

National Health and Nutrition Examination Survey 2003-2004

Documentation, Codebook, and Frequencies

Dual-Energy X-ray Absorptiometry

Examination

**Survey Years:
2003 to 2004**

**SAS Transport File:
DXX_C.XPT**



January 2008

NHANES 2003-2004 Data Documentation

MEC EXAM

Dual-Energy X-ray Absorptiometry (DXX_C)

Years of Coverage: 2003-2004

First Published: January 2008

Last Revised: NA

Component Users of the 2003-2004 Dual-Energy X-ray Absorptiometry data
Description (variable name prefix DXX_C) are strongly encouraged to read the documentation before accessing the data file.

Because missing or invalid data have been multiply imputed, the DXX_C data release file contains 5 records for each survey participant 8 years of age and older who was interviewed and examined. Only 1 record should be used in calculating sample sizes. However, all 5 records must be used in analyses in order to obtain more accurate variance estimates. The records for some survey participants, such as pregnant females, are blank; pregnant females were not eligible for the DXA scan

Dual-energy x-ray absorptiometry (DXA) has become one of the most widely accepted methods of measuring body composition due in part to its speed, ease of use, and low radiation exposure (1-4). Starting in 1999, whole body DXA scans were administered in the NHANES mobile examination center (MEC). The NHANES DXA examination provides: 1) nationally representative data on body composition (bone and soft tissue), overall and for age, sex, and racial/ethnic groups; 2) estimates of the prevalence of obesity, as distinct from overweight; 3) estimates of whole body bone density; and 4) data to study the association between body composition and other health conditions and risk factors, such as cardiovascular disease, diabetes, hypertension, and activity and dietary patterns.

The DXA scans provide bone and soft tissue measurements for the total body, for both arms and both legs, the trunk, and head. Bone

measurements also were obtained for the pelvis, left and right ribs, thoracic spine, and lumbar spine. Values for the total body and regions include:

- Total mass (gm)
- Bone mineral content (BMC) (gm)
- Bone area (cm²)
- Bone mineral density (BMD) (gm/cm²)
- Fat mass (gm)
- Lean mass excluding BMC (gm)
- Lean mass including BMC (gm)
- Percent body fat (%)

Eligible Sample DXA scans were administered to eligible survey participants 8 years of age and older. Pregnant females were ineligible for the DXA examination. Participants who were excluded from the DXA examination for reasons other than pregnancy were considered to be eligible nonrespondents. Reasons for exclusion from the DXA examination were as follows:

- Pregnancy (positive urine pregnancy test and/or self-report at the time of the DXA examination). Females between the ages of 12–59 years and menstruating 8–11 year olds were not permitted to take the DXA examination without a negative MEC pregnancy test result. In addition, females aged 12–59 years were excluded from the examination if they said they were pregnant at the time of the exam, even if the pregnancy test was negative.
- Self-reported history of radiographic contrast material (barium) use in past 7 days.
- Self-reported nuclear medicine studies in the past 3 days.
- Self-reported weight over 300 pounds or height over 6'5" (DXA

table limitations).

The variable DXAEXSTS indicates examination status. Equipment failure was the main reason for a completed, but invalid scan. The “Not scanned, other reason” code includes no time to complete the examination, pregnancy test not completed, and participant refusal, as well as exclusion for reasons other than pregnancy.

DXAEXSTS – examination status variable

- 1 = Scan completed
- 2 = Scan completed, but invalid
- 3 = Not scanned, pregnant
- 4 = Not scanned, weight > 300 lbs
- 5 = Not scanned, height > 6’5”
- 6 = Not scanned, other reason

Administration Whole body DXA scans were taken with a Hologic QDR-4500A fan-beam densitometer (Hologic, Inc., Bedford, Massachusetts). Hologic software version 8.26:a3* was used to administer all scans. The densitometer scanned participants with an x-ray source using fan-beam scan geometry in three passes (1 minute per pass). The participants were positioned supine on the tabletop with their feet in a neutral position and hands flat by their side. A Velcro strap was used to keep the feet stationary and together. The DXA technique acquires two low-dose x-ray images at different average energies. The ratio of the attenuation of these two average energies, called an R-factor, is used to distinguish both bone from soft tissue, and the percent fat in soft tissue when bone isn’t present. The radiation exposure from DXA is extremely low at less than 10 uSv.

The DXA examinations were administered by certified radiology technologists. Further details of the DXA examination protocol are documented in the Body Composition Procedures Manual located on

the NHANES website.

Quality Assurance & Quality Control A high level of quality control was maintained throughout the DXA data collection and scan analysis, including a rigorous phantom scanning schedule.

Monitoring of Field Staff and Densitometers

Staff from the National Center for Health Statistics (NCHS) and the NHANES data collection contractor monitored technologist acquisition performance through in-person observations in the field. Retraining sessions were conducted with the technologists annually and as needed to reinforce correct techniques and appropriate protocol. In addition, technologist performance codes were recorded by the NHANES quality control center at the University of California, San Francisco (UCSF), Department of Radiology as part of the participants' scan review. The codes documented when the technologist had deviated from acquisition procedures and scan quality could have been improved. The performance codes were tracked for each technologist individually and a summary reported to NCHS on a quarterly basis. Constant communication was maintained throughout the year among the UCSF, the NCHS, and the data collection contractor regarding any issues that arose.

Hologic service engineers performed all routine densitometer maintenance and repairs. Copies of all reports completed by the manufacturer's service engineers were sent to the UCSF when the scanners were serviced or repaired so any changes in measurement as a result of the work could be assessed. While some minor mechanical repairs were made during 2003-2004 survey operations, replacement or realignment of the detectors, apertures, or other major hardware was not required for any of the three densitometers.

Scan Analysis

Each participant and phantom scan was reviewed and analyzed by the UCSF using standard radiologic techniques and study-specific protocols developed for the NHANES. Hologic Discovery software, version 12.1, was used to analyze the scans. The Discovery analysis software incorporates the Auto WB application, which was developed to improve bone detection in children participating in the NHANES and other studies of children (5, 6). The Discovery analysis algorithms automatically detect and measure very low-density bone in children weighing 40 kg or less.

Expert review was conducted by the UCSF on 100% of analyzed participant scans to verify the accuracy and consistency of the results.

Invalidity codes

Invalidity codes were applied by the UCSF to indicate the reasons regions of the body could not be analyzed accurately. The invalidity codes are provided in the data file (see Analytic Notes for a description of the invalidity codes).

Quality Control Scans

The quality control phantoms were scanned according to a predetermined schedule. The Hologic Anthropomorphic Spine Phantom associated with each MEC was scanned daily as required by the manufacturer to ensure accurate calibration of the densitometer. Other MEC-specific phantoms, such as the Hologic Whole Body Slim-line Phantom and Hologic Tissue Step Phantom, were scanned 1 to 3 times weekly. Another set of phantoms, the Hologic Spine (HSP-Q96), Hologic Block, and Hologic Whole Body Phantoms, circulated among the MECs and were scanned at the start of operations at each survey site.

Air scans, phantom-less scans using the whole body scan mode, were

used to describe and monitor the systems' radiographic uniformity across the entire scan field. Poor uniformity could be caused by poor aperture alignment, incorrect gantry rotation, non-uniform gain in detectors, etc., that result in localized inaccuracies in the attenuation values.

The complete phantom scanning schedule is described in the Body Composition Procedures Manual located on the NHANES website.

Cross-calibration and Longitudinal monitoring

In multi-site studies such as the NHANES, verification that all DXA systems are performing within the expected limits is critical since data collected at the multiple sites are pooled for analysis. A cross-calibration study was conducted prior to the start of NHANES 1999 to identify the relationships among the densitometers in the three MECS. Since all three densitometers in the NHANES were the identical make and model, cross-calibration was simplified. However, in 1999, no standard existed for phantom cross-calibration for whole body BMD and soft tissue and new procedures were developed for the survey. At the time, the NHANES cross-calibration study was unique in that it included three scanners and in-vivo subjects and in-vitro phantoms.

In 2003-2004, longitudinal monitoring was conducted through the daily spine phantom scans as required by the manufacturer, 3 times weekly whole body slim-line phantom scans, and weekly air scans in order to correct any scanner-related changes in participant data. The circulating HSP-Q96, block, and whole body phantoms, which were scanned at the start of operations at each site, provided additional data for use in longitudinal monitoring and cross calibration. The cross-comparability of the data from each MEC was critical so the data could be pooled for analysis.

The UCSF used the Cumulative Statistics method (CUSUM) and the MEC-specific phantom data to determine breaks in the calibration of the densitometers over the course of the survey (10). Multiplicative correction factors were used to correct the phantom data back to the baseline calibration. The type, frequency, and magnitude of calibration problems detected in the NHANES data were similar to those in other studies using stationary densitometers that were being monitored by UCSF.

After applying the correction factors developed by UCSF from the cross-calibration and longitudinal phantom data to the NHANES participant data, the adjusted participant data were compared to unadjusted data. The magnitude of the changes and reduction in standard errors between the adjusted and unadjusted data were found to be small and correction of the participant data not required.

A number of issues were addressed through the quality control program. Direct feedback given to the technologists regarding acquisition problems affecting the quality of the scans and yearly refresher training resulted in improved technologist performance. The rigorous schedule of quality control scans provided continuous monitoring of machine performance. The expert review procedures assured that scan analysis was accurate and consistent. The air scan quality assurance tool used to evaluate whole body performance was first used in the NHANES and was subsequently adopted by Hologic as a mandatory scan mode for all whole body scanners.

Data

Several steps were taken to produce the DXX_C data files.

Processing and

Editing

5% Adjustment of Lean Mass and Fat Mass

The NHANES lean soft tissue mass and fat mass for the total body and regions were adjusted based on the results of an analysis of QDR-

4500A DXA data from seven research laboratories indicating that the QDR-4500A algorithm underestimated fat mass and overestimated lean mass (7). The analysis utilized six data sets provided by study investigators and one published data set. The analytic data included fat mass and lean mass measured on Hologic QDR-4500A densitometers and criteria measurements of body composition from total body water by dilution, underwater weighing, and four-compartment analysis. The QDR-4500A was determined to overestimate lean mass ($p < 0.05$) in the cohort of 1198 subjects. A statistically significant difference was observed in all seven data sets with a mean \pm SE of $5 \pm 1\%$. Based on the results of the analysis, the NHANES DXA lean mass was decreased by 5% and an equivalent kilogram weight added to the fat mass so the total mass did not change.

Multiple Imputation

The percentage of eligible survey participants in 2003-2004 with 100% valid data (all analyzed regions were valid) is shown by age group in Table 1. The percentage of participants with valid data decreases with increasing age. The decrease in valid data with age was due primarily to an increase in the number of participants with implants such as pacemakers, stents, and hip replacements and higher rates of obesity resulting in invalid truncal data from “obesity noise.” The percentage of participants with 100% valid data also decreases with increasing BMI (Table 2).

Because valid data decreased with increasing age and increasing BMI and because individuals with body weight greater than 300 pounds were not scanned (exclusion criterion for the DXA examination), invalid and missing data could not be treated as a random subset of the data file. To resolve the problem of bias due to non-random invalid and missing data, multiple imputation of the DXX_C data was performed. With the exception of pregnant women (who were ineligible for the DXA exam)

and participants with amputations other than fingers or toes, all participants aged 8 years and older with invalid or missing data were included in the multiple imputation process.

SAS-callable imputation and variance estimation software developed by the Survey Methodology Program at the University of Michigan's Institute of Survey Research (ISR), IVEware, was used to impute the NHANES DXA data (8). The IVEware module IMPUTE performs multiple imputations of missing values using the sequential regression imputation method (9). A detailed description of the imputation procedures is provided in the Documentation for Multiple Imputation of National Health and Nutrition Examination Survey 1999-2004 Dual Energy X-Ray Absorptiometry Data on the NHANES.

Five complete records containing valid and/or imputed values were created for each survey participant to allow the assessment of variability due to imputation. The DXX data file contains all 5 records. The variable “_multi_” has values 1-5 which can be used to identify the records. For participants with multiply imputed data, each of the 5 records contains a different set of imputed values. Participants who have 100% valid data have 5 identical records, since no data were imputed.

Use of the imputed data sets will provide complete DXA data for all participants and ensure a more accurate standard error of the estimate.

Imputation Indicator Variables

The data file contains imputation indicator variables as listed below; the values for each variable are 0 = data not imputed, 1 = data imputed, and 2 = highly variable imputed data:

DXITOT = overall indicator; 1 or more regions were imputed

DXIHE = head
DXILA = left arm
DXILL = left leg
DXIRA = right arm
DXIRL = right leg
DXILR = left rib
DXIRR = right rib
DXITS = thoracic spine
DXILS = lumbar spine,
DXIPE = pelvis
DXITR = trunk

A subset of participants with highly variable imputed data, fat mass in particular, has blank records in the 2003-2004 DXX file. The data for these participants can be found in the DXX_C_S data file. Participants with highly variable imputed data (all imputation indicator variables = 2) had no valid DXA data and were missing measured weight and waist circumference, which were critical predictor variables in the imputation model. The data in DXX_C_S should be reviewed carefully before inclusion in any analysis.

**Analytic
Notes**

The DXX_C data file contains 5 records for each survey participant. The multiple records must be taken into account when calculating sample sizes. The following SAS example can be used to select a single record in order to calculate sample sizes:

```
data alldxx_c;  
merge dxa.dxx_c (where =(_mult_ = 1)) work.demo_c;  
by seqn;
```

The frequency counts in the codebook are the total number of observations from all 5 records. The counts must be divided by 5 to calculate the actual number of participants with the code or value.

Frequency counts are not provided for the DXX_C_S data file.

Analysts should read the Documentation for Multiple Imputation of National Health and Nutrition Examination Survey 1999-2004 Dual Energy X-Ray Absorptiometry Data on the NHANES website. The documentation provides sample code for analysis of the multiply imputed data using SAS-callable SUDAAN.

The NHANES examination sample weights should be used for all DXX_C analyses. Please refer to the Analytic Guidelines on the NHANES website for further details on the use of sample weights and other analytic issues.

Relationship among examination status codes and imputation indicator codes

DXAEXSTS	DXITOT	Data	Other Imputation Indicator Codes
1	0	All data were valid and none were imputed.	All codes = 0.
1	1	Data for at least 1 region(s) were invalid and imputed.	Code(s) for the imputed region(s) = 1.
2	1	All data were invalid and all were imputed.	All codes = 1.
3	Missing	Participant was pregnant and excluded from the DXA exam. All data are missing and none were imputed. There are 276 pregnant females in the DXX_C data file.	Missing
4, 5, or 6	1	Participant was excluded from the exam for a reason other than pregnancy. All data were	All codes = 1.

		imputed.	
4 or 6	2	The participant was excluded from the exam. All data were imputed, but were considered to be highly variable and placed in DXX_C_S. There are 77 participants with highly variable data in the DXX_C_S file.	All codes = 2.
6	Missing	The participant was excluded from the exam, but the data could not be imputed for reasons such as amputation. All data are missing. There are 12 such participants in the DXX_C data file.	Missing

Invalidity Codes

Invalidity codes were applicable to completed scans only (DXAEXSTS=1). Valid regions were coded 0. Codes 1-7 indicate the reasons regions could not be analyzed accurately. If a participant was not scanned, all invalidity codes will be missing.

Invalidity codes

DXAHEBV = head bone

DXAHETV = head tissue

DXALABV = left arm bone

DXALATV = left arm tissue

DXALLBV = left leg bone

DXALLTV = left leg tissue

DXARABV = right arm bone

DXARATV = right arm tissue

DXARLBV = right leg bone

DXARLTV = right leg tissue

DXATRBV = trunk bone, includes thoracic and lumbar spine, left and

right ribs, and pelvis

DXATRTV = trunk tissue

Values for invalidity codes

0 = Valid data

1 = Jewelry and other objects not removed

2 = Non-removable objects (includes prostheses, implants, casts)

3 = Excessive x-ray “noise” due to obesity, i.e., the DXA beam could not penetrate the layers of abdominal fat to provide an analyzable scan image (applied to the trunk region only)

4 = Arm/leg overlap

5 = Body parts out of scan region

6 = Positioning problem (head, arms/hands or feet turned)

7 = Other (includes participant motion, unknown artifacts, deformities)

References

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8. Raghunathan TE, Solenberger P, and Van Hoewyk J. IVEware: Imputation and Variance Estimation Software Users Guide. University of Michigan: Survey Research Center, Institute for Social Research, 2002.
9. Raghunathan TE, Lepkowski JW, Van Hoewyk J, Solenberger P. A multivariate technique for multiply imputing missing values using a sequence of regression models, 2001.

Table 1. Percentages of interviewed and examined participants 8 years of age and older with valid DXA data by age group, NHANES 2003-2004

Sex-age group (Years)	Interviewed and examined *	Eligible for DXA †		100% valid DXA data ‡	
	N	N	%	N	%
8-11	666	666	100	620	93
12-15	1105	1100	100	995	90
16-19	1143	1091	95	937	86
20-29	873	743	85	597	80
30-39	783	696	89	549	79
40-49	759	757	100	592	78
50-59	577	577	100	423	73
60-69	723	723	100	543	75
70-79	578	578	100	372	64
80+	449	449	100	249	55
Total	7656	7380	96	5877	80

* The number interviewed and examined is the total number of participants in the data file with a SEQN variable. This number includes pregnant females (n=276).

† The total number eligible for DXA includes participants with both valid and imputed data (n=7291), participants with highly variable data in DXX_C_S (n=77), and participants for whom data could not be imputed (n=12). This number does not include pregnant females.

‡ Of those eligible for DXA who successfully completed a scan.

Table 2. Percentages of participants 20 years and older with valid DXA data by body mass index (BMI)* category, NHANES 2003-2004

BMI Category	Eligible for DXA*	100% Valid Data †	
	N	N	%
< 18	65	48	74
18-24.9	1351	1050	78
25-29.9	1564	1244	80
30-34.9	897	707	79
35.0-39.9	330	203	62
≥ 40	224	52	23
Total	4431	3304	75

* Measured weight in kilograms divided by measured height in meters squared.

† Does not include pregnant females

‡ Of those eligible for DXA.

Locator Record

<p>Title: Dual Energy X-ray Absorptiometry (DXX_C)</p> <p>Contact Number: 1-866-441-NCHS</p> <p>Years of Content: 2003-2004</p> <p>First Published: January 2008</p> <p>Revised: NA</p> <p>Access Constraints: None</p> <p>Use Constraints: None</p>

Geographic Coverage: National

Subject: Personal examination data on total body fat mass, lean soft tissue mass, percent body fat, bone mineral content, and bone density

Record Source: NHANES 2003-2004

Survey Methodology: NHANES 2003-2004 is a stratified multistage probability sample of the civilian non-institutionalized population of the U.S.

Medium: NHANES Web site; SAS transport files

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

National Health and Nutrition Examination Survey Codebook for Data Production (2003-2004)

MEC Examination Dual-Energy X-ray Absorptiometry Examination (DXX_C) Person Level Data

January 2008



Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

SEQN	Target
	B(8 Yrs. to 120 Yrs.)
Hard Edits	SAS Label
	Respondent sequence number
English Text:	
English Instructions:	

MULT	Target
	B(8 Yrs. to 120 Yrs.)
Hard Edits	SAS Label
	Imputation Version
English Text: Imputation version	
English Instructions:	

Code or Value	Description	Count	Cumulative	Skip to Item
1 to 5	Range of Values	38280	38280	
.	Missing	0	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXAEXSTS	Target
	B(8 Yrs. to 120 Yrs.)
Hard Edits	SAS Label
	Exam Status

English Text:

English Instructions:

Code or Value	Description	Count	Cumulative	Skip to Item
1	Scan completed	33135	33135	
2	Scan completed, but invalid	0	33135	
3	Not scanned, pregnancy	1380	34515	
4	Not scanned, weight > 300 lbs	380	34895	
5	Not scanned, height > 6'5	25	34920	
6	Not scanned, other reason	3360	38280	
.	Missing	0	38280	

DXITOT	Target
	B(8 Yrs. to 120 Yrs.)
Hard Edits	SAS Label
	Overall Imputation Indicator

English Text: Overall imputation indicator

English Instructions:

Code or Value	Description	Count	Cumulative	Skip to Item
0	None of the regions are imputed	29385	29385	
1	At least one region is imputed	7070	36455	
2	Data are highly variable and can be found in DXX_S	385	36840	
.	Missing	1440	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXIHE	Target
	B(8 Yrs. to 120 Yrs.)
Hard Edits	SAS Label
	Head Imputation Indicator

English Text: Head Imputation Indicator

English Instructions:

Code or Value	Description	Count	Cumulative	Skip to Item
0	Not imputed	33025	33025	
1	Imputed	3430	36455	
2	Highly Variable Imputation	385	36840	
.	Missing	1440	38280	

DXXHEA	Target
	B(8 Yrs. to 120 Yrs.)
Hard Edits	SAS Label
	Head Area (cm ²)

English Text: Head Area (cm²)

English Instructions:

Code or Value	Description	Count	Cumulative	Skip to Item
152.95 to 310.9	Range of Values	36455	36455	
.	Missing	1825	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXAHEBV		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Head Bone Invalidity Code		
English Text: Head Bone Invalidity Code				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	Valid data	33025	33025	
1	Jewelry or other objects not removed	25	33050	
2	Non-removable objects	55	33105	
5	Body parts out of scan region	0	33105	
7	Other	30	33135	
.	Missing	5145	38280	

DXXHEBMC		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Head Bone Mineral Content (g)		
English Text: Head Bone Mineral Content (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
175.31 to 1202.39	Range of Values	36455	36455	
.	Missing	1825	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXXHEBMD		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Head Bone Mineral Density (g/cm ²)		
English Text: Head Bone Mineral Density (grams/cm ²)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0.857 to 4.853	Range of Values	36455	36455	
.	Missing	1825	38280	

DXAHETV		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Head Tissue Invalidity Code		
English Text: Head Tissue Invalidity Code				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	Valid data	33025	33025	
1	Jewelry or other objects not removed	25	33050	
2	Non-removable objects	55	33105	
5	Body parts out of scan region	0	33105	
7	Other	30	33135	
.	Missing	5145	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXXHEFAT		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Head Fat (g)		
English Text: Head Fat (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
687.5 to 2825.1	Range of Values	36455	36455	
.	Missing	1825	38280	

DXDHELE		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Head Lean excl BMC (g)		
English Text: Head Lean excl Bone Mineral Content (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
1935.8 to 7389.7	Range of Values	36455	36455	
.	Missing	1825	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXXHELI		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Head Lean incl BMC (g)		
English Text: Head Lean incl Bone Mineral Content (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
2196.2 to 8035.5	Range of Values	36455	36455	
.	Missing	1825	38280	

DXDHETOT		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Head Total (g)		
English Text: Head Total (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
2883.7 to 10860.6	Range of Values	36455	36455	
.	Missing	1825	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXDHEPF	Target
	B(8 Yrs. to 120 Yrs.)
Hard Edits	SAS Label
	Head Percent Fat

English Text: Head Percent Fat

English Instructions:

Code or Value	Description	Count	Cumulative	Skip to Item
20.7 to 32	Range of Values	36455	36455	
.	Missing	1825	38280	

DXILA	Target
	B(8 Yrs. to 120 Yrs.)
Hard Edits	SAS Label
	Left Arm Imputation Indicator

English Text:

English Instructions:

Code or Value	Description	Count	Cumulative	Skip to Item
0	Not imputed	32435	32435	
1	Imputed	4020	36455	
2	Highly Variable Imputation	385	36840	
.	Missing	1440	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXXLAA	Target			
	B(8 Yrs. to 120 Yrs.)			
Hard Edits	SAS Label			
	Left Arm Area (cm ²)			
English Text: Left Arm Area (cm ²)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
54.38 to 405.56	Range of Values	36455	36455	
.	Missing	1825	38280	

DXALABV	Target			
	B(8 Yrs. to 120 Yrs.)			
Hard Edits	SAS Label			
	Left Arm Bone Invalidity Code			
English Text: Left Arm Bone Invalidity Code				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	Valid data	32435	32435	
1	Jewelry or other objects removed	50	32485	
2	Non-removable objects	165	32650	
4	Arm/leg overlap	190	32840	
5	Body parts out of scan region	230	33070	
6	Positioning problem	5	33075	
7	Other	60	33135	
.	Missing	5145	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXXLABMC		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Left Arm BMC (g)		
English Text: Left Arm Body Mineral Content (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
26.53 to 511.84	Range of Values	36455	36455	
.	Missing	1825	38280	

DXXLABMD		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Left Arm BMD (g/cm ²)		
English Text: Left Arm Body Mineral Density (grams/cm ²)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0.357 to 1.487	Range of Values	36455	36455	
.	Missing	1825	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXALATV		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Left Arm Tissue Invalidation Code		
English Text: Left Arm Tissue Invalidation Code				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	Valid data	32050	32050	
1	Jewelry or other objects not removed	45	32095	
2	Non-removable objects	165	32260	
4	Arm/leg overlap	580	32840	
5	Body parts out of scan region	230	33070	
6	Positioning problem	5	33075	
7	Other	60	33135	
.	Missing	5145	38280	

DXXLAFAT		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Left Arm Fat (g)		
English Text: Left Arm Fat (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
159.1 to 8368.3	Range of Values	36455	36455	
.	Missing	1825	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXDLALE	Target			
	B(8 Yrs. to 120 Yrs.)			
Hard Edits	SAS Label			
	Left Arm Lean excl BMC (g)			
English Text: Left Arm Lean excl Body Mineral Content (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
625.7 to 8608.9	Range of Values	36455	36455	
.	Missing	1825	38280	

DXXLALI	Target			
	B(8 Yrs. to 120 Yrs.)			
Hard Edits	SAS Label			
	Left Arm Lean incl BMC (g)			
English Text: Left Arm Lean incl BMC (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
667 to 9063	Range of Values	36455	36455	
.	Missing	1825	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXDLATOT	Target			
	B(8 Yrs. to 120 Yrs.)			
Hard Edits	SAS Label			
	Left Arm Total (g)			
English Text: Left Arm Total (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
985 to 14836.7	Range of Values	36455	36455	
.	Missing	1825	38280	

DXDLAPF	Target			
	B(8 Yrs. to 120 Yrs.)			
Hard Edits	SAS Label			
	Left Arm Percent Fat			
English Text: Left Arm Percent Fat				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
7.5 to 68.1	Range of Values	36455	36455	
.	Missing	1825	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXILL	Target
	B(8 Yrs. to 120 Yrs.)
Hard Edits	SAS Label
	Left Leg Imputation Indicator

English Text:

English Instructions:

Code or Value	Description	Count	Cumulative	Skip to Item
0	Not imputed	31895	31895	
1	Imputed	4560	36455	
2	Highly Variable Imputation	385	36840	
.	Missing	1440	38280	

DXXLLA	Target
	B(8 Yrs. to 120 Yrs.)
Hard Edits	SAS Label
	Left Leg Area (cm ²)

English Text: Left Leg Area(cm²)

English Instructions:

Code or Value	Description	Count	Cumulative	Skip to Item
106.21 to 639.49	Range of Values	36455	36455	
.	Missing	1825	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXALLBV		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Left Leg Bone Invalidation Code		
English Text: Left Leg Bone Invalidation Code				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	Valid data	31895	31895	
1	Jewelry or other objects not removed	35	31930	
2	Non-removable objects	780	32710	
4	Arm/leg overlap	180	32890	
5	Body parts out of scan region	170	33060	
6	Positioning problem	20	33080	
7	Other	55	33135	
.	Missing	5145	38280	

DXXLLBMC		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Left Leg BMC (g)		
English Text: Left Leg Bone Mineral Content (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
76.19 to 1286.51	Range of Values	36455	36455	
.	Missing	1825	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXXLLBMD		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Left Leg BMD (g/cm ²)		
English Text: Left Leg Bone Mineral Density (grams/cm ²)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0.57 to 2.1	Range of Values	36455	36455	
.	Missing	1825	38280	

DXALLTV		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Left Leg Tissue Invalidation Code		
English Text: Left Leg Tissue Invalidation Code				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	Valid data	31520	31520	
1	Jewelry or other objects not removed	35	31555	
2	Non-removable objects	780	32335	
4	Arm/leg overlap	555	32890	
5	Body parts out of scan region	170	33060	
6	Positioning problem	20	33080	
7	Other	55	33135	
.	Missing	5145	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXXLLFAT		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Left Leg Fat (g)		
English Text: Left Leg Fat (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
547.3 to 18678.5	Range of Values	36455	36455	
.	Missing	1825	38280	

DXDLLLE		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Left Leg Lean excl BMC (g)		
English Text: Left Leg Lean excl Bone Mineral Content (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
1911 to 22449.9	Range of Values	36455	36455	
.	Missing	1825	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXXLLLI		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Left Leg Lean incl BMC (g)		
English Text: Left Leg Lean incl Bone Mineral Content (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
2057.6 to 23573.3	Range of Values	36455	36455	
.	Missing	1825	38280	

DXDLLTOT		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Left Leg Total (g)		
English Text: Left Leg Total (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
2973.1 to 38303.8	Range of Values	36455	36455	
.	Missing	1825	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXDLLPF		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Left Leg Percent Fat		
English Text: Left Leg Percent Fat				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
4.3 to 65.1	Range of Values	36455	36455	
.	Missing	1825	38280	

DXIRA		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Right Arm Imputation Indicator		
English Text:				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	Not imputed	32425	32425	
1	Imputed	4030	36455	
2	Highly Variable Imputation	385	36840	
.	Missing	1440	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXXRAA	Target			
	B(8 Yrs. to 120 Yrs.)			
Hard Edits	SAS Label			
	Right Arm Area (cm ²)			
English Text: Right Arm Area (cm ²)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
57.2 to 403.61	Range of Values	36455	36455	
.	Missing	1825	38280	

DXARABV	Target			
	B(8 Yrs. to 120 Yrs.)			
Hard Edits	SAS Label			
	Right Arm Bone Invalidation Code			
English Text: Right Arm Bone Invalidation Code				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	Valid data	32425	32425	
1	Jewelry or other objects not removed	60	32485	
2	Non-removable objects	140	32625	
4	Arm/leg overlap	250	32875	
5	Body parts out of scan region	205	33080	
6	Positioning problem	15	33095	
7	Other	40	33135	
.	Missing	5145	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXXRABMC		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Right Arm BMC (g)		
English Text: Right Arm Bone Mineral Content (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
29.44 to 529.55	Range of Values	36455	36455	
.	Missing	1825	38280	

DXXRABMD		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Right Arm BMD (g/cm ²)		
English Text: Right Arm Bone Mineral Density (grams/cm ²)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0.397 to 1.558	Range of Values	36455	36455	
.	Missing	1825	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXARATV		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Right Arm Tissue Invalidity Code		
English Text: Right Arm Tissue Invalidity Code				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	Valid data	31965	31965	
1	Jewelry or other objects not removed.	55	32020	
2	Non-removable objects	140	32160	
4	Arm/leg overlap	715	32875	
5	Body parts out of scan region	205	33080	
6	Positioning problem	15	33095	
7	Other	40	33135	
.	Missing	5145	38280	

DXXRAFAT		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Right Arm Fat (g)		
English Text: Right Arm Fat (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
221 to 8114.8	Range of Values	36455	36455	
.	Missing	1825	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXDRALE		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Right Arm Lean excl BMC (g)		
English Text: Right Arm Lean excl Bone Mineral Content (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
688.6 to 8794.6	Range of Values	36455	36455	
.	Missing	1825	38280	

DXXRALI		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Right Arm Lean incl BMC (g)		
English Text: Right Arm Lean incl Bone Mineral Content (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
737.2 to 9281.3	Range of Values	36455	36455	
.	Missing	1825	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXDRATOT	Target			
	B(8 Yrs. to 120 Yrs.)			
Hard Edits	SAS Label			
	Right Arm Total (g)			
English Text: Right Arm Total (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
1048.8 to 15576.3	Range of Values	36455	36455	
.	Missing	1825	38280	

DXDRAPF	Target			
	B(8 Yrs. to 120 Yrs.)			
Hard Edits	SAS Label			
	Right Arm Percent Fat			
English Text: Right Arm Percent Fat				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
7 to 67.6	Range of Values	36455	36455	
.	Missing	1825	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXIRL	Target
	B(8 Yrs. to 120 Yrs.)
Hard Edits	SAS Label
	Right Leg Imputation Indicator

English Text:

English Instructions:

Code or Value	Description	Count	Cumulative	Skip to Item
0	Not imputed	31825	31825	
1	Imputed	4630	36455	
2	Highly Variable Imputation	385	36840	
.	Missing	1440	38280	

DXXRLA	Target
	B(8 Yrs. to 120 Yrs.)
Hard Edits	SAS Label
	Right Leg Area (cm ²)

English Text: Right Leg Area (cm²)

English Instructions:

Code or Value	Description	Count	Cumulative	Skip to Item
117.23 to 654.24	Range of Values	36455	36455	
.	Missing	1825	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXARLBV		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Right Leg Bone Invalidity Code		
English Text: Right Leg Bone Invalidity Code				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	Valid data	31825	31825	
1	Jewelry or other objects not removed	30	31855	
2	Non-removable objects	790	32645	
4	Arm/leg overlap	235	32880	
5	Body parts out of scan region	165	33045	
6	Positioning problem	25	33070	
7	Other	65	33135	
.	Missing	5145	38280	

DXXRLBMC		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Right Leg BMC (g)		
English Text: Right Leg Bone Mineral Content (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
85.64 to 1290.25	Range of Values	36455	36455	
.	Missing	1825	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXXRLBMD		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Right Leg BMD(g/cm ²)		
English Text: Right Leg Bone Mineral Density (grams/cm ²)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0.581 to 2.183	Range of Values	36455	36455	
.	Missing	1825	38280	

DXARLTV		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Right Leg Tissue Invalidity Code		
English Text: Right Leg Tissue Invalidity Code				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	Valid data	31375	31375	
1	Jewelry or other objects not removed	30	31405	
2	Non-removable objects	790	32195	
4	Arm/leg overlap	685	32880	
5	Body parts out of scan region	165	33045	
6	Positioning problem	25	33070	
7	Other	65	33135	
.	Missing	5145	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXXRLFAT		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Right Leg Fat (g)		
English Text: Right Leg Fat (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
620.7 to 19492.1	Range of Values	36455	36455	
.	Missing	1825	38280	

DXDRLLE		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Right Leg Lean excl BMC (g)		
English Text: Right Leg Lean excl Bone Mineral Content (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
1981 to 22858.6	Range of Values	36455	36455	
.	Missing	1825	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXXRLLI		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Right Leg Lean incl BMC (g)		
English Text: Right Leg Lean incl Bone Mineral Content (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
2131.2 to 23999.9	Range of Values	36455	36455	
.	Missing	1825	38280	

DXDRLTOT		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Right Leg Total (g)		
English Text: Right Leg Total (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
3291.4 to 39829.5	Range of Values	36455	36455	
.	Missing	1825	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXDRLPF		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Right Leg Percent Fat		
English Text: Right Leg Percent Fat				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
5.1 to 66.1	Range of Values	36455	36455	
.	Missing	1825	38280	

DXILR		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Left Ribs Imputation Indicator		
English Text:				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	Not imputed	31170	31170	
1	Imputed	5285	36455	
2	Highly Variable Imputation	385	36840	
.	Missing	1440	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXXLRA		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Left Ribs Area (cm ²)		
English Text: Left Ribs Area(cm ²)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
51.27 to 300.08	Range of Values	36455	36455	
.	Missing	1825	38280	

DXXLRBMC		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Left Ribs BMC (g)		
English Text: Left Ribs Bone Mineral Content (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
20.7 to 260.4	Range of Values	36455	36455	
.	Missing	1825	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXXLRBMD		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Left Ribs BMD (g/cm ²)		
English Text: Left Ribs Bone Mineral Density (grams/cm ²)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0.354 to 1.295	Range of Values	36455	36455	
.	Missing	1825	38280	

DXIRR		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Right Ribs Imputation Indicator		
English Text:				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	Not imputed	31170	31170	
1	Imputed	5285	36455	
2	Highly Variable Imputation	385	36840	
.	Missing	1440	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXXRRA		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Right Ribs Area (cm ²)		
English Text: Right Ribs Area (cm ²)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
33.23 to 309.99	Range of Values	36455	36455	
.	Missing	1825	38280	

DXXRRBMC		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Right Ribs BMC (g)		
English Text: Right Ribs Bone Mineral Content (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
17.29 to 301.66	Range of Values	36455	36455	
.	Missing	1825	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXXRRBMD		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Right Ribs BMD (g/cm ²)		
English Text: Right Ribs Bone Mineral Density (grams/cm ²)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0.36 to 1.414	Range of Values	36455	36455	
.	Missing	1825	38280	

DXITS		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Thoracic Spine Imputation Indicator		
English Text:				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	Not imputed	31175	31175	
1	Imputed	5280	36455	
2	Highly Variable Imputation	385	36840	
.	Missing	1440	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXXTSA		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Thoracic Spine Area (cm ²)		
English Text: Thoracic Spine Area (cm ²)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
46.01 to 275.06	Range of Values	36455	36455	
.	Missing	1825	38280	

DXXTSBMC		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Thoracic Spine BMC (g)		
English Text: Thoracic Spine Bone Mineral Content (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
18 to 339.73	Range of Values	36455	36455	
.	Missing	1825	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXXTSBMD		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Thoracic Spine BMD (g/cm ²)		
English Text: Thoracic Spine Bone Mineral Density (grams/cm ²)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0.346 to 2.095	Range of Values	36455	36455	
.	Missing	1825	38280	

DXILS		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Lumbar Spine Imputation Indicator		
English Text:				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	Not imputed	31175	31175	
1	Imputed	5280	36455	
2	Highly Variable Imputation	385	36840	
.	Missing	1440	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXXLSA		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Lumbar Spine Area (cm ²)		
English Text: Lumbar Spine Area (cm ²)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
10.78 to 184.51	Range of Values	36455	36455	
.	Missing	1825	38280	

DXXLSBMC		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Lumbar Spine BMC (g)		
English Text: Lumbar Spine Bone Mineral Content (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
6.67 to 212.09	Range of Values	36455	36455	
.	Missing	1825	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXXLSBMD		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Lumbar Spine BMD (g/cm ²)		
English Text: Lumbar Spine Bone Mineral Density (grams/cm ²)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0.443 to 2.56	Range of Values	36455	36455	
.	Missing	1825	38280	

DXIPE		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Pelvis Imputation Indicator		
English Text:				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	Not imputed	31175	31175	
1	Imputed	5280	36455	
2	Highly Variable Imputation	385	36840	
.	Missing	1440	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXXPEA		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Pelvis Area (cm ²)		
English Text: Pelvis Area (cm ²)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
30.01 to 413.44	Range of Values	36455	36455	
.	Missing	1825	38280	

DXXPEBMC		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Pelvis BMC (g)		
English Text: Pelvis Bone Mineral Content (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
22.48 to 984.6	Range of Values	36455	36455	
.	Missing	1825	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXXPEBMD	Target			
	B(8 Yrs. to 120 Yrs.)			
Hard Edits	SAS Label			
	Pelvis BMD (g/cm ²)			
English Text: Pelvis Bone Mineral Density (grams/cm ²)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0.513 to 3.039	Range of Values	36455	36455	
.	Missing	1825	38280	

DXITR	Target			
	B(8 Yrs. to 120 Yrs.)			
Hard Edits	SAS Label			
	Trunk Imputation Indicator			
English Text:				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	Not imputed	31175	31175	
1	Imputed	5280	36455	
2	Highly Variable Imputation	385	36840	
.	Missing	1440	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXDTRA		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Trunk Bone area (cm ²)		
English Text: Trunk Bone area (cm ²)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
239.21 to 1092.37	Range of Values	36455	36455	
.	Missing	1825	38280	

DXATRBU		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Trunk Bone Invalidity Code		
English Text: Trunk Bone Invalidity Code				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	Valid data	31175	31175	
1	Jewelry or other objects not removed	105	31280	
2	Non-removable objects	1150	32430	
3	Excessive X-ray noise	670	33100	
4	Arm/leg overlap	0	33100	
5	Body parts out of scan region	0	33100	
6	Positioning problem	0	33100	
7	Other	35	33135	
.	Missing	5145	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXDTRBMC		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Trunk BMC (g)		
English Text: Trunk Bone Mineral Content (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
113.06 to 1874.9	Range of Values	36455	36455	
.	Missing	1825	38280	

DXDTRBMD		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Trunk Bone BMD (g/cm ²)		
English Text: Trunk Bone BMD (g/cm ²)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0.444 to 2.145	Range of Values	36455	36455	
.	Missing	1825	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXATRTV		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Trunk Tissue Invalidity Code		
English Text: Trunk Tissue Invalidity Code				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	Valid data	31175	31175	
1	Jewelry or other objects not removed	105	31280	
2	Non-removable objects	1150	32430	
3	Excessive X-ray noise	670	33100	
4	Arm/leg overlap	0	33100	
5	Body parts out of scan region	0	33100	
6	Positioning problem	0	33100	
7	Other	35	33135	
.	Missing	5145	38280	

DXXTRFAT		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Trunk Fat (g)		
English Text: Trunk Fat (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
742.8 to 51811.6	Range of Values	36455	36455	
.	Missing	1825	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXDTRLE	Target			
	B(8 Yrs. to 120 Yrs.)			
Hard Edits	SAS Label			
	Trunk Lean excl BMC (g)			
English Text: Trunk Lean excl Bone Mineral Content (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
6423.1 to 58206.2	Range of Values	36455	36455	
.	Missing	1825	38280	

DXXTRLI	Target			
	B(8 Yrs. to 120 Yrs.)			
Hard Edits	SAS Label			
	Trunk Lean incl BMC (g)			
English Text: Trunk Lean incl Bone Mineral Content (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
6616.3 to 59546.5	Range of Values	36455	36455	
.	Missing	1825	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXDTRTOT		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Trunk Total (g)		
English Text: Trunk Total (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
8189.1 to 107191.8	Range of Values	36455	36455	
.	Missing	1825	38280	

DXDTRPF		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Trunk Percent Fat		
English Text: Trunk Percent Fat				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
3.8 to 60.2	Range of Values	36455	36455	
.	Missing	1825	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXDSTA	Target			
	B(8 Yrs. to 120 Yrs.)			
Hard Edits	SAS Label			
	Subtotal Area (cm ²)			
English Text: Subtotal Area (cm ²)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
585.59 to 3046.76	Range of Values	36455	36455	
.	Missing	1825	38280	

DXDSTBMC	Target			
	B(8 Yrs. to 120 Yrs.)			
Hard Edits	SAS Label			
	Subtotal BMC (g)			
English Text: Subtotal Bone Mineral Content (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
347.49 to 5291.41	Range of Values	36455	36455	
.	Missing	1825	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXDSTBMD		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Subtotal BMD (g/cm ²)		
English Text: Subtotal Bone Mineral Density (grams/cm ²)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0.532 to 1.977	Range of Values	36455	36455	
.	Missing	1825	38280	

DXDSTFAT		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Subtotal Fat (g)		
English Text: Subtotal Fat (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
2380.8 to 98049.5	Range of Values	36455	36455	
.	Missing	1825	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXDSTLE	Target			
	B(8 Yrs. to 120 Yrs.)			
Hard Edits	SAS Label			
	Subtotal Lean excl BMC (g)			
English Text: Subtotal Lean excl Bone Mineral Content (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
11926.2 to 117790.5	Range of Values	36455	36455	
.	Missing	1825	38280	

DXDSTLI	Target			
	B(8 Yrs. to 120 Yrs.)			
Hard Edits	SAS Label			
	Subtotal Lean incl BMC (g)			
English Text: Subtotal Lean incl Bone Mineral Content (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
12513.1 to 121818	Range of Values	36455	36455	
.	Missing	1825	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXDSTTOT		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Subtotal (Total excl Head) (g)		
English Text: Subtotal (Total excl Head) (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
17076.7 to 209829.4	Range of Values	36455	36455	
.	Missing	1825	38280	

DXDSTPF		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Subtotal Percent Fat		
English Text: Subtotal Percent Fat				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
5.3 to 59.5	Range of Values	36455	36455	
.	Missing	1825	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXDTOA	Target			
	B(8 Yrs. to 120 Yrs.)			
Hard Edits	SAS Label			
	Total Area (cm ²)			
English Text: Total Area (cm ²)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
763.65 to 3308.5	Range of Values	36455	36455	
.	Missing	1825	38280	

DXDTOBMC	Target			
	B(8 Yrs. to 120 Yrs.)			
Hard Edits	SAS Label			
	Total Bone Mineral Content (g)			
English Text: Total Bone Mineral Content (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
606.93 to 6030.06	Range of Values	36455	36455	
.	Missing	1825	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXDFOBMD		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Total Bone Mineral Density (g/cm ²)		
English Text: Total Bone Mineral Density (grams/cm ²)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0.63 to 2.258	Range of Values	36455	36455	
.	Missing	1825	38280	

DXDFOFAT		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Total Fat (g)		
English Text: Total Fat (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
3380.5 to 99988.1	Range of Values	36455	36455	
.	Missing	1825	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXDTCLE		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Total Lean excl BMC (g)		
English Text: Total Lean excl Bone Mineral Content (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
13964.6 to 123921.6	Range of Values	36455	36455	
.	Missing	1825	38280	

DXDTOLI		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Total Lean incl BMC (g)		
English Text: Total Lean incl Bone Mineral Content (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
14806.4 to 128514.7	Range of Values	36455	36455	
.	Missing	1825	38280	

Note: the data file contains 5 records for each survey participant. The Count is the total number of observations from all 5 records. The Count must be divided by 5 to calculate the actual number of participants with the Code or Value.

DXDTOTOT		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Total Lean+Fat (g)		
English Text: Total Lean incl BMC and Fat (grams)				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
20090.9 to 219387	Range of Values	36455	36455	
.	Missing	1825	38280	

DXDTPPF		Target		
		B(8 Yrs. to 120 Yrs.)		
Hard Edits		SAS Label		
		Total Percent Fat		
English Text: Total Percent Fat				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
6.6 to 58.4	Range of Values	36455	36455	
.	Missing	1825	38280	