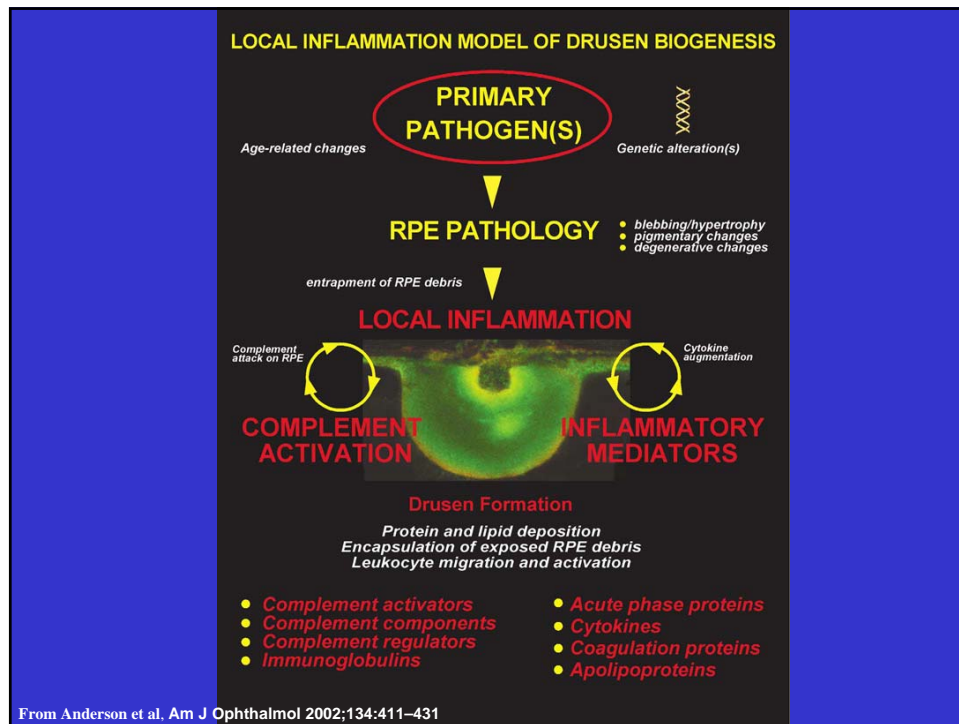
## Summary

- We report differences in frequency of AMD among 4 different racial ethnic groups with highest rates in whites and Chinese and lowest in blacks and Hispanics
- High rate of late AMD in Chinese and variation in location in Chinese deserve further study

## Future Analyses

- Specific risk factors
  - Subclinical atherosclerosis
  - Inflammation and other risk factors for atherosclerosis
  - Lipid lowering agents
  - Other

**end**



## Pathogenetic Mechanisms for Drusen Formation

- Genetic
  - Mutations specific to retinal or RPE function
  - Mutations or polymorphisms in general metabolic pathways
- Lysosomal failure in RPE
  - Lipofuscin build-up
- Choroidal hypoperfusion
- Barrier hypothesis
- RPE injury hypothesis
  - Environmental oxidants
  - Inflammatory derived injury



## RESULTS: Gender

- While controlling for age, overall prevalence of any AMD in cohort similar in males and females (OR 1.07 male vs female, 95% CI 0.82,1.38)
  - Black females more likely to have AMD than black males (OR 2.12, 95% CI 1.04, 4.33)

## RESULTS: Pupil Size

- Frequency of small pupil size (<4mm diameter) was 8.6% in right and left eyes while large pupil size (>6mm diameter) was 22.3% in right and 23.1% in left eyes
- Whites had smallest pupil size (OD 5.1 mm, OS 5.2 mm) while Chinese had largest (OD 5.8 mm, OS, 5.7mm).
- Adjustment for pupil size did not affect any of relationships

## MESA

- 45-85 yr at baseline
- No clinical evidence of CVD
- Living in a household selected by random sampling of US census tract data, July 2000 to July 2002.

# Association of Lipoprotein Particle Number and Size with Subclinical Coronary Atherosclerosis in MESA

Donald M. Lloyd-Jones, MD, ScM

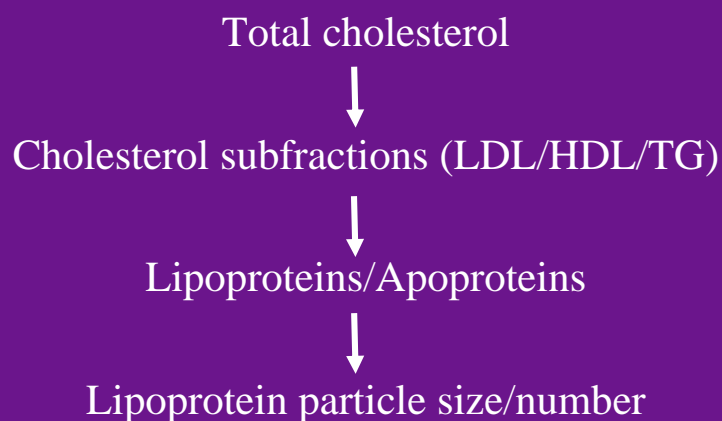
MESA Steering Committee

February 2, 2005



## Lipids and CVD Risk

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## LDL Size and Risk for CHD

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- Controversy regarding importance of LDL size
- Quebec CV Study
  - Men with mean LDL <25.6 nm had OR of 2.2 for 5-year IHD
  - Independent of other RFs and lipid measures
- PHS Nested Case-Control
  - Cases had smaller LDL diameter
  - BUT, adjustment for RFs and lipids attenuated to non-significance

## Abnormalities Associated with Small, Dense LDL

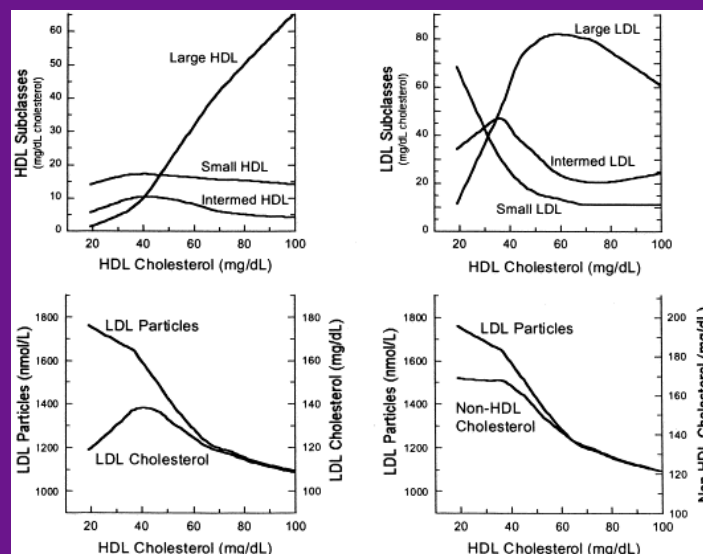
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- |   |   |
|---|---|
| • Abdominal obesity                             | • Insulin resistance                      |
| • Hypertriglyceridemia                          | • Hyperinsulinemia                        |
| • Low HDL cholesterol                           | • Glucose intolerance and type 2 diabetes |
| • Increased cholesterol/HDL cholesterol ratio   | • Elevated fibrinogen and PAI-1 levels    |
| • Normal or marginally elevated LDL cholesterol | • Impaired tolerance to dietary fat       |
|   | • Altered endothelial reactivity          |

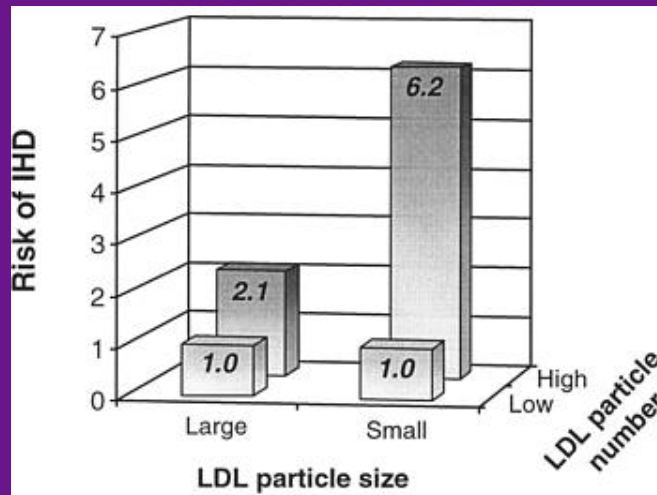
## LDL Particle Number

- Increasing interest in LDL particle number as determinant of risk and ?target of therapy
- 2 kinds of people
  - High LDLc – tend to have higher LDLp number and larger LDL size
  - Low to moderate LDLc – May have low or high LDLp number
    - And it matters which you have

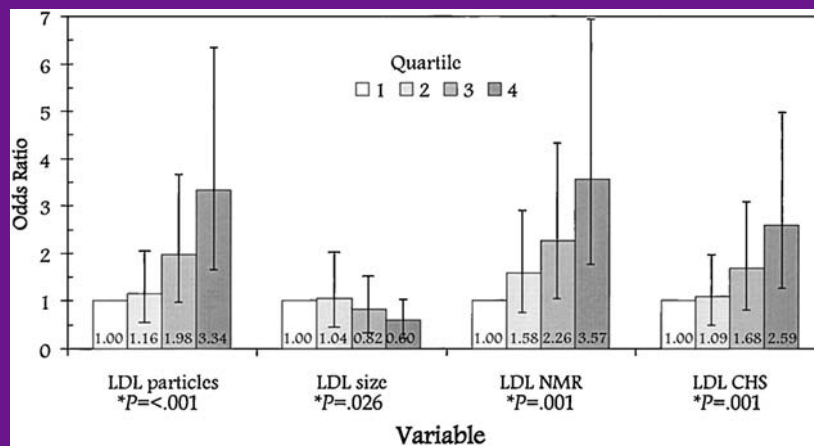
## LDLp and LDLc in FOS



## LDLp, LDL size and Risk of IHD

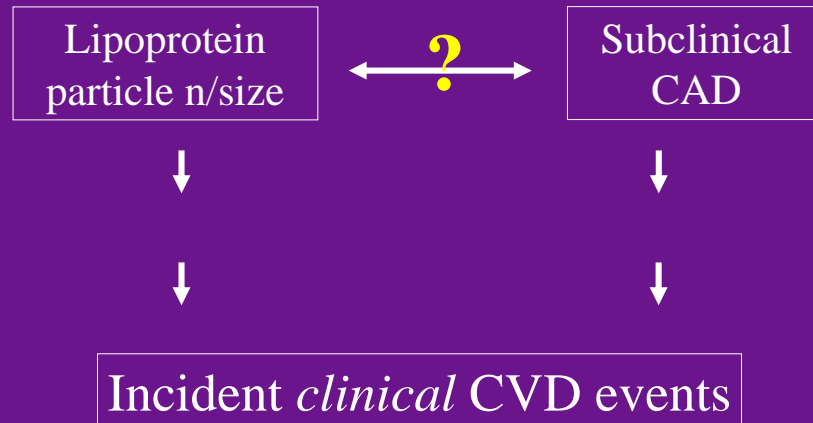


## LDL and Risk for CHD in CHS



## Background

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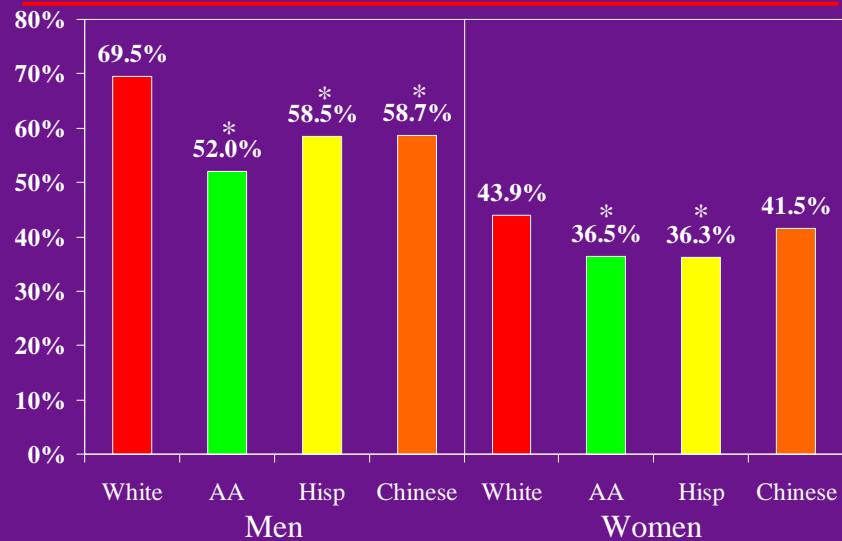


## ERA-JUMP Study

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- Post-WWII birth cohort of Japanese men (n=100) and American men (n=100) in Pittsburgh area
- Marked differences in CAC (13% vs 47%)
  - Despite similar LDL, higher BP, more smoking
  - Japanese men had substantially lower levels of small LDL and higher levels of large HDL, findings that appeared to explain in part the large difference in prevalence of CAC

## Prevalence of CAC by Sex and Ethnicity



## Adjusted ORs for Factors Associated with CAC, Men

	White	African A	Hispanic	Chinese
Age, 10 yrs	2.87***	2.64***	2.64***	1.80***
Waist, 10 cm	1.18*	1.04	1.16	1.08
LDL-C, 30 mg/dL	1.16*	1.20*	1.07	1.09
HDL-C, 10 mg/dL	0.98	1.02	0.93	0.99
SBP, 20 mm/Hg	1.14	1.04	1.02	1.13
Ex-Smokers	1.21	1.39	1.41	1.09
Current Smokers	2.05**	2.04**	1.62	0.92
Diabetes	1.98*	1.41	1.41	1.59
Hypertension	1.21	1.76**	1.74*	1.27
Chol Rx	1.89***	1.64*	1.29	2.36*
AUC (%)	80	78	79	72

Also adjusted for education, triglycerides, and alcohol. \*p< 0.05, \*\* p<0.01, \*\*\*p<0.001.



## Objective

---

- To examine the association between lipoprotein particle number and size and subclinical coronary atherosclerosis (as represented by CAC)
- To determine whether LDL particle number is associated with CAC in different sex-race groups
  - Does controlling for LDL particle number attenuate ethnic differences in CAC?

## Hypotheses

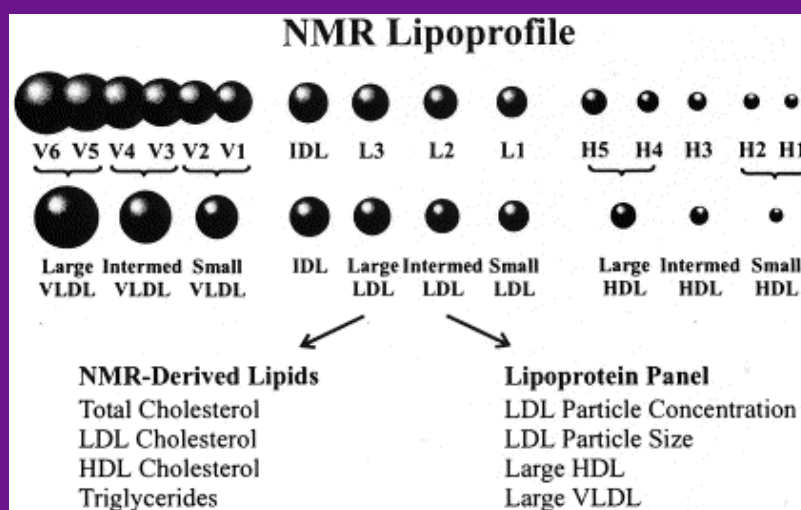
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- Higher LDL particle number will be associated with the presence and extent of CAC.
- Smaller LDL size, larger HDL size, and larger VLDL size will be associated with the presence of CAC (CAC score >0), and will be associated with the extent of CAC (higher CAC score) among those with CAC.
- Adjustment for differences in lipoprotein particle numbers and particle sizes will attenuate the known differences that have been observed across ethnic groups in the MESA cohort.

## MESA Study Sample

- The Multi-Ethnic Study of Atherosclerosis (MESA) is an NHLBI-sponsored multi-center longitudinal cohort study investigating prevalence, correlates, and progression of subclinical cardiovascular disease (CVD).
- 6 U.S. field centers recruited 6,814 healthy men and women (~50% each sex) free of clinical CVD from 4 racial/ethnic groups, ages 45-84 yrs.
  - 34% White
  - 28% African American
  - 22% Hispanic
  - 12% Chinese

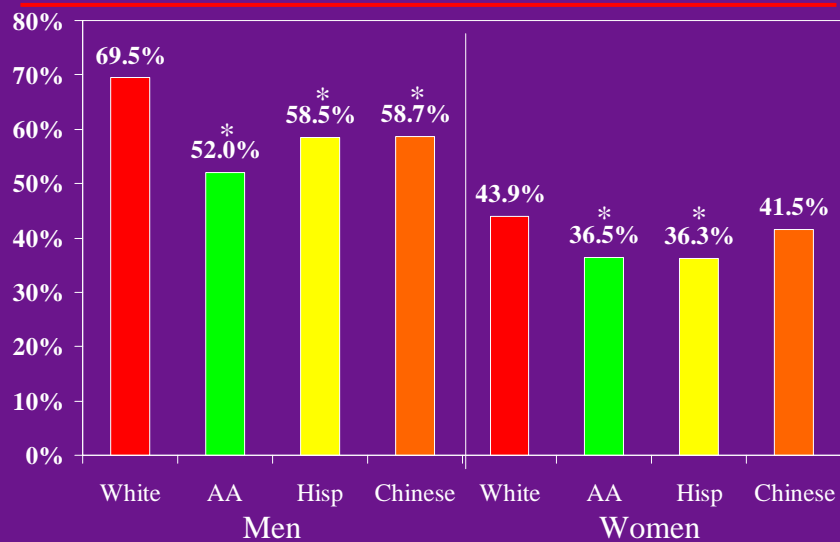
## NMR and Lipoproteins



## Methods

- NMR lipoprotein analysis from blood drawn at Exam 1
- Coronary artery calcium (CAC) measured at Exam 1 (phantom-adjusted mean of CAC score from 2 scans)
- LR analyses
  - Dependent variable CAC score >0

## Prevalence of CAC by Sex and Ethnicity



\*P<0.05 compared with whites of same sex.

## Age-Adjusted LDL Values

	Men N=3213				Women N=3601			
	White N=1259	AA N=845	Hisp N=719	Chinese N=390	White N=1360	AA N=1053	Hisp N=775	Chinese N=413
<b>LDL p, total</b>	1339 (10.1)	1297 (12.4) †	1429 (13.4) †	1306 (18.2)	1274 (10.1)	1257 (11.5)	1356 (13.4) ‡	1270 (18.3)
<b>IDL 23-27 nm</b>	19.4 (0.66)	20.7 (0.81)	25.5 (0.88) †	17.5 (1.19)	18.2 (0.68)	20.0 (0.77)	26.2 (0.90) ‡	17.7 (1.2)
<b>Large LDL 21.2-23 nm</b>	332 (5.0)	342 (6.1)	299 (6.6) †	306 (9.0) †	491 (5.6)	479 (6.3)	438 (7.3) ‡	378 (10.1) ‡
<b>Small LDL 18-21.2 nm</b>	988 (11.5)	934 (14.2) †	1105 (15.4) †	982 (20.8)	765 (12.0)	758 (13.6)	892 (15.8) ‡	874 (21.6) ‡
<b>Mean LDL size, nm</b>	20.6 (0.02)	20.7 (0.02) †	20.4 (0.03) †	20.5 (0.04)	21.1 (0.02)	21.1 (0.02)	20.9 (0.03) ‡	20.8 (0.04) ‡

†P<0.05 compared with whites of same sex.

## OR for Presence of CAC All Participants

	Odds Ratio (95% CI)	P
<b>Age (per year)</b>	1.10 (1.10 to 1.11)	<0.001
<b>Male sex</b>	2.79 (2.50 to 3.12)	<0.001
<b>Chinese</b>	0.722 (0.603 to 0.865)	<0.001
<b>AA</b>	0.548 (0.479 to 0.628)	<0.001
<b>Hispanic</b>	0.589 (0.509 to 0.682)	<0.001
<b>LDL p, total (100 nmol/L)</b>	1.06 (1.04 to 1.07)	<0.001

## Lipoprotein Variables Associated with CAC

### All Participants

---

- Adjusted for age, sex, race
  - LDLc, LDLp, lLDL, sLDL, LDL size
  - VLDLc, VLDLp, lVLDL, mVLDL, sVLDL, VLDL size
  - HDLc, HDLp, lHDL, HDL size

## Base Multivariable Model

### All Participants

---

Covariate	OR for CAC (95% CI)
Age (10 yrs)	2.48 (2.21-2.78) WM
Male sex	2.96 (2.43-3.60)
Chinese	0.93 (0.67-1.28)
African-American	0.42 (0.33-0.53) WM
Hispanic	0.55 (0.43-0.71) WM
BMI	1.03 (1.01-1.05) W
SBP (10 mm Hg)	1.06 (1.01-1.11)
Anti-HTN therapy	1.29 (1.05-1.58) W
Diabetes	1.50 (1.15-1.95) W
Former smoker	1.64 (1.34-2.01) W
Current smoker	2.01 (1.49-2.71) W
Statin use	1.28 (1.05-1.55) W

## Cholesterol Subclass and CAC

### All Participants

Base MV Model +	MV OR for CAC (95% CI)		
Single Covariate	Combined	Men	Women
Total chol (10 mg/dL)	1.04 (1.01-1.06)	1.03 (0.99-1.08)	1.04 (1.01-1.07)
LDL-c (10 mg/dL)	1.05 (1.02-1.08)	1.03 (0.98-1.08)	1.06 (1.02-1.10)
HDL-c (10mg/dL)	0.98 (0.92-1.05)	1.12 (0.96-1.29)	0.94 (0.86-1.02)
TG (10 mg/dL)	1.00 (0.99-1.01)	1.00 (0.99-1.01)	1.00 (0.99-1.01)

Adjusted for age, sex, race, BMI, SBP, antiHTN use, diabetes, smoking, statin use

## Lipoprotein Variables Associated with CAC

### All Participants

- Significant MV\*-adjusted covariates
  - LDLp, sLDL, LDL size
  - VLDLp, mVLDL, sVLDL, VLDL size
  - HDLp, lHDL, mHDL

Adjusted for age, sex, race, BMI, SBP, antiHTN use, diabetes, smoking, statin use

## Lipoproteins and CAC by Sex

### All Men

---

- Men – MV associations
  - VLDLp (10 nmol/L): OR 1.04 (1.00-1.08; P=0.04)
  - sVLDL (10 nmol/L): OR 1.09 (1.01-1.18; P=0.02)
  - VLDL size (10 nm): OR 0.98 (0.96-1.00; P=0.03)
  - Essentially all P>0.20 for LDL, HDL particle numbers and mean sizes

## Lipoproteins and CAC by Sex

### All Women

---

- Women – MV associations
  - VLDL numbers and size all NS
  - LDLp (100 nmol/L): OR 1.05 (1.02-1.09; P=0.004)
  - sLDL (100 nmol/L): OR 1.15 (1.02-1.31; P=0.03)
  - LDL size (nm): OR 0.85 (0.72-1.00; P=0.04)
  - HDLp (nmol/L): OR 0.98 (0.96-0.99; P=0.04)

## Lipoprotein Variables Associated with CAC by Sex and Ethnicity

	White	A-A	Hispanic	Chinese
Men	LDLc LDLp sLDL sVLDL			
Women	LDLc HDLc LDLp HDLp sLDL sHDL LDLsz mHDL  VLDLp sVLDL			

\*Adjusted for age, BMI, SBP, BP meds, diabetes, smoking, statin

## Lipoprotein Variables Associated with CAC by Sex and Ethnicity

	White	A-A	Hispanic	Chinese
Men	LDLc LDLp sLDL sVLDL	LDLc LDLp sVLDL		
Women	LDLc HDLc LDLp HDLp sLDL sHDL LDLsz mHDL  VLDLp sVLDL	LDLc LDLp sLDL HDLp sHDL		

\*Adjusted for age, BMI, SBP, BP meds, diabetes, smoking, statin



## Lipoprotein Variables Associated with CAC by Sex and Ethnicity

	White	A-A	Hispanic	Chinese
Men	LDLc LDLp sLDL sVLDL	LDLc LDLp sVLDL	LDLc LDLp VLDLp VLDL size	
Women	LDLc HDLc LDLp HDLp sLDL sHDL LDLsz mHDL  VLDLp sVLDL	LDLc LDLp sLDL HDLp sHDL	LDLc LDLp sLDL VLDLp mVLDL sVLDL	

\*Adjusted for age, BMI, SBP, BP meds, diabetes, smoking, statin

## Lipoprotein Variables Associated with CAC by Sex and Ethnicity

	White	A-A	Hispanic	Chinese
Men	LDLc LDLp sLDL sVLDL	LDLc LDLp sVLDL	LDLc LDLp VLDLp VLDL size	sVLDL VLDL size mHDL HDL size
Women	LDLc HDLc LDLp HDLp sLDL sHDL LDLsz mHDL  VLDLp sVLDL	LDLc LDLp sLDL HDLp sHDL	LDLc LDLp sLDL VLDLp mVLDL sVLDL	

\*Adjusted for age, BMI, SBP, BP meds, diabetes, smoking, statin

## Subgroups

---

- Associations of CAC with cholesterol and lipoprotein variables tended to be stronger in women than men
- No lipoprotein variables knocked out differences between races in models
- Similar findings in younger (<65) compared with older (≥65)
  - Except HDLp only significant in old

## Is LDLp independent of LDLc?

---

- In models with both LDLc and LDLp, LDLc consistently dominated
- BUT  $r=0.836$
- Stratified MV analysis:

	<u>LDLp</u>
– In those with LDLc ≥100:	P=0.10
– In those with LDLc <100:	P=0.01

## Metabolic Syndrome

---

- Analyses restricted to individuals with metabolic syndrome (NCEP criteria)
  - N=2541 (37.3%)
- Lipid measures associated with CAC:
  - TC, LDL (W>>M); not HDL or TG
- Lipoprotein variables associated with CAC
  - VLDLp, sVLDL, VLDL size, HDL size all weak
  - NO LDL variables!!!
    - Except LDLp in women

## Summary

---

- Highly significant MV associations for some lipoprotein particle number/size variables in all participants
  - Minimally adjusted
  - MV-adjusted
- Major differences in patterns of association of lipoprotein variables in strata
  - Sex, ethnicity, metabolic syndrome

## Questions

---

- Is NMR measurement of lipoprotein particle number/size useful in prediction of subclinical atherosclerosis?
  - Do lipoprotein subclasses play a role in CAC development?
  - Results of C-IMT data?
- Is CAC truly representing coronary atherosclerosis the way we think it is?
  - What environmental or genetic factors are influencing ethnic-specific determinants of calcification, and of lipid-CAC associations?
- Is there some selection bias in the MESA population?

# Risk Factors for the Progression of Coronary Artery Calcium (CAC)

Preliminary Work

February 1, 2005

Dick Kronmal, Robyn McClelland

## Outline

- Description of CAC data
  - baseline data
  - progression data
- Analytical Challenges
- Results
  - risk factors for incident CAC
  - risk factors for increased change in CAC amount
- Some items for discussion
  - interpretation
  - future directions

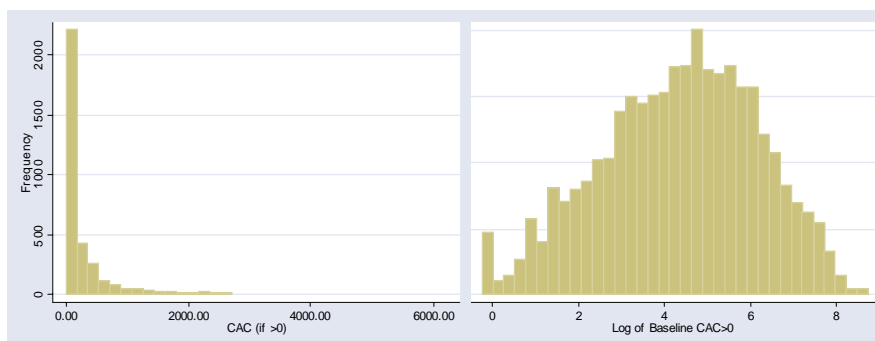
## Baseline CAC Data

“Mean Phantom Adjusted Agatston Score”

- measurement of the amount of calcium in lining of the arteries
- two CT scans for each subject--averaged
- phantom of known calcium level used to calibrate the measurements
- Agatston scoring: multiplies calcified area by a weighting factor depending on peak attenuation

## Baseline CAC data

- N=6814 measurements at baseline
  - N=3416 with no detectable CAC
  - N=3398 with some CAC



## CAC Progression—Data

- Cohort randomly divided into 2
  - half get follow-up CAC at exam 2 (completed; n=2955), half at exam 3 (partially completed)
  - prelim analysis uses only exam 2 (bias)
  - average time between exam 1&2= 1.6 years (range 0.9-3.4 years)
- N=1523 with zero CAC at baseline
- N=1432 had CAC>0 at baseline

## Analytical Challenges-1

- large number of zeroes (46%)
  - solution: two distinct models, using RR regression for risk of incident CAC and linear regression for amount of progression CAC>0
  - disadvantage: no unified model
  - advantage: allows different risk factors for developing new disease than for the amount of calcium once the plaques are there

## Analytical Challenges-2

- High rate of medication use:
  - glucose: insulin/ohga 10%
  - sbp, dbp: antihypertension meds 36%
  - cholesterol: lipid lowering 16%
- e.g. treated LDL observed, but the underlying “untreated” may be the measure that is truly of interest (more reflective of the cumulative burden of high cholesterol)

## Analytical Challenges-2

### Medication Use Cont'd

- solution: create a 5 level LDL variable
  - subjects not on meds divided into quartiles
  - subjects on meds assigned to top category
- advantage: easy to explain; captures much of what we know about the data
- disadvantage: loss of information; overlap between 4<sup>th</sup> and 5<sup>th</sup> levels
- alternative: imputation of untreated based on observed, type and dose of medication



## Baseline CAC

(MC011 Burke et al)

- Correlates of Any CAC:
  - age, male, white race, smoking (former too), systolic bp, treated diabetes, LDL cholesterol, weight, fibrinogen, triglycerides, family hx of heart attack
- Correlates of Amount of CAC>0
  - same except LDL, fibrinogen and triglycerides

## Incident CAC

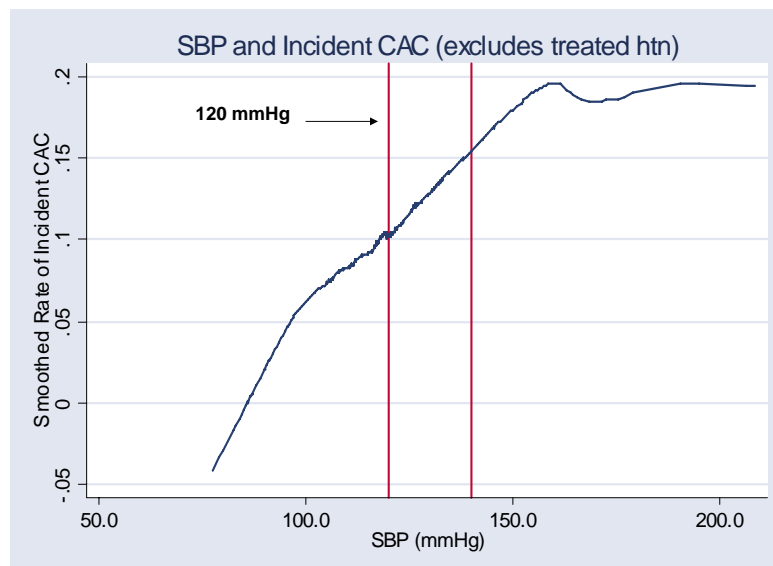
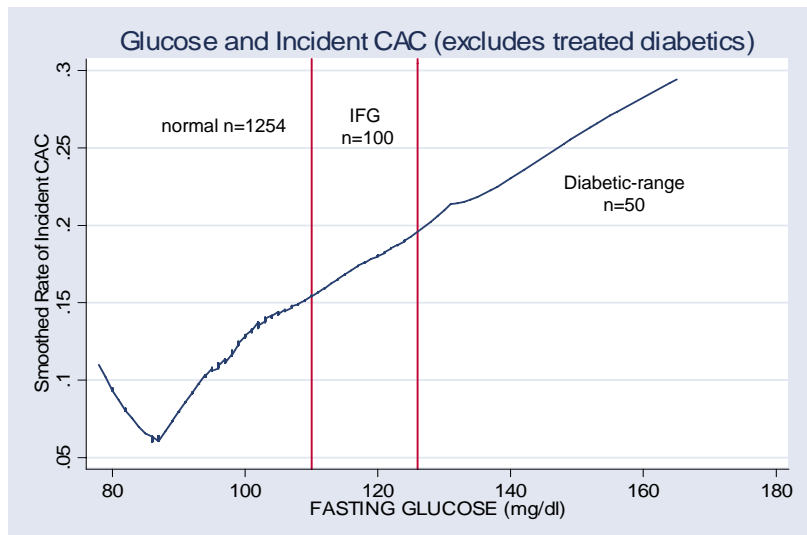
- n=1523 with zero CAC at baseline and an exam 2 follow-up
- n=177 (11.6%) developed incident CAC
  - of these new calciums n=152 were <20 units, n=22 were between 20-100, and only 3 were >100 units
  - rate was 10% in females, 14% in males
  - whites had the highest rate (15%); Hispanics lowest (9%)

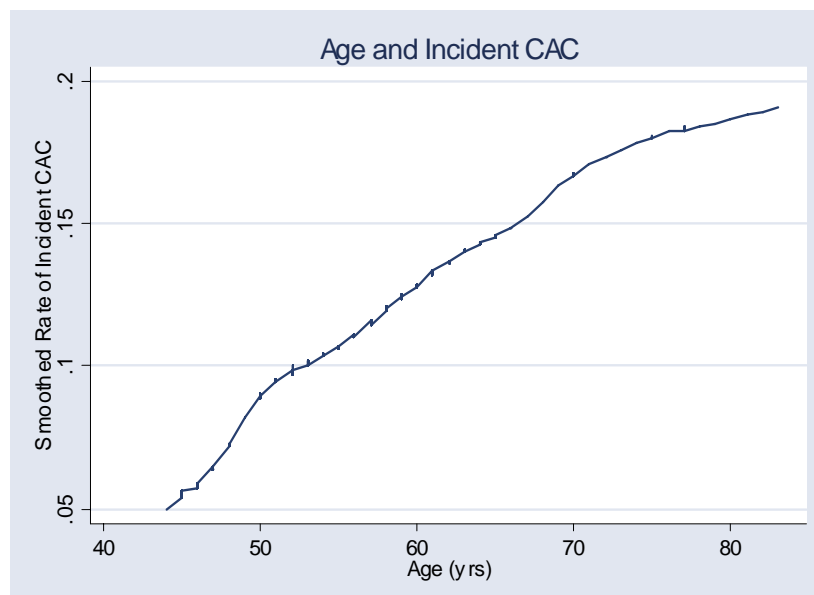
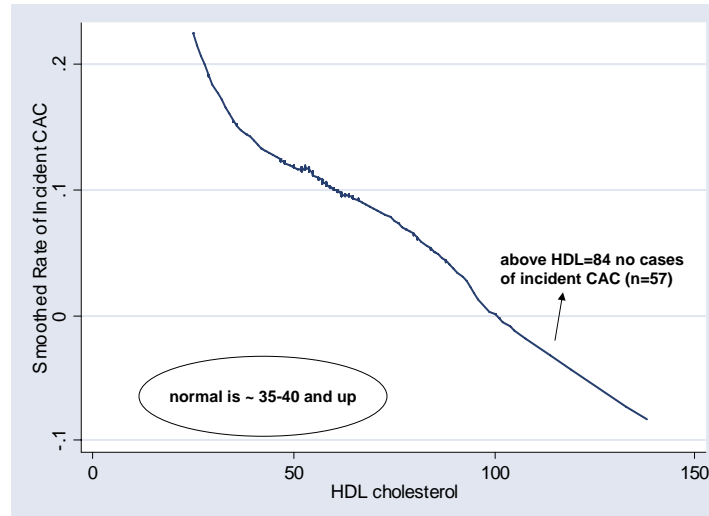
### Risk Factors for Incident CAC—part I

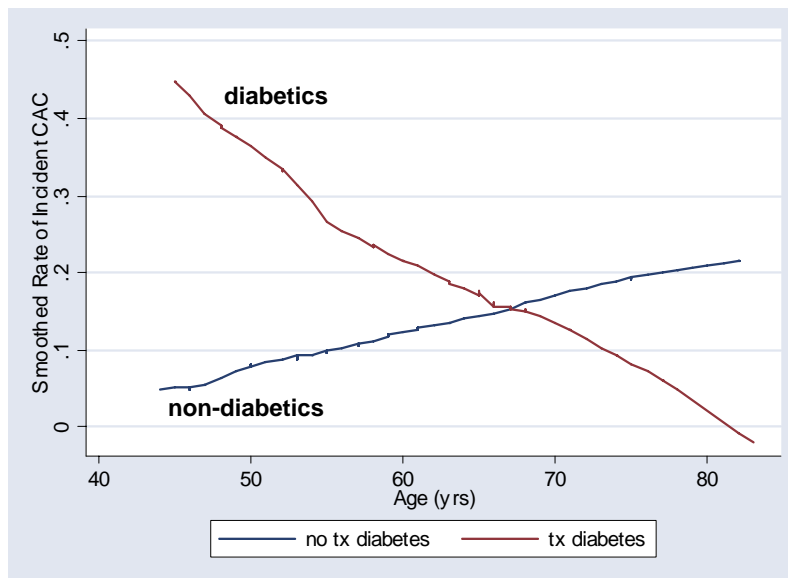
Risk Factors	RR	95% Confidence Interval		p-value
time between scans (yr)	1.367	1.007	1.855	0.045
age (yrs)	1.019	1.005	1.033	0.007
male	1.363	1.038	1.789	0.026
Race/Ethnicity: white	ref	.	.	.
chinese	0.482	0.299	0.778	0.003
black	0.465	0.344	0.630	<0.001
hispanic	0.371	0.242	0.571	<0.001
Education: <highschool	ref	.	.	.
high school	0.829	0.582	1.181	0.299
college	0.871	0.556	1.365	0.548
graduate school	0.536	0.320	0.899	0.018
pack years of smoking	1.003	1.000	1.006	0.036

### Risk factors for incident CAC—part II (continuation of same model)

Risk Factors	RR	95% Confidence Interval		p-value
Systolic BP: Q1	ref	.	.	.
Q2	1.447	0.798	2.622	0.224
Q3	1.623	0.921	2.860	0.094
Q4	2.402	1.384	4.168	0.002
treated htn	1.880	1.093	3.234	0.023
Glucose: Q1	ref	.	.	.
Q2	1.179	0.771	1.802	0.448
Q3	1.096	0.680	1.768	0.706
Q4	1.546	1.020	2.342	0.04
treated diabetes	1.703	1.039	2.793	0.035
log fibrinogen	3.218	1.773	5.842	<0.001
HDL	0.988	0.978	0.997	0.014







## Incident CAC (diabetics only) N=107

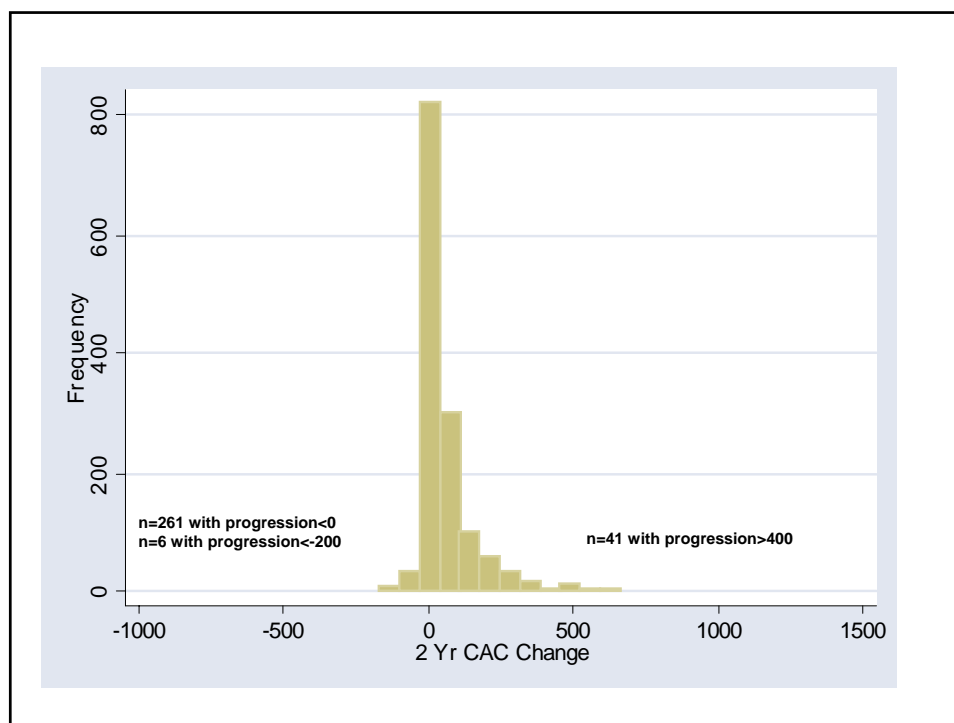
Risk Factors	RR	95% Confidence Interval		p-value
age (yrs)	0.96	0.92	0.99	0.035
male	1.73	0.89	3.36	0.108

## Other risk factors

- some factors we considered that did not appear important:
  - family hx of heart attack
  - diastolic bp
  - CRP
  - physical activity
  - dietary calcium
  - LDL cholesterol—need more work here

## CAC Progression

- n=1432 with some detectable CAC at exam 1
- average yearly progression (controlling for age, gender and initial CAC) is 45 units
- context: baseline median score was 88, with IQR 22-300

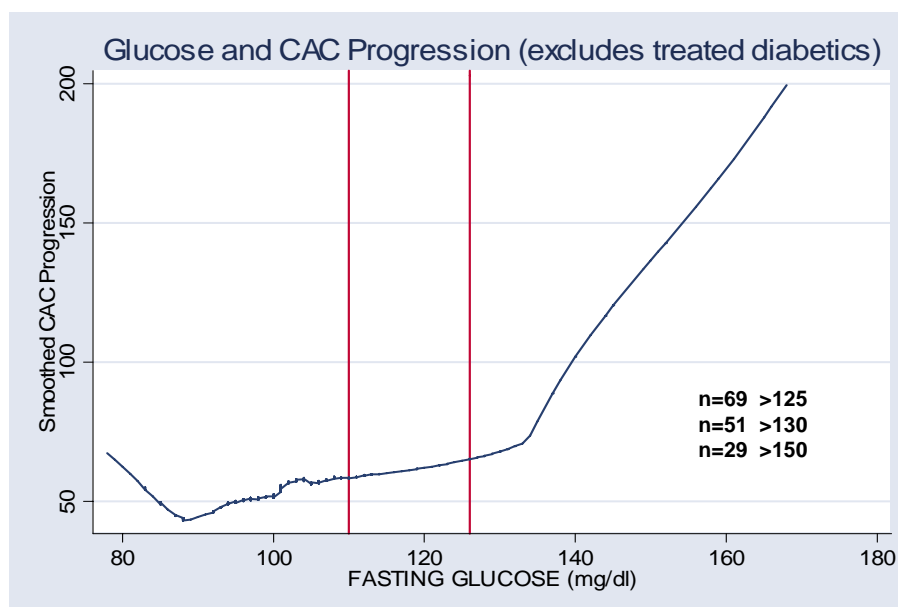


## CAC Progression (n=1432)

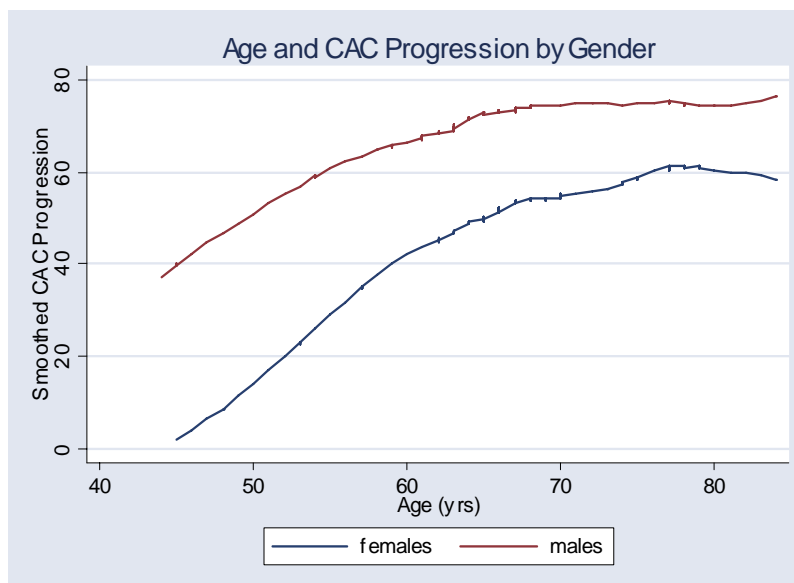
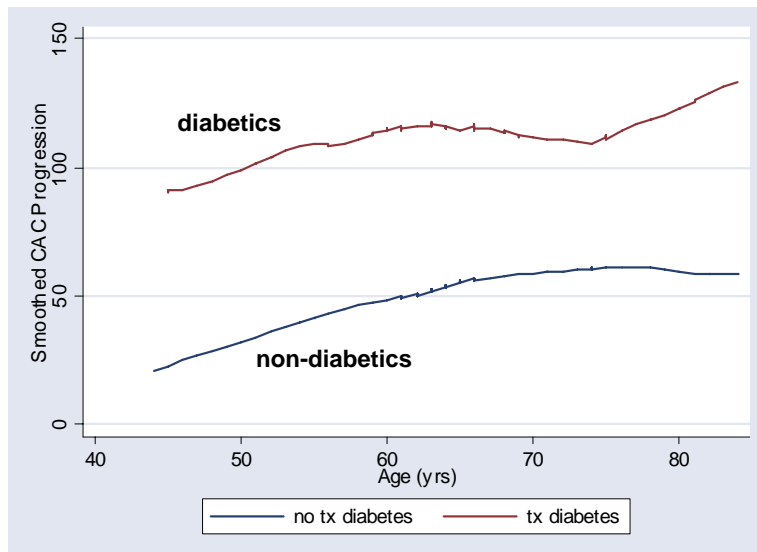
Risk Factor	Coef	95% Confidence Interval		p-value
baseline CAC	0.11	0.10	0.12	<0.001
time between scans (yrs)	47.63	29.14	66.13	<0.001
pack yrs of smoking	0.24	-0.01	0.49	0.059
Glucose: Q1	ref			
Q2	-2.27	-22.09	17.56	0.823
Q3	5.09	-14.87	25.04	0.617
Q4	12.20	-7.17	31.57	0.217
Treated Diabetes	52.14	29.49	74.79	<0.001

## Glucose and CAC Progression

- treated diabetics progressed at a much faster rate over this time period (52 units more for a baseline level)
- association persisted in analysis excluding treated diabetics (30 units more progression for every 10mg/dl of glucose)







## Summary

- risk of developing new disease related to age, male gender, white race, smoking, high sbp, glucose, fibrinogen and hdl
- worsening of existing calcium related to how much calcium there is already, smoking, and treated diabetes (R-squared around 0.26)
- risk factors have effects at levels far below the standard cutpoints for disease

## Questions/Future Work

- Interpretation
  - age by diabetes interaction?
  - use fibrinogen?
- Future Work
  - repeat analysis when exam 3 completed (scheduled July 2005)
  - related methods work looking at better ways to deal with the medication issues

# **ANALYZING CHANGE IN THE PRESENCE OF MEASUREMENT ERROR**

**N. David Yanez**

Associate Professor  
Department of Biostatistics  
and  
Collaborative Health Studies Coordinating Center  
University of Washington

## **OUTLINE**

- ◆ Motivation
  - ◆ Analysis of change
  - ◆ Measurement error
- ◆ Models for Change
- ◆ Examples
  - ◆ Coronary artery calcium (CC)
  - ◆ Intima media thickness (IMT)
- ◆ Final Comments

# MOTIVATION

## Analysis of Change

- ◆ Assess disease progression by monitoring change over time
- ◆ Ability to separate temporal relationship between disease and exposure
- ◆ Could better provide compelling evidence for causal associations
- ◆ Could assist clinicians to better assess the impact of medical interventions

# MOTIVATION

## Measurement Error

- ◆ Examples
  - ◆ Blood pressures, cholesterol
  - ◆ Dietary recall, alcohol consumption
- ◆ Impact on our analyses
  - ◆ Biased estimates – sometimes severely
  - ◆ Lower precision – less power

## MODELS FOR CHANGE

**Goal:** Investigate association between change in some outcome, e.g., coronary calcium (CC), and predictors of change,  $x$ .

**Model 1:**  $Y_2 - Y_1 = \beta_0 + \beta_1 x + \beta_2 Y_1 + \text{error}$

- ♦  $Y_j$  = Log Agatston score (CC) at exam  $j$  ( $j = 1, 2$ )
- ♦  $Y_2 - Y_1$  = difference in CC measurements (2-yr change)
- ♦  $x$  = set of predictors (e.g., age, race, SBP, diabetes, gender, HDL, LDL)
- ♦  $\beta_1$  = set of parameters of interest

## MODELS FOR CHANGE

**Problem:**

- ♦ If  $Y_1$  is measured with error **and** is related to other predictors,  $x$ , it will cause a measurement error bias in the other predictors (i.e.,  $\beta_1$  will be biased) even if the  $x$ 's are not measured with error. The observed associations between change and the  $x$ 's are likely to be incorrect.

**Possible solution:**

- ♦ Omit  $Y_1$  – the measurement error bias goes away...

# MODELS FOR CHANGE

**Model 2:**  $Y_2 - Y_1 = \beta_0 + \beta_1 x + \text{error}$

- ♦ If  $Y_1$  is a confounder, the  $\beta$ 's will again be biased.

**Paradox:**

- ♦ We can't investigate whether  $Y_1$  is a confounder unless we fit Model 1, i.e., we're forced to work with the model that may be affected with a measurement error bias.

**Better solution:**

- ♦ Fit Model 1 and adjust for possible measurement error bias.

## EXAMPLE – CC

Agatston scores for Coronary artery calcium (CC)

- ♦ CC is a measure of coronary calcium deposited in atherosclerotic plaques.
- ♦ CC may be useful in assessing risk of acute coronary syndromes.

## EXAMPLE – IMT

### Carotid Intima Media Thickness (IMT)

- ♦ IMT of the carotid artery is an index of generalized atherosclerosis.
- ♦ Vascular structures change very slow over time and IMT is stable over time.
- ♦ A measure of vascular structure best reflects the integrated effect of risk factor exposures.

*Crouse III JR, Am J Cardiol 2001*

## RELIABILITY

### Estimates

- ♦  $\log CC = 0.95$  *(MESA – phantom adjusted scores)*
- ♦  $IMT = 0.67$  *(CHS – common carotid artery)*

### Comments:

- ♦ The analysis of change in CC will not likely be very affected by measurement error.
- ♦ The change in IMT will likely be affected.

## RISK FACTORS: IMT

- ◆ Age
- ◆ Hypertension
- ◆ Low Density Lipoprotein cholesterol
- ◆ Pack-years of cigarette smoking
- ◆ Diabetes
- ◆ Body mass
- ◆ Physical activity
- ◆ Fibrinogen
- ◆ Inversely for High Density Lipoprotein cholesterol

*Chambless LE, Am J Epi 2002, Folsom AR, Stroke 1994, Crouse JR, Stroke 1987*

## LONGITUDINAL CHANGE

*(Model 1)*

Goal: Investigate predictors of CC progression.

- ◆  $Y_j$  = Log Agatston score (CC) at exam j
- ◆  $Y_2 - Y_1$  difference in Log CC measurements (2-yr change)
- ◆  $x$  = (age, systolic BP, diabetes, gender, HDL, LDL, race)
- ◆ Model 1:  $Y_2 - Y_1 = \beta_0 + \beta_1 x + \beta_2 Y_1$



## TABLE 1

### Longitudinal Change

(Model 1 – uncorrected)

Variable	Coefficient	S.E.	T-stat	P-value
Age	$-3.45 \times 10^{-3}$	$1.37 \times 10^{-3}$	-2.52	0.012
Syst BP	$1.26 \times 10^{-3}$	$5.60 \times 10^{-4}$	2.45	0.014
Diabetes	$1.48 \times 10^{-1}$	$3.05 \times 10^{-2}$	4.84	< 0.001
Gender	$2.23 \times 10^{-3}$	$2.76 \times 10^{-2}$	0.08	0.936
HDL	$1.31 \times 10^{-4}$	$8.96 \times 10^{-4}$	0.15	0.884
LDL	$-9.83 \times 10^{-5}$	$3.88 \times 10^{-4}$	-0.25	0.800
Race 2	$-1.17 \times 10^{-1}$	$3.66 \times 10^{-2}$	3.20	0.001
3	$-4.61 \times 10^{-2}$	$3.28 \times 10^{-2}$	-1.41	0.160
4	$-8.64 \times 10^{-2}$	$3.37 \times 10^{-2}$	-2.56	0.010
Baseline	$-1.00 \times 10^{-1}$	$9.29 \times 10^{-3}$	-10.8	< 0.001

## COMMENTS

- ◆ Significant association between 2-year change and baseline age, SBP, diabetes, race and baseline CC in the uncorrected analysis.
- ◆ We can fit an error corrected model by *estimating* or *calibrating* the predictor(s) that are measured with error, substitute them in the model and adjust the estimated standard errors.
  - ◆ This method is know as *regression calibration*
  - ◆ requires auxillary data (e.g., replicates)
  - ◆ easily fit in Stata using `rca1` procedure

**TABLE 2**  
**Longitudinal Change**

*(Model 1 – corrected)*

Variable	Coefficient	S.E.	T-stat	P-value
Age	$-4.35 \times 10^{-3}$	$1.35 \times 10^{-3}$	-3.21	0.001
Syst BP	$1.26 \times 10^{-3}$	$5.52 \times 10^{-4}$	2.27	0.023
Diabetes	$1.39 \times 10^{-1}$	$3.05 \times 10^{-2}$	4.55	< 0.001
Gender	$-1.06 \times 10^{-3}$	$2.76 \times 10^{-2}$	-0.38	0.701
HDL	$9.96 \times 10^{-5}$	$8.94 \times 10^{-4}$	0.11	0.911
LDL	$-6.21 \times 10^{-5}$	$3.79 \times 10^{-4}$	-0.16	0.870
Race 2	$-1.09 \times 10^{-1}$	$3.64 \times 10^{-2}$	3.00	0.003
3	$-3.80 \times 10^{-2}$	$3.26 \times 10^{-2}$	-1.16	0.245
4	$-8.04 \times 10^{-2}$	$3.36 \times 10^{-2}$	-2.39	0.017
Baseline	$-8.96 \times 10^{-2}$	$9.29 \times 10^{-3}$	-8.57	< 0.001

**TABLE 1**  
**Longitudinal Change**

*(Model 1 – uncorrected)*

Variable	Coefficient	S.E.	T-stat	P-value
Age	$-3.45 \times 10^{-3}$	$1.37 \times 10^{-3}$	-2.52	0.012
Syst BP	$1.26 \times 10^{-3}$	$5.60 \times 10^{-4}$	2.45	0.014
Diabetes	$1.48 \times 10^{-1}$	$3.05 \times 10^{-2}$	4.84	< 0.001
Gender	$2.23 \times 10^{-3}$	$2.76 \times 10^{-2}$	0.08	0.936
HDL	$1.31 \times 10^{-4}$	$8.96 \times 10^{-4}$	0.15	0.884
LDL	$-9.83 \times 10^{-5}$	$3.88 \times 10^{-4}$	-0.25	0.800
Race 2	$-1.17 \times 10^{-1}$	$3.66 \times 10^{-2}$	3.20	0.001
3	$-4.61 \times 10^{-2}$	$3.28 \times 10^{-2}$	-1.41	0.160
4	$-8.64 \times 10^{-2}$	$3.37 \times 10^{-2}$	-2.56	0.010
Baseline	$-1.00 \times 10^{-1}$	$9.29 \times 10^{-3}$	-10.8	< 0.001

## COMMENTS

- ◆ Uncorrected and corrected estimates are similar.
- ◆ Reasonable to expect measurement error corrected analysis will yield approximately same results (recall est. reliability = 95%)
- ◆ In general, measurement error will not adversely affect the results if
  - ◆ all predictors have high degree of reproducibility, or
  - ◆ predictors measured with error are uncorrelated with predictors that are precisely measured

## LONGITUDINAL CHANGE

*(Model 1)*

Goal: Investigate predictors of IMT progression (in the CHS).

- ◆  $Y_2$  = IMT of common carotid artery at year 3
- ◆  $Y_1$  = IMT of common carotid artery at baseline
- ◆  $Y_2 - Y_1$  difference in IMT measurements (3-yr change)
- ◆  $x$  = (age, systolic BP, diabetes, gender, HDL, LDL, smoke)
- ◆ Model 1:  $Y_2 - Y_1 = \beta_0 + \beta_1 x + \beta_2 Y_1$

## TABLE 3

### Longitudinal Change

(Model 1 – uncorrected)

Variable	Coefficient	S.E.	T-stat	P-value
Age	$2.48 \times 10^{-3}$	$5.30 \times 10^{-4}$	4.68	< 0.001
Syst BP	$5.65 \times 10^{-4}$	$1.30 \times 10^{-4}$	4.36	< 0.001
Diabetes	$1.84 \times 10^{-2}$	$6.67 \times 10^{-3}$	2.77	0.006
Gender	$3.55 \times 10^{-2}$	$5.96 \times 10^{-3}$	5.96	< 0.001
HDL	$-5.64 \times 10^{-4}$	$1.86 \times 10^{-4}$	-3.04	0.002
LDL	$2.69 \times 10^{-4}$	$7.57 \times 10^{-5}$	3.56	< 0.001
Smoker	$2.73 \times 10^{-2}$	$8.70 \times 10^{-3}$	3.14	0.002
BL IMT	$-3.65 \times 10^{-1}$	$1.41 \times 10^{-2}$	-25.9	< 0.001

## COMMENTS

- ◆ Significant association between 3-year change and baseline risk factors.
- ◆ Associations between IMT change and risk factors are similar to associations observed between *baseline* IMT and risk factors (results not shown).
  - ◆ The regression coefficients have identical directions of association.
  - ◆ The magnitude of the coefficients in change model are roughly 1/3 the magnitude of the baseline analysis.
  - ◆ IMT is measured with considerable error; the results are likely to be biased.

## TABLE 4

### Longitudinal Change

*(Model 2 –  $Y_1$  omitted)*

Variable	Coefficient	S.E.	T-stat	P-value
Age	$-2.18 \times 10^{-4}$	$5.61 \times 10^{-4}$	-0.39	0.698
Syst BP	$-5.10 \times 10^{-5}$	$1.38 \times 10^{-4}$	-0.37	0.711
Diabetes	$5.20 \times 10^{-3}$	$7.18 \times 10^{-3}$	0.72	0.469
Gender	$9.18 \times 10^{-3}$	$6.34 \times 10^{-3}$	1.45	0.148
HDL	$-8.81 \times 10^{-5}$	$1.99 \times 10^{-4}$	-0.44	0.659
LDL	$7.31 \times 10^{-5}$	$8.13 \times 10^{-5}$	0.90	0.368
Smoker	$6.94 \times 10^{-3}$	$9.35 \times 10^{-3}$	0.74	0.458

## TABLE 3

### Longitudinal Change

*(Model 1 – uncorrected)*

Variable	Coefficient	S.E.	T-stat	P-value
Age	$2.48 \times 10^{-3}$	$5.30 \times 10^{-4}$	4.68	< 0.001
Syst BP	$5.65 \times 10^{-4}$	$1.30 \times 10^{-4}$	4.36	< 0.001
Diabetes	$1.84 \times 10^{-2}$	$6.67 \times 10^{-3}$	2.77	0.006
Gender	$3.55 \times 10^{-2}$	$5.96 \times 10^{-3}$	5.96	< 0.001
HDL	$-5.64 \times 10^{-4}$	$1.86 \times 10^{-4}$	-3.04	0.002
LDL	$2.69 \times 10^{-4}$	$7.57 \times 10^{-5}$	3.56	< 0.001
Smoker	$2.73 \times 10^{-2}$	$8.70 \times 10^{-3}$	3.14	0.002
BL IMT	$-3.65 \times 10^{-1}$	$1.41 \times 10^{-2}$	-25.9	< 0.001

## COMMENTS

- ♦ For Model 2, none of the risk factors are associated with IMT change.
- ♦ Contradictory results between the models seems illogical.
- ♦ It's possibly  $Y_1$  is a confounder, but unlikely it could be related so strongly to the change and the predictors to cause such a dramatic difference in the results.
- ♦ A procedure known as the *method-of-moments* was then used to obtain measurement error corrected estimates.
  - ♦ For linear regression models, the results will be almost identical to regression calibration.

## TABLE 5 Longitudinal Analysis

(Model 1 – corrected)

Variable	Coefficient	S.E.	T-stat	P-value
Age	$-2.89 \times 10^{-3}$	$2.41 \times 10^{-2}$	-0.12	0.904
Syst BP	$-5.61 \times 10^{-5}$	$5.50 \times 10^{-4}$	-0.10	0.919
Diabetes	$4.72 \times 10^{-3}$	$1.35 \times 10^{-2}$	0.35	0.727
Gender	$8.79 \times 10^{-3}$	$2.38 \times 10^{-2}$	0.37	0.710
HDL	$-8.24 \times 10^{-5}$	$4.58 \times 10^{-4}$	-0.18	0.858
LDL	$7.31 \times 10^{-5}$	$2.78 \times 10^{-4}$	0.41	0.683
Smoker	$6.35 \times 10^{-3}$	$1.92 \times 10^{-2}$	0.33	0.742
BL IMT	$4.42 \times 10^{-3}$	$0.44 \times 10^{-1}$	0.01	0.989

## TABLE 4

### Longitudinal Change

(Model 2 –  $Y_1$  omitted)

Variable	Coefficient	S.E.	T-stat	P-value
Age	$-2.18 \times 10^{-4}$	$5.61 \times 10^{-4}$	-0.39	0.698
Syst BP	$-5.10 \times 10^{-5}$	$1.38 \times 10^{-4}$	-0.37	0.711
Diabetes	$5.20 \times 10^{-3}$	$7.18 \times 10^{-3}$	0.72	0.469
Gender	$9.18 \times 10^{-3}$	$6.34 \times 10^{-3}$	1.45	0.148
HDL	$-8.81 \times 10^{-5}$	$1.99 \times 10^{-4}$	-0.44	0.659
LDL	$7.31 \times 10^{-5}$	$8.13 \times 10^{-5}$	0.90	0.368
Smoker	$6.94 \times 10^{-3}$	$9.35 \times 10^{-3}$	0.74	0.458

## COMMENTS

- ◆ Baseline IMT is not related to change in IMT in the bias corrected model.
- ◆ Implications: fitting Model 2, the model that omits baseline IMT, should yield valid estimates for the association between true IMT change and set of risk factors.
- ◆ Standard errors, however, are larger – bias versus variance tradeoff.

## FINAL COMMENTS

- ♦ In general, analyses that include predictors known to have measurement error, one should collect replicates or validation data whenever possible.
  - ♦ It will allow for measurement error corrections in analyses
    - ♦ Failure to do so could severely limit conclusions
  - ♦ Perform bias corrected analyses using regression calibration
    - ♦ Very flexible methodology – linear, logistic, Poisson and Cox regression
    - ♦ Easy to fit using the Stata software package

## References

- ♦ References:
  - ♦ A Regression Model for Longitudinal Change in the Presence of Measurement Error by Yanez, Kronmal, Shemanski and Psaty, Annals of Epi., 2002.
  - ♦ Measurement Error in Non-linear Models by Carroll, Ruppert and Stefanski, Chapman and Hall, 1995.
  - ♦ Special issue of the Stata Journal, Vol. 3, No. 4, 2003.



**Thank You**

## **BASELINE ANALYSIS**

**Goal:** Investigate association between IMT and risk factors.

- ♦  $Y_1$  = IMT of common carotid artery (at baseline)
- ♦  $x$  = (age, systolic BP, diabetes, gender, HDL, LDL, smoke)
- ♦ Model:  $Y_1 = \rho_0 + \rho_1 x + \text{error}$

## TABLE 6

### Baseline Results

Variable	Coefficient	S.E.	T-stat	P-value
Age	$7.41 \times 10^{-3}$	$5.80 \times 10^{-4}$	12.77	< 0.001
Syst BP	$1.69 \times 10^{-3}$	$1.42 \times 10^{-4}$	11.88	< 0.001
Diabetes	$3.62 \times 10^{-2}$	$7.42 \times 10^{-3}$	4.88	< 0.001
Gender	$7.21 \times 10^{-2}$	$6.55 \times 10^{-3}$	11.01	< 0.001
HDL	$-1.31 \times 10^{-3}$	$2.06 \times 10^{-4}$	-6.34	< 0.001
LDL	$5.38 \times 10^{-4}$	$8.40 \times 10^{-5}$	6.41	< 0.001
Smoker	$5.60 \times 10^{-2}$	$9.66 \times 10^{-3}$	5.79	< 0.001

## COMMENTS

- ◆ Baseline IMT,  $Y_1$ , is measured with error...
  - ◆ but since IMT is not a *predictor* in the model, no measurement error bias will result.
- ◆ The residual variation, however, will be larger than would be expected if IMT was not measured with error.
  - ◆ Tests of association will be valid but possibly less powerful.



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Bild DE, Detrano R, Peterson D, Guerci A, Liu K, Shahar E, Ouyang P, Jackson S, Saad MF. **Ethnic Differences in Coronary Calcification The Multi-Ethnic Study of Atherosclerosis (MESA).** *Circulation*. 2005; 111-1313-1320.

Bild DE, Bluemke DA, Burke GL, Detrano R, Diez-Roux AV, Folsom AR, Greenland P, Jacobs DR, Kronmal R, Liu K, Nelson JC, O'Leary D, Saad MF, Shea S, Szklo M, Tracy RP. **The Multi-Ethnic Study of Atherosclerosis: Objectives and Design.** *Am. J. Epidemiology*. 2002; 156, no. 9 871-881.

Carr JJ, Nelson JC, Wong ND, McNitt-Gray M, Arad Y, Jacobs Jr DR, Sidney S, Bild DE, Williams OD, Detrano R. **Calcified Coronary Artery Plaque Measurement with Cardiac CT in Population-based Studies: Standardized Protocol of Multi-Ethnic Study of Atherosclerosis (MESA) and Coronary Artery Risk Development in Young Adults (CARDIA) Study.** *Radiology*. 2005; 234:35-43.

Chang JJ, Rabinowitz D, Shea S. **Sources of Variability in Blood Pressure Measurement Using the Dinamap PRO 100 Automated Oscillometric Device.** *Am. J. Epidemiology*. 2003; 158:1218-1226.

Diez-Roux AV, Detrano R, Jackson S, Jacobs Jr DR, Jinagouda S, Schreiner P, Shea S, Szklo M. **Acculturation and socioeconomic position as predictors of coronary calcification in a multiethnic sample.** *Circulation*. (In press.)

Han C, Kronmal R. **Box-Cox transformations of left-censored data with application to the analysis of coronary artery calcification and pharmacokinetic data.** *Statistics in Medicine*. 2004; 23:3671-3679.

Kramer H, Han C, Post W, Goff D, Diez-Roux A, Cooper R, Jinagouda S, Shea S. **Racial/Ethnic Differences in Hypertension and Hypertension Treatment and Control in the Multi-Ethnic Study of Atherosclerosis (MESA).** *Am. J. Hypertension*. 2004; 17:963-970.

Kramer H, Jacobs Jr. DR, Bild D, Post W, Saad MF, Detrano R, Tracy R, Cooper R, Liu K. **Urine Albumin Excretion and Subclinical Cardiovascular Disease: The Multi-Ethnic Study of Atherosclerosis.** *Hypertension*. 2005; 46:38-43.

Li AE, Kamel IR, Lima J, Rando F, Anderson M, Bluemke D. **Using MRI to Assess Aortic Wall Thickness in the Multiethnic Study of Atherosclerosis.** *Am. J. Roentgenology*. 2004; 182:593-597.

McDermott MM, Liu K, Criqui MH, Ruth K, Goff D, Saad MF, Wu C, Homma S, Sharrett AR. **Ankle-Brachial Index and Subclinical Cardiac and Carotid Disease: The Multi-Ethnic Study of Atherosclerosis.** *Am. J. Epidemiol.* 2005; 162(1):33-41.

Natori S, Lai S, Finn PJ, Gomes AS, Hundley GW, Jerosch-Herold M, Pearson G, Sinha S, Olson J, Aria A, Lima JAC, Bluemke DA. **Cardiac MR imaging in MESA: Protocol and Normal Values by Age, Gender and Ethnicity.** *Am. J. Roentgenology*. (In press.)

Nelson JC, Kronmal RA, Carr JJ, McNitt-Gray MF, Wong N, Loria CM, Goldin JG, Williams DO, Detrano R. **Measuring Coronary Calcium on CT Images Adjusted for Attenuation Differences.** *Radiology*. 2005; 235:403-414.

Vaidya D, Ding J, Hill JG, Lima JAC, Crouse JR 3rd, Kronmal RA, Szklo M, Ouyang P. **Skin tissue cholesterol assay correlates with presence of coronary calcium.** *Atherosclerosis*. 2005; 181(1):167–173.