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National Health and Nutrition Examination Survey

1999-2000 Data Documentation, Codebook, and Frequencies

Body Measures (BMX)

Data File: BMX.xpt

First Published: June 2002

Last Revised: NA

Component Description

Body measurements were recorded for all examinees by a trained examiner in the mobile examination center (MEC). The measures taken were age dependent, and include the following:

Age Ranges for Body Measurements	
Measurement	Age Range
Weight	all ages
Recumbent length	0 through 47 mo.
Standing height	24+ mo.

Age Ranges for Body Measurements

Measurement	Age Range
Upper leg length	24+ mo.
Upper arm length	2+ mo.
Head circumference	0 through 5 mo.
Mid-upper arm circumference	2+ mo.
Waist circumference	24+ mo.
Mid-thigh circumference	24+ mo.
Maximal calf circumference	24+ mo.
Triceps skinfold	2+ mo.
Subscapular skinfold	2+ mo.

In situations when examinees had to leave the MEC early and were unable to complete the Body Measurement Component, at a minimum, weight and standing height or recumbent length were measured.

Eligible Sample

The protocol for this component did not detail any medical, safety, or other exclusions. For examinees who used a wheelchair, the health technicians used their discretion to obtain as many measures as practical. Generally, height and weight were not obtained for examinees who used a wheelchair in the MEC.

This data set includes body measurements for women who were pregnant at the time of the exam. Analysts should determine if it is appropriate to exclude data for pregnant women in a particular analysis. Pregnancy status information is denoted by the MEC Demographic Data File variable, RIAPPREG.

Protocol and Procedure

Data Collection Methods

The data collection methods, examination protocol, and data collection forms are fully documented in the Anthropometry Procedures Manual.

Examination Protocol

See Item 3 above. In addition, for general guidelines on standard procedures that were followed for the anthropometric measures, refer to the Anthropometric Standardization Reference manual (Lohman, 1988). For specific guidelines, the Anthropometric Procedures Video that demonstrates the NHANES III anthropometric procedures in detail is available for all measures except the calf circumference. This video may be obtained from the U.S. Government Printing Office (<https://wwwn.cdc.gov/nchs/nhanes/nhanes3/anthropometricvideos.aspx>).

Staff

All body measures were obtained by trained health technicians in the body measures room for each of the Mobile Examination Centers.

Quality Assurance & Quality Control

The first line of quality control was provided by the automated data collection system. For weight, height, and recumbent length, the data were captured electronically from the measuring instruments to minimize potential data entry errors. Range edits, based on the 1st and 99th percentiles of the NHANES III distribution were also programmed into the automated data collection system, giving an out of range message, prompting the examiner to verify or re-check the measure.

Experienced trainers and observers monitored technician performance in the field. Periodic retraining sessions were conducted with the survey staff. Replicate examinations were performed by body measurement consultants during visits to the field. Routine calibration of the body measures equipment was a part of the quality control plan for this component. The Anthropometry Procedures Manual details the equipment calibration procedures.

Data Processing and Editing

The data were edited for values that exceeded the capacity of the measuring equipment.

Biologically implausible values were checked by examining age and sex-specific measurements that exceeded the 1st and 99th percentile values of the NHANES III distribution for each measure. Measured body weights were compared with self-or proxy reported body weights. For ages 24-28 months, length and height measures were compared for reasonable agreement. Length and height measures were also

checked against proxy reported values. A limited number of observations that could not be reconciled were set to missing.

Analytic Notes

During the data editing process, outlier values were examined. When there was insufficient information to conclude that values were invalid, they were left in the data set.

Analysts should examine the data spread and consider whether or not it is appropriate to include or exclude extreme values in a given analysis.

Codebook and Frequencies

SEQN - Respondent sequence number

Variable Name:

SEQN

SAS Label:

Respondent sequence number

English Text:

Respondent sequence number.

Target:

Both males and females 0 YEARS - 150 YEARS

BMAEXLEN - Length of a MEC exam (sec)

Variable Name:

BMAEXLEN

SAS Label:

Length of a MEC exam (sec)

English Text:

Exam length in seconds

Target:

Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 909	Range of Values	9282	9282	
.	Missing	0	9282	

BMAEXSTS - Status of a MEC exam

Variable Name:

BMAEXSTS

SAS Label:

Status of a MEC exam

English Text:

Status of a MEC exam

Target:

Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Complete	9143	9143	
2	Partial	80	9223	
3	Not Done	59	9282	
.	Missing	0	9282	

BMAEXCMT - Comment code for an exam

Variable Name:

BMAEXCMT

SAS Label:

Comment code for an exam

English Text:

Comment code for an exam

Target:

Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Safety exclusion	3	3	
2	SP refusal	37	40	
3	No time	4	44	
4	Physical limitation	12	56	
5	Communication problem	1	57	
6	Equipment failure	28	85	
7	SP ill/emergency	15	100	

Code or Value	Value Description	Count	Cumulative	Skip to Item
56	Came late/left early	14	114	
99	Other, specify	24	138	
.	Missing	9144	9282	

BMXWT - Weight (kg)

Variable Name:

BMXWT

SAS Label:

Weight (kg)

English Text:

Weight (kg)

Target:

Both males and females 0 YEARS - 150 YEARS

Hard Edits:

0.0000 to 440.0000

Code or Value	Value Description	Count	Cumulative	Skip to Item
3.1 to 193.3	Range of Values	9197	9197	
.	Missing	85	9282	

BMIWT - Weight Comment

Variable Name:

BMIWT

SAS Label:

Weight Comment

English Text:

Weight Comment

Target:

Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Could not obtain	27	27	
2	Exceeds capacity	0	27	

Code or Value	Value Description	Count	Cumulative	Skip to Item
3	Clothing	205	232	
4	Medical appliance	16	248	
.	Missing	9034	9282	

BMXRECUM - Recumbent Length (cm)

Variable Name:

BMXRECUM

SAS Label:

Recumbent Length (cm)

English Text:

Recumbent Length (cm)

Target:

Both males and females 0 MONTHS - 47 MONTHS

Hard Edits:

16.0000 to 119.3000

Code or Value	Value Description	Count	Cumulative	Skip to Item
44.9 to 110.3	Range of Values	1081	1081	
.	Missing	8201	9282	

BMIRECUM - Recumbent Length Comment

Variable Name:

BMIRECUM

SAS Label:

Recumbent Length Comment

English Text:

Recumbent Length Comment

Target:

Both males and females 0 MONTHS - 47 MONTHS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Could not obtain	29	29	
2	Exceeds capacity	0	29	

Code or Value	Value Description	Count	Cumulative	Skip to Item
3	Not straight	0	29	
.	Missing	9253	9282	

BMXHEAD - Head Circumference (cm)

Variable Name:

BMXHEAD

SAS Label:

Head Circumference (cm)

English Text:

Head Circumference (cm)

Target:

Both males and females 0 MONTHS - 6 MONTHS

Hard Edits:

00.0000 to 99.9999

Code or Value	Value Description	Count	Cumulative	Skip to Item
15.5 to 47.9	Range of Values	267	267	
.	Missing	9015	9282	

BMIHEAD - Head Circumference Comment

Variable Name:

BMIHEAD

SAS Label:

Head Circumference Comment

English Text:

Head Circumference Comment

Target:

Both males and females 0 MONTHS - 6 MONTHS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Could not obtain	1	1	
2	Exceeds capacity	0	1	
3	Not straight	0	1	

Code or Value	Value Description	Count	Cumulative	Skip to Item
.	Missing	9281	9282	

BMXHT - Standing Height (cm)

Variable Name:

BMXHT

SAS Label:

Standing Height (cm)

English Text:

Standing Height (cm)

Target:

Both males and females 2 YEARS - 150 YEARS

Hard Edits:

79.0000 to 208.4000

Code or Value	Value Description	Count	Cumulative	Skip to Item
81.8 to 201.3	Range of Values	8464	8464	
.	Missing	818	9282	

BMIHT - Standing Height Comment

Variable Name:

BMIHT

SAS Label:

Standing Height Comment

English Text:

Standing Height Comment

Target:

Both males and females 2 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Could not obtain	55	55	
2	Exceeds capacity	0	55	
3	Not straight	27	82	
.	Missing	9200	9282	

BMXBMI - Body Mass Index (kg/m**2)

Variable Name:

BMXBMI

SAS Label:

Body Mass Index (kg/m**2)

English Text:

Body Mass Index (kg/m**2)

Target:

Both males and females 2 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
11.49 to 66.44	Range of Values	8462	8462	
.	Missing	820	9282	

BMXLEG - Upper Leg Length (cm)**Variable Name:**

BMXLEG

SAS Label:

Upper Leg Length (cm)

English Text:

Upper Leg Length (cm)

Target:

Both males and females 8 YEARS - 150 YEARS

Hard Edits:

0.0000 to 200.0000

Code or Value	Value Description	Count	Cumulative	Skip to Item
23.6 to 55	Range of Values	7225	7225	
.	Missing	2057	9282	

BMILEG - Upper Leg Length Comment**Variable Name:**

BMILEG

SAS Label:

Upper Leg Length Comment

English Text:

Upper Leg Length Comment

Target:

Both males and females 8 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Could not obtain	165	165	

Code or Value	Value Description	Count	Cumulative	Skip to Item
.	Missing	9117	9282	

BMXCALF - Maximal Calf Circumference (cm)

Variable Name:

BMXCALF

SAS Label:

Maximal Calf Circumference (cm)

English Text:

Maximal Calf Circumference (cm)

Target:

Both males and females 8 YEARS - 150 YEARS

Hard Edits:

0.0000 to 200.0000

Code or Value	Value Description	Count	Cumulative	Skip to Item
18 to 59.6	Range of Values	7306	7306	
.	Missing	1976	9282	

BMICALF - Maximal Calf Comment

Variable Name:

BMICALF

SAS Label:

Maximal Calf Comment

English Text:

Maximal Calf Comment

Target:

Both males and females 8 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Could not obtain	87	87	
.	Missing	9195	9282	

BMXARML - Upper Arm Length (cm)

Variable Name:

BMXARML

SAS Label:

Upper Arm Length (cm)

English Text:

Upper Arm Length (cm)

Target:

Both males and females 2 MONTHS - 150 YEARS

Hard Edits:

0.0000 to 200.0000

Code or Value	Value Description	Count	Cumulative	Skip to Item
9.1 to 46.5	Range of Values	8990	8990	
.	Missing	292	9282	

BMIARML - Upper Arm Length Comment

Variable Name:

BMIARML

SAS Label:

Upper Arm Length Comment

English Text:

Upper Arm Length Comment

Target:

Both males and females 2 MONTHS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Could not obtain	124	124	
.	Missing	9158	9282	

BMXARMC - Arm Circumference (cm)

Variable Name:

BMXARMC

SAS Label:

Arm Circumference (cm)

English Text:

Arm Circumference (cm)

Target:

Both males and females 2 MONTHS - 150 YEARS

Hard Edits:

0.0000 to 200.0000

Code or Value	Value Description	Count	Cumulative	Skip to Item
10.8 to 58.2	Range of Values	8985	8985	
.	Missing	297	9282	

BMIARMC - Arm Circumference Comment

Variable Name:

BMIARMC

SAS Label:

Arm Circumference Comment

English Text:

Arm Circumference Comment

Target:

Both males and females 2 MONTHS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Could not obtain	124	124	
.	Missing	9158	9282	

BMXWAIST - Waist Circumference (cm)

Variable Name:

BMXWAIST

SAS Label:

Waist Circumference (cm)

English Text:

Waist Circumference (cm)

Target:

Both males and females 2 YEARS - 150 YEARS

Hard Edits:

0.0000 to 200.0000

Code or Value	Value Description	Count	Cumulative	Skip to Item
38.2 to 173.4	Range of Values	8284	8284	
.	Missing	998	9282	

BMIWAIST - Waist Circumference Comment

Variable Name:

BMIWAIST

SAS Label:

Waist Circumference Comment

English Text:

Waist Circumference Comment

Target:

Both males and females 2 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Could not obtain	209	209	
.	Missing	9073	9282	

BMXTHICR - Thigh Circumference (cm)

Variable Name:

BMXTHICR

SAS Label:

Thigh Circumference (cm)

English Text:

Thigh Circumference (cm)

Target:

Both males and females 8 YEARS - 150 YEARS

Hard Edits:

0.0000 to 200.0000

Code or Value	Value Description	Count	Cumulative	Skip to Item
25.1 to 94.3	Range of Values	7198	7198	
.	Missing	2084	9282	

BMITHICR - Thigh Circumference Comment

Variable Name:

BMITHICR

SAS Label:

Thigh Circumference Comment

English Text:

Thigh Circumference Comment

Target:

Both males and females 8 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Could not obtain	192	192	
.	Missing	9090	9282	

BMXTRI - Triceps Skinfold (mm)

Variable Name:

BMXTRI

SAS Label:

Triceps Skinfold (mm)

English Text:

Triceps Skinfold (mm)

Target:

Both males and females 2 MONTHS - 150 YEARS

Hard Edits:

0.0000 to 45.0000

Code or Value	Value Description	Count	Cumulative	Skip to Item
2.4 to 43.6	Range of Values	8568	8568	
.	Missing	714	9282	

BMITRI - Triceps Skinfold Comment**Variable Name:**

BMITRI

SAS Label:

Triceps Skinfold Comment

English Text:

Triceps Skinfold Comment

Target:

Both males and females 2 MONTHS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Could not obtain	227	227	
2	Exceeds capacity	299	526	
3	Hard to obtain	0	526	
.	Missing	8756	9282	

BMXSUB - Subscapular Skinfold (mm)**Variable Name:**

BMXSUB

SAS Label:

Subscapular Skinfold (mm)

English Text:

Subscapular Skinfold (mm)

Target:

Both males and females 2 MONTHS - 150 YEARS

Hard Edits:

0.0000 to 45.0000

Code or Value	Value Description	Count	Cumulative	Skip to Item
2.2 to 42.2	Range of Values	7950	7950	
.	Missing	1332	9282	

BMISUB - Subscapular Skinfold Comment

Variable Name:

BMISUB

SAS Label:

Subscapular Skinfold Comment

English Text:

Subscapular Skinfold Comment

Target:

Both males and females 2 MONTHS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Could not obtain	894	894	
2	Exceeds capacity	250	1144	
3	Hard to obtain	0	1144	
.	Missing	8138	9282	

BMAAMP - Amputations?

Variable Name:

BMAAMP

SAS Label:

Amputations?

English Text:

Amputations?

Target:

Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes	3	3	
2	No	9161	9164	

Code or Value	Value Description	Count	Cumulative	Skip to Item
.	Missing	118	9282	

BMAUREXT - Amputations: Upper Right Extremity?

Variable Name:

BMAUREXT

SAS Label:

Amputations: Upper Right Extremity?

English Text:

Amputations: Upper Right Extremity?

Target:

Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes	0	0	
2	No	3	3	
9	Could not obtain	0	3	
.	Missing	9279	9282	

BMAUPREL - Amputations: UR Above or Below Elbow?

Variable Name:

BMAUPREL

SAS Label:

Amputations: UR Above or Below Elbow?

English Text:

Amputations: Upper Right. Above or Below Elbow?

Target:

Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Above elbow	0	0	
2	Below elbow	0	0	
.	Missing	9282	9282	

BMAULEXT - Amputations: Upper Left Extremity?

Variable Name:

BMAULEXT

SAS Label:

Amputations: Upper Left Extremity?

English Text:

Amputations: Upper Left Extremity?

Target:

Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes	0	0	
2	No	3	3	
9	Could not obtain	0	3	
.	Missing	9279	9282	

BMAUPLEL - Amputations: UL Above or Below Elbow?

Variable Name:

BMAUPLEL

SAS Label:

Amputations: UL Above or Below Elbow?

English Text:

Amputations: Upper Left. Above or Below Elbow?

Target:

Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Above elbow	0	0	
2	Below elbow	0	0	
.	Missing	9282	9282	

BMALOREX - Amputations: Lower Right Extremity?

Variable Name:

BMALOREX

SAS Label:

Amputations: Lower Right Extremity?

English Text:

Amputations: Lower Right Extremity?

Target:

Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes	3	3	
2	No	0	3	
9	Could not obtain	0	3	
.	Missing	9279	9282	

BMALORKN - Amputations: LR Above or Below Knee?

Variable Name:

BMALORKN

SAS Label:

Amputations: LR Above or Below Knee?

English Text:

Amputations: Lower Right. Above or Below Knee?

Target:

Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Above knee	0	0	
2	Below knee	3	3	
.	Missing	9279	9282	

BMALLEXT - Amputations: Lower Left Extremity?

Variable Name:

BMALLEXT

SAS Label:

Amputations: Lower Left Extremity?

English Text:

Amputations: Lower Left Extremity?

Target:

Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes	1	1	
2	No	2	3	
9	Could not obtain	0	3	
.	Missing	9279	9282	

BMALLKNE - Amputations: LL Above or Below Knee?

Variable Name:

BMALLKNE

SAS Label:

Amputations: LL Above or Below Knee?

English Text:

Amputations: Lower Left. Above or Below Knee?

Target:

Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Above knee	0	0	
2	Below knee	1	1	
.	Missing	9281	9282	