

Cohort, Exam 1**Imputed Ultrasound Data**

This section contains details concerning the imputed ultrasound datasets provided on the ARIC Visit 1 data tapes. The topics covered are:

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

Description of Data Set Contents

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

Data Set and Variable Naming Conventions**Data Sets Containing Imputed Values**

Because gender-race specific regression models were used to perform the imputation, a separate data set exists for White Males, White Females, Black Males, and Black Females. Each data set name consists of UBMD (indicating ultrasound) + IM (indicating the data are imputed) + WM, WF, BF, or BM (indicating the specific gender-race group). For example, the data set containing imputed ultrasound data for white males is named UBMDIMWM. Similarly, the data set containing imputed ultrasound data for black females is named UBMDIMBF. A similar pattern holds for the other gender-race groups.

The variables contained within the data sets are summarized in the table below. Most variable names consist of LBIA, RBIA, LOPA, ROPA, LINA, or RINA (indicating location) + DA or WA (indicating the type of statistic) +45 (indicating that the measurement is of the far wall). There are a few other summary variables which have unique names. These are included in the following list.

VARIABLE	DESCRIPTION	TYPE
ID	Participant ID number	Character
*DA45	Imputed site-specific average far wall thickness *=LBIA, RBIA, LOPA, ROPA, LINA, RINA	Continuous
*WA45	Weight for site-specific imputed average wall thickness *=LBIA, RBIA, LOPA, ROPA, LINA, RINA	Continuous
SUM45_1	Simple average of *DA45	Continuous
SUM45_2	Weighted average of *DA45	Continuous
SUM45_3	Z score summary statistic for *DA45	Continuous
SUMWT45	Number of observed values / 6 = weight for SUM45_1, 2, or 3	Continuous

Imputed versus Unimputed Data

You may want to rerun analyses previously run on unimputed (observed) ultrasound data (using the UBMD4 data set), on imputed data (using the UBMDIMxx data sets, where xx can be BM, BF, WM, or WF). Because of the naming conventions used, this should be a relatively easy task. Note that the data set containing unimputed ultrasound data (UBMD) contains variables of average far wall width, such as LINA45 and LBIA45. These unimputed variables on the UBMD data set correspond to the imputed variables LINADA45 and LBIADA45, respectively, on the UBMDIMxx data sets. Thus, only the middle component of the variable name must be changed for AV (unimputed average) to DA (imputed average). This logic holds true for all of the site-specific averages.

Use of Weights

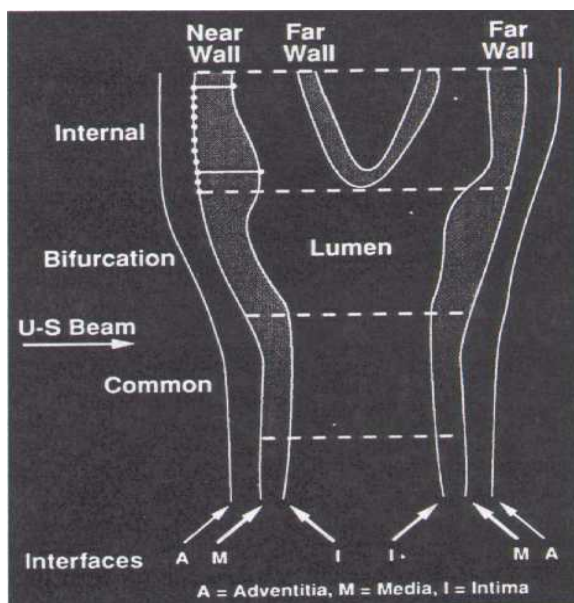
The weights are a measure of precision which varies by number of sites observed. Regression estimates, using *DA45 or SUM45_1 as dependent variables, will generally be more precise if weighted regression is used.

Cohort, Exam 1**Appendix A**

B-Mode Derived Variable Site Prefixes

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

Schematic Overview of Carotid Artery B-Mode Ultrasound Measurements



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

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

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

Cohort, Exam 1**Ultrasound data**

Imputed, black female

<i>ID</i>		<i>Aric Subject ID (Cir)</i>
<i>N</i>	<i>Value</i>	<i>Description</i>
2517	Present	Text suppressed

<i>LBIADA45</i>		<i>Derived Average Far Wall Thickness, Left Bifurcation</i>
<i>N</i>	<i>Value</i>	<i>Description</i>
2326	Range	0.3015 - 3.2294 (median=0.75375 mean=0.797496 std=0.252521)
191		Missing

<i>LBIAWA45</i>		<i>Weight For LBIADA45</i>
<i>N</i>	<i>Value</i>	<i>Description</i>
273	0.1666666667	
349	0.3333333333	
276	0.5	
139	0.6666666667	
33	0.8333333333	
1256	1	
191		Missing

<i>LINADA45</i>		<i>Derived Average Far Wall Thickness, Left Internal Carotid</i>
<i>N</i>	<i>Value</i>	<i>Description</i>
2326	Range	0.223333 - 2.613 (median=0.615651 mean=0.6386906 std=0.1744239)
191		Missing

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<i>LINAWA45</i>		<i>Weight For LINADA45</i>
<i>N</i>	<i>Value</i>	<i>Description</i>
275	0.1666666667	
410	0.3333333333	
427	0.5	
388	0.6666666667	
136	0.8333333333	
690	1	
191		Missing

<i>LOPADA45</i>		<i>Derived Average Far Wall Thickness, Left Common Carotid: Optimal Angle</i>
<i>N</i>	<i>Value</i>	<i>Description</i>
2326	Range	0.28475 - 1.67895 (median=0.633455 mean=0.6553517 std=0.1579861)
191		Missing

<i>LOPAWA45</i>		<i>Weight For LOPADA45</i>
<i>N</i>	<i>Value</i>	<i>Description</i>
194	0.1666666667	
126	0.3333333333	
89	0.5	
37	0.6666666667	
7	0.8333333333	
1873	1	
191		Missing

<i>RBIADA45</i>		<i>Derived Average Far Wall Thickness, Right Bifurcation</i>
<i>N</i>	<i>Value</i>	<i>Description</i>
2326	Range	0.268 - 3.42817 (median=0.804 mean=0.8499 std=0.2877)
191		Missing

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<i>RBIAWA45</i>		<i>Weight For RBIADA45</i>
<i>N</i>	<i>Value</i>	<i>Description</i>
280	0.1666666667	
360	0.3333333333	
280	0.5	
130	0.6666666667	
29	0.8333333333	
1247	1	
191		Missing

<i>RESPONS</i>		<i>Number Of Observed Sites</i>
<i>N</i>	<i>Value</i>	<i>Description</i>
191	0	
292	1	
444	2	
527	3	
557	4	
346	5	
160	6	

<i>RINADA45</i>		<i>Derived Average Far Wall Thickness, Right Internal Carotid</i>
<i>N</i>	<i>Value</i>	<i>Description</i>
2326	Range	0.2345 - 5.226 (median=0.668079 mean=0.7009315 std=0.2577277)
191		Missing

<i>RINAWA45</i>		<i>Weight For RINADA45</i>
<i>N</i>	<i>Value</i>	<i>Description</i>
283	0.1666666667	
408	0.3333333333	
458	0.5	
403	0.6666666667	
138	0.8333333333	
636	1	
191		Missing

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<i>ROPADA45</i>		<i>Derived Average Far Wall Thickness, Right Common Carotid: Optimal Angle</i>
<i>N</i>	<i>Value</i>	<i>Description</i>
2326	Range	0.245667 - 2.5795 (median=0.655111 mean=0.6745932 std=0.1626197)
191		Missing

<i>ROPAWA45</i>		<i>Weight For ROPADA45</i>
<i>N</i>	<i>Value</i>	<i>Description</i>
155	0.1666666667	
123	0.3333333333	
51	0.5	
17	0.6666666667	
3	0.8333333333	
1977	1	
191		Missing

<i>SUM45_1</i>		<i>Mean Of The DA45 Variables</i>
<i>N</i>	<i>Value</i>	<i>Description</i>
2326	Range	0.375503 - 1.872198 (median=0.687628 mean=0.7194997 std=0.1584297)
191		Missing

<i>SUM45_2</i>		<i>Weighted Mean Of The DA45 Variables</i>
<i>N</i>	<i>Value</i>	<i>Description</i>
2326	Range	0.38027 - 1.867619 (median=0.689298 mean=0.7195849 std=0.1561440)
191		Missing

<i>SUM45_3</i>		<i>Z-Score Summary Statistic For The DA45 Variables</i>
<i>N</i>	<i>Value</i>	<i>Description</i>
2326	Range	0.367855 - 1.986811 (median=0.687314 mean=0.7196672 std=0.1627775)
191		Missing

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<i>SUMWT45</i>		<i>Number of observed values / 6 = weight for Sum45_1</i>
<i>N</i>	<i>Value</i>	<i>Description</i>
292	0.1666666667	
444	0.3333333333	
527	0.5	
557	0.6666666667	
346	0.8333333333	
160	1	
191		Missing