



Data Repository Datasets: Exam 4 Dictionary: Created Variables

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)

$$\text{AGE4C} = \text{TRUNC} ((\text{visitdt4} - \text{birthdate}) / (60 * 60 * 24 * 365.25)).$$

Ten-year age groups

AGECAT4C = 1 age = 45-54 years

AGECAT4C = 2 age = 55-64 years

AGECAT4C = 3 age = 65-74 years

AGECAT4C = 4 age = 75-84 years

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

$$\text{BMI4C} = (\text{wtlb4} * 0.4536) / ((\text{htcm4} / 100) ^ 2)$$

Body mass index categories

BMI4C < 25	BMICAT4C =1	Normal
BMI4C >= 25 and BMI4C < 30	BMICAT4C =2	Grade 1 Overweight
BMI4C >= 30 and BMI4C < 40	BMICAT4C =3	Grade 2 Overweight
BMI4C >= 40	BMICAT4C =4	Grade 3 Overweight

Body surface area (BSA)

$$\text{BSA4C} = 0.20247 * ((\text{htcm4} / 100) ^ (0.725)) * ((\text{wtlb4} * 0.4536) ^ (0.425)).$$

(^ 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

CIG4C = 0	Never	if smkstat4= 0
CIG4C = 1	Former	if ((smkstat4 = 1 or smkstat4 = 2) OR (cig3c > 0))
CIG4C = 2	Current	if cursmk4 = 1

(“Ever” is defined as >= 100 cigarettes in your lifetime; current is defined as smoking cigarettes within the past 30 days)



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Personal Characteristics (continued)

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

ASACAT4C = 0 Not taking aspirin

ASACAT4C = 1 If ASA4C = 1 and ASPDAYS4 \geq 3

Prevalent Disease Measures

Systolic blood pressure, average of 2nd and 3rd Dinamap measurements, in mm Hg

SBP4C = average (s2bp4, s3bp4)

Diastolic blood pressure, average of 2nd and 3rd Dinamap measurements, in mm Hg

DBP4C = average (d2bp4, d3bp4)

Seated pulse pressure, Systolic blood pressure minus Diastolic blood pressure

, in mm Hg

SPP4C = SBP4C - DBP4C.



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Hypertension by JNC VI (1997) criteria

```
RECODE highbp4 highbp_f1 highbp_f2 highbp_f3 highbp_f4 highbp_F5 highbp_f6  
(-9=SYSMIS) (9=SYSMIS).  
EXECUTE.
```

```
COMPUTE highbp_ex4 = $SYSMIS.  
EXECUTE.
```

```
IF (highbp1=0) highbp_ex4 = 0.  
IF (highbp1=1) highbp_ex4 = 1.  
EXECUTE.
```

```
IF (highbp_f1=1 & DATEDIFF(visitDt4,ghdt_f1,"days")>0) highbp_ex4 = 1 .  
IF (highbp_f2=1 & DATEDIFF(visitDt4,ghdt_f2,"days")>0) highbp_ex4 = 1 .  
IF (highbp_f3=1 & DATEDIFF(visitDt4,ghdt_f3,"days")>0) highbp_ex4 = 1 .  
IF (highbp_f4=1 & DATEDIFF(visitDt4,ghdt_f4,"days")>0) highbp_ex4 = 1 .  
IF (highbp_f5=1 & DATEDIFF(visitDt4,ghdt_f5,"days")>0) highbp_ex4 = 1 .  
IF (highbp_f6=1 & DATEDIFF(visitDt4,ghdt_f6,"days")>0) highbp_ex4 = 1 .  
EXECUTE.
```

```
COMPUTE htn4c = $SYSMIS.  
EXECUTE.
```

Hypertension by JNC VI (1997) criteria *(continued)*

```
IF (dbp4c>=90 | sbp4c>=140 | (highbp_ex4=1 & htnmed4c=1)) htn4c = 1.  
EXECUTE.
```

```
IF (dbp4c<90 & sbp4c<140 & MISSING(htn4c)=1) htn4c = 0.  
EXECUTE.
```

```
IF (htn4c=0 & MISSING(highbp_ex4)=1 & htnmed4c=1) htn4c = $SYSMIS.  
EXECUTE.
```

```
IF (htn4c=0 & highbp_ex4=1 & MISSING(htnmed4c)=1) htn4c = $SYSMIS.  
EXECUTE.
```

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.

$ABI4C = \min (rtabi , ltabi)$

where $rtabi = (\max (rdpedis4, rptib4)) / (\text{avg} (rbrach4,lbrach4))$

$ltabi = (\max (ldpedis4, lptib4)) / (\text{avg} (rbrach4,lbrach4))$

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



Data Repository Datasets: Exam 4 Dictionary: Created Variables

Prevalent Disease Measures (continued)

Diabetes mellitus by 2003 ADA fasting criteria

DM034C	= 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 <u>and</u> on the phlebotomy form
DM034C	= 2	Untreated diabetes if fasting glucose \geq 126 mg/dL and DM034C not equal to 3 (above).
DM034C	= 1	impaired fasting glucose if fasting glucose = 100-125 mg/dL and DM034C not equal to 3 (above).
DM034C	= 0	normal if fasting glucose is $<$ 100 mg/dL and DM034C not equal to 3 (above).



Data Repository Datasets: Exam 4 Dictionary: Created Variables

Prevalent Disease Measures (continued)

Framingham risk, NCEP version (frncep3c)

fr_totc: This variable measures the points for calculating 10-year risk of developing hard CHD (MI and CHD death). It is not included in the dataset; rather, it is used for calculating **frncep4c**. This measure relies upon age [**age4c**], total cholesterol [**chol4**], current smoking status [**CIG4C**], hdl [**hdl4**], systolic blood pressure [**sbp4c**] and presence of hypertension medication [**htnmed4c**] for its calculations. Men and women [**gender1**] are scored separately. No adjustment has been made for participant use of lipid lowering medications at the time of blood draw. 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.

A missing value sets this entire variable to be missing, unless the missing value would have no effect on the total points. (missing **htnmed4c** when **sbp4c** is less than 120, for example) This scoring algorithm is oriented towards cholesterol treatment decisions. Since diabetes is considered a CHD risk-equivalent, diabetics are automatically recommended for treatment, and the risk scoring does not include diabetes as a factor. For this reason, the 10 year risk estimates do not apply to diabetics, and this variable is set to missing for anyone with **glucose4** ≥ 126 mg/dl or on diabetes treatment. [**dm034c**=2 or 3] The algorithm is also only applicable for ages <80, however, for ages 80-85 we assigned them a risk as though they were age 79.

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



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Prevalent Disease Measures (continued)

Framingham risk, NCEP version (frncep4c) (continued)

Framingham Point Scores for Men

Age point distribution

[age4c]	Points
45-49	3
50-54	6
55-59	8
60-64	10
65-69	11
70-74	12
75-79	13
80+	undefined

Cholesterol point distribution, varies by age

[chol4]	[age4c]			
	40-49	50-59	60-69	70-79
<160	0	0	0	0
160-199	3	2	1	0
200-239	5	3	1	0
240-279	6	4	2	1
280+	8	5	3	1

HDL point distribution

[hdl4]	points
60+	-1
50-59	0
40-49	1
<40	2

Smoking point distribution, varies by age

[CIG4C]	[age4c]			
	40-49	50-59	60-69	70-79
Nonsmoker [CIG4C=0,1]	0	0	0	0
Current smoker [CIG4C=2]	5	3	1	1

Systolic blood pressure point distribution, varies by hypertension status

[sbp4c]	Hypertension status	
	Untreated [htnmed4c=0]	Treated [htnmed4c=1]
<120	0	0
120-129	0	1
130-139	1	2
140-159	1	2
160+	2	3



**Data Repository Datasets: Exam 4
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Prevalent Disease Measures (continued)

Framingham risk, NCEP version (frncep4c) (continued)

Framingham Point Scores for Women

Age point distribution

[age4c]	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

[chol4]	[age4c]				
	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

[hdl4]	points
60+	-1
50-59	0
40-49	1
<40	2

Smoking point distribution, varies by age

[CIG4C]	[age4c]			
	40-49	50-59	60-69	70-79
Nonsmoker [CIG4C=0,1]	0	0	0	0
Current smoker [CIG4C=2]	5	3	7	4

Systolic blood pressure point distribution, varies by hypertension status

[sbp4c]	Hypertension status	
	Untreated [htnmed4c=0]	Treated [htnmed4c=1]
<120	0	0
120-129	1	3
130-139	2	4
140-159	3	5
160+	4	6



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Prevalent Disease Measures (continued)

Framingham 10-year risk of CHD, NCEP version (frncep4c): Risk of developing hard CHD within 10 years, calculated from the NCEP 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 frncep4c would be 0.16

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



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Prevalent Disease Measures (continued)

Framingham risk, JAMA version (frjama4c)

Risk of developing hard CHD within 10 years, calculated from the JAMA Framingham risk survival model. These scores were developed using Cox proportional hazards models, using a separate model for each gender. The models are not recalibrated to the MESA data; the average values of the Framingham covariates are used and the published Framingham average incidence rates are used. The variables used in calculating FRJAMA4c are **age4c**, **htnstg4c**, **chol4**, **hdl4**, **dm034c**, **glucos4c**, **CIG4C** and **gender1**. The algorithm is only applicable for ages<75, however, however for older participants we assigned them a risk as though they were age 74. The survival model's means and coefficients are provided from the JAMA Framingham Cox regression.

Framingham risk, Circulation 1998 version (frcirc4c)

Estimated 10 year risk of all CHD events by Framingham equation published in Circulation in 2001 [7]. This algorithm is very similar to that used in FRJAMA4c above, only predicting all CHD (MI, CHD death, angina) instead of hard CHD. The same risk factors and modeling strategy are used for both. The algorithm is only applicable for ages<75, however, however for older participants we assigned them a risk as though they were age 74.

Framingham Global CVD risk per Circulation 2008 version (frci084c)

** Compute temporary sbp4x variable that is a rounded whole number version of sbp4c (syntax below uses sbp4c whole number values as part of computation criteria.*

```
compute sbp4x=rnd(sbp4c).  
execute.
```

Framingham Global CVD risk: Females

```
compute f_points_age=0.  
if(gender1=0 & age4c <= 39) f_points_age = 2.  
if(gender1=0 & age4c >= 40 & age4c <= 44) f_points_age = 4.  
if(gender1=0 & age4c >= 45 & age4c <= 49) f_points_age = 5.  
if(gender1=0 & age4c >= 50 & age4c <= 54) f_points_age = 7.  
if(gender1=0 & age4c >= 55 & age4c <= 59) f_points_age = 8.  
if(gender1=0 & age4c >= 60 & age4c <= 64) f_points_age = 9.  
if(gender1=0 & age4c >= 65 & age4c <= 69) f_points_age = 10.  
if(gender1=0 & age4c >= 70 & age4c <= 74) f_points_age = 11.  
if(gender1=0 & age4c >=75) f_points_age = 12.  
EXECUTE.
```



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Prevalent Disease Measures (continued)

Framingham Global CVD risk per Circulation 2008 version (frci084c) (continued)

```
compute f_points_hdl=0.  
if(gender1=0 & hdl4 >= 60) f_points_hdl = -2.  
if(gender1=0 & hdl4 >=50 & hdl4 <=59) f_points_hdl = -1.  
if(gender1=0 & hdl4 >=45 & hdl4 <=49) f_points_hdl = 0.  
if(gender1=0 & hdl4 >=35 & hdl4 <=44) f_points_hdl = 1.  
if(gender1=0 & hdl4 <35) f_points_hdl = 2.  
EXECUTE.
```

```
compute f_points_chol=0.  
if(gender1=0 & chol4<160) f_points_chol =0.  
if(gender1=0 & chol4>=160 & chol4<=199) f_points_chol =1.  
if(gender1=0 & chol4>=200 & chol4<=239) f_points_chol =3.  
if(gender1=0 & chol4>=240 & chol4<=279) f_points_chol =4.  
if(gender1=0 & chol4>=280) f_points_chol =5.  
EXECUTE.
```

```
compute f_points_sbp_nt=0.  
if(gender1=0 & htnmed4c=0 & sbp4x<120) f_points_sbp_nt =-3.  
if(gender1=0 & htnmed4c=0 & sbp4x>=120 & sbp4x<=129) f_points_sbp_nt = 0.  
if(gender1=0 & htnmed4c=0 & sbp4x>=130 & sbp4x<=139) f_points_sbp_nt = 1.  
if(gender1=0 & htnmed4c=0 & sbp4x>=140 & sbp4x<=149) f_points_sbp_nt = 2.  
if(gender1=0 & htnmed4c=0 & sbp4x>=150 & sbp4x<=159) f_points_sbp_nt = 4.  
if(gender1=0 & htnmed4c=0 & sbp4x>=160) f_points_sbp_nt = 5.  
EXECUTE.
```

```
compute f_points_sbp_t=0.  
if(gender1=0 & htnmed4c=1 & sbp4x<120) f_points_sbp_t = -1.  
if(gender1=0 & htnmed4c=1 & sbp4x>=120 & sbp4x<=129) f_points_sbp_t = 2.  
if(gender1=0 & htnmed4c=1 & sbp4x>=130 & sbp4x<=139) f_points_sbp_t = 3.  
if(gender1=0 & htnmed4c=1 & sbp4x>=140 & sbp4x<=149) f_points_sbp_t = 5.  
if(gender1=0 & htnmed4c=1 & sbp4x>=150 & sbp4x<=159) f_points_sbp_t = 6.  
if(gender1=0 & htnmed4c=1 & sbp4x>=160) f_points_sbp_t = 7.  
EXECUTE.
```

```
compute f_smoker = 0.  
if(gender1=0 & cig4c=2) f_smoker = 3.  
EXECUTE.
```

```
compute f_diabetic = 0.  
if(gender1=0 & (dm034c=2 | dm034c=3)) f_diabetic = 4.  
EXECUTE.
```



Data Repository Datasets: Exam 4 Dictionary: Created Variables

Prevalent Disease Measures (continued)

Framingham Global CVD risk per Circulation 2008 version (frci084c) (continued)

** Total Female Points.*

```
if(gender1=0) fram_points =  
(f_points_age+f_points_hdl+f_points_chol+f_points_sbp_nt+f_points_sbp_t+f_smoker+f  
_diabetic).  
EXECUTE.
```

** Replace points with percent risk (note, lowest values left out as none of the MESA patients have these)*

```
if(fram_points=0 & gender1=0) frci084c = 1.2.  
if(fram_points=1 & gender1=0) frci084c = 1.5.  
if(fram_points=2 & gender1=0) frci084c = 1.7.  
if(fram_points=3 & gender1=0) frci084c = 2.0.  
if(fram_points=4 & gender1=0) frci084c = 2.4.  
if(fram_points=5 & gender1=0) frci084c = 2.8.  
if(fram_points=6 & gender1=0) frci084c = 3.3.  
if(fram_points=7 & gender1=0) frci084c = 3.9.  
if(fram_points=8 & gender1=0) frci084c = 4.5.  
if(fram_points=9 & gender1=0) frci084c = 5.3.  
if(fram_points=10 & gender1=0) frci084c = 6.3.  
if(fram_points=11 & gender1=0) frci084c = 7.3.  
if(fram_points=12 & gender1=0) frci084c = 8.6.  
if(fram_points=13 & gender1=0) frci084c = 10.  
if(fram_points=14 & gender1=0) frci084c = 11.7.  
if(fram_points=15 & gender1=0) frci084c = 13.7.  
if(fram_points=16 & gender1=0) frci084c = 15.9.  
if(fram_points=17 & gender1=0) frci084c = 18.5.  
if(fram_points=18 & gender1=0) frci084c = 21.5.  
if(fram_points=19 & gender1=0) frci084c = 24.8.  
if(fram_points=20 & gender1=0) frci084c = 28.5.  
if(fram_points>=21 & gender1=0) frci084c = 30.  
EXECUTE.
```



Data Repository Datasets: Exam 4 Dictionary: Created Variables

Prevalent Disease Measures (continued)

Framingham Global CVD risk per Circulation 2008 version (frci084c) (continued)

Framingham Global CVD risk: Males

```
compute m_points_age=0.  
if(gender1=1 & age4c <= 39) m_points_age = 2.  
if(gender1=1 & age4c >= 40 & age4c <= 44) m_points_age = 5.  
if(gender1=1 & age4c >= 45 & age4c <= 49) m_points_age = 6.  
if(gender1=1 & age4c >= 50 & age4c <= 54) m_points_age = 8.  
if(gender1=1 & age4c >= 55 & age4c <= 59) m_points_age = 10.  
if(gender1=1 & age4c >= 60 & age4c <= 64) m_points_age = 11.  
if(gender1=1 & age4c >= 65 & age4c <= 69) m_points_age = 12.  
if(gender1=1 & age4c >= 70 & age4c <= 74) m_points_age = 14.  
if(gender1=1 & age4c >=75) m_points_age = 15.  
EXECUTE.
```

```
compute m_points_hdl=0.  
if(gender1=1 & hdl4 >= 60) m_points_hdl = -2.  
if(gender1=1 & hdl4 >=50 & hdl4 <=59) m_points_hdl = -1.  
if(gender1=1 & hdl4 >=45 & hdl4 <=49) m_points_hdl = 0.  
if(gender1=1 & hdl4 >=35 & hdl4 <=44) m_points_hdl = 1.  
if(gender1=1 & hdl4 <35) m_points_hdl = 2.  
EXECUTE.
```

```
compute m_points_chol=0.  
if(gender1=1 & chol4<160) m_points_chol =0.  
if(gender1=1 & chol4>=160 & chol4<=199) m_points_chol =1.  
if(gender1=1 & chol4>=200 & chol4<=239) m_points_chol =2.  
if(gender1=1 & chol4>=240 & chol4<=279) m_points_chol =3.  
if(gender1=1 & chol4>=280) m_points_chol =4.  
EXECUTE.
```

```
compute m_points_sbp_nt=0.  
if(gender1=1 & htnmed4c=0 & sbp4x<120) m_points_sbp_nt =-2.  
if(gender1=1 & htnmed4c=0 & sbp4x>=120 & sbp4x<=129) m_points_sbp_nt = 0.  
if(gender1=1 & htnmed4c=0 & sbp4x>=130 & sbp4x<=139) m_points_sbp_nt = 1.  
if(gender1=1 & htnmed4c=0 & sbp4x>=140 & sbp4x<=159) m_points_sbp_nt = 2.  
if(gender1=1 & htnmed4c=0 & sbp4x>=160) m_points_sbp_nt = 3.  
EXECUTE.
```



Data Repository Datasets: Exam 4 Dictionary: Created Variables

Prevalent Disease Measures (continued)

Framingham Global CVD risk per Circulation 2008 version (frci084c) (continued)

```
compute m_points_sbp_t=0.  
if(gender1=1 & htnmed4c=1 & sbp4x<120) m_points_sbp_t = 0.  
if(gender1=1 & htnmed4c=1 & sbp4x>=120 & sbp4x<=129) m_points_sbp_t = 2.  
if(gender1=1 & htnmed4c=1 & sbp4x>=130 & sbp4x<=139) m_points_sbp_t = 3.  
if(gender1=1 & htnmed4c=1 & sbp4x>=140 & sbp4x<=159) m_points_sbp_t = 4.  
if(gender1=1 & htnmed4c=1 & sbp4x>=160) m_points_sbp_t = 5.  
EXECUTE.
```

```
compute m_smoker=0.  
if(gender1=1 & cig4c=2) m_smoker = 4.  
EXECUTE.
```

```
compute m_diabetic=0.  
if(gender1=1 & (dm034c=2 | dm034c=3)) m_diabetic = 3.  
EXECUTE.
```

** Total Male Points.*

```
if(gender1=1) fram_points  
=(m_points_age+m_points_hdl+m_points_chol+m_points_sbp_nt+m_points_sbp_t+m_s  
moker+m_diabetic).
```



Data Repository Datasets: Exam 4 Dictionary: Created Variables

Prevalent Disease Measures (continued)

Framingham Global CVD risk per Circulation 2008 version (frci084c) (continued)

** Replace points with percent risk (note, lowest values left out as none of the MESA patients have these)*

```
if(fram_points=0 & gender1=1) frci084c = 1.6.  
if(fram_points=1 & gender1=1) frci084c = 1.9.  
if(fram_points=2 & gender1=1) frci084c = 2.3.  
if(fram_points=3 & gender1=1) frci084c = 2.8.  
if(fram_points=4 & gender1=1) frci084c = 3.3.  
if(fram_points=5 & gender1=1) frci084c = 3.9.  
if(fram_points=6 & gender1=1) frci084c = 4.7.  
if(fram_points=7 & gender1=1) frci084c = 5.6.  
if(fram_points=8 & gender1=1) frci084c = 6.7.  
if(fram_points=9 & gender1=1) frci084c = 7.9.  
if(fram_points=10 & gender1=1) frci084c = 9.4.  
if(fram_points=11 & gender1=1) frci084c = 11.2.  
if(fram_points=12 & gender1=1) frci084c = 13.2.  
if(fram_points=13 & gender1=1) frci084c = 15.6.  
if(fram_points=14 & gender1=1) frci084c = 18.4.  
if(fram_points=15 & gender1=1) frci084c = 21.6.  
if(fram_points=16 & gender1=1) frci084c = 25.3.  
if(fram_points=17 & gender1=1) frci084c = 29.4.  
if(fram_points>=18 & gender1=1) frci084c = 30.  
EXECUTE.
```

NECP Metabolic Syndrome (metsyn4c)

Must have 3 or more of the following risk factors

- 1.) Increase waist size
waistcm4 > 102 cm if gender1 = 1
waistcm4 > 88 cm if gender1 = 0
- 2.) Elevated Triglycerides
trig4 >= 150mg/dl
- 3.) Low HDL cholesterol
hdl4 < 40 mg/dl if gender1 = 1
hdl4 < 50 mg/dl if gender1 = 0
- 4.) Hypertension
defined as dbp4c >= 85 or sbp4c >= 130 or htnmed4c = 1
- 5.) Impaired fasting glucose
glucos4c >= 110 mg/dl or diabet4 = 1



Data Repository Datasets: Exam 4 Dictionary: Created Variables

Blood Lab Measures

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

Total Cholesterol, NCEP Categories

CHLCAT4C = 3	High	Cholesterol \geq 240 mg/dL
CHLCAT4C = 2	Borderline High	Cholesterol 200-239 mg/dL
CHLCAT4C = 1	Desirable	Cholesterol < 200 mg/dL

LDL Cholesterol, NCEP Categories

LDLCAT4C = 5	Very High	LDL cholesterol \geq 190 mg/dL
LDLCAT4C = 4	High	LDL cholesterol 160-189 mg/dL
LDLCAT4C = 3	Borderline High	LDL cholesterol 130-159 mg/dL
LDLCAT4C = 2	Near Optimal	LDL cholesterol 100-129 mg/dL
LDLCAT4C = 1	Optimal	LDL cholesterol < 100 mg/dL

HDL Cholesterol, NCEP Categories

HDLCAT4C= 3	Low	HDL < 40 mg/dL
HDLCAT4C= 2		HDL 40-59 mg/dL
HDLCAT4C= 1	High	HDL \geq 60 mg/dL

Triglycerides, NCEP Categories

TRICAT4C = 4	Very High	Triglycerides \geq 500 mg/dL
TRICAT4C = 3	High	Triglycerides 200-499 mg/dL
TRICAT4C = 2	Borderline High	Triglycerides 150-199 mg/dL
TRICAT4C = 1	Normal	Triglycerides < 150 mg/dL

Calibrated Fasting Glucose Value

glucos4c = Intercept + (Slope x Original Fasting Glucose value).

Linear Regression determines Intercept and Slope values

```
REGRESSION  
/MISSING LISTWISE  
/STATISTICS COEFF OUTS R ANOVA  
/CRITERIA=PIN(.05) POUT(.10)  
/NOORIGIN  
/DEPENDENT glucos4r  
/METHOD=ENTER glucos4u.  
execute.
```



Data Repository Datasets: Exam 4 Dictionary: Created Variables

Urinary Measures

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

UABCAT4C = 3	Macroalbuminuria	alb(mg)/cre(g)	> 300
UABCAT4C = 2	Microalbuminuria	alb(mg)/cre(g)	30-300
UABCAT4C = 1	Normal	alb(mg)/cre(g)	< 30

Seated Blood Pressure

```
COMPUTE hrdina4c = mean (hr2dina4, hr3dina4).  
VARIABLE LABELS hrdina3c 'SEATED HEART RATE (beats per min)'.  
EXECUTE.
```



Data Repository Datasets: Exam 4 Dictionary: Created Variables

CT Measures

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 = slft4 + slad4 + scrc4 + srt4**

AGATU4C Defined for each scan (CT RC data file)
AGATU14C Scan 1, defined for each participant (main data file)
AGATU24C Scan 2, defined for participants with 2 scans (main data file)
AGATUM4C mean (AGATU14C, AGATU24C), average of scans 1 and 2 (main data file)

b) **Phantom-adjusted = pslft4 + pslad4 + pscrc4 + psrt4 if PHOK4C=1
= slft4 + slad4 + scrc4 + srt4 if PHOK4C=0**

AGATP4C Defined for each scan (CT RC data file)
AGATP14C Scan 1, defined for each participant (main data file)
AGATP24C Scan 2, defined for participants with 2 scans (main data file)
AGATPM4C mean (AGATP14C, AGATP24C), average of scans 1 and 2 (main data file)

2) Total calcium volume

a) **Unadjusted = vlft4+ vlad4 + vcrc4 + vrt4**

VOLU14C Scan 1, defined for each participant (main data file)
VOLU24C Scan 2, defined for participant w/ 2 scans (main data file)
VOLUM4C mean (VOLU14C, VOLU24C), average of scans 1 and 2 (main data file)

b) **Phantom-adjusted = pvlft4+pvlad4+pvcrc4+pvr4 if PHOK4C=1
= vlft4+ vlad4 + vcrc4 + vrt4 if PHOK4C=0**

VOLP14C Scan 1, defined for each participant (main data file)
VOLP24C Scan 2, defined for participants w/ 2 scans (main data file)
VOLPM4C mean (VOLP14C, VOLP24C), average of scans 1 and 2 (main data file)



Data Repository Datasets: Exam 4 Dictionary: Created Variables

3) Total isometric volume score

a) **Unadjusted = vslft4 + vslad4 + vsrcr4 + vsrt4**

VOLSU14C	Scan 1, defined for each participant (main data file)
VOLSU24C	Scan 2, defined for participant w/ 2 scans (main data file)
VOLSUM4C	mean (VOLSU14C, VOLSU24C), average of scans 1 and 2 (main data file)

b) **Phantom-adjusted = pvslft4 + pvslad4 + pvscrc4 + pvsrt4 if PHOK4C=1
= vslft4 + vslad4 + vsrcr4 + vsrt4 if PHOK4C=0**

VOLSP14C	Scan 1, defined for each participant (main data file)
VOLSP24C	Scan 2, defined for participants w/ 2 scans (main data file)

c) **Phantom-adjusted, Mean Total Volume Score = MEAN(VOLSP4C)**

VOSPM4C	Mean Total Volume Score, Phantom Adjusted
---------	---



Data Repository Datasets: Exam 4 Dictionary: Created Variables

WHO ROSE Intermittent Claudication

COMPUTE whoros4c = 0.
EXECUTE.

IF (lpalf4=1 & lpuph4=1 & lprest4=0 & lpstop4=1 & lprelv4=1 & lpdiss4=0) whoros4c=1.
EXECUTE.

DO IF (MISSING (lpalf4 + lpuph4 + lprest4 + lpstop4 + lprelv4 + lpdiss4)).
RECODE whoros4c (ELSE=SYSMIS).
END IF.
EXECUTE.

DO IF (legpain4=0).
RECODE whoros4c (ELSE=0).
END IF.
EXECUTE.

Age of Hormone Replacement Therapy Use

Former user: hrmage4c = hrmsage4 if:

- hrmsage4 < hrmrage4
OR
- hrmsage4 > 0 and hrmrage4 is blank

Current user: hrmage4c = hrmrage4 if:

- hrmrage4 < hrmsage4
OR
- hrmrage4 > 0 and hrmsage4 is blank

Both former and current user: hrmage4c = hrmrage4 if:

- hrmrage4 = hrmsage4



Data Repository Datasets: Exam 4 Dictionary: Created Variables

Health and Life

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

CESD4C = sum of scores for the 20 items of the CES-D Scale (bother4, noteat4, blue4, asgood4, concntr4, depress4, effort4, hopeful4, lffail4, fearful4, badslp4, happy4, lestalk4, lonely4, unfrnly4, enjlife4, cryspel4, sad4, dislikd4, getgoin4)

Assign scores as follows:

For asgood4, hopeful4, happy4, enjlife4:
Score 3, 2, 1, 0 (rarely to most)

For bother4, noteat4, blue4, concntr4, depress4, effort4, lffail4, fearful4, badslp4, lestalk4, lonely4, unfrnly4, cryspel4, sad4, dislikd4, getgoin4:
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

EMOT4C = sum of scores for 6 items (talkto4, advice4, affectn4, hlpchr4, emospt4, confide4).

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.



Data Repository Datasets: Exam 4 Dictionary: Created Variables

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