Child—body mass index (measured), ratio NN[N].N[N]

Exported from METEOR (AIHW's Metadata Online Registry)

Child—body mass index (measured), ratio NN[N].N[N]

Identifying and definitional attributes

Metadata item type:	Data Element
Short name:	Body mass index—child (measured)
METEOR identifier:	270085
Registration status:	Health!, Standard 01/03/2005
Definition:	A measure of a child's weight (body mass) relative to height used to assess the extent of weight excess where height and weight have been measured.
Data Element Concept:	Child—body mass index
Value Domain:	Ratio NN[N].N[N]

Value domain attributes

Representational attributes

Representation class:	Ratio
Data type:	Number
Format:	NN[N].N[N]
Maximum character length:	5

	Value	Meaning
Supplementary values:	888.8	Unknown
	999.9	Not reported

Data element attributes

Collection and usage attributes

Collection methods:	NN.NN for BMI calculated from measured height and weight.
	BMI should be derived after the data entry of weight and height. It should be stored on the raw data set as a continuous variable and should not be aggregated or rounded.
Comments:	This metadata item applies to persons aged 2 years or older. It is recommended for use in population surveys and health care settings for adults and population surveys only for children and adolescents. It is recommended that calculated BMI for children and adolescents be compared with a suitable growth reference such as the United States Centers for Disease Control 2000 BMI- for-age chart be used for in health care settings such as hospitals, clinics and in general practice. A BMI greater than the 85th percentile would be classified as overweight, while a BMI greater than the 95th percentile would be classified as obese. These percentiles are arbitrary and do not relate to morbidity as the BMI cut-points do in adults.
	BMI is relatively easy to determine, and has been validated against more direct measures of adiposity such as Magnetic Resonance Imaging and Dual X-ray Absorptiometry.
	BMI is a low cost technique, with low respondent and investigator burden. In addition, it offers low inter-observer and intra-observer error, therefore offering good reliability.

Overweight and obesity, as defined by the World Health Organisation (WHO) for the interpretation of BMI (WHO 2000), are exceedingly common in Australia and their prevalence is increasing.

It is recommended that in population surveys, sociodemographic data including ethnicity should be collected, as well as other risk factors including physiological status (e.g. pregnancy), physical activity, smoking and alcohol consumption. Summary statistics may need to be adjusted for these variables.

National health metadata items currently exist for sex, date of birth, country of birth, Indigenous status and smoking. Metadata items are being developed for physical activity.

Presentation of data:

Means, 95% confidence intervals, medians and centiles should be reported to one decimal place. Where the sample permits, population estimates should be presented by sex and 5-year age groups. Estimates based on sample surveys may need to take into account sampling weights.

For consistency with conventional practice, and for current comparability with international data sets, recommended centiles are 5, 10, 15, 25, 50, 75, 85, 90 and 95. To estimate the 5th and 95th centiles a sample size of at least 200 is recommended for each group for which the centiles are being specified.

Body mass index can be calculated from measured height and weight, or self-reported height and weight, however for children and adolescents, self-reported or parentally reported data should be used cautiously if at all.

For adults, body mass index tends to be underestimated when based on self-reported, rather than measured, height and weight. This is due to the fact that, on average, height tends to be overestimated and weight tends to be underestimated when self-reported by respondents.

There are many individuals for whom BMI is an inappropriate measure of body fatness. These are individuals whose high body mass is due to excess muscle rather than fat (e.g. body builders or others in whom the level of physical activity promotes an increase in muscle mass); or in those with osteoporosis who will have a lower than usual BMI; or those who have a different body build (e.g. individuals with unusually long or short legs or a different body fat distribution) (WHO Expert Committee 1995).

This is particularly important when assessing individuals but should also be taken into account in interpreting data from populations in which there are sub-groups with genetic or environmental differences in body build, composition, skeletal proportions or body fat distribution. As such, both BMI and a measure of fat distribution (waist circumference or waist: hip ratio) are important in calculating the risk of obesity comorbidities.

Epidemiological research shows that there is a strong association between BMI and health risk. Excess adipose tissue in adults is associated with excess morbidity and mortality from conditions such as hypertension, unfavourable blood lipid concentrations, diabetes mellitus, coronary heart disease, some cancers, gall bladder disease, and osteoarthritis. It may also lead to social and economic disadvantage as well as psychosocial problems. It is a major public health issue in most industrialised societies.

Thinness (low BMI) is also an indicator of health risk, often being associated with general illness, anorexia, cigarette smoking, drug addiction and alcoholism. Low BMI is consistently associated with increased risk of osteoporosis and fractures in the elderly.

Source and reference attributes

Submitting organisation:	The Commonwealth Department of Health and Ageing based on the work of the consortium to develop an Australian standard definition of child/adolescent overweight and obesity; based at the Children Hospital at Westmead.

Origin:
Obesity: Preventing and Managing the Global Epidemic. Report of a WHO Consultation. 2000. World Health Organization.

Cole TJ, Bellizi MC, Flegal KM, Bietz WH. Establishing a standard definition for child overweight and obesity worldwide: international survey. British Medical Journal 2000; 320: 1240-1243

Relational attributes

Related metadata references:

Is formed using Person—height (measured), total centimetres NN[N].N
Health!, Standard 01/03/2005

Is formed using Person—weight (measured), total kilograms N[NN].N
Health!, Superseded 12/12/2018

Is re-engineered from Body mass index, version 2, Derived DE, NHDD, NHIMG, Superseded 01/03/2005.pdf (25.7 KB)
No registration status

See also Person—body mass index (classification), code N[.N]
Health!, Standard 01/03/2005
Indigenous, Standard 13/03/2015

Implementation in Indicators:

Used as Numerator
National Healthcare Agreement: PB d-Better health: by 2018, increase by five percentage points the proportion of Australian adults and children at a healthy body weight, over the 2009 baseline, 2014
Health!, Superseded 14/01/2015

National Healthcare Agreement: PI 03-Prevalence of overweight and obesity, 2014
Health!, Superseded 14/01/2015

National Healthcare Agreement: PI 03-Prevalence of overweight and obesity, 2014
Health!, Superseded 14/01/2015