

## Anthropometry

### Body Size – Height, weight and BMI

Heights and weights were measured at 2, 4, 6, 7, 11, 15, 36, 43, 53, 60-64 and 68-70 years. They were self-reported at 20 and 26 years. The recommended variables have been cleaned (up until age 26 years by Stark et al 1981) [Stark, O., Atkins, E., Wolff, O.H., and Douglas, J.W.B. (1981) A longitudinal study of obesity in the National Survey of Health and Development. British Medical Journal, 283, 13-17.] and converted to metric units where necessary. Body mass index (BMI) was calculated as weight (kg)/height<sup>2</sup>(m) at each age.

At ages 36, 43, 53, 60-64 and 68-70 years weight was measured to the nearest 0.1 kg with participants wearing light indoor clothing and no shoes. Height was measured to the nearest 0.5 cm, using a portable stadiometer with participants standing without shoes and with heels against the wall as tall as possible with the head in the Frankfort plane.

At ages 2, 4, 6, 7, 11, 15 years weight was measured to the nearest quarter of a pound and height was measured to the nearest inch. Measurements were taken by school doctors or nurses with children only wearing their underclothes. Due to these measurements taking up to a year to collect, date of measurement (in months) for all but age 2 years are also recorded.

At 20 and 26 height and weight were self-reported in feet and inches and stones and pounds respectively.

Birth weight (to the nearest quarter of a pound) was extracted from birth records within a few weeks of delivery. Birth weight has been converted to kgs.

Relative measures are also available. Childhood relative weights were calculated based on the exact date of measurement and sex. They are derived such that relative weight is independent of height (see Cole TJ. A method for assessing age-standardised weight-for-height in children seen cross-sectionally. Ann Hum Biol 1979; 6:249-268). Z-scores for height, weight and BMI variables were also calculated using TJ Coles LMS method. Detailed documentation explaining the method used is available to external scientists wanting to use these variables. However researchers are recommended to seek advice from NSHD scientists on the use of these variables in their analyses.

Other body size variables available include waist and hip circumference (including derived waist to hip ratio), chest and expanded chest circumference, sitting height and parental height and weight.

### Main Variable Naming Conventions

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#### HTyyU

Purpose : Standing Height of survey member in 19yy/20yy in cm  
Year : (yy) 1948, 1950, 1952, 1953, 1957, 1961, 1966, 1972, 1982, 1989, 1999, 2006-10 (htn09),  
2014-16 (htn15x)

#### 1. Definition

Real plus following Missing Values

7777 No interview/questionnaire  
9997 Discarded in checking  
9998 Refused to be measured  
9999 interview but missing data

#### 2. Specification

COMPUTE HT48U=MH48/10

\*variable MH48 recorded in mm

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## **WTyyU**

Purpose : Weight of survey member in 19yy/20yy in kg  
Year : (yy) 1948, 1950, 1952, 1953, 1957, 1961, 1966, 1972, 1982, 1989, 1999, 2006-10 (wtn09),  
2014-16 (wtn15x)

### **1. Definition**

Real plus following Missing Values

7777 No interview/questionnaire  
9997 Discarded in checking  
9999 interview but missing data

### **2. Specification**

COMPUTE WT48U=MW48/10

\* variable MW48 recorded in (Kg x 10 units)

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## **BMllyU**

Purpose : BMI of survey member in 19yy/20yy in kg/(m2)  
Year : (yy) 1948, 1950, 1952, 1953, 1957, 1961, 1966, 1972, 1982, 1989, 1999, 2006-10 (bmi09),  
2014-16 (bmi15x)

### **1. Definition**

Real plus following Missing Values

7777 No interview/questionnaire  
9999 interview but missing data

### **2. Specification**

COMPUTE BMI48U=(WT48U)/(HT48U/100)\*\*2

\*Using derived Weight (kg) and Height (cm) variables  
BMI=Weight in Kg/Height in m2

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## **MBWTU**

Purpose : Birth Weight in Metric unit gms  
Year : 1946

### **1. Definition**

Real plus following Missing Values

9999 interview but missing data

### **2. Specification**

Syntax in [H:\n01\derived\jobs\htwtbmi\copymbwtbmi.j] This syntax simply copies, renames and labels the variable MBWT to MBWTU.

The original variable was recorded in pounds and ounces. Codes 0-4 were used to code the weights of large babies. Weights were coded to the nearest quarter pound as follows. 0=10 lbs; 1=10.25 lbs; 3=10.75 lbs; 4=All weights over 11 lbs.

The conversion calculation used was:

RECODE BWT46 (convert) into MBWT

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Recode MBWT (0=10.0) (1=10.25) (2=10.50) (3=10.75) (4=11.00) (13=1.75) (21=2.25) .... (93=9.75) INTO MBWT.  
COMPUTE MBWT=RND(MBWT/2.2\*1000)  
IF (BWT46='--') MBWT=9999.

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### **HIPCyy**

Purpose : Hip circumference of survey member in 19yy/20yy  
Year : (yy) 1989 (two measures), 1999, 2006-10 (hipc09), 2014-16 (hipc15x)

#### **1. Definition**

Real values plus System Missing (.)

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### **ABCyy**

Purpose : Abdominal circumference of survey member in 19yy/20yy  
Year : (yy) 1982, 1989 (two measures each), 1999, 2006-10 (abc09), 2014-16 (abc15x)

#### **1. Definition**

Real values plus System Missing (.)

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### **WHRyy**

Purpose : Waist-hip ratio of survey member in 19yy/20yy  
Year : (yy) 1989, 1999, 2006-10 (whr09), 2014-16 (whr15x)

#### **1. Definition**

Real values plus System Missing (.)

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