Adult body mass index

Identifying and Definitional Attributes

Data Dictionary:	NHDD		
Knowledgebase ID:	000367	Version number:	1
Metadata type:	DATA ELEMENT		
Registration Authority:	NHIMG	Admin status:	SUPERSEDED
		Effective date:	01-JAN-03

Definition: A person's weight (body mass) relative to height. It is a measure of body mass corrected for height which is used to assess the extent of weight deficit or excess. In sedentary populations, body mass index (BMI) also provides an imprecise but practical indicator of the level of body fat.
Adult body mass index is a continuous variable.

Adult body mass index is calculated by: weight (kg) divided by (height (m) squared)

Context: Public health and health care.

BMI is used as an indicator of both underweight and, overweight and obesity, in sedentary Western adults. On a population basis there is a strong association between BMI and health risk.

In population based surveys, BMI may be used:
- to indicate the prevalence of thinness and overweight and their sociodemographic distribution (problem identification);
- to evaluate health promotion and disease prevention programs (assessment of interventions);
- to monitor progress towards National Health Goals and Targets;
- to ascertain determinants and consequences of thinness and overweight; and
- in nutritional surveillance and long-term planning.

Relational and Representational Attributes

Datatype:	Numeric
Representational form:	QUANTITATIVE VALUE
	NN.NN* / NN.N**

Representation layout: 3
4

Minimum Size:

Maximum Size:

Guide For Use: Adult body mass index cannot be calculated if either component necessary for its calculation (i.e. weight or height) is unknown or has not been collected (i.e. is coded to 888.8 or 999.9)

Collection Methods: *NN.NN for BMI calculated from measured height and weight.
**NN.N for BMI calculated from self-reported height and / or self-reported weight

BMI calculated from measured height and weight should be distinguished from BMI calculated from self-reported height and / or weight. When either self-reported height or self-reported weight is used in the calculation, BMI should be recorded as self-reported BMI.

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.

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 data elements currently exist for sex, date of birth, country of birth and Indigenous Status. Data elements are being developed for physical activity and smoking.

Related metadata: is calculated using Adult height - measured version 1
is calculated using Adult height - self-reported version 1
is calculated using Adult weight - measured version 1
is calculated using Adult weight - self-reported version 1
is used in the derivation of Adult body mass index - classification version 1
has been superseded by Body mass index version 2

Administrative Attributes

Source Document:

Source Organisation: Responsible organisations: National Health Data Committee (NHDC) / National Centre for Monitoring Cardiovascular Disease, Australian Institute of Health and Welfare. (See also Comments)

Comments: Submitting organisation: The Expert Working Group on Data Standards for Indicators of Body Fatness in Australian Adults through the National Centre for Monitoring Cardiovascular Disease, Australian Institute of Health and Welfare. Date of submission: October 1997

This data element applies to persons aged 18 years or older. It is recommended for use in population surveys and health care settings.
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.

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.

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.

Data Element Links

Information Model Entities linked to this Data Element

NHIM	Physical characteristic

Data Agreements which include this Data Element